PRICE CATALOGUE

Electrification Products

2017-2018 ABB Price Catalogue



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About ABB

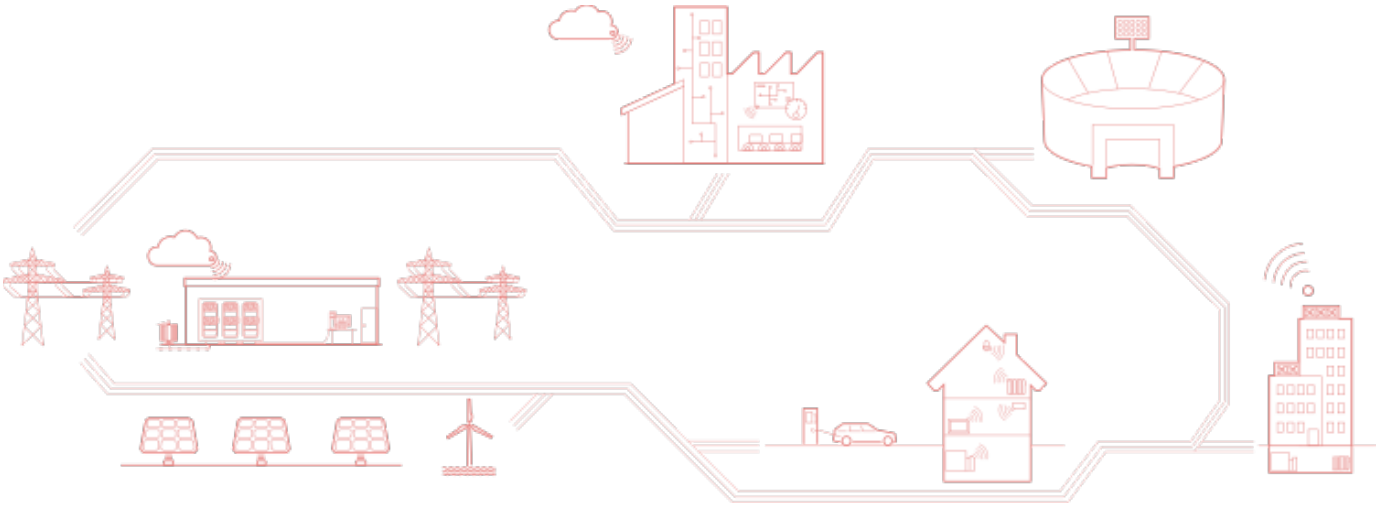
Overview

ABB is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally.

Continuing more than a 125-year history of innovation, ABB today is writing the future of industrial digitalization and driving the Energy and Fourth Industrial Revolutions. ABB operates in more than 100 countries with about 132,000 employees

Our Electrification Products Division

Our Electrification Products division provides technology across the full electrical value-chain from substation to the point of consumption, enabling safer and more reliable power.



Enabling safer and smarter electricity flow from substation to consumption point

~43,000 employees

$10.6 billion in revenue (2015)

Present in **+100 countries**

Manufacturing sites **+100**
Delivering more than
1.5 million products a day

Industry focus

Utilities

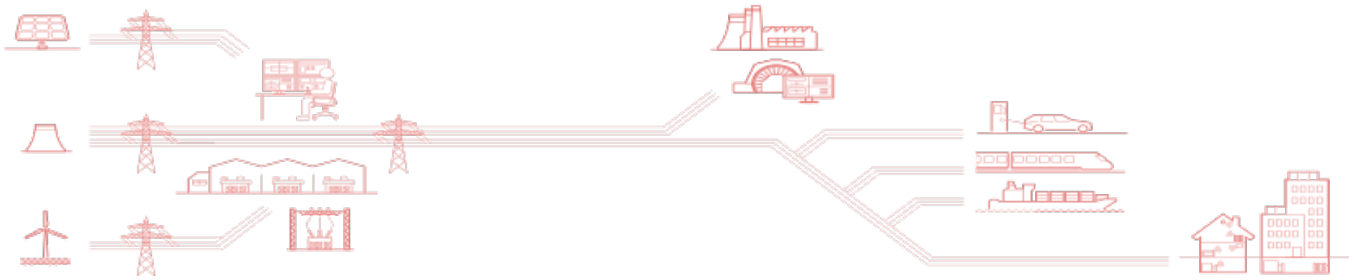
Renewable electrification
Smart distribution

Industry

Electrical distribution
Power quality & reliability
Safety & protection

Transport & Infrastructure

Building electrification & automation
Transport electrification
Data centers



Delivering the broadest portfolio of low and medium-voltage solutions aimed at connecting, protecting and managing electrical power

Electrification Products are all around us

You will find them…

... in the **first** 3D printed office

... in the **fastest** EV cars

... in the **most efficient** yachts

... in the **longest** rail tunnel

... in the **most critical** data centers

... in the **greenest** projects

... in the **tallest** building

... and on **Mars**

Our technology supports some of the world's largest, highest, and most extreme projects

Service

Customer support across the entire value chain



Rapid response
Repairs
Spares and consumables
Replacement
Training
Service agreements



Lifecycle management
Installation and commissioning
Maintenance
Extensions, upgrades and retrofits
Replacement
Training
Spares and consumables
End of life services
Service agreements



Operational efficiency
Engineering and consulting
Maintenance
Advanced services
Extensions, upgrades and retrofits
Training
Service agreements



Performance improvement
Advanced services
Engineering and consulting
Extensions, upgrades and retrofits
End of life services
Service agreements

A range of products and solutions

Medium Voltage



Electrification Solutions



Protection and Connection



Building Products





Installation Products



Power and Electric Vehicle Infrastructure



Medium Voltage Products



Distribution automation

Apparatus

Secondary switchgear

Modular systems

Primary switchgear

DC wayside power solutions

Service

Electrification Solutions



MNS conventional switchgear & motor control

MNS intelligent switchgear & motor control

MNS iS switchgear & motor control

Non-system product packaging

& electrical system integration

Service

Protection and Connection





Circuit breakers

Switches

Fusegear and CDCs

Power enclosures

Service

Motor starting & safety

Connection

Safety products

Building Products





Smart Home

Building control

Door Entry Systems

Access control & security

Light switches & socket outlets

Conventional Wiring Accessories

Industrial plugs & sockets

DIN-Rail products

Distribution enclosures

Installation Products



Wire & cable management

Cable protection systems

Connectivity & grounding

Emergency lighting & battery systems

Explosion protective equipment

Cable apparatus & accessories

Power and Electric Vehicle Infrastructure



Solar inverters

Electric vehicle (EV) chargers

Power protection solutions

Service

Notes

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Miniature Circuit Breakers and Din Rail Components
System Pro M Compact®

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Miniature Switch Disconnectors - E200/SHD200 Series

Miniature Disconnectors E200/SHD200 Switches

Function: Suitable for under-load operations and equipped with lockable control lever in both positions. Each switch-disconnector must be protected on the supply side by a co-ordinated device which safeguards it against short-circuits.

Application: Commercial and industrial.



E201 / SHD201 Single Pole Isolators Din Rail Mount (230 VAC) (1NO)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA 230V VAC (Icw)	Weight 1 pc/kg	Units Per Pack	Price Per Unit Excl. VAT
SHD201/25	2CDD271111R0025	1	25	10	0.075	10	R 105.15
SHD201/40	2CDD271111R0040	1	40	10	0.075	10	R 116.82
SHD201/63	2CDD271111R0063	1	63	10	0.075	10	R 118.28
E201/80 r *	2CDE281001R0080	1	80	25	0.095	10	R 200.06
E201/100 r *	2CDE281001R0100	1	100	25	0.095	10	R 264.31
E201/125 r *	2CDE281001R0125	1	125	6	0.095	10	R 297.91



E202 / SHD202 Double Pole Isolators Din Rail Mount (415 VAC) (2NO)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA 415V VAC (Icw)	Weight 1 pc/kg	Units Per Pack	Price Per Unit Excl. VAT
SHD202/25	2CDD272111R0025	2	25	10	0.150	5	R 226.35
SHD202/40	2CDD272111R0040	2	40	10	0.150	5	R 226.35
SHD202/63	2CDD272111R0063	2	63	10	0.150	5	R 238.02
E202/80 r *	2CDE282001R0080	2	80	25	0.190	5	R 433.71
E202/100 r *	2CDE282001R0100	2	100	25	0.190	5	R 477.51
E202/125 r *	2CDE282001R0125	2	125	6	0.190	5	R 598.71



E203 / SHD203 Triple Pole Isolators Din Rail Mount (415 VAC) (3NO)

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA 415V VAC (Icw)	Weight 1 pc/kg	Units Per Pack	Price Per Unit Excl. VAT
SHD203/25	2CDD273111R0025	3	25	10	0.225	1	R 353.39
SHD203/40	2CDD273111R0040	3	40	10	0.225	1	R 360.69
SHD203/63	2CDD273111R0063	3	63	10	0.225	1	R 373.83
E203/80 r *	2CDE283001R0080	3	80	25	0.290	1	R 632.30
E203/100 r *	2CDE283001R0100	3	100	25	0.290	1	R 787.09
E203/125 r *	2CDE283001R0125	3	125	6	0.330	1	R 924.36



E204 / SHD204 Four Pole Isolators Din Rail Mount (415 VAC) (4NO)

Type	Order Code	No. of Poles (70 mm)	Rated Current (A)	Rated kA 415V VAC (Icw)	Weight 1 pc/kg	Units Per Pack	Price Per Unit Excl. VAT
SHD204/25	2CDD274111R0025	4	25	10	0.300	1	R 448.30
SHD204/40	2CDD274111R0040	4	40	10	0.300	1	R 455.61
SHD204/63	2CDD274111R0063	4	63	10	0.300	1	R 462.90
E204/80 r *	2CDE284001R0080	4	80	25	0.390	1	R 863.03
E204/100 r *	2CDE284001R0100	4	100	25	0.390	1	R 1 049.94
E204/125 r *	2CDE284001R0125	4	125	6	0.440	1	R 1 318.63

* Possible to fit S2C – HGR

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Din Rail Fuse Holders – E90 Series

Protection Devices E90h Fuse Holders

Function: To protect against overloads and short-circuits. They are designed to be use with cylindrical fuses of 32A, 50A and 125A.

Application: Commercial and industrial.



E90h Single Pole and Neutral Fuse Holders (IP 20)

Type	Order Code	No. of Poles	No. of Modules	Rated Current (A)	Rated Voltage (V)	Fuse Size (mm)	Units Per Pack	Price per Unit Excl. VAT
E91hN/32	2CSM200913R1801	2	1	32	690	10 x 38	6	R 112.45



E90h Triple Pole and Neutral Fuse Holders (IP 20)

Type	Order Code	No. of Poles	No. of Modules	Rated Current (A)	Rated Voltage (V)	Fuse Size (mm)	Units Per Pack	Price per Unit Excl. VAT
E93hN/32	2CSM204743R1801	4	3	32	690	10 x 38	2	R 254.09

Protection Devices E90 and E930 Fuse Disconnectors

Function: To protect against overloads and short-circuits. They are designed to be use with cylindrical fuses of 32, 50 and 125A fuses.

Application: Commercial and industrial.



E91/E931 Single Pole Fuse Disconnectors (IP 20)

Type	Order Code	No. of Poles	No. of Modules	Rated Current (A)	Rated Voltage (V)	Fuse Size (mm)	Units Per Pack	Price Per Unit Excl. VAT
E91/32	2CSM200923R1801	1	1	32	690	10 x 38	6	R 56.95
E91/50	2CSM279022R1801	1	1.5	50	690	14 x 51	4	R 165.13
E91/125	2CSM277572R1801	1	2	100	690	22 x 58	4	R 384.04



E93/E933 Triple Pole Fuse Disconnectors (IP 20)

Type	Order Code	No. of Poles	No. of Modules	Rated Current (A)	Rated Voltage (V)	Fuse Size (mm)	Units Per Pack	Price Per Unit Excl. VAT
E93/32	2CSM204753R1801	3	3	32	690	10 x 38	2	R 230.72
E93/50	2CSM277962R1801	3	4.5	50	690	14 x 51	1	R 671.72
E93/125	2CSM277502R1801	3	6	100	690	22 x 58	1	R 1 168.22



E91/E931 Single Pole and Neutral Fuse Disconnectors (IP 20)

Type	Order Code	No. of Poles	No. of Modules	Rated Current (A)	Rated Voltage (V)	Fuse Size (mm)	Units Per Pack	Price Per Unit Excl. VAT
E91N/32	2CSM200893R1801	1+N	2	32	690	10 x 38	3	R 106.86
E91N/50	2CSM277982R1801	1+N	3	50	690	14 x 51	2	R 287.00
E91N/125	2CSM277352R1801	1+N	4	100	690	22 x 58	2	R 867.40



Fuse Holders for Photovoltaic Networks (1000V)

Type	Order Code	No. of Poles	Rated current In	Rated Voltage (V)	Fuse Size (mm)	Blown Fuse LED	Price Per Unit Excl. VAT
E 91/32 PV	2CSM204713R1801	1	32	1000VDC	10 x 38	No	R 76.61
E 91/32 PVs	2CSM204693R1801	1	32	1000VDC	10 x 38	Yes	R 239.61
E 92/32 PV	2CSM204703R1801	2	32	1000VDC	10 x 38	No	R 163.67
E 92/32 PVs	2CSM256913R1801	2	32	1000VDC	10 x 38	Yes	R 510.66

Miniature Circuit Breakers Curve C
up to 10kA – S200 Series

Miniature Circuit Breaker S200 (C - Curve / Curve 2) Up to 10kA (VC8036)

Function: Protection and control of circuits against overloads and short-circuits, protection for resistive and inductive loads with low inrush current.

Application: Domestic, commercial and industrial.



S201 Single Pole MCB Din Rail Mount (230 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201-C2	2CDS251001R0024	1	2	10	7.5	10	R 174.91
S201-C6	2CDS251001R0064	1	6	10	7.5	10	R 129.03
S201-C10	2CDS251001R0104	1	10	10	7.5	10	R 129.03
S201-C16	2CDS251001R0164	1	16	10	7.5	10	R 129.03
S201-C20	2CDS251001R0204	1	20	10	7.5	10	R 129.03
S201-C25	2CDS251001R0254	1	25	10	7.5	10	R 133.34
S201-C32	2CDS251001R0324	1	32	10	7.5	10	R 133.34
S201-C40	2CDS251001R0404	1	40	10	7.5	10	R 133.34
S201-C50	2CDS251001R0504	1	50	10	7.5	10	R 150.54
S201-C63	2CDS251001R0634	1	63	10	7.5	10	R 156.28
S201-C80	2CDS251001R0804	1	80	6	6	10	R 476.11
S201-C100	2CDS251001R0824	1	100	6	6	10	R 476.11



S202 Double Pole MCB Din Rail Mount (400 VAC - 125 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202-C2	2CDS252001R0024	2	2	10	7.5	5	R 533.00
S202-C6	2CDS252001R0064	2	6	10	7.5	5	R 452.69
S202-C10	2CDS252001R0104	2	10	10	7.5	5	R 413.98
S202-C16	2CDS252001R0164	2	16	10	7.5	5	R 413.98
S202-C20	2CDS252001R0204	2	20	10	7.5	5	R 413.98
S202-C25	2CDS252001R0254	2	25	10	7.5	5	R 473.93
S202-C32	2CDS252001R0324	2	32	10	7.5	5	R 473.93
S202-C40	2CDS252001R0404	2	40	10	7.5	5	R 473.93
S202-C50	2CDS252001R0504	2	50	10	7.5	5	R 504.60
S202-C63	2CDS252001R0634	2	63	10	7.5	5	R 504.60
S202-C80	2CDS252001R0804	2	80	6	6	5	R 1 190.28
S202-C100	2CDS252001R0824	2	100	6	6	5	R 1 190.28



S203 Triple Pole MCB Din Rail Mount (400 VAC)

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203-C2	2CDS253001R0024	3	2	10	7.5	1	R 852.80
S203-C6	2CDS253001R0064	3	6	10	7.5	1	R 642.59
S203-C10	2CDS253001R0104	3	10	10	7.5	1	R 618.89
S203-C16	2CDS253001R0164	3	16	10	7.5	1	R 618.89
S203-C20	2CDS253001R0204	3	20	10	7.5	1	R 618.89
S203-C25	2CDS253001R0254	3	25	10	7.5	1	R 625.86
S203-C32	2CDS253001R0324	3	32	10	7.5	1	R 625.86
S203-C40	2CDS253001R0404	3	40	10	7.5	1	R 625.86
S203-C50	2CDS253001R0504	3	50	10	7.5	1	R 635.62
S203-C63	2CDS253001R0634	3	63	10	7.5	1	R 652.34
S203-C80	2CDS253001R0804	3	80	6	6	1	R 1 602.30
S203-C100	2CDS253001R0824	3	100	6	6	1	R 1 602.30

Note:
Also available in B, D and K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Miniature Circuit Breakers Curve C
up to 10kA – S200 Series



S204 Four Pole MCB Din Rail Mount (400 VAC)

Type	Order Code	No. of Poles (70mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S204-C2	2CDS254001R0024	4	2	10	7.5	1	R 1 226.63
S204-C6	2CDS254001R0064	4	6	10	7.5	1	R 919.98
S204-C10	2CDS254001R0104	4	10	10	7.5	1	R 919.98
S204-C16	2CDS254001R0164	4	16	10	7.5	1	R 919.98
S204-C20	2CDS254001R0204	4	20	10	7.5	1	R 919.98
S204-C25	2CDS254001R0254	4	25	10	7.5	1	R 1 042.64
S204-C32	2CDS254001R0324	4	32	10	7.5	1	R 1 042.64
S204-C40	2CDS254001R0404	4	40	10	7.5	1	R 1 092.28
S204-C50	2CDS254001R0504	4	50	10	7.5	1	R 1 166.77
S204-C63	2CDS254001R0634	4	63	10	7.5	1	R 1 226.63
S204-C80	2CDS254001R0804	4	80	6	6	1	R 2 984.60
S204-C100	2CDS254001R0824	4	100	6	6	1	R 2 984.60

MCB S200 (C - Curve / Curve 2) Up to 10kA With Disconnecting Neutral NA (VC8036)

Function: Protection and control of circuits against overloads and short-circuits, protection for resistive and inductive loads with low inrush current.

Application: Domestic, commercial and industrial.



S201 NA Single Pole and Neutral MCB Din Rail Mount (230 VAC - 60 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201-C6 NA	2CDS251103R0064	1 + N	6	10	7.5	5	R 319.20
S201-C10 NA	2CDS251103R0104	1 + N	10	10	7.5	5	R 319.20
S201-C16 NA	2CDS251103R0164	1 + N	16	10	7.5	5	R 319.20
S201-C20 NA	2CDS251103R0204	1 + N	20	10	7.5	5	R 319.20
S201-C25 NA	2CDS251103R0254	1 + N	25	10	7.5	5	R 330.36
S201-C32 NA	2CDS251103R0324	1 + N	32	10	7.5	5	R 330.36
S201-C40 NA	2CDS251103R0404	1 + N	40	10	7.5	5	R 330.36
S201-C50 NA	2CDS251103R0504	1 + N	50	10	7.5	5	R 352.65
S201-C63 NA	2CDS251103R0634	1 + N	63	10	7.5	5	R 352.65
S201-C80 NA	2CDS251103R0804	1 + N	80	6	6	5	R 952.22
S201-C100 NA	2CDS251103R0824	1 + N	100	6	6	5	R 952.22



S203 NA Triple Pole and Neutral MCB Din Rail Mount (400 VAC - 125 VDC)

Type	Order Code	No. of Poles (70 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203-C6 NA	2CDS253103R0064	3 + N	6	10	7.5	1	R 696.96
S203-C10 NA	2CDS253103R0104	3 + N	10	10	7.5	1	R 638.41
S203-C16 NA	2CDS253103R0164	3 + N	16	10	7.5	1	R 638.41
S203-C20 NA	2CDS253103R0204	3 + N	20	10	7.5	1	R 652.34
S203-C25 NA	2CDS253103R0254	3 + N	25	10	7.5	1	R 652.34
S203-C32 NA	2CDS253103R0324	3 + N	32	10	7.5	1	R 674.65
S203-C40 NA	2CDS253103R0404	3 + N	40	10	7.5	1	R 677.44
S203-C50 NA	2CDS253103R0504	3 + N	50	10	7.5	1	R 1 301.91
S203-C63 NA	2CDS253103R0634	3 + N	63	10	7.5	1	R 1 313.07
S203-C80 NA	2CDS253103R0804	3 + N	80	6	6	1	R 2 387.67
S203-C100 NA	2CDS253103R0824	3 + N	100	6	6	1	R 2 387.67

Note:
Icu/Ics rating according to IEC 60947-2

Miniature Circuit Breakers Curve D
10kA – S200 Series

Miniature Circuit Breaker S200 (D - Curve / Curve 1) Up to 10kA (VC8036)

Function: Protection and control of circuits against overloads and short-circuits, protection for circuits with high inrush current with circuit closing.

Application: Domestic, commercial and industrial.



S201 Single Pole MCB Din Rail Mount (230 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201-D2	2CDS251001R0021	1	2	10	7.5	10	R 197.14
S201-D6	2CDS251001R0061	1	6	10	7.5	10	R 150.01
S201-D10	2CDS251001R0101	1	10	10	7.5	10	R 150.01
S201-D16	2CDS251001R0161	1	16	10	7.5	10	R 150.01
S201-D20	2CDS251001R0201	1	20	10	7.5	10	R 150.01
S201-D25	2CDS251001R0251	1	25	10	7.5	10	R 173.91
S201-D32	2CDS251001R0321	1	32	10	7.5	10	R 173.91
S201-D40	2CDS251001R0401	1	40	10	7.5	10	R 173.91
S201-D50	2CDS251001R0501	1	50	10	7.5	10	R 183.20
S201-D63	2CDS251001R0631	1	63	10	7.5	10	R 183.20



S202 Double Pole MCB Din Rail Mount (400 VAC - 125 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202-D2	2CDS252001R0021	2	2	10	7.5	5	R 568.05
S202-D6	2CDS252001R0061	2	6	10	7.5	5	R 473.14
S202-D10	2CDS252001R0101	2	10	10	7.5	5	R 437.69
S202-D16	2CDS252001R0161	2	16	10	7.5	5	R 437.69
S202-D20	2CDS252001R0201	2	20	10	7.5	5	R 437.69
S202-D25	2CDS252001R0251	2	25	10	7.5	5	R 480.90
S202-D32	2CDS252001R0321	2	32	10	7.5	5	R 480.90
S202-D40	2CDS252001R0401	2	40	10	7.5	5	R 480.90
S202-D50	2CDS252001R0501	2	50	10	7.5	5	R 529.68
S202-D63	2CDS252001R0631	2	63	10	7.5	5	R 529.68



S203 Triple Pole MCB Din Rail Mount (400 VAC)

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203-D2	2CDS253001R0021	3	2	10	7.5	1	R 949.18
S203-D6	2CDS253001R0061	3	6	10	7.5	1	R 736.79
S203-D10	2CDS253001R0101	3	10	10	7.5	1	R 736.79
S203-D16	2CDS253001R0161	3	16	10	7.5	1	R 736.79
S203-D20	2CDS253001R0201	3	20	10	7.5	1	R 759.34
S203-D25	2CDS253001R0251	3	25	10	7.5	1	R 793.86
S203-D32	2CDS253001R0321	3	32	10	7.5	1	R 793.86
S203-D40	2CDS253001R0401	3	40	10	7.5	1	R 804.48
S203-D50	2CDS253001R0501	3	50	10	7.5	1	R 861.57
S203-D63	2CDS253001R0631	3	63	10	7.5	1	R 861.57

Note:
Also available in B, C and K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Miniature Circuit Breakers Curve C
15kA – S200M Series

Miniature Circuit Breaker S200M (C - Curve / Curve 2) 15kA

Function: Protection and control of circuits against overloads and short-circuits, protection for resistive and inductive loads with low inrush current.

Application: Domestic, commercial and industrial.



S201 M Single Pole MCB 15kA Din Rail Mount (230 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201M-C2	2CDS271001R0024	1	2	15	11.2	10	R 265.78
S201M-C6	2CDS271001R0064	1	6	15	11.2	10	R 200.06
S201M-C10	2CDS271001R0104	1	10	15	11.2	10	R 200.06
S201M-C16	2CDS271001R0164	1	16	15	11.2	10	R 191.29
S201M-C20	2CDS271001R0204	1	20	15	11.2	10	R 191.29
S201M-C25	2CDS271001R0254	1	25	15	11.2	10	R 211.74
S201M-C32	2CDS271001R0324	1	32	15	11.2	10	R 211.74
S201M-C40	2CDS271001R0404	1	40	15	11.2	10	R 211.74
S201M-C50	2CDS271001R0504	1	50	15	7.5	10	R 413.26
S201M-C63	2CDS271001R0634	1	63	15	7.5	10	R 413.26



S202 M Double Pole MCB 15kA Din Rail Mount (400 VAC - 125 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202M-C2	2CDS272001R0024	2	2	15	11.2	5	R 582.66
S202M-C6	2CDS272001R0064	2	6	15	11.2	5	R 582.66
S202M-C10	2CDS272001R0104	2	10	15	11.2	5	R 462.90
S202M-C16	2CDS272001R0164	2	16	15	11.2	5	R 462.90
S202M-C20	2CDS272001R0204	2	20	15	11.2	5	R 462.90
S202M-C25	2CDS272001R0254	2	25	15	11.2	5	R 530.08
S202M-C32	2CDS272001R0324	2	32	15	11.2	5	R 629.38
S202M-C40	2CDS272001R0404	2	40	15	11.2	5	R 629.38
S202M-C50	2CDS272001R0504	2	50	15	7.5	5	R 832.36
S202M-C63	2CDS272001R0634	2	63	15	7.5	5	R 841.12



S203 M Triple Pole MCB 15kA Din Rail Mount (400 VAC)

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203M-C2	2CDS273001R0024	3	2	15	11.2	1	R 940.42
S203M-C6	2CDS273001R0064	3	6	15	11.2	1	R 810.45
S203M-C10	2CDS273001R0104	3	10	15	11.2	1	R 810.45
S203M-C16	2CDS273001R0164	3	16	15	11.2	1	R 810.45
S203M-C20	2CDS273001R0204	3	20	15	11.2	1	R 832.36
S203M-C25	2CDS273001R0254	3	25	15	11.2	1	R 865.96
S203M-C32	2CDS273001R0324	3	32	15	11.2	1	R 950.65
S203M-C40	2CDS273001R0404	3	40	15	11.2	1	R 950.65
S203M-C50	2CDS273001R0504	3	50	15	7.5	1	R 1 236.86
S203M-C63	2CDS273001R0634	3	63	15	7.5	1	R 1 252.92

Note:
Also available in B, D and K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

Miniature Circuit Breakers Curve C
25kA – S200P Series

Miniature Circuit Breaker S200P (C - Curve / Curve 2) 25kA

Function: Protection and control of circuits against overloads and short-circuits, protection for resistive and inductive loads with low inrush current.

Application: Commercial and industrial.



S201 P Single Pole MCB 25kA Din Rail Mount (230 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201P-C2	2CDS281001R0024	1	2	25	12.5	10	R 317.54
S201P-C6	2CDS281001R0064	1	6	25	12.5	10	R 328.23
S201P-C10	2CDS281001R0104	1	10	25	12.5	10	R 398.45
S201P-C16	2CDS281001R0164	1	16	25	12.5	10	R 386.24
S201P-C20	2CDS281001R0204	1	20	25	12.5	10	R 387.77
S201P-C25	2CDS281001R0254	1	25	25	12.5	10	R 398.45



S202 P Double Pole MCB 25kA Din Rail Mount (400 VAC - 125 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202P-C2	2CDS282001R0024	2	2	25	12.5	5	R 651.88
S202P-C6	2CDS282001R0064	2	6	25	12.5	5	R 716.00
S202P-C10	2CDS282001R0104	2	10	25	12.5	5	R 810.66
S202P-C16	2CDS282001R0164	2	16	25	12.5	5	R 778.60
S202P-C20	2CDS282001R0204	2	20	25	12.5	5	R 778.60
S202P-C25	2CDS282001R0254	2	25	25	12.5	5	R 778.60



S203 P Triple Pole MCB 25kA Din Rail Mount (400 VAC

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203P-C2	2CDS283001R0024	3	2	25	12.5	1	R 1 042.71
S203P-C6	2CDS283001R0064	3	6	25	12.5	1	R 1 057.98
S203P-C10	2CDS283001R0104	3	10	25	12.5	1	R 1 203.01
S203P-C16	2CDS283001R0164	3	16	25	12.5	1	R 1 144.99
S203P-C20	2CDS283001R0204	3	20	25	12.5	1	R 1 152.63
S203P-C25	2CDS283001R0254	3	25	25	12.5	1	R 1 152.63

Note:
Also available in B, D, K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Miniature Circuit Breakers DC Application
Curve B and K – S200 MUC Series

Miniature Circuit Breaker S200 MUC (B - Curve/Curve 3)

Function: Protection and control of circuits against overloads and short-circuits, protection for people and extended length cables in TN and IT systems; version dedicated to applications in direct current circuits for voltages up to 220 VDC single pole and 440 VDC 2, 3 and 4 poles.

Application: Commercial and industrial.



S201 MUC Single Pole MCB Din Rail Mount (230 VAC - 220 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 220 VDC (Icu)	Rated kA at 220 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201M-B6UC	2CDS271061R0065	1	6	10	10	10	R 495.04
S201M-B10UC	2CDS271061R0105	1	10	10	10	10	R 444.26
S201M-B16UC	2CDS271061R0165	1	16	10	10	10	R 444.26
S201M-B20UC	2CDS271061R0205	1	20	10	10	10	R 444.26
S201M-B25UC	2CDS271061R0255	1	25	10	10	10	R 495.04



S202 MUC Double Pole MCB Din Rail Mount (400 VAC - 440 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 440 VDC (Icu)	Rated kA at 440 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202M-B6UC	2CDS272061R0065	2	6	10	10	5	R 1 129.69
S202M-B10UC	2CDS272061R0105	2	10	10	10	5	R 1 015.47
S202M-B16UC	2CDS272061R0165	2	16	10	10	5	R 1 015.47
S202M-B20UC	2CDS272061R0205	2	20	10	10	5	R 1 015.47
S202M-B25UC	2CDS272061R0255	2	25	10	10	5	R 1 129.69

Miniature Circuit Breaker S200 MUC (K - Curve/Curve 1)

Function: Protection and control of circuits such as motors and auxiliary circuits, against overloads and short-circuits; version dedicated to application in direct currents circuits for voltages up to 220 VDC single pole and 440 VDC 2, 3 and 4 poles.

Application: Commercial and industrial.



S201 MUC Single Pole MCB Din Rail Mount (230 VAC - 220 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 220 VDC (Icu)	Rated kA at 220 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S201M-K1UC	2CDS271061R0217	1	1	10	10	10	R 634.65
S201M-K2UC	2CDS271061R0277	1	2	10	10	10	R 634.65
S201M-K6UC	2CDS271061R0377	1	6	10	10	10	R 634.65
S201M-K10UC	2CDS271061R0427	1	10	10	10	10	R 558.52
S201M-K16UC	2CDS271061R0467	1	16	10	10	10	R 558.52
S201M-K20UC	2CDS271061R0487	1	20	10	10	10	R 558.52
S201M-K25UC	2CDS271061R0517	1	25	10	10	10	R 634.65
S201M-K32UC	2CDS271061R0537	1	32	10	10	10	R 634.65
S201M-K40UC	2CDS271061R0557	1	40	10	10	10	R 736.21
S201M-K50UC	2CDS271061R0577	1	50	10	10	10	R 850.47
S201M-K63UC	2CDS271061R0607	1	63	10	10	10	R 1 015.47

Note:
- Icu/Ics rating according to IEC 60947-2
- Also available in C and Z Curve. Contact ABB for more inofrmation

Miniature Circuit Breakers DC Application
Curve K – S200 MUC Series

Miniature Circuit Breaker S200-MUC (K - Curve / Curve 1)

Function: Protection and control of circuits such as motors and auxiliary circuits, against overloads and short-circuits; version dedicated to application in direct current circuits for voltages up to 220 VDC single pole and 440 VDC 2, 3 and 4 poles.

Application: Commercial and industrial.



S202-MUC Double Pole MCB Din Rail Mount (400 VAC - 440 VDC)

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Rated kA at 440 VDC (Icu)	Rated kA at 440 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S202M-K1UC	2CDS272061R0217	2	1	10	10	5	R 1 459.73
S202M-K2UC	2CDS272061R0277	2	2	10	10	5	R 1 459.73
S202M-K6UC	2CDS272061R0377	2	6	10	10	5	R 1 459.73
S202M-K10UC	2CDS272061R0427	2	10	10	10	5	R 1 282.03
S202M-K16UC	2CDS272061R0467	2	16	10	10	5	R 1 282.03
S202M-K20UC	2CDS272061R0487	2	20	10	10	5	R 1 282.03
S202M-K25UC	2CDS272061R0517	2	25	10	10	5	R 1 459.73
S202M-K32UC	2CDS272061R0537	2	32	10	10	5	R 1 459.73
S202M-K40UC	2CDS272061R0557	2	40	10	10	5	R 1 688.20
S202M-K50UC	2CDS272061R0577	2	50	10	10	5	R 1 942.07
S202M-K63UC	2CDS272061R0607	2	63	10	10	5	R 2 322.85



S203-MUC Triple Pole MCB Din Rail Mount (400 VAC - 440 VDC)

Type	Order Code	No. of Poles (52.5 mm)	Rated Current (A)	Rated kA at 440 VDC (Icu)	Rated kA at 440 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S203M-K1UC	2CDS273061R0217	3	1	10	10	1	R 2 208.63
S203M-K2UC	2CDS273061R0277	3	2	10	10	1	R 2 208.63
S203M-K6UC	2CDS273061R0377	3	6	10	10	1	R 2 208.63
S203M-K10UC	2CDS273061R0427	3	10	10	10	1	R 1 942.07
S203M-K16UC	2CDS273061R0467	3	16	10	10	1	R 1 942.07
S203M-K20UC	2CDS273061R0487	3	20	10	10	1	R 1 942.07
S203M-K25UC	2CDS273061R0517	3	25	10	10	1	R 2 208.63
S203M-K32UC	2CDS273061R0537	3	32	10	10	1	R 2 208.63
S203M-K40UC	2CDS273061R0557	3	40	10	10	1	R 2 564.02
S203M-K50UC	2CDS273061R0577	3	50	10	10	1	R 2 957.54
S203M-K63UC	2CDS273061R0607	3	63	10	10	1	R 3 528.71



S204-MUC Four Pole MCB Din Rail Mount (400 VAC - 440 VDC)

Type	Order Code	No. of Poles (70 mm)	Rated Current (A)	Rated kA at 440 VDC (Icu)	Rated kA at 440 VDC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S204M-K1UC	2CDS274061R0217	4	1	10	10	1	R 3 173.32
S204M-K2UC	2CDS274061R0277	4	2	10	10	1	R 3 173.32
S204M-K6UC	2CDS274061R0377	4	6	10	10	1	R 3 173.32
S204M-K10UC	2CDS274061R0427	4	10	10	10	1	R 2 792.54
S204M-K16UC	2CDS274061R0467	4	16	10	10	1	R 2 792.54
S204M-K20UC	2CDS274061R0487	4	20	10	10	1	R 2 792.54
S204M-K25UC	2CDS274061R0517	4	25	10	10	1	R 3 173.32
S204M-K32UC	2CDS274061R0537	4	32	10	10	1	R 3 173.32
S204M-K40UC	2CDS274061R0557	4	40	10	10	1	R 3 681.05
S204M-K50UC	2CDS274061R0577	4	50	10	10	1	R 4 252.23
S204M-K63UC	2CDS274061R0607	4	63	10	10	1	R 5 077.30

Note:
- Icu/Ics rating according to IEC 60947-2
- Also available in C and Z Curve. Contact ABB for more inofrmation

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Miniature Circuit Breakers
Accessories

The S200 Range of accessories are suitable for use on the S200, S200M, S200P and S200 MUC series of circuit breakers

Signal / Auxiliary Contacts

Function: Indication of the position of the device's contacts and signaling of a fault (over current/short-circuit for MCB's and RCBO's, earth fault for RCCB's and RCBO's). (module = 8.8mm width)



Suitable for MCBs S200, RCCBs F200 Series, RCBOs DS200 Series

Type	Order Code	Description	Rated Current A	Mounting Position	Price Per Unit Excl. VAT
S 2C-S/H6R	2CDS200922R0001	Signal contact / Auxiliary switch (1NO/1NC)	10	RH	R 232.05
S 2C-H6R	2CDS200912R0001	Auxiliary switch (1NO/1NC)	10	RH	R 170.54

Auxiliary Contacts - Left-side Mounting

Function: Indication of the position of the device's contacts. (module = 8.8mm width)



Suitable for MCBs S200, RCCBs F200 Series, RCBOs DS200 Series

Type	Order Code	Description	Rated Current A	Mounting Position	Price Per Unit Excl. VAT
S 2C-H11L	2CDS200936R0001	Auxiliary contact (1NO/1NC)	10	LH	R 427.46
S 2C-H20L	2CDS200936R0002	Auxiliary contact (2NO)	10	LH	R 427.46
S 2C-H02L	2CDS200936R0003	Auxiliary contact (2NC)	10	LH	R 427.46

Auxiliary Contact - Bottom-fitting

Function: Indication of the position of the device's contacts.



Suitable for MCBs S200, S200 M, S200 P

Type	Order Code	Description	Rated Current A	Mounting Position	Price Per Unit Excl. VAT
S 2C-H01	2CDS200970R0001	Auxiliary contact (1NC)	2*	Bottom	R 229.01
S 2C-H10	2CDS200970R0002	Auxiliary contact (1NO)	2*	Bottom	R 229.01

* Contact load = AC14, 2A/230V

Shunt Trip

Function: Remote opening of the device when a voltage is supplied.



Suitable for MCBs S200 Series and RCBOs DS200 Series

Type	Order Code	No. of Poles (17.5mm)	Voltage VAC	Voltage VDC	Units Per Package	Mounting Position	Price Per Unit Excl. VAT
S 2C-A1	2CDS200909R0001	1	12 - 60	12 - 60	1	RH	R 207.63
S 2C-A2	2CDS200909R0002	1	110 - 415	110 - 250	1	RH	R 775.55

Under Voltage Releases

Function: Protection of the load in the event of a voltage drop (between 70% and 35% of its rated value). Positive safety emergency stop by means of a button.



Suitable for MCBs S200 Series, RCCBs F200 Series, RCBOs DS200 Series

Type	Order Code	No. of Poles (17.5mm)	Voltage AC	Voltage DC	Units Per Package	Mounting Position	Price Per Unit Excl. VAT
S2C-UA 24 AC	2CSS200911R0002	1	24	-	1	RH	R 1 586.39
S2C-UA 24 DC	2CSS200911R0007	1	-	24	1	RH	R 1 586.39
S2C-UA 110 AC	2CSS200911R0004	1	110	-	1	RH	R 1 586.39
S2C-UA 230 AC	2CSS200911R0005	1	230	-	1	RH	R 1 586.39
S2C-UA 400 AC	2CSS200911R0006	1	400	-	1	RH	R 1 586.39

Miniature Circuit Breakers
Accessories



Busbars for MCCBs Without Supplementary Devices

Type	Order Code	No of Ways	Connector Capacity mm²	No. of Poles	Description	Price Per Unit Excl. VAT
PS 1/60	2CDL210001R1060	60	10	1	1 Phase Insulated busbaR60 way	R 199.99
PS 1/60/16	2CDL210001R1660	60	16	1	1 Phase Insulated busbaR60 way	R 320.60
PS 2/58	2CDL220001R1058	58	10	2	2 Phase Insulated busbaR58 way	R 567.91
PS 2/58/16	2CDL220001R1658	58	16	2	2 Phase Insulated busbaR58 way	R 915.60
PS 3/60	2CDL230001R1060	60	10	3	3 Phase Insulated busbaR60 way	R 558.76
PS 3/60/16	2CDL230001R1660	60	16	3	3 Phase Insulated busbaR60 way	R 717.53

Motor Operating Devices (MDS)

Function: Allows for remote control (opening or closing) of the coupled device.



Suitable for MCBs S200 Series, RCCBs F200 Series, RCBOs DS201 and DS202C

Type	Order Code	Description	Supply Voltage (V)	Price Per Unit Excl. VAT
S2C-CM1*	2CSS201997R0013	MDS foR1P S200 MCBs	12-30Vac; 12-48Vdc	POR
S2C-CM2/3*	2CSS203997R0013	MDS foR2P and 3P S200 MCBs	12-30Vac; 12-48Vdc	POR
S2C-CM4*	2CSS204997R0013	MDS foR4P S200 MCBs	12-30Vac; 12-48Vdc	POR
F2C-CM*	2CSF200997R0013	MDS foR2P and 4P F200 RCCBs	12-30Vac; 12-48Vdc	POR

Auto-reclosing Units (ARU)

Function: Allows for auto-reclosing of the coupled device in case of unwanted tripping.



Suitable for F200 RCCBs

Type	Order Code	Description	Supply Voltage (V)	Price Per Unit Excl. VAT
F2C-ARI*	2CSF200996R0013	ARU foR2P and 4P F200 RCCBs	12-30Vac; 12-48Vdc	POR
F2C-ARI30*	2CSF200995R0013	ARU foR2P and 4P F200 RCCBs (30")	12-30Vac; 12-48Vdc	POR

Rotary Operating Mechanism and Key Lock

Function: For operating of MCB's in closed distribution boards.



Suitable for MCBs S200 Series, RCCBs F200 Series, RCBOs DS200 Series

Type	Order Code	To Fit	Description	Units Per Package	Price Per Unit Excl. VAT
S2C-DH	GHS2001901R0003	S200	Bracket fits on left side of MCB	1	R 755.70
SA 3	GJF1101903R0003	S200	Lock adaptor incl. padlock with 3 keys	1	R 181.68

Locking Device for MCBs and Switches

Function: Prevents unauthorised or dangerous operation of the the operating lever. An adaptor makes it possible to block the operating lever from changing position whether in the ON or OFF position. The lever is blocked with an optional padlock having a crossbar section of 3 oR6 mm maximum.



Suitable for MCBs S200, S280 Series and for Switches E220 and E270

Type	Order Code	Description	Cross Bar (mm)	Units Per Package	Price Per Unit Excl. VAT
SA 1	GJF1101903R0001	Locking device for MCB Handle	3	1	R 59.54
SA 1E	GJF1101903R0004	Locking device for MCB Handle	6	1	R 108.39

* Contact ABB for availability

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High Performance Miniature Circuit Breakers
Curve C and D 16kA – S800 Series

Miniature Circuit Breaker S800B (C-Curve / Curve 2) (Curve D / Curve 1) Icu=16 kA

Function: Protection and control of circuits against overloads and short-circuits when a high breaking capacity is required; protection for people and large cables in TN and IT systems.

Application: Domestic, commercial and industrial.



S801B Single Pole MCB 16kA Din Rail Mount (230V AC), C-Curve / Curve 2

Type	Order Code	No. of Poles (26.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S801B-C32	2CCS811001R0324	1	32	16	1	R 652.37
S801B-C40	2CCS811001R0404	1	40	16	1	R 646.64
S801B-C50	2CCS811001R0504	1	50	16	1	R 646.64
S801B-C63	2CCS811001R0634	1	63	16	1	R 646.64
S801B-C80	2CCS811001R0804	1	80	16	1	R 595.14
S801B-C100	2CCS811001R0824	1	100	16	1	R 595.14
S801B-C125	2CCS811001R0844	1	125	16	1	R 709.59



S802B Double Pole MCB 16kA Din Rail Mount (400V AC), C-Curve / Curve 2

Type	Order Code	No. of Poles (53 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S802B-C32	2CCS812001R0324	2	32	16	1	R 1 316.18
S802B-C40	2CCS812001R0404	2	40	16	1	R 1 316.18
S802B-C50	2CCS812001R0504	2	50	16	1	R 1 316.18
S802B-C63	2CCS812001R0634	2	63	16	1	R 1 316.18
S802B-C80	2CCS812001R0804	2	80	16	1	R 1 487.85
S802B-C100	2CCS812001R0824	2	100	16	1	R 1 487.85
S802B-C125	2CCS812001R0844	2	125	16	1	R 1 716.75



S803B Triple Pole MCB 16kA Din Rail Mount (400V AC), C-Curve / Curve 2

Type	Order Code	No. of Poles (79.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S803B-C32	2CCS813001R0324	3	32	16	1	R 1 968.54
S803B-C40	2CCS813001R0404	3	40	16	1	R 2 002.88
S803B-C50	2CCS813001R0504	3	50	16	1	R 2 002.88
S803B-C63	2CCS813001R0634	3	63	16	1	R 2 002.88
S803B-C80	2CCS813001R0804	3	80	16	1	R 2 002.88
S803B-C100	2CCS813001R0824	3	100	16	1	R 2 002.88
S803B-C125	2CCS813001R0844	3	125	16	1	R 2 374.84



S804B Four Pole MCB 16kA Din Rail Mount (400V AC), C-Curve / Curve 2

Type	Order Code	No. of Poles (106 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S804B-C32	2CCS814001R0324	4	32	16	1	R 2 756.51
S804B-C40	2CCS814001R0404	4	40	16	1	R 3 079.51
S804B-C50	2CCS814001R0504	4	50	16	1	R 3 079.51
S804B-C63	2CCS814001R0634	4	63	16	1	R 3 079.51
S804B-C80	2CCS814001R0804	4	80	16	1	R 3 730.74
S804B-C100	2CCS814001R0824	4	100	16	1	R 3 730.74
S804B-C125	2CCS814001R0844	4	125	16	1	R 4 145.39



S801B Single Pole MCB 16kA Din Rail Mount (230V AC), D-Curve / Curve 1

Type	Order Code	No. of Poles (26.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S801B-D80	2CCS811001R0801	1	80	16	1	R 652.37
S801B-D100	2CCS811001R0821	1	100	16	1	R 652.37



S803B Triple Pole MCB 16kA Din Rail Mount (400V AC), D-Curve / Curve 1

Type	Order Code	No. of Poles (79.5 mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Units Per Pack	Price Per Unit Excl. VAT
S803B-D80	2CCS813001R0801	3	80	16	1	R 2 174.55
S803B-D100	2CCS813001R0821	3	100	16	1	R 2 174.55

High Performance Miniature Circuit Breakers
Curve C 36kA – S800 Series

Miniature Circuit Breaker S800N (C - Curve / Curve 2) Icu = 36kA

Function: Protection and control of circuits against overloads and short-circuits when a high breaking capacity is required; protection for people and large cables in TN and IT systems.

Application: Domestic, commercial and industrial.



S801N Single Pole MCB 36kA Din Rail Mount (230 VAC)

Type	Order Code	No.of Poles (26.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S801N-C10	2CCS891001R0104	1	10	36	30	1	R 754.97
S801N-C16	2CCS891001R0164	1	16	36	30	1	R 754.97
S801N-C20	2CCS891001R0204	1	20	36	30	1	R 754.97
S801N-C25	2CCS891001R0254	1	25	36	30	1	R 754.97
S801N-C32	2CCS891001R0324	1	32	36	30	1	R 754.97
S801N-C40	2CCS891001R0404	1	40	36	30	1	R 816.29
S801N-C50	2CCS891001R0504	1	50	36	30	1	R 816.29
S801N-C63	2CCS891001R0634	1	63	36	30	1	R 816.29
S801N-C80	2CCS891001R0804	1	80	36	30	1	R 988.61
S801N-C100	2CCS891001R0824	1	100	36	30	1	R 988.61
S801N-C125	2CCS891001R0844	1	125	36	30	1	R 1 061.63



S802N Double Pole MCB 36kA Din Rail Mount (400/690 VAC)

Type	Order Code	No. of Poles (53 mm)	Rated Current (A)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Units Per Pack	Price Per Unit Excl. VAT
S802N-C10	2CCS892001R0104	2	10	36/30	4.5/3	1	R 1 546.44
S802N-C16	2CCS892001R0164	2	16	36/30	4.5/3	1	R 1 546.44
S802N-C20	2CCS892001R0204	2	20	36/30	4.5/3	1	R 1 546.44
S802N-C25	2CCS892001R0254	2	25	36/30	4.5/3	1	R 1 546.44
S802N-C32	2CCS892001R0324	2	32	36/30	4.5/3	1	R 1 546.44
S802N-C40	2CCS892001R0404	2	40	36/30	4.5/3	1	R 1 728.97
S802N-C50	2CCS892001R0504	2	50	36/30	4.5/3	1	R 1 728.97
S802N-C63	2CCS892001R0634	2	63	36/30	4.5/3	1	R 1 728.97
S802N-C80	2CCS892001R0804	2	80	36/30	4.5/3	1	R 2 025.41
S802N-C100	2CCS892001R0824	2	100	36/30	4.5/3	1	R 2 025.41
S802N-C125	2CCS892001R0844	2	125	36/30	4.5/3	1	R 2 177.27



S803N Triple Pole MCB 36kA Din Rail Mount (400/690 VAC)

Type	Order Code	No. of Poles (79.5 mm)	Rated Current (A)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Units Per Pack	Price Per Unit Excl. VAT
S803N-C10	2CCS893001R0104	3	10	36/30	4.5/3	1	R 2 187.51
S803N-C16	2CCS893001R0164	3	16	36/30	4.5/3	1	R 2 187.51
S803N-C20	2CCS893001R0204	3	20	36/30	4.5/3	1	R 2 187.51
S803N-C25	2CCS893001R0254	3	25	36/30	4.5/3	1	R 2 187.51
S803N-C32	2CCS893001R0324	3	32	36/30	4.5/3	1	R 2 187.51
S803N-C40	2CCS893001R0404	3	40	36/30	4.5/3	1	R 2 365.66
S803N-C50	2CCS893001R0504	3	50	36/30	4.5/3	1	R 2 365.66
S803N-C63	2CCS893001R0634	3	63	36/30	4.5/3	1	R 2 365.66
S803N-C80	2CCS893001R0804	3	80	36/30	4.5/3	1	R 2 865.07
S803N-C100	2CCS893001R0824	3	100	36/30	4.5/3	1	R 2 865.07
S803N-C125	2CCS893001R0844	3	125	36/30	4.5/3	1	R 3 079.74

Note:
Also available in B, D, K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

High Performance Miniature Circuit Breakers
Curve C 50kA – S800 Series

Miniature Circuit Breaker S800S (C - Curve / Curve 2) Icu = 50kA

Function: Protection and control of circuits against overloads and short-circuits when a high breaking capacity is required; protection for people and large cables in TN and IT systems.

Application: Domestic, commercial and industrial.



S801S Single Pole MCB 50kA Din Rail Mount (230 VAC)

Type	Order Code	No. of Poles (26.5 mm)	Rated Current (A)	Rated kA at 230 VAC (Icu)	Rated kA at 230 VAC (Ics)	Units Per Pack	Price Per Unit Excl. VAT
S801S-C10	2CCS861001R0104	1	10	50	40	1	R 1 210.64
S801S-C16	2CCS861001R0164	1	16	50	40	1	R 1 210.64
S801S-C20	2CCS861001R0204	1	20	50	40	1	R 1 210.64
S801S-C25	2CCS861001R0254	1	25	50	40	1	R 1 210.64
S801S-C32	2CCS861001R0324	1	32	50	40	1	R 1 210.64
S801S-C40	2CCS861001R0404	1	40	50	40	1	R 1 294.60
S801S-C50	2CCS861001R0504	1	50	50	40	1	R 1 294.60
S801S-C63	2CCS861001R0634	1	63	50	40	1	R 1 294.60
S801S-C80	2CCS861001R0804	1	80	50	40	1	R 1 673.21
S801S-C100	2CCS861001R0824	1	100	50	40	1	R 1 673.21
S801S-C125	2CCS861001R0844	1	125	50	40	1	R 1 798.40



S802S Double Pole MCB 50kA Din Rail Mount (400/690 VAC)

Type	Order Code	No.of Poles (53 mm)	Rated Current (A)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Units Per Pack	Price Per Unit Excl. VAT
S802S-C10	2CCS862001R0104	2	10	50/40	6/4	1	R 2 518.99
S802S-C16	2CCS862001R0164	2	16	50/40	6/4	1	R 2 518.99
S802S-C20	2CCS862001R0204	2	20	50/40	6/4	1	R 2 518.99
S802S-C25	2CCS862001R0254	2	25	50/40	6/4	1	R 2 518.99
S802S-C32	2CCS862001R0324	2	32	50/40	6/4	1	R 2 518.99
S802S-C40	2CCS862001R0404	2	40	50/40	6/4	1	R 2 813.63
S802S-C50	2CCS862001R0504	2	50	50/40	6/4	1	R 2 813.63
S802S-C63	2CCS862001R0634	2	63	50/40	6/4	1	R 2 813.63
S802S-C80	2CCS862001R0804	2	80	50/40	6/4	1	R 3 428.88
S802S-C100	2CCS862001R0824	2	100	50/40	4.5/3	1	R 3 428.88
S802S-C125	2CCS862001R0844	2	125	50/40	4.5/3	1	R 3 685.35



S803S Triple Pole MCB 50kA Din Rail Mount (400/690 VAC)

Type	Order Code	No. of Poles (79.5 mm)	Rated Current (A)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Units Per Pack	Price Per Unit Excl. VAT
S803S-C10	2CCS863001R0104	3	10	50/40	6/4	1	R 3 613.60
S803S-C16	2CCS863001R0164	3	16	50/40	6/4	1	R 3 613.60
S803S-C20	2CCS863001R0204	3	20	50/40	6/4	1	R 3 613.60
S803S-C25	2CCS863001R0254	3	25	50/40	6/4	1	R 3 613.60
S803S-C32	2CCS863001R0324	3	32	50/40	6/4	1	R 3 613.60
S803S-C40	2CCS863001R0404	3	40	50/40	6/4	1	R 3 755.57
S803S-C50	2CCS863001R0504	3	50	50/40	6/4	1	R 3 755.57
S803S-C63	2CCS863001R0634	3	63	50/40	6/4	1	R 3 755.57
S803S-C80	2CCS863001R0804	3	80	50/40	6/4	1	R 4 845.61
S803S-C100	2CCS863001R0824	3	100	50/40	4.5/3	1	R 4 845.61
S803S-C125	2CCS863001R0844	3	125	50/40	4.5/3	1	R 5 208.95

Note:
Also available in B, D, K curve. Contact ABB for more information.
Icu/Ics rating according to IEC 60947-2

High Performance Miniature Circuit Breaker
Accessories – Suitable for MCBs S800 Series

Signal / Auxiliary Contacts

Function: Indication of the position of the device's contacts and signaling of a fault (over current/short-circuit for MCBs) (module = 9mm width).



Type	Order Code	Description	Rated Current A	Mounting Position	Price Per Unit Excl. VAT
S 800-AUX/ALT	2CCS800900R0021	Signal / Auxiliary switch (2 change over contacts)	6	LH	R 590.81

Auxiliary Contacts - Left-side Mounting

Function: Indication of the position of the device's contacts. (module = 9mm width).



Type	Order Code	Description	Rated Current A	Mounting Position	Price Per Unit Excl. VAT
S 800-AUX	2CCS800900R0011	Auxiliary contact (2NO/2NC)	6	LH	R 483.95

Shunt Trip

Function: Remote opening of the device when a voltage is supplied.



Type	Order Code	No. of Poles (26.5 mm)	Voltage VAC	Voltage VDC	Units Per Package	Mounting Position	Price Per Unit Excl. VAT
S800-SOR24	2CCS800900R0191	1	24	24	1	LH	R 1 149.57
S800-SOR130	2CCS800900R0221	1	48-130	48-130	1	LH	R 1 149.57
S800-SOR250	2CCS800900R0211	1	110-250	110-250	1	LH	R 1 149.57
S800-SOR400	2CCS800900R0231	1	220-400	220-400	1	LH	R 1 149.57

Under Voltage Releases

Function: Protection of the load in the event of a voltage drop (between 70% and 35% of its rated value). Positive safety emergency stop by means of a button.



Type	Order Code	No. of Poles (26.5 mm)	Voltage VAC	Voltage VDC	Units Per Package	Mounting Position	Price Per Unit Excl. VAT
S800-UVR36	2CCS800900R0241	1	24-36	24-36	1	LH	R 2 002.25
S800-UVR60	2CCS800900R0251	1	48-60	48-60	1	LH	R 2 002.25
S800-UVR130	2CCS800900R0261	1	110-130	110-130	1	LH	R 2 002.25
S800-UVR250	2CCS800900R0271	1	220-250	220-250	1	LH	R 1 468.65

Busbars



Type	Order Code	No. of Ways	Ampere (A)	No. of Poles	Description	Price Per Unit Excl. VAT
S803-BB250	2CCS800900R0071	24	250	3	250A busbar - 2 end caps	R 4 602.16

Rotary Handle foR3 oR4 Pole S800 MCB



Busbars for MCBs S800 Series



Type	Order Code	Description	Price Per Unit Excl. VAT
S800-RD	2CCS800900R0041	Rotary drive adaptor foR3/4 pole S800	R 828.97
S800-RHE-H	1SDA060150R1	Rotary handle for door assembly	R 600.04
S800-RHE-S	1SDA060179R1	Extension shaft for rotary handle (500mm)	R 290.73

Locking Device for MCBs and Switches



Function: Prevents unauthorised or dangerous operation of the the operating lever. An adaptor makes it possible to block the operating lever from changing position whether in the ON or OFF position. The lever is blocked with an optional padlock having a crossbar section of 4 mm maximum.



Type	Order Code	Description	Cross Bar mm	Units Per Package	Price Per Unit Excl. VAT
S800-PLL	2CCS800900R0051	Padlock lever lock - 4mm hasp	4	1	R 58.17

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Residual Current Devices – FH200 F200 and DDA200

Residual Current Devices (ELCB) - RCCBs

Residual Current Devices 'Earth Leakage' F 200 AC Type without Overload Protection

Function: Protection against the effects of sinusoidal alternating earth fault currents, protection against indirect contacts and additional protection against direct (with IΔn = 30mA) contacts, command and isolation of resistive and inductive circuits.

Application: Residential, commercial and industrial.



FH202 Single Pole and Neutral RCCB Din Rail Mount 30mA 6kA

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Sensitivity (mA)	Withstand kA at 230 VAC (Ina)	Units Per Package	Price Per Unit Excl. VAT
FH202 AC-63/0.03	2CSF202006R1630	2	63	30	6	1	R 721.04



F202 Single Pole and Neutral RCCB Din Rail Mount 30mA 10kA

Type	Order Code	No. of Poles (35 mm)	Rated Current (A)	Sensitivity (mA)	Withstand kA at 230 VAC (Inc)	Units Per Package	Price Per Unit Excl. VAT
F202 AC - 63/0.03	2CSF202005R1630	2	63	30	10	1	R 787.12



F204 Triple Pole and Neutral RCCB Din Rail Mount 30mA 10kA

Type	Order Code	No. of Poles (72 mm)	Rated Current (A)	Sensitivity (mA)	Withstand kA at 400 VAC (Inc)	Units Per Package	Price Per Unit Excl. VAT
F204 AC - 63/0.03	2CSF204005R1630	4	63	30	10	1	R 1 888.22

Note:
All RCCBs must be backed up by suitable short circuit devices
Accessories cannot be fitted / added to RCCBs

Residual Current Devices 'BLOCKS' DDA 200 Series AC Type

Function: RCD-block for assembly on site with MCBs S200 series. Protection against the effects of sinusoidal alternating earth fault currents, protection against indirect contacts and additional protection against direct (with IΔn = 30mA) contacts.

Application: Residential, commercial and industrial **Suitability:** S200 Series



DDA202 AC

Type	Order Code	No. of Poles	Rated Current (A)	Sensitivity (mA)	Units Per Package	Width (mm)	Price Per Unit Excl. VAT
DDA202 AC-63/0.03	2CSB202001R1630	2	63	30	1	70	R 1 030.95



DDA203 AC

Type	Order Code	No. of Poles	Rated Current (A)	Sensitivity (mA)	Units Per Package	Width (mm)	Price Per Unit Excl. VAT
DDA203 AC-63/0.03	2CSB203001R1630	3	63	30	1	122	R 1 638.43



DDA204 AC

Type	Order Code	No. of Poles	Rated Current (A)	Sensitivity (mA)	Units Per Package	Width (mm)	Price Per Unit Excl. VAT
DDA204 AC-63/0.03	2CSB204001R1630	4	63	30	1	139.5	R 1 899.82

Note:
DDA 200 series are also available in 100, 300, 500, 1000 and 2000 mA sensitivities.
Contact ABB for more information and availability.
DDA200 can be used with S200, S200M and S200P. Also suitable for curve B, C, D, K

Residual Current Devices – Reference Table

DDA Block and S200 Possible Combination Reference Table

DDA 202 AC Type Double Pole 30mA + S200 Combination MCB

RCD (DDA Block)	Combination S200 MCB				
Column A DDA200 Block	Column B1 10kA MCB Curve C	Column B2 10kA MCB Curve D	Column B3 15kA MCB Curve C	Column B4 25kA MCB Curve C	Column C List Price
DDA202 AC-63/0.03	S202-C10	S202-D10	S202M-C10	S202P-C10	Note 1
DDA202 AC-63/0.03	S202-C16	S202-D16	S202M-C16	S202P-C16	Note 1
DDA202 AC-63/0.03	S202-C20	S202-D20	S202M-C20	S202P-C20	Note 1
DDA202 AC-63/0.03	S202-C25	S202-D25	S202M-C25	S202P-C25	Note 1
DDA202 AC-63/0.03	S202-C32	S202-D32	S202M-C32		Note 1
DDA202 AC-63/0.03	S202-C40	S202-D40	S202M-C40		Note 1
DDA202 AC-63/0.03	S202-C50	S202-D50	S202M-C50		Note 1
DDA202 AC-63/0.03	S202-C63	S202-D63	S202M-C63		Note 1

DDA 203 AC Type Triple Pole 30mA + S200 Combination MCB

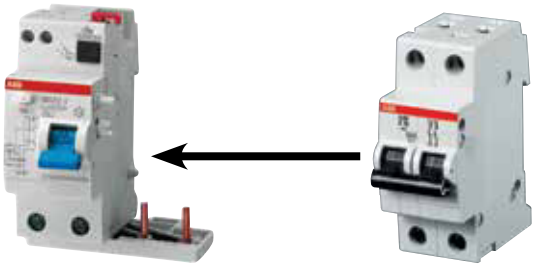
RCD (DDA Block)	Combination S200 MCB				
Column A DDA200 Block	Column B1 10kA MCB Curve C	Column B2 10kA MCB Curve D	Column B3 15kA MCB Curve C	Column B4 25kA MCB Curve C	Column C List Price
DDA203 AC-63/0.03	S203-C10	S203-D10	S203M-C10	S203P-C10	Note 1
DDA203 AC-63/0.03	S203-C16	S203-D16	S203M-C16	S203P-C16	Note 1
DDA203 AC-63/0.03	S203-C20	S203-D20	S203M-C20	S203P-C20	Note 1
DDA203 AC-63/0.03	S203-C25	S203-D25	S203M-C25	S203P-C25	Note 1
DDA203 AC-63/0.03	S203-C32	S203-D32	S203M-C32		Note 1
DDA203 AC-63/0.03	S203-C40	S203-D40	S203M-C40		Note 1
DDA203 AC-63/0.03	S203-C50	S203-D50	S203M-C50		Note 1
DDA203 AC-63/0.03	S203-C63	S203-D63	S203M-C63		Note 1

DDA 204 AC Type Four Pole 30mA + S200 Combination MCB

RCD (DDA Block)	Combination S200 MCB				
Column A DDA200 Block	Column B1 10kA MCB Curve C	Column B2 10kA MCB Curve D	Column B3 15kA MCB Curve C	Column B4 25kA MCB Curve C	Column C List Price
DDA204 AC-63/0.03	S204-C10	S204-D10	S204M-C10	S204P-C10	Note 1
DDA204 AC-63/0.03	S204-C16	S204-D16	S204M-C16	S204P-C16	Note 1
DDA204 AC-63/0.03	S204-C20	S204-D20	S204M-C20	S204P-C20	Note 1
DDA204 AC-63/0.03	S204-C25	S204-D25	S204M-C25	S204P-C25	Note 1
DDA204 AC-63/0.03	S204-C32	S204-D32	S204M-C32		Note 1
DDA204 AC-63/0.03	S204-C40	S204-D40	S204M-C40		Note 1
DDA204 AC-63/0.03	S204-C50	S204-D50	S204M-C50		Note 1
DDA204 AC-63/0.03	S204-C63	S204-D63	S204M-C63		Note 1

Note 1:
To determine the combination list price for Column C, obtain the list price for item mentioned in Column A and add it to the list price of the item selected from Column B1,B2,B3 or B4.

Note 2:
DDA 200 series are also available in 100, 300, 500, 1000 and 2000mA sensitivities.
Contact ABB for more information and availability. DDA200 can be used with S200, S200M and S200P.
Also suitable for curve B, C, D, K.



Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Residual Current Devices and Toroidal Transformers
DS800, RD3 and ELR Series

Residual Current Devices (ELCB) - RCBOs

Residual Current Devices 'Earth Leakage With Overload' DS800 A-AP-R Type (C - Curve/Curve 2)

Function: Protection against overload and short-circuit currents, protection against the effects of sinusoidal alternating earth fault currents, protection against indirect contacts and additional protection against direct (IΔn=30mA) contacts, command and isolation of resistive and inductive circuits.

Application: Commercial and industrial.



DS802N A-AP-R Type Double Pole RCBO (Icu = 36kA) Din Rail Mount

Type	Order Code	No. of Poles (133.5 mm)	Rated Current (A)	Sensitivity (mA)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Price Per Unit Excl. VAT
DS802N-C125/0.03AP-R	2CCB892004R0844	2	125	30	36/30	4.5/3	R 7 028.73



DS804N A-AP-R Type Four Pole RCBO (Icu = 36kA) Din Rail Mount

Type	Order Code	No. of Poles (223 mm)	Rated Current (A)	Sensitivity (mA)	Rated kA at 415 VAC (Icu/Ics)	Rated kA at 690 VAC (Icu/Ics)	Price Per Unit Excl. VAT
DS804N-C125/0.03AP-R	2CCB894004R0844	4	125	30	36/30	4.5/3	R 9 955.33

Function: The RD3 family of electronic residual current relays provides residual current protection and monitoring function, according to IEC / EN 60967-2: 2006 annex M and can be used in conjunction with S200 and Tmax range.

Application: Industrial.



RD3

Type	Order Code	Operating Voltage	Sensitivity Settings IΔn	Tripping Time Setting Δt	Price Per Unit Excl. VAT
RD3-48	2CSJ201001R0001	12-48 Vac/Vdc	0.03-0.1-0.3-0.5-1-2-3-5-10-30A	0-0.06-0.2-0.3-0.5 1-2-3-5-10s	R 4 964.45
RD3	2CSJ201001R0002	230-400 Vac			R 4 773.30

Function: The ELR family of electronic residual current relays provides residual current protection and monitoring function, according to IEC / EN 60967-2: 2006 annex M and can be used in conjunction with S200 and Tmax range.

Application: Industrial.



ELR

Type	Order Code	Operating voltage	Sensitivity Settings IΔn	Tripping Time Setting Δt	Price Per Unit Excl. VAT
ELR72	2CSG252120R1202	110 V a.c./d.c. - 230 V a.c.	0.03-0.1-0.3-0.5-1-2-3-5-10-30A	0-0.06-0.2-0.3-0.5-1-2-3-5-10s	R 4 286.10
ELR72P	2CSG152424R1202	110 V a.c./d.c. - 230 V a.c.			R 4 725.00
ELR72V24P	2CSG452424R1202	24 - 48 V a.c./d.c.			R 5 546.25
ELR96	2CSG152130R1202	110 V a.c./d.c. - 230 V a.c.			R 3 960.60
ELR96P	2CSG152434R1202	110 V a.c./d.c. - 230 V a.c.			R 4 589.86
ELR96V24	2CSG452130R1202	24 - 48 V a.c./d.c.			R 3 060.75



Toroidal Transformers - for use with RD3

Type	Order Code	Diameter mm	Weight (g)	Price Per Unit Excl. VAT
TR1	2CSG035100R1211	35	0.212	R 1 314.58
TR2	2CSG060100R1211	60	0.274	R 1 485.48
TR3	2CSG080100R1211	80	0.454	R 2 064.22
TR4	2CSG110100R1211	110	0.53	R 2 559.14
TR160	2CSG160100R1211	160	1.35	R 4 455.76
TR5	2CSG210100R1211	210	1.534	R 5 268.85

Other Modular Devices
ESB Installation Contactors

ABB offers a complete range of equipment for controlling, remote switching and protecting electrical installations in buildings as hotels, hospitals, shopping centers, office centers and domestic applications.
ESB and EN installation contactors are designed to match the Modular DIN rail components (MDRC) for common use in dedicated panels providing high safety and finger protection. ESB20…ESB63 can be used for DIN rail as well as for industrial applications:Resistive loads such as electric heaters, water heaters, etc; Motors, pumps; Lamp switching and controls (building installation) The ESB20 installation contactors are used for the control of single phase loads up to 20 A. They operate with an AC coil. Various N.O. and N.C. contacts combinations are available. Modular Contactors AC Operated



Modular Contactors AC Operated

Type	Order Code	Rated Current (AC1)	Coil Voltage (AC)	No. of NO Contacts	No. of NC Contacts	Price Per Unit Excl. VAT
ESB 20-20	GHE3211102R0001	20	24	2	0	R 366.35
ESB 20-20	GHE3211102R0006	20	230	2	0	R 366.35
ESB 20-02	GHE3211202R0001	20	24	0	2	R 381.91
ESB 20-02	GHE3211202R0006	20	230	0	2	R 381.91
ESB 20-11	GHE3211302R0001	20	24	1	1	R 366.35
ESB 20-11	GHE3211302R0006	20	230	1	1	R 366.35

The ESB24 installation contactors are used for the control of single and three-phases loads up to 24 A. Due to their DC solenoid actuator, the ESB24 can be connected to AC or DC voltages. This provides the following benefits: Hum-free operation, low power consumption, integrated high overvoltage protection. Various N.O. and N.C. contacts combinations available. Main accessories: Auxiliary contact blocks EH04.



Modular Contactors AC/DC Operated

Type	Order Code	Rated Current (AC1)	Coil Voltage (AC)	No. of NO Contacts	No. of NC Contacts	Price Per Unit Excl. VAT
ESB 24-20	GHE3291402R0001	24	24	2	0	R 363.44
ESB 24-20	GHE3291402R0006	24	230	2	0	R 348.57
ESB 24-40	GHE3291102R0001	24	24	4	0	R 426.51
ESB 24-40	GHE3291102R0006	24	230	4	0	R 366.84
ESB 24-04	GHE3291202R0001	24	24	0	4	R 428.29
ESB 24-04	GHE3291202R0006	24	230	0	4	R 426.30
ESB 24-22	GHE3291302R0001	24	24	2	2	R 427.13
ESB 24-22	GHE3291302R0006	24	230	2	2	R 426.27
ESB 24-31	GHE3291602R0001	24	24	3	1	R 429.22
ESB 24-31	GHE3291602R0006	24	230	3	1	R 425.93
ESB 24-13	GHE3291702R0001	24	24	1	3	R 428.29
ESB 24-13	GHE3291702R0006	24	230	1	3	R 426.17
ESB 40-40	GHE3491102R0001	40	24	4	0	R 788.06
ESB 40-40	GHE3491102R0006	40	230	4	0	R 788.06
ESB 40-22	GHE3491302R0001	40	24	2	2	R 855.73
ESB 40-22	GHE3491302R0006	40	230	2	2	R 787.82
ESB 40-31	GHE3491602R0001	40	24	3	1	R 900.33
ESB 40-31	GHE3491602R0006	40	230	3	1	R 846.84
ESB 40-30	GHE3491502R0001	40	24	3	0	R 811.16
ESB 40-30	GHE3491502R0006	40	230	3	0	R 784.42
ESB 40-20	GHE3491402R0001	40	24	2	0	R 811.16
ESB 40-20	GHE3491402R0006	40	230	2	0	R 771.06
ESB 63-40	GHE3691102R0001	63	24	4	0	R 1 116.81
ESB 63-40	GHE3691102R0006	63	230	4	0	R 1 113.31
ESB 63-31	GHE3691602R0004	63	24	3	1	R 1 144.04
ESB 63-31	GHE3691602R0006	63	230	3	1	R 1 113.31
ESB 63-30	GHE3691502R0006	63	24	3	0	R 1 035.10
ESB 63-30	GHE3691502R0007	63	230	3	0	R 1 144.04
ESB 63-20	GHE3691402R0001	63	24	2	0	R 1 071.42
ESB 63-20	GHE3691402R0006	63	230	2	0	R 1 026.03

Modular Contactor Accessories

Type	Order Code	Description	Price Per Unit Excl. VAT
EH 04-20	GHE3401321R0001	2 X NO Auxiliary Indication Contact For ESB Contactor	R 150.59
EH 04-11	GHE3401321R0002	2 X NC Auxiliary Indication Contact For ESB Contactor	R 150.59

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Other Modular Devices
Signalling Devices, Time Switches and Load Control

Modular Din Rail Components (MDRCs)

Application: Buildings, both residential and commercial.



Load Shedding Switch

Type	Order Code	Description	Units per Package	Price per Unit Excl. VAT
LSS1/2	2CSM112500R1311	Load shedding switch	1	R 3 738.78



E450 Priority Switch

Type	Order Code	Description	Price per Unit Excl. VAT
E 451 - 5.7A	2CDE160000R0901	6.7 to 39A Priority switch for pneumatically controlled flow type heaters	R 516.01
E 452 - 5.7A	2CDE160010R0901	6.7 to 39A Priority switch for electronically controlled flow type heaters	R 647.30



D Line Range - Digital Time Switches (230 VAC, 16A Resistive Load)

Type	Order Code	Description	Price Per Unit Excl. VAT
D 1	2CSM258763R0621	Weekly digital time switch 1 x CO, 6yr power reserve	R 1 094.61
D1 PLUS	2CSM257583R0621	Weekly digital time switch 1 x CO, 6yr power reserve and programming key	R 2 317.46
D2	2CSM256313R0621	Weekly digital time switch 2 x CO, 6yr power reserve	R 2 025.88
D2 PLUS	2CSM277583R0621	Weekly digital time switch 2 x CO, 6yr power reserve and programming key	R 2 494.56
D KEY	2CSM277143R0621	Programming key for D Line digital time switches (D1 Plus and D2 Plus)	R 396.94
D SW	2CSM299973R0621	Programming software for D Line digital time switches (D1 Plus and D2 Plus)	R 3 757.11



AT Range - Electro-mechanical Time Switches (230VAC, 16A Resistive Load)

Type	Order Code	Description	No. of Modules	Price Per Unit Excl. VAT
AT 1	2CSM204205R0601	24 hour pool timer (230V AC) with 1 x NO	1	R 714.48
AT 1-R	2CSM204215R0601	24 hour pool timer (230V AC) with 1 x NO and 200hr reserve	1	R 698.28
AT 2	2CSM204105R0601	24 hour pool timer (230V AC) with 1 x CO	2	R 650.35
AT 2-R	2CSM204115R0601	24 hour pool timer (230V AC) with 1 x CO and 150hr reserve	2	R 657.13
AT 2-7R	2CSM204125R0601	Weekly pool timer (230V AC) with 1 x CO and 150hr reserve	2	R 969.43
AT 3	2CSM204225R0601	24 hour pool timer (230V AC) with 1 x CO	3	R 657.98
AT 3-R	2CSM204235R0601	24 hour pool timer (230V AC) with 1 x CO and 200h reserve	3	R 657.13
AT 3-7R	2CSM204245R0601	Weekly pool timer (230V AC) with 1 x CO and 200hr reserve	3	R 1 013.70



E217 Luminous Pushbuttons (250VAC, 16A)

Type	Order Code	No. of Poles (9 mm)	LED Colour	Contacts	LED Voltage Range	Units Per Package	Price Per Unit Excl. VAT
E217-16-10B	2CCA703160R0001	1	White	1NO	115 - 250VAC	10	R 337.39
E217-16-10C	2CCA703161R0001	1	Red	1NO	115 - 250VAC	10	R 337.39
E217-16-10D	2CCA703162R0001	1	Green	1NO	115 - 250VAC	10	R 337.39
E217-16-10E	2CCA703163R0001	1	Yellow	1NO	115 - 250VAC	10	R 337.39
E217-16-10G	2CCA703164R0001	1	Blue	1NO	115 - 250VAC	10	R 337.39
E217-16-01B	2CCA703250R0001	1	White	1NC	115 - 250VAC	10	R 337.39
E217-16-01C	2CCA703251R0001	1	Red	1NC	115 - 250VAC	10	R 337.39
E217-16-01D	2CCA703252R0001	1	Green	1NC	115 - 250VAC	10	R 337.39
E217-16-01E	2CCA703253R0001	1	Yellow	1NC	115 - 250VAC	10	R 337.39
E217-16-01G	2CCA703254R0001	1	Blue	1NC	115 - 250VAC	10	R 337.39



E219 Indicator Lights With LED

Type	Order Code	No. of Poles (9 mm)	LED Colour	LED Voltage Range	Weight 1 pc/kg	Units Per Package	Price Per Unit Excl. VAT
E219-B220	2CCA703400R0001	1	White	115 - 250VAC	0.04	10	R 167.93
E219-C220	2CCA703401R0001	1	Red	115 - 250VAC	0.04	10	R 167.93
E219-D220	2CCA703402R0001	1	Green	115 - 250VAC	0.04	10	R 167.93
E219-E220	2CCA703403R0001	1	Yellow	115 - 250VAC	0.04	10	R 167.93
E219-G220	2CCA703404R0001	1	Blue	115 - 250VAC	0.04	10	R 167.93
E219-3CDE	2CCA703902R0001	1	Red, Yellow and Green	115-250VAC	0.044	10	R 418.38

Note: Contact ABB for availability

Electrical Energy Meters - EQ Series











Electrical Energy Meters**

Application: Buildings, both residential and commercial.

C11 Single Phase - 40A Direct Connection Electricity Meter**

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class	Price Per Unit Excl. VAT
C11 110-300 Steel	2CMA170550R1000	Direct mount single phase kW/h meter	Direct Single Phase 40A Max	1	1 Output - Pulse or Alarm	1	R 626.35

B Series kW/h Electricity Meters (Direct and CT Connected) Single Phase**

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class	Price Per Unit Excl. VAT
B21 111-100 Steel	2CMA100149R1000	Direct mount single phase kW/h meter	Direct Single Phase 65A Max	1	Output - Pulse or Alarm IR Port	1	R 1 456.64
B21 312-100 Silver	2CMA100155R1000	Direct mount single phase kW/h meter With modbus and 4 tariffs	Direct Single Phase 65A Max	4	2 Input/2 Output - Pulse or Alarm IR Port / RS-485	1	R 2 971.53

B Series kW/h Electricity Meters (Direct and CT Connected) Three Phase**

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class	Price Per Unit Excl. VAT
B23 111-100 Steel	2CMA100163R1000	Direct mount three phase kW/h meter	Direct Three Phase 65A Max	1	Output - Pulse or Alarm IR Port	1	R 2 476.29
B23 312-100 Silver	2CMA100169R1000	Direct mount three phase kW/h meter With modbus and 4 tariffs	Direct Three Phase 65A Max	4	2 Input/2 Output - Pulse or Alarm IR Port / RS-485	1	R 3 787.25
B24 111-100 Steel	2CMA100177R1000	CT connected three phase kW/h meter	CT Three Phase	1	Output - Pulse or Alarm IR Port	1	R 2 621.95
B24 352-100 Silver	2CMA100183R1000	CT Connected three phase kW/h meter With modbus and 4 tariffs	CT Three Phase	4	2 Input/2 Output - Pulse or Alarm IR Port / RS-485	1	R 4 078.59

A Series Electricity Meters (CT Connected) Single Phase**

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class	Price Per Unit Excl. VAT
A42 412-100 Gold	2CMA170513R1000	CT connected single phase kW/h meter With modbus and 4 tariffs	CT Single Phase	4	2 Input/2 Output - Pulse or Alarm IR Port / RS-485	1	R 5 243.89

A Series Electricity Meters (CT Connected) Three Phase**

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class	Price Per Unit Excl. VAT
A44 452-100 Gold	2CMA170540R1000	CT connected three phase kW/h meter With modbus and 4 tariffs	CT Three Phase	4	2 Input/2 Output - Pulse or Alarm IR Port / RS-485	1	R 6 700.53
A44 552-100 Platinum	2CMA170545R1000	CT connected three phase kW/h meter With modbus and 4 tariffs	CT Three Phase	4	4 Input or Outputs configurable IR Port / RS-485	0.5	R 8 208.66

Communication Products**

Type	Order Code	Description	Price Per Unit Excl. VAT
G13 100-000	2CMA170552R1000	Ethernet gateway up to 32 meters	R 13 401.05
ZS/S1.1	2CDG110083R0011	KNX meter interface module	R 5 992.41

** Note: Standard discount for Din Rail components does not apply. Please contact ABB for specific meter discount structure.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Other Metering Devices
M2M and CMS Series



M2M Network Analyser**

Type	Order Code	Description	Communication	Serial Port	Price Per Unit Excl. VAT
M2M	2CSG299883R4052	M2M with 2 digital outputs programmable as threshold alarms or pulses	-	-	R 4 471.66
M2M MODBUS	2CSG299893R4052	M2M (Build in Modbus) with 2 digital outputs programmable as threshold alarms or pulses	Modbus RTU	RS485	R 5 249.36
M2M ETHERNET	2CSG299903R4052	M2M (Build in Ethernet) with 2 digital outputs programmable as threshold alarms or pulses	Modbus TCP/IP	RJ45	R 6 027.04
M2M PROFIBUS*	2CSG299913R4052	M2M (Build in Profibus) with 2 digital outputs programmable as threshold alarms or pulses	Profibus	RS232	R 15 553.67
M2M ALARM*	2CSG299923R4052	M2M (Build in Modbus) with 2 digital outputs programmable as threshold alarms or pulses and 2 Programmable Relay Outputs	Modbus RTU	RS485	R 6 804.74
M2M I/O *	2CSG299933R4052	M2M (Build in Modbus) with 2 digital outputs programmable as threshold alarms or pulses and 3 digital inputs and 2 analog outputs	Modbus RTU	RS485	R 6 804.74



CMS Current monitor and Accessories**

Type	Order Code	Description	Price Per Unit Excl. VAT
CMS-600	2CCA880000R0001	24V DC Modbus RTU (RS485) CMS Control Unit	R 3 963.63
CMS-102PS	2CCA880102R0001	20A Sensors 18mmm for pro M compact - S200	R 1 153.22
CMS-101PS	2CCA880101R0001	40A Sensors 18mmm for pro M compact - S200	R 1 153.22
CMS-100PS	2CCA880100R0001	80A Sensors 18mmm for pro M compact - S200	R 1 153.22
CMS-800	2CCA880148R0001	Flat cable 2m	R 107.97
CMS-801	2CCA880149R0001	Flatcable 3m	R 168.84
CMS-820	2CCA880145R0001	Connector set	R 388.24

*Note: Contact ABB for availability.

**Note: Standard discount for Din Rail components does not apply. Please contact ABB for specific meter discount structure.

Overvoltages due to direct lightning strikes

These can take two forms:

• When lightning **strikes a lightning conductor or the roof of a building** which is earthed, the lightning current is dissipated into the ground. The impedance of the ground and the current flowing through it create large difference of potential: this is the overvoltage. This overvoltage then propagates throughout the building via the cables, damaging equipment along the way.

• When lightning **strikes an overhead low voltage line**, the latter conducts high currents which penetrate into the building creating large overvoltages. The damage caused by this type of overvoltage is usually spectacular (e.g. fire in the electrical switchboard causing the destruction of buildings and industrial equipment) and results in explosions.



Direct lightning strike on a lightning conductor or the roof of a building



Direct lightning strike on an overhead line

Overvoltages due to the indirect effects of lightning strikes

The overvoltages previously mentioned are also found when lightning strikes in the vicinity of a building, due to the increase in potential of the ground at the point of impact. The electromagnetic fields created by the lightning current generate inductive and capacitive coupling, leading to other overvoltages.
Within a radius up to several kilometres, the electromagnetic field caused by lightning in clouds can also create sudden increases in voltage.
Although less spectacular than in the previous case, irreparable damage is also caused to so called sensitive equipment such as fax machines, computer power supplies and safety and communication systems.



Increase in ground potential



Magnetic field



Electrostatic field

Miniature Circuit Breakers
Surge Protection Devices (SPDs)

Surge Protective Device:
Device designed to limit transient overvoltages and run-off lightning currents. It consists of at least one non-linear component. It must comply with European standard EN 61643-11.

1.2/50 µs Wave:
Standardized overvoltage waveform created on networks and which adds to the network's voltage.

8/20 µs Wave:
Current waveform which passes through equipment when subjected to an overvoltage (low energy).

10/350 µs Wave:
Current waveform which passes through equipment when subjected to an overvoltage due to a direct lightning strike.

Type 1 Surge Protective Device:
Surge protective device designed to run-off energy caused by an overvoltage comparable to that of a direct lightning strike. It has successfully passed testing to the standard with the 10/350 µs wave (class I test).

Type 2 Surge Protective Device:
Surge protective device designed to run-off energy caused by an overvoltage comparable to that of an indirect lightning strike or an operating overvoltage. It has successfully passed testing to the standard with the 8/20 µs wave (class II test).

U_p:
Voltage protection level.
Parameter characterising surge protective device operation by the level of voltage limitation between its terminals and which is selected from the list of preferred values in the standard. This value is greater than the highest value obtained during voltage limitation measurements (at In for class I and II tests).

I_n:
Nominal discharge current.
Peak current value of an 8/20 µs waveform (15 times) flowing in the surge protective device. It is used to determine the **U_p** value of the surge protective device.

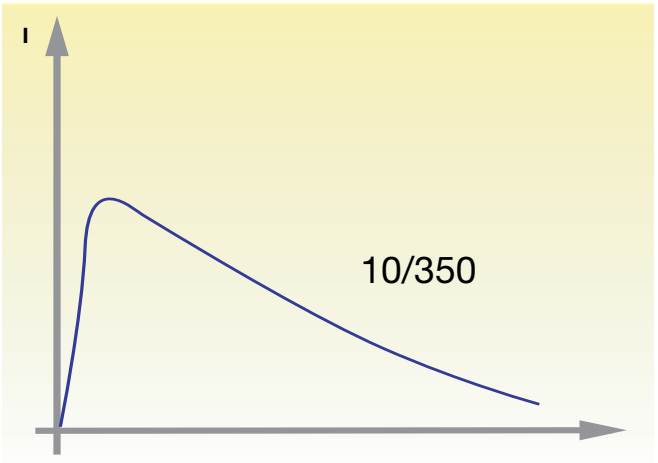
I_{scwpv}:
Short-circuit photovoltaic DC current withstand.

I_{max}:
Maximum discharge current for class II testing.
Peak current value of an 8/20 µs waveform flowing in the surge protective device with an amplitude complying with the class II operating test sequence. I_{max} is greater than I_n.

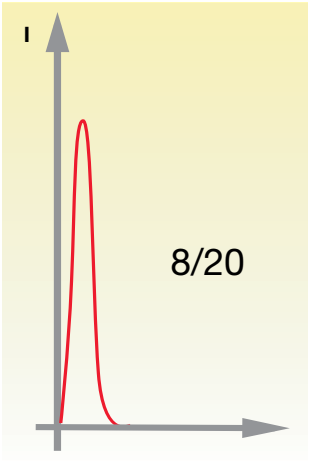
I_{imp}:
Impulse current for class I testing.
The impulse current I_{imp} is defined by a peak current I_{peak} and a charge Q, and tested in compliance with the operating test sequence. It is used to classify surge protective devices for class I testing (the 10/350 µs wave corresponds to this definition).

U_n:
Nominal AC voltage of the network:
nominal voltage between phase and neutral (AC rms value).

U_c:
Maximum continuous operating voltage (IEC 61643-1).
The maximum r.m.s. or d.c. voltage which may be continuously applied to the SPDs mode of protection. This is equal to the rated voltage.
U_{cpv}:
Maximum continuous operating voltage on specific photovoltaic DC networks.
N_g:
Lightning strike density expressed as the No. of ground lightning strikes Per km^2 and Per year.
U_T:
Temporary overvoltage withstand. Behaviour of an SPD when subjected to a temporary overvoltage **U_T** for specific time duration **t_T**
I_{fi}:
Follow current interrupting rating I_{fi} (kArms).
It is a parameter for spark-gaps and gas discharge tubes (Type 1 SPDs) and does not concern varistors. I_{fi} is the rms-value of the follow current, which can be interrupted by the SPD under **U_c**. It is the prospective short-circuit current that a SPD is able to interrupt by itself. I_{fi} of the SPD should be equal to or higher than the prospective short-circuit current at the point of installation (I_p). If not, the upstream fuse will melt each time the spark-gap ignites.
I_p:
Prospective short-circuit current of a power supply (I_p) (kArms).
I_p is the current which would flow at a given location in case of short-circuit at this location.



Type 1 Surge Arresters
I_{imp}: Current Wave



Surge Protection Devices - OVR Series

Surge Protection Devices

Function: Provide incoming protection for electrical and electronic equipment against over-voltage and impulse currents such as switching and lightning surges.

Application: Residential, commercial and industrial.



Class 2/3 - Imax (8/20): 20kA

Type	Order Code	No. of Poles	Total Width mm	Maximum Discharge Current (kA)	Nominal Voltage (V) (Un)	Maximum Operating Voltage (V) (L-N)	Aux Contact End of Life Signal	Price
OVR T2 20 275	2CTB804200R1100	1	17.5	20	230	275	No	R 356.31
OVR T2-T3 20-440 P QS	2CTB803871R1100	1	17.5	20	230	440	No	R 951.30
OVR T2-T3 1N 20-275 P QS	2CTB803972R1200	1+N	35	20	230	275	No	R 1 516.20
OVR T2-T3 3N 20-275 P QS	2CTB803973R1200	3+N	70	20	230	275	No	R 1 832.25
OVR T2-T3 3N 20-440 P QS	2CTB803973R1300	3+N	70	20	230	440	No	R 5 282.55



Class 2 - Imax (8/20): 40kA and 80kA

Type	Order Code	No. of Poles	Total Width mm	Maximum Discharge Current (kA)	Nominal Voltage (V) (Un)	Maximum Operating Voltage (V) (L-N)	Aux Contact End of Life Signal	Price
OVR T2 40 275	2CTB804201R1100	1	17.5	40	230	275	No	R 486.28
OVR T2 40-440 P QS	2CTB803871R1200	1	17.5	40	230	440	No	R 858.90
OVR T2 1N 40-275 P QS	2CTB803972R1100	1+N	35	40	230	275	No	R 1 817.55
OVR T2 3N 40-275 P QS	2CTB803973R1100	3+N	70	40	230	275	No	R 1 915.20
OVR T2 3N 40-275 P TS QS	2CTB803973R0500	3+N	70	40	230	440	Yes	R 3 417.75
OVR T2 3N 40-440 P QS	2CTB803973R1400	3+N	70	40	230	440	No	R 4 185.30
OVR T2 80-275s P QS	2CTB851708R1200	1	17.5	80	230	275	No	R 994.35
OVR T2 80-440s P QS	2CTB851708R4100	1	17.5	80	230	440	No	R 1 031.10
OVR T2 3N 80-275s P QS	2CTB851708R2000	3+N	70	80	230	275	No	R 4 021.50
OVR T2 3N 80-275s P QS	2CTB851708R2000	3+N	70	80	230	275	No	R 5 223.75



Class 1 - Iimp (10/350): 25kA

Type	Order Code	No. of Poles	Total Width mm	Impulse Current Limp 10/350 kA	Follow Current Interrupting Rating Ifi (kA)	Nominal Voltage (V) (Un)	Max Operating Voltage (V) (L-N)	Voltage Protection Level Up (kV)	Aux Contact End of Life Signal	Price
OVR T1 3N 25-255	2CTB815101R1600	3+N	140	25	50	230	255	2.5	No	R 11 147.85
OVR T1 3N 25 255 TS	2CTB815101R0700	3+N	157.5	25	50	230	255	2.5	Yes	R 14 953.05



Class 1/2 Imax (8/20): - Iimp (10/350): 12.5kA

Type	Order Code	No. of Poles	Total Width mm	Impulse Current Limp 10/350 kA	Nominal Voltage (V) (Un)	Max Operating Voltage (V) (L-N)	Voltage Protection Level Up (kV)	Aux Contact End of Life Signal	Price
Max Discharge Current (kA) 80									
OVR T1-T2 1N 12.5-275s P QS	2CTB815710R1300	1+N	35	12.5	230	275	1.3	No	R 3 084.45
OVR T1-T2 3N 12.5-275s P QS	2CTB815710R1900	3+N	70	12.5	230	275	1.3	No	R 4 789.61
OVR T1-T2 3N 12.5-275s P TS QS	2CTB815710R0700	3+N	70	12.5	230	275	1.3	Yes	R 5 508.08

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Surge Protection Devices - OVR PV and ESP Series



Class 1 Iimp (10/350) - PV Surge Protective Devices - Photovoltaic Networks

Type	Order Code	No. of Poles	Total Width mm	Impulse current Iimp 10/350 kA	Voltage protection level Up kV	Max. continuous operating voltage Ucpv V	Aux Contact End of Life Signal	Price
OVR PV T1 6.25-600 P TS	2CTB803953R5700	2	160	6.75	1.9	670	Yes	R 6 472.20
OVR PV T1 6.25-1000 P TS	2CTB803953R6700	2	160	6.75	2.5	1000	Yes	R 8 653.40



Class 2 Imax (8/20) - PV Surge Protective Devices - Photovoltaic Networks

Type	Order Code	No. of Poles	Total Width mm	Max discharge current Imax 8/20 kA	Voltage protection level Up kV	Max. continuous operating voltage Ucpv V	Aux Contact End of Life Signal	Price
OVR PV 40-600 P	2CTB803953R5300	2	53.5	40	1.4	670	No	R 2 884.48
OVR PV 40-600 P TS	2CTB803953R5400	2	53.5	40	1.4	670	Yes	R 2 794.83
OVR PV 40-1000 P	2CTB803953R6400	2	53.5	40	3.8	1100	No	R 2 312.10
OVR PV 40-1000 P TS	2CTB803953R6500	2	53.5	40	3.8	1100	Yes	R 3 426.29
OVR PV 40-1500 P BW	2CTB804153R2200	2	53.5	40	4.5	1500	No	POR
OVR PV 40-1500 P BW	2CTB804153R2100	2	53.5	40	4.5	1500	Yes	POR



Class 1/2 - PV Surge Protective Devices - Photovoltaic Networks

Type	Order Code	No. of Poles	Total Width mm	Max discharge current Imax 8/20 kA	Impulse current Iimp 10/350 kA	Voltage protection level Up kV	Max. continuous operating voltage Ucpv V	Price
ESP DC550/12.5/PV	7TCA085460R0147	2	72	20	12.5	1.7	550	R 8 966.70
ESP DC1000/12.5/PV	7TCA085460R0146	2	72	20	12.5	2.4	1000	R 12 866.85



Class 2/3 - Singe phase Low Current Inline Surge Protection

Type	Order Code	Description	Max discharge current Imax 8/20 kA	Voltage protection level Up kV	Price
ESP 240-5A	7TCA085460R0064	single phase Combined class 2 and 3 inline surge protection device for currents up to 16A, the BX version is enclosed IP66 for outdoor installation	10	0.75	R 2 788.43
ESP 240-5A/BX	7TCA085460R0065		10	0.75	R 2 988.90
ESP 240-16A	7TCA085460R0080		10	0.75	R 2 788.43
ESP 240-16A/BX	7TCA085460R0081		10	0.75	R 2 988.90

Combined Category D, C, B RS485 and Field Bus Surge Protection

Type	Order Code	Description	No. of line Pairs protected	Max discharge current Imax 8/20 kA	Voltage protection level Up kV	Price
ESP RS85	7TCA085400R0191	Combined category D, C, B tested protector specifically designed for RS 485 and Fieldbus applications, such as Profibus DP. With 45 MHz bandwidth greatly exceeds 12 Mbps maximum	1	20	27.2	R 2 187.00
ESP SL RS85	7TCA085400R0193		1	20	27.2	R 2 405.70
ESP RS85SQ	7TCA085400R0192		4	20	27.2	R 6 615.68

Miniature Circuit Breakers
Products for Photovoltaic Applications



The S800 PV modular miniature circuit-breakers and switch disconnectors can be used in networks up to 1500 VDC (4-poles execution). The S800 PV and its range of accessories (auxiliary contacts, undervoltage releases, motorized commands) allow for a wide spectrum of configurations.

The main features of the S800 PV include:
- interchangeable terminals
- central trip safe disconnection of all poles
- contact status displayed for each pole
- polarity independent wiring

Main technical specifications		S800 PV-SP	
Reference Standards		IEC EN 60947-2	
Rated current	A	10…80	100, 125
No. of poles		2, 3, 4	
Rated voltage Ue (DC) 2 poles (DC) 3 poles (DC) 4 poles	 V V V	 800 1200 1500	 600 1200 1500
Ultimate rated short-circuit breaking capacity Icu (DC) 2 poles 800 V (DC) 3 poles 1200 V (DC) 4 poles 1500 V	 kA kA	 5 5 5	 5 5 5
Thermomagnetic release characteristic		4 In ≤ Im ≤ 7 In	
Class of use		A	
Operating temperature	°C	-25…+60	
Mounting		DIN rail EN 60715 (35 mm) by means of fast clip device	

Main technical specifications		S800 PV-SD
Reference Standards		IEC EN 60947-3
Rated current In	A	32, 63, 125
No. of poles		2, 3, 4
Rated voltage Ue (DC) 2 poles* (DC) 3 poles* (DC) 4 poles*	 V V V	 800 1200 1500
Rated short-time withstand current Icw (DC) 2 poles* 800 V (DC) 3 poles* 1200V (DC) 4 poles* 1500 V	 kA kA kA	 1.5 1.5 1.5
Class of use		DC-21A
Operating temperature	°C	-25…+60
Mounting		on DIN rail EN 60715 (35 mm) by means of fast clip device

Contact ABB for More Information

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Miniature Circuit Breakers
Coordination Tables – Cascading

MCB - MCB @ 415 V

			Supply S.	S200	S200M	S200P		S280
		Char.		B-C	B-C	B-C		B-C
Load S.		Icu [kA]		10	15	25	15	6
			In [A]	0.5..63	0.5..63	0.5..25	32..63	80, 100
S200	B,C,K,Z	10	0.5..63		15	25	15	
S200M	B,C	15	0.5..63			25		
S200P	B,C, D,K,Z	25	0.5..25					
		15	32..63					

MCCB - MCB @ 415 V

			Supply s.	XT1		XT2	XT3	XT4	XT1	XT2	XT3	XT4	XT1	XT2	XT4	XT2	XT4	XT2	XT4
			Version	B	C	N			S				H			L		V	
Load s.	Carat.	In [A]	Icu [kA]	18	25	36			50				70			120		150	
S200	B, C, K, Z	0.5..10	10	18	25	30	36	36	36	30	36	40	40	30	40	40	40	30	40	30
		13..63						16				16							
S200M	B, C, D, K, Z	0.5..10	15	18	25	30	36	36	36	30	50	40	40	30	70	40	40	30	40	30
		13..63						25				25			60		40		40	
S200P	B, C, D, K, Z	0.5..10	25			30	36	36	36	30	50	40	40	30	70	40	60	30	60	30
		13..25				30	36	30	36	30	50	30	40	30	60	40	40	30	40	30
		32..63	15	18	25	30	36	25	36	30	50	25	40	30	60	40	40	30	40	30
S280	B, C	80, 100	6	18	16	16	36	16	30	16	36	16	30	16	36	30	36	30	36	30
S800N	B, C, D	6..125	36						50	50	50	50	70	70	70	120	120	150	150
S800S	B, C, D, K	6..125	50										70	70	70	120	120	150	150
S800C	B, C, D, K	10..125				36	36	36	36	50	50	50	50	70	70	70	120	120	150	150

XT – S800B @ 230/400 V

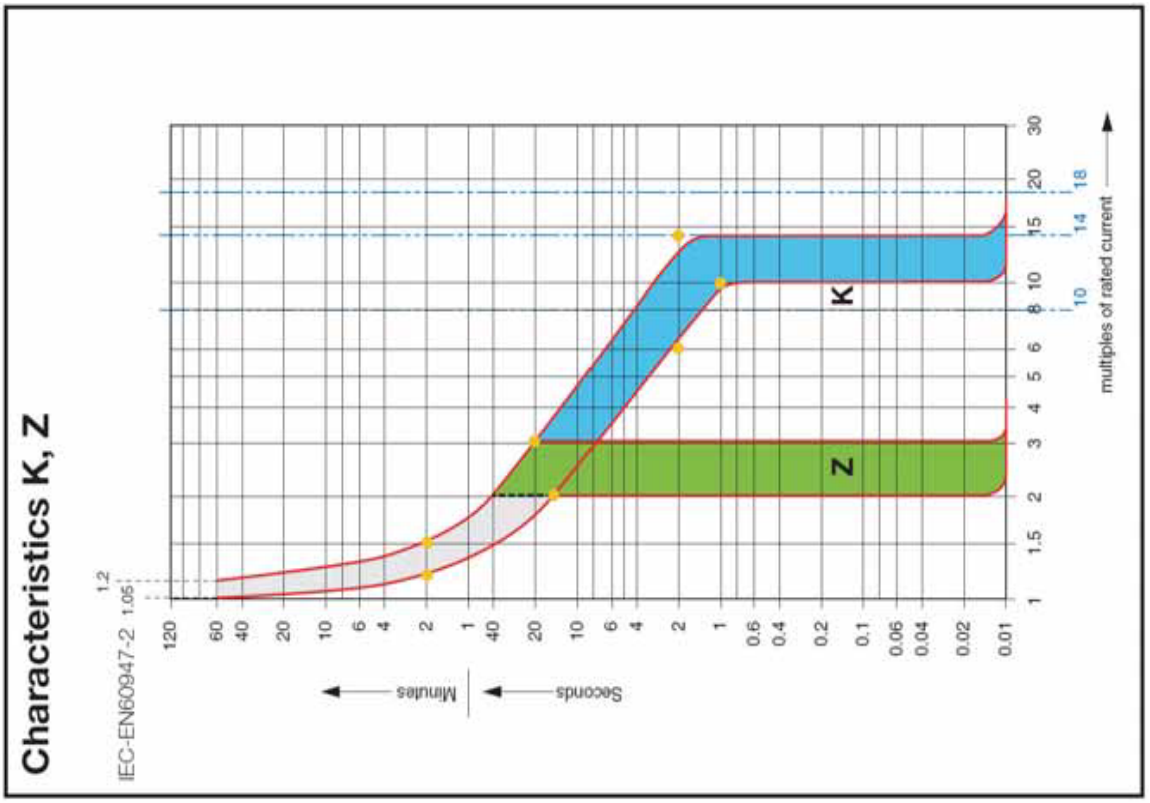
			Supply s.	XT1	XT1	XT1	XT2	XT3	XT4	XT1	XT2	XT3	XT4	XT1	XT2	XT4	XT2	XT4	XT2	XT4
			Version	B	C	N				S				H			L		V	
Load s.	Char.	In [A]	Icu [kA]	18	25	36				50				70			120		150	
S800B	B, C	32...100	16	18	25	36	36	36	36	50	50	50	50	70	70	70	120	120	150	150
	D, K	125*		18	25	36	36	36	36	50	50	50	50	70	70	70	120	120	150	150

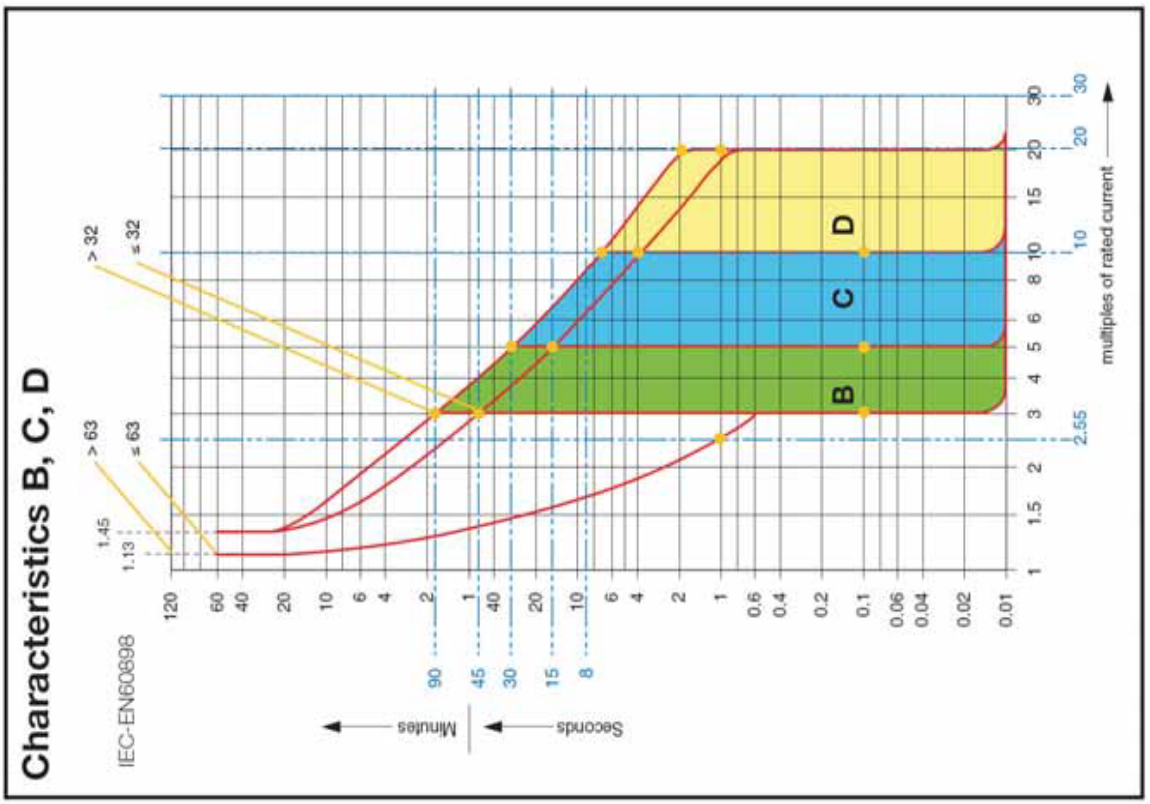
S800B – S200 @ 230/400 V

		Supply s.		S800B						
	Char.			B, C, D, K						
Load s.		Icu [kA]								
			In [A]	32	40	50	63	80	100	125*
S200	C, D, K, Z	10	0.5…6	16	16	16	16	16	16	16
			8	16	16	16	16	16	16	16
			10	16	16	16	16	16	16	16
			13	16	16	16	16	16	16	16
			16	16	16	16	16	16	16	16
			20	16	16	16	16	16	16	16
			25		16	16	16	16	16	16
			32			16	16	16	16	16
			40				16	16	16	16
			50					16	16	16
			63					16	16	16

Miniature Circuit Breakers

Characteristic Tripping Curve Diagrams

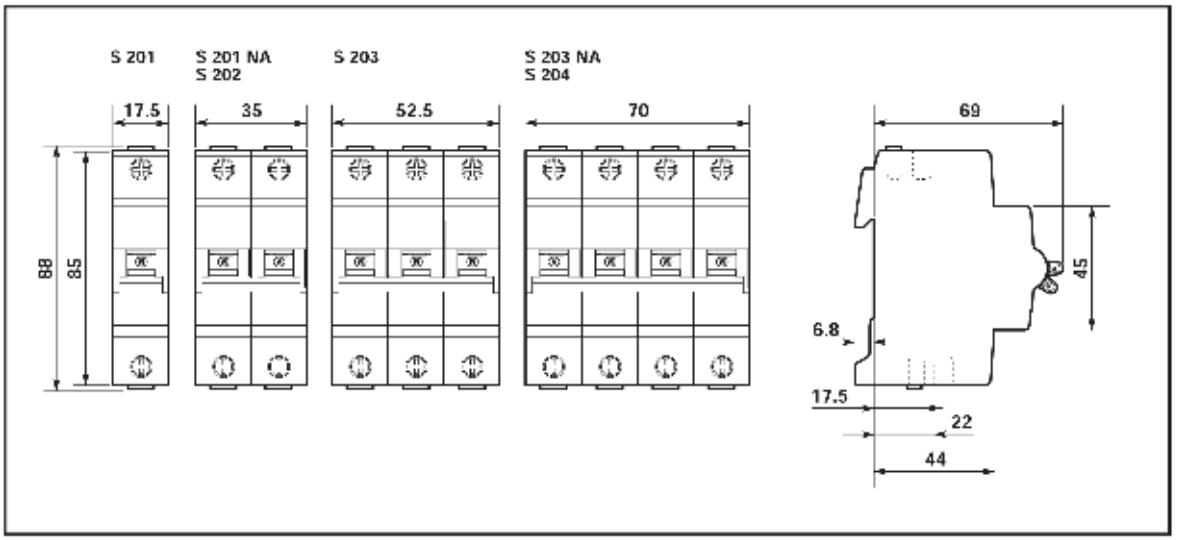




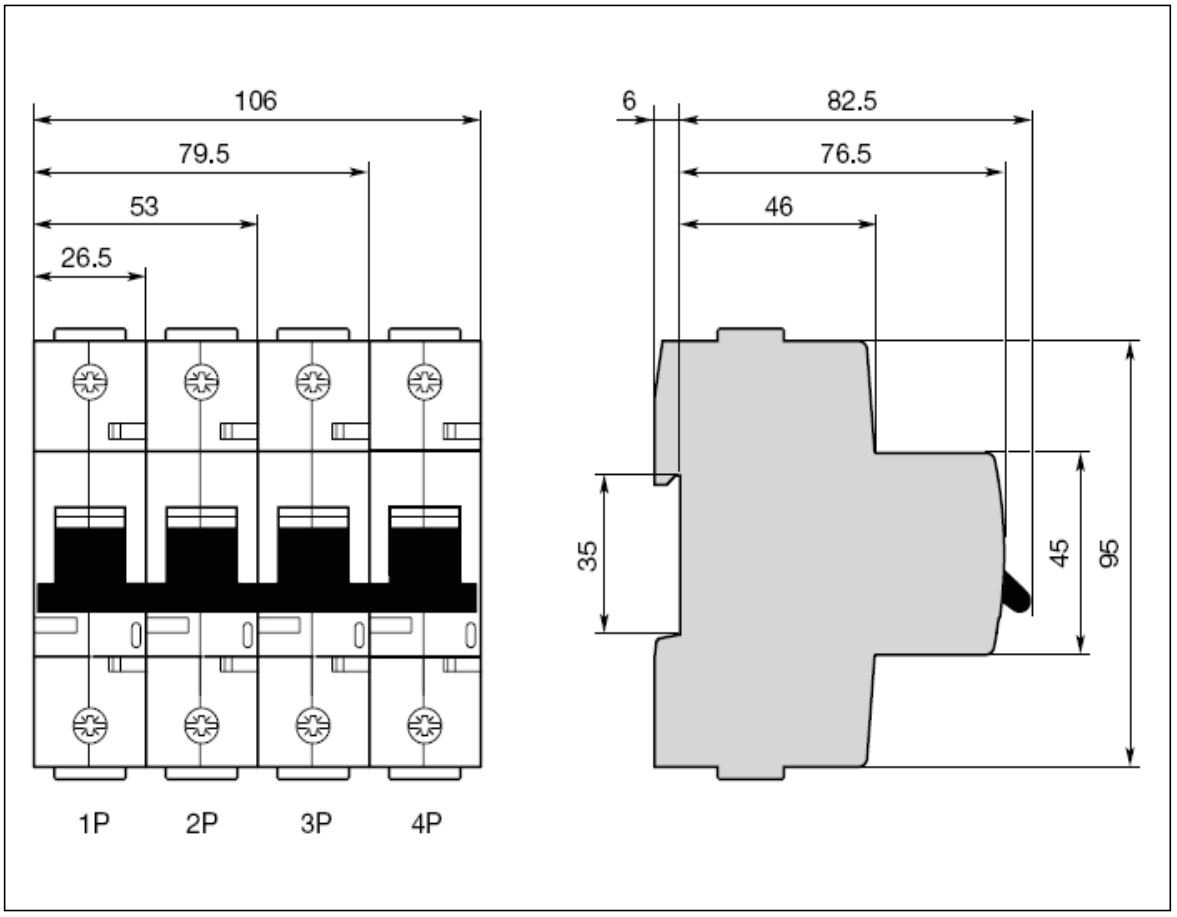
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Miniature Circuit Breakers
Dimensional Drawings

S200 Series Dimentions



S800 Series Dimentions



Notes

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Circuit Breakers

Moulded Case Circuit Breakers & Air Circuit Breakers

Tmax Moulded Case Circuit Breakers for Power Distribution — Chapter

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Automatic Circuit Breakers

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT – Summary

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

				XT1				
Size (G2.1)			[A]	160				
Poles			[No.]	3, 4				
Rated service voltage, **Ue** (G2.4)		(AC) 50-60Hz	[V]	690				
		(DC)	[V]	500				
Rated insulation voltage, **Ui** (G2.5)			[V]	800				
Rated impulse withstand voltage, **Uimp** (G2.6)			[kV]	8				
Versions				Fixed, Plug-in (2)				
Breaking capacities according to IEC 60947-2				**B**	**C**	**N**	**S**	**H**
Rated ultimate short-circuit breaking capacity, Icu (G2.7)								
Icu @ 220-230-240V 50-60Hz (AC)			[kA]	25	40	65	85	100
Icu @ 380V 50-60Hz (AC)			[kA]	18	25	36	50	70
Icu @ 415V 50-60Hz (AC)			[kA]	18	25	36	50	70
Icu @ 440V 50-60Hz (AC)			[kA]	15	25	36	50	65
Icu @ 500V 50-60Hz (AC)			[kA]	8	18	30	36	50
Icu @ 525V 50-60Hz (AC)			[kA]	6	8	22	35	35
Icu @ 690V 50-60Hz (AC)			[kA]	3	4	6	8	10
Icu @ 250V (DC) 2 poles in series			[kA]	18	25	36	50	70
Icu @ 500V (DC) 2 poles in series			[kA]	–	–	–	–	–
Icu @ 500V (DC) 3 poles in series (3)			[kA]	18	25	36	50	70
Rated service short-circuit breaking capacity, Ics (G2.8)								
Ics @ 220-230-240V 50-60Hz (AC)			[kA]	100%	100%	75% (50)	75%	75%
Ics @ 380V 50-60Hz (AC)			[kA]	100%	100%	100%	100%	75%
Ics @ 415V 50-60Hz (AC)			[kA]	100%	100%	100%	75%	50% (37.5)
Ics @ 440V 50-60Hz (AC)			[kA]	75%	50%	50%	50%	50%
Ics @ 500V 50-60Hz (AC)			[kA]	100%	50%	50%	50%	50%
Ics @ 525V 50-60Hz (AC)			[kA]	100%	100%	50%	50%	50%
Ics @ 690V 50-60Hz (AC)			[kA]	100%	100%	75% (5)	50% (5)	50%
Ics @ 250V (DC) 2 poles in series			[kA]	100%	100%	100%	100%	75%
Ics @ 500V (DC) 2 poles in series			[kA]	–	–	–	–	–
Ics @ 500V (DC) 3 poles in series (3)			[kA]	100%	100%	100%	100%	75%
Rated short-circuit making capacity, Icm (G2.10)								
Icm @ 220-230-240V 50-60Hz (AC)			[kA]	52.5	84	143	187	220
Icm @ 380V 50-60Hz (AC)			[kA]	36	52.5	75.6	105	154
Icm @ 415V 50-60Hz (AC)			[kA]	36	52.5	75.6	105	154
Icm @ 440V 50-60Hz (AC)			[kA]	30	52.5	75.6	105	143
Icm @ 500V 50-60Hz (AC)			[kA]	13.6	36	63	75.6	105
Icm @ 525V 50-60Hz (AC)			[kA]	9.18	13.6	46.2	73.5	73.5
Icm @ 690V 50-60Hz (AC)			[kA]	4.26	5.88	9.18	13.6	17
Breaking capacities according to NEMA-AB1								
@ 240V 50-60Hz (AC)			[kA]	25	40	65	85	100
@ 480V 50-60Hz (AC)			[kA]	8	18	30	36	65
Utilisation Category (IEC 60947-2)				A				
Reference Standard				IEC 60947-2				
Isolation behaviour				✔				
Mounted on DIN rail				DIN EN 50022				
Mechanical life (G2.14)			[No. Operations]	25000				
			[No. Hourly operations]	240				
Electrical life @ 415 V (AC) (G2.13)			[No. Operations]	8000				
			[No. Hourly operations]	120				
Dimensions - Fixed (Width x Depth x Height)		3 poles	[mm]	76.2 x 70 x 130				
		4 poles	[mm]	101.6 x 70 x 130				
Total opening time								
Circuit-breaker with shunt opening release			[ms]	15				
Circuit-breaker with undervoltage release			[ms]	15				
Trip units for power distribution								
TMD/TMA								
TMD/TMF						■		
Ekip LS/I								
Ekip I								
Ekip LSI								
Ekip LSIG								
Ekip E								
Trip units for motor protection								
MF/MA						■		
Ekip M-I								
Ekip M-LIU								
Ekip M-LRIU								
Trip units for generator protection								
TMG								
Ekip G-LS/I								
Trip units for oversized Neutral Protection								
Ekip N-LS/I								
Interchangeable protection trip units								
Weight Fixed		3/4 poles	[kg]	1.1 / 1.4				
Plug in (EF terminals)		3/4 poles	[kg]	2.21 / 2.82				
Withdrawable (EF terminals)		3/4 poles	[kg]					

(1) Icu=100kA and Ics=100%Icu @690V only for XT4 160
(2) XT1 plug-in In max=125A
(3) XT1 500V DC 4 poles in series
(4) XT4 750V DC please ask ABB SACE for availability

■ Complete circuit-breaker
▲ Loose trip unit

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT – Summary

	XT2					XT3		XT4				
	160					250		160 / 250				
	3, 4					3, 4		3, 4				
	690					690		690				
	500					500		500[4]				
	1000					800		1000				
	8					8		8				
	Fixed, Withdrawable, Plug-in					Fixed, Plug-in		Fixed, Withdrawable, Plug-in				
	N	S	H	L	V	N	S	N	S	H	L	V
	65	85	100	150	200	50	85	65	85	100	150	200
	36	50	70	120	150	36	50	36	50	70	120	150
	36	50	70	120	150	36	50	36	50	70	120	150
	36	50	65	100	150	25	40	36	50	65	100	150
	30	36	50	60	70	20	30	30	36	50	60	70
	20	25	30	36	50	13	20	20	25	45	50	50
	10	12	15	18	20	5	6	10	12	15	20	25/100 [1]
	36	50	70	85	100	36	50	36	50	70	85	100
	–	–	–	–	–	–	–	36	50	70	85	100
	36	50	70	85	100	36	50	36	50	70	85	100
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	75% (15)	75%	75%	50%	100%	100%	100%	100%	75% (20)/100% [1]
	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%
	–	–	–	–	–	–	–	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%
	143	187	220	330	440	105	187	143	187	220	330	440
	75.6	105	154	264	330	75.6	105	75.6	105	154	264	330
	75.6	105	154	264	330	75.6	105	75.6	105	154	264	330
	75.6	105	143	220	330	52.5	84	75.6	105	143	220	330
	63	75.6	105	132	154	40	63	63	75.6	105	132	154
	40	52.5	63	75.6	105	26	40	40	52.5	94.5	105	105
	17	24	30	36	40	7.65	13.6	17	24	30	40	52.5
	65	85	100	150	200	50	85	65	85	100	150	200
	30	36	65	100	150	25	35	30	36	65	100	150
	A					A		A				
	IEC 60947-2					IEC 60947-2		IEC 60947-2				
	✔					✔		✔				
	DIN EN 50022					DIN EN 50022		DIN EN 50022				
	25000					25000		25000				
	240					240		240				
	8000					8000		8000				
	120					120		120				
	90 x 82.5 x 130					105 x 70 x 150		105 x 82.5 x 160				
	120 x 82.5 x 130					140 x 70 x 150		140 x 82.5 x 160				
	15					15		15				
	15					15		15				
	■							■				
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	▲							▲				
	▲							▲				
	✔							✔				
	1.2 / 1.6					1.7 / 2.1		2.5 / 3.5				
	2.54 / 3.27					3.24 / 4.1		4.19 / 5.52				
	3.32 / 4.04							5 / 6.76				

Moulded Case Circuit Breakers for Power Distribution
Tmax XT1/XT3

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

XT1 160 TMD – Fixed (F) – 3 poles – Front terminals (F)



Thermomagnetic trip unit – TMD		B	Price	C	Price	N	Price
		Icu @ 415Vac = 18kA		Icu @ 415Vac = 25kA		Icu @ 415Vac = 36kA	
	In						
TMD	12-16A	1SDA066799R1	R 1,448.00	1SDA080825R1	R 1,524.00	1SDA080827R1	R 1,941.00
TMD	14-20A	1SDA066800R1	R 1,448.00	1SDA080826R1	R 1,524.00	1SDA080828R1	R 1,941.00
TMD	18-25A	1SDA066801R1	R 1,448.00	1SDA067391R1	R 1,524.00	1SDA080829R1	R 1,941.00
TMD	22-32A	1SDA066802R1	R 1,448.00	1SDA067392R1	R 1,524.00	1SDA067411R1	R 1,941.00
TMD	28-40A	1SDA066803R1	R 1,448.00	1SDA067393R1	R 1,524.00	1SDA067412R1	R 1,941.00
TMD	35-50A	1SDA066804R1	R 1,448.00	1SDA067394R1	R 1,524.00	1SDA067413R1	R 1,941.00
TMD	44-63A	1SDA066805R1	R 1,448.00	1SDA067395R1	R 1,524.00	1SDA067414R1	R 1,941.00
TMD	56-80A	1SDA066806R1	R 1,612.00	1SDA067396R1	R 1,697.00	1SDA067415R1	R 2,115.00
TMD	70-100A	1SDA066807R1	R 1,612.00	1SDA067397R1	R 1,697.00	1SDA067416R1	R 2,115.00
TMD	88-125A	1SDA066808R1	R 1,842.00	1SDA067398R1	R 1,938.00	1SDA067417R1	R 2,520.00
TMD	112-160A	1SDA066809R1	R 2,072.00	1SDA067399R1	R 2,181.00	1SDA067418R1	R 2,638.00

XT1 160 TMD – Fixed (F) – 4 poles – Front terminals (F)



Thermomagnetic trip unit – TMD		B	Price	C	Price	N	Price
		Icu @ 415Vac = 18kA		Icu @ 415Vac = 25kA		Icu @ 415Vac = 36kA	
	In						
TMD	12-16A	1SDA066810R1	R 2,027.00	1SDA080840R1	R 2,133.00	1SDA080842R1	R 2,718.00
TMD	14-20A	1SDA066811R1	R 2,027.00	1SDA080841R1	R 2,133.00	1SDA080843R1	R 2,718.00
TMD	18-25A	1SDA066812R1	R 2,027.00	1SDA067400R1	R 2,133.00	1SDA080844R1	R 2,718.00
TMD	22-32A	1SDA066813R1	R 2,027.00	1SDA067401R1	R 2,133.00	1SDA067419R1	R 2,718.00
TMD	28-40A	1SDA066814R1	R 2,027.00	1SDA067402R1	R 2,133.00	1SDA067420R1	R 2,718.00
TMD	35-50A	1SDA066815R1	R 2,027.00	1SDA067403R1	R 2,133.00	1SDA067421R1	R 2,718.00
TMD	44-63A	1SDA066816R1	R 2,027.00	1SDA067404R1	R 2,133.00	1SDA067422R1	R 2,718.00
TMD	56-80A	1SDA066817R1	R 2,257.00	1SDA067405R1	R 2,376.00	1SDA067423R1	R 2,960.00
TMD	70-100A	1SDA066818R1	R 2,257.00	1SDA067406R1	R 2,376.00	1SDA067424R1	R 2,960.00
In N=50%	88-125A	1SDA066819R1	R 2,578.00	1SDA067407R1	R 2,714.00	1SDA067425R1	R 3,528.00
In N=50%	112-160A	1SDA066820R1	R 2,901.00	1SDA067408R1	R 3,053.00	1SDA067426R1	R 3,692.00
In N=100%	88-125A	1SDA066888R1	R 2,578.00	1SDA067409R1	R 2,714.00	1SDA067427R1	R 3,528.00
In N=100%	112-160A	1SDA066821R1	R 2,901.00	1SDA067410R1	R 3,053.00	1SDA067428R1	R 3,692.00

XT1D – Switch-disconnector

Type	Icw	3 Poles	Price	4 Poles	Price
XT1D 160	160A	1SDA068208R1	R 1,897.00	1SDA068209R1	R 2,656.00

XT3 250 TMD – Fixed (F) – 3 poles – Front terminals (F)



Thermomagnetic trip unit – TMD		N	Price	S	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA	
	In				
TMD	44-63A	1SDA068053R1	R 3,450.00	1SDA068215R1	R 3,840.00
TMD	56-80A	1SDA068054R1	R 3,450.00	1SDA068216R1	R 3,840.00
TMD	70-100A	1SDA068055R1	R 3,450.00	1SDA068217R1	R 3,840.00
TMD	88-125A	1SDA068056R1	R 3,450.00	1SDA068218R1	R 3,840.00
TMD	112-160A	1SDA068057R1	R 3,450.00	1SDA068219R1	R 4,042.00
TMD	140-200A	1SDA068058R1	R 3,533.00	1SDA068220R1	R 4,042.00
TMD	175-250A	1SDA068059R1	R 3,539.00	1SDA068221R1	R 4,165.00

XT3 250 TMD – Fixed (F) – 4 poles – Front terminals (F)



Thermomagnetic trip unit – TMD		N	Price	S	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA	
	In				
TMD	44-63A	1SDA068060R1	R 4,266.00	1SDA068222R1	R 5,119.00
TMD	56-80A	1SDA068061R1	R 4,266.00	1SDA068223R1	R 5,119.00
TMD	70-100A	1SDA068062R1	R 4,266.00	1SDA068224R1	R 5,119.00
In N=50%	88-125A	1SDA068063R1	R 4,266.00	1SDA068225R1	R 5,119.00
In N=50%	112-160A	1SDA068064R1	R 4,491.00	1SDA068226R1	R 5,389.00
In N=50%	140-200A	1SDA068065R1	R 4,491.00	1SDA068227R1	R 5,389.00
In N=50%	175-250A	1SDA068066R1	R 4,627.00	1SDA068228R1	R 5,553.00
In N=100%	88-125A	1SDA068067R1	R 4,266.00	1SDA068229R1	R 5,119.00
In N=100%	112-160A	1SDA068068R1	R 4,491.00	1SDA068230R1	R 5,389.00
In N=100%	140-200A	1SDA068069R1	R 4,491.00	1SDA068231R1	R 5,389.00
In N=100%	175-250A	1SDA068070R1	R 4,627.00	1SDA068232R1	R 5,553.00

XT3D – Switch-disconnector

Type	Icw	3 Poles	Price	4 Poles	Price
XT3D 250	250A	1SDA068210R1	R 3,559.00	1SDA068211R1	R 4,983.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT1/XT3 – Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT1 and XT3

Fixed Parts, Conversion Kit and Accessories for Fixed Parts



Type	Order Code	Number of Poles	Item Description	For use with	Price
Kit P PF EF	1SDA068183R1	3	Fixed Plug-in base	XT1	R 821.00
P MP KIT	1SDA066276R1	3	Conversion kit for MCCB to plug-in	XT1	R 282.00
EF – Front Extended terminals	1SDA066260R1	3	Terminals for conversion kit	XT1	R 206.00
Kit P PF EF	1SDA068192R1	3	Fixed Plug-in base	XT3	R 1,207.00
P MP KIT	1SDA066280R1	3	Conversion kit for MCCB to plug-in	XT3	R 408.00
EF – Front Extended terminals	1SDA066264R1	3	Terminals for conversion kit	XT3	R 283.00
PS – Rear phase separators 90mm	1SDA068953R1	3	Rear phase separators 90mm	XT3	R 150.00
Socket-plug panel connector	1SDA066412R1	3	15 Pin for Rear	XT1/XT3	R 616.00

Shunt Opening release – SOR



Type	Order Code		For use with	Price
SOR-C 12V DC	1SDA066321R1		XT1/XT3	R 1,189.00
SOR-C 24-30V AC/DC	1SDA066322R1		XT1/XT3	R 1,182.00
SOR-C 110-127V AC / 110-125V DC	1SDA066324R1		XT1/XT3	R 1,182.00
SOR-C 220-240V AC / 220-250V DC	1SDA066325R1		XT1/XT3	R 1,182.00
SOR-C 380-440V AC	1SDA066326R1		XT1/XT3	R 1,182.00
SOR-C 480-525V AC	1SDA066327R1		XT1/XT3	R 1,182.00

Under Voltage Release – UVR



Type	Order Code		For Use with	Price
UVR-C 24 – 30V AC / DC	1SDA066396R1		XT1 / XT3	R 1,500.00
UVR-C 110 – 127V AC / 110 – 125V DC	1SDA066398R1		XT1 / XT3	R 1,500.00
UVR-C 220 – 240V AC / 220 – 250V DC	1SDA066399R1		XT1 / XT3	R 1,500.00
UVR-C 380 – 440V AC	1SDA066400R1		XT1 / XT3	R 1,500.00
UVR-C 480 – 525V AC	1SDA066401R1		XT1 / XT3	R 1,500.00

Delay Device for Under Voltage Release – UVD



Type	Order Code		For Use with	Price
UVD 24 – 30V AC / DC	1SDA051357R1		XT1 / XT3	R 2,900.00
UVD 110 – 125V AC / DC	1SDA051360R1		XT1 / XT3	R 2,900.00
UVD 220 – 250V AC / DC	1SDA051361R1		XT1 / XT3	R 2,900.00

Auxiliary Contacts – AUX



Type	Order Code		For Use with	Price
AUX-C 3Q 250V AC / DC	1SDA066426R1		XT1	R 1,386.00
AUX-C 3Q 250V AC / DC	1SDA066428R1		XT3	R 1,386.00
AUX-C 1Q+1SY 250V AC / DC	1SDA066431R1		XT1 / XT3	R 1,066.00
AUX-C 2Q+1SY 250V AC / DC	1SDA066433R1		XT1 / XT3	R 1,218.00

Motor Operators



Type	Order Code		For Use with	Price
MOD 24V DC	1SDA066457R1		XT1 / XT3	R 4,558.00
MOD 110 – 125V AC / DC	1SDA066459R1		XT1 / XT3	R 4,558.00
MOD 220 – 250V AC / DC	1SDA066460R1		XT1 / XT3	R 4,558.00
MOD 380 – 440V AC	1SDA066461R1		XT1 / XT3	R 4,558.00

Rotary Handle Operating Mechanisms



Type	Order Code		For Use with	Price
RHD Normal direct handle	1SDA066475R1		XT1 / XT3	R 981.00
RHE Normal transmitted handle	1SDA066479R1		XT1 / XT3	R 1,509.00

Moulded Case Circuit Breakers for Power Distribution

Tmax XT1/XT3 – Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT1 and XT3



Padlock on the Circuit Breaker

Type	Order Code	Item Description	For use with	Price
PLL Removable lock with padlocks in open position	1SDA066588R1	PLL XT1-XT3 remov.padl.device open plug.	XT1/XT3	R 320.00
PLL Fixed lock with padlocks in open position	1SDA066589R1	PLL XT1-XT3 fixed.padl.device open plug.	XT1/XT3	R 320.00



Key Lock on the Circuit Breaker

Type	Order Code	For Use with	Price
KLC Ronis key lock open, different keys, removable in open position	1SDA066593R1	XT1	R 537.00
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066594R1	XT1	R 537.00
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066595R1	XT1	R 537.00
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066596R1	XT1	R 537.00
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066597R1	XT1	R 537.00
KLC Ronis key lock open, different keys, removable in open position	1SDA066605R1	XT3	R 537.00
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066606R1	XT3	R 537.00
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066607R1	XT3	R 537.00
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066608R1	XT3	R 537.00
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066609R1	XT3	R 537.00



Key Lock on the Motor

Type	Order Code	For Use with	Price
MOL-D Ronis key lock open, different keys	1SDA066623R1	XT1 / XT3	R 677.00
MOL-S Ronis key lock open, same type A keys	1SDA066624R1	XT1 / XT3	R 677.00
MOL-S Ronis key lock open, same type B keys	1SDA066625R1	XT1 / XT3	R 677.00
MOL-S Ronis key lock open, same type C keys	1SDA066626R1	XT1 / XT3	R 677.00
MOL-S Ronis key lock open, same type D keys	1SDA066627R1	XT1 / XT3	R 677.00



Mechanical Interlock

Type	Order Code	For Use with	Price
MIR-H	1SDA066637R1	XT1 / XT3	R 3,360.00
MIR-V	1SDA066638R1	XT1 / XT3	R 3,360.00
Plate XT1 F (one per breaker)	1SDA066639R1	XT1 Fixed	R 1,050.00
Plate XT1 P (one per breaker)	1SDA066640R1	XT1 Plug-in	R 1,050.00
Plate XT3 F (one per breaker)	1SDA066643R1	XT3 Fixed	R 1,050.00
Plate XT3 P (one per breaker)	1SDA066644R1	XT3 Plug-in	R 1,050.00



Phase Separator

Type	Order Code	For Use with	Price
PB Height 25mm	1SDA066674R1	XT1 / XT3	R 150.00
PS Height 100mm	1SDA066676R1	XT1 / XT3	R 150.00
PS Height 200mm	1SDA066678R1	XT1 / XT3	R 300.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT1/XT3 – Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT1 and XT3



Terminals (Includes Phase Barriers)

Type	Order Code	For Use with	Price
EF Extended front terminals (3 pieces)	1SDA066865R1	XT1	R 250.00
Extended spread front terminals (3 pieces)	1SDA066889R1	XT1	R 241.00
EF Extended front terminals (3 pieces)	1SDA066873R1	XT3	R 283.00
Extended spread front terminals (3 pieces)	1SDA066897R1	XT3	R 328.00



Automatic Transfer Devices

Type	Order Code	For Use with	Price
ATS021	1SDA065523R1	XT1 / XT3	R 10,547.00
ATS022	1SDA065524R1	XT1 / XT3	R 17,198.00

Residual Current Device

Type	Order Code	For Use with	Price
RC Inst	1SDA067122R1	XT1 3 Pole	R 3,603.00
RC Sel	1SDA067123R1	XT1 3 Pole	R 4,200.00
RC Inst	1SDA067127R1	XT3 3 Pole	R 4,762.00
RC Sel	1SDA067128R1	XT3 3 Pole	R 6,148.00
RC Inst	1SDA067124R1	XT1 4 Pole	R 4,435.00
RC Sel	1SDA067125R1	XT1 4 Pole	R 5,781.00
RC Inst	1SDA067129R1	XT3 4 Pole	R 6,545.00
RC Sel	1SDA067130R1	XT3 4 Pole	R 7,481.00



Installation Bracket for Fixing onto DIN Rail

Type	Order Code	For Use with	Price
KIT DIN50022 XT1 3p PLATE DIN	1SDA066652R1	XT1	R 150.00
KIT DIN50022 XT1+RC Sel/ RC Inst	1SDA067135R1	XT1	R 432.00
KIT DIN50022 XT3 3p PLATE DIN	1SDA066420R1	XT3	R 150.00
KIT DIN50022 XT3+RC Sel/ RC Inst	1SDA067139R1	XT3	R 432.00



Transmitted Handle Spare Parts

Type	Order Code	For use with	Price
RHE_B Base for Transmitted Handle	1SDA066483R1	XT1/XT3	R 680.00
RHE_S Rod of 500mm	1SDA066576R1	XT1/XT3	R 236.00
RHE_H Normal Transmitted Handle	1SDA066577R1	XT1/XT3	R 628.00
RHE_H Emergency Transmitted Handle	1SDA066578R1	XT1/XT3	R 628.00
LH Large emergency handle	1SDA066585R1	XT1/XT3	R 1,660.00



Insulating terminal covers

Type	Number of Poles	Order Code	For use with	Price
LTC Low terminal covers	3	1SDA066655R1	XT1	R 199.00
LTC Low terminal covers	4	1SDA066656R1	XT1	R 266.00
HTC High terminal covers	3	1SDA066664R1	XT1	R 216.00
HTC High terminal covers	4	1SDA066665R1	XT1	R 283.00
LTC Low terminal covers	3	1SDA066660R1	XT3	R 283.00
LTC Low terminal covers	4	1SDA066661R1	XT3	R 365.00
HTC High terminal covers	3	1SDA066668R1	XT3	R 316.00
HTC High terminal covers	4	1SDA066669R1	XT3	R 421.00

Moulded Case Circuit Breakers for Power Distribution

Tmax XT2/XT4

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



XT2 160 TMD/TMA – Fixed (F) – 3 poles – Front terminals (F)

Thermomagnetic trip unit - TMD		N	Price	S	Price	H	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA	
	In						
TMD	12-16A	1SDA067010R1	R 3,143.00	1SDA067550R1	R 4,012.00	1SDA067594R1	R 4,899.00
TMD	14-20A	1SDA067011R1	R 3,143.00	1SDA067551R1	R 4,012.00	1SDA067595R1	R 4,899.00
TMD	18-25A	1SDA067012R1	R 3,143.00	1SDA067552R1	R 4,012.00	1SDA067596R1	R 4,899.00
TMD	22-32A	1SDA067013R1	R 3,143.00	1SDA067553R1	R 4,012.00	1SDA067597R1	R 4,899.00
TMA	28-40A	1SDA067014R1	R 3,143.00	1SDA067554R1	R 4,012.00	1SDA067598R1	R 4,899.00
TMA	35-50A	1SDA067015R1	R 3,143.00	1SDA067555R1	R 4,023.00	1SDA067599R1	R 4,899.00
TMA	44-63A	1SDA067016R1	R 3,150.00	1SDA067556R1	R 4,023.00	1SDA067600R1	R 4,899.00
TMA	56-80A	1SDA067017R1	R 3,202.00	1SDA067557R1	R 4,052.00	1SDA067601R1	R 4,938.00
TMA	70-100A	1SDA067018R1	R 3,202.00	1SDA067558R1	R 4,075.00	1SDA067602R1	R 4,938.00
TMA	88-125A	1SDA067019R1	R 3,792.00	1SDA067559R1	R 5,595.00	1SDA067603R1	R 5,873.00
TMA	112-160A	1SDA067020R1	R 3,841.00	1SDA067560R1	R 5,644.00	1SDA067604R1	R 5,920.00



XT2 160 TMD/TMA – Fixed (F) – 4 poles – Front terminals (F)

Thermomagnetic trip unit - TMD		N	Price	S	Price	H	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA	
	In						
TMD	12-16A	1SDA067031R1	R 4,401.00	1SDA067571R1	R 5,617.00	1SDA067615R1	R 6,170.00
TMD	14-20A	1SDA067032R1	R 4,401.00	1SDA067572R1	R 5,617.00	1SDA067616R1	R 6,170.00
TMD	18-25A	1SDA067033R1	R 4,401.00	1SDA067573R1	R 5,617.00	1SDA067617R1	R 6,170.00
TMD	22-32A	1SDA067034R1	R 4,401.00	1SDA067574R1	R 5,617.00	1SDA067618R1	R 6,170.00
TMA	28-40A	1SDA067035R1	R 4,401.00	1SDA067575R1	R 5,617.00	1SDA067619R1	R 6,170.00
TMA	35-50A	1SDA067036R1	R 4,401.00	1SDA067576R1	R 5,633.00	1SDA067620R1	R 6,170.00
TMA	44-63A	1SDA067037R1	R 4,409.00	1SDA067577R1	R 5,633.00	1SDA067621R1	R 6,477.00
TMA	56-80A	1SDA067038R1	R 4,483.00	1SDA067578R1	R 5,673.00	1SDA067622R1	R 6,559.00
TMA	70-100A	1SDA067039R1	R 4,483.00	1SDA067579R1	R 5,705.00	1SDA067623R1	R 6,599.00
TMA In N=50%	88-125A	1SDA067040R1	R 5,309.00	1SDA067580R1	R 7,833.00	1SDA067624R1	R 8,022.00
TMA In N=50%	112-160A	1SDA067041R1	R 5,377.00	1SDA067581R1	R 7,992.00	1SDA067625R1	R 8,090.00
TMA In N=100%	88-125A	1SDA067042R1	R 5,309.00	1SDA067582R1	R 7,902.00	1SDA067626R1	R 8,022.00
TMA In N=100%	112-160A	1SDA067043R1	R 5,377.00	1SDA067583R1	R 7,992.00	1SDA067627R1	R 8,090.00



XT2 160 Ekip LS/I – Fixed (F) – 3 poles – Front terminals (F)

Electronic trip unit - Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	4-10A	1SDA067054R1	R 4,902.00	1SDA067800R1	R 5,985.00	1SDA067857R1	R 6,684.00	1SDA067971R1	R 9,091.00
Ekip LS/I	10-25A	1SDA067055R1	R 4,902.00	1SDA067801R1	R 5,985.00	1SDA067858R1	R 6,684.00	1SDA067972R1	R 9,091.00
Ekip LS/I	25-63A	1SDA067056R1	R 4,902.00	1SDA067802R1	R 5,985.00	1SDA067859R1	R 6,684.00	1SDA067973R1	R 9,091.00
Ekip LS/I	40-100A	1SDA067057R1	R 4,902.00	1SDA067803R1	R 6,630.00	1SDA067860R1	R 7,223.00	1SDA067974R1	R 9,091.00
Ekip LS/I	64-160A	1SDA067058R1	R 6,410.00	1SDA067804R1	R 6,920.00	1SDA067861R1	R 7,633.00	1SDA067975R1	R 10,991.00



XT2 160 Ekip LS/I – Fixed (F) – 4 poles – Front terminals (F)

Electronic trip unit - Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	4-10A	1SDA067090R1	R 6,863.00	1SDA067833R1	R 7,901.00	1SDA067890R1	R 8,939.00	1SDA068004R1	R 12,872.00
Ekip LS/I	10-25A	1SDA067091R1	R 6,863.00	1SDA067834R1	R 7,901.00	1SDA067891R1	R 8,939.00	1SDA068005R1	R 12,872.00
Ekip LS/I	25-63A	1SDA067092R1	R 6,863.00	1SDA067835R1	R 7,901.00	1SDA067892R1	R 8,939.00	1SDA068006R1	R 12,872.00
Ekip LS/I	40-100A	1SDA067093R1	R 6,863.00	1SDA067836R1	R 7,901.00	1SDA067893R1	R 8,939.00	1SDA068007R1	R 12,872.00
Ekip LS/I	64-160A	1SDA067095R1	R 8,973.00	1SDA067838R1	R 9,830.00	1SDA067895R1	R 10,686.00	1SDA068009R1	R 15,388.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT2/XT4

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



XT4 160 TMD/TMA – Fixed (F) – 3 poles – Front terminals (F)

Thermomagnetic trip unit - TMD/TMA		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
TMD	12-16A	1SDA068076R1	R 3,657.00	1SDA068299R1	R 5,298.00	1SDA068332R1	R 5,686.00	1SDA068398R1	R 8,187.00
TMD	14-20A	1SDA068080R1	R 3,657.00	1SDA068300R1	R 5,298.00	1SDA068333R1	R 5,686.00	1SDA068399R1	R 8,187.00
TMD	18-25A	1SDA068081R1	R 3,657.00	1SDA068301R1	R 5,298.00	1SDA068334R1	R 5,686.00	1SDA068400R1	R 8,187.00
TMD	22-32A	1SDA068082R1	R 3,657.00	1SDA068302R1	R 5,298.00	1SDA068335R1	R 5,686.00	1SDA068401R1	R 8,187.00
TMA	28-40A	1SDA068083R1	R 3,657.00	1SDA068303R1	R 5,298.00	1SDA068336R1	R 5,686.00	1SDA068402R1	R 8,187.00
TMA	35-50A	1SDA068084R1	R 3,657.00	1SDA068304R1	R 5,298.00	1SDA068337R1	R 5,686.00	1SDA068403R1	R 8,187.00
TMA	44-63A	1SDA068085R1	R 3,701.00	1SDA068305R1	R 5,298.00	1SDA068338R1	R 5,968.00	1SDA068404R1	R 8,594.00
TMA	56-80A	1SDA068086R1	R 3,701.00	1SDA068306R1	R 5,373.00	1SDA068339R1	R 6,044.00	1SDA068405R1	R 8,703.00
TMA	70-100A	1SDA068087R1	R 3,701.00	1SDA068307R1	R 5,373.00	1SDA068340R1	R 6,044.00	1SDA068406R1	R 8,703.00
TMA	88-125A	1SDA068088R1	R 4,344.00	1SDA068308R1	R 6,152.00	1SDA068341R1	R 6,470.00	1SDA068407R1	R 9,316.00
TMA	112-160A	1SDA068089R1	R 4,403.00	1SDA068309R1	R 6,850.00	1SDA068342R1	R 6,533.00	1SDA068408R1	R 9,407.00



XT4 160 TMD/TMA – Fixed (F) – 4 poles – Front terminals (F)

Thermomagnetic trip unit - TMD/TMA		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
TMD	12-16A	1SDA068093R1	R 5,120.00	1SDA068313R1	R 7,417.00	1SDA068346R1	R 7,960.00	1SDA068412R1	R 11,462.00
TMD	14-20A	1SDA068094R1	R 5,120.00	1SDA068314R1	R 7,417.00	1SDA068347R1	R 7,960.00	1SDA068413R1	R 11,462.00
TMD	18-25A	1SDA068095R1	R 5,120.00	1SDA068315R1	R 7,417.00	1SDA068348R1	R 7,960.00	1SDA068414R1	R 11,462.00
TMD	22-32A	1SDA068096R1	R 5,120.00	1SDA068316R1	R 7,417.00	1SDA068349R1	R 7,960.00	1SDA068415R1	R 11,462.00
TMA	28-40A	1SDA068097R1	R 5,120.00	1SDA068317R1	R 7,417.00	1SDA068350R1	R 7,960.00	1SDA068416R1	R 11,462.00
TMA	35-50A	1SDA068098R1	R 5,120.00	1SDA068318R1	R 7,417.00	1SDA068351R1	R 7,960.00	1SDA068417R1	R 11,462.00
TMA	44-63A	1SDA068099R1	R 5,182.00	1SDA068319R1	R 7,417.00	1SDA068352R1	R 8,355.00	1SDA068418R1	R 12,031.00
TMA	56-80A	1SDA068100R1	R 5,182.00	1SDA068320R1	R 7,523.00	1SDA068353R1	R 8,461.00	1SDA068419R1	R 12,184.00
TMA	70-100A	1SDA068101R1	R 5,182.00	1SDA068321R1	R 7,523.00	1SDA068354R1	R 8,461.00	1SDA068420R1	R 12,184.00
TMA In N=50%	88-125A	1SDA068102R1	R 6,082.00	1SDA068322R1	R 8,613.00	1SDA068355R1	R 9,058.00	1SDA068421R1	R 13,043.00
TMA In N=50%	112-160A	1SDA068103R1	R 6,513.00	1SDA068323R1	R 8,700.00	1SDA068356R1	R 9,145.00	1SDA068422R1	R 13,169.00
TMA In N=100%	88-125A	1SDA068107R1	R 6,165.00	1SDA068327R1	R 8,613.00	1SDA068360R1	R 9,058.00	1SDA068426R1	R 13,043.00
TMA In N=100%	112-160A	1SDA068108R1	R 6,598.00	1SDA068328R1	R 8,700.00	1SDA068361R1	R 9,145.00	1SDA068427R1	R 13,169.00



XT4 160 Ekip LS/I – Fixed (F) – 3 poles – Front terminals (F)

Electronic trip unit – Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	16-40A	1SDA068122R1	R 5,956.00	1SDA068471R1	R 7,160.00	1SDA068511R1	R 7,950.00	1SDA068591R1	R 11,861.00
Ekip LS/I	25-63A	1SDA068123R1	R 5,956.00	1SDA068472R1	R 7,160.00	1SDA068512R1	R 7,950.00	1SDA068592R1	R 11,861.00
Ekip LS/I	40-100A	1SDA068124R1	R 5,956.00	1SDA068473R1	R 7,900.00	1SDA068513R1	R 8,597.00	1SDA068593R1	R 11,861.00
Ekip LS/I	64-160A	1SDA068125R1	R 7,916.00	1SDA068474R1	R 8,227.00	1SDA068514R1	R 8,937.00	1SDA068594R1	R 14,179.00



XT4 160 Ekip LS/I – Fixed (F) – 4 poles – Front terminals (F)

Electronic trip unit – Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	16-40A	1SDA068142R1	R 8,339.00	1SDA068491R1	R 10,024.00	1SDA068531R1	R 11,130.00	1SDA068611R1	R 16,605.00
Ekip LS/I	25-63A	1SDA068144R1	R 8,339.00	1SDA068492R1	R 10,024.00	1SDA068532R1	R 11,130.00	1SDA068612R1	R 16,605.00
Ekip LS/I	40-100A	1SDA068145R1	R 8,339.00	1SDA068493R1	R 11,060.00	1SDA068533R1	R 12,036.00	1SDA068613R1	R 16,605.00
Ekip LS/I	64-160A	1SDA068146R1	R 11,083.00	1SDA068494R1	R 11,518.00	1SDA068534R1	R 12,512.00	1SDA068614R1	R 19,850.00

Moulded Case Circuit Breakers for Power Distribution
Tmax XT2/XT4

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



XT4 250 TMD/TMA – Fixed (F) – 3 poles – Front terminals (F)

Thermomagnetic trip unit - TMD/TMA		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
TMA	140-200A	1SDA068090R1	R 5,800.00	1SDA068310R1	R 7,615.00	1SDA068343R1	R 8,502.00	1SDA068409R1	R 11,733.00
TMA	158-225A	1SDA068091R1	R 5,800.00	1SDA068311R1	R 8,315.00	1SDA068344R1	R 8,736.00	1SDA068410R1	R 12,055.00
TMA	175-250A	1SDA068092R1	R 5,800.00	1SDA068312R1	R 8,315.00	1SDA068345R1	R 8,736.00	1SDA068411R1	R 12,055.00



XT4 250 TMD/TMA – Fixed (F) – 4 poles – Front terminals (F)

Thermomagnetic trip unit - TMD/TMA		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
TMA In N=50%	140-200A	1SDA068104R1	R 8,120.00	1SDA068324R1	R 10,661.00	1SDA068357R1	R 11,903.00	1SDA068423R1	R 16,425.00
TMA In N=50%	158-225A	1SDA068105R1	R 8,120.00	1SDA068325R1	R 11,641.00	1SDA068358R1	R 12,230.00	1SDA068424R1	R 16,877.00
TMA In N=50%	175-250A	1SDA068106R1	R 8,120.00	1SDA068326R1	R 11,641.00	1SDA068359R1	R 12,230.00	1SDA068425R1	R 16,877.00
TMA In N=100%	140-200A	1SDA068109R1	R 8,120.00	1SDA068329R1	R 10,661.00	1SDA068362R1	R 11,903.00	1SDA068428R1	R 16,425.00
TMA In N=100%	158-225A	1SDA068110R1	R 8,120.00	1SDA068330R1	R 11,641.00	1SDA068363R1	R 12,230.00	1SDA068429R1	R 16,877.00
TMA In N=100%	175-250A	1SDA068111R1	R 8,120.00	1SDA068331R1	R 11,641.00	1SDA068364R1	R 12,230.00	1SDA068430R1	R 16,877.00



XT4 250 Ekip LS/I – Fixed (F) – 3 poles – Front terminals (F)

Electronic trip unit – Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	100-250A	1SDA068126R1	R 8,366.00	1SDA068475R1	R 9,177.00	1SDA068515R1	R 10,622.00	1SDA068595R1	R 14,658.00



XT4 250 Ekip LS/I – Fixed (F) – 4 poles – Front terminals (F)

Electronic trip unit – Ekip LS/I		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
Ekip LS/I	100-250A	1SDA068147R1	R 12,431.00	1SDA068495R1	R 14,282.00	1SDA068535R1	R 14,870.00	1SDA068615R1	R 20,521.00

XT4 D – Switch-disconnector

Type	Icw	3 Poles	Price	4 Poles	Price
XT4D 250	250A	1SDA068212R1	R 5,200.00	1SDA068213R1	R 7,280.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT2/XT4 Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT2 and XT4

Fixed Parts, Conversion Kit and Accessories for Fixed Parts



Type	Order Code	Number of Poles	Item Description	For use with	Price
Kit P PF EF	1SDA068187R1	3	XT2 P FP 3p EF	XT2	R 966.00
P MP KIT	1SDA066278R1	3	KIT P MP XT2 3p	XT2	R 332.00
EF – Front Extended terminals	1SDA066262R1	3	KIT EF FP XT2 3pcs	XT2	R 231.00
Kit P PF EF	1SDA068196R1	3	XT4 P FP 3p EF	XT4	R 1,337.00
P MP KIT	1SDA066282R1	3	KIT P MP XT4 3p	XT4	R 540.00
EF – Front Extended terminals	1SDA066266R1	3	KIT EF FP XT4 3pcs	XT4	R 372.00
PS – Rear phase separators 90mm	1SDA068953R1	3	Rear phase separators 90mm	XT2/XT4	R 150.00
Socket-plug panel connector	1SDA066412R1	3	15 Pin for Rear	XT2/XT4	R 616.00
Socket-plug panel connector	1SDA066413R1	3 or 4	For moving part	XT2/XT4	R 798.00
Socket-plug panel connector	1SDA066414R1	3 or 4	For fixed part	XT2/XT4	R 798.00

Shunt Opening release -SOR



Type	Order Code		For use with	Price
SOR-C 12V DC	1SDA066321R1		XT2/XT4	R 1,189.00
SOR-C 24-30V AC/DC	1SDA066322R1		XT2/XT4	R 1,182.00
SOR-C 110-127V AC / 110-125V DC	1SDA066324R1		XT2/XT4	R 1,182.00
SOR-C 220-240V AC / 220-250V DC	1SDA066325R1		XT2/XT4	R 1,182.00
SOR-C 380-440V AC	1SDA066326R1		XT2/XT4	R 1,182.00
SOR-C 480-525V AC	1SDA066327R1		XT2/XT4	R 1,182.00

Transmitted Handle Spare Parts



Type	Order Code		For use with	Price
RHE_B Base for Transmitted Handle	1SDA069057R1		XT2/XT4	R 680.00
RHE_S Rod of 500mm	1SDA066576R1		XT2/XT4	R 236.00
RHE_H Normal Transmitted Handle	1SDA066577R1		XT2/XT4	R 628.00
RHE_H Emergency Transmitted Handle	1SDA066578R1		XT2/XT4	R 628.00
LH Large emergency handle	1SDA066585R1		XT2/XT4	R 1,660.00

Under Voltage Releases



Type	Order Code		For Use with	Price
UVR-C 24 – 30V AC / DC	1SDA066396R1		XT2 / XT4	R 1,500.00
UVR-C 110 – 127V AC / 110 – 125V DC	1SDA066398R1		XT2 / XT4	R 1,500.00
UVR-C 220 – 240V AC / 220 – 250V DC	1SDA066399R1		XT2 / XT4	R 1,500.00
UVR-C 380 – 440V AC	1SDA066400R1		XT2 / XT4	R 1,500.00
UVR-C 480 – 525V AC	1SDA066401R1		XT2 / XT4	R 1,500.00

Delay Device for Under Voltage Release



Type	Order Code		For Use with	Price
UVD 110-125V AC/DC	1SDA051360R1		XT2/XT4	R 2,900.00
UVD 220-250V AC/DC	1SDA051361R1		XT2/XT4	R 2,900.00

Auxiliary Contacts – AUX



Type	Order Code		For Use with	Price
AUX-C 3Q 250V Left	1SDA066427R1		XT2 / XT4	R 1,386.00
AUX-C 1Q+1SY 250V	1SDA066431R1		XT2 / XT4	R 1,066.00
AUX-C 2Q+1SY 250V	1SDA066433R1		XT2 / XT4	R 1,218.00
AUX-C 3Q+1SY 250V	1SDA066434R1		XT2 / XT4	R 1,413.00
AUX-C 3Q+2SY 250V	1SDA066436R1		XT2 / XT4	R 1,705.00

Motor Operators – MOE



Type	Order Code		For Use with	Price
MOE 24V DC	1SDA066463R1		XT2 / XT4	R 7,770.00
MOE 110 – 125V AC / DC	1SDA066465R1		XT2 / XT4	R 7,770.00
MOE 220 – 250V AC / DC	1SDA066466R1		XT2 / XT4	R 7,770.00
MOE 380 – 440V AC	1SDA066467R1		XT2 / XT4	R 7,770.00
MOE 480 – 525V AC	1SDA066468R1		XT2 / XT4	R 7,770.00

Moulded Case Circuit Breakers for Power Distribution
Tmax XT2/XT4 Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT2 and XT4



Rotary Handle Operating Mechanisms

Type	Order Code		For Use with	Price
RHD Normal direct handle	1SDA069053R1		XT2 / XT4	R 981.00
RHE Normal transmitted handle	1SDA069055R1		XT2 / XT4	R 1,509.00



Padlock on the Circuit Breaker

Type	Order Code	Item Description	For use with	Price
PLL Removable lock with padlocks in open position	1SDA066590R1	PLL XT2-XT4 remov.padl.device open plug.	XT2/XT4	R 320.00
PLL Fixed lock with padlocks in open position	1SDA066592R1	PLL XT2-XT4 fixed.padl.device open plug.	XT2/XT4	R 320.00



Insulating terminal covers

Type	Order Code	Number of Poles	For use with	Price
LTC Low terminal covers	1SDA066657R1	3	XT2	R 233.00
LTC Low terminal covers	1SDA066659R1	4	XT2	R 299.00
HTC High terminal covers	1SDA066666R1	3	XT2	R 249.00
HTC High terminal covers	1SDA066667R1	4	XT2	R 332.00
LTC Low terminal covers	1SDA066662R1	3	XT4	R 308.00
LTC Low terminal covers	1SDA066663R1	4	XT4	R 410.00
HTC High terminal covers	1SDA066670R1	3	XT4	R 347.00
HTC High terminal covers	1SDA066671R1	4	XT4	R 463.00



Key Lock on the Circuit Breaker

Type	Order Code		For Use with	Price
KLC Ronis key lock open, different keys, removable in open position	1SDA066599R1		XT2 / XT4	R 537.00
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066600R1		XT2 / XT4	R 537.00
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066601R1		XT2 / XT4	R 537.00
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066602R1		XT2 / XT4	R 537.00
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066603R1		XT2 / XT4	R 537.00



Key Lock on the Motor

Type	Order Code		For Use with	Price
MOL-D Ronis key lock open, different keys	1SDA066629R1		XT2 / XT4	R 677.00
MOL-S Ronis key lock open, same type A keys	1SDA066630R1		XT2 / XT4	R 677.00
MOL-S Ronis key lock open, same type B keys	1SDA066631R1		XT2 / XT4	R 677.00
MOL-S Ronis key lock open, same type C keys	1SDA066632R1		XT2 / XT4	R 677.00
MOL-S Ronis key lock open, same type D keys	1SDA066633R1		XT2 / XT4	R 677.00



Mechanical Interlock

Type	Order Code	Item Description	For use with	Price
MIR-H	1SDA066637R1	MIR-HR XT1..XT4	XT2/XT4	R 3,360.00
MIR-V	1SDA066638R1	MIR-VR XT1..XT4	XT2/XT4	R 3,360.00
Plate XT2 F	1SDA066641R1	MIR-P x XT2 F	XT2 Fixed	R 1,050.00
Plate XT2 P	1SDA066642R1	MIR-P x XT2 P/W	XT2 Plug-in	R 1,050.00
Plate XT4 F	1SDA066645R1	MIR-P x XT4 F	XT4 Fixed	R 1,050.00
Plate XT4 P	1SDA066646R1	MIR-P x XT4 P/W	XT4 Plug-in	R 1,050.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax XT2/XT4 Accessories

Accessories for Moulded Case Circuit Breakers Tmax XT2 and XT4



Phase Separators

Type	Order Code		For Use with	Price
PB Height 25mm	1SDA069062R1		XT2 / XT4	R 150.00
PS Height 100mm	1SDA066675R1		XT2 / XT4	R 150.00
PS Height 200mm	1SDA066677R1		XT2 / XT4	R 300.00

Terminals (Includes Phase Barriers)



Type	Order Code		For Use with	Price
EF Extended front terminals (3 pieces)	1SDA066869R1		XT2	R 231.00
EF Extended spread front terminals (3 pieces)	1SDA066893R1		XT2	R 328.00
EF Extended front terminals (3 pieces)	1SDA066877R1		XT4	R 356.00
EF Extended spread front terminals (3 pieces)	1SDA066901R1		XT4	R 355.00



Automatic Transfer Devices

Type	Order Code		For Use with	Price
ATS021	1SDA065523R1		XT2 / XT4	R 10,547.00
ATS022	1SDA 065524R1		XT2 / XT4	R 17,198.00

Residual Current Device

Type	Order Code		For Use with	Price
RC Sel	1SDA067126R1		XT2 4 Pole	R 6,280.00
RC Sel	1SDA067131R1		XT4 4 Pole	R 10,864.00

Installation Bracket for Fixing onto DIN Rail

Type	Order Code	Number of Poles	For Use with	Price
KIT DIN50022 XT2 3p PLATE DIN	1SDA080704R1	3	XT2	R 112.00
KIT DIN50022 XT2 4p PLATE DIN	1SDA080325R1	4	XT2	R 112.00
KIT DIN50022 XT4 3p PLATE DIN	1SDA080326R1	3	XT4	R 95.00
KIT DIN50022 XT4 4p PLATE DIN	1SDA080327R1	4	XT4	R 95.00

Moulded Case Circuit Breakers for Motor Protection

Summary Motor Protection XT1-XT4

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

			XT1	XT2	XT3	XT4
Size (G2.1)		[A]	160	160	250	160/250
Poles		[Nr.]	3	3	3	3
Rated service voltage,	Ue (G2.4) (AC) 50-60Hz	[V]	690	690	690	690
	(DC)	[V]	500	500	500	500
Rated insulation voltage,	Ui (G2.5)	[V]	1000	1000	800	1000
Rated impulse withstand voltage,	Uimp (G2.6)	[kV]	8	8	8	8
Versions						
Breaking capacities			N(1)	N S H L V	N S	N S H L V
Trip Units			Magnetic	Magnetic, Electronic	Magnetic	Magnetic, Electronic
MF/MA			■	■	■	■
Ekip M-I				■ In = 20A, 32A, 52A 100A		
Ekip M-LIU				▲ In = 25A, 63A, 160A		▲ In = 40A, 63A, 100A 160A
Ekip M-LRIU				▲ In = 25A, 63A, 100A		▲ In = 40A, 63A, 100A 160A, 200A
Interchangeability				■		■

(1) Icu@415V = 5kA In<16A
■ Complete circuit-breaker
▲ Loose trip unit

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Moulded Case Circuit Breakers for Motor Protection
XT1-XT4

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

XT1 160 MA – Fixed (F) – 3 poles – Front terminals (F)



Magnetic only trip unit - MA		N	Price
		Icu @ 415Vac = 36kA	
	In		
MA	2.2-3.2A	1SDA080855R1	POR
MA	4.4-6.3A	1SDA080856R1	POR
MA	11-16A	1SDA080857R1	POR
MA	22-32A	1SDA080858R1	POR
MA	36-52A	1SDA080859R1	POR
MA	44-63A	1SDA080860R1	POR
MA	56-80A	1SDA080861R1	POR
MA	70-100A	1SDA080862R1	POR
MA	87-125A	1SDA080863R1	POR

XT2 160 MF/MA – Fixed (F) – 3 poles – Front terminals (F)



Thermomagnetic trip unit - MF/MA TMD		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
MF	1A	1SDA067044R1	R 3,258.00	1SDA067760R1	R 4,221.00	1SDA067770R1	R 4,741.00	1SDA067790R1	R 6,331.00
MF	2A	1SDA067045R1	R 3,258.00	1SDA067761R1	R 4,221.00	1SDA067771R1	R 4,741.00	1SDA067791R1	R 6,331.00
MF	4A	1SDA067046R1	R 3,258.00	1SDA067762R1	R 4,221.00	1SDA067772R1	R 4,741.00	1SDA067792R1	R 6,331.00
MF	8.5A	1SDA067047R1	R 3,258.00	1SDA067763R1	R 4,221.00	1SDA067773R1	R 4,741.00	1SDA067793R1	R 6,331.00
MF	12.5A	1SDA067048R1	R 3,258.00	1SDA067764R1	R 4,221.00	1SDA067774R1	R 4,741.00	1SDA067794R1	R 6,331.00
MA	14-20A	1SDA067049R1	R 3,258.00	1SDA067765R1	R 4,221.00	1SDA067775R1	R 4,741.00	1SDA067795R1	R 6,331.00
MA	22-32A	1SDA067050R1	R 3,258.00	1SDA067765R1	R 4,221.00	1SDA067776R1	R 4,741.00	1SDA067796R1	R 6,331.00
MA	36-52A	1SDA067051R1	R 3,258.00	1SDA067767R1	R 4,221.00	1SDA067777R1	R 4,741.00	1SDA067797R1	R 6,331.00
MA	56-80A	1SDA067052R1	R 3,321.00	1SDA067768R1	R 4,284.00	1SDA067778R1	R 4,804.00	1SDA067798R1	R 6,380.00
MA	70-100A	1SDA067053R1	R 3,321.00	1SDA067769R1	R 4,284.00	1SDA067779R1	R 4,804.00	1SDA067799R1	R 6,380.00

XT3 250 MA – Fixed (F) – 3 poles – Front terminals (F)



Thermomagnetic trip unit – MA		N	Price	S	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA	
	In				
MA	70-100A	1SDA068071R1	R 3,504.00	1SDA068279R1	R 4,205.00
MA	87-125A	1SDA068072R1	R 3,504.00	1SDA068280R1	R 4,205.00
MA	112-160A	1SDA068073R1	R 3,689.00	1SDA068281R1	R 4,426.00
MA	140-200A	1SDA068074R1	R 3,689.00	1SDA068282R1	R 4,426.00

XT4 160 MA – Fixed (F) – 3 poles – Front terminals (F)



Thermomagnetic trip unit – MA		N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
	In								
MA	7-10A	1SDA068112R1	R 4,866.00	1SDA068431R1	R 6,357.00	1SDA068441R1	R 6,823.00	1SDA068461R1	R 9,824.00
MA	12.5A	1SDA068113R1	R 4,866.00	1SDA068432R1	R 6,357.00	1SDA068442R1	R 6,823.00	1SDA068462R1	R 9,824.00
MA	14-20A	1SDA068114R1	R 4,866.00	1SDA068433R1	R 6,357.00	1SDA068443R1	R 6,823.00	1SDA068463R1	R 9,824.00
MA	22-32A	1SDA068115R1	R 4,866.00	1SDA068434R1	R 6,357.00	1SDA068444R1	R 6,823.00	1SDA068464R1	R 9,824.00
MA	36-52A	1SDA068116R1	R 4,875.00	1SDA068435R1	R 6,357.00	1SDA068445R1	R 7,162.00	1SDA068465R1	R 10,313.00
MA	56-80A	1SDA068117R1	R 4,957.00	1SDA068436R1	R 6,448.00	1SDA068446R1	R 7,252.00	1SDA068466R1	R 10,443.00
MA	70-100A	1SDA068118R1	R 4,957.00	1SDA068437R1	R 6,448.00	1SDA068447R1	R 7,252.00	1SDA068467R1	R 10,443.00
MA	87-125A	1SDA068119R1	R 5,879.00	1SDA068438R1	R 7,382.00	1SDA068448R1	R 7,764.00	1SDA068468R1	R 11,179.00
MA	112-160A	1SDA068120R1	R 5,945.00	1SDA068439R1	R 7,458.00	1SDA068449R1	R 7,839.00	1SDA068469R1	R 11,288.00

Moulded Case Circuit Breakers for Power Distribution

Summary Power Distribution T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



Circuit-breakers for AC-DC distribution

Size	[A]	
In	[A]	
Poles	[Nr]	
Ue	[V]	(AC) 50 – 60 Hz
	[V]	(DC)
Icu (380-415 V AC)	[kA]	N
	[kA]	S
	[kA]	H
	[kA]	L
	[kA]	V
	[kA]	X

(1) T4 250A L, V version; (2) T6V: 630A and 800A only; (3) T7X: 800A only



Circuit-breakers for zone selectivity

Size	[A]	
Poles	[Nr]	
Ue	[V]	(AC) 50 – 60 Hz
EFDP zone selectivity		
ZS zone selectivity		



Circuit-breakers for motor protection

Size	[A]	
Poles	[Nr]	
Ue	[V]	(AC) 50 – 60 Hz
Magnetic only trip unit, IEC 60947-2		
PR221DS-I trip unit, IEC 60947-2		
Ekip M-LRIU trip unit, IEC 60947-4-1		
PR231/P-I trip unit, IEC 60947-2		



Circuit-breakers for use up to 1150 V AC and 1000 V DC

Size	[A]	
Poles	[Nr]	
Icu max	[KA]	1000 V AC
	[KA]	1150 V AC
	[KA]	1000 V DC 4 poles in series



Switch-disconnectors

Ith	[A]	
Ie	[A]	
Poles	[Nr]	
Ue	[V]	(AC) 50 – 60 Hz
	[V]	(DC)
Icm	[kA]	
Icw	[kA]	

Note: ABB SACE's moulded-case circuit-breakers are also available in the versions according to UL Standards (see catalogue "ABB SACE molded case circuit-breakers – UL 489 and CSA C22.2 Standard").

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Moulded Case Circuit Breakers for Power Distribution

Summary Power Distribution T4/T5/T6/T7

	T4	T5	T6	T7
	250[1]/320	400/630	630/800/1000	800/1000/1250/1600
	20…320	320…630	630...1000	200...1600
	3/4	3/4	3/4	3/4
	690	690	690	690
	750	750	750	
	36	36	36	
	50	50	50	50
	70	70	70	70
	120	120	100	120
	200	200	150 [2]	150
				170 [3]

	T4	T5	T6	T7
	250/320	400/630	630/800/1000	800/1000/1250/1600
	3/4	3/4	3/4	3/4
	690/1000	690/1000	690	690
	■	■	■	
				■

	T4	T5	T6	T7
	250/320	400/630	800	800/1000/1250
	3	3	3	3
	690	690	690	690
	■			
	■	■	■	
	■	■	■	
				■

	T4	T5	T6	
	250	400/630	630/800	
	3/4	3/4	3/4	
	20	20	12	
	12	12		
	40	40	40	

	T4D	T5D	T6D	T7D
	250/320	400/630	630/800/1000	1000/1250/1600
	250/320	400/630	630/800/1000	1000/1250/1600
	3/4	3/4	3/4	3/4
	690	690	690	690
	750	750	750	750
	5.3	11	30	52.2
	3.6	6	15	20

Moulded Case Circuit Breakers for Power Distribution
Tmax T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



T4 320 – Fixed (F) – 3 Poles – Front terminals (F)

Electron ic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	128-320A	1SDA054117R1	R 9,999.00	1SDA054125R1	R 10,899.00	1SDA054133R1	R 11,880.00	1SDA054149R1	R 15,301.00
PR222DS/P-LSI	128-320A	1SDA054119R1	R 12,068.00	1SDA054127R1	R 12,968.00	1SDA054135R1	R 13,949.00	1SDA054151R1	R 17,370.00



T4 320 – Fixed (F) – 4 Poles – Front terminals (F)

Electronic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	128-320A	1SDA054121R1	R 13,999.00	1SDA054129R1	R 15,259.00	1SDA054137R1	R 16,632.00	1SDA054153R1	R 21,422.00
PR222DS/P-LSI	128-320A	1SDA054123R1	R 16,896.00	1SDA054131R1	R 18,156.00	1SDA054139R1	R 19,529.00	1SDA054155R1	R 24,318.00

T4D 320 – Switch-disconnector – Fixed (F)

Type	Icw			3 Poles	Price	4 Poles	Price
T4D 320	320A			1SDA054597R1	R 5,209.00	1SDA054598R1	R 7,293.00

T5 400 – Fixed (F) – 3 Poles – Front terminals (F)

Thermomagnetic trip unit -TMA	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
TMA	224-320A	1SDA054436R1	R 8,560.00	1SDA054440R1	R 9,318.00	1SDA054444R1	R 10,615.00	1SDA054452R1	R 13,432.00
TMA	280-400A	1SDA054437R1	R 8,560.00	1SDA054441R1	R 9,318.00	1SDA054445R1	R 10,615.00	1SDA054453R1	R 13,432.00



Electronic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	128-320A	1SDA054316R1	R 11,085.00	1SDA054332R1	R 12,085.00	1SDA054348R1	R 13,170.00	1SDA054380R1	R 16,216.00
PR221DS-LS/I	160-400A	1SDA054317R1	R 11,773.00	1SDA054333R1	R 12,785.00	1SDA054349R1	R 13,870.00	1SDA054381R1	R 16,916.00
PR222DS/P-LSI	128-320A	1SDA054320R1	R 12,439.00	1SDA054336R1	R 13,386.00	1SDA054352R1	R 14,331.00	1SDA054384R1	R 18,285.00
PR222DS/P-LSI	160-400A	1SDA054321R1	R 12,439.00	1SDA054337R1	R 13,386.00	1SDA054353R1	R 14,331.00	1SDA054385R1	R 18,285.00

T5 400 – Fixed (F) – 4 Poles – Front terminals (F)

Thermomagnetic trip unit -TMA	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
N=50%	224-320A	1SDA054438R1	R 11,984.00	1SDA054442R1	R 13,046.00	1SDA054446R1	R 14,861.00	1SDA054454R1	R 18,804.00
N=50%	280-400A	1SDA054439R1	R 11,984.00	1SDA054443R1	R 13,046.00	1SDA054447R1	R 14,861.00	1SDA054455R1	R 18,804.00
N=100%	224-320A	1SDA054477R1	R 11,984.00	1SDA054479R1	R 13,046.00	1SDA054481R1	R 14,861.00	1SDA054485R1	R 18,804.00
N=100%	280-400A	1SDA054478R1	R 11,984.00	1SDA054480R1	R 13,046.00	1SDA054482R1	R 14,861.00	1SDA054486R1	R 18,804.00



Electronic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	128-320A	1SDA054324R1	R 15,519.00	1SDA054340R1	R 16,919.00	1SDA054356R1	R 18,438.00	1SDA054388R1	R 22,702.00
PR221DS-LS/I	160-400A	1SDA054325R1	R 16,482.00	1SDA054341R1	R 17,899.00	1SDA054357R1	R 19,418.00	1SDA054389R1	R 23,683.00
PR222DS/P-LSI	128-320A	1SDA054328R1	R 17,414.00	1SDA054344R1	R 18,740.00	1SDA054360R1	R 20,063.00	1SDA054392R1	R 25,599.00
PR222DS/P-LSI	160-400A	1SDA054329R1	R 17,414.00	1SDA054345R1	R 18,740.00	1SDA054361R1	R 20,063.00	1SDA054393R1	R 25,599.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T5 630 – Fixed (F) – 3 Poles – Front terminals (F)



Thermomagnetic trip unit – TMA	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
TMA	350-500A	1SDA054456R1	R 11,938.00	1SDA054461R1	R 12,983.00	1SDA054465R1	R 14,290.00	1SDA054473R1	R 18,715.00

Electronic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	252-630A	1SDA054396R1	R 13,537.00	1SDA054404R1	R 14,460.00	1SDA054412R1	R 15,327.00	1SDA054428R1	R 20,270.00
PR222DS/P-LSI	252-630A	1SDA054398R1	R 15,606.00	1SDA054406R1	R 16,529.00	1SDA054414R1	R 17,396.00	1SDA054430R1	R 22,339.00

T5 630 – Fixed (F) – 4 Poles – Front terminals (F)



Thermomagnetic trip unit – TMA	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
N=50%	350-500A	1SDA054459R1	R 16,713.00	1SDA054463R1	R 18,716.00	1SDA054467R1	R 19,812.00	1SDA054475R1	R 26,201.00
N=100%	350-500A	1SDA054487R1	R 16,713.00	1SDA054489R1	R 18,716.00	1SDA054491R1	R 19,812.00	1SDA054495R1	R 26,201.00

Electronic trip unit	In	N	Price	S	Price	H	Price	V	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 200 kA	
PR221DS-LS/I	252-630A	1SDA054400R1	R 18,951.00	1SDA054408R1	R 20,243.00	1SDA054416R1	R 21,458.00	1SDA054432R1	R 28,378.00
PR222DS/P-LSI	252-630A	1SDA054402R1	R 21,848.00	1SDA054410R1	R 23,140.00	1SDA054418R1	R 24,354.00	1SDA054434R1	R 31,274.00

T5D 400 & 630 – Switch-disconnector – Fixed (F)

Type	Icw	3 Poles	Price	4 Poles	Price
T5D 400	400A	1SDA054599R1	R 5,369.00	1SDA054600R1	R 7,516.00
T5D 630	630A	1SDA054601R1	R 8,919.00	1SDA054602R1	R 12,486.00

T6 630 – Fixed (F) – 3 Poles – Front terminals (F)



Thermomagnetic trip unit -TMA	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
TMA	440-630A	1SDA060202R1	R 13,223.00	1SDA060204R1	R 14,414.00	1SDA060206R1	R 15,278.00	1SDA060208R1	R 17,570.00

Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		36kA		50 kA		70 kA		100 kA	
PR221DS-LS/I	252-630A	1SDA060226R1	R 14,508.00	1SDA060236R1	R 16,800.00	1SDA060246R1	R 18,630.00	1SDA060256R1	R 19,861.00
PR222DS/P-LSI	252-630A	1SDA060228R1	R 16,577.00	1SDA060238R1	R 17,883.00	1SDA060248R1	R 19,339.00	1SDA060258R1	R 21,930.00

T6 630 – Fixed (F) – 4 Poles – Front terminals (F)



Thermomagnetic trip unit -TMD and TMA	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
N=50%	441-630A	1SDA060203R1	R 18,513.00	1SDA060205R1	R 20,179.00	1SDA060207R1	R 21,389.00	1SDA060209R1	R 24,598.00
N=100%	441-630A	1SDA060210R1	R 18,513.00	1SDA060211R1	R 20,179.00	1SDA060212R1	R 21,389.00	1SDA060213R1	R 24,598.00

Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
PR221DS-LS/I	252-630A	1SDA060231R1	R 20,311.00	1SDA060241R1	R 22,140.00	1SDA060251R1	R 24,178.00	1SDA060262R1	R 27,805.00
PR222DS/P-LSI	252-630A	1SDA060233R1	R 23,208.00	1SDA060243R1	R 25,036.00	1SDA060253R1	R 27,075.00	1SDA060264R1	R 30,701.00

Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T6 800 – Fixed (F) – 3 Poles – Front terminals (F)



Thermomagnetic trip unit – TMA	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
TMA	560-800A	1SDA060214R1	R 21,689.00	1SDA060216R1	R 23,939.00	1SDA060218R1	R 25,375.00	1SDA060220R1	R 29,182.00

Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
PR221DS-LS/I	320-800A	1SDA060268R1	R 23,372.00	1SDA060278R1	R 26,447.00	1SDA060289R1	R 28,034.00	1SDA060299R1	R 32,239.00
PR222DS/P-LSI	320-800A	1SDA060270R1	R 27,257.00	1SDA060280R1	R 28,516.00	1SDA060291R1	R 32,103.00	1SDA060301R1	R 34,308.00

T6 800 – Fixed (F) – 4 Poles – Front terminals (F)



Thermomagnetic trip unit – TMD and TMA	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
N=50%	560-800A	1SDA060215R1	R 30,364.00	1SDA060217R1	R 33,515.00	1SDA060219R1	R 35,525.00	1SDA060221R1	R 40,854.00
N=100%	560-800A	1SDA060222R1	R 30,364.00	1SDA060223R1	R 33,515.00	1SDA060224R1	R 35,525.00	1SDA060225R1	R 40,854.00

Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
PR221DS-LS/I	320-800A	1SDA060273R1	R 35,263.00	1SDA060283R1	R 37,026.00	1SDA060294R1	R 39,247.00	1SDA060305R1	R 45,134.00
PR222DS/P-LSI	320-800A	1SDA060275R1	R 38,159.00	1SDA060285R1	R 39,922.00	1SDA060296R1	R 42,144.00	1SDA060307R1	R 48,031.00

T6 1000 – Fixed (F) – 3 Poles



Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
PR221DS-LS/I	400-1000A	1SDA060537R1	R 26,447.00	1SDA060547R1	R 28,000.00	1SDA060561R1	R 29,120.00	1SDA060574R1	R 33,384.00
PR222DS/P-LSI	400-1000A	1SDA060539R1	R 28,516.00	1SDA060552R1	R 29,455.00	1SDA060563R1	R 31,099.00	1SDA060576R1	R 35,763.00

T6 1000 – Fixed (F) – 4 Poles



Electronic trip unit	In	N	Price	S	Price	H	Price	L	Price
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 100 kA	
PR221DS-LS/I	400-1000A	1SDA060542R1	R 37,025.00	1SDA060556R1	R 38,341.00	1SDA060566R1	R 40,641.00	1SDA060580R1	R 46,737.00
PR222DS/P-LSI	400-1000A	1SDA060544R1	R 39,922.00	1SDA060558R1	R 41,237.00	1SDA060568R1	R 43,538.00	1SDA060582R1	R 50,068.00

T6D – Switch-disconnector – Fixed (F)

Type	Icw	3 Poles	Price	4 Poles	Price
T6D 630	630	1SDA060343R1	R 11,274.00	1SDA060344R1	R 15,783.00
T6D 800	800	1SDA060345R1	R 16,596.00	1SDA060346R1	R 23,234.00
T6D 1000	1000	1SDA060594R1	R 25,288.00	1SDA060595R1	R 35,404.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T7 800 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	320-800A	1SDA061963R1	R 25,606.00	1SDA062642R1	R 28,486.00	1SDA062674R1	R 35,500.00
PR232/P LSI	320-800A	1SDA061964R1	R 40,685.00	1SDA062643R1	R 43,505.00	1SDA062675R1	R 51,066.00
PR332/P LI	320-800A	1SDA061966R1	R 46,336.00	1SDA062645R1	R 49,156.00	1SDA062677R1	R 56,717.00
PR332/P LSI	320-800A	1SDA061967R1	R 52,615.00	1SDA062646R1	R 55,435.00	1SDA062678R1	R 62,996.00

T7 800 – Fixed (F) – 4 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	320-800A	1SDA061973R1	R 32,008.00	1SDA062650R1	R 35,607.00	1SDA062682R1	R 44,375.00
PR232/P LSI	320-800A	1SDA061974R1	R 50,856.00	1SDA062651R1	R 54,381.00	1SDA062683R1	R 63,832.00
PR332/P LI	320-800A	1SDA061976R1	R 57,920.00	1SDA062653R1	R 61,445.00	1SDA062685R1	R 70,896.00
PR332/P LSI	320-800A	1SDA061977R1	R 65,768.00	1SDA062654R1	R 69,294.00	1SDA062686R1	R 78,745.00

T7 1000 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	400-1000A	1SDA062738R1	R 26,999.00	1SDA062770R1	R 30,079.00	1SDA062802R1	R 37,277.00
PR232/P LSI	400-1000A	1SDA062739R1	R 42,755.00	1SDA062771R1	R 45,018.00	1SDA062803R1	R 52,958.00
PR332/P LI	400-1000A	1SDA062741R1	R 47,706.00	1SDA062773R1	R 50,670.00	1SDA062805R1	R 58,609.00
PR332/P LSI	400-1000A	1SDA062742R1	R 53,985.00	1SDA062774R1	R 56,948.00	1SDA062806R1	R 64,888.00

T7 1000 – Fixed (F) – 4 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	400-1000A	1SDA062746R1	R 33,749.00	1SDA062778R1	R 37,598.00	1SDA062810R1	R 46,595.00
PR232/P LSI	400-1000A	1SDA062747R1	R 52,569.00	1SDA062779R1	R 56,273.00	1SDA062811R1	R 66,197.00
PR332/P LI	400-1000A	1SDA062749R1	R 59,633.00	1SDA062781R1	R 63,337.00	1SDA062813R1	R 73,261.00
PR332/P LSI	400-1000A	1SDA062750R1	R 67,481.00	1SDA062782R1	R 71,185.00	1SDA062814R1	R 81,109.00

T7 1250 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	500-1250A	1SDA062866R1	R 30,161.00	1SDA062898R1	R 36,757.00	1SDA062930R1	R 47,708.00
PR232/P LSI	500-1250A	1SDA062867R1	R 44,573.00	1SDA062899R1	R 51,427.00	1SDA062931R1	R 60,969.00
PR332/P LI	500-1250A	1SDA062869R1	R 50,224.00	1SDA062901R1	R 57,079.00	1SDA062933R1	R 66,620.00
PR332/P LSI	500-1250A	1SDA062870R1	R 56,503.00	1SDA062902R1	R 63,357.00	1SDA062934R1	R 72,899.00

T7 1250 – Fixed (F) – 4 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	500-1250A	1SDA062874R1	R 37,701.00	1SDA062906R1	R 45,947.00	1SDA062938R1	R 59,634.00
PR232/P LSI	500-1250A	1SDA062875R1	R 55,716.00	1SDA062907R1	R 64,284.00	1SDA062939R1	R 76,211.00
PR332/P LI	500-1250A	1SDA062877R1	R 62,780.00	1SDA062909R1	R 71,348.00	1SDA062941R1	R 83,275.00
PR332/P LSI	500-1250A	1SDA062878R1	R 70,628.00	1SDA062910R1	R 79,196.00	1SDA062942R1	R 91,123.00

Moulded Case Circuit Breakers for Power Distribution
Tmax T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T7 1600 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	640-1600A	1SDA062994R1	R 34,881.00	1SDA063026R1	R 45,537.00	1SDA063058R1	R 54,368.00
PR232/P LSI	640-1600A	1SDA062995R1	R 51,881.00	1SDA063027R1	R 59,580.00	1SDA063059R1	R 71,160.00
PR332/P LI	640-1600A	1SDA062997R1	R 57,532.00	1SDA063029R1	R 65,231.00	1SDA063061R1	R 76,811.00
PR332/P LSI	640-1600A	1SDA062998R1	R 63,810.00	1SDA063030R1	R 71,510.00	1SDA063062R1	R 83,090.00

T7 1600 – Fixed (F) – 4 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	640-1600A	1SDA063002R1	R 43,602.00	1SDA063034R1	R 56,921.00	1SDA063066R1	R 67,960.00
PR232/P LSI	640-1600A	1SDA063003R1	R 64,851.00	1SDA063035R1	R 74,475.00	1SDA063067R1	R 88,950.00
PR332/P LI	640-1600A	1SDA063005R1	R 71,914.00	1SDA063037R1	R 81,539.00	1SDA063069R1	R 96,013.00
PR332/P LSI	640-1600A	1SDA063006R1	R 79,763.00	1SDA063038R1	R 89,387.00	1SDA063070R1	R 103,862.00

T7D – Switch-disconnector – Fixed (F)

Type	Icw	3 Poles	Price	4 Poles	Price
T7D 1000	1000	1SDA062032R1	R 25,999.00	1SDA062033R1	R 32,499.00
T7D 1250	1250	1SDA062036R1	R 27,895.00	1SDA062037R1	R 34,869.00
T7D 1600	1600	1SDA062040R1	R 29,772.00	1SDA062041R1	R 37,215.00

T7M – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	320-800A	1SDA061981R1	R 27,835.00	1SDA062658R1	R 32,091.00	1SDA062690R1	R 40,113.00
PR231/P LS/I	400-1000A	1SDA062754R1	R 29,244.00	1SDA062786R1	R 34,645.00	1SDA062818R1	R 42,119.00
PR231/P LS/I	500-1250A	1SDA062882R1	R 34,006.00	1SDA062914R1	R 39,758.00	1SDA062946R1	R 50,622.00
PR231/P LS/I	640-1600A	1SDA063010R1	R 39,500.00	1SDA063042R1	R 50,384.00	1SDA063074R1	R 61,435.00

T7M – Fixed (F) – 4 Poles – Front terminals (F)



Electronic trip unit	In	S	Price	H	Price	L	Price
		Icu @ 415Vac = 50 kA		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA	
PR231/P LS/I	320-800A	1SDA061989R1	R 34,794.00	1SDA062666R1	R 40,114.00	1SDA062698R1	R 50,142.00
PR231/P LS/I	400-1000A	1SDA062762R1	R 36,555.00	1SDA062794R1	R 43,307.00	1SDA062826R1	R 52,649.00
PR231/P LS/I	500-1250A	1SDA062890R1	R 42,508.00	1SDA062922R1	R 49,698.00	1SDA062954R1	R 63,278.00
PR231/P LS/I	640-1600A	1SDA063018R1	R 49,375.00	1SDA063050R1	R 62,980.00	1SDA063082R1	R 76,794.00

T7M – Switch-disconnector – Fixed (F)

Type	Icw	3 Poles	Price	4 Poles	Price
T7D 1000 M	1000	1SDA062034R1	R 28,772.00	1SDA062035R1	R 35,964.00
T7D 1250 M	1250	1SDA062038R1	R 31,522.00	1SDA062039R1	R 39,402.00
T7D 1600 M	1600	1SDA062042R1	R 33,592.00	1SDA062043R1	R 41,990.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7 Accessories

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

Fixed Parts, Conversion Kit and Accessories for Fixed Parts



Description	Order Code	Number of Poles	Item Description	For use with	Price
T4 FPEF	1SDA054737R1	3	Fixed plug -in base	T4	R 1,872.00
Kit P MP T4	1SDA054839R1	3	Conversion kit for the MCCB to plug-in	T4	R 756.00
T5 400P FP EF	1SDA054749R1	3	Fixed plug -in base	T5 400	R 4,738.00
Kit P MP T5 400	1SDA054843R1	3	Conversion kit for the MCCB to plug-in	T5 400	R 1,487.00
T5 630 P FP EF	1SDA054762R1	3	Fixed plug -in base	T5 630	R 5,902.00
Kit P MP T5 630	1SDA054847R1	3	Conversion kit for the MCCB to plug-in	T5 630	R 1,635.00
FLD T4-T5 F/P	1SDA054944R1		Front lever operating mechanism	T4,T5	R 582.00

Shunt Opening release



Description	Order Code	For use with	Price
SOR-C 24-30V AC/DC	1SDA054870R1	T4/ T5/ T6	R 761.00
SOR-C 110-127V AC / 110-125V DC	1SDA054872R1	T4/ T5/ T6	R 761.00
SOR-C 220-240V AC / 220-250V DC	1SDA054873R1	T4/ T5/ T6	R 761.00
SOR-C 380-440V AC	1SDA054874R1	T4/ T5/ T6	R 761.00
SOR-C 480-525V AC	1SDA054875R1	T4/ T5/ T6	R 761.00
SOR-C 24-30V AD/DC	1SDA062065R1	T7/ T7M	R 1,470.00
SOR-C 110-120V AC / DC	1SDA062069R1	T7/ T7M	R 1,470.00
SOR-C 220-240V AC / DC	1SDA063548R1	T7/ T7M	R 1,567.00
SOR-C 380-440V AC	1SDA062071R1	T7/ T7M	R 1,470.00

Under voltage release



Description	Order Code	For use with	Price
UVR-C 24-30V AC/DC	1SDA054887R1	T4/ T5 T6	R 1,050.00
UVR-C 110-127V AC / 110-125V DC	1SDA054890R1	T4/ T5 T6	R 1,050.00
UVR-C 220-240V AC / 220-250V DC	1SDA054891R1	T4/ T5 T6	R 1,050.00
UVR-C 380-440V AC	1SDA054892R1	T4/ T5 T6	R 1,050.00
UVR-C 480-525V AC	1SDA054893R1	T4/ T5 T6	R 1,050.00
UVR-C 24-30V AC/DC	1SDA062087R1	T7/ T7M	R 1,567.00
UVR -C 110-120V AC/DC	1SDA062091R1	T7/ T7M	R 1,567.00
UVR-C 220-240V AC / DC	1SDA063552R1	T7 / T7M	R 1,567.00
UVR-C 380-440V AC	1SDA062093R1	T7/ T7M	R 1,567.00

Delay Device Under voltage release



Description	Order Code	For use with	Price
UVD 24-30V AC/DC	1SDA051357R1	T4/ T5 T6	R 2,900.00
UVD 110-125V AC/DC	1SDA051360R1	T4/ T5 T6	R 2,900.00
UVD 220-250V AC/DC	1SDA051361R1	T4/ T5 T6	R 2,900.00
UVD 24-30V AC/DC	1SDA038316R1	T7/ T7M	R 3,075.00
UVD 110-125V AC/DC	1SDA038319R1	T7/ T7M	R 3,075.00
UVD 220-250V AC/DC	1SDA038320R1	T7/ T7M	R 3,075.00

Auxiliary contacts – AUX



Description	Order Code	For use with	Price
AUX-C 1Q+1SY 250V	1SDA054910R1	T4/T5/T6	R 659.00
AUX-C 3Q+1SY 250V	1SDA054911R1	T4/T5/T6	R 1,320.00
AUX-C 1Q+1SY 400V	1SDA054912R1	T4/T5/T6	R 660.00
AUX-C 2Q 400V	1SDA054913R1	T4/T5/T6	R 660.00
AUX 2Q 400 V AC	1SDA062102R1	T7/T7M	R 336.00
AUX 2Q 24 V AC	1SDA062101R1	T7/T7M	R 336.00
AUX-SA 1 S51 T7-T7M 250 V	1SDA063553R1	T7M	R 763.00

Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7 Accessories

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

Motor Operators -MOE



Description	Order Code	For use with	Price
MOE 24V DC	1SDA054894R1	T4 /T5	R 10,123.00
MOE 24V DC	1SDA060395R1	T6	R 11,500.00
MOE 110 - 125V AC / DC	1SDA054896R1	T4 /T5	R 10,123.00
MOE 110 - 125V AC / DC	1SDA060397R1	T6	R 11,500.00
MOE 220 - 250V AC / DC	1SDA054897R1	T4 /T5	R 10,123.00
MOE 220 - 250V AC / DC	1SDA060398R1	T6	R 11,500.00
MOE 380V AC	1SDA054898R1	T4 /T5	R 10,787.00
MOE 380V AC	1SDA060399R1	T6	R 11,500.00
Spring charging motor 24…30 V AC/DC	1SDA062113R1	T7M	R 7,032.00
Spring charging motor 100…130 V AC/DC	1SDA062115R1	T7M	R 6,500.00
Spring charging motor 220…250 V AC/DC	1SDA062116R1	T7M	R 6,500.00

Rotary Handle Operating Mechanisms



Description	Order Code	For use with	Price
RHD Normal direct handle	1SDA054926R1	T4/T5	R 960.00
RHD Normal direct handle	1SDA060405R1	T6	R 1,376.00
RHD Normal direct handle	1SDA062120R1	T7	R 1,342.00
RHE Normal transmitted handle	1SDA054929R1	T4/T5	R 1,323.00
RHE Normal transmitted handle	1SDA060409R1	T6	R 1,746.00
RHE Normal transmitted handle	1SDA062122R1	T7	R 2,914.00

Key lock for front / Rotary Handle



Description	Order Code	For use with	Price
KLF-D Different keys	1SDA054939R1	T4 / T5	R 665.00
KLF-D Different keys	1SDA060658R1	T6	R 665.00
KLF-D Different keys	1SDA063555R1	T7	R 804.00
KLF-S Same keys for different groups of circuit breakers (N20005)	1SDA054940R1	T4 / T5	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20005)	1SDA060659R1	T6	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20005)	1SDA063556R1	T7	R 804.00
KLF-S Same keys for different groups of circuit breakers (N20006)	1SDA054941R1	T4 / T5	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20006)	1SDA060660R1	T6	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20006)	1SDA063557R1	T7	R 804.00
KLF-S Same keys for different groups of circuit breakers (N20007)	1SDA054942R1	T4 / T5	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20007)	1SDA060661R1	T6	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20007)	1SDA063559R1	T7	R 804.00
KLF-S Same keys for different groups of circuit breakers (N20008)	1SDA054943R1	T4 / T5	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20008)	1SDA060662R1	T6	R 665.00
KLF-S Same keys for different groups of circuit breakers (N20008)	1SDA063559R1	T7	R 804.00

Key lock on the motor



Description	Order Code	For use with	Price
MOL-D different keys	1SDA054904R1	T4 / T5	R 665.00
MOL-D different keys	1SDA060611R1	T6	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20005)	1SDA066630R1	T4 / T5	R 677.00
MOL-S Same keys for different groups of circuit breakers (N.20005)	1SDA060612R1	T6	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20006)	1SDA054906R1	T4 / T5	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20006)	1SDA060613R1	T6	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20007)	1SDA054907R1	T4 / T5	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20007)	1SDA060614R1	T6	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20008)	1SDA054908R1	T4 / T5	R 665.00
MOL-S Same keys for different groups of circuit breakers (N.20008)	1SDA060615R1	T6	R 665.00

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Moulded Case Circuit Breakers for Power Distribution

Tmax T4/T5/T6/T7 Accessories

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

Padlock on the Circuit Breaker

Description	Order Code	For use with	Price
PPL Removable lock with padlock in open position	1SDA062150R1	T7	R 380.00

Mechanical Interlock



Description	Order Code	For use with	Price
MIR-HB-Frame unit horizontal interlock	1SDA054946R1	T4 /T5	R 2,205.00
MIR-VB- Frame unit vertical interlock	1SDA054947R1	T4 /T5	R 2,205.00
MIR- P-Plate for interlock type A T4 (F-P-W) + T4 (F-P-W)	1SDA054948R1	T4 /T5	R 1,102.00
MIR- P-Plate for interlock type B T4 (F-P-W) + T5 400 (F-P-W) or T5 630 (F)	1SDA054949R1	T4 /T5	R 1,102.00
MIR- P-Plate for interlock type C T4 (F-P-W) + T5 630 (P-W)	1SDA054950R1	T4 /T5	R 1,102.00
MIR- P-Plate for interlock type D T5 400 (F-P-W) or T5 630 + T5 400 (F-P-W) or 630 (F)	1SDA054951R1	T5	R 1,102.00
MIR- P-Plate for interlock type E T5 400 (F-P-W) or T5 630 (F) or T5 630 (F)	1SDA054952R1	T5	R 1,102.00
MIR-P-Plate for interlock type F T5 630 (P-W) + T5 630 (P-W)	1SDA054953R1	T5	R 1,102.00
MIR-H- Horizontal interlock	1SDA060685R1	T6	R 5,628.00
MIR - V- Vertical interlock	1SDA060686R1	T6	R 5,628.00

Mechanical Interlock with cables between two circuit breakers

Description	Order Code	For use with	Price
Cable kit for interlock	1SDA062127R1	T7 / T7M	R 900.00
Plate for fixed unit	1SDA062129R1	T7 / T7M	R 2,824.00

Terminals & Phase Barriers



Description	Order Code	For use with	Price
EF Extended front terminals (3 pieces,Includes phase berriers)	1SDA055000R1	T4	R 143.00
EF Extended front terminals (3 pieces,Includes phase berriers)	1SDA055036R1	T5	R 520.00
EF Extended front terminals (3 pieces,Includes phase berriers)	1SDA063103R1	T7	R 1,141.00
ES Extended front terminals (3 pieces,Includes phase berriers)	1SDA055004R1	T4	R 258.00
ES Extended front terminals (3 pieces,Includes phase berriers)	1SDA055040R1	T5	R 479.00
ES Extended front terminals (6 pieces)	1SDA063110R1	T7	R 5,380.00
PB100 low (H=100 mm) - 4 pieces - 3p	1SDA054970R1	T4-T5	R 350.00
PB100 low (H=100 mm) - 6 pieces - 4p	1SDA054971R1	T4-T5	R 520.00
PB200 high (H=200 mm) - 4 pieces - 3p	1SDA054972R1	T4-T5	R 520.00
PB200 high (H=200 mm) - 6 pieces - 4p	1SDA054973R1	T4-T5	R 780.00
PB100 low (H=100 mm) - 4 pieces - 3p	1SDA050696R1	T6	R 320.00
PB100 low (H=100 mm) - 6 pieces - 4p	1SDA050697R1	T6	R 480.00
PB100 low (H=100 mm) - 4 pieces - 3p	1SDA054970R1	T7-T7M	R 350.00
PB100 low (H=100 mm) - 6 pieces - 4p	1SDA054971R1	T7-T7M	R 520.00
PB200 high (H=200 mm) - 4 pieces - 3p	1SDA054972R1	T7-T7M	R 520.00
PB200 high (H=200 mm) - 6 pieces - 4p	1SDA054973R1	T7-T7M	R 780.00

Automatic Transfer Devices

Description	Order Code	For use with	Price
ATS021	1SDA065523R1	T4-T7	R 10,547.00
ATS022	1SDA065524R1	T4-T7	R 17,198.00

Moulded Case Circuit Breakers for Motor Protection

Summary Motor Protection T4/T5/T6/T7

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

Motor Protection				Tmax T4				
Rated uninterrupted current			[A]	250/320				
Rated service current, **In**			[A]	10…320				
Poles			[No.]	3				
Rated service current, **Ue**		(AC) 50-60 Hz	[V]	690				
		(DC)	[V]	750				
Rated impulse withstand voltage, **Uimp**			[kV]	8				
Rated insulation voltage, **Ui**			[V]	1000				
Test voltage at industrial frequency for 1 min.			[V]	3500				
Rated ultimate short-circuit breaking capacity, **Icu**				**N**	**S**	**H**	**L**	**V**
(AC) 50-60 Hz 220/230 V			[kA]	70	85	100	200	200
(AC) 50-60 Hz 380/415 V			[kA]	36	50	70	120	200
(AC) 50-60 Hz 440 V			[kA]	30	40	65	100	180
(AC) 50-60 Hz 500 V			[kA]	25	30	50	85	150
(AC) 50-60 Hz 690 V			[kA]	20	25	40	70	80
Rated service short-circuit breaking capacity, **Ics**								
(AC) 50-60 Hz 220/230 V			[%Icu]	100%	100%	100%	100%	100%
(AC) 50-60 Hz 380/415 V			[%Icu]	100%	100%	100%	100%	100%
(AC) 50-60 Hz 440 V			[%Icu]	100%	100%	100%	100%	100%
(AC) 50-60 Hz 500 V			[%Icu]	100%	100%	100%	100%	100%
(AC) 50-60 Hz 690 V			[%Icu]	100%	100%	100%	100%	100%
Rated short-circuit making capacity, **Icm**								
(AC) 50-60 Hz 220/230 V			[kA]	154	187	220	440	660
(AC) 50-60 Hz 380/415 V			[kA]	75.6	105	154	264	440
(AC) 50-60 Hz 440 V			[kA]	63	84	143	220	396
(AC) 50-60 Hz 500 V			[kA]	52.5	63	105	187	330
(AC) 50-60 Hz 690 V			[kA]	40	52.5	84	154	176
Opening time (415 V)			[ms]	5	5	5	5	5
Utilisation category (IEC 60947-2)						A		
Isolation behaviour				■				
Reference Standard				IEC 60947-2/IEC 60947-4				
Protection against short-circuit								
Magnetic only trip unit		MA		■				
Electronic trip unit		PR221DS-I		■				
		PR231/P-I		–				
Integrated protection (IEC 60947-4-1)								
Electronic trip unit		Ekip M-LRIU		■				
Interchangeability				■				
Versions				F - P - W				
Terminals	fixed			F - FC Cu - FC CuAl - EF - ES - R - MC - HR - VR				
	plug-in			EF - ES - R - FC Cu - FC CuAl - HR - VR				
	withdrawable			EF - ES - FC Cu - FC CuAl				
Fixing on DIN rail				–				
Mechanical life			[No. operations]	20000				
			[No. Hourly operations]	240				
Electrical life @ 415 V AC			[No. operations]	8000				
			[No. Hourly operations]	120				
Basic fixed version dimensions			W [mm]	105				
			D [mm]	103.5				
			H [mm]	205				
Weight	fixed		[kg]	2.35				
	plug-in		[kg]	3.6				
	withdrawable		[kg]	3.85				

TERMINAL CAPTION
F = Front
EF = Front extended
ES = Front extended spread
FC Cu = Front for copper cables
R = Rear orientated
FC CuAl = Front for CuAl cables
MC = Multicable
HR = Rear flat horizontal
VR = Rear flat vertical
HR/VR = Rear flat orientated

(1) 75% for T5 630
(2) 50% for T5 630
(3) Icw = 5 kA
(4) Icw = 10 kA
(5) Icw = 20 kA (S, H, L versions) - 15 kA (V version)

Note: in the plug-in version of T5 630, and in the withdrawable version of T5 630 the maximum rated current is derated by 10% at 40 °C.

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Moulded Case Circuit Breakers for Motor Protection

Summary Motor Protection T4/T5/T6/T7

Tmax T5					Tmax T6				Tmax T7			
400/630					630/800				800/1000/1250			
320, 400, 630					630, 800				–			
3					3				3			
690					690				690			
–					–				–			
8					8				8			
1000					1000				1000			
3500					3500				3500			
N	**S**	**H**	**L**	**V**	**N**	**S**	**H**	**L**	**S**	**H**	**L**	**V**
70	85	100	200	200	70	85	100	200	85	100	200	200
36	50	70	120	200	36	50	70	100	50	70	120	150
30	40	65	100	180	30	45	50	80	50	65	100	130
25	30	50	85	150	25	35	50	65	40	50	85	100
20	25	40	70	80	20	22	25	30	30	42	50	60
100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
100%	100%	100%	100% [1]	100% [2]	100%	100%	100%	75%	100%	100%	75%	100%
100%	100%	100% [1]	100% [2]	100% [2]	75%	75%	75%	75%	100%	75%	75%	75%
154	187	220	440	660	154	187	220	440	187	220	440	440
75.6	105	154	264	440	75.6	105	154	220	105	154	264	330
63	84	143	220	396	63	94.5	105	176	105	143	220	286
52.5	63	105	187	330	52.5	73.5	105	143	84	105	187	220
40	52.5	84	154	176	40	46	52.5	63	63	88.2	105	132
6	6	6	6	6	10	9	8	7	15	10	8	8
B (400 A) [3] - A (630 A)					B [4]				B [5]			
■					■				■			
IEC 60947-2/IEC 60947-4					IEC 60947-2/IEC 60947-4				IEC 60947-2			
–					–				–			
■					■				–			
–					–				■			
■					■				–			
■					■				■			
F - P - W					F - W				F - W			
F - FC Cu - FC CuAl - EF - ES - R - HR - VR					F - FC CuAl - EF - ES - R - RC				F - EF - ES - FC CuAl - HR/VR			
EF - ES - R - FC Cu - FC CuAl - HR - VR					–				–			
EF - ES - FC Cu - FC CuAl					EF - HR - VR				EF - HR/VR - ES - RS			
–					–				–			
20000					20000				10000			
120					120				60			
7000					5000				2000 (S, H, L versions) / 3000 (V version)			
60					60				60			
140					210				210			
103.5					103.5				154 (manual) /178 (motorizable)			
205					268				268			
3.25					9.5/12				9.7/12.5 (manual) - 11/14 (motorizable)			
5.15					–				–			
5.4					12.1/15.1				29.7/39.6 (manual) - 32/42.6(motorizable)			

Moulded Case Circuit Breakers for Motor Protection

Motor Protection T4/T5/T6

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T4 250 – Fixed (F) – 3 Poles – Front terminals (F)



Magnetic only trip unit – MA	In	L	Price
		Icu @ 415Vac = 120 kA	
MA	7-10A	1SDA055074R1	R 8,238.00
MA	17-25A	1SDA055075R1	R 8,238.00
MA	36-52A	1SDA055076R1	R 8,238.00
MA	56-80A	1SDA054308R1	R 8,757.00
MA	70-100A	1SDA054309R1	R 8,757.00
MA	87-125A	1SDA054310R1	R 9,375.00
MA	112-160A	1SDA054311R1	R 9,465.00
MA	140-200A	1SDA054312R1	R 11,806.00

Electronic trip unit	In	L	Price	V	Price
		Icu @ 415Vac = 120 kA		Icu @ 415Vac = 200 kA	
PR221DS-I	70-100A	1SDA054072R1	R 10,378.00	1SDA054096R1	R 12,217.00
PR221DS-I	112-160A	1SDA054073R1	R 12,496.00	1SDA054097R1	R 14,604.00
PR221DS-I	175-250A	1SDA054074R1	R 12,826.00	1SDA054098R1	R 15,098.00

T5 400 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	L	Price	V	Price
		Icu @ 415Vac = 120 kA		Icu @ 415Vac = 200 kA	
PR221DS-I	224-320A	1SDA054366R1	R 14,101.00	1SDA54382R1	R 16,216.00
PR221DS-I	280-400A	1SDA054367R1	R 14,101.00	1SDA54383R1	R 16,216.00

T5 630 – Fixed (F) – 3 Poles – Front terminals (F)



Electronic trip unit	In	H	Price	L	Price	V	Price
		Icu @ 415Vac = 70 kA		Icu @ 415Vac = 120 kA		Icu @ 415Vac = 200 kA	
PR221DS-I	441-630A	1SDA054413R1	R 15,327.00	1SDA054421R1	R 17,626.00	1SDA054429R1	R 20,270.00

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Moulded Case Circuit Breakers for use up to 1150V AC and 1000V DC

Summary 1000V T4-T6

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

T4-T5 circuit-breakers for use up to 1150 V AC and T6 circuit-breakers for use up to 1000 V AC

				Tmax T4		Tmax T5		Tmax T6
Rated uninterrupted current			[A]	250		400/630		630/800
Poles				3, 4		3, 4		3, 4
Rated service voltage, **Ue**	(AC) 50-60 Hz		[V]	1000	1150	1000	1150	1000
Rated impulse withstand voltage, **Uimp**			[kV]	8		8		8
Rated insulation voltage, **Ui**			[V]	1000	1150	1000	1150	1000
Test voltage at power frequency for 1 min.			[V]	3500		3500		3500
Rated ultimate short-circuit breaking capacity, **Icu**				**L**	**V** (1)	**L**	**V** (1)	**L** (1)
	(AC) 50-60 Hz 1000 V		[kA]	12	20	12	20	12
	(AC) 50-60 Hz 1150 V		[kA]		12		12	
Rated service short-circuit breaking capacity, **Ics**								
	(AC) 50-60 Hz 1000 V		[kA]	12	12	10	10	6
	(AC) 50-60 Hz 1150 V		[kA]		6		6	
Rated short-circuit making capacity, **Icm**								
	(AC) 50-60 Hz 1000 V		[kA]	24	40	24	40	24
	(AC) 50-60 Hz 1150 V		[kA]		24		24	
Category of use (IEC 60947-2)				A		B (400 A) (2) - A (630 A)		B (3)
Behaviour on isolation				■		■		■
Reference Standards				IEC 60947-2		IEC 60947-2		IEC 60947-2
Thermomagnetic releases		TMD			■			
		TMA			■		■	■
Electronic trip units		PR221DS/LS/I		■	■	■	■	■
		PR221DS/I		■	■	■	■	■
		PR222DS/P_LSI		■	■	■	■	■
		PR222DS/P_LSIG		■	■	■	■	■
		PR222DS/PD_LSI		■	■	■	■	■
		PR222DS/PD_LSIG		■	■	■	■	■
		Ekip M-LRIU		■		■		
		PR223EF		■		■		■
Terminals				FC Cu - F* - EF*		FC Cu - F* - EF*		F - FC CuAl** - R - EF* - ES*
Version				F, P, W	F	F, P, W (4)	F	F (5)
Mechanical life		[No. operations]		20000		20000		20000
		[No. hourly operations]		240		120		120
Basic fixed dimensions (6)		3 poles	W [mm]	105		140		210
		4 poles	W [mm]	140		184		280
			D [mm]	103.5		103.5		103.5
			H [mm]	205		205		268
Weight	fixed	3/4 poles	[kg]	2.35 / 3.05	2.35 / 3.05	3.25 / 4.15	3.25 / 4.15	9.5 / 12
	plug-in	3/4 poles	[kg]	3.6 / 4.65		5.15 / 6.65		
	withdrawable	3/4 poles	[kg]	3.85 / 4.9		5.4 / 6.9		

TERMINAL CAPTION
F = Front
FC Cu = Front for copper cables
FC CuAl = Front for copper cables CuAl
R = Rear
F = Fixed circuit-breakers
P = Plug-in circuit-breakers
W = Withdrawable circuit-breakers

(1) Power supply only from the top
(2) Icw = 5 kA
(3) Icw = 7.6 kA (630 A) - 10 kA (800 A)
(4) Tmax T5 630 is only available in the fixed version
(5) For T6 in the withdrawable version, please ask ABB SACE
(6) Circuit-breaker without high terminal covers
* Ordering extracodes
** Ordering standard 1SDA0 codes

Moulded Case Circuit Breakers for use up to 1150V AC and 1000V DC – Tmax T4-T6

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.

Circuit-breakers for use up to 1150 V AC and 1000 V DC

T4 250 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)



Thermomagnetic trip unit - TMD and TMA	In			V	Price
				Icu@1000V AC = 20kA	Icu@1150V AC=12kA
TMD	22-32A			1SDA063410R1	R 10,570.00
TMD	36-52A			1SDA063411R1	R 10,570.00
TMA	56-80A			1SDA063412R1	R 10,570.00
TMA	70-100A			1SDA063413R1	R 10,570.00
TMA	87-125A			1SDA063414R1	R 10,570.00
TMA	112-160A			1SDA063415R1	R 10,570.00
TMA	140-200A			1SDA063416R1	R 10,570.00
TMA	175-250A			1SDA063417R1	R 10,570.00

Note: For DC applications only TMA releases are available

T4 250 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)



Electronic trip unit	In	L	Price	V	Price
		Icu@1000V AC = 12kA		Icu@1000V AC = 20kA	Icu@1150V AC=12kA
PR221DS-LS/I	40-100A	1SDA054505R1	R 12,315.00	1SDA054513R1	R 13,517.00
PR221DS-LS/I	100-250A	1SDA054509R1	R 13,649.00	1SDA054517R1	R 14,856.00

Note: For DC applications only TMA releases are available

T5 400 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)



Thermomagnetic trip unit -TMA	In			V	Price
				Icu@1000V AC = 20kA	Icu@1150V AC=12kA
TMA	224-320A			1SDA063437R1	R 41,195.00
TMA	280-400A			1SDA063438R1	R 53,553.00

Note: For DC applications only TMA releases are available

T5 400 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)



Electronic trip unit	In	L	Price	V	Price
		Icu@1000V AC = 12kA		Icu@1000V AC = 20kA	Icu@1150V AC=12kA
PR221DS-LS/I	128-320A	1SDA063477R1	R 16,893.00	1SDA063485R1	R 20,763.00
PR221DS-LS/I	240-400A	1SDA054535R1	R 18,301.00	1SDA054539R1	R 23,016.00

Note: For DC applications only TMA releases are available

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Moulded Case Circuit Breakers for use up to 1150V AC and 1000V DC – Tmax T4-T6

Function: Protection and control of the circuits against overloads and short-circuit for power distribution.
All Tmax circuit breakers are suitable for current limiting in standard release.

Application: Power distribution for commercial and industrial installations.



T5 630 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)

Thermomagnetic trip unit -TMA	In			V	Price
				Icu@1000V AC = 20kA	Icu@1150V AC=12kA
TMA	350-500A			1SDA063439R1	R 32,533.00

Note: For DC applications only TMA releases are available



T5 630 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)

Electronic trip unit	In	L	Price	V	Price
		Icu@1000V AC = 12kA		Icu@1000V AC = 20kA	Icu@1150V AC=12kA
PR221DS-LS/I	252-630A	1SDA054543R1	R 33,603.00	1SDA054547R1	R 36,281.00

Note: For DC applications only TMA releases are available



T6 630/800 – Fixed (F) – 3 Poles – Front terminals (F)

Electronic trip unit	In	L	Price		
		Icu@1000V AC = 12kA			
PR221DS-LS/I	252-630A	1SDA060319R1	R 21,632.00		
PR221DS-LS/I	320-800A	1SDA060323R1	R 45,895.00		

Note: For DC applications only TMA releases are available

Automatic Circuit Breakers for Emax2

SACE Emax2 Summary

Common data		
Rated service voltage Ue	[V]	690
Rated insulation voltage Ui	[V]	1000
Rated impulse withstand voltage Uimp	[kV]	12
Frequency	[Hz]	50 - 60
Number of poles		3- 4
Version		Fixed - Withdrawable
Suitable for isolation according to		IEC 60947-2



SACE Emax2			E1.2			
Performance levels			**B**	**C**	**N**	**L**
Rated uninterrupted current Iu @ 40°C		[A]	630	630	250	630
		[A]	800	800	630	800
		[A]	1000	1000	800	1000
		[A]	1250	1250	1000	1250
		[A]	1600	1600	1250	
		[A]			1600	
		[A]				
Neutral pole current-carrying capacity for 4-pole CBs		[%Iu]	100	100	100	100
Rated ultimate short-circuit breaking capacity Icu	400-415 V	[kA]	42	50	66	150
	440 V	[kA]	42	50	66	130
	500-525 V	[kA]	42	42	50	100
	690 V	[kA]	42	42	50	60
Rated service short-circuit breaking capacity Ics		[%Icu]	100	100	100[1)]	100
Rated short-time withstand current Icw	(1s)	[kA]	42	42	50	15
	(3s)	[kA]	24	24	30	-
Rated short-circuit making capacity (peak value) Icm	400-415 V	[kA]	88	105	145	330
	440 V	[kA]	88	105	145	286
	500-525 V	[kA]	88	88	105	220
	690 V	[kA]	88	88	105	132
Utilization category (according to IEC 60947-2)			B	B	B	A
Breaking	Breaking time for I<Icw	[ms]	40	40	40	40
	Breaking time for I>Icw	[ms]	25	25	25	10
Dimensions	H - Fixed/Withdrawable	[mm]	296/363.5	296/363.5	296/363.5	296/363.5
	D - Fixed/Withdrawable	[mm]	183/271	183/271	183/271	183/271
	W - Fixed 3p/4p/4p FS	[mm]	210/280			
	W - Withdrawable 3p/4p/4p FS	[mm]	278/348			
Weights (CB with trip unit and current sensor)	Fixed 3p/4p	kg	14/16			
	Withdrawable 3p/4p/4p FS including fixed part	kg	38/43			

1) Ics : 50kA for 400V...440V voltage; 2) Ics: 125kA for 400V...440V voltage; 3) E4.2H 3200A: 66 Icw (3s)

SACE Emax2			E1.2			
Mechanical and electrical life with regular ordinary maintenance prescribed by the manufacturer		[Iu]	≤ 1000	1250	1600	1250 L
		[No. cycles x 1000]	20	20	20	20
	Frequency	[Oper./Hour]	60	60	60	60
Electrical life	440 V	[No. cycles x 1000]	8	8	8	3
	690 V	[No. cycles x 1000]	8	6,5	6,5	1
	Frequency	[Oper./Hour]	30	30	30	30

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Automatic Circuit Breakers for Emax2

SACE Emax2 Summary







	E2.2				E4.2				E6.2		
	B	N	S	H	N	S	H	V	H	V	X
	1600	800	250	800	3200	3200	3200	2000	4000	4000	4000
	2000	1000	800	1000	4000	4000	4000	2500	5000	5000	5000
		1250	1000	1250				3200	6300	6300	6300
		1600	1250	1600				4000			
		2000	1600	2000							
		2500	2000	2500							
			2500								
	100	100	100	100	100	100	100	100	50-100	50-100	50-100
	42	66	85	100	66	85	100	150	100	150	150
	42	66	85	100	66	85	100	150	100	150	150
	42	66	66	85	66	66	85	100	100	130	130
	42	66	66	85	66	66	85	100	100	100	100
	100	100	100	100	100	100	100	100[2)]	100	100	100
	42	66	66	85	66	66	85	100	100	100	120
	42	50	50	66	50	66	75[3)]	75	100	100	100
	88	145	187	220	145	187	220	330	220	330	440
	88	145	187	220	145	187	220	330	220	330	440
	88	145	145	187	145	145	187	220	220	286	286
	88	145	145	187	145	145	187	220	220	220	264
	B	B	B	B	B	B	B	B	B	B	B
	40	40	40	40	40	40	40	40	40	40	40
	25	25	25	25	25	25	25	25	25	25	25
	371/425	371/425	371/425	371/425	371/425	371/425	371/425	371/425	371/425	371/425	371/425
	270/383	270/383	270/383	270/383	270/383	270/383	270/383	270/383	270/383	270/383	270/383
	276/366				384/510				762/888/1014		
	317/407				425/551				803/929/1069		
	41/53				56/70				109/125/140		
	84/99				110/136				207/234/260		

	E2.2				E4.2				E6.2		
	< 1600	1600	2000	2500	< 2500	2500	3200	4000	4000	5000	6300
	25	25	25	20	20	20	20	15	12	12	12
	60	60	60	60	60	60	60	60	60	60	60
	15	12	10	8	10	8	7	5	4	3	2
	15	10	8	7	10	8	7	4	4	2	2
	30	30	30	30	20	20	20	20	10	10	10

Automatic Circuit Breakers for Emax2

SACE Emax2 – Fixed Version for Power Distribution



SACE Emax2 E1.2B-C Front terminals (F)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2B	630	42	42	E1.2B 630 Ekip Touch LI	1SDA070704R1	R 27,463.00	1SDA071334R1	R 31,159.00
				E1.2B 630 Ekip Touch LSI	1SDA070705R1	R 37,979.00	1SDA071335R1	R 41,884.00
				E1.2B 630 Ekip Touch LSIG	1SDA070706R1	R 42,709.00	1SDA071336R1	R 46,540.00
	800	42	42	E1.2B 800 Ekip Touch LI	1SDA070744R1	R 27,463.00	1SDA071374R1	R 31,159.00
				E1.2B 800 Ekip Touch LSI	1SDA070745R1	R 37,979.00	1SDA071375R1	R 41,884.00
				E1.2B 800 Ekip Touch LSIG	1SDA070746R1	R 42,709.00	1SDA071376R1	R 46,540.00
	1000	42	42	E1.2B 1000 Ekip Touch LI	1SDA070784R1	R 27,590.00	1SDA071414R1	R 31,304.00
				E1.2B 1000 Ekip Touch LSI	1SDA070785R1	R 38,200.00	1SDA071415R1	R 42,136.00
				E1.2B 1000 Ekip Touch LSIG	1SDA070786R1	R 43,741.00	1SDA071416R1	R 47,675.00
	1250	42	42	E1.2B 1250 Ekip Touch LI	1SDA070824R1	R 30,000.00	1SDA071454R1	R 34,043.00
				E1.2B 1250 Ekip Touch LSI	1SDA070825R1	R 38,960.00	1SDA071455R1	R 43,003.00
				E1.2B 1250 Ekip Touch LSIG	1SDA070826R1	R 44,519.00	1SDA071456R1	R 48,562.00
	1600	42	42	E1.2B 1600 Ekip Touch LI	1SDA070864R1	R 30,406.00	1SDA071494R1	R 34,505.00
				E1.2B 1600 Ekip Touch LSI	1SDA070865R1	R 39,366.00	1SDA071495R1	R 43,465.00
				E1.2B 1600 Ekip Touch LSIG	1SDA070866R1	R 44,925.00	1SDA071496R1	R 49,024.00
E1.2C	630	50	42	E1.2C 630 Ekip Touch LI	1SDA070714R1	R 27,800.00	1SDA071344R1	R 31,546.00
				E1.2C 630 Ekip Touch LSI	1SDA070715R1	R 38,936.00	1SDA071345R1	R 42,975.00
				E1.2C 630 Ekip Touch LSIG	1SDA070716R1	R 43,800.00	1SDA071346R1	R 47,776.00
	800	50	42	E1.2C 800 Ekip Touch LI	1SDA070754R1	R 27,920.00	1SDA071384R1	R 31,682.00
				E1.2C 800 Ekip Touch LSI	1SDA070755R1	R 38,936.00	1SDA071385R1	R 42,975.00
				E1.2C 800 Ekip Touch LSIG	1SDA070756R1	R 44,495.00	1SDA071386R1	R 48,534.00
	1000	50	42	E1.2C 1000 Ekip Touch LI	1SDA070794R1	R 31,089.00	1SDA071424R1	R 35,284.00
				E1.2C 1000 Ekip Touch LSI	1SDA070795R1	R 40,049.00	1SDA071425R1	R 44,244.00
				E1.2C 1000 Ekip Touch LSIG	1SDA070796R1	R 45,609.00	1SDA071426R1	R 49,804.00
	1250	50	42	E1.2C 1250 Ekip Touch LI	1SDA070834R1	R 31,563.00	1SDA071464R1	R 35,824.00
				E1.2C 1250 Ekip Touch LSI	1SDA070835R1	R 40,523.00	1SDA071465R1	R 44,784.00
				E1.2C 1250 Ekip Touch LSIG	1SDA070836R1	R 46,082.00	1SDA071466R1	R 50,343.00
	1600	50	42	E1.2C 1600 Ekip Touch LI	1SDA070874R1	R 32,351.00	1SDA071504R1	R 36,723.00
				E1.2C 1600 Ekip Touch LSI	1SDA070875R1	R 41,311.00	1SDA071505R1	R 45,683.00
				E1.2C 1600 Ekip Touch LSIG	1SDA070876R1	R 46,500.00	1SDA071506R1	R 50,837.00



SACE Emax2 E1.2N Front terminals (F)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2N	250	66	50	E1.2N 250 Ekip Touch LI	1SDA070694R1	R 30,673.00	1SDA071324R1	R 34,827.00
				E1.2N 250 Ekip Touch LSI	1SDA070695R1	R 43,900.00	1SDA071325R1	R 48,619.00
				E1.2N 250 Ekip Touch LSIG	1SDA070696R1	R 47,060.00	1SDA071326R1	R 51,545.00
	630	66	50	E1.2N 630 Ekip Touch LI	1SDA070724R1	R 30,800.00	1SDA071354R1	R 34,971.00
				E1.2N 630 Ekip Touch LSI	1SDA070725R1	R 43,900.00	1SDA071355R1	R 48,619.00
				E1.2N 630 Ekip Touch LSIG	1SDA070726R1	R 47,060.00	1SDA071356R1	R 51,545.00
	800	66	50	E1.2N 800 Ekip Touch LI	1SDA070764R1	R 30,800.00	1SDA071394R1	R 34,971.00
				E1.2N 800 Ekip Touch LSI	1SDA070765R1	R 43,432.00	1SDA071395R1	R 48,101.00
				E1.2N 800 Ekip Touch LSIG	1SDA070766R1	R 48,992.00	1SDA071396R1	R 53,661.00
	1000	66	50	E1.2N 1000 Ekip Touch LI	1SDA070804R1	R 33,036.00	1SDA071434R1	R 37,516.00
				E1.2N 1000 Ekip Touch LSI	1SDA070805R1	R 44,713.00	1SDA071435R1	R 49,561.00
				E1.2N 1000 Ekip Touch LSIG	1SDA070806R1	R 48,979.00	1SDA071436R1	R 53,702.00
	1250	66	50	E2.2N 2000 Ekip Touch LI	1SDA070844R1	R 34,662.00	1SDA071474R1	R 39,364.00
				E2.2N 2000 Ekip Touch LSI	1SDA070845R1	R 45,257.00	1SDA071475R1	R 50,181.00
				E2.2N 2000 Ekip Touch LSIG	1SDA070846R1	R 49,360.00	1SDA071476R1	R 54,143.00
	1600	66	50	E1.2N 1600 Ekip Touch LI	1SDA070884R1	R 35,526.00	1SDA071514R1	R 40,349.00
				E1.2N 1600 Ekip Touch LSI	1SDA070885R1	R 46,164.00	1SDA071515R1	R 51,215.00
				E1.2N 1600 Ekip Touch LSIG	1SDA070886R1	R 49,995.00	1SDA071516R1	R 54,877.00

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Automatic Circuit Breakers for Emax2

SACE Emax2 – Fixed Version for Power Distribution

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard Fixed version



SACE Emax2 E1.2B-N/MS Fixed terminals (F)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2B/MS	630		42	E1.2B/MS 630	1SDA073392R1	R 21,798.00	1SDA073431R1	R 24,748.00
	800			E1.2B/MS 800	1SDA073394R1	R 22,839.00	1SDA073433R1	R 25,930.00
	1000			E1.2B/MS 1000	1SDA073396R1	R 23,195.00	1SDA073435R1	R 26,335.00
	1250			E1.2B/MS 1250	1SDA073398R1	R 24,081.00	1SDA073437R1	R 27,344.00
	1600			E1.2B/MS 1600	1SDA073400R1	R 24,550.00	1SDA073439R1	R 27,878.00
E1.2N/MS	250		50	E1.2N/MS 250	1SDA073391R1	R 25,752.00	1SDA073430R1	R 29,259.00
	630			E1.2N/MS 630	1SDA073393R1	R 26,152.00	1SDA073432R1	R 29,713.00
	800			E1.2N/MS 800	1SDA073395R1	R 26,335.00	1SDA073434R1	R 29,921.00
	1000			E1.2N/MS 1000	1SDA073397R1	R 26,976.00	1SDA073436R1	R 30,654.00
	1250			E1.2N/MS 1250	1SDA073399R1	R 31,440.00	1SDA073438R1	R 35,728.00
	1600			E1.2N/MS 1600	1SDA073401R1	R 31,497.00	1SDA073440R1	R 35,796.00



SACE Emax2 E2.2B-N Orientable rear terminals (HR)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E2.2B	1600	42	42	E2.2B 1600 Ekip Touch LI	1SDA070984R1	R 35,535.00	1SDA071614R1	R 45,858.00
				E2.2B 1600 Ekip Touch LSI	1SDA070985R1	R 44,495.00	1SDA071615R1	R 54,818.00
				E2.2B 1600 Ekip Touch LSIG	1SDA070986R1	R 50,054.00	1SDA071616R1	R 60,377.00
	2000	42	42	E2.2B 2000 Ekip Touch LI	1SDA071024R1	R 40,865.00	1SDA071654R1	R 52,787.00
				E2.2B 2000 Ekip Touch LSI	1SDA071025R1	R 49,825.00	1SDA071655R1	R 61,747.00
				E2.2B 2000 Ekip Touch LSIG	1SDA071026R1	R 55,385.00	1SDA071656R1	R 67,307.00
E2.2N	800	66	66	E2.2N 800 Ekip Touch LI	1SDA070894R1	R 39,087.00	1SDA071524R1	R 50,475.00
				E2.2N 800 Ekip Touch LSI	1SDA070895R1	R 48,047.00	1SDA071525R1	R 59,435.00
				E2.2N 800 Ekip Touch LSIG	1SDA070896R1	R 53,606.00	1SDA071526R1	R 64,994.00
	1000	66	66	E2.2N 1000 Ekip Touch LI	1SDA070924R1	R 39,087.00	1SDA071554R1	R 50,475.00
				E2.2N 1000 Ekip Touch LSI	1SDA070925R1	R 48,047.00	1SDA071555R1	R 59,435.00
				E2.2N 1000 Ekip Touch LSIG	1SDA070926R1	R 53,606.00	1SDA071556R1	R 64,994.00
	1250	66	66	E2.2N 1250 Ekip Touch LI	1SDA070954R1	R 40,483.00	1SDA071584R1	R 52,290.00
				E2.2N 1250 Ekip Touch LSI	1SDA070955R1	R 49,443.00	1SDA071585R1	R 61,250.00
				E2.2N 1250 Ekip Touch LSIG	1SDA070956R1	R 55,003.00	1SDA071586R1	R 66,810.00
	1600	66	66	E2.2N 1600 Ekip Touch LI	1SDA070994R1	R 41,950.00	1SDA071624R1	R 54,200.00
				E2.2N 1600 Ekip Touch LSI	1SDA070995R1	R 51,243.00	1SDA071625R1	R 63,590.00
				E2.2N 1600 Ekip Touch LSIG	1SDA070996R1	R 56,802.00	1SDA071626R1	R 69,149.00
	2000	66	66	E2.2N 2000 Ekip Touch LI	1SDA071034R1	R 44,082.00	1SDA071664R1	R 56,969.00
				E2.2N 2000 Ekip Touch LSI	1SDA071035R1	R 53,042.00	1SDA071665R1	R 65,929.00
				E2.2N 2000 Ekip Touch LSIG	1SDA071036R1	R 58,601.00	1SDA071666R1	R 71,488.00
	2500	66	66	E2.2N 2500 Ekip Touch LI	1SDA071064R1	R 57,575.00	1SDA071694R1	R 74,510.00
				E2.2N 2500 Ekip Touch LSI	1SDA071065R1	R 66,535.00	1SDA071695R1	R 83,470.00
				E2.2N 2500 Ekip Touch LSIG	1SDA071066R1	R 72,094.00	1SDA071696R1	R 89,029.00

Automatic Circuit Breakers for Emax2

SACE Emax2 – Fixed Version for Power Distribution

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard
Fixed version



SACE Emax2 E2.2B-N-H/MS Orientable rear terminals (HR)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E2.2B/MS	1600		42	E2.2B/MS 1600	1SDA073408R1	R 33,245.00	1SDA073447R1	R 43,302.00
	2000			E2.2B/MS 2000	1SDA073411R1	R 36,696.00	1SDA073450R1	R 47,784.00
E2.2N/MS	800		66	E2.2N/MS 800	1SDA073402R1	R 34,224.00	1SDA073441R1	R 44,568.00
	1000			E2.2N/MS 1000	1SDA073404R1	R 34,276.00	1SDA073443R1	R 44,636.00
	1250			E2.2N/MS 1250	1SDA073406R1	R 35,104.00	1SDA073445R1	R 45,711.00
	1600			E2.2N/MS 1600	1SDA073409R1	R 35,884.00	1SDA073448R1	R 46,723.00
	2000			E2.2N/MS 2000	1SDA073412R1	R 39,458.00	1SDA073451R1	R 51,373.00
	2500			E2.2N/MS 2500	1SDA073414R1	R 53,405.00	1SDA073453R1	R 69,505.00
E2.2H/MS	800		85	E2.2H/MS 800	1SDA073403R1	R 52,297.00	1SDA073442R1	R 68,065.00
	1000			E2.2H/MS 1000	1SDA073405R1	R 52,373.00	1SDA073444R1	R 68,164.00
	1250			E2.2H/MS 1250	1SDA073407R1	R 53,562.00	1SDA073446R1	R 69,709.00
	1600			E2.2H/MS 1600	1SDA073410R1	R 54,684.00	1SDA073449R1	R 71,165.00
	2000			E2.2H/MS 2000	1SDA073413R1	R 58,540.00	1SDA073452R1	R 76,180.00
	2500			E2.2H/MS 2500	1SDA073415R1	R 75,283.00	1SDA073454R1	R 97,947.00



SACE Emax2 E4.2N-S Orientable rear terminals (HR)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2N	3200	66	66	E4.2N 3200 Ekip Touch LI	1SDA071144R1	R 64,816.00	1SDA071774R1	R 90,292.00
				E4.2N 3200 Ekip Touch LSI	1SDA071145R1	R 73,776.00	1SDA071775R1	R 99,252.00
				E4.2N 3200 Ekip Touch LSIG	1SDA071146R1	R 79,335.00	1SDA071776R1	R 104,811.00
	4000	66	66	E4.2N 4000 Ekip Touch LI	1SDA071194R1	R 77,779.00	1SDA071824R1	R 108,440.00
				E4.2N 4000 Ekip Touch LSI	1SDA071195R1	R 86,739.00	1SDA071825R1	R 117,400.00
				E4.2N 4000 Ekip Touch LSIG	1SDA071196R1	R 92,299.00	1SDA071826R1	R 122,960.00
E4.2S	3200	85	66	E4.2S 3200 Ekip Touch LI	1SDA071154R1	R 72,922.00	1SDA071784R1	R 101,668.00
				E4.2S 3200 Ekip Touch LSI	1SDA071155R1	R 86,739.00	1SDA071785R1	R 117,400.00
				E4.2S 3200 Ekip Touch LSIG	1SDA071156R1	R 92,299.00	1SDA071786R1	R 122,960.00
	4000	85	66	E4.2S 4000 Ekip Touch LI	1SDA071204R1	R 93,335.00	1SDA071834R1	R 130,218.00
				E4.2S 4000 Ekip Touch LSI	1SDA071205R1	R 102,295.00	1SDA071835R1	R 139,178.00
				E4.2S 4000 Ekip Touch LSIG	1SDA071206R1	R 107,854.00	1SDA071836R1	R 144,737.00



SACE Emax2 E4.2H-V Orientable rear terminals (HR)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2H	3200	100	85	E4.2S 3200 Ekip Touch LI	1SDA071164R1	R 97,224.00	1SDA071794R1	R 135,663.00
				E4.2S 3200 Ekip Touch LSI	1SDA071165R1	R 106,184.00	1SDA071795R1	R 144,623.00
				E4.2S 3200 Ekip Touch LSIG	1SDA071166R1	R 111,743.00	1SDA071796R1	R 150,182.00
	4000	100	85	E4.2S 4000 Ekip Touch LI	1SDA071214R1	R 116,669.00	1SDA071844R1	R 162,886.00
				E4.2S 4000 Ekip Touch LSI	1SDA071215R1	R 125,629.00	1SDA071845R1	R 171,846.00
				E4.2S 4000 Ekip Touch LSIG	1SDA071216R1	R 131,188.00	1SDA071846R1	R 177,405.00
E4.2V	2000	150	100	E4.2V 2000 Ekip Touch LI	1SDA071104R1	R 114,068.00	1SDA071734R1	R 159,245.00
				E4.2V 2000 Ekip Touch LSI	1SDA071105R1	R 123,028.00	1SDA071735R1	R 168,205.00
				E4.2V 2000 Ekip Touch LSIG	1SDA071106R1	R 128,587.00	1SDA071736R1	R 173,764.00
	2500	150	100	E4.2V 2500 Ekip Touch LI	1SDA071124R1	R 120,071.00	1SDA071754R1	R 167,649.00
				E4.2V 2500 Ekip Touch LSI	1SDA071125R1	R 129,031.00	1SDA071755R1	R 176,609.00
				E4.2V 2500 Ekip Touch LSIG	1SDA071126R1	R 134,591.00	1SDA071756R1	R 182,169.00
	3200	150	100	E4.2V 3200 Ekip Touch LI	1SDA071174R1	R 126,391.00	1SDA071804R1	R 176,497.00
				E4.2V 3200 Ekip Touch LSI	1SDA071175R1	R 135,351.00	1SDA071805R1	R 185,457.00
				E4.2V 3200 Ekip Touch LSIG	1SDA071176R1	R 140,910.00	1SDA071806R1	R 191,016.00
	4000	150	100	E4.2V 4000 Ekip Touch LI	1SDA071224R1	R 151,669.00	1SDA071854R1	R 211,886.00
				E4.2V 4000 Ekip Touch LSI	1SDA071225R1	R 160,629.00	1SDA071855R1	R 220,846.00
				E4.2V 4000 Ekip Touch LSIG	1SDA071226R1	R 166,188.00	1SDA071856R1	R 226,405.00

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Automatic Circuit Breakers for Emax2

SACE Emax2 – Fixed Version for Power Distribution

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard
Fixed version



SACE Emax2 E4.2N-H-V/MS Orientable rear terminals (HR)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2N/MS	3200		66	E4.2N/MS 3200	1SDA073418R1	R 60,175.00	1SDA073457R1	R 84,491.00
	4000			E4.2N/MS 4000	1SDA073421R1	R 67,042.00	1SDA073460R1	R 94,084.00
E4.2H/MS	3200		85	E4.2H/MS 3200	1SDA073419R1	R 92,583.00	1SDA073458R1	R 129,862.00
	4000			E4.2H/MS 4000	1SDA073422R1	R 112,027.00	1SDA073461R1	R 157,083.00
E4.2V/MS	2000		100	E4.2V/MS 2000	1SDA073416R1	R 109,427.00	1SDA073455R1	R 153,443.00
	2500			E4.2V/MS 2500	1SDA073417R1	R 115,430.00	1SDA073456R1	R 161,848.00
	3200			E4.2V/MS 3200	1SDA073420R1	R 121,750.00	1SDA073459R1	R 170,696.00
	4000			E4.2V/MS 4000	1SDA073423R1	R 147,028.00	1SDA073462R1	R 206,085.00



SACE Emax2 E6.2H-V Orientable rear terminals (HR)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E6.2H	4000	100	100	E6.2H 4000 Ekip Touch LI	1SDA071234R1	R 175,003.00	1SDA071864R1	R 244,554.00
				E6.2H 4000 Ekip Touch LSI	1SDA071235R1	R 183,963.00	1SDA071865R1	R 253,514.00
				E6.2H 4000 Ekip Touch LSIG	1SDA071236R1	R 189,522.00	1SDA071866R1	R 259,073.00
	5000	100	100	E6.2H 5000 Ekip Touch LI	1SDA071264R1	R 209,315.00	1SDA071894R1	R 292,610.00
				E6.2H 5000 Ekip Touch LSI	1SDA071265R1	R 227,713.00	1SDA071895R1	R 314,764.00
				E6.2H 5000 Ekip Touch LSIG	1SDA071266R1	R 233,273.00	1SDA071896R1	R 320,324.00
	6300	100	100	E6.2H 6300 Ekip Touch LI	1SDA071294R1	R 284,379.00	1SDA071924R1	R 397,680.00
				E6.2H 6300 Ekip Touch LSI	1SDA071295R1	R 293,339.00	1SDA071925R1	R 406,640.00
				E6.2H 6300 Ekip Touch LSIG	1SDA071296R1	R 298,898.00	1SDA071926R1	R 412,199.00
E6.2V	4000	150	100	E6.2V 4000 Ekip Touch LI	1SDA071244R1	R 222,000.00	1SDA071874R1	R 310,360.00
				E6.2V 4000 Ekip Touch LSI	1SDA071245R1	R 236,463.00	1SDA071875R1	R 327,014.00
				E6.2V 4000 Ekip Touch LSIG	1SDA071246R1	R 242,023.00	1SDA071876R1	R 332,574.00
	5000	150	100	E6.2V 5000 Ekip Touch LI	1SDA071274R1	R 284,379.00	1SDA071904R1	R 397,680.00
				E6.2V 5000 Ekip Touch LSI	1SDA071275R1	R 293,339.00	1SDA071905R1	R 406,640.00
				E6.2V 5000 Ekip Touch LSIG	1SDA071276R1	R 298,898.00	1SDA071906R1	R 412,199.00
	6300	150	100	E6.2V 6300 Ekip Touch LI	1SDA071304R1	R 369,692.00	1SDA071934R1	R 517,118.00
				E6.2V 6300 Ekip Touch LSI	1SDA071305R1	R 378,653.00	1SDA071935R1	R 526,080.00
				E6.2V 6300 Ekip Touch LSIG	1SDA071306R1	R 384,212.00	1SDA071936R1	R 531,639.00

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard
Fixed version



SACE Emax2 E6.2H-X /MS Orientable rear terminals (HR)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E6.2H/MS	4000		100	E6.2H/MS 4000	1SDA073424R1	R 170,361.00	1SDA073463R1	R 238,751.00
	5000		100	E6.2H/MS 5000	1SDA073426R1	R 206,111.00	1SDA073465R1	R 288,792.00
	6300		100	E6.2H/MS 6300	1SDA073428R1	R 279,738.00	1SDA073467R1	R 391,879.00
E6.2X/MS	4000		120	E6.2X/MS 4000	1SDA073425R1	R 336,613.00	1SDA073464R1	R 471,504.00
	5000		120	E6.2X/MS 5000	1SDA073427R1	R 421,927.00	1SDA073466R1	R 590,943.00
	6300		120	E6.2X/MS 6300	1SDA073429R1	R 549,897.00	1SDA073468R1	R 770,101.00

Automatic Circuit Breakers for Emax2 – SACE Emax2
Withdrawable version for power distribution



SACE Emax2 E1.2B-C Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2B	630	42	42	E1.2B 630 Ekip Touch LI	1SDA072054R1	R 30,557.00	1SDA072684R1	R 34,678.00
				E1.2B 630 Ekip Touch LSI	1SDA072055R1	R 39,517.00	1SDA072685R1	R 43,638.00
				E1.2B 630 Ekip Touch LSIG	1SDA072056R1	R 45,077.00	1SDA072686R1	R 49,198.00
	800	42	42	E1.2B 800 Ekip Touch LI	1SDA072094R1	R 30,557.00	1SDA072724R1	R 34,678.00
				E1.2B 800 Ekip Touch LSI	1SDA072095R1	R 39,517.00	1SDA072725R1	R 43,638.00
				E1.2B 800 Ekip Touch LSIG	1SDA072096R1	R 45,077.00	1SDA072726R1	R 49,198.00
	1000	42	42	E1.2B 1000 Ekip Touch LI	1SDA072134R1	R 31,467.00	1SDA072764R1	R 35,715.00
				E1.2B 1000 Ekip Touch LSI	1SDA072135R1	R 40,427.00	1SDA072765R1	R 44,675.00
				E1.2B 1000 Ekip Touch LSIG	1SDA072136R1	R 45,986.00	1SDA072766R1	R 50,234.00
	1250	42	42	E1.2B 1250 Ekip Touch LI	1SDA072174R1	R 32,270.00	1SDA072804R1	R 36,630.00
				E1.2B 1250 Ekip Touch LSI	1SDA072175R1	R 41,230.00	1SDA072805R1	R 45,590.00
				E1.2B 1250 Ekip Touch LSIG	1SDA072176R1	R 46,790.00	1SDA072806R1	R 51,150.00
	1600	42	42	E1.2B 1600 Ekip Touch LI	1SDA072214R1	R 32,688.00	1SDA072844R1	R 37,107.00
				E1.2B 1600 Ekip Touch LSI	1SDA072215R1	R 41,648.00	1SDA072845R1	R 46,067.00
				E1.2B 1600 Ekip Touch LSIG	1SDA072216R1	R 47,207.00	1SDA072846R1	R 51,626.00
E1.2C	630	50	42	E1.2C 630 Ekip Touch LI	1SDA072064R1	R 32,213.00	1SDA072694R1	R 36,565.00
				E1.2C 630 Ekip Touch LSI	1SDA072065R1	R 41,173.00	1SDA072695R1	R 45,525.00
				E1.2C 630 Ekip Touch LSIG	1SDA072066R1	R 46,733.00	1SDA072696R1	R 51,085.00
	800	50	42	E1.2C 800 Ekip Touch LI	1SDA072104R1	R 32,213.00	1SDA072734R1	R 36,565.00
				E1.2C 800 Ekip Touch LSI	1SDA072105R1	R 41,173.00	1SDA072735R1	R 45,525.00
				E1.2C 800 Ekip Touch LSIG	1SDA072106R1	R 46,733.00	1SDA072736R1	R 51,085.00
	1000	50	42	E1.2C 1000 Ekip Touch LI	1SDA072144R1	R 32,370.00	1SDA072774R1	R 36,744.00
				E1.2C 1000 Ekip Touch LSI	1SDA072145R1	R 41,330.00	1SDA072775R1	R 45,704.00
				E1.2C 1000 Ekip Touch LSIG	1SDA072146R1	R 46,889.00	1SDA072776R1	R 51,263.00
	1250	50	42	E1.2C 1250 Ekip Touch LI	1SDA072184R1	R 32,842.00	1SDA072814R1	R 37,283.00
				E1.2C 1250 Ekip Touch LSI	1SDA072185R1	R 41,802.00	1SDA072815R1	R 46,242.00
				E1.2C 1250 Ekip Touch LSIG	1SDA072186R1	R 47,361.00	1SDA072816R1	R 51,801.00
	1600	50	42	E1.2C 1600 Ekip Touch LI	1SDA072224R1	R 33,628.00	1SDA072854R1	R 38,179.00
				E1.2C 1600 Ekip Touch LSI	1SDA072225R1	R 42,588.00	1SDA072855R1	R 47,139.00
				E1.2C 1600 Ekip Touch LSIG	1SDA072226R1	R 48,147.00	1SDA072856R1	R 52,697.00



SACE Emax2 E1.2N Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2N	250	66	50	E1.2N 250 Ekip Touch LI	1SDA072044R1	R 36,500.00	1SDA072674R1	R 41,455.00
				E1.2N 250 Ekip Touch LSI	1SDA072045R1	R 46,005.00	1SDA072675R1	R 51,034.00
				E1.2N 250 Ekip Touch LSIG	1SDA072046R1	R 49,700.00	1SDA072676R1	R 54,547.00
	630	66	50	E1.2N 630 Ekip Touch LI	1SDA072074R1	R 37,045.00	1SDA072704R1	R 42,074.00
				E1.2N 630 Ekip Touch LSI	1SDA072075R1	R 46,005.00	1SDA072705R1	R 51,034.00
				E1.2N 630 Ekip Touch LSIG	1SDA072076R1	R 49,700.00	1SDA072706R1	R 54,547.00
	800	66	50	E1.2N 800 Ekip Touch LI	1SDA072114R1	R 37,045.00	1SDA072744R1	R 42,074.00
				E1.2N 800 Ekip Touch LSI	1SDA072115R1	R 46,005.00	1SDA072745R1	R 51,034.00
				E1.2N 800 Ekip Touch LSIG	1SDA072116R1	R 51,564.00	1SDA072746R1	R 56,593.00
	1000	66	50	E1.2N 1000 Ekip Touch LI	1SDA072154R1	R 37,225.00	1SDA072784R1	R 42,279.00
				E1.2N 1000 Ekip Touch LSI	1SDA072155R1	R 46,185.00	1SDA072785R1	R 51,239.00
				E1.2N 1000 Ekip Touch LSIG	1SDA072156R1	R 51,745.00	1SDA072786R1	R 56,799.00
	1250	66	50	E2.2N 1250 Ekip Touch LI	1SDA072194R1	R 37,768.00	1SDA072824R1	R 42,898.00
				E2.2N 1250 Ekip Touch LSI	1SDA072195R1	R 46,728.00	1SDA072825R1	R 51,858.00
				E2.2N 1250 Ekip Touch LSIG	1SDA072196R1	R 52,287.00	1SDA072826R1	R 57,417.00
	1600	66	50	E1.2N 1600 Ekip Touch LI	1SDA072234R1	R 38,672.00	1SDA072864R1	R 43,929.00
				E1.2N 1600 Ekip Touch LSI	1SDA072235R1	R 47,632.00	1SDA072865R1	R 52,889.00
				E1.2N 1600 Ekip Touch LSIG	1SDA072236R1	R 53,191.00	1SDA072866R1	R 58,448.00



Cradles for Withdrawble Air Circuit Breakers and Switch-disconnectors

Fixed Part for E1.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2	B, C, N, L	250 – 1600	HR – HR	E1.2 W FP Iu=1600 HR HR	1SDA073907R1	R 11,846.00	1SDA073908R1	R 15,400.00

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Automatic Circuit Breakers for Emax2 – SACE Emax2 Withdrawable version for power distribution

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard Withdrawable version



SACE Emax2 E1.2B-N/MS Mobile part of withdrawable circuit-breaker (MP)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E1.2B/MS	630		42	E1.2B/MS 630	1SDA073476R1	R 26,388.00	1SDA073515R1	R 29,966.00
	800			E1.2B/MS 800	1SDA073478R1	R 26,388.00	1SDA073517R1	R 29,966.00
	1000			E1.2B/MS 1000	1SDA073480R1	R 27,297.00	1SDA073519R1	R 31,003.00
	1250			E1.2B/MS 1250	1SDA073482R1	R 28,101.00	1SDA073521R1	R 31,919.00
	1600			E1.2B/MS 1600	1SDA073484R1	R 28,518.00	1SDA073523R1	R 32,395.00
E1.2N/MS	250		50	E1.2N/MS 250	1SDA073475R1	R 32,875.00	1SDA073514R1	R 37,361.00
	630			E1.2N/MS 630	1SDA073477R1	R 32,875.00	1SDA073516R1	R 37,361.00
	800			E1.2N/MS 800	1SDA073479R1	R 32,875.00	1SDA073518R1	R 37,361.00
	1000			E1.2N/MS 1000	1SDA073481R1	R 33,056.00	1SDA073520R1	R 37,568.00
	1250			E1.2N/MS 1250	1SDA073483R1	R 33,598.00	1SDA073522R1	R 38,186.00
	1600			E1.2N/MS 1600	1SDA073485R1	R 34,502.00	1SDA073524R1	R 39,216.00



SACE Emax2 E2.2B-N Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E2.2B	1600	42	42	E2.2B 1600 Ekip Touch LI	1SDA072334R1	R 34,881.00	1SDA072964R1	R 45,008.00
				E2.2B 1600 Ekip Touch LSI	1SDA072335R1	R 43,841.00	1SDA072965R1	R 53,968.00
				E2.2B 1600 Ekip Touch LSIG	1SDA072336R1	R 49,400.00	1SDA072966R1	R 59,526.00
	2000	42	42	E2.2B 2000 Ekip Touch LI	1SDA072374R1	R 40,113.00	1SDA073004R1	R 51,809.00
				E2.2B 2000 Ekip Touch LSI	1SDA072375R1	R 49,073.00	1SDA073005R1	R 60,769.00
				E2.2B 2000 Ekip Touch LSIG	1SDA072376R1	R 54,633.00	1SDA073006R1	R 66,329.00
E2.2N	800	66	66	E2.2N 800 Ekip Touch LI	1SDA072244R1	R 38,828.00	1SDA072874R1	R 50,139.00
				E2.2N 800 Ekip Touch LSI	1SDA072245R1	R 47,788.00	1SDA072875R1	R 59,099.00
				E2.2N 800 Ekip Touch LSIG	1SDA072246R1	R 53,347.00	1SDA072876R1	R 64,658.00
	1000	66	66	E2.2N 1000 Ekip Touch LI	1SDA072274R1	R 38,828.00	1SDA072904R1	R 50,139.00
				E2.2N 1000 Ekip Touch LSI	1SDA072275R1	R 47,788.00	1SDA072905R1	R 59,099.00
				E2.2N 1000 Ekip Touch LSIG	1SDA072276R1	R 53,347.00	1SDA072906R1	R 64,658.00
	1250	66	66	E2.2N 1250 Ekip Touch LI	1SDA072304R1	R 40,215.00	1SDA072934R1	R 51,942.00
				E2.2N 1250 Ekip Touch LSI	1SDA072305R1	R 49,175.00	1SDA072935R1	R 60,902.00
				E2.2N 1250 Ekip Touch LSIG	1SDA072306R1	R 54,735.00	1SDA072936R1	R 66,462.00
	1600	66	66	E2.2N 1600 Ekip Touch LI	1SDA072344R1	R 42,002.00	1SDA072974R1	R 54,265.00
				E2.2N 1600 Ekip Touch LSI	1SDA072345R1	R 50,962.00	1SDA072975R1	R 63,225.00
				E2.2N 1600 Ekip Touch LSIG	1SDA072346R1	R 56,522.00	1SDA072976R1	R 68,785.00
	2000	66	66	E2.2N 2000 Ekip Touch LI	1SDA072384R1	R 43,790.00	1SDA073014R1	R 56,589.00
				E2.2N 2000 Ekip Touch LSI	1SDA072385R1	R 52,750.00	1SDA073015R1	R 65,549.00
				E2.2N 2000 Ekip Touch LSIG	1SDA072386R1	R 58,309.00	1SDA073016R1	R 71,108.00
	2500	66	66	E2.2N 2500 Ekip Touch LI	1SDA072414R1	R 57,193.00	1SDA073044R1	R 74,013.00
				E2.2N 2500 Ekip Touch LSI	1SDA072415R1	R 66,153.00	1SDA073045R1	R 82,973.00
				E2.2N 2500 Ekip Touch LSIG	1SDA072416R1	R 71,713.00	1SDA073046R1	R 88,533.00

Automatic Circuit Breakers for Emax2 – SACE Emax2 Withdrawable version for power distribution



Cradles for Withdrawble Air Circuit Breakers and Switch-disconnectors

Fixed Part for E2.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E2.2	B, N, S, H	250 – 2000	HR – HR	E2.2 W FP Iu=2000 HR HR	1SDA073909R1	R 16,596.00	1SDA073910R1	R 21,575.00
	N, S, H	2500	HR – HR	E2.2 W FP Iu=2500 HR HR	1SDA073911R1	R 21,815.00	1SDA073912R1	R 28,360.00

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard Withdrawable version



SACE Emax2 E2.2B-N-H/MS Mobile part of withdrawable circuit-breaker (MP)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E2.2B/MS	1600		42	E2.2B/MS 1600	1SDA073492R1	R 30,711.00	1SDA073531R1	R 40,003.00
	2000			E2.2B/MS 2000	1SDA073495R1	R 35,943.00	1SDA073534R1	R 46,805.00
E2.2N/MS	800		66	E2.2N/MS 800	1SDA073486R1	R 34,917.00	1SDA073525R1	R 45,471.00
	1000			E2.2N/MS 1000	1SDA073488R1	R 34,917.00	1SDA073527R1	R 45,471.00
	1250			E2.2N/MS 1250	1SDA073490R1	R 36,314.00	1SDA073529R1	R 47,287.00
	1600			E2.2N/MS 1600	1SDA073493R1	R 38,113.00	1SDA073532R1	R 49,626.00
	2000			E2.2N/MS 2000	1SDA073496R1	R 39,912.00	1SDA073535R1	R 51,964.00
	2500			E2.2N/MS 2500	1SDA073498R1	R 53,405.00	1SDA073537R1	R 69,505.00

SACE Emax2 E4.2N-S Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2N	3200	66	66	E4.2N 3200 Ekip Touch LI	1SDA072494R1	R 66,830.00	1SDA073124R1	R 93,112.00
				E4.2N 3200 Ekip Touch LSI	1SDA072495R1	R 75,790.00	1SDA073125R1	R 102,071.00
				E4.2N 3200 Ekip Touch LSIG	1SDA072496R1	R 81,349.00	1SDA073126R1	R 107,630.00
	4000	66	66	E4.2N 4000 Ekip Touch LI	1SDA072544R1	R 71,840.00	1SDA073174R1	R 100,125.00
				E4.2N 4000 Ekip Touch LSI	1SDA072545R1	R 80,800.00	1SDA073175R1	R 109,085.00
				E4.2N 4000 Ekip Touch LSIG	1SDA072546R1	R 86,359.00	1SDA073176R1	R 114,644.00
E4.2S	3200	85	66	E4.2S 3200 Ekip Touch LI	1SDA072504R1	R 80,196.00	1SDA073134R1	R 111,824.00
				E4.2S 3200 Ekip Touch LSI	1SDA072505R1	R 89,156.00	1SDA073135R1	R 120,784.00
				E4.2S 3200 Ekip Touch LSIG	1SDA072506R1	R 94,715.00	1SDA073136R1	R 126,343.00
	4000	85	66	E4.2S 4000 Ekip Touch LI	1SDA072554R1	R 86,208.00	1SDA073184R1	R 120,241.00
				E4.2S 4000 Ekip Touch LSI	1SDA072555R1	R 95,168.00	1SDA073185R1	R 129,201.00
				E4.2S 4000 Ekip Touch LSIG	1SDA072556R1	R 100,727.00	1SDA073186R1	R 134,760.00

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Automatic Circuit Breakers for Emax2 – SACE Emax2 Withdrawable version for power distribution



SACE Emax2 E4.2H-V Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2H	3200	100	85	E4.2S 3200 Ekip Touch LI	1SDA072514R1	R 98,000.00	1SDA073144R1	R 136,760.00
				E4.2S 3200 Ekip Touch LSI	1SDA072515R1	R 109,205.00	1SDA073145R1	R 148,852.00
				E4.2S 3200 Ekip Touch LSIG	1SDA072516R1	R 114,764.00	1SDA073146R1	R 154,411.00
	4000	100	85	E4.2S 4000 Ekip Touch LI	1SDA072564R1	R 107,760.00	1SDA073194R1	R 150,413.00
				E4.2S 4000 Ekip Touch LSI	1SDA072565R1	R 116,720.00	1SDA073195R1	R 159,373.00
				E4.2S 4000 Ekip Touch LSIG	1SDA072566R1	R 122,279.00	1SDA073196R1	R 164,932.00
E4.2V	2000	150	100	E4.2V 2000 Ekip Touch LI	1SDA072454R1	R 117,612.00	1SDA073084R1	R 133,920.00
				E4.2V 2000 Ekip Touch LSI	1SDA072455R1	R 126,572.00	1SDA073085R1	R 142,880.00
				E4.2V 2000 Ekip Touch LSIG	1SDA072456R1	R 132,132.00	1SDA073086R1	R 148,440.00
	2500	150	100	E4.2V 2500 Ekip Touch LI	1SDA072474R1	R 123,802.00	1SDA073104R1	R 140,977.00
				E4.2V 2500 Ekip Touch LSI	1SDA072475R1	R 132,762.00	1SDA073105R1	R 149,937.00
				E4.2V 2500 Ekip Touch LSIG	1SDA072476R1	R 138,322.00	1SDA073106R1	R 155,497.00
	3200	150	100	E4.2V 3200 Ekip Touch LI	1SDA072524R1	R 130,318.00	1SDA073154R1	R 148,405.00
				E4.2V 3200 Ekip Touch LSI	1SDA072525R1	R 139,278.00	1SDA073155R1	R 157,365.00
				E4.2V 3200 Ekip Touch LSIG	1SDA072526R1	R 144,838.00	1SDA073156R1	R 162,925.00
	4000	150	100	E4.2V 4000 Ekip Touch LI	1SDA072574R1	R 140,087.00	1SDA073204R1	R 159,542.00
				E4.2V 4000 Ekip Touch LSI	1SDA072575R1	R 149,047.00	1SDA073205R1	R 168,502.00
				E4.2V 4000 Ekip Touch LSIG	1SDA072576R1	R 154,607.00	1SDA073206R1	R 174,062.00



Cradles for Withdrawble Air Circuit Breakers and Switch-disconnectors

Fixed Part for E4.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2	N, S, H	3200	HR – HR	E4.2 W FP Iu=3200 HR HR	1SDA073913R1	R 24,974.00	1SDA073914R1	R 32,467.00
	N, S, H	4000	HR – HR	E4.2 W FP Iu=4000 or V version HR HR	1SDA073915R1	R 26,847.00	1SDA073916R1	R 34,902.00
	V	2000 – 4000	HR – HR	E4.2 W FP Iu=4000 or V version HR HR	1SDA073915R1	R 26,847.00	1SDA073916R1	R 34,902.00

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard Withdrawable version



SACE Emax2 E4.2N-H-V/MS Mobile part of withdrawable circuit-breaker (MP)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E4.2N/MS	3200		66	E4.2N/MS 3200	1SDA073502R1	R 62,189.00	1SDA073541R1	R 87,310.00
	4000			E4.2N/MS 4000	1SDA073505R1	R 67,199.00	1SDA073544R1	R 94,324.00
E4.2H/MS	3200		85	E4.2H/MS 3200	1SDA073503R1	R 95,604.00	1SDA073542R1	R 134,091.00
	4000			E4.2H/MS 4000	1SDA073506R1	R 103,118.00	1SDA073545R1	R 144,611.00
E4.2V/MS	2000		100	E4.2V/MS 2000	1SDA073500R1	R 112,971.00	1SDA073539R1	R 128,593.00
	2500			E4.2V/MS 2500	1SDA073501R1	R 119,161.00	1SDA073540R1	R 135,650.00
	3200			E4.2V/MS 3200	1SDA073504R1	R 125,677.00	1SDA073543R1	R 143,078.00
	4000			E4.2V/MS 4000	1SDA073507R1	R 135,446.00	1SDA073546R1	R 154,215.00

Automatic Circuit Breakers for Emax2 – SACE Emax2 Withdrawable version for power distribution



SACE Emax2 E6.2H-V Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E6.2H	4000	100	100	E6.2H 4000 Ekip Touch LI	1SDA072584R1	R 161,639.00	1SDA073214R1	R 225,844.00
				E6.2H 4000 Ekip Touch LSI	1SDA072585R1	R 170,599.00	1SDA073215R1	R 234,804.00
				E6.2H 4000 Ekip Touch LSIG	1SDA072586R1	R 176,159.00	1SDA073216R1	R 240,364.00
	5000	100	100	E6.2H 5000 Ekip Touch LI	1SDA072614R1	R 202,049.00	1SDA073244R1	R 282,418.00
				E6.2H 5000 Ekip Touch LSI	1SDA072615R1	R 211,009.00	1SDA073245R1	R 291,378.00
				E6.2H 5000 Ekip Touch LSIG	1SDA072616R1	R 216,568.00	1SDA073246R1	R 296,937.00
	6300	100	100	E6.2H 6300 Ekip Touch LI	1SDA072644R1	R 262,663.00	1SDA073274R1	R 367,278.00
				E6.2H 6300 Ekip Touch LSI	1SDA072645R1	R 271,623.00	1SDA073275R1	R 376,238.00
				E6.2H 6300 Ekip Touch LSIG	1SDA072646R1	R 277,183.00	1SDA073276R1	R 381,798.00
E6.2V	4000	150	100	E6.2V 4000 Ekip Touch LI	1SDA072594R1	R 210,131.00	1SDA073224R1	R 293,733.00
				E6.2V 4000 Ekip Touch LSI	1SDA072595R1	R 219,091.00	1SDA073225R1	R 302,693.00
				E6.2V 4000 Ekip Touch LSIG	1SDA072596R1	R 224,650.00	1SDA073226R1	R 308,252.00
	5000	150	100	E6.2V 5000 Ekip Touch LI	1SDA072624R1	R 262,663.00	1SDA073254R1	R 367,278.00
				E6.2V 5000 Ekip Touch LSI	1SDA072625R1	R 271,623.00	1SDA073255R1	R 376,238.00
				E6.2V 5000 Ekip Touch LSIG	1SDA072626R1	R 277,183.00	1SDA073256R1	R 381,798.00
	6300	150	100	E6.2V 6300 Ekip Touch LI	1SDA072654R1	R 341,462.00	1SDA073284R1	R 477,596.00
				E6.2V 6300 Ekip Touch LSI	1SDA072655R1	R 350,422.00	1SDA073285R1	R 486,556.00
				E6.2V 6300 Ekip Touch LSIG	1SDA072656R1	R 355,982.00	1SDA073286R1	R 492,117.00

Cradles for Withdrawble Air Circuit Breakers and Switch-disconnectors



Fixed Part for E6.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E6.2	H, V	4000 - 5000	HR - HR	E6.2 W FP Iu=5000 HR HR	1SDA073917R1	R 61,803.00	1SDA073918R1	R 80,344.00
	H, V, X	4000 - 6300	HR - HR	E6.2 W FP Iu=6300 or X version HR HR	1SDA073920R1	R 65,008.00	1SDA073921R1	R 84,511.00

Switch-disconnectors:

Switch-disconnectors, identified with the abbreviation "/MS", are devices that satisfy the isolating specifications provided by the IEC 60947-3 Standard
Withdrawable version



SACE Emax2 E6.2H-X /MS Mobile part of withdrawable circuit-breaker (MP)

Size	Iu		Icw (1s)	Type	3 Poles		4 Poles	
					Code	Price	Code	Price
E6.2H/MS	4000		100	E6.2H/MS 4000	1SDA073508R1	R 156,998.00	1SDA073547R1	R 220,043.00
	5000		100	E6.2H/MS 5000	1SDA073510R1	R 197,408.00	1SDA073549R1	R 276,617.00
	6300		100	E6.2H/MS 6300	1SDA073512R1	R 258,022.00	1SDA073551R1	R 361,476.00

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Automatic Circuit Breakers
SACE Emax2 – Accessories



Shunt Opening Releases (SOR)

Description	Order Code	For Use with	Price
YO E1.2..E6.2 24V AC/DC	1SDA073668R1	E1.2..E6.2	R 2,763.00
YO E1.2..E6.2 110-120V AC/DC	1SDA073672R1	E1.2..E6.2	R 2,763.00
YO E1.2..E6.2 220-240V AC/DC	1SDA073674R1	E1.2..E6.2	R 2,763.00
YO E1.2..E6.2 380-400V AC	1SDA073677R1	E1.2..E6.2	R 2,763.00

Shunt Closing Releases (SCR)

Description	Order Code	For Use with	Price
YC E1.2..E6.2 24V AC/DC	1SDA073681R1	E1.2..E6.2	R 2,763.00
YC E1.2..E6.2 110-120V AC/DC	1SDA073685R1	E1.2..E6.2	R 2,763.00
YC E1.2..E6.2 220-240V AC/DC	1SDA073687R1	E1.2..E6.2	R 2,763.00
YC E1.2..E6.2 380-400V AC	1SDA073690R1	E1.2..E6.2	R 2,763.00

Under Voltage Release -YU

Description	Order Code	For Use with	Price
YU E1.2..E6.2 24V AC/DC	1SDA073694R1	E1.2..E6.2	R 2,929.00
YU E1.2..E6.2 110-120V AC/DC	1SDA073698R1	E1.2..E6.2	R 2,929.00
YU E1.2..E6.2 220-240V AC/DC	1SDA073700R1	E1.2..E6.2	R 2,929.00
YU E1.2..E6.2 380-400V AC	1SDA073703R1	E1.2..E6.2	R 2,929.00



Motor Operators (MOE)

Description	Order Code	For Use with	Price
M E1.2 24-30V AC/DC	1SDA073708R1	E1.2	R 12,768.00
M E1.2 100-130V AC/DC	1SDA073710R1	E1.2	R 12,768.00
M E1.2 220-250V AC/DC	1SDA073711R1	E1.2	R 12,768.00
M E1.2 380-415V AC	1SDA073713R1	E1.2	R 12,015.00
M E2.2...E6.2 24-30V AC/DC	1SDA073722R1	E2.2...E6.2	R 13,318.00
M E2.2...E6.2 100-130V AC/DC	1SDA073724R1	E2.2...E6.2	R 13,318.00
M E2.2...E6.2 220-250V AC/DC	1SDA073725R1	E2.2...E6.2	R 13,318.00
M E2.2...E6.2 380-415V AC	1SDA073727R1	E2.2...E6.2	R 13,318.00



Open/Closed Auxiliary Contacts – AUX

Description	Order Code	For Use with	Price
AUX 4Q 400V E1.2	1SDA073750R1	E1.2	R 583.00
AUX 4Q 24V E1.2	1SDA073751R1	E1.2	R 583.00
AUX 4Q 400V E2.2...E6.2	1SDA073753R1	E2.2...E6.2	R 2,567.00
AUX 4Q 24V E2.2...E6.2	1SDA073754R1	E2.2...E6.2	R 2,567.00
S51 250V contact signalling unit for Ekip trip	1SDA073776R1	E1.2	R 1,270.00
S51 24V contact signalling unit for Ekip trip	1SDA073777R1	E1.2	R 1,270.00
S51 250V contact signalling unit for Ekip trip	1SDA073778R1	E2.2...E6.2	R 1,270.00
S51 24V contact signalling unit for Ekip trip	1SDA073779R1	E2.2..E6.2	R 1,270.00

Auxiliary Position Contacts – AUP

Description	Order Code	For Use With	Price
AUP 6 contacts 400V E1.2	1SDA073762R1	E1.2	R 2,436.00
AUP 6 contacts 24V E1.2	1SDA073763R1	E1.2	R 3,031.00
AUP 5 contacts 400V E2.2...E6.2 - left set	1SDA073764R1	E2.2..E6.2	R 1,958.00
AUP 5 contacts 24V E2.2...E6.2 - left set	1SDA073765R1	E2.2..E6.2	R 2,436.00
AUP 5 suppl. contacts 400V E2.2...E6.2 - right set	1SDA073766R1	E2.2..E6.2	R 1,958.00
AUP 5 suppl. contacts 24V E2.2...E6.2 - right set	1SDA073767R1	E2.2..E6.2	R 2,436.00

Automatic Circuit Breakers
SACE Emax2 – Accessories



Key Lock in Open Position – KLC

Description	Order Code	For Use With	Price
KLC-D Bl. Key lock open E1.2	1SDA073782R1	E1.2	R 1,051.00
KLC-S Bl. Key lock open N.20005 E1.2	1SDA073783R1	E1.2	R 1,051.00
KLC-S Bl. Key lock open N.20006 E1.2	1SDA073784R1	E1.2	R 1,051.00
KLC-S Bl. Key lock open N.20007 E1.2	1SDA073785R1	E1.2	R 1,051.00
KLC-S Bl. Key lock open N.20008 E1.2	1SDA073786R1	E1.2	R 1,051.00
KLC-S Bl. Key lock open N.20009 E1.2	1SDA073787R1	E1.2	R 1,051.00
KLC-D Bl. Key lock open E2.2...E6.2	1SDA073791R1	E2.2..E6.2	R 1,132.00
KLC-S Bl. key lock AP N.20005 E2.2..E6.2	1SDA073792R1	E2.2..E6.2	R 1,132.00
KLC-S Bl. key lock AP N.20006 E2.2..E6.2	1SDA073793R1	E2.2..E6.2	R 1,132.00
KLC-S Bl. key lock AP N.20007 E2.2..E6.2	1SDA073794R1	E2.2..E6.2	R 1,132.00
KLC-S Bl. key lock AP N.20008 E2.2..E6.2	1SDA073795R1	E2.2..E6.2	R 1,132.00
KLC-S Bl. key lock AP N.20009 E2.2..E6.2	1SDA073796R1	E2.2..E6.2	R 1,132.00

Padlocks in Open Position – PLC

Description	Order Code	For Use With	Price
PLC E1.2 Bl. Padlocks in open position D=7mm	1SDA073801R1	E1.2	R 614.00
PLC E2.2..E6.2 Bl. Padlocks in open position D=7mm	1SDA073804R1	E2.2..E6.2	R 614.00



Key Lock in Racked-in / Test / Racked-out Position- KLP

Description	Order Code	For Use With	Price
KLP-D Bl. Racked in/out E1.2 1st key	1SDA073822R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20005 E1.2 1st key	1SDA073823R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20006 E1.2 1st key	1SDA073824R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20007 E1.2 1st key	1SDA073825R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20008 E1.2 1st key	1SDA073826R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20009 E1.2 1st key	1SDA073827R1	E1.2	R 944.00
KLP-D Bl. Racked in/out E1.2 2nd key	1SDA073828R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20005 E1.2 2nd key	1SDA073829R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20006 E1.2 2nd key	1SDA073830R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20007 E1.2 2nd key	1SDA073831R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20008 E1.2 2nd key	1SDA073832R1	E1.2	R 944.00
KLP-S Bl. Racked in/out N.20009 E1.2 2nd key	1SDA073833R1	E1.2	R 944.00
KLP-D Bl. Racked in/out E2.2...E6.2 1st key	1SDA073806R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20005 E2.2..E6.2 1st key	1SDA073807R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20006 E2.2..E6.2 1st key	1SDA073808R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20007 E2.2..E6.2 1st key	1SDA073809R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20008 E2.2..E6.2 1st key	1SDA073810R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20009 E2.2..E6.2 1st key	1SDA073811R1	E2.2..E6.2	R 1,134.00
KLP-D Bl. Racked in/out E2.2...E6.2 2nd key	1SDA073812R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20005 E2.2..E6.2 2nd key	1SDA073813R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20006 E2.2..E6.2 2nd key	1SDA073814R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20007 E2.2..E6.2 2nd key	1SDA073815R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20008 E2.2..E6.2 2nd key	1SDA073816R1	E2.2..E6.2	R 1,134.00
KLP-S Bl. Racked in/out N.20009 E2.2..E6.2 2nd key	1SDA073817R1	E2.2..E6.2	R 1,134.00

Protection Device for Opening and Closing Pushbuttons – PBC

Description	Order Code	For Use With	Price
PBC Prot. Pushbuttons AP/CH D=7mm E1.2	1SDA073856R1	E1.2	R 611.00
PBC Prot. Pushbuttons AP/CH D=7mm E2.2..E6.2	1SDA073860R1	E2.2..E6.2	R 611.00



Circuit-breaker Flange

Description	Order Code	For Use With	Price
IP30 Flange E1.2 F	1SDA073862R1	E1.2	R 486.00
IP30 Flange E1.2 W	1SDA073863R1	E1.2	R 711.00
IP30 Flange E2.2...E6.2 F	1SDA073864R1	E2.2..E6.2	R 842.00
IP30 Flange E2.2...E6.2 W	1SDA073865R1	E2.2..E6.2	R 1,077.00

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Automatic Circuit Breakers
SACE Emax2 – Accessories

Mechanical Interlock

Ordering for mechanical Interlocks.

Interlocks have several strategy configuration, suitable for fixed circuit-breakers and withdrawable circuit-breakers.

Each configuration requires different groups:

– **Cables**, select one Kit for strategy A / B / C / D. The cables must be ordered on fixed circuit-breaker or fixed part of withdrawable circuit-breaker.

– **Lever**, required only for E2.2, E4.2 and E6.2. These lever must be mounted on fixed circuit-breaker or on mobile part of withdrawable circuit-breaker.

– **Support**, installed on fixed circuit-breaker or on fixed part of withdrawable circuit-breaker. This support is mounted on the external right side of the circuit-breaker.

Cables for mechanical interlock [Group1](1 set per interlock type)

Description	Order Code	For Use With	Price
Type A horizontal	1SDA073881R1	E1.2...E6.2	R 1,942.00
Type B,C,D horizontal	1SDA073882R1	E2.2...E6.2	R 4,500.00
Type A vertical	1SDA073885R1	E1.2...E6.2	R 1,942.00
Type B,C,D vertical	1SDA073886R1	E2.2...E6.2	R 3,868.00

Level for mechanical interlock of fixed circuit breaker or mobile part [Group 2](1 per breaker)

Description	Order Code	For Use With	Price
Lever for mechanical interlock	1SDA073889R1	Lever interlock E2.2	R 2,900.00
Lever for mechanical interlock	1SDA073890R1	Lever interlock E4.2	R 3,500.00
Lever for mechanical interlock	1SDA073891R1	Lever interlock E6.2 3p	R 3,500.00

Support for mechanical interlock of fixed circuit breaker [Group 3](1 per breaker)

Description	Order Code	For Use With	Price
Type A- Floor mounted	1SDA073893R1	Support fixed Type A E1.2 floor mounted	R 3,771.00
Type A – Wall mounted	1SDA073894R1	Support fixed Type A E1.2 wall mounted	R 3,771.00
Type A / B / D	1SDA073895R1	Support F/FP Type A,B,D E2.2 – E6.2	R 3,771.00
Type C	1SDA073897R1	Support F/FP Type C E2.2 – E6.2	R 3,771.00



Support for mechanical interlock of fixed part [Group 4](1 per cradle)

Description	Order Code	For Use With	Price
Type A	1SDA073896R1	Support for fixed part Type A E1.2	R 3,771.00
Type A / B / D	1SDA073895R1	Support F/FP Type A,B,D E2.2 – E6.2	R 3,771.00
Type C	1SDA073897R1	Support F/FP Type C E2.2 – E6.2	R 3,771.00



Options for Ekip electrical trip units

Description	Order Code	For Use With	Price
Upper internal installed voltage outlets	1SDA074216R1	E1.2..E6.2	POR
External installed voltage outlets	1SDA074217R1	E1.2..E6.2	POR



Displaying and supervision systems

Description	Order Code	For Use With	Price
Ekip T&P – Programming and Test unit	1SDA066989R1	E1.2..E6.2	R 24,181.00
Ekip TT – Trip Test unit	1SDA066988R1	E1.2..E6.2	R 1,371.00
Ekip Programming	1SDA076154R1	E1.2..E6.2	R 5,675.00
Ekip Multimeter Display on front of switchgear*	1SDA074192R1	E1.2..E6.2	R 7,789.00



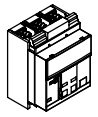
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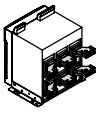
Description	Order Code	For Use With	Price
Ekip Com Modbus RS-485	1SDA074150R1	E1.2..E6.2	R 9,372.00
Ekip Com Modbus TCP	1SDA074151R1	E1.2..E6.2	R 9,490.00
Ekip Com Profibus	1SDA074152R1	E1.2..E6.2	R 9,372.00
Ekip Com Profinet	1SDA074153R1	E1.2..E6.2	R 9,490.00
Ekip Com DeviceNet	1SDA074154R1	E1.2..E6.2	R 9,372.00
Ekip Com EtherNet/IP	1SDA074155R1	E1.2..E6.2	R 9,490.00
Ekip Com IEC61850	1SDA074156R1	E1.2..E6.2	POR
Ekip Com R Modbus RS-485	1SDA074157R1	E1.2..E6.2	R 8,030.00
Ekip Com R Profibus	1SDA074159R1	E1.2..E6.2	R 8,030.00
Ekip Bluetooth	1SDA074164R1	E1.2..E6.2	R 13,930.00
Ekip ComActuator	1SDA074166R1	E1.2..E6.2	R 5,836.00

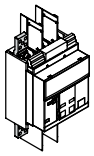


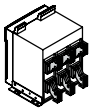


Automatic Circuit Breakers
SACE Emax2 – Accessories


Front terminal – F

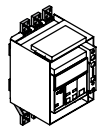

Horizontal rear spread terminal – SHR

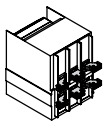

Extended front terminal – EF

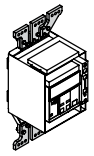

Vertical rear spread terminal – SVR

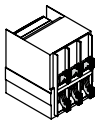
Kit for terminals – loose supply for fixed circuit-breaker

Size	Version	Iu Max	Type	3 Pieces		4 Pieces	
				Code	Price	Code	Price
E1.2	F	1600	Kit EF	1SDA073967R1	R 7,401.00	1SDA073968R1	R 9,869.00
E1.2	F	1600	Kit F	1SDA073973R1	R 1,548.00	1SDA073974R1	R 2,064.00
E1.2	F	1600	Kit ES	1SDA073979R1	R 11,184.00	1SDA073980R1	R 14,912.00
E1.2	F	1600	Kit Adjustable HR/VR	1SDA073989R1	R 4,714.00	1SDA073990R1	R 6,285.00
E2.2	F	2000	Kit SHR	1SDA074049R1	R 9,562.00	1SDA074050R1	R 12,750.00
E2.2	F	2500	Kit SHR	1SDA074055R1	R 14,430.00	1SDA074056R1	R 19,239.00
E2.2	F	2000	Kit SVR	1SDA074061R1	R 10,476.00	1SDA074062R1	R 13,968.00
E2.2	F	2500	Kit SVR	1SDA074067R1	R 15,662.00	1SDA074068R1	R 20,883.00
E4.2	F	4000	Kit F Upper	1SDA074130R1	R 41,592.00	1SDA074131R1	R 55,456.00
E4.2	F	4000	Kit F Lower	1SDA074132R1	R 38,690.00	1SDA074133R1	R 51,586.00


Extended front terminal – EF


Horizontal rear terminal – SHR


Front spread terminal – ES


Vertical rear spread terminal – SVR

Kit for terminals – loose supply for fixed part of withdrawable circuit-breaker

Size	Version	Iu Max	Type	3 Poles		4 Poles	
				Code	Price	Code	Price
E1.2	W	1600	Kit EF	1SDA073943R1	R 16,358.00	1SDA073944R1	R 21,812.00
E1.2	W	1600	Kit Adjustable HR/VR	1SDA073949R1	R 4,713.00	1SDA073950R1	R 6,121.00
E1.2	W	1600	Kit ES	1SDA073955R1	R 8,603.00	1SDA073956R1	R 11,470.00
E1.2	W	1600	Kit SHR	1SDA073961R1	R 9,468.00	1SDA073962R1	R 12,360.00
E2.2	W	2000	Kit SHR	1SDA074049R1	R 9,562.00	1SDA074050R1	R 12,750.00
E2.2	W	2500	Kit SHR	1SDA074055R1	R 14,430.00	1SDA074056R1	R 19,239.00
E2.2	W	2000	Kit SVR	1SDA074061R1	R 10,476.00	1SDA074062R1	R 13,968.00
E2.2	W	2500	Kit SVR	1SDA074067R1	R 15,662.00	1SDA074068R1	R 20,883.00
E2.2	W	2500	Kit F Upper	1SDA074090R1	R 23,077.00	1SDA074091R1	R 30,769.00
E2.2	W	2500	Kit F Lower	1SDA074092R1	R 20,604.00	1SDA074093R1	R 27,475.00
E4.2	W	3200	Kit Adjustable HR/VR	1SDA074019R1	R 10,080.00	1SDA074020R1	R 13,440.00
E4.2	W	4000	Kit Adjustable HR/VR	1SDA074025R1	R 14,512.00	1SDA074026R1	R 19,349.00

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Switches
Switch-disconnectors

Switch-disconnectors OT

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Change-over, bypass and transfer switches OT, OT_Y and OTM

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Switch-disconnectors OTDC and OTDCP

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Switch-disconnectors
Technical data for OT16...125

Technical data according to IEC 60947-3				Size [A] / Switch type
				16 / OT16F
Rated insulation voltage and rated operational voltage AC20/DC20 Dielectric strength Rated impulse withstand voltage	Pollution degree 3	50 Hz 1min.	V kV kV	750 6 8
Rated thermal current and rated operational current AC20/DC20 ..with minimum conductor cross section	Ambient 40°C[2] Ambient 40°C[2] Ambient 60°C	In open air In enclosure In enclosure Cu	A A A mm^2	25 25 20 4
Rated operational current, AC-21A		up to 415 V 440...690 V	A A	16 16
Rated operational current, AC-22A		up to 415 V 440...500 V 690 V	A A A	16 16 16
Rated operational current, AC-23A		up to 415 V 440 V 500 V 690 V	A A A A	16 16 16 10
Rated operational current / poles in series, DC-21A		24...48 V[1] 110 V 220 V 440 V 500 V 750 V	A A A A A A	16/1 16/2 16/3 16/4 16/4 16/8
Rated operational current / poles in series, DC-22A		24...48 V[1] 110 V 220 V 440 V 750 V	A A A A A	16/1 16/2 16/3 10/4 16/8
Rated operational current / poles in series, DC-23A		24...48 V[1] 110 V 220 V 440 V 750 V	A A A A A	16/1 16/2 16/4 10/4 16/8
Rated operational power, AC-23A (These values are given for guidance and may vary acc. to the motor manufacturer)		220...240 V 400...415 V 440 V 500 V 690 V	kW kW kW kW kW	3 7.5 7.5 7.5 7.5
Rated breaking capacity, AC-23A		up to 415 V 440 V 500 V 690 V	A A A A	128 128 128 80
Rated breaking capacity/poles in series, DC-23A		24...48 V 220 V 110 V 440 V 750 V	A A A A A	64/1 64/3 64/2 40/4 64/8
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	I_p (r.m.s.) Max. OFA_ fuse size gG/aM	50 kA ≤ 415 V	kA A	6.5 40/32
	I_p(r.m.s.) Max. OFA_ fuse size gG/aM	100 kA ≤ 500 V	kA A	
	I_p (r.m.s.) Max. OFA_ fuse size gG/aM	10 kA ≤ 690 V	kA A	
	I_p(r.m.s.) Max. OFA_ fuse size gG/aM	50 kA ≤ 690 V	kA A	4 25/16
Rated short-time withstand current	r.m.s. -value I_{cw} r.m.s. -value I_{cw}	690 V, 0.25 s 690 V, 1 s	kA kA	 0.5
Rated short circuit making capacity	Peak value I_{cm}	690 V/500 V	kA	0.705
Rated capacitor power (The capacitor ratings are limited by the fuse link.)		400...415 V	kVAr	6.5
Power loss / pole Mechanical endurance	At rated operational current Divide by two for operation cycles		W Oper.	0.3 20 000
Weight without accessories	3-pole 4-pole		kg kg	0.11 0.15
Cable size	Cu-wire size suitable for terminal clamps		mm^2 AWG	0.75...10 18-8
Terminal tightening torque Operating torque	Counter torque required 3-pole switch-disconnector		Nm Nm	0.8 1

1) Below 48 V, two poles in parallel up to OT80 are recommended particularly in polluted atmosphere. 2) Acc. to IEC 60947-1, § 6.1.1.

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Switch-disconnectors
Technical data for OT16...125

25 / OT25	40 / OT40F	63 / OT63F	80 / OT80F	100 / OT100F	125 / OT125F
750 6 8	750 6 8	750 6 8	750 6 8	750 6 8	750 6 8
32 32 25 6	40 40 32 10	63 63 50 16	80 80 63 25	115 115 80 35	125 125 100 50
25 25	40 40	63 63	80 80	100 100	125 125
25 25 25	40 40 40	63 63 63	80 80 80	100 100 100	125 125 125
20 20 20 11	23 23 23 12	63 63 45 20	75 65 58 20	80 65 60 40	90 78 70 50
25/1 25/2 25/3 16/4 16/4 25/8	32/1 32/2 32/3 16/4 16/4 32/8	63/1 63/2 63/4 16/4 16/4	80/1 80/2 80/4 16/4 16/4	100/1 100/2 100/4	125/1 125/2 125/4
25/1 25/2 25/3 10/4 25/8	32/1 32/2 32/4 10/4 25/8	63/1 63/2 45/4 10/4	80/1 80/2 45/4 10/4	100/1 100/2 63/4	125/1 125/2 80/4
25/1 25/2 25/4 10/4 16/8	32/1 32/2 32/4 10/4 16/8	63/1 63/2 45/4 10/4	80/1 80/2 45/4 10/4	100/1 100/2 63/4	125/1 125/2 63/4
4 9 9 9 9	5.5 11 11 11 11	11 22 22 22 15	22 37 37 37 18.5	22 37 37 37 37	22 45 45 45 45
160 160 160 88	184 184 184 96	360 360 360 160	640 448 464 160	640 520 480 320	720 624 560 40
100/1 100/4 100/2 40/4 64/8	128/1 128/4 128/2 40/4 64/8	180/1 180/4 180/2 40/4	252/1 180/4 252/2 40/4	400/1 252/4 400/2	500/1 252/4 500/2
6.5 40/32	6.5 40/32	13 100/80	13 100/80	16.5 125/125	16.5 125/125
		17 100/80	17 100/80		
				8.2 125/100	8.2 125/100
4 25/16	4 25/16	11 80/63	11 80/63	10 63/63	10 63/63
0.5	0.5	1	1.5	2.5	2.5
0.705	0.705	1.4	2.1	3.6	3.6
10	15	25	30	40	50
0.6 20 000	1.6 20 000	2.8 20 000	4.5 20 000	4.0 20 000	6.3 20 000
0.11 0.15	0.11 0.15	0.27 0.35	0.27 0.35	0.36 0.50	0.36 0.50
0.75...10 18-8	0.75...10 18-8	1.5...35 14-4	1.5...35 14-4	10...70 8-00	10...70 8-00
0.8 1	0.8 1	2 1.2	2 1.2	6 2	6 2

Switch-disconnectors
Technical data for OT160...800

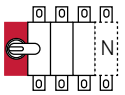
Technical data according to IEC 60947-3				Size [A] / Switch type 160 / OT160EV
Rated insulation voltage and rated operational voltage AC-20, DC-20 Dielectric strength Rated impulse withstand voltage	Pollution degree 3	 50 Hz 1min.	V kV kV	1000 10 12
Rated thermal current and rated operational current AC-20, DC-20 in ambient 40 °C[4] ...with minimum cable cross section	In open air In enclosure	 Cu	A A mm²	200 160 70
Rated operational current, AC-21A		≤ 500 V 690 V 1000 V	A A A	200 160 160
Rated operational current, AC-22A		≤ 500 V 690 V 1000 V	A A A	200 160 160
Rated operational current, AC-23A		≤ 500 V 690 V 1000 V	A A A	160 160 135
Rated operational current / poles in series, DC-21A[1]		24...110 V 220 V 440 V 660 V	A A A A	160/2 160/2 160/3 160/4
Rated operational current / poles in series, DC-21B		800 V 1000 V	A A	160/5 160/6
Rated operational power, AC-23[3]		230 V 400 V 415 V 500 V 690 V	kW kW kW kW kW	48 80 88 112 144
Rated breaking capacity in category AC-23		≤ 500 V 690 V	A A	1280 1280
Rated conditional short-circuit current I_q (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$. The cut-off current îc refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_q (r.m.s.) Max. OFA_ fuse size	100 kA, 500 V gG/aM	kA A	40.5 315/315
	I_q (r.m.s.) Max. OFA_ fuse size	80 kA, 690 V gG/aM	kA A	40.5 355/315
Rated short-time withstand current	r.m.s. value I_{cw}	≤ 1000 V 0.15 s ≤ 1000 V 0.25 s ≤ 1000 V 1 s	kA kA kA	15 15 8
Rated short-time making capacity	Peak value I_{cm}	≤ 1000 V	kA	30
Rated capacitor power when no initial charge on the capacitor	The capacitor ratings are limited by the fuse links	415 V 500 V 690 V	kVAr kVAr kVAr	80 96 128
Power loss / pole	With rated current		W	3.2
Mechanical endurance	Divide by two for oper. cycles		Oper.	20 000
Weight without accessories	3-pole switch		kg	1.2
Terminal bolt size Terminal tightening torque Operating torque	Metric thread diameter x length Counter torque required 3-pole switch disconnector		mm Nm Nm	M8x25 15-22 7

1) Further ratings on request.
2) Category B.
3) These values are given for guidance and may vary acc. to the motor manufacturer.
4) Acc. to IEC 60947-1, § 6.1.1.

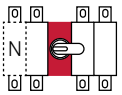
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Switch-disconnectors
Technical data for OT160...800

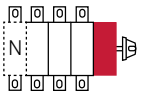
Placing options of the operating mechanism for OT160EV...800



At the end of the switch OT_03 or 04



Between the poles OT_12 or 22



Side operated types OT_30 or 40, OT_03 or 04

200 / OT200E	250 / OT250E	315 / OT315E	400 / OT400E	630 / OT630E	800 / OT800E
1000 10 12	1000 10 12	1000 10 12	1000 10 12	1000 10 12	1000 10 12
200 200 95	250 250 120	315 315 185	400 400 240	630 630 2x185	800 800 2x240
200 200 200	250 250 250	315 315 315	400 400 400	630 630 630	800 800 800
200 200 200	250 250 250	315 315 315	400 400 400	630 630 630	800 800 800
200 200 135	250 250 135	315 315 200	400 400 200	630 630 400	800 800 400
200/2 200/2 200/3 200/4	250/2 250/2 250/3 230/42)	315/1[2)] 315/2[2)] 315/3 315/4	400/1[2)] 400/2[2)] 360/3 360/4	630/1 630/1 630/2 630/4[2)]	800/1 800/1 800/2 650/4[2)]
200/5 200/6	250/5 250/6	315/5 315/6	400/5 400/6	600/5 600/6	600/5 600/6
60 110 110 132 200	75 140 145 170 250	100 160 180 220 315	132 220 230 280 400	200 355 355 400 630	250 450 450 560 800
1600 1600	2000 2000	2520 2520	3200 3200	5040 5040	6400 6400
40.5 315/315	40.5 315/315	61.5 500/450	61.5 500/450	90 800/1000	90 800/1000
40.5 355/315	40.5 355/315	59 500/500	59 500/500	83.5 800/1000	83.5 800/1000
15 15 8	15 15 8	31 24 15	31 24 15	38 36 20	38 36 20
30	30	65	65	80	80
100 120 160	115 135 190	145 175 250	180 215 325	250 300 450	310 375 550
4	6.5	6.5	10	25	40
20 000	20 000	16000	16000	10 000	10 000
1.2	1.2	2.2	2.2	5.2	5.2
M8x25 15-22 7	M8x25 15-22 7	M10x30 30-44 16	M10x30 30-44 16	M12x40 50-75 27	M12x40 50-75 27

Switch-disconnectors
Technical data for OT1000...4000

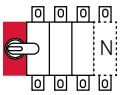
Technical data according to IEC 60947-3				Size [A] / Switch type
				1000 / OT1000E
Rated insulation voltage and rated operational voltage AC20/DC20 Dielectric strength Rated impulse withstand voltage	Pollution degree 3	 50 Hz 1min.	V kV kV	1000 10 12
Rated thermal current and rated operational current AC20/DC20 ..with minimum conductor cross section	Ambient 40°C[1] Ambient 40°C[1] Cu	In open air In enclosure	A A mm^2	1000 1000 2x300
Rated operational current, AC-21A		up to 690 V 1000 V	A A	1000 1000
Rated operational current, AC-22A		up to 415 V 500 - 690 V	A A	1000 1000
Rated operational current, AC-23A		up to 500 V 690 V	A A	1000 1000
Rated operational power, AC-23A (These values are given for guidance and may vary acc. to the motor manufacturer)		400...415 V 440 V 500 V 690 V	kW kW kW kW	560 630 710 1000
Rated breaking capacity, AC-23A		up to 500 V 690 V	A A	10 000 10 000
Rated conditional short-circuit current I_q (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$. The cut-off current $\hat{i}c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) Max. OFA_ fuse size gG/aM	80 kA ≤ 415 V	kA A	100 1250/1250
	I_p (r.m.s.) Max. OFA_ fuse size gG/aM	100 kA ≤ 500 V	kA A	106 1250/1250
Rated short-time withstand current	r.m.s. -value I_{cw}	690 V, 0.25 s 690 V, 1 s	kA kA	50 50
Rated short circuit making capacity	Peak value I_{cm} Max. distance from switch frame to nearest busbar/cable support	690 V	kA mm	110[4] 150
Rated capacitor power when no initial charge on the capacitor	The capacitor ratings are limited by the fuse links	415 V 500 V 690 V	kVAr kVAr kVAr	460 550 750
Power loss / pole	At rated operational current		W	19
Mechanical endurance	Divide by two for operation cycles		Oper.	6000
Weight without accessories	3-pole 4-pole		kg kg	14.1 18
Terminal bolt size Terminal tightening torque Operating torque	Metric thread diameter x length Counter torque required 3-pole switch-disconnector		mm Nm Nm	M12x50 50...75 65

1) Acc. to IEC60947-1, § 6.1.1.
2) IEC 947-3, utilization category B, infrequent operation.
3) Phase barriers or terminal shrouds must be used on both sides of the switch at voltages ≥ 500 V.
4) The value is 92 kA for 4-pole switch-disconnectors.

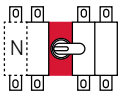
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Switch-disconnectors
Technical data for OT1000...4000

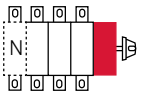
Placing options of the operating mechanism for OT1000...3200



At the end of the switch
OT_03 or 04



Between the poles
OT_12 or 22



Side operated types
OT_30 or 40,
OT_03 or 04

1250 / OT1250E	1600 / OT1600E	2000 / OT2000E	2500 / OT2500E	3200 / OT3200E	4000/OT4000E
1000 10 12	1000 10 12	1000 10 12	1000 10 12	1000 10 8	1000 10 8
1250 1250 2x400	1600 1600 2x500	2000 3x500	2500 4x500	3200 4x1000	3800 5x1000
1250 1250	1600 1600	2000[2]	2500[2]	3200[2]	3800
1250 1250	1600 1600	2000[2] 2000[2] [3]	2500[2] 2500[2] [3]	3200[2]	3800
1250 1250	1250 1250				
710 800 900 1200	710 800 900 1200				
10 000 10 000	10 000 10 000				
100 1250/1250	100 1250/1250				
106 1250/1250	106 1250/1250				
50 50	50 50	80 55	80 55	60	60
110[4] 150	110[4] 150	176 150	176 150	176 150	176 150
575 690 950	575 690 950				
29	48	55	85	95	120
6000	6000	6000	6000	5000	5000
14.1 18	15.2 19.5	22 28	22 28	24.7 32.1	28.9 37.7
M12x50 50...75 65	M12x60 50...75 65	M12x60 50...75 65	M12x60 50...75 65	M12x60 50...75 65	M12x60 50...75 65

Switch-disconnectors
Front operated switch-disconnectors, IEC

Switch-disconnectors, base and DIN-rail mounting, IEC
Including protected terminal clamps IP20, except OT125FL_ types.


OT100...125F3

No. of poles	I_{th} (open) [A]	Cable cross section [mm²]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
Shaft and handle need to be ordered separately						
3	25	0.75...10	16/16	OT16F3	1SCA104811R1001	R 242.00
3	32	0.75...10	25/20	OT25F3	1SCA104857R1001	R 277.00
3	40	0.75...10	40/23	OT40F3	1SCA104902R1001	R 310.00
3	63	1.5...35	63/45	OT63F3	1SCA105332R1001	R 442.00
3	80	1.5...35	80/75	OT80F3	1SCA105798R1001	R 676.00
3	115	10...70	100/80	OT100F3	1SCA105004R1001	R 796.00
3	125	10...70	125/90	OT125F3	1SCA105033R1001	R 921.00
3	125		125/90	OT125FL3[1)]	1SCA112372R1001	R 1 842.00
3	160	70	160/160	OT160G03P	1SCA135139R1001	R 1 960.00
3	160	70	160/160	OT160G03K	1SCA138208R1001	R 1 880.00

1) Extended terminals on both sides of the switch

Switch-disconnectors, door mounting, IEC
Include protected terminal clamps, IP20.


OT100...125FT3

No. of poles	I_{th} (open) [A]	Cable cross section [mm²]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
Shaft and handle need to be ordered separately						
3	25	0.75...10	16/16	OT16FT3	1SCA104838R1001	R 367.00
3	32	0.75...10	25/20	OT25FT3	1SCA104884R1001	R 404.00
3	40	0.75...10	40/23	OT40FT3	1SCA104940R1001	R 437.00
3	63	1.5...35	63/45	OT63FT3	1SCA105382R1001	R 598.00
3	80	1.5...35	80/75	OT80FT3	1SCA105431R1001	R 764.00
3	115	10...70	100/80	OT100FT3	1SCA105023R1001	R 1 182.00
3	125	10...70	125/90	OT125FT3	1SCA105060R1001	R 1 263.00

Switch-disconnectors, with pistol handle, base mounting, IEC
Including a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position.
The shaft can be adjusted to different installation depths.


OT315...400E03P


OT630...800E03P

No. of poles	I_{th} (open) [A]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
3	200	200/160	OT160EV03P	1SCA120514R1001	R 2 024.00
3	200	200/200	OT200E03P	1SCA022712R0800	R 2 720.00
3	250	250/250	OT250E03P	1SCA022710R0100	R 2 859.00
3	315	315/315	OT315E03P	1SCA022718R8510	R 3 312.00
3	400	400/400	OT400E03P	1SCA022718R8780	R 4 546.00
3	630	630/630	OT630E03P	1SCA022718R8940	R 6 450.00
3	800	800/800	OT800E03P	1SCA022718R9410	R 7 810.00

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Switch-disconnectors
Front operated switch-disconnectors, IEC



OT1000...1250E03P

Shafts and handles included as standard

Suitable for switches	Shaft	Handle	Terminal bolts
OT160EV…250_P	OXP6X210	OHB65J6	M8x25
OT315…400_P	OXP12X185	OHB95J12	M10x30
OT630…800_P	OXP12X185	OHB125J12	M12x40

No. of poles	I_{th} (open) [A]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
3	1000	1000/1000	OT1000E03P	1SCA022860R5930	R 16 054.00
3	1250	1250/1250	OT1250E03P	1SCA022860R6230	R 17 500.00
3	1600	1600/1250	OT1600E03P	1SCA022860R6580	R 23 356.00
3	2000	2000/-	OT2000E03P	1SCA108036R1001	R 39 531.00
3	2500	2500/-	OT2500E03P	1SCA104972R1001	R 44 271.00
3	3200	3200/3200	OT3200E03P	1SCA128481R1001	R 54 222.00
3	3800	3800/3800	OT4000E03P	1SCA124848R1001	R 66 151.00



OT2000...2500E03P



OT3200...4000E03P

Shafts and handles included as standard

Suitable for switches	Shaft	Handle	Terminal bolts
OT1000...1250_P	OXP12X280	OHB274J12	M12x50
OT1600_P	OXP12X280	OHB274J12	M12x50
OT2000…2500_P	OXP12X280	OHB274J12	M12x50
OT3200…4000P	OXP12X280	OHB274J12	M12x60

Switch-disconnectors with direct mount handle, base mounting, IEC

Including a black Test-OFF-ON plastic handle and shaft as standard.
The handle is padlockable in the OFF-position.



OT315...400E03K



OT630...800E03K

No. of poles	I_{th} (open) [A]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
3	200	200/160	OT160EV03K	1SCA120513R1001	R 2 089.00
3	200	200/200	OT200E03K	1SCA022763R4820	R 3 103.00
3	250	250/250	OT250E03K	1SCA022763R5040	R 3 243.00
3	315	315/315	OT315E03K	1SCA022763R5630	R 3 625.00
3	400	400/400	OT400E03K	1SCA022763R5390	R 4 894.00
3	630	630/630	OT630E03K	1SCA022779R4940	R 6 867.00
3	800	800/800	OT800E03K	1SCA022779R5160	R 7 864.00
3	1000	1000/1000	OT1000E03K	1SCA108353R1001	R 17 338.00
3	1250	1250/1250	OT1250E03K	1SCA108356R1001	R 17 954.00
3	1600	1600/1250	OT1600E03K	1SCA108352R1001	R 22 748.00
3	2000	2000/-	OT2000E03K	1SCA108359R1001	R 37 562.00
3	2500	2500/-	OT2500E03K	1SCA108361R1001	R 45 389.00

Shafts and handles included as standard

Suitable for switches	Handle	Terminal bolts
OT160EV…250_K	OTV250EK	M8x25
OT315…400_K	OTV400EK	M10x30
OT630…800_K	OTV800EK	M12x40
OT1000...1250_K	OTV1000EK	M12x50
OT1600_K	OTV1000EK	M12X60
OT2000...2500_K	OTV1000EK	M12x60

Switch-disconnectors
Side operated switch-disconnectors, IEC



OT630...800ES04

Side operated switch-disconnectors, base mounting, IEC

No. of poles	I_{th} (open) [A]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number	Price per unit Excl. VAT
Handle and shaft have to be ordered separately					
3	200	200/160	OT160EVS03	1SCA120563R1001	R 2 189.00
3	200	200/200	OT200ES03	1SCA022860R0200	R 2 807.00
3	250	250/250	OT250ES03	1SCA022860R0890	R 2 939.00
3	315	315/315	OT315ES03	1SCA022860R1270	R 3 475.00
3	400	400/400	OT400ES03	1SCA022860R1780	R 5 306.00
3	630	630/630	OT630ES03	1SCA022860R2240	R 7 257.00
3	800	800/800	OT800ES03	1SCA022860R2670	R 9 276.00

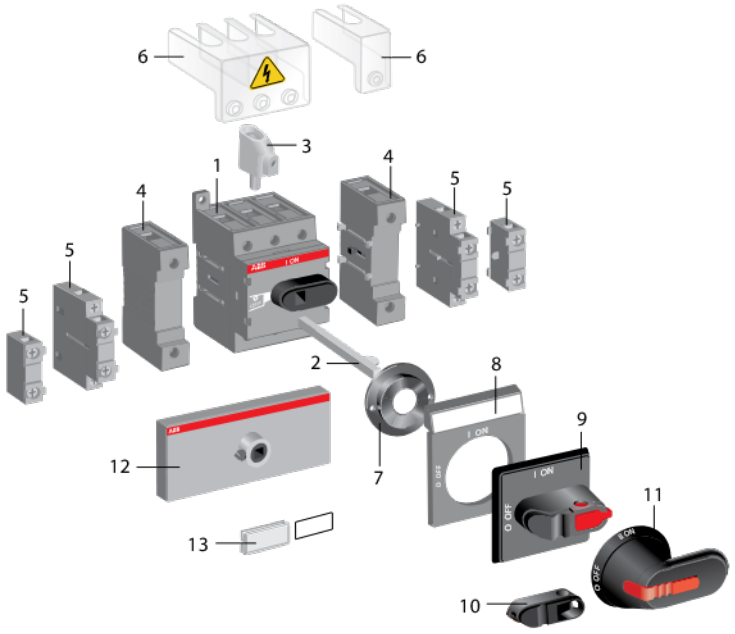
Terminal bolt kits included as standard

Suitable for switches	Terminal bolts
OT160EV...250	M8x25
OT315...400	M10x30
OT630...800	M12x40

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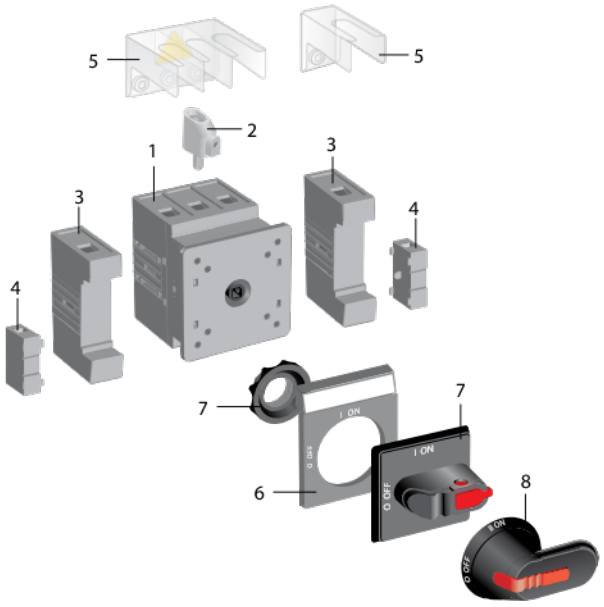
Switch-disconnectors
Accessories – Selection Overview

OT16F...OT125F



1 Switch-disconnector | 2 Extended shaft | 3 Terminal clamp | 4 Fourth pole, N- and PE-terminals | 5 Auxiliary contact | 6 Terminal shroud | 7 Shaft aligment ring | 8 Legend plate | 9 Selector type handle | 10 Handle knob | 11 Pistol type handle | 12 Conversion kit | 13 Labelling accessories

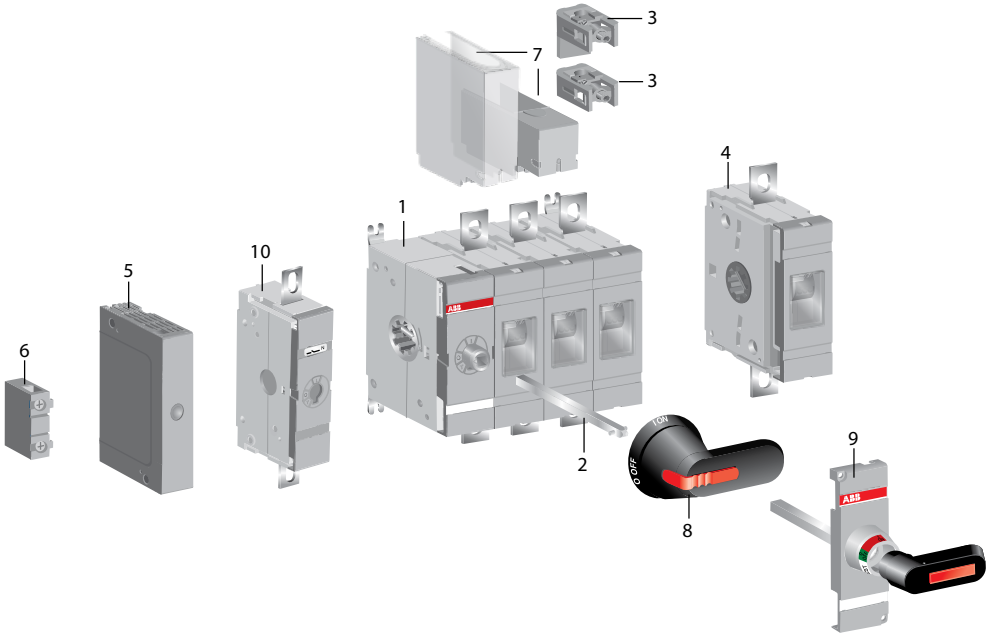
OT16FT...OT125FT



1 Switch-disconnector | 2 Terminal clamp | 3 Fourth pole, N- and PE-terminals | 4 Auxiliary contact | 5 Terminal shroud | 6 Legend plate | 7 Selector type handle | 8 Pistol type handle

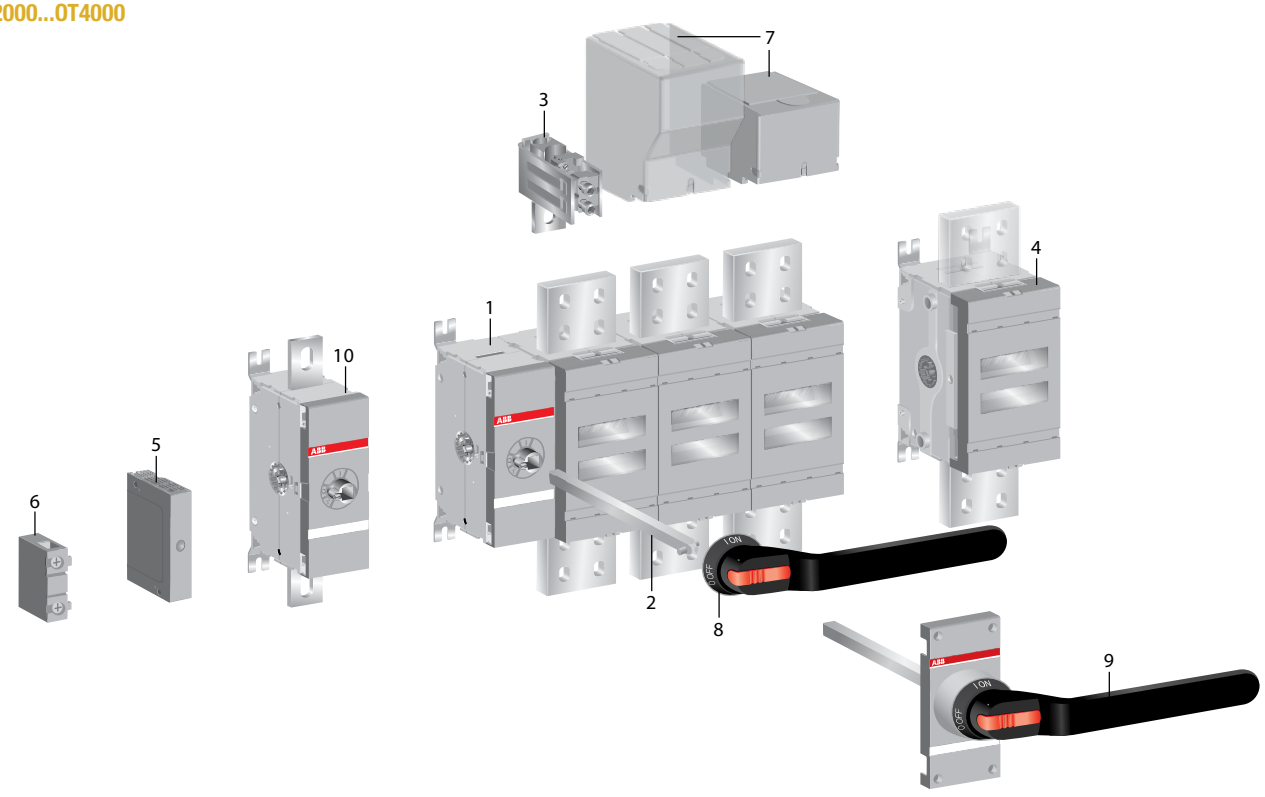
Switch-disconnectors
Accessories – Selection Overview

OT160EV...OT1600



1 Switch-disconnector | 2 Extended shaft | 3 Terminal clamp | 4 Fourth pole | 5 Module for auxiliary contact | 6 Auxiliary contact | 7 Terminal shroud | 8 Pistol type handle | 9 Direct mounting type handle | 10 Detachable neutral link

OT2000...OT4000



1 Switch-disconnector | 2 Extended shaft | 3 Terminal clamp | 4 Fourth pole | 5 Module for auxiliary contact | 6 Auxiliary contact | 7 Terminal shroud | 8 Pistol type handle | 9 Direct mounting type handle | 10 Detachable neutral link

Switch-disconnectors
Accessories – Handles


OHRS2


OHBS3


OHRS9

Handle knobs, for base and DIN-rail mounted switches
Mounting directly to the switch, no shaft needed.

Colour	Handle length [mm]	Suitable for switches	Type	Order number	Price per unit Excl. VAT
Padlockable in 0-position with one padlock with bail diameter 5 mm					
Black	40	OT63...125F	OHBS2	1SCA109089R1001	R 40.00
Red	40	OT63...125F	OHRS2	1SCA108598R1001	R 77.00
Non-padlockable					
Black	39	OT16...125F	OHBS3	1SCA108320R1001	R 105.00
Red	39	OT16...125F	OHRS3	1SCA108667R1001	R 105.00
Black	72	OT63...125F	OHBS9	1SCA108665R1001	R 128.00
Red	72	OT63...125F	OHRS9	1SCA108666R1001	R 128.00


OHBS2AJ


OHYS2AJ

Selector type handles, for base and DIN-rail mounted switches
For shaft diameter 6 mm, door drilling 22.5 mm.
Indication I-O and ON-OFF.

Colour	Suitable for switches	Type	Order number	Price per unit Excl. VAT
IP65 handles, NEMA 1, 3R, 12				
Padlockable with max. 3 padlocks with bail diameter 5...8 mm, door interlock in ON-position, defeatable				
Black	OT16...125F	OHBS2AJ	1SCA105213R1001	R 176.00
Red-yellow	OT16...125F	OHYS2AJ	1SCA105296R1001	R 176.00
Padlockable with max. 3 padlocks with bail diameter 5...8 mm, door interlock in ON-position				
Black	OT16...125F	OHBS2AJ1	1SCA105215R1001	R 176.00
Red-yellow	OT16...125F	OHYS2AJ1	1SCA105297R1001	R 176.00


OHBS2AJ_EH

Selector type handle with metal hasp

IP65 handles, NEMA 1, 3R, 12				
Padlockable with max. 3 padlocks, door interlock in the ON-position, defeatable				
Black	OT16...125F	OHBS2AJEH	1SCA108230R1001	R 366.00
Padlockable with max. 3 padlocks, door interlock in the ON-position, non-defeatable				
Black	OT16...125F	OHBS2AJ1EH	1SCA105217R1001	R 366.00


OHBS2RJ


OHYS2RJ

Selector type handles, for door mounted switches
Indication I-O and ON-OFF. No separate shaft needed.

Colour	Suitable for switches	Type	Order number	Price per unit Excl. VAT
Padlockable with max. 3 padlocks, IP65, hole distance 36/48 mm, NEMA 1, 3R, 12				
Black	OT16...125FT	OHBS2RJ	1SCA105232R1001	R 275.00
Red-yellow	OT16...125FT	OHYS2RJ	1SCA105323R1001	R 275.00

Switch-disconnectors
Accessories – Handles



OZ331_B



OZ331_RY

Round padlockable handles, for base and DIN-rail mounted switches

Padlockable in 0-position, max 3 padlocks with max 8 mm hasp diameter.
Indication I-O and ON-OFF

Colour	Suitable for switches	Type	Order number	Price per unit Excl. VAT
One hole mounting handle, IP65, NEMA 4X outdoor, size 66x66				
Black	OT16...125F_	OZ331SPB	1SCA112983R1001	R 142.00
Red-yellow	OT16...125F_	OZ331SPRY	1SCA113097R1001	R 142.00

Pistol type handles, for base and DIN-rail mounted switches

IP65, padlockable with three padlocks in OFF-position, door interlock in ON-position. Screw fixing from the back side of the handle. No screws on the front ensures double insulation.



OHY_



OHB_

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
Suitable for switches OT16...125F, for shaft diameter 6 mm				
Indication in types OHB and OHY: I-0, ON-OFF				
Black	45	OHB45J6	1SCA022380R8770	R 278.00
Red-yellow	45	OHY45J6	1SCA022380R8930	R 278.00
Suitable for switches OT160EV...250, for shaft diameter 6 mm				
Indication in types OHB and OHY: I-0, ON-OFF				
Black	65	OHB65J6	1SCA022380R9660	R 697.00
Red-yellow	65	OHY65J6	1SCA022380R9820	R 697.00
Black	80	OHB80J6	1SCA022381R0240	R 794.00
Red-yellow	80	OHY80J6	1SCA022381R0410	R 794.00
Suitable for switches OT315...400, for shaft diameter 12 mm				
Indication OHB and OHY: I-0, ON-OFF				
Black	95	OHB95J12	1SCA022381R0830	R 1 128.00
Red-yellow	95	OHY95J12	1SCA022381R1050	R 1 128.00
Suitable for switches OT630...800, for shaft diameter 12 mm				
Indication OHB and OHY: I-0, ON-OFF				
Black	125	OHB125J12	1SCA022381R1560	R 1 198.00
Red-yellow	125	OHY125J12	1SCA022381R1720	R 1 198.00

Direct mount handles for base mounted switches

Includes a shaft and a mechanism cover. Indication Test-OFF-ON/Test-O-I.
Padlockable with three padlocks in OFF-position.



OTV400EK



OTV1000EPK

Colour	Handle length [mm]	Suitable for switches	Type	Order number	Price per unit Excl. VAT
Black	65	OT160EV…250	OTV250EK	1SCA022763R2700	R 924.00
Red-yellow	65	OT160EV…250	OTVY250EK	1SCA022772R7910	R 924.00
Black	95	OT315…400	OTV400EK	1SCA022763R2960	R 1 485.00
Red-yellow	95	OT315…400	OTVY400EK	1SCA022772R7830	R 1 485.00
Black	125	OT630…800	OTV800EK	1SCA022804R6340	R 1 621.00
Red-yellow	125	OT630...800	OTVY800EK	1SCA022810R2780	R 1 621.00
Black	274	OT1000…4000	OTV1000EK	1SCA106608R1001	R 1 734.00
Black	2x200	OT1000...2500	OTV1000EPK	1SCA121085R1001	R 1 734.00

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Switch-disconnectors
Accessories – Handles



OHB150/200J12P



OHB274/330J12

Pistol type handles, for base and DIN-rail mounted switches

Padlockable with three padlocks in OFF-position, door interlock in ON-position. Screw fixing from the back side of the handle. No screws on the front ensures double insulation.

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
Suitable for switches OT1000...2500, for shaft diameter 12 mm, IP65				
Indication OHB and OHY: I-0, ON-OFF				
Black	2x150	OHB150J12P	1SCA022865R9430	R 1 754.00
Red-yellow	2x150	OHY150J12P	1SCA101586R1001	R 1 754.00
Black	2x200	OHB200J12P	1SCA022865R9510	R 2 097.00
Red-yellow	2x200	OHY200J12P	1SCA101587R1001	R 2 097.00
Suitable for switches OT1000…4000, for shaft diameter 12 mm, IP65				
Indication OHB and OHY: I-0, ON-OFF				
Black	274	OHB274J12	1SCA115920R1001	R 1 479.00
Red-yellow	274	OHY274J12	1SCA115919R1001	R 1 479.00
Black	330	OHB330J12	1SCA115922R1001	R 1 774.00
Red-yellow	330	OHY330J12	1SCA115921R1001	R 1 774.00



OHM65L6

Stainless steel handles, for base mounted switches

Stainless steel handles, indication I-O/ON-OFF, padlockable with 3 padlocks in the OFF-position, door interlock in the ON-position, IP66

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
For shaft diameter 6 mm				
Grey	65	OHM65L6	1SCA022739R1070	R 4 108.00
For shaft diameter 12 mm				
Grey	125	OHM125L12	1SCA022739R1150	R 4 873.00
Grey	175	OHM175L12	1SCA022739R1230	R 5 637.00
Grey	275	OHM275L12	1SCA022832R4840	R 7 167.00
Grey	2x200	OHM200L12P	1SCA104439R1001	R 6 346.00



OHB65J6E00S



OHY65J6E00S

Handles for side operated switch-disconnectors

For mounting on the side of the enclosure. Padlockable with three padlocks in the OFF-position, door interlock in the ON-position, IP65. The position indications are rotated 90°.

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
For shaft diameter 6 mm, IP65				
Plastic handles, black and red-yellow: I-0/ON-OFF				
Black	65	OHB65J6E00S	1SCA022382R9850	R 479.00
Red-yellow	65	OHY65J6E00S	1SCA022382R9930	R 479.00
For shaft diameter 12 mm, IP65, Nema type 1, 3R, 12				
Plastic handles, indication I-0/ON-OFF				
Black	145	OHB145J12E00S	1SCA022679R9700	R 1 254.00

Switch-disconnectors
Accessories – Shafts



OXS6X_



OX6X_



OXP6X_



OXP12_

Shafts

Shaft length [mm]	H [mm]	Type	Order number	Price per unit Excl. VAT
Shaft diameter 6 mm				
For selector type handles, suitable for OT16...125F				
85		0XS6X85	1SCA101647R1001	R 68.00
130		0XS6X130	1SCA101655R1001	R 83.00
180		0XS6X180	1SCA101659R1001	R 105.00
250		0XS6X250	1SCA101660R1001	R 117.00
330		0XS6X330	1SCA101661R1001	R 159.00
For round padlockable type handles, suitable for OT16...125F				
85		0X6X85	1SCA111274R1001	R 83.00
130		0X6X130	1SCA111460R1001	R 100.00
200		0X6X200	1SCA111932R1001	R 169.00
300		0X6X300	1SCA111933R1001	R 188.00
For pistol type handles, suitable for OT16...125F				
150		0XP6X150	1SCA022295R5600	R 102.00
265		0XP6X265	1SCA108225R1001	R 182.00
400		0XP6X400	1SCA108226R1001	R 253.00
For pistol type handles, suitable for OT160EV...250				
130	109...174	0XP6X130	1SCA022057R0570	R 68.00
150	129...194	0XP6X150	1SCA022295R5600	R 102.00
210	189...254	0XP6X210	1SCA022295R6080	R 117.00
290	269...334	0XP6X290	1SCA022042R6370	R 193.00
Shaft diameter 12 mm				
For pistol type handles, suitable for OT315...400				
185	165...245	0XP12X185	1SCA022325R6710	R 304.00
250	230...310	0XP12X250	1SCA022325R6980	R 343.00
280	260...340	0XP12X280	1SCA022137R5140	R 754.00
325	305...385	0XP12X325	1SCA022042R5810	R 380.00
395	375...455	0XP12X395	1SCA022042R5990	R 420.00
465	445...525	0XP12X465	1SCA022042R6020	R 499.00
535	515...595	0XP12X535	1SCA022042R6110	R 675.00
For pistol type handles, suitable for OT630...800				
250	230...345	0XP12X250	1SCA022325R6980	R 343.00
280	260...375	0XP12X280	1SCA022137R5140	R 754.00
325	305...420	0XP12X325	1SCA022042R5810	R 380.00
395	375...490	0XP12X395	1SCA022042R5990	R 420.00
465	445...560	0XP12X465	1SCA022042R6020	R 499.00
535	515...630	0XP12X535	1SCA022042R6110	R 675.00
For pistol type handles, suitable for OT1000…25001)				
250	221...350	0XP12X250	1SCA022325R6980	R 343.00
280	251...380	0XP12X280	1SCA022137R5140	R 754.00
325	296...425	0XP12X325	1SCA022042R5810	R 380.00
395	366...495	0XP12X395	1SCA022042R5990	R 420.00
465	436...565	0XP12X465	1SCA022042R6020	R 499.00
535	506...635	0XP12X535	1SCA022042R6110	R 675.00
For pistol type handles, suitable for OT3200...4000				
280	251...380	0XP12X280	1SCA022137R5140	R 754.00
325	296...425	0XP12X325	1SCA022042R5810	R 380.00
395	366...495	0XP12X395	1SCA022042R5990	R 420.00
465	436...565	0XP12X465	1SCA022042R6020	R 499.00
535	506...635	0XP12X535	1SCA022042R6110	R 675.00

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Switch-disconnectors
Accessories – Auxiliary contacts



21
1 nc
22
1NC

OA1G_



13
1 no
14
1NO

OA2G11



OA1G10, OA3G01

13
1 no
14
1NO

21
1 nc
22
1NC



OEA28

Auxiliary contact blocks, IP20, for OT16...125F/FT_ and OT16...125M_

Contact numbering according to EN 50013. Snap-on mounting to the side of the switch. I_{th} = 16A, cable cross section max. 2 x 2.5 mm^2. Early-break type OA1G10.

Suitable for switches	Function	Type	Order number	Price per unit Excl. VAT
Mountable on left side, max. 2 pcs				
OT16...125F_, FT_	1NC	OA1G01	1SCA022353R4890	R 213.00
Mountable on the right side, max. 2 pcs				
OT16...125F_, FT_	1NO	OA1G10	1SCA022353R4970	R 213.00
Mountable on both sides, simultaneous function with the main contacts				
OT16...40F_: max. 2NO+2NC, OT63...125F: max. 4NO+4NC[3]				
OT16...125F_	1NO+1NC	OA2G11[2]	1SCA022379R8100	R 317.00

1) Not mountable on the same side as the fourth pole.
2) Contact numbering: (83) (43) (53) 13 21 (61) (31) (71)
(84) (44) (54) 14 22 (62) (32) (72)
- Early break type auxiliary contacts means that in the switches, the NO aux.contacts break before the main contacts open.

Auxiliary contact blocks, IP20, for OT160EV…4000

Contact numbering according to EN 50013.

Function	Type	Order number	Price per unit Excl. VAT
Suitable for switches OT160EV…4000			
1NO	OA1G10	1SCA022353R4970	R 213.00
1NC	OA3G01	1SCA022456R7410	R 202.00
Mounting under the mechanism cover			

The "test" contacts operate in ON- and OFF-positions as well as when the handle is turned to TEST-position = 45 degrees over the OFF-position. The "test indication" contacts operate only when the handle is turned to TEST-position. See the function table below. The OA1G10 (N.O.) or OA3G01 (N.C.) auxiliary contact blocks can be used as standard auxiliary contacts, "test" or "test indication" contacts. The desired functions are achieved when an auxiliary contact block is installed in a specific place shown in the mounting instruction. In order to activate the "test" and "test indication" features a handle with test function is required.
OT160EV...250: Max. 4 test contacts or 2 test contacts + 2 test indication contacts
OT315...800: Max. 4 test contacts + 4 test indication contacts
Switches with _K handle: 2+4 auxiliary contacts with _P handle: 4+4 auxiliary contacts
OT1000...4000: Max 4 test indication contacts + 6 test contacts + 2 early operation test contacts
The test contacts can be used as standard auxiliary contacts as well.

Handle position	Main contacts	Aux./Test contacts N.O.	Test indication contact N.O.
Function table of auxiliary contacts			
Test	open	closed	closed
0	open	open	open
I	closed	closed	open
Mounting on the left side of the switch			
Max. 8 auxiliary contact blocks with the OEA28 module.			

Module for auxiliary contacts with OT160EV…4000

Screw mounting to the left side of the switch.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
OT160EV…4000	OEA28	1SCA022714R8810	R 517.00

Early break type auxiliary contacts means that in the switches, the NO aux.contacts break before the main contacts open.

Switch-disconnectors
Accessories – Fourth poles



OTZ400E



OTZ800E



OTZ1250E



OTZ1600E



OTZ1500E

Fourth poles, simultaneous function with the main contacts

Mountable on the side of the switch.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
For OT switch-disconnectors			
OT16...40F3	OTPS40FPN1*)	1SCA105001R1001	R 123.00
OT16...40F3	OTPS40FPN2*)	1SCA105000R1001	R 123.00
OT63...80F3	OTPS80FP	1SCA105461R1001	R 258.00
OT100F3, OT125F3	OTPS125FP	1SCA105099R1001	R 472.00
OT16...40FT3	OTPS40FDN1*)	1SCA104999R1001	R 123.00
OT16...40FT3	OTPS40FDN2*)	1SCA104998R1001	R 123.00
OT63...80FT3	OTPS80FD	1SCA105458R1001	R 258.00
OT100...125FT3	OTPS125FD	1SCA105096R1001	R 472.00
OT160EV…250	OTZ250E	1SCA022735R9420	R 2 185.00
OT315…400	OTZ400E	1SCA022749R1960	R 2 806.00
OT630...800	OTZ800E	1SCA022807R5100	R 3 366.00
OT1000...1250	OTZ1250E	1SCA103765R1001	R 10 923.00
OT1600	OTZ1600E	1SCA100431R1001	R 11 846.00
OT2000…2500	OTZ2500E	1SCA107931R1001	R 19 037.00
OT3200...4000	OTZ4000E	1SCA128807R1001	R 28 555.00

Fourth poles, late-break and early-make

Mountable on the side of the switch.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
For OT switch-disconnectors			
OT16...40F3	OTPL40FP	1SCA105717R1001	R 117.00
OT63...80F3	OTPL80FP	1SCA105452R1001	R 221.00
OT100...125F3	OTPL125FP	1SCA105090R1001	R 457.00
OT16...40FT3	OTPL40FD	1SCA105716R1001	R 122.00
OT63...80FT3	OTPL80FD	1SCA105451R1001	R 270.00
OT100...125FT3	OTPL125FD	1SCA105088R1001	R 479.00

*) N1=On the left side of the switch
*) N2=On the right side of the switch

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Switch-disconnectors
Accessories – Terminal shrouds



OTS40T3



OTS125T3



OTS125T1P



OTS1600G1L



OTS2500G1L

Terminal shrouds for OT switches, snap-on mounting, transparent

Suitable for switches	Type	Order number	Price per unit Excl. VAT
For 3-pole OT switches			
OT16...40F3, -FT3	OTS40T3	1SCA105317R1001	R 123.00
OT63...80F3, -FT3	OTS63T3	1SCA022353R6750	R 224.00
OT100...125F3, FT3	OTS125T3	1SCA022379R9680	R 397.00
For 3-pole OT switches with terminal clamps OZXL1 or OZXT1			
OT100...125F3	OTS125T3P	1SCA022491R9890	R 479.00
For 1 to 4-pole OT switches, shroud for single pole and for fourth pole			
OTP_40F_	OTS40T1	1SCA105314R1001	R 75.00
OTP_80F_	OTS63T1	1SCA022353R6910	R 136.00
OTP_125F_	OTS125T1	1SCA022379R9760	R 236.00

Terminal shrouds for OT switches, snap-on mounting, grey

Suitable for switches	Description	Type	Order number	Price per unit Excl. VAT
For 3-pole OT				
OT160EV…250	Long type	OTS250G1L/3	1SCA022731R8150	R 147.00
OT315…400	Long type	OTS400G1L/3	1SCA022736R8840	R 207.00
OT630…800	Long type	OTS800G1L/3	1SCA022776R7890	R 302.00
OT1000...1600	Long type	OTS1600G1L/3	1SCA022871R9510	R 729.00
OT2000…2500	Long type	OTS2500G1L/3	1SCA107261R1001	R 855.00
OT3200...4000	Long type	OTS4000G1L/3	1SCA129042R1001	R 902.00

Switch-disconnectors
Accessories – Conversion kits for front operated switch combinations


OWP6D40


OWP6D80


OWP6D125


OTZW8


OWC6D40


OWC6D125


OTZW25 OTZW26 OTZW17


OTZW24

6 and 8-pole switch mechanism

Suitable for switches	Shaft distance [mm]	Type	Order number	Price per unit Excl. VAT
Parallel attachment for connecting two 3- or 4-pole switches				
The switches work simultaneously. Mounting directly on the top of two switch-disconnectors, snap-on mounting. The switch size is printed on stickers for the different switch sizes. The fourth pole or auxiliary contacts can be mounted on the outer side of the combination.				
OT16...40		OWP6D40	1SCA022865R4800	R 452.00
OT63...80		OWP6D80	1SCA022865R5010	R 481.00
OT100...125		OWP6D125	1SCA022865R5100	R 676.00
Attachment levers for connecting two 3- or 4-pole switches				
Attachment levers provided with holes, enabling different shaft distances. The combination switches can be mounted either horizontally or vertically. Two 3 or 4-pole switches needed.				
OT16...40	45+(0...12)x15	OTZW8	1SCA022421R7600	R 986.00
OT63...80	60+(0...11)x15	OTZW8	1SCA022421R7600	R 986.00
OT100...125	75+(0...10)x15	OTZW8	1SCA022421R7600	R 986.00

Change-over switch mechanism

Two switches connected with a mechanism operating into I-O-II -positions. Two 3 or 4-pole switches needed.

Change-over kits				
The modular change-over switches can be built by adding a compact snap-on kit on the top of two switch-disconnectors. The kits do not require any additional foot print area, only the height is increased 12 mm.				
OT16…40	OXS6_, OXP6_	OWC6D40	1SCA022865R4550	R 281.00
OT63…80	OXS6_, OXP6_	OWC6D80	1SCA022865R4630	R 457.00
OT100...125	OXS6_, OXP6_	OWC6D125	1SCA104494R1001	R 821.00
Attachment levers				
OT160EV...250	210+(0...18)x20	OTZW25	1SCA022778R6920	R 5 383.00

See the table of the handles and shafts included in the conversion kits on next page.

By-pass switch mechanism

A combination of two switches in parallel with a third switch for change-over operation to by-pass, for example, a breaker for maintenance. The by-pass attachment can be used together with another combination attachment. Three 3 or 4-pole switches needed.

Suitable for switches	Shaft distance [mm]	Type	Order number	Price per unit Excl. VAT
OT16...125	Between 1 and 2: 90+(0...6)x15 Between 1 and 3: 90+(0...10)x15	OTZW17	1SCA022387R1620	R 3 165.00
OT160EV...250	Between 1 and 2: 210+(0...9)x20 Between 1 and 3: 250+(0...9)x20	OTZW26	1SCA022778R7060	R 9 518.00

Mechanical interlock mechanism

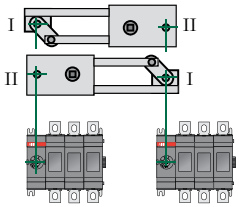
Prevents one switch from moving to ON-position, if the other is not in OFF-position. When mounted upside down, prevents one switch from moving to OFF-position, if the other is not in ON-position. (UPS-usage, make-before-break).

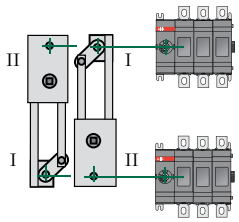
OT16...125	100	OTZW24	1SCA022639R5610	R 1 145.00
OT160...250	190	OTZW10	1SCA022431R5280	R 1 185.00

See the table of the handles and shafts included in the conversion kits on next page.

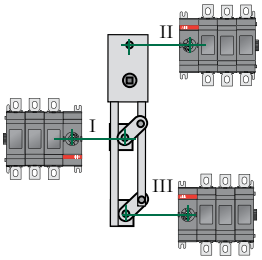
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Switch-disconnectors
Accessories – Conversion kits for front operated switch combinations

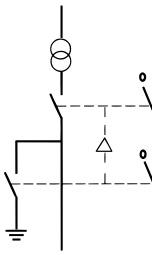




Change-over switches



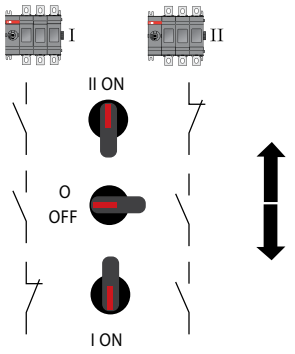
Bypass switches



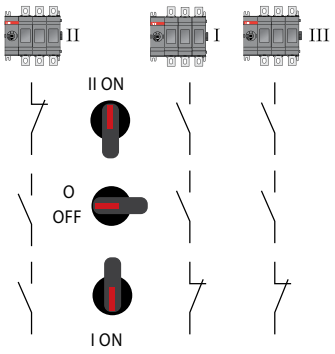
Mechanical interlock

The shafts and handles for conversion kits

Conversion kit type	To be ordered separately		Included in conversion kit delivery		The standard handle / shaft of one of the combined switches can be used	
	Shaft	Handle	Shaft	Handle	Shaft	Handle
6 and 8-pole switches						
OWP6D40	x (shaft dia 6 mm)	OHBS2A_	-	-	-	-
OWP6D80	x (shaft dia 6 mm)	OHBS2A_	-	-	-	-
OWP6D125	x (shaft dia 6 mm)	OHBS2A_	-	-	-	-
OWP6D40	x (shaft dia 6 mm)	OHB45J6	-	-	-	-
OWP6D80	x (shaft dia 6 mm)	OHB45J6	-	-	-	-
OWP6D125	x (shaft dia 6 mm)	OHB45J6	-	-	-	-
OTZW8	x	x	-	-	-	-
Change-over switches (Handles on pg xx)						
OWC6D40	x (shaft dia 6 mm)	OHBS2AJE011	-	-	-	-
OWC6D80	x (shaft dia 6 mm)	OHBS2AJE011	-	-	-	-
OWC6D125	x (shaft dia 6 mm)	OHBS2AJE011	-	-	-	-
OTZW25	-	-	x (2 pcs)	OHB95J12E011	-	-
By-pass switches						
OTZW17	-	-	x (3 pcs)	OHB80J6E011		
OTZW26	-	-	x (3 pcs)	OHB95J12E011	-	-
Mechanical interlock						
OTZW24	-	-	-	-	x	x
OTZW10	-	-	-	-	x	x



Change-over switches

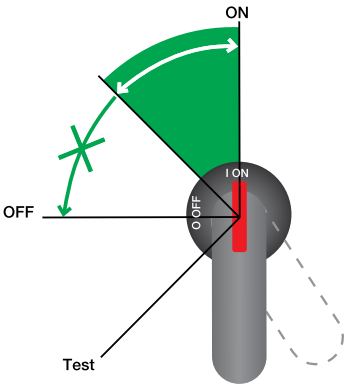


Bypass switches

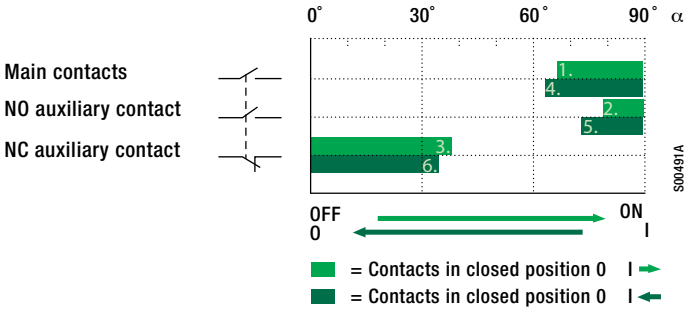
Switch-disconnectors
Contact functions

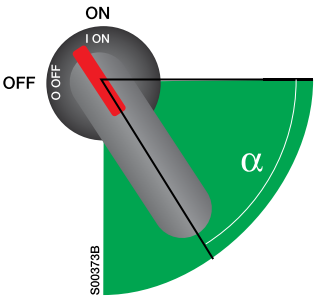
Handle indications and functions

– The handle indicates the position of the contacts with complete reliability in all situations. If the contacts are welded together, the handle does not reach the OFF-position but remains between ON and OFF, maintaining the door interlock and preventing padlocking.
– When operating the switch fuse to the Test-position with a test handle the test auxiliary contacts change position. The main contacts remain open.



ON and OFF-functions of main and auxiliary contacts



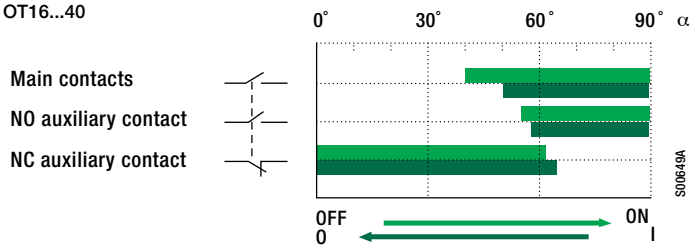


Closing: 1. Main contacts close 2. NO auxiliary contacts close 3. NC auxiliary contacts open
Opening: 4. Main contacts open 5. NO auxiliary contacts open 6. NC auxiliary contacts close

ON and OFF-functions of main and auxiliary contacts OT16...125

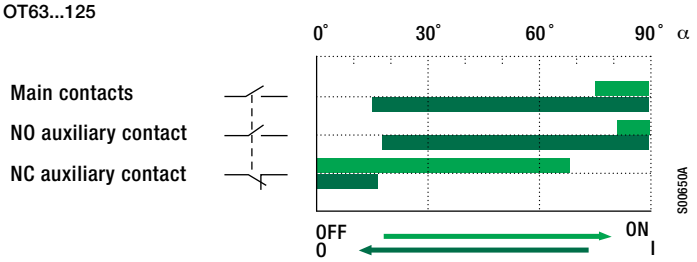
Auxiliary contact OA2G11, simultaneous function with main contacts.

OT16...40



OA1G10, OA1G01

OT63...125



OA1G10, OA1G01

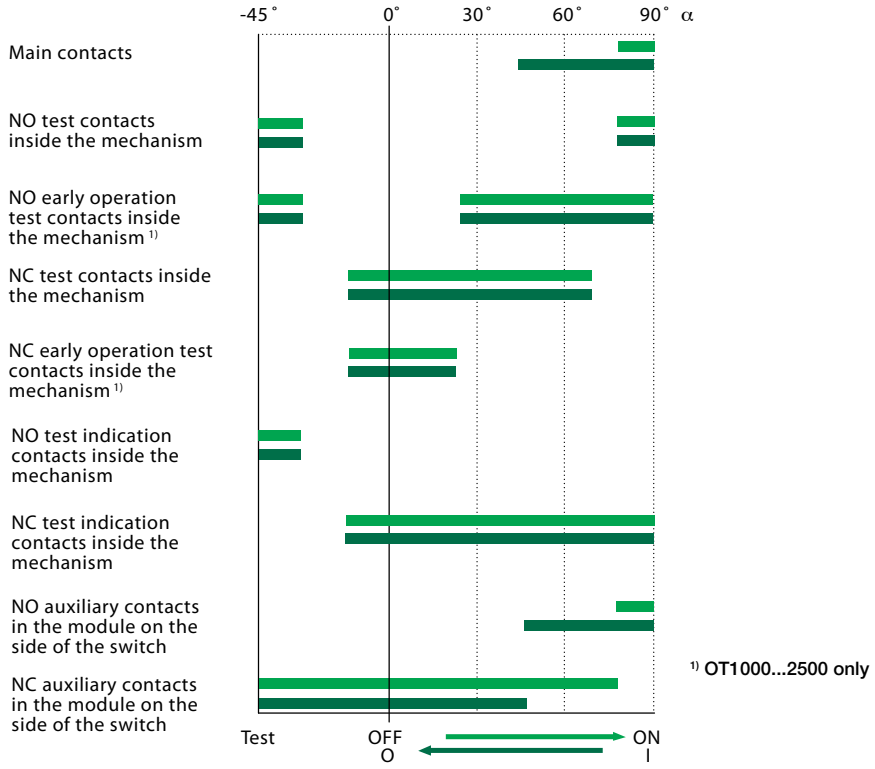
Auxiliary contact	Contact configuration
OA1G10	1NO
OA1G01	1NC
OA2G11*	1NO+1NC

* Auxiliary contact OA2G11, simultaneous function with main contacts.

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Switch-disconnectors
Contact functions

ON and OFF-functions of main and auxiliary contacts OT160EV...4000



Contact	Contact configuration
OA1G10	1NO
OA3G01	1NC

1) OT1000...2500 only

Change-over, bypass and transfer switches OT, OT_Y and OTM

Technical data for OT16...125_C

Data according to IEC 60947-3			
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V
Dielectric strength		50 Hz 1min	kV
Rated impulse withstand voltage			kV
Rated thermal current and rated operational current AC20/DC20 ..with minimum conductor cross section	/ ambient 40°C / ambient 40°C / ambient 60°C	In open air In enclosure In enclosure Cu	A A A mm^2
Rated operational current, AC-21A		up to 500 V 690 V	A A
Rated operational current, AC-22A		up to 500 V 690 V	A A
Rated operational current, AC-23A		up to 415 V 440 V 500 V 690 V	A A A A
Rated operational current / poles in series, DC-21A		up to 48 V[1] 110 V 220 V 440 V 500 V	A A A A A
Rated operational current / poles in series, DC-22A		up to 48 V[1] 110 V 220 V 440 V	A A A A
Rated operational current / poles in series, DC-23A		up to 48 V[1] 110 V 220 V 440 V	A A A A
Rated operational power, AC-23A[2] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V 400 V 415 V 500 V 690 V	kW kW kW kW kW
Rated breaking capacity, AC-23		up to 415 V 500 V 690 V	A A A
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	I_p (r.m.s.) 50 kA, 415 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM	kA A/A
	I_p (r.m.s.) 100 kA, 500 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM	kA A
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 1 s	kA
Rated short-time making capacity[3]	I_{cm} (peak)	690 V	kA
Rated capacitor power (The capacitor ratings are limited by the fuse link.)	400...415 V	kVAr	6.5
Power loss / pole	With rated current		W
Mechanical endurance	Number of oper. cycles[4]		Cycles
Cable size	Cu-wire size suitable for terminal clamps		mm^2 AWG
Terminal tightening torque Operating torque	Counter torque required Typical for 3-pole switches		Nm Nm
Weight without accessories	3-pole switch 4-pole switch		kg kg
Data according to UL508 (Listed)			
Current			A
Horsepower, 3-phase		200 V 208 V 240 V 480 V 600 V	HP HP HP HP HP

1) Below 48 V, two poles in parallel up to OT80 are recommended particularly in polluted atmosphere
2) These values are given for guidance and may vary according to the motor manufacturer
3) Short circuit duration >50ms, without fuse protection
4) Operating cycle: 0 - I - 0 - II - 0.

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Change-over, bypass and transfer switches OT, OT_Y and OTM

Technical data for OT16...125_C

OT16_	OT25_	OT40_	OT63_	OT80_	OT100_	OT125_
750	750	750	750	750	750	750
6	6	6	6	6	6	6
8	8	8	8	8	8	8
25 25 20 4	32 32 25 6	40 40 32 10	63 63 50 16	80 80 63 25	115 115 80 35	125 125 100 50
16 16	25 25	40 40	63 63	80 80	100 100	125 125
16 16	25 25	40 40	63 63	80 80	100 100	125 125
16 16 16 10	20 20 20 11	23 23 23 12	45 45 45 20	75 65 58 20	80 65 60 40	90 78 70 50
16/1 16/2 16/3 16/4 16/4	25/1 25/2 25/3 16/4 16/4	32/1 32/2 32/3 16/4 16/4	63/1 63/2 63/4 16/4 16/4	80/1 80/2 63/4 16/4 16/4	100/1 100/2 100/4	125/1 125/2 100/4
16/1 16/2 16/3 10/4	25/1 25/2 25/3 10/4	32/1 32/2 32/4 10/4	63/1 63/2 45/4 10/4	80/1 80/2 45/4 10/4	100/1 100/2 63/4	125/1 125/2 80/4
16/1 16/2 16/4 10/4	25/1 25/2 25/4 10/4	32/1 32/2 32/4 10/4	63/1 63/2 45/4 10/4	80/1 80/2 45/4 10/4	100/1 100/2 63/4	125/1 125/2 63/4
3 7.5 7.5 7.5 7.5	4 9 9 9 9	5.5 11 11 11 11	11 22 22 22 15	22 37 37 37 18.5	22 37 37 37 37	22 45 45 45 45
128 128 80	160 160 96	184 184 96	360 360 160	640 464 160	640 480 320	720 560 400
6.5 40/32	6.5 40/32	6.5 40/32	13 100/80	13 100/80	16.5 125/125	16.5 125/125
			17 100/80	17 100/80		
0.5	0.5	0.5	1	1.5	2.5	2.5
0.7	0.7	0.7	1.4	2.1	3.6	3.6
0.3	0.6	1.6	2.8	4.5	4.0	6.3
10 000	10 000	10 000	10 000	10 000	10 000	10 000
0.75-10 18-8	0.75-10 18-8	0.75-10 18-8	1.5-35 14-4	1.5-35 14-4	10-70 8-00	10-70 8-00
0.8 1	0.8 1	0.8 1	2 1.2	2 1.2	6 2	6 2
0.25 0.31	0.25 0.31	0.25 0.31	0.64 0.70	0.64 0.70	0.90 1.18	0.90 1.18
16	25	40	60	80		
3 3 5 10 10	7.5 7.5 7.5 15 20	10 10 10 20 25	15 15 15 30 30	20 20 20 40 40		

Change-over, bypass and transfer switches OT, OT_Y and OTM

Technical data for OT160...3200_C_, OT160...800_Y

Data according to IEC 60947-3				OT_160_	OT_200_
Rated insulation voltage and rated operational voltage AC20/DC20 [1]		Pollution degree 3 [2]	V	1000	1000
Dielectric strength		50 Hz 1min	kV	10	10
Rated impulse withstand voltage [3]			kV	12	12
Rated thermal current and rated operational current AC20/DC20 ..with minimum conductor cross section	/ ambient 40°C / ambient 40°C	In open air In enclosure Cu	A A mm^2	160 160 70	200 200 95
Rated operational current, AC-21A		up to 500 V 690 V	A A	160 160	200 200
Rated operational current, AC-22A		up to 500 V 690 V	A A	160 160	200 200
Rated operational current, AC-23A		up to 415 V 440 V 500 V 690 V	A A A A	160 160 160 160	200 200 200 200
Rated operational current / poles in series, DC-21A [13]		≤ 110 V 220 V 440 V 660 V	A A A A	160/2 160/2 160/3 160/4	200/2 200/2 200/3 200/4
Rated operational power, AC-23A [5] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V 400 V 415 V 500 V 690 V	kW kW kW kW kW	45 90 90 110 160	60 110 110 132 200
Rated breaking capacity in category AC-23		up to 415 V 500 V 690 V	A A A	1280 1280 1280	1600 1600 1600
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	I_p (r.m.s.) 80 kA, 415 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM	kA A/A	40.5 355/315	40.5 355/315
	I_p (r.m.s.) 100 kA, 500 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM	kA A	40.5 315/315	40.5 315/315
	I_p (r.m.s.) 80 kA, 690 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM	kA A	40.5 355/315	40.5 355/315
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s 690 V 0.25s 690 V 1 s	kA kA kA	15 15 8	15 15 8
Rated short-time making capacity [6] Power loss / pole	I_{cm} (peak) [7] With rated current	690 V	kA W	30 2.4	30 4
Mechanical endurance	Number of oper. cycles [8]		Cycles	8 000	8 000
Terminal bolt size Terminal tightening torque	Metric thread diameter x length Counter torque required		mm Nm	M8x25 15-22	M8x25 15-22
Operating torque	Typical for 3-pole change-over switches Typical for 3-pole bypass switches		Nm Nm	7 14	7 14
Weight without accessories	Manual change-over switches	3-pole switch 4-pole switch	kg kg	2.5 3.2	2.5 3.2
	Motorized and automatic transfer switches	3-pole switch 4-pole switch	kg kg	5.7 6.4	5.7 6.4
	Manual bypass switches	3-pole switch 4-pole switch	kg kg	4.3 5.8	4.3 5.8
Data according to IEC 60947-6-1					
Class of equipment Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	PC 15	PC 15
Rated operational current, AC-31B Rated operational current, AC-33B		up to 415 V up to 415 V	A A	160 160	200 200

1) Automatic transfer switches: operational voltage = max. 415 V AC for OTM_C2D_, OTM_C3D_ and OTM_C8D_
2) Automatic transfer switches: pollution degree 2 for OTM_C2D_, OTM_C3D_ and OTM_C8D_
3) Automatic transfer switches: Uimp = 6 kV for OTM_C2D_, OTM_C3D_ and OTM_C8D_
4) Utilization category B
5) These values are given for guidance and may vary acc. to the motor manufacturer
6) Short circuit duration > 50ms, without fuse protection
7) Max. distance from switch frame to nearest busbar / cable support 150 mm
8) Operating cycle: O - I - O - II - O
9) Category AC-21B, up to 415V
10) For manual change-over and bypass switches
11) For motorized and automatic transfer switches
12) 500 V
13) Further ratings on request

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Change-over, bypass and transfer switches OT, OT_Y and OTM

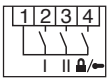
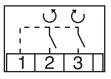
Technical data for OT160...3200_C_, OT160...800_Y

OT_250_	OT_350_	OT_400_	OT_630_	OT_800_	OT_1000_	OT_1250_	OT_1600_	OT_2000_	OT_2500_	OT_3200_
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
10	10	10	10	10	10	10	10	10	10	10
12	12	12	12	12	12	12	12	12	12	8
250 250 120	315 315 185	400 400 240	630 630 2x185	800 800 2x240	1000 2x300	1250 2x400	1600 2x500	2000 3x500	2500 4x500	3200 4x1000
250 250	315 315	400 400	630 630	800 800	1000 1000	1250 1250	1600 1600	2000 [9]	2500 [9]	3200 [9]
250 250	315 315	400 400	630 630	800 800	1000 1000	1250 1250	1600 1600			
250 250 250 250	315 315 315 315	400 400 400 400	630 630 630 630	800 800 800 800	1000 1000 1000 1000	1250 1250 1250 1250	1250 1250 1250 1250			
250/2 250/2 230/3 200/4	315/1 [4] 315/2 [4] 315/3 315/4	400/1 [4] 400/2 [4] 360/3 315/4	630/1 630/1 630/2 630/4 [4]	800/1 800/1 720/2 630/4 [4]						
75 140 145 170 250	100 160 180 220 315	132 220 230 280 400	200 355 355 400 630	250 450 450 560 800	315 560 560 710 1000	400 710 710 900 1200	400 710 710 900 1200			
2000 2000 2000	2520 2520 2520	3200 3200 3200	5040 5040 5040	6400 6400 6400	10 000 10 000 10 000	10 000 10 000 10 000	10 000 10 000 10 000			
40.5 355/315	59 500/500	59 500/500	83.5 800/1000	83.5 800/1000	100 1250/1250	100 1250/1250	100 1250/1250			
40.5 315/315	61.5 500/450	61.5 500/450	90 800/800	90 800/800	106 1250/1250	106 1250/1250	106 1250/1250			
40.5 355/315	59 500/500	59 500/500	83.5 800/1000	83.5 800/1000						
15 15 8	31 24 15	31 24 15	38 36 20	38 36 20	50 50 50	50 50 50	50 50 50	50 50 55	50 50 55	 65 [12]
30 6.5	65 6.5	65 10	80 25	80 40	92 19	92 29	92 48	110 55	110 85	143 95 [12]
8 000	8 000	8 000	5000	5000	3 000	3 000	3 000	2000	2000	400
M8x25 15-22	M10x30 30-44	M10x30 30-44	M12x40 50-75	M12x40 50-75	M12x60 50-75	M12x60 50-75	M12x60 50-75	M12x60 50-75	M12x60 50-75	M12x100 50-75
7 14	16 32	16 32	27 54	27 54	78	78	78	78	78	80
2.5 3.2	4.7 5.8	4.7 5.8	12.8 15.6	12.8 15.6	32.3 40.2	32.3 40.2	34.8 40.2	48 60	48 60	57 72
5.7 6.4	10.2 11.4	10.2 11.4	17.5 20.4	17.5 20.4	42 50	42 50	44 52	56 70	56 70	
4.3 5.8	8.2 11.0	8.2 11.0	19.9 26.6	19.9 26.6						
PC 15	PC 25	PC 25	PC 38	PC 38	PC 50	PC 50	PC 50	PC 50	PC 50	
250 250	315 315	400 400	630 [10]/650 [11] 630 [10]/650 [11]	800 [10]/720 [11] 800 [10]/720 [11]	1000 1000	1250 1000	1600 1000	2000 [10]	2000 [10]	

Change-over, bypass and transfer switches OT, OT_Y and OTM

Technical data for OTM40...125_C_

Motor operator

Data according to IEC 60947				Switch Size 40...125
Rated operational voltage U_e	Pollution degree 3 50/60 Hz		V AC/DC V DC	110-240 24
Operating voltage range				0.85 - 1.1 x U_e
Operating time [1]	90° I-0, 0-I, 0-II, II-0	110...240 V AC/DC 24 V DC	s s	0.5-1.0 0.6-1.3
Operating transfer time [1]	180° I-II, II-I	110...240 V AC/DC 24 V DC	s s	1.2-1.5 1.4-2.1
OFF -time when operating I-II or II-I [1]	180° I-II, II-I	110...240 V AC/DC 24 V DC	s s	0.4-0.8 0.6-1.0
Nominal current I_n [1]		110...240 V AC/DC 24 V DC	A A	0.2-0.5 0.6
Current inrush [1]		110...240 V AC/DC 24 V DC	A A	1.5-3.0 3.6
Operating rate	Cycle 0-I-0-II-0	Max. continuous Max. short-time ≤ 10 cycles	cycles/min cycles/min	1 10
Overvoltage category Rated impulse withstand voltage U_{imp} Dielectric strength		 50 Hz 1 min.	 kV kV	III 4 1.5
Impulse command		Min. impulse duration	ms	100
Terminals				
Voltage supply wiring for U_e Cross section		 Solid/stranded	 mm^2	PE - N - L 1.5 - 2.5
Short-circuit protection device		Max. MCB	A	C16
Control terminal Cross section Maximum cable length		 Solid/stranded	 mm^2 m	C - II - I - O 1.5 - 2.5 100
Terminal for state information				
Terminal for state information Also used with the OMD automatic control unit		Solid/stranded Rating	mm^2 A	1.5 3 AC-1/250V
Common, voltage supply Position of switch I Position of switch II Handle attached or motor operator locked Short-circuit protection device	1 2 3 4	 Max. MCB	 A	 C2
Control terminal for OMD automatic control unit				
Control terminal for OMD automatic control unit		Solid/stranded	mm^2	1.5 - 2.5
Common, voltage supply from motor operator Close switch I or open switch II	1 2		V DC V DC mW	24 24 500
Close switch II or open switch I	3		V DC mW	24 500
Operating temperature Transportation and storage temperature			°C °C	-25…+55 -40…+70
Max. altitude Protection degree (front panel)			m	2000 IP20

1) Under nominal conditions

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Change-over, bypass and transfer switches OT, OT_Y and OTM

Technical data for OTM160...2500_C_

Motor operator

Data according to IEC 60947				Switch Size				
				160...250	350...400	630...800	1000...1600	2000...2500
Rated operational voltage U_e	Pollution degree 3	50/60 Hz	V AC V AC/DC V DC V DC	220 - 240 110 - 125 48 24				
Operating voltage range				0.85 - 1.1 x U_e				
Operating time [1]	90° I-0, 0-I, 0-II, II-0	220-240VAC 110-125VAC/DC 48VDC 24VDC	s s s s	0.4-1.0 0.5-1.5 0.5-1.5 0.4-1.0	0.4-1.0 0.5-1.5 0.4-1.0 0.4-1.0	0.4-1.0 0.6-1.2 0.6-1.6 0.5-1.5	0.5-1.5 0.5-1.5 0.5-1.5 1.0-2.0	0.5-1.5 0.5-1.5 0.5-1.5 1.0-2.0
Operating transfer time [1]	180° I-II, II-I	220-240VAC 110-125VAC/DC 48VDC 24VDC	s s s s	1.0-2.0 1.1-2.5 1.4-2.5 1.0-2.0	0.9-2.0 1.2-2.6 1.0-2.0 1.0-2.0	0.9-2.0 1.2-3.0 1.3-3.0 1.1-2.5	1.5-3.0 1.5-3.0 1.5-3.0 2.0-3.5	1.5-3.0 1.5-3.0 1.5-3.0 2.0-3.5
OFF -time when operating I-II or II-I [1]	180° I-II, II-I	220-240VAC 110-125VAC/DC 48VDC 24VDC	s s s s	0.4-1.0 0.4-1.1 0.5-1.1 0.4-1.0	0.4-1.0 0.5-1.5 0.4-1.0 0.4-1.0	0.4-1.0 0.6-1.5 0.7-1.6 0.5-1.5	0.5-1.5 0.5-1.5 0.5-1.5 0.8-1.7	0.5-1.5 0.5-1.5 0.5-1.5 0.8-1.7
Nominal current I_n [1]		220-240VAC 110-125VAC/DC 48VDC 24VDC	A A A A	0.2 0.5 1.1 3.3	0.5 0.6 1.1 4.2	0.7 0.8 2.6 4	1.8 3.0 5.3 8.0	1.8 3.0 5.3 8.0
Current inrush [1]		220-240VAC 110-125VAC/DC 48VDC 24VDC	A A A A	1.3 2.1 4.4 16.8	2.1 2.5 8.3 17.5	2.8 4.6 8.4 22.4	7.7 13.3 22.4 26.6	7.7 13.3 22.4 26.6
Overload fuse	Type / I_n / Capacity Size	220-240VAC 110-125VAC/DC 48VDC 24VDC	mA mA A A mm	T/315/H T/500/H T/1.25/H T/4.0/H 5x20	T/500/H T/630/H T/2.5/H T/5.0/H 5x20	T/1000/H T/1000/H T/2.5/H T/5.0/H 5x20	T/2000/H T/4000/H T/5/H T/10/H 5x20	T/2000/H T/4000/H T/5/H T/10/H 5x20
Operating rate	Cycle 0-I-0-II-0 max. continuous	220-240VAC 110-125VAC/DC 48VDC 24VDC	cycles/min cycles/min cycles/min cycles/min	1 1 1 1	1 1 1 1	1 1 1 1	0.5 0.5 0.5 0.5	0.5 0.5 0.5 0.5
	Max. short-time, ≤ 10 cycles	220-240VAC 110-125VAC/DC 48VDC 24VDC	cycles/min cycles/min cycles/min cycles/min	10 10 10 10	10 10 10 10	10 10 10 10	5 5 5 5	5 5 5 5
Overvoltage category				III				
Rated impulse withstand voltage U_{imp} Dielectric strength		 50 Hz 1 min.	kV kV	4 1.5				
Impulse command		Min. impulse duration	ms	100				
Terminals								
Voltage supply wiring for U_e Cross section		 Solid/stranded	 mm^2	PE - N - L 1.5 - 2.5				
Short-circuit protection device		Max. MCB	A	C16				
Control terminal (no SELV) Cross section Maximum cable length		 Solid/stranded	 mm^2 m	C - II - I - O 1.5 - 2.5 100				
State information of locking (no SELV)								
Handle attached or motor operator locked Locking motor operator		11-12-14 (C/O) 23-24 (NO)		5A/250V/cosφ=1 5A/250V/cosφ=1				
Short-circuit protection device		Max. MCB	A	C2				
Protection degree				IP20				
Operating temperature Transportation and storage temperature			°C °C	-25…+55 -40…+70				
Max. altitude			m	2000				

1) Under nominal conditions

Change-over, bypass and transfer switches

Manual change-over switches OT16...125_C, and OT315...800_CP



OT63...80F3C

Manual change-over switches, I-0-II -operation

Including terminal clamps, IP20. Handle and shaft have to be ordered separately.

	Rated current and power					
	AC-21A/AC-22A		AC-23A			
No. of poles	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]	Type	Order number	Price per unit Excl. VAT
3	16	11	16/7.5	OT16F3C	1SCA104816R1001	R 894.40
3	25	17	20/9	OT25F3C	1SCA104863R1001	R 922.36
3	40	27	23/11	OT40F3C	1SCA104913R1001	R 1 006.24
3	63	43	45/22	OT63F3C	1SCA105338R1001	R 2 088.52
3	80	55	75/37	OT80F3C	1SCA105402R1001	R 2 237.20
3	100	70	80/37	OT100F3C	1SCA105008R1001	R 2 834.24
3	125	86	90/45	OT125F3C	1SCA105037R1001	R 3 043.28



OT160...250E03CP



OT160...250E04CP

Manual change-over switches, I-0-II -operation

Including a black plastic IP65 I-0-II pistol type handle, shaft and bolt set for the cable connection. Handle padlockable in the 0-position, door interlock in the I- and II-positions and when padlocked..

	Rated current and power					
	AC-21A/AC-22A		AC-23A			
No. of poles	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]	Type	Order number	Price per unit Excl. VAT
3	160	110	160/90	OT160E03CP	1SCA022772R6510	R 6 207.00
4	160	110	160/90	OT160E04CP	1SCA022775R9440	R 8 688.00
3	200	135	200/110	OT200E03CP	1SCA022771R7520	R 7 320.00
4	200	135	200/110	OT200E04CP	1SCA022771R7280	R 10 247.00
3	250	170	250/140	OT250E03CP	1SCA022771R3450	R 8 645.00
4	250	170	250/140	OT250E04CP	1SCA022775R4640	R 12 103.00

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT160...250_C	OXP6x161	OHB65J6E011	M8x25



OT315...400E03CP



OT630...800E03CP

	Rated current and power					
	AC-21A/AC-22A		AC-23A			
No. of poles	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]	Type	Order number	Price per unit Excl. VAT
3	315	215	315/160	OT315E03CP	1SCA022772R6780	R 12 200.00
4	315	215	315/160	OT315E04CP	1SCA022775R7150	R 17 081.00
3	400	275	400/220	OT400E03CP	1SCA022771R8500	R 13 595.00
4	400	275	400/220	OT400E04CP	1SCA022771R8680	R 19 033.00
3	630	435	630/355	OT630E03CP	1SCA022785R6050	R 15 025.00
4	630	435	630/355	OT630E04CP	1SCA022785R6130	R 21 035.00
3	800	550	800/450	OT800E03CP	1SCA022785R6300	R 26 145.00
4	800	550	800/450	OT800E04CP	1SCA022785R6210	R 36 603.00

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT315...400_C	OXP12x166	OHB95J12E011	M10x30
OT630...800_C	OXP12x185	OHB125J12E011	M12x40

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Change-over, bypass and transfer switches
Manual change-over switches OT1000...3200_CP



OT1250E03CP



OT1600E03CP



OT3200E03CP

Manual change-over switches, I-0-II -operation

Including a black plastic IP65 I-0-II pistol type handle, shaft and bolt set for the cable connection. Handle padlockable in the 0-position, door interlock in the I- and II-positions and when padlocked..

No. of poles	Rated current [1] and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Price per unit Excl. VAT
3	1000	680	1000/560	OT1000E03CP	1SCA022872R1680	R 36 343.00
4	1000	680	1000/560	OT1000E04CP	1SCA022872R1500	R 45 430.00
3	1250	850	1250/710	OT1250E03CP	1SCA022872R0790	R 36 708.00
4	1250	850	1250/710	OT1250E04CP	1SCA022872R1250	R 49 973.00
3	1600	1000	1250/710	OT1600E03CP	1SCA022872R1840	R 56 813.00
4	1600	1000	1250/710	OT1600E04CP	1SCA022872R2310	R 73 858.00
3	2000	1350		OT2000E03CP	1SCA103908R1001	R 103 481.00
4	2000	1350		OT2000E04CP	1SCA103912R1001	R 134 526.00
3	2500	1700		OT2500E03CP	1SCA105615R1001	R 139 700.00
4	2500	1700		OT2500E04CP	1SCA103906R1001	R 157 251.00
3	3200	2170		OT3200E03CP	1SCA129156R1001	R 173 074.00
4	3200	2170		OT3200E04CP	1SCA129158R1001	R 181 163.00

1) OT2000…3200: Category AC-21B

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT1000...2500_C	OXP12x185	OHB200J12PE011	M12x60
OT3200_C	OXP12x185	OHB200J12PE011	M12x100

Change-over, bypass and transfer switches
Bypass switches OT160...800E_YP



OT160...250E03_YP



OT315...400E03_YP



OT630...800E03_YP

Manual bypass switches, I-0-II -operation

Including a black plastic IP65 I-0-II pistol type handle and a handle extension for enabling smooth manual operation, shaft and bolt set for the cable connection. The handle extension is snap-on mounted on the standard handle for manual operation. The handle extension shall be removed when padlocking the standard handle. Handle padlockable in the 0-position, door interlock in the I- and II-positions and when padlocked.

	Rated current and power					
	AC-21A/AC-22A		AC-23A			
No. of poles	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]	Type	Order number	Price per unit Excl. VAT
3	160	110	160/90	OT160E03YP	1SCA123551R1001	R 12 601.00
4	160	110	160/90	OT160E04YP	1SCA123556R1001	R 13 418.00
3	200	135	200/110	OT200E03YP	1SCA123552R1001	R 13 374.00
4	200	135	200/110	OT200E04YP	1SCA123557R1001	R 14 510.00
3	250	170	250/140	OT250E03YP	1SCA123553R1001	R 19 360.00
4	250	170	250/140	OT250E04YP	1SCA123558R1001	R 15 602.00
3	315	215	315/160	OT315E03YP	1SCA123581R1001	R 21 176.00
4	315	215	315/160	OT315E04YP	1SCA123583R1001	R 18 686.00
3	400	275	400/220	OT400E03YP	1SCA123582R1001	R 27 582.00
4	400	275	400/220	OT400E04YP	1SCA124026R1001	R 20 762.00
3	630	435	630/355	OT630E03YP	1SCA123590R1001	R 38 483.00
4	630	435	630/355	OT630E04YP	1SCA123592R1001	R 39 595.00
3	800	550	800/450	OT800E03YP	1SCA123591R1001	R 46 119.00
4	800	550	800/450	OT800E04YP	1SCA123593R1001	R 43 636.00

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Handle extension	Bolt kit
OT160...250_Y	OXP6/12x161C	OHB65J12E011	OHBZX200	M8x25
OT315...400_Y	OXP12x166	OHB95J12E011	OHBZX200	M10x30
OT630...800_Y	OXP12x185	OHB125J12E011	OHBZX275	M12x40

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Change-over, bypass and transfer switches
Motorized change over switches



OTM40...125F3C_



OTM40...125F4C_

Change-over switches, motor operation, I-0-II -operation

Including a handle for manual operation, a storage clip for the handle and male connectors for control circuits..

	Rated current and power					
	AC-21A/AC-22A		AC-31B/ AC-33B			
No. of poles	≤ 415V I[A]	400V S[kVA]	415V I[A]	Type	Order number	Price per unit Excl. VAT
3	40	27	40/40	OTM40F3CMA230V	1SCA120096R1001	R 5 454.00
3	63	43	63/63	OTM63F3CMA230V	1SCA120095R1001	R 5 997.00
3	80	55	80/80	OTM80F3CMA230V	1SCA120093R1001	R 7 347.00
3	100	70	100/80	OTM100F3CMA230V	1SCA120071R1001	R 8 186.00
3	125	86	125/80	OTM125F3CMA230V	1SCA120070R1001	R 9 249.00
Motor voltage U_e 24 V DC						
3	40	27	40/40	OTM40F3CMA24D	1SCA124061R1001	R 5 454.00
3	63	43	63/63	OTM63F3CMA24D	1SCA124060R1001	R 5 997.00
3	80	55	80/80	OTM80F3CMA24D	1SCA124059R1001	R 7 347.00
3	100	70	100/80	OTM100F3CMA24D	1SCA124058R1001	R 8 186.00
3	125	86	125/80	OTM125F3CMA24D	1SCA124057R1001	R 9 249.00

Handles included as standard, cable cross section

Suitable for switches	Cable cross section [mm²]	Handle
OTM40F_CM	2.5...25 or 2 x 2.5...16	OHB65D6CM
OTM63...125F_CM	10 … 70	OHB65D6CM



OTM160...250E3C_



OTM315...400E3C_



OTM315...400E4C_

Change-over switches, motor operation, I-0-II -operation

Including a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160...400E_ include a storage clip for the handle and spare fuses.

	Rated current and power					
	AC-21A/AC-22A		AC-31B/ AC-33B			
No. of poles	≤ 415V I[A]	400V S[kVA]	415V I[A]	Type	Order number	Price per unit Excl. VAT
Motor voltage U_e 220...240 V AC						
3	160	110	160/160	OTM160E3CM230C	1SCA022845R8610	R 16 942.00
4	160	110	160/160	OTM160E4CM230C	1SCA022848R1510	R 20 331.00
3	200	135	200/200	OTM200E3CM230C	1SCA022845R8960	R 22 171.00
4	200	135	200/200	OTM200E4CM230C	1SCA022846R1590	R 26 605.00
3	250	170	250/250	OTM250E3CM230C	1SCA022845R9260	R 23 355.00
4	250	170	250/250	OTM250E4CM230C	1SCA022846R1910	R 28 026.00
3	315	215	315/315	OTM315E3CM230C	1SCA022847R1210	R 30 363.00
4	315	215	315/315	OTM315E4CM230C	1SCA022847R2870	R 36 435.00
3	400	275	400/400	OTM400E3CM230C	1SCA022847R1630	R 32 071.00
4	400	275	400/400	OTM400E4CM230C	1SCA022847R3250	R 38 485.00

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30

Change-over, bypass and transfer switches
Motorized change-over switches



OTM630...800E3C_



OTM1000...1250E3C_



OTM2000...2500E3C_

Change-over switches, motor operation, I-0-II -operation

Including a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM630...2500E_ include a storage clip for the handle and spare fuses.

No. of poles	Rated current [1] and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-31B/AC-33B 415V I[A]	Type	Order number	Price per unit Excl. VAT
Motor voltage U_e 220...240 V AC [2]						
3	630	435	650/650	OTM630E3CM230C	1SCA103567R1001	R 38 346.00
4	630	435	650/650	OTM630E4CM230C	1SCA022873R1990	R 46 014.00
3	800	550	720/650	OTM800E3CM230C	1SCA103570R1001	R 59 268.00
4	800	550	720/650	OTM800E4CM230C	1SCA022872R8340	R 71 112.00
3	1000	680	1000/1000	OTM1000E3CM230C	1SCA112677R1001	R 61 700.00
4	1000	680	1000/1000	OTM1000E4CM230C	1SCA112703R1001	R 74 040.00
3	1250	850	1250/1000	OTM1250E3CM230C	1SCA112676R1001	R 67 627.00
4	1250	850	1250/1000	OTM1250E4CM230C	1SCA112702R1001	R 81 152.00
3	1600	1000	1600/1000	OTM1600E3CM230C	1SCA112678R1001	R 90 953.00
4	1600	1000	1600/1000	OTM1600E4CM230C	1SCA112704R1001	R 183 868.00
3	2000	1350		OTM2000E3CM230C	1SCA112709R1001	R 136 424.00
4	2000	1350		OTM2000E4CM230C	1SCA112712R1001	R 190 994.00
3	2500	1700		OTM2500E3CM230C	1SCA112710R1001	R 204 637.00
4	2500	1700		OTM2500E4CM230C	1SCA112713R1001	R 286 490.00

1) OTM2000...2500: Category AC-21B

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV400ECMK	M12x60

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Change-over, bypass and transfer switches
Motorized change-over switches



OTM160...250E3C_



OTM630...800E3C_



OTM2000...2500E3C_

Change-over switches, motor operation, I-0-II -operation

Including a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160...2500E_ include a storage clip for the handle and spare fuses. Types OTM160...250E_W are equipped with extended phase distance.

No. of poles	Rated current 1) and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-31B/AC-33B 415V I[A]	Type	Order number	Price per unit Excl. VAT
Motor voltage U_e 24 V DC						
3	160	110	160/160	OTM160E3CM24D	1SCA022845R8110	R 16 942.00
4	160	110	160/160	OTM160E4CM24D	1SCA022846R0860	R 20 331.00
3	200	135	200/200	OTM200E3CM24D	1SCA022845R8290	R 22 171.00
4	200	135	200/200	OTM200E4CM24D	1SCA022846R1240	R 26 605.00
3	250	170	250/250	OTM250E3CM24D	1SCA022845R8370	R 23 355.00
4	250	170	250/250	OTM250E4CM24D	1SCA022846R1670	R 28 026.00
3	315	215	315/315	OTM315E3CM24D	1SCA022847R0910	R 30 363.00
4	315	215	315/315	OTM315E4CM24D	1SCA022847R2520	R 36 435.00
3	400	275	400/400	OTM400E3CM24D	1SCA022847R1390	R 32 071.00
4	400	275	400/400	OTM400E4CM24D	1SCA022847R2950	R 38 485.00
3	630	435	650/650	OTM630E3CM24D	1SCA022873R1210	R 38 346.00
4	630	435	650/650	OTM630E4CM24D	1SCA022873R2020	R 46 014.00
3	800	550	720/650	OTM800E3CM24D	1SCA022872R5910	R 59 268.00
4	800	550	720/650	OTM800E4CM24D	1SCA022872R8420	R 71 112.00
3	1000	680	1000/1000	OTM1000E3CM24D	1SCA113672R1001	R 61 700.00
4	1000	680	1000/1000	OTM1000E4CM24D	1SCA113675R1001	R 74 040.00
3	1250	850	1250/1000	OTM1250E3CM24D	1SCA113671R1001	R 67 627.00
4	1250	850	1250/1000	OTM1250E4CM24D	1SCA113674R1001	R 81 152.00
3	1600	1000	1600/1000	OTM1600E3CM24D	1SCA113673R1001	R 90 953.00
4	1600	1000	1600/1000	OTM1600E4CM24D	1SCA113676R1001	R 183 868.00
3	2000	1350		OTM2000E3CM24D	1SCA113695R1001	R 136 424.00
4	2000	1350		OTM2000E4CM24D	1SCA113697R1001	R 190 994.00
3	2500	1700		OTM2500E3CM24D	1SCA113696R1001	R 204 637.00
4	2500	1700		OTM2500E4CM24D	1SCA113698R1001	R 286 490.00

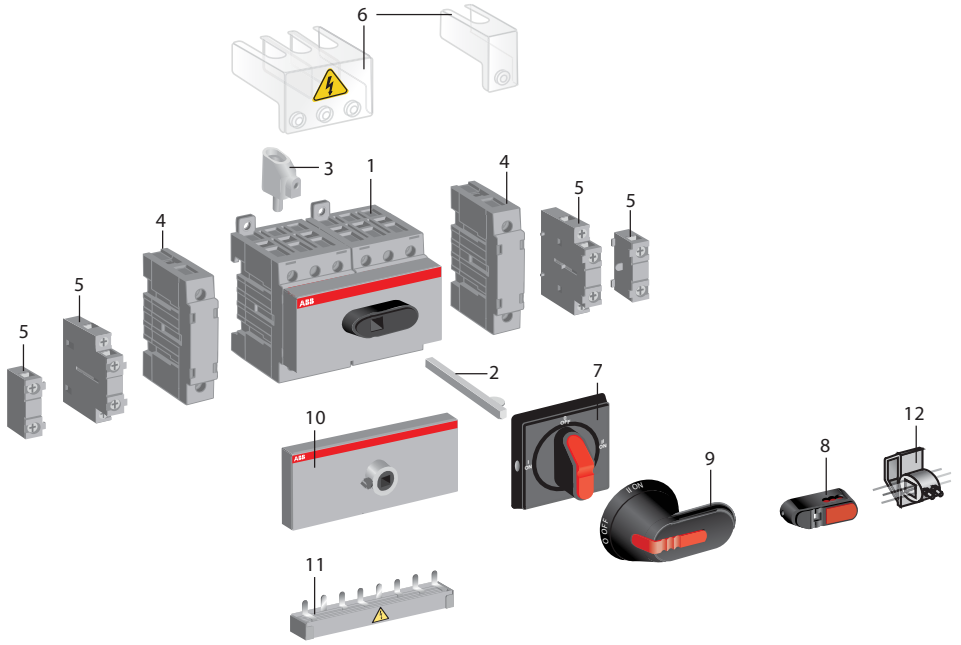
1) OTM2000...2500: Category AC-21B

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV1000ECMK	M12x60

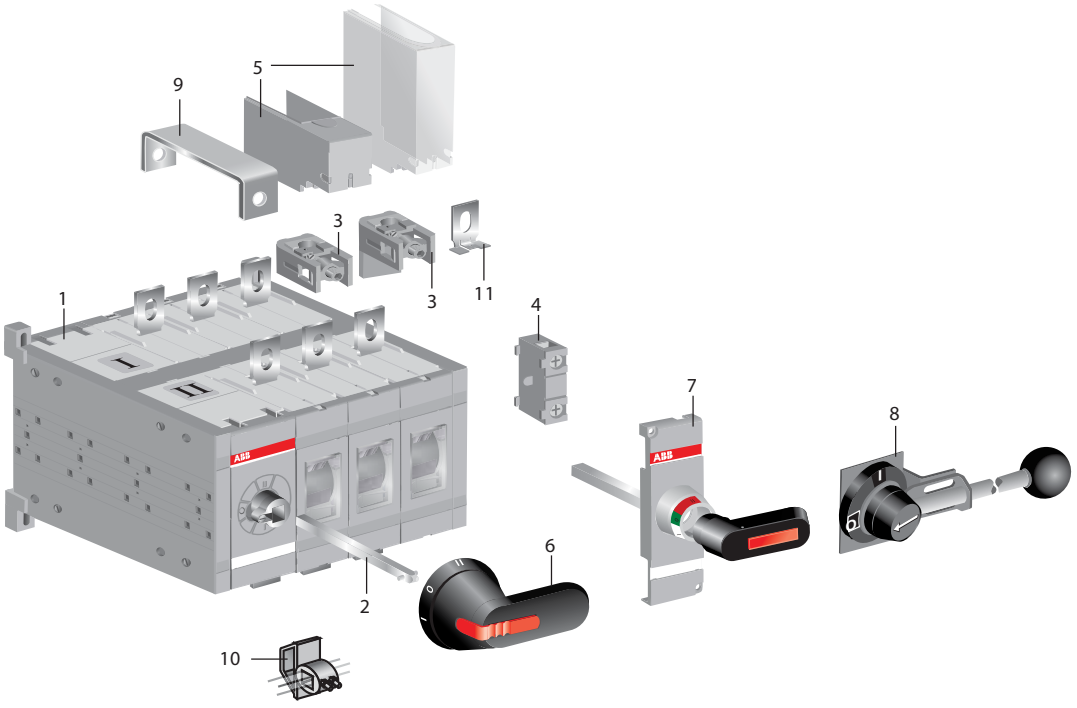
Change-over, bypass and transfer switches
Accessories – Selection Overview

OT16F...OT125F_C



1 Manual change-over switch | 2 Extended shaft | 3 Terminal clamp | 4 Fourth pole | 5 Auxiliary contact | 6 Terminal shroud | 7 Selector type handle | 8 Handle knob | 9 Pistol type handle | 10 Conversion kit | 11 Parallel connection kit | 12 Cam attachment for interlocking

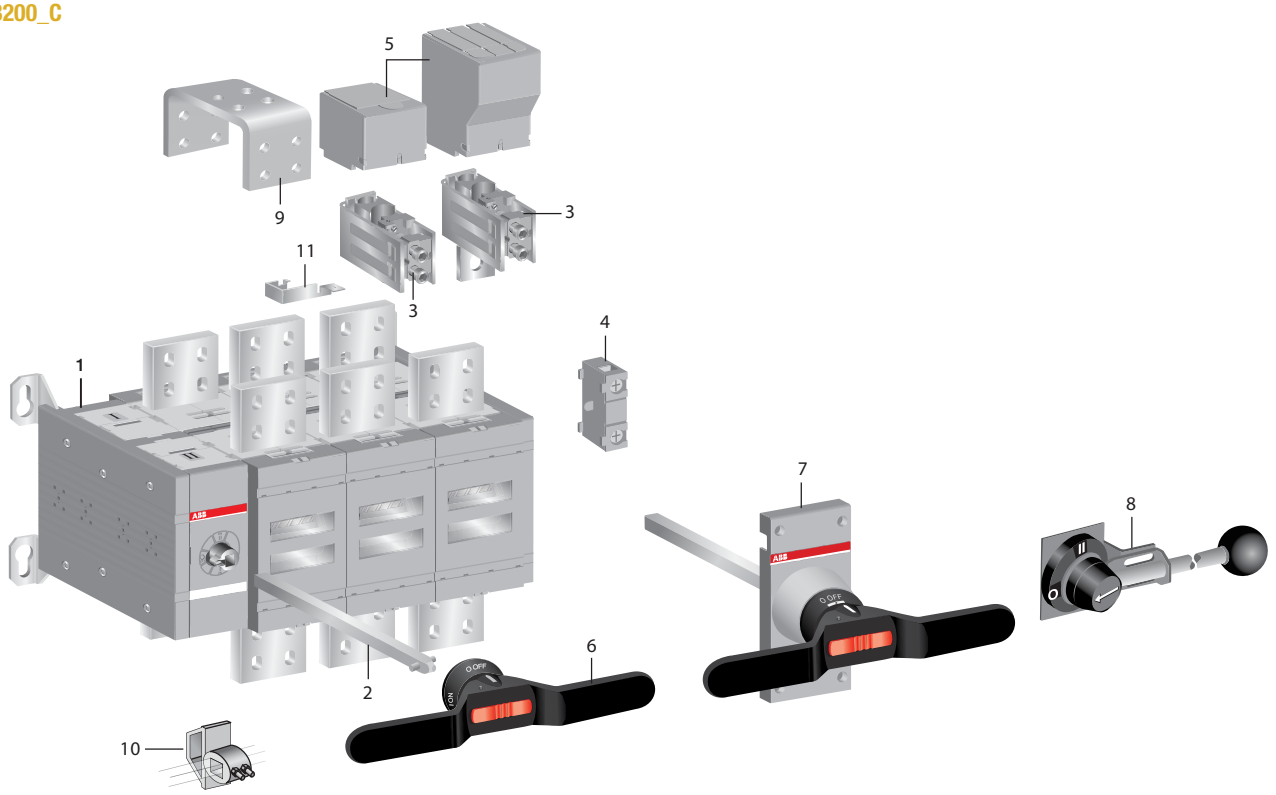
OT160...OT2500_C



1 Manual change-over switch | 2 Extended shaft | 3 Terminal clamp | 4 Auxiliary contact | 5 Terminal shroud | 6 Pistol type handle | 7 Direct mounting type handle | 8 Metallic hadle | 9 Bridging bar | 10 Cam attachment for interlocking | 11 Voltage sensing connector

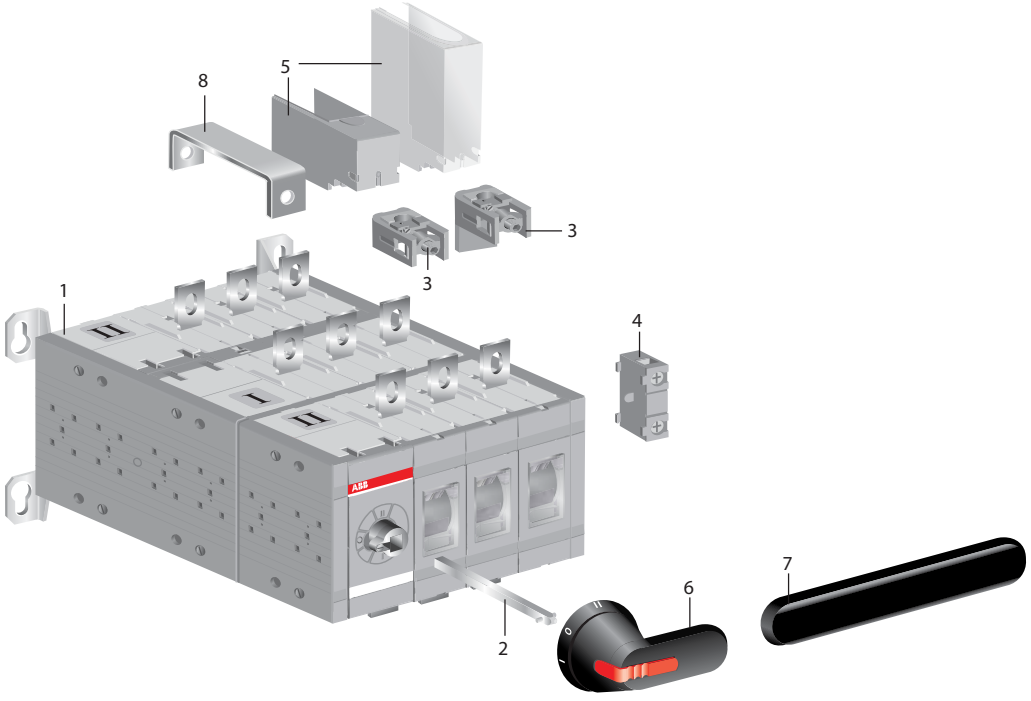
Change-over, bypass and transfer switches
Accessories – Selection Overview

OT3200_C



1 Manual change-over switch | 2 Extended shaft | 3 Terminal clamp | 4 Auxiliary contact | 5 Terminal shroud | 6 Pistol type handle | 7 Direct mounting type handle | 8 Metallic hadle | 9 Bridging bar | 10 Cam attachment for interlocking | 11 Voltage sensing connector

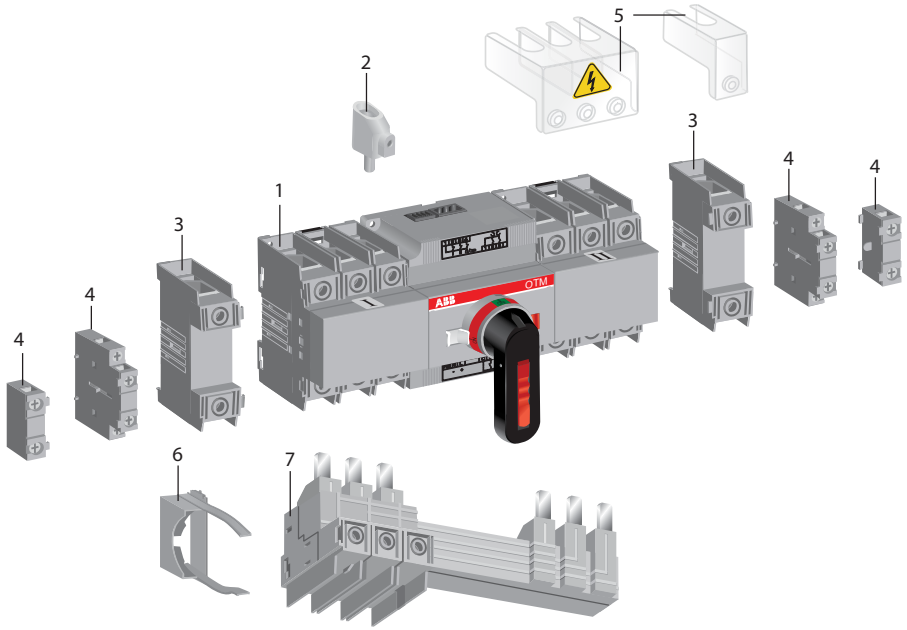
OT160...OT800_Y



1 Manual bypass switch | 2 Extended shaft | 3 Terminal clamp | 4 Auxiliary contact | 5 Terminal shroud | 6 Pistol type handle | 7 Handle extension | 8 Bridging bar

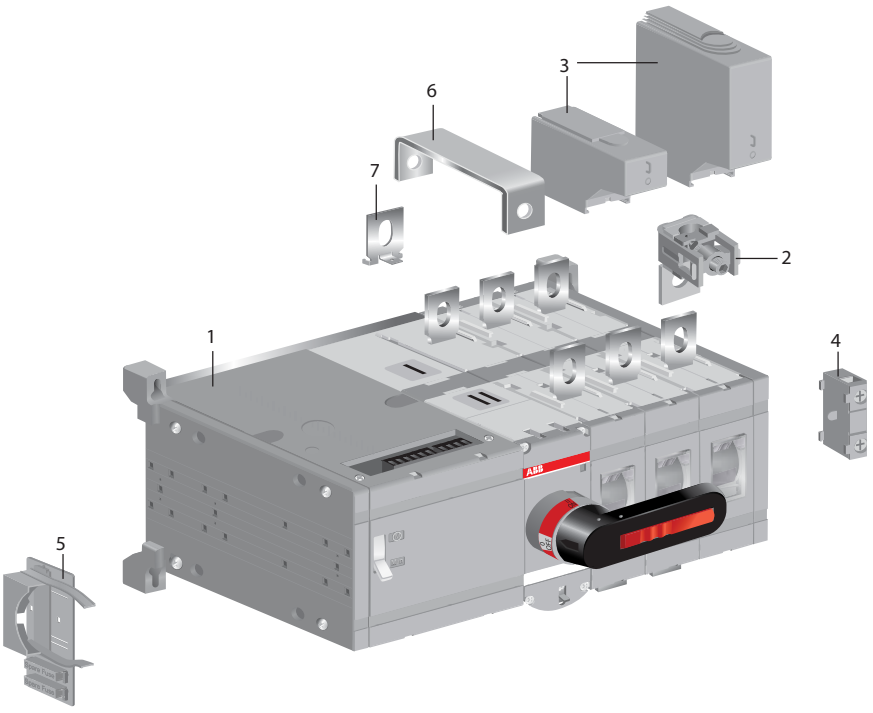
Change-over, bypass and transfer switches
Accessories – Selection Overview

OTM40F...OTM125F_C



1 Motorized change-over switch | 2 Terminal clamp | 3 Fourth pole | 4 Auxiliary contact | 5 Terminal shroud | 6 Handle storage clip | 7 Parallel connection kit

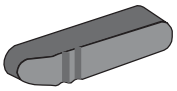
OTM160...OTM2500_C



1 Motorized change-over switch | 2 Terminal clamp | 3 Terminal shroud | 4 Auxiliary contact | 5 Storage for handle and fuses | 6 Bridging bar | 7 Voltage sensing connectors

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Change-over, bypass and transfer switches
Accessories – Handle knobs and External handles



OHBS9_



OHBS11

Handle knobs

No shaft needed, direct mounting on the top of the switch.

Suitable for switches	Colour	Type	Order number	Price per unit Excl. VAT
Padlockable in 0-position				
OT16…80F_C	Black	OHBS2	1SCA109089R1001	R 40.00
OT16…80F_C	Red	OHRS2	1SCA108598R1001	R 77.00
OT100...125F_C	Black	OHBS11	1SCA109092R1001	R 85.00
Non-padlockable				
OT16…80F_C	Black	OHBS3	1SCA108320R1001	R 105.00
OT16…80F_C	Red	OHRS3	1SCA108667R1001	R 105.00
OT100...125F_C	Black	OHBS9	1SCA108665R1001	R 128.00
OT100...125F_C	Red	OHRS9	1SCA108666R1001	R 128.00



OHBS2_

Selector handle, indication I-0-II

IP65, padlockable in O -position with maximum three padlocks with bail diameter 5...8 mm (two lower holes) and 5...6.3 mm (the upper hole). Door interlock in I- and II-position and when padlocked in O-position.

Suitable for switches	Colour	Shaft diameter [MM]	Type	Order number	Price per unit Excl. VAT
Padlockable in 0-position					
OT16...125F_C	Black	6	OHBS2AJE011	1SCA105220R1001	R 372.00
OT16...125F_C	Red-yellow	6	OHYS2AJE011	1SCA105301R1001	R 372.00



OHY_



OHB_

Pistol type handle, plastic, indication I-0-II

Suitable for switches	Colour	Shaft diameter [MM]	Type	Order number	Price per unit Excl. VAT
Padlockable in 0-position					
IP65, door interlock in I- and II-position and when padlocked. Padlocking possibility with three padlocks, bail dia Ø 5...10 mm.					
OT16…125F_C	Black	6	OHB45J6E011	1SCA022594R7110	R 958.00
OT160…250_C	Black	6	OHB65J6E011	1SCA022383R2480	R 1 121.00
OT315…400_C	Black	12	OHB95J12E011	1SCA022621R0760	R 1 652.00
OT630…800_C	Black	12	OHB125J12E011	1SCA022589R3340	R 1 752.00
OT1000…3200_C	Black	12	OHB274J12E011	1SCA122306R1001	R 1 845.00
OT1000…3200_C	Black	12	OHB200J12PE011	1SCA022873R4230	R 1 966.00
OT160…250E_Y	Black	12	OHB65J12E011	1SCA123656R1001	R 1 595.00
OT315…400E_Y	Black	12	OHB95J12E011	1SCA022621R0760	R 1 652.00
OT630…800E_Y	Black	12	OHB125J12E011	1SCA022589R3340	R 1 752.00



OHB274_



OHB200_P_

Change-over, bypass and transfer switches
Accessories – Handles and shafts



OTV_



OTV1000ECK



OHB65D6CM



OTVS0



OTVS1

Plastic handle, direct mounting, indication I-0-II

Includes a shaft and a mechanism cover.

Suitable for switches	Colour	Type	Order number	Price per unit Excl. VAT
Padlockable with three padlocks in 0-position				
OT160…250_C	Black	OTV250ECK	1SCA022783R0090	R 1 196.00
OT315…400_C	Black	OTV400ECK	1SCA022783R0170	R 1 762.00
OT630…800_C	Black	OTV800ECK	1SCA022797R2470	R 1 910.00
OT1000…2500_C	Black	OTV1000ECK	1SCA107481R1001	R 1 950.00
Includes a shaft (no mechanism cover)				
OTM40...125F_C	Black	OHB65D6CM	1SCA022807R9430	R 346.00
Padlockable with three padlocks in 0-position. Types -ECMK include also microswitches.				
OTM160…250_C	Black	OTV250ECMK	1SCA022804R0570	R 928.00
OTM315…400_C	Black	OTV400ECMK	1SCA022843R2900	R 1 009.00
OTM630…800_C	Black	OTV800ECMK	1SCA022804R3410	R 1 130.00
OTM1000…2500_C	Black	OTV1000ECMK	1SCA111301R1001	R 1 678.00

Shafts for selector type handles

Suitable for switches	Length [mm]	Type	Order number	Price per unit Excl. VAT
Shaft diameter 6 mm				
OT16…125F_C	85	OXS6X85	1SCA101647R1001	R 68.00
OT16…125F_C	130	OXS6X130	1SCA101655R1001	R 83.00

Shafts for pistol type handles



OXS6X_



OXP6X_

Suitable for switches	Length [mm]	Type	Order number	Price per unit Excl. VAT
Shaft diameter 6 mm				
OT16…125F_C	150	OXP6X150	1SCA022295R5600	R 102.00
OT16…125F_C	265	OXP6X265	1SCA108225R1001	R 182.00
OT16…125F_C	400	OXP6X400	1SCA108226R1001	R 253.00
Shaft diameter 6 mm				
OT160...250_C	130	OXP6X130	1SCA022057R0570	R 68.00
OT160...250_C	210	OXP6X210	1SCA022295R6080	R 117.00
OT160...250_C	290	OXP6X290	1SCA022042R6370	R 193.00
OT160...250_C	360	OXP6X360	1SCA022042R6530	R 221.00
Shaft diameter 12 mm				
OT315...400_C	185	OXP12X185	1SCA022325R6710	R 304.00
OT315...400_C	250	OXP12X250	1SCA022325R6980	R 343.00
OT315...400_C	280	OXP12X280	1SCA022137R5140	R 754.00
OT315...400_C	395	OXP12X395	1SCA022042R5990	R 420.00
OT315...400_C	465	OXP12X465	1SCA022042R6020	R 499.00
OT630…800_Y	185	OXP12X185	1SCA022325R6710	R 304.00
OT630…800_Y	250	OXP12X250	1SCA022325R6980	R 343.00
OT630…800_Y	395	OXP12X395	1SCA022042R5990	R 420.00
OT630…800_Y	465	OXP12X465	1SCA022042R6020	R 499.00
OT1000…2500_C	250	OXP12X250	1SCA022325R6980	R 343.00
OT1000…2500_C	325	OXP12X325	1SCA022042R5810	R 380.00
OT1000…2500_C	395	OXP12X395	1SCA022042R5990	R 420.00
OT1000…2500_C	465	OXP12X465	1SCA022042R6020	R 499.00

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Change-over, bypass and transfer switches
Accessories – Auxiliary contacts and fourth poles


OA1G01


OA1G10


OA2G11

Auxiliary contact blocks for OT16...125F and OTM40…125F

Snap-on mounting to the switch, IP 20, max. 2 blocks/ side. Ith = 16 A, suitable for cable cross sections max. 2 x 2.5 mm2. Simultaneous action with the main contacts.

Suitable for switches	Contact functions	Installation side	Type	Order number	Price per unit Excl. VAT
Padlockable with three padlocks in 0-position					
OT_16...125F_C	1NO	Right	OA1G10	1SCA022353R4970	R 213.00
OT_16...125F_C	1NC	Right	OA8G01	1SCA022744R2240	R 202.00
OT_16...125F_C	1NO	Left	OA7G10	1SCA022673R1140	R 202.00
OT_16...125F_C	1NC	Left	OA1G01	1SCA022353R4890	R 213.00
OT63...125F3C	1NO+1NC	Either	OA2G11 [1]	1SCA022379R8100	R 317.00
OTM40...125F3C	1NO+1NC	Either	OA2G11 [1]	1SCA022379R8100	R 317.00

1) Not mountable on 4-pole change-over switches


OTPS40F_

Auxiliary contact blocks for OT160... 3200 , OT160...800_Y and OTM160…2500

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Simultaneous action with the main contacts, IP20.

Suitable for switches	Contact functions	Installation side	Type	Order number	Price per unit Excl. VAT
Padlockable with three padlocks in 0-position					
OT_160…3200_	1NO	Right	OA1G10	1SCA022353R4970	R 213.00
OT_160…3200_	1NC	Right	OA3G01	1SCA022456R7410	R 202.00


OTPS80F_

Fourth poles for OT16...125F

Snap-on mounting to the left or right side of the switches, IP20. Simultaneous operation with power poles.

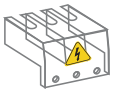
Suitable for switches	Rated current, up to 415V AC-21A/AC-22A/AC-23A I[A]	Type	Order number	Price per unit Excl. VAT
Padlockable with three padlocks in 0-position				
OT16…OT/OTM40F_C	40/40/23	OTPS40FPN1 [1]	1SCA105001R1001	R 123.00
OT16…OT/OTM40F_C	40/40/23	OTPS40FPN2 [2]	1SCA105000R1001	R 123.00
OT/OTM63…80F_C	80/80/75	OTPS80FP	1SCA105461R1001	R 258.00
OT/OTM100...125F_C	125/125/90	OTPS125FP	1SCA105099R1001	R 472.00

1) Installation to the left side
2) Installation to the right side


OTPS125F_

Change-over, bypass and transfer switches

Accessories – Terminal shrouds and parallel connection kits



OTS_T3



OTS_T1

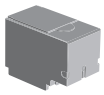


OTS_L_

Terminal shrouds, transparent plastic

Snap-on mounting to the switches, IP20. The full shrouding of a 3-pole change-over switch is achieved with four 3-pole shrouds.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
For three pole switches			
OT16…40F_C	OTS40T3	1SCA105317R1001	R 123.00
OT63…80F_C	OTS63T3	1SCA022353R6750	R 224.00
OT100...125F_C, OTM40...125F_	OTS125T3	1SCA022379R9680	R 397.00
For fourth pole			
OTPS40FPN1	OTS40T1	1SCA105314R1001	R 75.00
OTPS40FPN2	OTS40T1	1SCA105314R1001	R 75.00
OTPS80FP	OTS63T1	1SCA022353R6910	R 136.00
OTPS60FP, OTPS125FP	OTS125T1	1SCA022379R9760	R 236.00



OTS_S



OZXA32



OZXA33

Terminal shrouds, grey plastic

Snap-on mounting to the switches, IP 20. A kit includes three or four shrouds which can be used on either side of the switch. Suitable for the upperswitch.

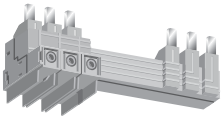
Suitable for switches	No. of poles	Description	Type	Order number	Price per unit Excl. VAT
OT_160…250_C, _Y	3	Long type	OTS250G1L/3	1SCA022731R8150	R 147.00
OT_315…400_C, _Y	3	Long type	OTS400G1L/3	1SCA022736R8840	R 207.00
OT_600…800_C, _Y	3	Long type	OTS800G1L/3	1SCA022776R7890	R 302.00
OT_1000…1600_C	3	Long type	OTS1600G1L/3	1SCA022871R9510	R 729.00
OT_2000…2500_C	3	Long type	OTS2500G1L/3	1SCA107261R1001	R 855.00
OT3200_C	3	Long type	OTS4000G1L/3	1SCA129042R1001	R 902.00



OZXA40



OZXA41



OMZC_

Parallel connection kits

Finger protected connection bars for parallel connection of the upper or lower terminals. The bars accept additional cables, the maximum size is stated below.

Suitable for switches	Cable cross section [mm²]	Type	Order number	Price per unit Excl. VAT
OT16…40F3C	6 (fine stranded), 10 (stranded)	OZXA33	1SCA022685R0310	R 553.00
OT16…40F4C	6 (fine stranded), 10 (stranded)	OZXA32	1SCA022683R4110	R 924.00
OT63…80F3C	25	OZXA38	1SCA022785R2140	R 830.00
OT63…80F4C	25	OZXA39	1SCA022790R3820	R 1 255.00
OT100…125F3C	50	OZXA40	1SCA022790R3910	R 855.00
OT100…125F4C	50	OZXA41	1SCA022790R4040	R 1 399.00
OTM40…125F3C_	10...70	OMZC03	1SCA117037R1001	R 867.00
OTM40…125F4C_	10...70	OMZC04	1SCA117038R1001	R 1 445.00

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Change-over, bypass and transfer switches
Accessories – Bridging bars and automatic control units



OTZC13...34



OTZC43...44
OTZC53...54

Bridging bars

The bridging bars provide a connection link either on the incoming or outcoming side of the switch.

Suitable for switches	No. of poles	Type	Order number	Price per unit Excl. VAT
OT_160…250_C, _Y	3	OTZC13	1SCA022767R6910	R 1 030.00
OT_160…250_C, _Y	4	OTZC14	1SCA022767R7040	R 1 406.00
OT_315…400_C, _Y	3	OTZC23	1SCA022767R7120	R 1 197.00
OT_315…400_C, _Y	4	OTZC24	1SCA022767R7210	R 1 600.00
OT_600_C…800E_C, _Y	3	OTZC33	1SCA022785R7020	R 1 624.00
OT_600_C…800E_C, _Y	4	OTZC34	1SCA022785R7110	R 2 162.00
OT_1000…1250E_C	3	OTZC43	1SCA022868R0710	R 2 504.00
OT_1000…1250E_C	4	OTZC44	1SCA022868R0800	R 3 344.00
OT800U_, OT_1600E_C	3	OTZC53	1SCA022868R0980	R 5 618.00
OT800U_, OT_1600E_C	4	OTZC54	1SCA022868R1010	R 7 513.00
OT_2000…2500E_C	3	OTZC63	1SCA022868R1100	R 7 863.00
OT_2000…2500E_C	4	OTZC64	1SCA022868R1360	R 10 489.00



OMD300



OMD800

Automatic control units

OMD automatic control units can be used with OTM40…2500_CM_ motorized change-over switches in order to assemble an automatic transfer switch. The type and ordering codes include the OMD control unit, PCB connectors and 2 OMZD1 fasteners for door mounting.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
OTM40…2500_CM_	OMD300E480C-A1	1SCA123790R1001	R 14 025.00
OTM40…2500_CM_	OMD800E480C-A1	1SCA123791R1001	R 23 455.00

Change-over, bypass and transfer switches
Accessories – Dual power sources

Dual power source

Provides power supply to the motor operator by using two lines. The device has two inputs, from line I (LN I) and line II (LN II), and one output for the motor operator. The motor operator is automatically energized whenever power is available in one of the lines. Can be used with 230VAC motor operators. Snap-on mounted PCB connectors are included in the delivery. The device can be DIN-rail or screw mounted.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
OTM40…2500_	ODPSE230C	1SCA116892R1001	R 3 163.00

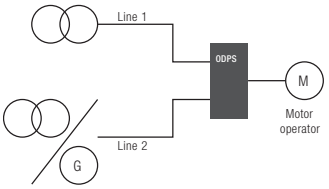
Dual power source including ATS functionality

Similar to previous dual power source but also including ATS (Automatic Transfer Switch) functionality and in-built short-circuit protection. Provides power supply to the motor operator by using two 220...240 V AC lines. Motor operator is automatically energized whenever power is available in one of the lines. The device has a three position (AUTO-MAN-O) DIP switch to choose the correct operating mode. The AUTO position enables and the MAN position disables the ATS functionality when used with OTM motorized change-over switch. The O position is used for safety reasons: it operates the OTM to position 0 to isolate the load from the feeding sources. The device can be DIN-rail or screw mounted.

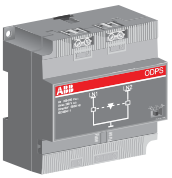
Suitable for switches	Type	Order number	Price per unit Excl. VAT
OTM40…2500_	ODPS230	1SCA122946R1001	R 4 428.00



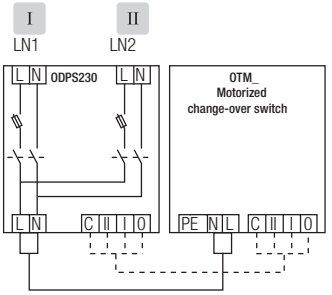
ODPSE230C



Connection diagram ODPSE230C



ODPS230



Connection diagram ODPS230

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Switch-disconnectors OTDC and OTDCP
Technical data for OTDC16…1600, IEC

Technical data according to IEC 60947 for switch-disconnectors OTDC16...250

Switch size				OTDC16F	OTDC25F	OTDC32F	OTDC16U	OTDC25U	OTDC32U	OTDC100E	OTDC160E	OTDC200E	OTDC250E
Rated insulation voltage U_i	Pollution degree 2		V	1250 [1]	1250 [1]	1250 [1]	1250 [1]	1250 [1]	1250 [1]				
	Pollution degree 3		V	1000 [1]	1000 [1]	1000 [1]	1000 [1]	1000 [1]	1000 [1]	1000	1000	1000	1000
Rated impulse withstand voltage			kV	8	8	8	8	8	8	12	12	12	12
Rated thermal current I_{th}	In open air, normal conditions [2]		A	25	32	45	40	50	63	100	160	200	250
	In enclosure 40°C		A	25	32	45	32	40	50	100	160	200	250
	In enclosure 60°C		A	25	32	32	25	32	40	100	160	200	200
...with minimum cable or bar cross section	Cu		mm²	4	6	10	4	6	10	35	70	95	120
Rated operational current / poles in series DC-21B	500	One circuit	V							100 / 1	160 / 1	200 / 1	250 / 1
	660	One circuit	V	16/2	25/2	32/2	16/2	25/2					
		Two circuits	V		25/2	32/2	16/2	25/2	32/2				
	1000	One circuit	V	10/2	16/2	20/2	10/2 [3]	16/2 [3]		100 / 2	160 / 2	200 / 2	250 / 2
			V	16/3	25/3	32/3							
		Two circuits	V	10/2	16/2	20/2	10/2 [3]	16/2 [3]	20/2 [3]	100 / 2	160 / 2	200 / 2	250 / 2
		Three circuits	V				10/2 [3]						
Rated short-time withstand current, 1000 V, 1 s	R.M.S. -value I_{cw}		kA	0.4	0.6	0.8	1.0	1.0	1.0	5	5	5	5
Rated conditional short-circuit current I_p (r.m.s.)	I_p (r.m.s.), 1000 V		kA				10	10	10				
	Max fuse size, gPV		A				80	80	80				
Power loss / pole	At rated current		W	0.15	0.3	0.5	0.1	0.2	0.35	2	4	6	9.5
Terminal cable size	Cu		mm²	2.5...16	2.5...16	2.5...16	2.5...16	2.5...16	2.5...16				
Terminal bolt size	Metric thread diameter × length		mm							M8x25	M8x25	M8x25	M8x25
Terminal tightening torque	Counter torque required		Nm							15...22	15...22	15...22	15...22

1) When used with external handle. For use with direct mounted handle, see installation instruction.
2) Normal conditions defined in IEC 60947-1-6.1
3) U and UT types only. (Not applicable for US nor UST.)

Technical data according to IEC 60947 for switch-disconnectors OTDC315...800

Switch size				OTDC315E	OTDC400E	OTDC500E	OTDC630E	OTDC800E
Rated insulation voltage Ui	Pollution degree 3		V	1500	1500	1500	1500	1500
Rated impulse withstand voltage			kV	12	12	12	12	12
Rated thermal current I_{th}	In open air, normal conditions [4]		A	315	400	630	630	800
	In enclosure 40°C		A	315	400	550	630	800
	In enclosure 60°C		A	315	400	440	630	680
...with minimum cable or bar cross section	Cu		mm²	185	240	240	2x185	2x240
Rated operational current / poles in series DC-21B	1000	One circuit	V	315/2	400/2	500/2	630/2	800/2
		Two circuits	V	315/2	400/2	500/2		
		Three circuits	V	315/2	400/2	500/2		
	1500	One circuit	V	315/3	400/3	500/3		
			V	315/4	400/4	500/4		
		Two circuits	V	315/3	400/3	500/3		
Rated short-time withstand current, 1000 V, 1 s	R.M.S. -value Icw		kA	10	10	10	10	10
Power loss / pole	At rated current		W	6	9.7	15.1	29.1	40
Terminal bolt size	Metric thread diameter × length		mm	M 10x30	M 10x30	M 12x40	M 12x40	M 12x40
Terminal tightening torque	Counter torque required		Nm	30-44	30-44	50-75	50-75	50-75

4) Normal conditions defined in IEC 60947-1-6.1

Switch-disconnectors OTDC and OTDCP
Technical data for OTDC16…1600, IEC

Technical data according to IEC 60947 for switch-disconnectors OTDC1000...1600

Switch size		A	OTDC1000E	OTDC1250E	OTDC1600E
Rated insulation voltage Ui	Pollution degree 3	V	1500	1500	1500
Rated impulse withstand voltage		kV	12	12	12
Rated thermal current Ith	In open air, normal conditions [4]	A	1000	1250	1600
	In enclosure 40°C	A	1000	1250	1250
	In enclosure 60°C	A	800	1000	1000
...with minimum cable or bar cross section	Cu	mm²	2x (60x5)	2x (50x8)	2x (50x10)
Rated operational current / poles in series	1000 One circuit	A	1000/4	1250/4	1600/4
Rated short-time withstand current, 1000 V, 1 s	R.M.S. -value Icw	kA	10	10	10
Rated short circuit making capacity, 1000 V	Peak value Icm	kA	10	10	10
Power loss / pole	At rated current	W	22	35	58

[4] Normal conditions defined in IEC 60947-1-6.1

Technical data according to IEC 60947 for enclosed switch-disconnectors OTDCP

Switch size		A	OTDCP16	OTDCP25	OTDCP32
Rated insulation voltage	Pollution degree 2	V	1250	1250	1250
	Pollution degree 3	V	1000	1000	1000
Dielectric strength	50 Hz 1 min	kV	6	6	6
Rated impulse withstand voltage		kV	8	8	8
Rated thermal current Ith DC-20	In enclosure 40°C	A	25	32	45
	In enclosure 60°C	A	25	32	32
Rated operational current / poles in series DC-21B	660 V	A	16/2	25/2	32/2
	1000 V	A	16/3	25/3	32/3
			10/2	16/2	20/2
	2x660 V [5]	A	16/4	25/4	32/4
Rated short-time withstand current, 1000 V, 1 s	R.M.S. -value I_{cw}	kA	0.4	0.6	0.8
Power loss / pole	At rated current	W	0.15	0.3	0.5

[5] 1000 V with all the poles connected in series, 600 V with 2 poles in series

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Switch-disconnectors OTDC and OTDCP
Front operated switch-disconnectors, IEC

Switch-disconnectors OTDC, base or DIN-rail mounting, IEC

Types OTDC16...32 include IP20 protected terminal clamps. Shafts and handles need to be ordered separetely.



OTDC16...32F2



OTDC16...32F3



OTDC16...32F4

Single circuit use - up to 660 VDC

No. of poles	Rated operat. current [A] DC 21B / 660 V	Type	Order number	Price per unit Excl. VAT
2	16	OTDC16F2	1SCA121454R1001	R 699.00
2	25	OTDC25F2	1SCA121455R1001	R 759.00
2	32	OTDC32F2	1SCA121456R1001	R 884.00

Up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number	Price per unit Excl. VAT
2	10	OTDC16F2	1SCA121454R1001	R 699.00
2	16	OTDC25F2	1SCA121455R1001	R 759.00
2	20	OTDC32F2	1SCA121456R1001	R 884.00
3	16	OTDC16F3	1SCA121457R1001	R 1 100.00
3	25	OTDC25F3	1SCA121458R1001	R 1 218.00
3	32	OTDC32F3	1SCA121459R1001	R 1 338.00

Double circuit use - up to 1000 VDC

No. of poles	Rated operat. current [A] DC21B / 660 V	DC21B / 1000 V	Type	Order number	Price per unit Excl. VAT
2x2	16	10	OTDC16F4	1SCA121461R1001	R 1 298.00
2x2	25	16	OTDC25F4	1SCA121462R1001	R 1 445.00
2x2	32	20	OTDC32F4	1SCA121463R1001	R 1 621.00

Switch-disconnectors OTDC_, door mounting, IEC

Types OTDC16...32 include IP20 protected terminal clamps. Shafts and handles need to be ordered separetely. Jumpers included in the package.



OTDC16...32FT2



OTDC16...32FT3



OTDC16...32FT4

Single circuit use - up to 660 VDC

No. of poles	Rated operat. current [A] DC 21B / 660 V	Type	Order number	Price per unit Excl. VAT
2	16	OTDC16FT2	1SCA123839R1001	R 984.00
2	25	OTDC25FT2	1SCA123842R1001	R 1 066.50
2	32	OTDC32FT2	1SCA123845R1001	R 1 243.50

Up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number	Price per unit Excl. VAT
2	10	OTDC16FT2	1SCA123839R1001	R 984.00
2	16	OTDC25FT2	1SCA123842R1001	R 1 066.50
2	20	OTDC25FT2	1SCA123845R1001	R 1 243.50
3	16	OTDC16FT3	1SCA123840R1001	R 1 546.50
3	25	OTDC25FT3	1SCA123843R1001	R 1 713.00
3	32	OTDC32FT3	1SCA123846R1001	R 1 881.00

Double circuit use - up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 660 V	DC 21B / 1000 V	Type	Order number	Price per unit Excl. VAT
2x2	16	10	OTDC16FT4	1SCA123841R1001	R 1 825.50
2x2	25	16	OTDC25FT4	1SCA123844R1001	R 2 032.50
2x2	32	20	OTDC32FT4	1SCA123847R1001	R 2 280.00

Switch-disconnectors OTDC and OTDCP
Front operated switch-disconnectors, IEC

Handle knobs for base and DIN rail mounted switches
Mounting directly to the switch, no shaft needed, for base and DIN-rail mounted switches

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
Suitable for switches OTDC16...32F, OTDC16...32U_				
Black	40	OHBS2	1SCA109089R1001	R 40.00
Red	40	OHRS2	1SCA108598R1001	R 77.00
Black	39	OHBS3	1SCA108320R1001	R 105.00
Red	39	OHRS3	1SCA108667R1001	R 105.00


OHBS2PJ


OHYS2RJ

Selector handles, for door mounted switches
Indication I-O and ON-OFF. No separate shaft needed.

Colour	Type	Order number	Price per unit Excl. VAT
Screw mounting, hole distance 36 mm, for OTDC16...32			
Padlockable with max. 3 padlocks, IP65, hole distance 36/48 mm, NEMA 1, 3R, 12			Price
Black	OHBS2RJ	1SCA105232R1001	R 275.00
Red-yellow	OHYS2RJ	1SCA105323R1001	R 275.00

Extended shafts for selector handles

Shaft length [mm]	H [mm]	Type	Order number	Price per unit Excl. VAT
Suitable for switches OTDC16...32F, shaft diameter 6 mm				
85		OXS6X85	1SCA101647R1001	R 68.00
180		OXS6X180	1SCA101659R1001	R 105.00
250		OXS6X250	1SCA101660R1001	R 117.00


OXS6X_

Plastic enclosed switch-disconnectors OTDCP_, IEC
M20 threaded knock-outs..

Up to 660 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number	Price per unit Excl. VAT
Includes red-yellow selector handle (I-0 and ON-OFF indication)				
2	16	OTDCP16SA11M	1SCA125126R1001	R 1 084.00
2	25	OTDCP25SA11M	1SCA125127R1001	R 1 137.00
2	32	OTDCP32SA11M	1SCA125128R1001	R 1 190.00

Up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number	Price per unit Excl. VAT
Includes red-yellow selector handle (I-0 and ON-OFF indication)				
3	16	OTDCP16SA12M	1SCA125150R1001	R 1 408.00
3	25	OTDCP25SA12M	1SCA125151R1001	R 1 520.00
3	32	OTDCP32SA12M	1SCA125152R1001	R 1 626.00


OTDCP_SA_


OTDCP_S_M20


OTDCP_S_M25

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Switch-disconnectors OTDC and OTDCP
Front operated switch-disconnectors, IEC


OTDC100...250E02


OTDC100...250E11


OTDC100...250E22


OTDC315...500E11


OTDC315...500EV12


OTDC630..800EPP22

Single circuit, 1000 VDC, IEC - 100...250 A

No. of poles	Rated operat. current [A] DC 21 / 1000 V	Type	Order number	Price per unit Excl. VAT
Front operated, mechanism between the poles. OTDC_EPP types inlcude pre-mounted connection bars.				
2	100	OTDC100E11	1SCA125821R1001	R 2 019.00
2	160	OTDC160E11	1SCA123745R1001	R 2 156.00
2	200	OTDC200E11	1SCA125626R1001	R 2 332.00
2	250	OTDC250E11	1SCA125865R1001	R 2 508.00
2	315	OTDC315E11	1SCA130982R1001	R 2 843.00
2	400	OTDC400E11	1SCA130983R1001	R 3 946.00
2	500	OTDC500E11	1SCA132135R1001	R 5 317.00
2x2	630	OTDC630EPP22	1SCA137205R1001	R 7 346.00
2x2	800	OTDC800EPP22	1SCA137210R1001	R 9 916.00

Recommended handles and shafts

Suitable for switches	Mounting	Type	Order number	Price per unit Excl. VAT
OTDC100...250	Direct mount handle	OTDV250EK	1SCA127390R1001	R 292.00
OTDC315...800	Direct mount handle	OTDV400EK	1SCA130579R1001	R 1 425.00
OTDC100...250	Door mount handle	OHB65J6	1SCA022380R9660	R 697.00
OTDC100...250	Shaft	OXP6X210	1SCA022295R6080	R 11.00
OTDC315...800	Door mount handle	OHB95J12	1SCA022381R0830	R 1 128.00
OTDC315...800	Shaft	OXP12X185	1SCA022325R6710	R 304.00

Single circuit, 1500 VDC, IEC - 315 to 500 A

No. of poles	Rated operat. current [A] DC 21 / 1500 V	Type	Order number	Price per unit Excl. VAT
Front operated, mechanism between the poles. OTDC_EPP types inlcude pre-mounted connection bars.				
3	315	OTDC315EV12	1SCA132258R1001	R 7 005.00
3	400	OTDC400EV12	1SCA132256R1001	R 7 868.00
3	500	OTDC500EV12	1SCA132257R1001	R 17 053.00

Recommended handles and shafts

Suitable for switches	Mounting	Type	Order number	Price per unit Excl. VAT
OTDC315…800	Direct mount handle	OTDV400EK	1SCA130579R1001	R 1 425.00
OTDC315…800	Door mount handle	OHB95J12	1SCA022381R0830	R 1 128.00
OTDC315…800	Shaft	OXP12X185	1SCA022325R6710	R 304.00

Switch-disconnectors OTDC and OTDCP
Auxiliary contacts and Terminal shrouds



OA1G10, OA3G01



OEA28



OTDC250G1L

Auxiliary contact blocks, IP20
Contact numbering according to EN 50013.

Mounting on the left side of the switch or under the mechanism cover
Mounting on the left side of the switch: Max. 8 auxiliary contact blocks with the OEA28 module.
Mounting under the mechanism cover:
OTDC100...250E: Max. 4 test contacts or 2 test contacts + 2 test indication contacts.[1)]
OTDC315...800E: Max. 4 test contacts + 4 test indication contacts.[1)]
OTDC1000...1600E_: Max 4 test indication contacts + 6 test contacts + 2 early operation test contacts. The test contacts can be used as standard auxiliary contacts as well.

Suitable for switches	Function	Type	Order number	Price per unit Excl. VAT
OTDC100...1600E_	1NO	OA1G10	1SCA022353R4970	R 213.00
OTDC100...1600E_	1NC	OA3G01	1SCA022456R7410	R 202.00

Module for auxiliary contacts
Screw mounting to the left side of the switch.

Suitable for switches	Type	Order number	Price per unit Excl. VAT
OOTDC100...1600E_	OEA28	1SCA022714R8810	R 517.00

[1)] Contact numbering:
(83) (43) (53) 13 21 (61) (31) (71)
(84) (44) (54) 14 22 (62) (32) (72)
[2)] Auxiliary contacts OA1G_ are available in larger packing as well.
A bulk package includes 50 auxiliary contacts. Type number: add a suffix: /B, e.g. OA1G01/B.

Terminal shrouds

Suitable for switches	Description	Type	Order number	Price per unit Excl. VAT
Grey				
OTDC100...250E, OTDC100...200US	short	OTDCS250G1S	1SCA125563R1001	R 104.00
OTDC315...500E, OTDC250...400US	long	OTDCS400G1L	1SCA132362R1001	R 193.00

Enclosed switches
Plastic enclosed switch-disconnectors



ONE front operated switch-disconnectors
Plastic enclosed, IP67

Rated operational current [A]			No. of poles	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A		AC23A							
230V	400V			H	W	D			
Cover color: white. Handle color: white.									
20		9.8	2	92	65	84	ONE20M2W	1SCA138456R1001	R 436.00
20	20	9.8	3	92	65	84	ONE20M3W	1SCA138457R1001	R 484.00
20	20	9.8	4	92	65	84	ONE20M4W	1SCA138459R1001	R 584.00
Cover color: yellow. Handle color: red.									
20		9.8	2	92	65	84	ONE20M2Y	1SCA135533R1001	R 436.00
20	20	9.8	3	92	65	84	ONE20M3Y	1SCA135536R1001	R 484.00
20	20	9.8	4	92	65	84	ONE20M4Y	1SCA135540R1001	R 584.00



BW240W/DP



BW325W/TPN



BW340W/TPN



BW425TPSN



BW440TPSN

2-pole side operated switch-disconnectors
Plastic enclosed, IP65

Enclosure in robust PBT plastic with metric threaded cable entries. Light grey box with dark grey cover and operating handle. Delivery includes PE terminal and membrane glands (IP54) / sealing plugs. For IP65 degree of protection compression glands must be used.

Rated operational current [A]			Cable sizes Up/Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A		AC23A							
230V	400V			H	W	D			
25	25	16	2xM25/2xM25	130	111	60	BW225W/DP	2CMA142401R10001	R 469.00
40	40	32	2xM32/ 2xM32+1xM16	168	138	68	BW240W/DP	2CMA100851R1000	R 495.00

3-pole side operated switch-disconnectors
Plastic enclosed, IP65

Enclosure in robust PBT plastic with metric threaded cable entries. Light grey box with dark grey operating handle. Delivery includes PE+neutral terminal and membrane glands (IP54) / sealing plugs. For IP65 degree of protection compression glands must be used.

Rated operational current [A]				Cable sizes Up/Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A		AC23A								
400V	500V	690V	500V		H	W	M			
25	25	16	16	2xM25/2xM25	130	111	60	BW325W/TPN	2CMA142402R1000	R 669.00
40	40	32	25	2xM32/2xM32 +1xM16	168	138	68	BW340W/TPN	2CMA100852R1000	R 695.00

4-pole side operated switch-disconnectors
Plastic enclosed, IP65

Enclosure in robust PBT plastic with metric threaded cable entries. Light grey enclosure with dark grey operating handle. Delivery includes PE terminal and membrane glands (IP54) / sealing plugs. For IP65 degree of protection compression glands must be used

Rated operational current [A]				Cable sizes Up/Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A			AC23A							
400V	500V	690V	500V		H	W	M			
25	25	16	16	2xM25/2xM25	130	111	60	BW425TPSN	2CMA142405R1000	R 780.00
40	40	32	25	2xM32/2xM32 +1xM16	168	111	68	BW440TPSN	2CMA142409R1000	R 815.00

Enclosed switches
Plastic enclosed switch-disconnectors


OTP16B_


OTP25B_
OTP32B_


OT45B_
OTP63B_


OTP100...125B3M

3-pole front operated switch-disconnectors
Plastic enclosed, IP65

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A	AC23A							
≤690V	≤415V		H	W	D			
Includes selector-type black handle (I-0 and ON-OFF indication), N- and PE-terminals, two membrane cable glands and two pull stoppers.								
16	16	2xM20	120	85	60	OTP16B3M	1SCA022383R2130	R 733.00
Includes selector-type black handle (I-0 and ON-OFF indication), N- and PE-terminals. Threaded knock-outs, compression glands have to be ordered separately.								
25	20	2xM25+M16	150	130	60	OTP25B3M	1SCA022383R2640	R 807.00
40	23	2xM25+M16	150	130	60	OTP32B3M	1SCA022389R8400	R 827.00
63	45	2xM32+M16	200	145	90	OTP45B3M	1SCA022383R3020	R 1 583.00
80	75	2xM32+M16	200	145	90	OTP63B3M	1SCA022383R3450	R 1 903.00
100	80	2xM50+M16	400	200	140	OTP100B3M	1SCA126054R1001	R 2 840.00
125	90	2xM50+M16	400	200	140	OTP125B3M	1SCA022812R7180	R 3 240.00


OTP16B_
OTP25B_
OTP32B_


OT45B_
OTP63B_


OTP125B4M


OTP125B4B

4-pole front operated switch-disconnectors
Plastic enclosed, IP65

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A	AC23A							
≤690V	≤415V		H	W	D			
Includes selector-type black handle (I-0 and ON-OFF indication), N- and PE-terminals. Threaded knock-outs, compression glands have to be ordered separately.								
16	16	2xM25+M16	150	130	60	OTP16B4M	1SCA022401R4160	R 988.00
25	20	2xM25+M16	150	130	60	OTP25B4M	1SCA022401R4320	R 1 005.00
40	23	2xM25+M16	150	130	60	OTP32B4M	1SCA022401R4590	R 1 121.00
63	45	2xM32+M16	200	145	90	OTP45B4M	1SCA022401R4750	R 2 104.00
80	75	2xM32+M16	200	145	90	OTP63B4M	1SCA022401R4910	R 2 523.00
125	90	2xM50+M16	400	200	140	OTP125B4M	1SCA022812R7260	R 5 966.00


OTP16B_


OTP25B_
OTP32B_


OTP45B_
OTP63B_


OTP100...125BA3M

3-pole front operated switch-disconnectors
Plastic enclosed, IP65, red-yellow

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A	AC23A							
≤690V	≤415V		H	W	D			
Includes selector-type red-yellow handle (I-0 and ON-OFF indication), N- and PE-terminals, two membrane cable glands and two pull stoppers.								
16	16	2xM20	120	85	60	OTP16BA3M	1SCA022401R3350	R 733.00
Includes selector-type red-yellow handle (I-0 and ON-OFF indication), N- and PE-terminals. Threaded knock-outs, compression glands have to be ordered separately.								
25	20	2xM25+M16	150	130	60	OTP25BA3M	1SCA022401R3430	R 807.00
40	23	2xM25+M16	150	130	60	OTP32BA3M	1SCA022401R3510	R 827.00
63	45	2xM32+M16	200	145	90	OTP45BA3M	1SCA022401R3600	R 1 583.00
80	75	2xM32+M16	200	145	90	OTP63BA3M	1SCA022401R3780	R 1 903.00
100	80	2xM50+M16	400	200	140	OTP100BA3M	1SCA126069R1001	R 2 840.00
125	90	2xM50+M16	400	200	140	OTP125BA3M	1SCA022812R7420	R 3 240.00


OTP100...125BA3B

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Enclosed switches
Plastic and Steel sheet enclosed switch-disconnectors



OTP16B_, OTP25B_
OTP32B_



OTP45_, OTP63_



OTP125BA4M



OT125...1600_ LU_

4-pole front operated switch-disconnectors
Plastic enclosed, IP65, red-yellow

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A ≤690V	AC23A ≤415V		H	W	D			
Includes selector-type red-yellow handle (I-0 and ON-OFF indication), N- and PE-terminals. Threaded knock-outs, compression glands have to be ordered separately.								
16	16	2xM25+M16	150	130	60	OTP16BA4M	1SCA022459R6510	R 988.00
25	20	2xM25+M16	150	130	60	OTP25BA4M	1SCA022459R6600	R 1 005.00
40	23	2xM25+M16	150	130	60	OTP32BA4M	1SCA022459R6780	R 1 121.00
63	45	2xM32+M16	200	145	90	OTP45BA4M	1SCA022459R6860	R 2 104.00
80	75	2xM32+M16	200	145	90	OTP63BA4M	1SCA022459R6940	R 2 523.00
125	90	2xM50+M16	400	200	140	OTP125BA4M	1SCA022812R7510	R 5 966.00

3-pole front operated switch-disconnectors
Steel sheet enclosed, IP65

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A ≤690V	AC23A ≤415V		H	W	D			
Delivery with blank cable entries. These entries are used also for fixing the enclosed switches. Includes pistol-type black handle (I-0 and ON-OFF indication), N- and PE-terminals.								
125	90	-	400	250	180	OT125ALUU3BZ	1SCA022750R1430	R 12 780.00
160	135	-	400	250	180	OT160ELUU3BZ	1SCA022479R5120	R 14 520.00
200	200	-	600	400	230	OT200KLUU3BZ	1SCA022602R0630	R 17 336.00
250	250	-	600	400	230	OT250KLUU3BZ	1SCA022602R0710	R 19 149.00
315	315	-	600	400	230	OT315KLUU3BZ	1SCA022572R6010	R 20 566.00
400	400	-	800	400	230	OT400DLUU3BZ	1SCA022602R0800	R 24 418.00
570	570	-	1000	400	230	OT630KLUU3BZ	1SCA022750R1510	R 25 891.00
720	720	-	1000	400	230	OT800KLUU3BZ	1SCA022750R1600	R 30 537.00
1000	1000	-	1200	800	230	OT1000KLUU3BZ	1SCA022750R1780	R 75 123.00
1250	1250	-	1200	800	330	OT1250KLUU3BZ	1SCA022750R1860	R 80 108.00
1600	1250	-	1200	800	330	OT1600KLUU3BZ	1SCA022750R1940	R 87 870.00

Enclosed switches
Aluminum enclosed switch-disconnectors

3-pole front operated switch-disconnectors
Aluminum enclosed, IP65

Enclosure in Aluminum alloy (Silumin) with metric threaded cable entries. Light grey box with dark grey cover. Operating handle in black PBT plastic. Delivery includes PE+neutral terminal and membrane glands (IP54) / sealing plugs. For IP65 degree of protection compression glands must be used.



KSE363TPN, KSE380TPN, KSE3125TPN

Rated operational current [A]				Cable sizes Up/ Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A			AC23A							
400V	500V	690V	500V		H	W	D			
63	63	63	45	2xM40/2xM40 +1xM16	230	160	145	KSE363TPN	2CMA144580R1000	R 1 500.00
80	80	80	58	2xM40/2xM40 +1xM16	230	160	145	KSE380TPN	2CMA144583R1000	R 1 950.00
125	125	125	70	2xM40/2xM40 +1xM16	230	160	145	KSE3125TPN	2CMA144588R1000	R 2 485.00

2-pole side operated Fireman's switches
Aluminum enclosed, IP65, red

Red painted switch-disconnectors for use by firemen to disconnect in case of fire. Enclosure in Aluminum alloy (Silumin) with metric threaded cable entries and special operating handle with loop and interlocking mechanism. Delivery includes PE terminal and membrane glands (IP54) / sealing plugs. For IP65 degree of protection compression glands must be used.



KSE363D/TPN

Rated operational current [A]			Cable sizes Up/ Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A		AC23A							
230V	400V	400V		H	W	D			
25	25	16	2xM25/2xM25	130	111	60	KSF225DP	2CMA142435R1000	R 1 076.00

3-pole side operated Fireman's switches



KSF225DP, KSF325TPN, KSF425TPSN

Rated operational current [A]				Cable sizes Up/ Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A			AC23A							
400V	500V	690V	500V		H	W	D			
25	25	16	16	2xM25/2xM25	130	111	60	KSE325TPN	2CMA142436R1000	R 1 105.00
25	25	16	16	2xM25/2xM25	130	111	60	KSE325PNNO	2CMA142442R1000	R 1 190.00
40	40	32	25	2xM32/2xM32 +1xM16	168	138	68	KSE340TPN	2CMA142438R1000	R 1 250.00

4-pole side operated Fireman's switches



KSF340TPN, KSF440TPSN

Rated operational current [A]				Cable sizes Up/ Down	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A			AC23A							
400V	500V	690V	500V		H	W	D			
25	25	16	16	2xM25/2xM25	130	111	60	KSE425TPSN	2CMA142437R1000	R 1 229.00
40	40	32	25	2xM32/2xM32 +1xM16	168	138	68	KSE440TPSN	2CMA142439R1000	R 1 291.00

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Enclosed switches
Steel sheet enclosed change-over switches

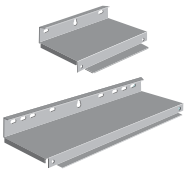


OT125...800_3C

3-pole front operated change-over switches
Steel sheet enclosed, IP54*

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number	Price per unit Excl. VAT
AC22A ≤690V	AC23A ≤415V		H	W	D			
Delivery without cable entries, top and bottom sides are open. Cable entries for C-flanges or for ring-flanges have to be ordered separately, see accessories. These entries are used also for fixing the enclosed switches. Flanges and connection bars for parallel connection have to be ordered separately too. Includes pistol type black handle (I-O-II indication), N- and PE-terminals.								
160	135	Open	600	400	230	OT160KLAA3C	1SCA120678R1001	R 18 876.00
200	200	Open	600	400	230	OT200KLAA3C	1SCA022280R2360	R 21 128.00
250	250	Open	600	400	230	OT250KLAA3C	1SCA022280R2520	R 23 337.00
315	315	Open	800	400	330	OT315KLAA3C	1SCA022280R2790	R 25 064.00
400	400	Open	800	400	330	OT400DLAA3C	1SCA022280R2950	R 29 759.00
570	570	Open	1000	800	330	OT630KLAA3C	1SCA022280R3170	R 31 554.00
720	720	Open	1000	800	330	OT800KLAA3C	1SCA022389R8310	R 37 216.00

* IP65 available on request



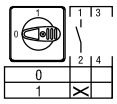
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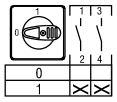
Cable entry plates for steel sheet enclosures

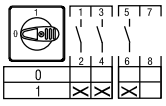
These cable entries and plates are also used for fixing the enclosed switches. The flanges have to be ordered separately.

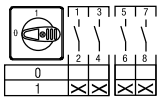
Size of cable entry W x D [mm]	No. of C-flange entries [pcs]	No. of ring-flange entries [pcs]	Type	Order number	Price per unit Excl. VAT
Blank entries, no flange entries					
400x230	-	-	OEZXPE240	1SCA022399R0040	R 1 400.00
400x330	-	-	OEZXP340	1SCA022277R3320	R 1 679.00
800x230	-	-	OEZXPE280	1SCA022399R0210	R 1 795.00
800x330	-	-	OEZXPE380	1SCA022399R0390	R 1 975.00

Rotary cam switches
Standard rotary cam switches


OC_A1


OC_A2

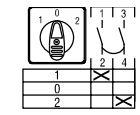

OC_A3

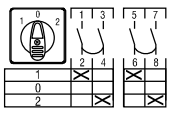

OC_A4

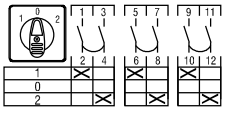
ON - OFF switches

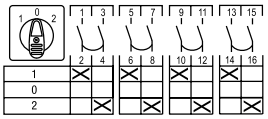
The handle and front plate with position indication are included.

Function	No. of poles/ contacts	Rated thermal current I_{th} [A]	Type	Order number	Price per unit Excl. VAT
O-position: 9 o´clock, step angle 90°, door mounted					
Snap-on mounted black nose handle, black front frame and silver front plate					
0 - 1	1 / 1	10	OC10G01PNBN00NA1	1SCA126421R1001	R 190.00
0 - 1	2 / 2	10	OC10G02PNBN00NA2	1SCA126423R1001	R 225.00
0 - 1	3 / 3	10	OC10G03PNBN00NA3	1SCA126426R1001	R 278.00
0 - 1	4 / 4	10	OC10G04PNBN00NA4	1SCA126427R1001	R 299.00
0 OFF- 1 ON	1 / 1	10	OC10G01PNBN00NB1	1SCA134986R1001	R 195.00
0 OFF- 1 ON	2 / 2	10	OC10G02PNBN00NB2	1SCA134993R1001	R 230.00
0 OFF- 1 ON	3 / 3	10	OC10G03PNBN00NB3	1SCA134996R1001	R 285.00
0 OFF- 1 ON	4 / 4	10	OC10G04PNBN00NB4	1SCA135000R1001	R 313.00
0 - 1	1 / 1	25	OC25G01PNBN00NA1	1SCA126433R1001	R 320.00
0 - 1	2 / 2	25	OC25G02PNBN00NA2	1SCA126440R1001	R 365.00
0 - 1	3 / 3	25	OC25G03PNBN00NA3	1SCA126448R1001	R 445.00
0 - 1	4 / 4	25	OC25G04PNBN00NA4	1SCA126452R1001	R 502.00
0 OFF- 1 ON	1 / 1	25	OC25G01PNBN00NB1	1SCA134987R1001	R 330.00
0 OFF- 1 ON	2 / 2	25	OC25G02PNBN00NB2	1SCA134994R1001	R 375.00
0 OFF- 1 ON	3 / 3	25	OC25G03PNBN00NB3	1SCA134998R1001	R 465.00
0 OFF- 1 ON	4 / 4	25	OC25G04PNBN00NB4	1SCA135001R1001	R 522.00
Snap-on mounted key operated, black front frame and silver front plate					
0 - 1	1 / 1	10	OC10G01KNBN00NA1	1SCA126420R1001	R 230.00
0 - 1	3 / 3	10	OC10G03KNBN00NA3	1SCA126425R1001	R 308.00
0 - 1	1 / 1	25	OC25G01KNBN00NA1	1SCA126430R1001	R 360.00
0 - 1	3 / 3	25	OC25G03KNBN00NA3	1SCA126444R1001	R 405.00
0 OFF- 1 ON	1 / 1	25	OC25G01KNBN00NB1	1SCA134989R1001	R 375.00
0 OFF- 1 ON	3 / 3	25	OC25G03KNBN00NB3	1SCA134997R1001	R 425.00


OC_A1


OC_A2


OC_A3


OC_A4

Change-over switches

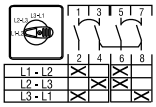
The handle and front plate with position indication are included.

Function	No. of poles/ contacts	Rated thermal current I_{th} [A]	Type	Order number	Price per unit Excl. VAT
With 0-position, step angle 60°, door mounted					
Snap-on mounted black nose handle, black front frame and silver front plate					
1 - 0 - 2	1 / 2	25	OC25G02PNBN00NU1	1SCA126494R1001	R 425.00
1 - 0 - 2	2 / 4	25	OC25G04PNBN00NU2	1SCA126498R1001	R 495.00
1 - 0 - 2	3 / 6	25	OC25G06PNBN00NU3	1SCA126503R1001	R 515.00
1 - 0 - 2	4 / 8	25	OC25G08PNBN00NU4	1SCA126506R1001	R 538.00

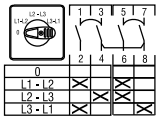
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Rotary cam switches

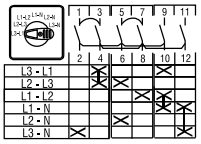
Standard rotary cam switches



OC_VN3



OC_V3

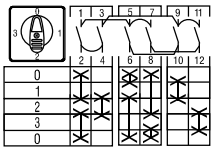


OC_VN30

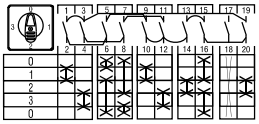
Voltmeter switches

The handle and front plate with position indication are included.

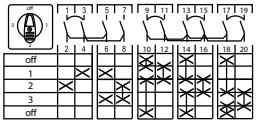
Function	No. of contacts	Rated thermal current I_{th} [A]	Type	Order number	Price per unit Excl. VAT
3 Positions, 3 phase -3 wire, without 0-position, step angle 45°					
Door mounted, snap-on mounted black nose handle, black front frame and silver front plate					
L1-L2, L2-L3, L3-L1	4	10	OC10G04PNBN00NVN3	1SCA126647R1001	R 685.00
L1-L2, L2-L3, L3-L1	4	25	OC25G04PNBN00NVN3	1SCA126649R1001	R 757.00
4 Positions, 3 phase -3 wire, with 0-position, step angle 45°					
Door mounted, snap-on mounted black nose handle, black front frame and silver front plate					
0, L1-L2, L2-L3, L3-L1	4	10	OC10G04PNBN00NV3	1SCA126650R1001	R 829.00
0, L1-L2, L2-L3, L3-L1	4	25	OC25G04PNBN00NV3	1SCA126652R1001	R 887.00
6 Positions, 3 phase to phase, 3 phase to neutral, without 0-position, step angle 30°					
Door mounted, snap-on mounted black nose handle, black front frame and silver front plate					
L3-L1, L2-L3, L1-L2, L1-N, L2-N, L3-N	6	10	OC10G06PNBN00NVN30	1SCA126655R1001	R 845.00
L3-L1, L2-L3, L1-L2, L1-N, L2-N, L3-N	6	25	OC25G06PNBN00NVN30	1SCA126657R1001	R 899.00



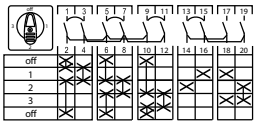
OC_AU31



OC_AU32



OC_VA21



OC_AV12

Ammeter switches

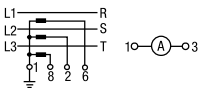
The handle and front plate with position indication are included.

Function	No. of contacts	Rated thermal current I_{th} [A]	Type	Order number	Price per unit Excl. VAT
For 3 current transformer circuits, with 0-position, step angle 90°					
Door mounted, snap-on mounted black nose handle, black front frame and silver front plate					
Single pole					
0-1-2-3	6	10	OC10G06PNBN00NAU31	1SCA126665R1001	R 826.00
0-1-2-3	6	25	OC25G06PNBN00NAU31	1SCA126667R1001	R 892.00
2 pole or direct measurement in 3 phases					
0-1-2-3	10	25	OC25G10PNBN00NAU32	1SCA126670R1001	R 904.00

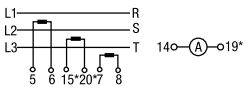
Volt-ammeter switches

The handle and front plate with position indication are included.

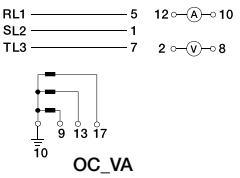
Function	No. of contacts	Rated thermal current I_{th} [A]	Type	Order number	Price per unit Excl. VAT
Measuring between phases and 3 current transformers with common pole, step angle 90°					
OFF-1-2-3	10	25	OC25G10PNBN00NVA21	1SCA126671R1001	R 915.00
OFF-1-2-3	10	25	OC25G10PNBN00NAV12	1SCA126672R1001	R 938.00



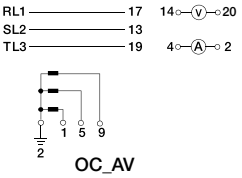
OC_AU31



O_AU32



OC_VA



OC_AV

Switch fuses OS

Technical data for OS20...40 and OS50...160G

Technical data according to IEC 60947-3		Switch size	A	OS (Mini) 20	OS (Mini) 25
Rated insulation voltage Dielectric strength Rated impulse withstand voltage	Pollution degree 3	50 Hz 1min.	V kV kV	1000 10 12	1000 10 12
Rated thermal current in ambient 35 °C and temporarily 40 °C[4] / max. fuse power dissipation[1] ...with minimum cable cross section	In open air In enclosure[2] In enclosure with solid links	 Cu	A/W A/W A mm²	20/3.5 20/3.5 32 2.5	25/3.5 25/3.5 32 4
Rated operational voltage AC-20 and DC-20			V	1000	1000
Rated operational current, AC-21A		up to 500 V 690 V	A A	20 20	25 25
Rated operational current, AC-22A		up to 500 V 690 V	A A	20 20	25 25
Rated operational current, AC-23A		up to 500 V 690 V	A A	20 20	25 25
Rated operational current / poles in series DC-21A		48 V 110-220 V 440 V	A A A	20/2 20/2 20/4	25/2 25/2 25/4
Rated operational current / poles in series DC-22A		48 V 110-220 V 440 V	A A A	20/2 20/2 20/4	25/2 25/2 25/4
Rated operational current / poles in series DC-23A		48 V 110-220 V 440 V	A A A	20/2 20/2 20/4	25/2 25/2 25/4
Rated operational power, AC-23[3]	The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors.	230 V 400 V 415 V	kW kW kW	5.5 7.5 7.5	5.5 11 11
		500 V 690 V	kW kW	11 15	15 22
Rated breaking capacity in category AC-23		≤ 690 V	A	256	256
Rated breaking capacity / poles in series in category DC-23		up to 220 V 440 V	A A	128/2 128/4	128/2 128/4
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$ The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	at prospective SC-current Max. OFA_ fuse size gG / aM	80 kA, 415 V	kA A	9	9
	at prospective SC-current Max. OFA_ fuse size gG / aM	100 kA, 500 V	kA A	8	8
	at prospective SC-current Max. OFA_ fuse size gG / aM	50 kA, 690 V	kA A	7	7
	at prospective SC-current Max. OFA_ fuse size gG / aM	80 kA, 690 V	kA A	7.5	7.5
Rated short-time withstand current, 1 s.	r.m.s. -value		kA	1	1
Rated capacitor power when no initial charge on the capacitor	The capacitor rating of the switch-fuse is limited by the fuse link.	400 V 415 V 690 V	kVAr kVAr kVAr	10 10 15	12.5 12 20
Power loss / pole	With rated current, without fuse		W	1.3	1.3
Mechanical endurance	Divide by two for operation cycles		Oper.	20 000	20 000
Fuse types, IEC 60269-2-1	DIN 43620 NFC 63210, 63211				10x38
	BS 88-2, -6 -size / distance of fuse-link bolts		mm mm	A1 M4/44.5	
Cable size Terminal tightening torque	 Counter torque required	Cu	mm² Nm	0.75...10 2	0.75...10 2
Fuse-links bolts tightening torque Operating torque	 Typical for 3-pole switch fuses		Nm Nm	2 3	 3

* = Utilization category B

1) Ambient temperature 60°C: derating 20%. Mounting on „ceiling“: derating 10%
2) OS160G: Mounting on wall, horizontal fuses: derating 5%
3) Some fuse links limit these figures further. Starting current characteristics must be considered separately
4) Acc. to IEC 60947-1, § 6.1.1. Minimum ambient temperature -5°C. Category B: -5°C...-35°C
5) Max. fuse body diam. 22 mm
6) 3 Nm with cable sizes 2.5...6 mm2.4 Nm with cable sizes 10...25 mm²

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Switch fuses OS

Technical data for OS20...40 and OS50...160G

OS (Mini) 32	OS (Mini) 40	OS_ 32G	OS_ 50G	OS_ 63G	OS_ 100G	OS_ 125G	OS_ 160G
1000 10 12	1000 10 12	1000 10 12	1000 10 12	1000 10 12	1000 10 8	1000 10 8	1000 10 8
32/3.5 32/3.5 32 6	40/4.5 40/4.5 40 10	32/7.5 32/7.5 6	50/7.5 50/7.5 10	63/7.5 63/7.5 16	100/12 100/12 50	125/12 125/12 50	160/12 160/12 70
1000	1000	1000	1000	1000	1000	1000	1000
32 32	40 40	32 32	50 50	63 63	100 100	125 125	160 160
32 32	40 40	32 32	50 50	63 63	100 100	125 125	160 160
32 32	40 40	32 32	50 50	63 63	100 100	125 125	160 160
32/2 32/2 25/4	32/2 32/2 32/4	32/2 32/2* 32/4*	50/2 50/2* 50/4*	63/2 63/2* 50/4*	100/2 100/2* 100/4*	125/2 125/2* 125/4*	160/2 125/2* 125/4*
32/2 32/2 32/4	32/2 32/2 32/4	32/2 32/2*	50/2 50/2*	63/2 63/2*	100/2 100/2*	125/2 125/2*	160/2 125/2*
32/2 32/2 32/4	32/2 32/2 32/4	32/2 32/2*	50/2 50/2*	63/2 63/2*	100/2 100/2*	125/2 125/2*	160/2 125/2*
7.5 15 15	11 18.5 18.5	7.5 15 15	11 22 22	18.5 30 30	30 55 55	37 55 55	45 75 75
18.5 22	22 30	18.5 22	30 37	37 55	55 90	75 110	90 132
256	320	504	504	504	1280	1280	1280
128/2 128/4	128/2 128/4	252/2	252/2	252/2	640/2	640/2	640/2
9	9	13.5 80/63	13.5 80/63	13.5 80/63	23.5 160/160	23.5 160/160	23.5 160/160
8	8	12.5 63/50	12.5 63/50	12.5 63/50	25.5 160/160	25.5 160/160	25.5 160/160
7	7	9.5 63/50	9.5 63/50	9.5 63/50	17.5 125/160	17.5 125/160	17.5 125/160
7.5	7.5	11.5 50/50	11.5 50/50	11.5 50/50	20.5 125/160	20.5 125/160	20.5 125/160
1	1	2.5	2.5	2.5	5	5	5
15 15 25	15 15 25	15 15 25	20 25 42	25 32 50	40 42 75	50 55 90	60 65 100
2	3.5	1	2.5	4	4	5	9
20 000	20 000	20 000	20 000	20 000	20 000	16 000	16 000
 14x51	000	000	 14x51	000		000, 00 22x58	000, 00
A1, A2 M4/44.5 (A1) M4/73 (A2)		A2-A3[5] M5/73		A2-A3[6] M5/73	A2-A4[3] M5/73, M8/94	A2-A4[3] M5/73, M8/94	A2-A4[3] M5/73, M8/94
0.75...10 2	0.75...10 2	2.5...25 3/4[6]	2.5...25 3/4[7]	2.5...25 3/4[7]	 15-22	 15-22	15-22
2 3	 3	3.5 5	 5	3.5 5	M5:3.5 M8:5 7	M5:3.5 M8:5 7	M5:3.5 M8:5 7

Switch fuses OS

Technical data for OS200...1250

Technical data according to IEC 60947-3		Switch size	A	OS_200GB	OS_200_
Rated insulation voltage and rated operational voltage AC-20 and DC-20	Pollution degree 3		V	1000	1000
Dielectric strength Rated impulse withstand voltage		50 Hz 1min.	kV kV	10 8	10 12
Rated thermal current in ambient 35 °C and temporarily 40 °C[5] / max. fuse power dissipation ...with minimum cable cross section	In open air In enclosure	Cu	A/W A/W mm²	200/14 200/14 70	200/17 200/15 95
Derating, mounting on wall horizontal fuses	In open air or ventilated enclosure Totally enclosed		% %	0 5	0 5
Derating, mounting on ceiling			%	10	10
Derating at 60 °C	In open air / in enclosure		%	20/20	20/20
Rated operational current AC-22B		≤ 415 V	A	200	
Rated operational current AC-21A		≤ 500 V 690 V	A A	160 160	200 200
Rated operational current AC-22A		≤ 415 V 500 V 690 V	A A A	160 160 160	200 200 200
Rated operational current AC-23A		≤ 415 V 500 V 690 V	A A A	160 160 160	200 200 200
Rated operational current / poles in series DC-21A, DC-22A and DC-23A		≤ 220 V 440 V	A A	125/2[6] 125/4[6]	200/1 200/2
		660 V 750 V 880 V	A A A		200/3 180/4 180/4
Rated operational power AC-23[1]		230 V 400 V	kW kW	45 75	60 110
		415 V 500 V 690 V	kW kW kW	75 90 132	110 132 200
Rated breaking capacity AC-23		≤ 690 V	A	1280	1600
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$	at prospective SC-current Max. OFA_ fuse size gG/aM	80 kA, 415 V	kA A	23.5 160/160	35 250/200
	at prospective SC-current Max. OFA_ fuse size gG/aM	100 kA, 500 V	kA A	25.5 160/160	37.5 250/200
The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	at prospective SC-current Max. OFA_ fuse size gG/aM	80 kA, 690 V	kA A	20.5 125/160	25 160/
	at prospective SC-current Max. BS fuse size gG/gM	50 kA, 415 V	kA A	17.5 125/160	28 200/200M315
	at prospective SC-current Max. BS fuse size gG/gM	80 kA, 690 V	kA A	20.5 125/160	28 200/200M250
Rated short-time withstand current, 1s.	r.m.s. -value Max. distance from switch frame to nearest busbar/cable support		kA mm	5 150	8 150
Rated capacitor power when no initial charge of the capacitor	The capacitor ratings of the switch-fuses are limited by the fuse links	400 V 415 V	kVAr kVAr	60 65	90 100
		500 V 690 V	kVAr kVAr	100	120 160
Power loss / pole	With rated current, without fuse		W	9	8
Mechanical endurance	Divide by two for operation cycles		Oper.	16 000	20 000
Fuse types, IEC 60269-2	Sec. I, DIN 43620 Sec. IA, NFC 0-3 Ref.A, 4a Ref.B				0 1
	Sec. II, BS 88 Size / distance of fuse-link bolts		mm	A2-A4 M5/73, M8/94	B1-B2 M6/111
Terminal tightening torque	Counter torque required		Nm	15-22	15-22
Fuse-links bolts tightening torque Operating torque	Typical for 3-pole switch fuses		Nm Nm	M5:3.5 M8:5 7	4 7

1) These values are given for guidance and may vary acc. to the motor manufacturer
2) Max fuse body dia 52 mm
3) Max fuse body dia 62 mm
4) Category B
5) Acc. to IEC 60957-2, IEC 60947-1, § 6.1.1. Minimum ambient temperature -5°C. Category B: -5°C...-35°C
6) Utilization category DC21-B

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Switch fuses OS

Technical data for OS200...1250

OS_250_	OS_315_	OS_400_	OS_630_	OS_800_	OS_1250_
1000	1000	1000	1000	1000	1000
10 12	10 12	10 12	10 12	10 12	10 12
250/23 250/20 120	315/32 315/32 185	400/45 400/30 240	630/60 570/50 2 x 185	800/65 720/55 2 x 240	1250/110 1000/85 2 x 400
0 5	0 5	4 8	0 5	4 8	4 8
10	10	10	10	10	10
20/20	20/20	20/20	20/20	20/20	20/20
250 250	315 315	400 400	630 630	800 800	1250[4] 1250[4]
250 250 250	315 315 315	400 400 400	630 630 630	800 800 800	1250 1250[4] 1250[4]
250 250 250	315 315 315	400 400 400	630[2] 630[2] 630[2]	800 800 800	1000 1000[4] 1000[4]
250/1 250/2	315/2 315/3[4]	400/2 400/3[4]	630/1[2] 630/2[2]	800/1[2] 800/2[2]	
250/3 230/4 230/4	315/4[4] 315/4[4]	400/4[4] 400/4[4]	630/3[2] 630/4[2] 630/4[2]	720/3[2] 720/4[2] 720/4[2]	
75 140	100 160	132 220	200 355	250 450	315 560
145 170 250	180 220 315	230 280 400	355 450 630	450 560 710	560 710 1000
2000	3200	3200	6400	6400	8000
40.5 355/315		59 500/500	77 800/800	77 800/800	89 1250/1250
37.5 250/250		63.5 500/500	83 800/800	83 800/800	105 1250/-
32.5 200/250		46 315/400	55 500/630	55 500/630	88 1000/1000
28 250/200M315	44 400/400M500	44 400/400M500	67	67	90
28 250/200M250	48 400/400M450	48 400/400M450			
8 150	14 150	14 150	18 150	18 150	40 150
105 115	145 160	180 200	250 270	310 340	440 460
135 190	175 250	215 325	300 450	375 550	550 750
13	19	30	46	75	75
20 000	16 000	16 000	10 000	6000	6000
0-1 1		0-2 2	3 3	3 3	4, 4 a 4 a
B1-B3[2] M8/111	B1-B4[3] M8/111	B1-B4[3] M8/111	C1-C2 M10/133, 184	C1-C3 M10/133, 184	D1 2xM12/149
30-44	30-44	30-44	50-75	50-75	50-75
5 7	20 19	20 19	M10:30 M12:40 38	M10:30 M12:40 38	M12:40 65

Switch fuses OS
Din-type



OS125...160GD03P

Front operated switch fuses

Including terminal bolt set in OS125G...160G, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
Protected tunnel terminals, IP20					
32	000	3	OS32GD12P	1SCA114581R1001	R 2 507.00
63	000	3	OS63GD12P	1SCA115227R1001	R 2 572.00
Including terminal bolt set					
125	000, 00	3	OS125GD12P	1SCA115641R1001	R 3 802.00
160	000, 00	3	OS160GD12P	1SCA115643R1001	R 4 081.00

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS32G...63G_P	OXP6X161	OHB45J6	-
OS125G...160G_P	OXP6X161	OHB65J6	M8X25



OS200...250D03N3P



OS400D04FP

Front operated switch fuses

Including terminal bolt set, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
200	0	3	OS200D03P	1SCA022709R9500	R 4 715.00
250	0-1	3	OS250D03P	1SCA022719R0090	R 5 641.00
400	0-2	3	OS400D03P	1SCA022719R0250	R 8 863.00

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS200_P	OXP6X210	OHB65J6	M8X25
OS250_P	OXP6X210	OHB65J6	M10X30
OS400_P	OXP12X250	OHB95J12	M10X30



OS1250D03P

Front operated switch fuses

Including terminal bolt set, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths. OS1250DA_: a fuse replacement tool is integrated in the fuse cover.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
630	3	3	OS630D03P	1SCA022825R2830	R 18 202.00
800	3	3	OS800D03P	1SCA022825R4880	R 18 560.00
1250[1)]	4	3	OS1250D03P	1SCA105475R1001	R 37 717.00
1250[1)]	4a	3	OS1250DA03P	1SCA105238R1001	R 39 385.00

1) 1250A / AC-21...22A, 1000A / AC-23A



OS1250D04P

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Switch fuses OS
Din-type

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS630...800_P	OXP12X280	OHB145J12	M12X40
OS1250_P	OXP12X395	OHB274J12	M12x50

Front operated switch fuses with direct mount handle

Including terminal bolt set in OS125G...160G, a black Test-OFF-ON plastic handle and shaft as standard. The handle is padlockable in the OFF-position. Types OS1250DA_: a fuse replacement tool is integrated in the fuse cover.



OS32...63GD03K



OS125...160GD03K

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
Protected tunnel terminals, IP20					
32	000	3	OS32GD03K	1SCA116733R1001	R 3 116.00
63	000	3	OS63GD03K	1SCA116738R1001	R 3 655.00
Including terminal bolt set					
125	000, 00	3	OS125GD03K	1SCA116878R1001	R 4 334.00
160	000, 00	3	OS160GD03K	1SCA116742R1001	R 3 788.00

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS32G...63G_K	-	OSV200BK	-
OS125G...160G_K	-	OSV200BK	M8X25

Front operated switch fuses with direct mount handle

Including terminal bolt set, a black Test-OFF-ON plastic handle and shaft as standard. The handle is padlockable in the OFF-position. Types OS1250DA_: a fuse replacement tool is integrated in the fuse cover.



OS200...250D03K



OS400D03K

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
Including terminal bolt set					
200	0	3	OS200D03K	1SCA022764R7130	R 4 592.00
250	0-1	3	OS250D03K	1SCA022763R6360	R 5 494.00
400	0-2	3	OS400D03K	1SCA022779R5410	R 8 498.00
630	3	3	OS630D03K	1SCA108704R1001	R 15 763.00
800	3	3	OS800D03K	1SCA108725R1001	R 18 673.00
1250[1)]	4	3	OS1250D03K	1SCA108718R1001	R 28 639.00
1250[1)]	4a	3	OS1250DA03K	1SCA108720R1001	R 32 956.00

1) 1250A / AC-20...22A, 1000A / AC-23A



OS630...800D03K

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS200_K	-	OSV250DK	M8X25
OS250_K	-	OSV250DK	M10X30
OS400_K	-	OSV400DK	M10X30
OS630...800_K	-	OSV800DK	M12X40
OS1250_K	-	OSV1250DK	M12x50

Switch fuses OS
BS-type



OS100...160GB03P

Front operated switch fuses

Including terminal bolt set in OS100G...160G, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Protected tunnel terminals IP20, mechanism at the end of the switch					
32	A2, A3	3	OS32GB03P	1SCA115259R1001	R 3 116.00
63	A2, A3	3	OS63GB03P	1SCA115235R1001	R 3 655.00
Including terminal bolt set, mechanism at the end of the switch					
100	A2-A4[1)]	3	OS100GB03P	1SCA114613R1001	R 2 918.00
125	A2-A4[1)]	3	OS125GB03P	1SCA115634R1001	R 3 211.00
160	A2-A4[1)]	3	OS160GB03P	1SCA115413R1001	R 3 508.00

1) Max. fuse diameter 32 mm

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS32G...63G_P	OXP6X161	OHB45J6	-
OS100G...160G_P	OXP6X161	OHB65J6	M8X25



OS200...250B02P



OS200...250B03N3P



OS315...400B03P

Front operated switch fuses

Including terminal bolt set, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft can be adjusted to different installation depths.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
200	B1-B2	3	OS200B03P	1SCA022709R9330	R 4 758.00
250	B1-B3	3	OS250B03P	1SCA022750R6660	R 5 708.00
315	B1-B4	3	OS315B03P	1SCA022719R0680	R 7 821.00
400	B1-B4	3	OS400B03P	1SCA022719R0840	R 9 057.00

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS200_GB_P	OXP6X161	OHB65J6	M8X25
OS200_P	OXP6X210	OHB65J6	M8X25
OS250_P	OXP6X210	OHB65J6	M10X30
OS315…400_P	OXP12X250	OHB95J12	M10X30



OS1250D03P

Front operated switch fuses

Including terminal bolt set, a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number	Price per unit Excl. VAT
Mechanism at the end of the switch fuse					
630	C1-C2	3	OS630B03P	1SCA022825R5850	R 18 336.00
800	C1-C3	3	OS800B03P	1SCA022825R7550	R 20 171.00
1250[1)]	D1	3	OS1250B03P	1SCA105250R1001	R 42 620.00

1) 1250A / AC-20...22A, 1000A / AC-23A

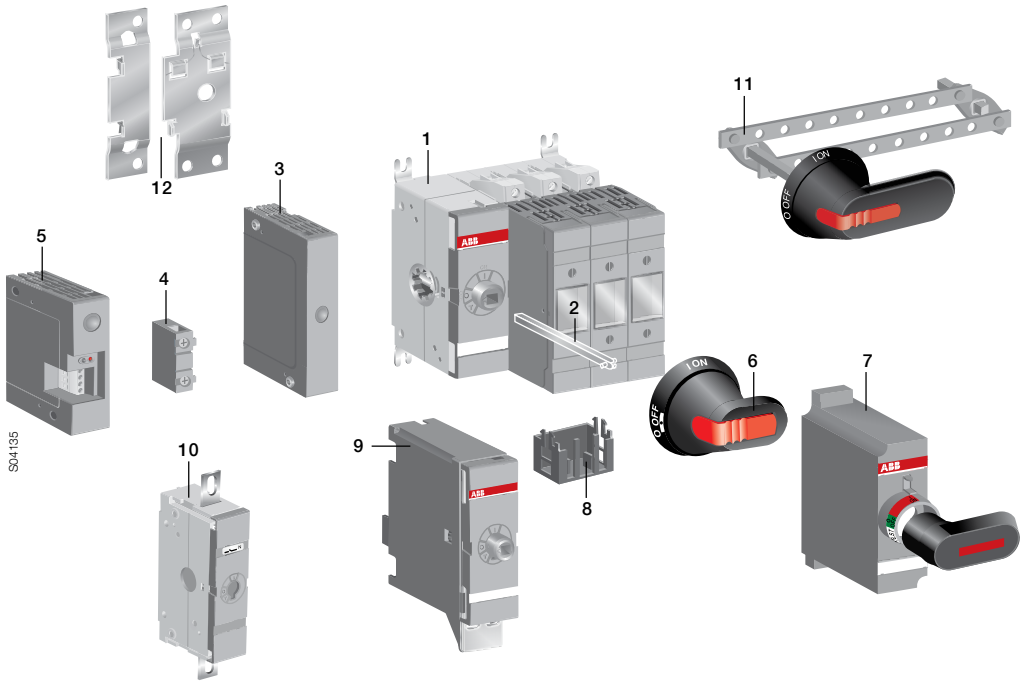
Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS630...800_P	OXP12X280	OHB145J12	M12X40
OS1250_P	OXP12X395	OHB274J12	M12X50

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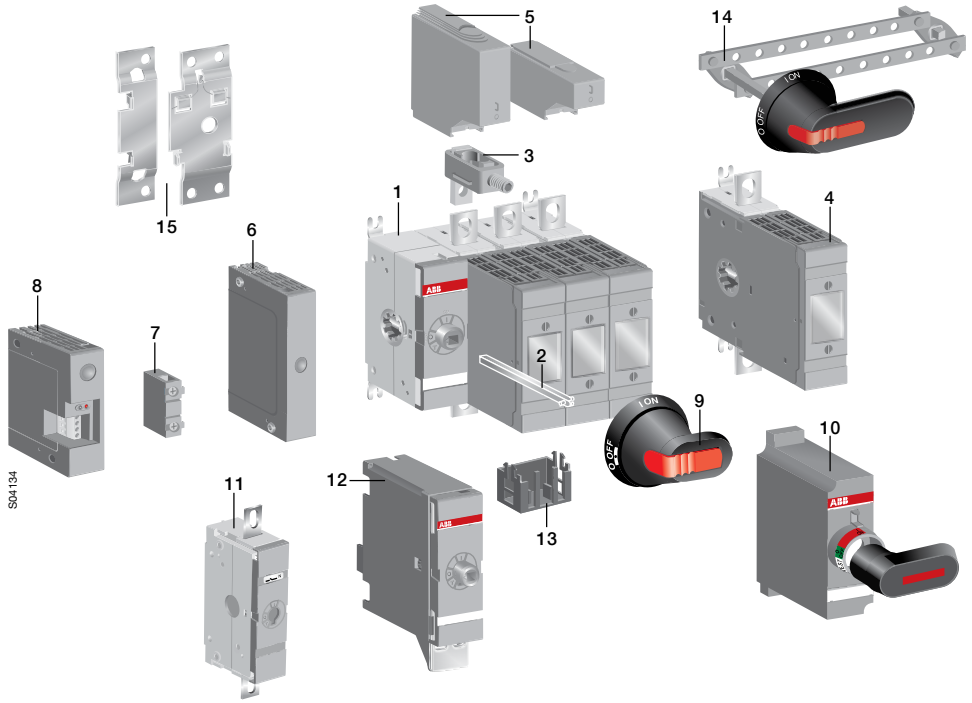
Switch fuses OS
Selection overview

OS32G...OS63G



1 Switch fuse | 2 Extended shaft | 3 Module for auxiliary contacts | 4 Auxiliary contact | 5 Fuse monitor | 6 Pistol type handle | 7 Direct mounted handle | 8 Blown fuse indicator | 9 Interlocks, mechanical & electrical | 10 Detachable neutral link | 11 Conversion kit: 6/8-pole, C/O, bypass, mech. interlock | 12 DIN rail mounting kit

OS100G...OS1250_



1 Switch fuse | 2 Extended shaft | 3 Terminal clamp | 4 Fourth pole | 5 Terminal shroud | 6 Module for auxiliary contacts | 7 Auxiliary contact | 8 Fuse monitor | 9 Pistol type handle | 10 Direct mounted handle | 11 Detachable neutral link | 12 Interlocks, mechanical & electrical | 13 Blown fuse indicator | 14 Conversion kit: 6/8-pole, C/O, bypass, mech. interlock | 15 DIN rail mounting kit (only for OS100G...160G_)

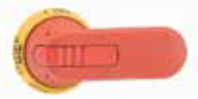
Switch fuses OS
Accessories - Handles


OHB65J6


OHY65J6


OHG65J6


OHB95J12


OHY95J12T


OHB125J12

Pistol handles for front operated switch fuses

Plastic pistol handles, IP 65

Padlockable with 3 padlocks in the OFF-position, door interlock in the ON-position. Screw fixing from the back side of the handle ensures double insulation.

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
For shaft diameter 6 mm (for OSMini and OS32...250)				
Black and red-yellow: I-O/ON-OFF.				
Black	45	OHB45J6	1SCA022380R8770	R 278.00
Red-yellow	45	OHY45J6	1SCA022380R8930	R 278.00
Black	65	OHB65J6	1SCA022380R9660	R 697.00
Red-yellow	65	OHY65J6	1SCA022380R9820	R 697.00
Black	80	OHB80J6	1SCA022381R0240	R 794.00
For shaft diameter 12 mm (for OS315...400)				
Black and red-yellow: I-O/ON-OFF.				
Black	95	OHB95J12	1SCA022381R0830	R 1 128.00
Red-yellow	95	OHY95J12	1SCA022381R1050	R 1 128.00
For shaft diameter 12 mm (for OS630...800)				
Black and red-yellow: I-O/ON-OFF.				
Black	125	OHB125J12	1SCA022381R1560	R 1 198.00
Red-yellow	125	OHY125J12	1SCA022381R1720	R 1 198.00
Black	145	OHB145J12	1SCA022381R2110	R 1 185.00
Red-yellow	145	OHY145J12	1SCA022381R2370	R 1 185.00
Black	175	OHB175J12	1SCA022381R2450	R 1 258.00
Grey	175	OHG175J12	1SCA022381R2610	R 1 258.00

- Door interlocking in the ON-position means that the door cannot be opened, when the handle is in the ON-position. This can be defeated to allow authorized personnel access for inspection.
- Handles padlockable in all positions


OHB274/330J12


OHY274J12


OHM_


YASDA_

Optional handles for front operated switch fuses

Plastic pistol handles, IP 65

Padlockable with 3 padlocks in the OFF-position, door interlock in the ON-position. Screw fixing from the back side of the handle ensures double insulation.

Colour	Handle length [mm]	Type	Order number	Price per unit Excl. VAT
For shaft diameter 12 mm (for OS1200...1250)				
Black and red-yellow: I-O/ON-OFF.				
Black	274	OHB274J12	1SCA115920R1001	R 1 479.00
Red-yellow	274	OHY274J12	1SCA115919R1001	R 1 479.00
Black	330	OHB330J12	1SCA115922R1001	R 1 774.00
Red-yellow	330	OHY330J12	1SCA115921R1001	R 1 774.00
Black	2x200	OHB200J12P	1SCA022865R9510	R 2 097.00
Red-yellow	2x200	OHY200J12P	1SCA101587R1001	R 2 097.00

- Door interlocking in the ON-position means that the door cannot be opened, when the handle is in the ON-position.This can be defeated to allow authorized personnel access for inspection.
- Handles padlockable in all positions

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Switch fuses OS
Accessories - Shafts



OXP6X_



OXP_X_-45



0HP12X_

Shafts

Shaft length [mm]	Type	Order number	Price per unit Excl. VAT
For OS 32G...63G , shaft diameter 6 mm			
130	0XP6X130	1SCA022057R0570	R 68.00
161	0XP6X161	1SCA022067R1760	R 111.00
210	0XP6X210	1SCA022295R6080	R 117.00
290	0XP6X290	1SCA022042R6370	R 193.00
360	0XP6X360	1SCA022042R6530	R 221.00
430	0XP6X430	1SCA022056R6030	R 253.00
For OS100G...25, shaft diameter 6 mm			
130	0XP6X130	1SCA022057R0570	R 68.00
210	0XP6X210	1SCA022295R6080	R 117.00
290	0XP6X290	1SCA022042R6370	R 193.00
360	0XP6X360	1SCA022042R6530	R 221.00
430	0XP6X430	1SCA022056R6030	R 253.00
For OS 315...400, shaft diameter 12 mm			
250	0XP12X250[3)]	1SCA022325R6980	R 343.00
280	0XP12X280	1SCA022137R5140	R 754.00
325	0XP12X325	1SCA022042R5810	R 380.00
395	0XP12X395	1SCA022042R5990	R 420.00
465	0XP12X465	1SCA022042R6020	R 499.00
535	0XP12X535	1SCA022042R6110	R 675.00

Switch fuses OS
Accessories - Auxiliary contacts

Auxiliary contacts for OS32G...1250


OA3G01

Suitable for switches	Description	Protection degree	Type	Order number	Price per unit Excl. VAT
OS32G...1250	1NO	IP20	OA1G10	1SCA022353R4970	R 213.00
OS32G...1250	1NC	IP20	OA3G01	1SCA022456R7410	R 202.00

Mounting under the mechanism cover

The “test” contacts operate in ON- and OFF-positions as well as when the handle is turned to TEST-position = 45 degrees over the OFF-position. The “test tindication” contacts operate only when the handle is turned to TEST-position. See the function table below. The OA1G10 (N.O.) or OA3G01 (N.C.) auxiliary contact blocks can be used as standard auxiliary contacts, “test” or “test indication” contacts. The desired functions are achieved when an auxiliary contact block is installed in a specific place shown in the mounting instruction. In order to activate the “test” and “test indication” features, a handle with test function is required.


OEA28

Function table of OS32G…1250 auxiliary contacts			
Handle position	Main contacts	Aux./Test contacts N.O.	Test indication contacts N.O
Test	open	closed	closed
0	open	open	open
I	closed	closed	open

Maximum number of contact blocks, “Aux./test” contacts and “test indication” contacts, see the table below. Standard versions include all except for N3-types, which are equipped with integrated neutral through the mechanism.

Maximum number of auxiliary contacts under the mechanism cover						
	OS/OSM32G…250		OS/OSM315…800		OS/OSM1200…1250	
Pole version	Standard	N3	Standard	N3	Standard	N3
Maximum number of contact blocks	4	0	8	4	12	8
Aux./Test contacts	4	0	4	2	8[1)]	6[2)]
Test indication contacts	2	0	4	2	4	2

For contact timing, see pages 106 and 107.
1) 6 aux/test contacts and 2 early operation aux./test contacts
2) 4 aux/test contacts and 2 early operation aux./test contacts


OSP160GN

Mounting on the left side of the OS switch fuse:

Maximum 8 auxiliary contact blocks (N.O. or N.C.) with the OEA28 module.

Module for auxiliary contacts for OS32...1250

Description	Type	Order number	Price per unit Excl. VAT
Screw mounting to the left side of the switch	OEA28	1SCA022714R8810	R 517.00


OSP250N

Fourth poles

Snap-on mounting to the side of the switch.


OSP800N

Suitable for 3-pole switches	Mounting side	Type	Order number	Price per unit Excl. VAT
Switched 4. poles				
OS100G...160G	Left/right	OSP160GN	1SCA114770R1001	R 1 332.00
OS200_	Left/right	OSP200N	1SCA022735R8700	R 2 352.00
OS250_	Left/right	OSP250N	1SCA022735R9260	R 2 817.00
OS400_	Left/right	OSP400N	1SCA022770R3490	R 2 913.00
OS630...800	Left/right	OSP800N	1SCA100432R1001	R 8 050.00
OS1200...1250	Left/right	OSP1250N	1SCA107943R1001	R 14 311.00

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Switch fuses OS

Accessories - Terminal shrouds and Fuse monitors



OSS200G1L



OSS250G1L



OSS800G1L



OFS260



OFD500EA

Terminal shrouds

Suitable for switches	Description	Type	Order number	Price per unit Excl. VAT
Pack of single pole terminal shrouds				
Snap-on mounting, grey plastic, IP 3X from front.				
OS100G…160G	Long type	OSS160GG1L/3	1SCA114764R1001	R 306.00
OS200	Long type	OSS200G1L/3	1SCA022731R8910	R 330.00
OS250	Long type	OSS250G1L/3	1SCA022731R9390	R 343.00
OS315...400	Long type	OSS400G1L/3	1SCA022776R6650	R 805.00
OS630...800	Long type	OSS800G1L/3	1SCA022776R7200	R 833.00
OS1250	Long type	OSS1250G1L/3	1SCA107938R1001	R 1 110.00

Electronic fuse monitor

Includes the auxiliary contacts 1NO + 1NC.

OS32G…1250

Mounting onto the left side of OS32G-1250 switch fuse or on DIN-rail or on mounting plate.

Rated voltage [V]	Type	Order number	Price per unit Excl. VAT
100…260/AC	OFS260	1SCA022716R0180	R 2 204.00
380…690/AC	OFS690	1SCA022715R9920	R 2 204.00
48...110/DC	OFD110EA	1SCA121775R1001	R 3 056.00
110...500/DC	OFD500EA	1SCA121776R1001	R 3 056.00

Notes

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Enclosures

	Chapter
Mistral 65	4.1
SR 2	4.2
Gemini	4.3
System pro E power	4.4
IS2 Automation Enclosure	4.5

Enclosures
Mistral 65



The new range of System pro E comfort MISTRAL65 consumer units allows almost any type of electrical distribution system to be implemented in industrial, commercial and residential environments. The consumer units are manufactured in a halogen-free thermoplastic which is completely recyclable. The range includes solutions with transparent or opaque doors which open up to 180°, and a choice of between 4 and 72 modules, meeting the most recent regulatory requirements and ensuring an enormous variety of application types are covered. The refined design is marked by some particular characteristics, for example the perfect symmetry, which allows either the whole consumer unit or just the front panel to be rotated, easily changing the door opening side. In the multi-row versions, the centre distance of the DIN Rails can be varied from 150 mm to 125 mm, further increasing the versatility of the product and using the same standard accessories. The frame is extractable for quick and easy bench cabling. The ample internal space makes the cables more accessible, facilitating cabling and giving the possibility to anchor the cable-ties to special eyeholes on the frame. The consumer units are designed to house optional dedicated terminal blocks in two different colour schemes to allow quick and tidy cabling, and making separate power supplies easily recognisable, when used. The range is completely coordinated with ABB MCBs and MCCBs, all of which can be easily installed simply by moving the rail provided for their housing. The project design also aimed to optimise cabling, assembly and installation times of the consumer units. Everything has been designed to make the installer's job quicker and easier, allowing them to implement functional and tidy switchboards.

Enclosures
Mistral 65



Surface Mount Transparent Distribution Board Including Neutral and Earth Terminals

Dimensions			No. of ways	Order Code	Price per unit Excl.. VAT
H	W	D			
202	152	117	4 Way	1SL1200A00	R 280.00
250	232	154	8 Way	1SLM006501A1201	R 361.00
250	320	155	12 Way	1SLM006501A1202	R 507.00
250	430	155	18 Way	1SLM006501A1203	R 738.00
435	320	155	24 Way - (2 X 12 Way)	1SLM006501A1204	R 837.00
435	430	155	36 Way - (2 X 18 Way)	1SLM006501A1205	R 1 156.00
600	320	155	36 Way - (3 X 12 Way)	1SLM006501A1206	R 1 548.00
735	320	155	48 Way - (4 X 12 Way)	1SLM006501A1207	R 1 549.00
600	430	155	54 Way - (3 X 18 Way)	1SLM006501A1208	R 1 435.00
735	430	155	72 Way - (4 X 18 Way)	1SLM006501A1209	R 1 941.00

Note: Refer to technical catalogue for neutral and earth terminal Description



Surface Mount Transparent Distribution Board Including Neutral and Earth Terminals

Dimensions			No. of ways	Order Code	Price per unit Excl.. VAT
H	W	D			
			Wall fixing brackets (4 pcs) MISTRAL65	1SLM006500A1927	R 77.17
			Lock with key MISTRAL65	1SLM006500A1931	R 245.92
			Central blank panel 12M MISTRAL 65*	1SLM006500A1945	R 24.80
			Blank panel 12M MISTRAL 65	1SLM006500A1946	R 24.80
			Central blank panel 18M MISTRAL 65**	1SLM006500A1947	R 27.92
			Blank panel 18M MISTRAL 65	1SLM006500A1948	R 27.92

Note: *MISTRAL 65 panels 3 lines - 36 modules **MISTRAL 65 panels 3 lines - 54 modules

Colour	RAL 7035 grey
Door type	Transparent
Protection class	II ⧈
Fire Resistance	GWT 650°C
Material	Thermoplastic
Resistance to mechanical impacts	IK09
Installation temperature	-25°C / +60°C
IP Rating	IP65
Maximum current	125A
Halogen free	yes



The first depth level allows standard products to be housed; these include most modular products currently available on the market.



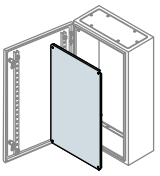
The frame allows for two different DIN Rail positions. This allows products with different depths to be installed, for example MCCBs which, thanks to this solution, are perfectly aligned with other devices in the panel.

Enclosures

SR 2

Manufactured from a high grade Mild steel
Interior kits for distribution board application
Conformity with Standard: IEC 62208, IEC 60439-1, IEC 61439-1-2
Degree of protection: IP65 (IEC 60529)



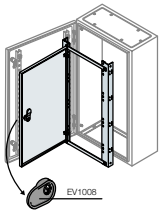



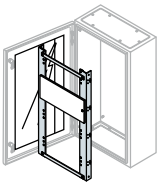
Dimensions			Orange Enclosure	Grey Enclosure	Grey Enclosure with Glass door	Mounting Plate
H	W	D				
300	200	150	SRN3215SPEC			PF3020
300	300	150		SRN3315K		PF3030
400	300	150		SRN4315K		PF4030
400	300	200	SRN4320SPEC	SRN4320K		PF4030
500	300	200		SRN5320K		PF5030
500	400	250	SRN5425SPEC	SRN5425K	SRN5425VK	PF5040
600	400	250	SRN6425SPEC	SRN6425K	SRN6425VK	PF6040
600	600	250		SRN6625K		PF6060
700	500	250	SRN7525SPEC	SRN7525K	SRN7525VK	PF7050
800	600	300	SRN8630SPEC	SRN8630K	SRN8630VK	PF8060
1000	800	300	SRN10830SPEC	SRN10830K	SRN10830VK	PF1080
1200	800	300	SRN12830SPEC	SRN12830K		PF1280

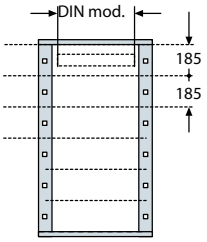
Technical characteristics	
Conformity with the Standard	IEC 62208, IEC 60439-1, IEC 61439-1-2
Degree of protection	IP65 (IEC 60529) TYPE 12 (Normativa UL)
Degree of mechanical strength	IK10 blind door IK09 glazed door (IEC 62262)
Certifications	SR and UL Listed and Ex 11 3 G D
Type of material	Metallic
Installation site	Indoors
Fixing method	floor/wall
Normal service conditions ambient temperature	da –5 a +40°C
Operating climate (t°/Ur%)	Constant 23°C/83% - 40°C/93% Variable 23°C/98% - 40°C/98%

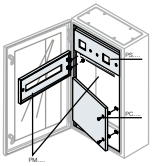
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Enclosures
SR 2









	Inner Door	Support Frame For Din Kit	Max Number of 185mm High Din Kits	Din Kit - Din Cutout and Din Rail	185mm High Blank Panel	370mm High Blank Panel
	KC5040K	KD5040K	2	PM1414K	PC1406K	
	KC6040K	KD6040K	3	PM1414K	PC1406K	
	KC7050K					
	KC8060K	KD8060K	4	PM1625K	PC1606K	PC2606K
	KC1080K	KD1080K	5	PM1836K	PC1806K	PC2806K
	KC1280K	KD1280K	6	PM1836K	PC1806K	PC2806K







Enclosures
SR 2



Enclosure with Solid door, Mounting plate included -RAL2000 Orange

Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
300	200	150	Solid door Sheet Metal Enclosure (Orange)	SRN3215SPEC	R 969.07
400	300	200		SRN4320SPEC	R 1 229.76
500	400	250		SRN5425SPEC	R 1 614.53
600	400	250		SRN6425SPEC	R 1 888.65
700	500	250		SRN7525SPEC	R 2 415.51
800	600	300		SRN8630SPEC	R 3 290.68
1000	800	300		SRN10830SPE	R 5 019.64
1200	800	300		SRN12830SPEC	R 5 564.10



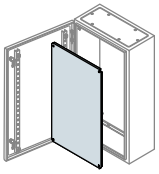
Enclosure with Solid door, Mounting plate included -RAL7035 Grey

Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
300	300	150	Solid door Sheet Metal Enclosure (Grey)	SRN3315K	R 1 036.12
400	300	150		SRN4315K	R 1 166.89
400	300	200		SRN4320K	R 1 229.76
500	300	200		SRN5320K	R 1 390.71
500	400	250		SRN5425K	R 1 614.53
600	400	250		SRN6425K	R 1 888.65
600	600	250		SRN6625K	R 2 268.39
700	500	250		SRN7525K	R 2 415.51
800	600	300		SRN8630K	R 3 290.68
1000	800	300		SRN10830K	R 5 019.64
1200	800	300		SRN12830K	R 5 564.10



Enclosure with Glass door, Mounting plate to order separately -RAL7035 Grey

Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
500	400	250	Glass Door Sheet Metal Enclosure (Grey)	SRN5425VK	R 2 204.26
600	400	250		SRN6425VK	R 2 684.60
700	500	250		SRN7525VK	R 3 349.78
800	600	300		SRN8630VK	R 4 500.32
1000	800	300		SRN10830VK	R 6 085.93



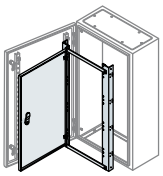
Mounting Plate

Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
300	200		Metal Mounting Plate	PF3020	R 286.51
300	300			PF3030	R 286.51
400	300			PF4030	R 303.68
500	300			PF5030	R 320.91
500	400			PF5040	R 320.91
600	400			PF6040	R 425.63
600	600			PF6060	R 551.68
700	500			PF7050	R 603.28
800	600			PF8060	R 780.59
1000	800			PF1080	R 1 239.84
1200	800			PF1280	R 1 537.20

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

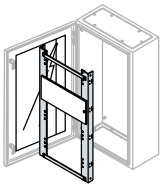
Enclosures
SR 2

Inner DoorRAL7035 Grey



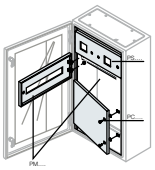
Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
500	400		Inner Door (Grey)	KC5040K	R 925.65
600	400			KC6040K	R 1 120.53
700	500			KC7050K	R 1 307.12
800	600			KC8060K	R 1 802.75
1000	800			KC1080K	R 2 633.39
1200	800			KC1280K	R 2 994.69

Support Frame for Distribution Kits



Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
500	400		Support Frame For Distribution Kit	KD5040K	R 286.51
600	400			KD6040K	R 320.91
800	600			KD8060K	R 391.97
1000	800			KD1080K	R 481.36
1200	800			KD1280K	R 532.61

Distribution kit - Din cut out Panel including Din Rail



Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
185	400		14 way Distribution Kit	PM1414K	R 338.13
185	600		25 way Distribution Kit	PM1625K	R 355.71
185	800		36 way Distribution Kit	PM1836K	R 447.36

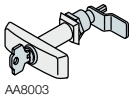
Blank hinged Panel

Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
185	400		Blanking cover	PC1406K	R 286.51
185	600			PC1606K	R 320.91
185	800			PC1806K	R 355.71
370	600			PC2606K	R 444.72
370	800			PC2806K	R 498.56

Accessories


AA8001


AA8002

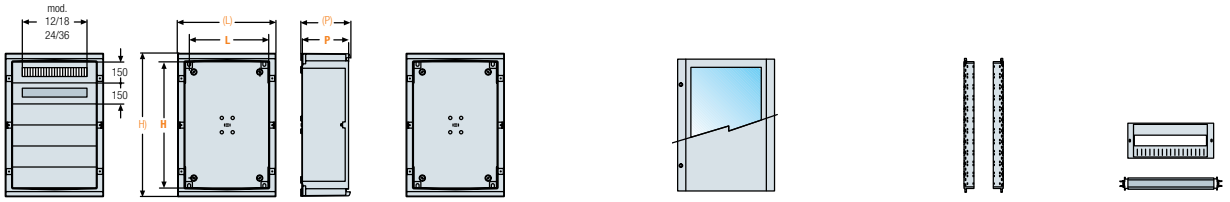

AA8003


EV1008

Description	Order Code	Price per unit Excl.. VAT
Wall Mount brackets (Set of 4)	AA1206	R 112.93
Butterfly lock with zama key for SR	AA8001	R 126.43
Closure with handle and YALE SR type key	AA8003	R 391.97
YALE type closure and SR key	AA8002	R 213.92
Triang. Insertion for SR	AA5200	R 179.89
Triang.keyRAL7012 for insert. AA5200	AA5190	R 47.15
Door closure box	EV1008	R 38.29
Double tongue insert	EV1039	R 28.02
Ronis 455 insert	EV1037	R 91.96
Yale insert	EV1036	R 91.96

Enclosures
Gemini

Manufactured from a high grade Thermoplastic
Interior kits for distribution board application
Conformity with Standard: IEC 62208, IEC 60439-1, IEC 61439-1-2
Degree of protection: IP66 (IEC 60529)



Size	No. of DIN modules installable	Dimensions			Box without Door	Transparent Door	Opaque Door	Uprights	DIN Rail kit H=150mm
		H	W	D					
1	(12x2)	400	335	210	1SL0221A00	1SL0241A00	1SL0231A00	1SL0283A00	1SL0307A00
2	(18x3)	550	460	260	1SL0222A00	1SL0242A00	1SL0232A00	1SL0284A00	1SL0308A00
3	(18x4)	700	460	260	1SL0223A00	1SL0243A00	1SL0233A00	1SL0285A00	1SL0308A00
4	(24x4)	700	580	260	1SL0224A00	1SL0244A00	1SL0234A00	1SL0285A00	1SL0309A00
5	(24x5)	855	585	360	1SL0225A00	1SL0245A00	1SL0235A00	1SL0286A00	1SL0309A00
6	(36x6)	1005	840	360	1SL0226A00	1SL0246A00	1SL0236A00	1SL0287A00	1SL0310A00

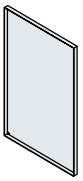
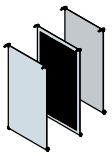
Technical characteristics

Compliance with Standards	CEI EN 50298, CEI 23-48, CEI 23-49, IEC 60670, CEI EN 60439-1 CEI EN 62208 - IEC 61439-1-2
Rated service voltage	Ue 1000 V AC - 1500 V DC
Operating temperature °C	-25 °C + 100 °C
Resistance to abnormal heat and fire	up to 750 °C
Degree of Resistance to impacts	IK10 (IEC 62262)
Degree of protection (CEI EN 60529)	IP 30 open door
	IP 66 closed door
Recyclable	100%

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Enclosures
Gemini



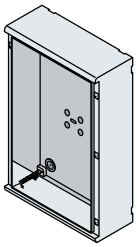



	Blank Panel H=75mm	Blank Panel H=150mm	Blank Panel H=300mm	Mounting Plate H=150mm	Mounting Plate H=300mm	Inner Door	Metal base plate
	1SL0318A00	1SL0324A00	1SL0330A00	1SL0296A00	-	1SL0251A00	1SL0259A00
	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00	1SL0252A00	1SL0260A00
	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00	1SL0253A00	1SL0261A00
	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00	1SL0254A00	1SL0262A00
	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00	1SL0255A00	1SL0263A00
	1SL0321A00	1SL0327A00	1SL0333A00	1SL0299A00	1SL0304A00	1SL0256A00	1SL0264A00



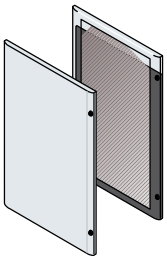

Enclosures
Gemini

Enclosure Box without door



Dimensions			Description	Order Code	Price per unit Excl.. VAT
H	W	D			
400	335	210	BOX-SIZE 1	1SL0221A00	R 1 218.08
550	460	260	BOX-SIZE 2	1SL0222A00	R 1 701.87
700	460	260	BOX-SIZE 3	1SL0223A00	R 2 079.95
700	580	260	BOX-SIZE 4	1SL0224A00	R 2 499.79
885	585	360	BOX-SIZE 5	1SL0225A00	R 4 027.87
1005	840	360	BOX-SIZE 6	1SL0226A00	R 7 562.21

Transparent Door



Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	TRANSPARENT DOOR-SIZE	1SL0241A00	R 835.15
Suitable For Box Size 2		1SL0242A00	R 1 196.85
Suitable For Box Size 3		1SL0243A00	R 1 382.59
Suitable For Box Size 4		1SL0244A00	R 2 009.25
Suitable For Box Size 5		1SL0245A00	R 2 212.51
Suitable For Box Size 6		1SL0246A00	R 4 111.57

Solid Door

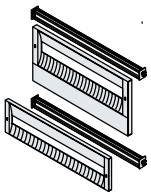
Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	OPAQUE DOOR-SIZE	1SL0231A00	R 466.67
Suitable For Box Size 2		1SL0232A00	R 794.19
Suitable For Box Size 3		1SL0233A00	R 1 080.37
Suitable For Box Size 4		1SL0234A00	R 1 224.43
Suitable For Box Size 5		1SL0235A00	R 1 789.33
Suitable For Box Size 6		1SL0236A00	R 3 407.44

Uprights for Din Kit



Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	UPRIGHTS-SIZE 1	1SL0283A00	R 213.60
Suitable For Box Size 2	UPRIGHTS-SIZE 2	1SL0284A00	R 227.41
Suitable For Box Size 3 and 4	UPRIGHTS-SIZE 3-4	1SL0285A00	R 288.08
Suitable For Box Size 5	UPRIGHTS-SIZE 5	1SL0286A00	R 346.51
Suitable For Box Size 6	UPRIGHTS-SIZE 6	1SL0287A00	R 603.63

Din Rail Kit, Din cutout and Din Rail



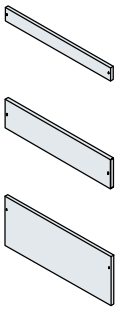
Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	Din Rail Kit H150 mm	1SL0307A00	R 243.76
Suitable For Box Size 2 and 3	Din Rail Kit H150 mm	1SL0308A00	R 271.71
Suitable For Box Size 4 and 5	Din Rail Kit H150 mm	1SL0309A00	R 299.97
Suitable For Box Size 6	Din Rail Kit H150 mm	1SL0310A00	R 447.31

Blank hinged Panel

Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	Blank Panel H=75mm	1SL0318A00	R 96.03
Suitable For Box Size 2 and 3		1SL0319A00	R 109.07
Suitable For Box Size 4 and 5		1SL0320A00	R 124.29
Suitable For Box Size 6		1SL0321A00	R 163.01

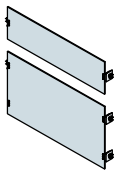
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Enclosures
Gemini



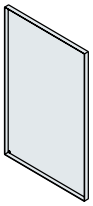
Blank hinged Panel (continued)

Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	Blank Panel H=150mm	1SL0324A00	R 177.89
Suitable For Box Size 2 and 3		1SL0325A00	R 201.68
Suitable For Box Size 4 and 5		1SL0326A00	R 229.65
Suitable For Box Size 6		1SL0327A00	R 301.84
Suitable For Box Size 1	Blank Panel H=300mm	1SL0330A00	R 330.11
Suitable For Box Size 2 and 3		1SL0331A00	R 372.91
Suitable For Box Size 4 and 5		1SL0332A00	R 424.96
Suitable For Box Size 6		1SL0333A00	R 558.96



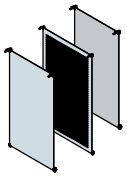
Mounting Plate

Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	Mounting plate H=150mm	1SL0296A00	R 150.75
Suitable For Box Size 2 and 3		1SL0297A00	R 181.97
Suitable For Box Size 4 and 5		1SL0298A00	R 221.44
Suitable For Box Size 6		1SL0299A00	R 436.91
Suitable For Box Size 2 and 3	Mounting plate H=300mm	1SL0302A00	R 362.85
Suitable For Box Size 4 and 5		1SL0303A00	R 402.29
Suitable For Box Size 6		1SL0304A00	R 800.13



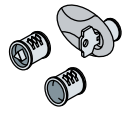
Inner Door

Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	INNER DOOR SIZE 1	1SL0251A00	R 439.17
Suitable For Box Size 2	INNER DOOR-SIZE 2	1SL0252A00	R 542.24
Suitable For Box Size 3	INNER DOOR-SIZE 3	1SL0253A00	R 642.32
Suitable For Box Size 4	INNER DOOR-SIZE 4	1SL0254A00	R 784.88
Suitable For Box Size 5	INNER DOOR-SIZE 5	1SL0255A00	R 1 046.53
Suitable For Box Size 6	INNER DOOR-SIZE 6	1SL0256A00	R 2 335.28



Metal Base Plate

Dimensions	Description	Order Code	Price per unit Excl.. VAT
Suitable For Box Size 1	BLANK METAL BASE PLATE-SIZE 1	1SL0259A00	R 193.92
Suitable For Box Size 2	BLANK METAL BASE PLATE-SIZE 2	1SL0260A00	R 388.16
Suitable For Box Size 3	BLANK METAL BASE PLATE-SIZE 3	1SL0261A00	R 501.68
Suitable For Box Size 4	BLANK METAL BASE PLATE-SIZE 4	1SL0262A00	R 519.92
Suitable For Box Size 5	BLANK METAL BASE PLATE-SIZE 5	1SL0263A00	R 775.20
Suitable For Box Size 6	BLANK METAL BASE PLATE-SIZE 6	1SL0264A00	R 1 492.75



Accessories

Description	Order Code	Price per unit Excl.. VAT
SQUARE LOCK	1SL0339A00	R 1 455.49
LOCK AND HANDLE	1SL0340A00	R 205.44
TRIANGLE LOCK	1SL0341A00	R 1 455.49
FIXING BRACKETS	1SL0342A00	R 120.61
ANTI-CONDENSATION KIT	1SL0351A00	R 281.33
GEMINI SCREW & INSERT	1SL0397A00	R 49.12
GEMINI KEY	1SL0457A00	R 16.40
KIT FOR PADLOCK	1SL0458A00	R 318.19

Enclosures
System pro *E* power

System pro E power, ABB's pioneering new solution for main distribution switchboards with rated current up to 6300A and short-circuit current up to 120KA meets all plant requirements depending on the type of installation, required degree of protection and the electrical and mechanical specifications.

Introduction
Thanks to the new switchboard, ABB can provide complete solutions for main electric power distribution in infrastructures and industries, in accordance with the regulatory framework. Typical fields of application are airports, subways, hospitals, industrial and residential estates, ports, tunnels, railways, theatres, etc. In addition, System pro E power guarantees full synergy with all the other ABB apparatus (i.e. modular circuit-breakers, Tmax T and XT moulded-case circuit-breakers, Emax 2 air circuit-breakers) while being extremely simple to assemble and ensuring ease of wiring. Great attention has been made to the wiring requirements, with adequately sized structures and pre-engineered sites for mounting the horizontal and vertical plastic ducts.

The switchboards comprise the following components:
- Structure: simple and quick to assemble. Stability is ensured thanks to the new double-surface profile of the upright and the new patented joining system.
- Internal kits: designed to integrate ABB's low voltage products. Save time during the assembly work thanks to the patented new click-in mounting system.
- Main distribution systems: available in the linear and scaled versions. Allow the busbars to be installed in any position, horizontally or vertically.



Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Enclosures
System pro *E* power

Main characteristics of the series

Compliance with Standards		IEC 61439-1-2
Vibration test		In accordance with Standard IEC 60068-2-57
Seismic withstand capability test		In accordance with Standard IEE Std 693
Rated service voltage Ue		up to 1000V AC - 1500V DC
Rated insulation voltage Ui		up to 1000V AC - 1500V DC
Rated frequency		50-60Hz
Rated impulse withstand voltage Uimp		12kV
Rated current In		up to 6300A
Rated short-time withstand current Icw		up to 120kA
Rated peak short-circuit current Ipk		up to 264kA
IP protection class		IP30, IP31, IP40, IP41, IP65
Functional dimensions	Height (mm)	1800, 2000mm
	Width (mm)	300, 400, 600, 800, 1000, 1250mm
	Depth (mm)	200, 300, 500, 700, 900mm



IS2 Automation Enclosure
Range



Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

IS2 Automation Enclosure
General Information

ABB has renewed its offer of cabinets for automation with the new IS2 series, now also available in the kit versions. The IS2 panel boards are suitable for making electrical automation, control and operation panel boards, with the possibility of constructing batteries of cabinets side by side to control complex industrial plants. They are suitable for floor mounting with the possibility of lateral and rear access and adjustment of the back plate position.

Versions Available

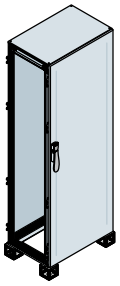
The IS2 cabinets are available in the following versions:
- Cabinet with blind door
- Cabinet with glazed door
- Cabinet with 19”Rack frame
- Cabinet for PC
- Cabinet with console
- Cabinet with compartments
- Cabinet for modular apparaties



Technical characteristics

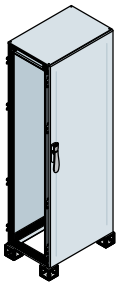
Conformity with the Standard	IEC62208, IEC60439-1, IEC 61439-1-2
Degree of protection	IP65 (IEC60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (IEC 62262)
Certifications	UL Listed and Ex 11 3 G D
Type of material	Metallic
Installation site	Indoors
Fixing method	Floor
Normal service conditions – ambient temperature	from –5 to +40° C
Operating climate (t°/rh%)	23°C/83% - 40°C/93% 23°C/98% - 40°C/98%

IS2 Typical Automation Enclosure Components
IP65, RAL 7035



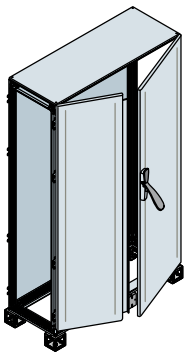
IS2 Enclosure H=2000mm, W=600mm, D=600mm

Stock Code	Description	Quantity	Unit Price	Price per Kit Excl.. VAT
ZN6000	Pair of plinth flanges H=100mm, W=600mm	2	R 499,00	R 998,00
EK6060KN	Base Top 600x600mm (WxD)	1	R 4 580,00	R 4 580,00
EM2000	IS2-Uprights with hinges H=2000mm	1	R 2 303,00	R 2 303,00
EC2060K	Blind door 2000x600mm (HxW)	1	R 2 764,00	R 2 764,00
EP2060K	Rear panel 2000x600mm (HxW)	1	R 1 612,00	R 1 612,00
EL2060K	Pair of blind side panels 2000x600mm (HxW)	1	R 2 811,00	R 2 811,00
EF6062	IS2-Fixed Cable entry flanges 600x600mm (HxD)	1	R 304,00	R 304,00
EA2060	Mounting plate 2000x600mm (HxW)	1	R 1 934,00	R 1 934,00
			Total	**R 17 306,00**



IS2 Enclosure H=2000mm, W=800mm, D=600mm

Stock Code	Description	Quantity	Unit Price	Price per Kit Excl.. VAT
ZN6000	Pair of plinth flanges H=100mm, W=600mm	1	R 499,00	R 499,00
EK8060KN	Base Top 800x600mm (WxD)	1	R 4 661,00	R 4 661,00
EM2000	IS2-Uprights with hinges H=2000mm	1	R 2 303,00	R 2 303,00
EC2080K	Blind door 2000x800mm (HxW)	1	R 2 942,00	R 2 942,00
EP2080K	Rear panel 2000x800mm (HxW)	1	R 1 723,00	R 1 723,00
EL2080K	Pair of blind side panels 2000x600mm (HxW)	1	R 2 811,00	R 2 811,00
EF8062	IS2-Fixed Cable entry flanges 800x600mm (HxD)	1	R 416,00	R 416,00
ZN8000	Pair of plinth flanges H=100mm, W=800mm	1	R 662,00	R 662,00
EA2080	Mounting plate 2000x800mm (HxW)	1	R 2 554,00	R 2 554,00
			Total	**R 18 571,00**



IS2 Enclosure H=2000mm, W=1200mm, D=600mm

Stock Code	Description	Quantity	Unit Price	Price per Kit Excl.. VAT
ZN6000	Pair of plinth flanges H=100mm, W=600mm	3	R 499,00	R 1 497,00
EK1260KN	Base Top 1200x600mm (WxD)	1	R 5 749,00	R 5 749,00
EM2000	IS2-Uprights with hinges H=2000mm	1	R 2 303,00	R 2 303,00
EC2080FC6K	Blind door for double door version 2000x600mm (HxW)	1	R 2 814,00	R 2 814,00
ED2012SK	Blind door with overlapping closure 2000x600mm (HxW)	1	R 2 814,00	R 2 814,00
EP2012K	Rear panel 2000x1200mm (HxW)	1	R 2 552,00	R 2 552,00
EL2060K	Pair of blind side panels 2000x600mm (HxW)	1	R 2 811,00	R 2 811,00
EF6062	IS2-Fixed Cable entry flanges 600x600mm (HxD)	2	R 304,00	R 608,00
EA2013	Mounting plate 2000x1200mm (HxW)	1	R 3 713,00	R 3 713,00
			Total	**R 24 861,00**

* Above enclosures supplied with full mounting plate

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Pilot Devices

Compact Pilot Devices — Chapter

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Heavy duty pushbuttons 5.1
Non-illuminated emergency stop pushbuttons 5.1
Pilot lights & Buzzers Illuminated 5.1
Non-illuminated selector switches 5.1
Accessories 5.1

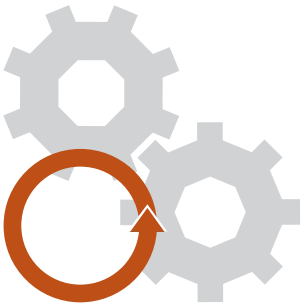
Modular Pilot Devices

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Assemblies 5.2

Compact range
Introduction

The compact range is our most efficient solution reducing both installation time and cost thanks to the all-in-one design. It is perfect for tough environment market leading level of dust and water resistance.





High reliability

– IP66, IP67 and IP69K / Type 4X
– Wiping action to keep good connectivity even in tough environments



Easy to install

– All-in-one design for fast and easy installation
– Compact size with only 42 mm (1.65 in) depth

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Pilot Devices
Compact range


CP1-10R-10


CP1-10G-10


CP1-10Y-10


CP1-10L-10


CP1-10W-10


CP1-10B-10

Non-illuminated pushbuttons

Color	Contacts	Bezel	Type	Order code	Price per Unit Excl. VAT
Momentary fush pushbutton					
Red	1 NO	Black plastic	CP1-10R-10	1SFA619100R1011	R 76.00
Red	1 NC	Black plastic	CP1-10R-01	1SFA619100R1041	R 76.00
Red	1 NC	Chrome metal	CP1-30R-01	1SFA619100R3041	R 109.16
Red	1 NO +1 NC	Black plastic	CP1-10R-11	1SFA619100R1071	R 76.00
Green	1 NO	Black plastic	CP1-10G-10	1SFA619100R1012	R 76.00
Green	1 NO	Chrome metal	CP1-30G-10	1SFA619100R3012	R 109.16
Green	2 NO	Black plastic	CP1-10G-20	1SFA619100R1022	R 111.36
Green	1 NO +1 NC	Black plastic	CP1-10G-11	1SFA619100R1072	R 76.00
Yeow	1 NO	Black plastic	CP1-10Y-10	1SFA619100R1013	R 76.00
Yellow	1 NO +1 NC	Black plastic	CP1-10Y-11	1SFA619100R1073	R 76.00
Blue	1 NO	Black plastic	CP1-10L-10	1SFA619100R1014	R 76.00
White	1 NO	Black plastic	CP1-10W-10	1SFA619100R1015	R 76.00
Black	1 NO	Black plastic	CP1-10B-10	1SFA619100R1016	R 76.00
Black	2 NO	Black plastic	CP1-10B-20	1SFA619100R1026	R 111.36
Black	1 NO +1 NC	Black plastic	CP1-10B-11	1SFA619100R1076	R 76.00


CP1-11R-10


CP1-11G-10

Illuminated pushbuttons

Color	Contacts	Bezel	Type	Order code	Price per Unit Excl. VAT
Flush momentary pushbuttonon					
Rated voltage 24 V AC/DC					
Red	1 NO	Black plastic	CP1-11R-10	1SFA619100R1111	R 121.96
Red	1 NC	Black plastic	CP1-11R-01	1SFA619100R1141	R 121.96
Green	1 NO	Black plastic	CP1-11G-10	1SFA619100R1112	R 121.96
Rated voltage 110-130 V AC/DC					
Red	1 NO	Black plastic	CP1-12R-10	1SFA619100R1211	R 121.96
Red	1 NC	Black plastic	CP1-12R-01	1SFA619100R1241	R 121.96
Green	1 NO	Black plastic	CP1-12G-10	1SFA619100R1212	R 121.96
Rated voltage 220 V AC/DC					
Red	1 NO	Black plastic	CP1-13R-10	1SFA619100R1311	R 121.96
Red	1 NC	Black plastic	CP1-13R-01	1SFA619100R1341	R 121.96
Green	1 NO	Black plastic	CP1-13G-10	1SFA619100R1312	R 121.96
For more pilot devices products, please contact your ABB local sales organization.					

Pilot Devices
Compact range


CP6-10R-11


CP6-10G-11


CE3T-10R-01


CE4T-10R-01


CE4P-10R-02


CE4K1-10R-02

Heavy duty pushbuttons

Color	Contacts	Bezel	Type	Order code	Price per Unit Excl. VAT
Heavy duty pushbuttons					
Red	1NO+1N		CP6-10R-11	1SFA619105R1071	R 251.90
Green	1NO+1NO		CP6-10G-11	1SFA619105R1072	R 251.90
Black	1NO+1NO		CP6-10B-11	1SFA619105R1076	R 251.90

Non-illuminated emergency stop pushbuttons

Description	Type	Order code	Price per Unit Excl. VAT
Twist release - Ø 30 mm			
1 NC	CE3T-10R-01	1SFA619500R1041	R 176.76
2 NC	CE3T-10R-02	1SFA619500R1051	R 214.76
1 NO + 1 NC	CE3T-10R-11	1SFA619500R1071	R 214.76
Twist release - Ø 40 mm			
1 NC	CE4T-10R-01	1SFA619550R1041	R 181.62
2 NC	CE4T-10R-02	1SFA619550R1051	R 219.19
1 NO + 1 NC	CE4T-10R-11	1SFA619550R1071	R 219.19
Pull release			
2 NC	CE4P-10R-02	1SFA619551R1051	R 219.19
1 NO + 1 NC	CE4P-10R-11	1SFA619551R1071	R 219.19
Key release, ronis 455, key code 71			
2 NC	CE4K1-10R-02	1SFA619552R1051	R 307.56
1 NO + 1 NC	CE4K1-10R-11	1SFA619552R1071	R 307.56

For more pilot devices products, please contact your ABB local sales organization.

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Pilot Devices
Compact range


CL2-502R


CL2-502G


CL2-502Y


CL2-502L


CL2-502C

Pilot lights

Color	Rated current mA	Type	Order code	Price per Unit Excl. VAT
Rated voltage 24 V AC/DC				
Red	16	CL2-502R	1SFA619403R5021	R 98.12
Green	16	CL2-502G	1SFA619403R5022	R 98.12
Yellow	16	CL2-502Y	1SFA619403R5023	R 98.12
Blue	16	CL2-502L	1SFA619403R5024	R 98.12
Clear	16	CL2-502C	1SFA619403R5028	R 98.12
Rated voltage 110-130 V AC				
Red	15-17	CL2-513R	1SFA619403R5131	R 98.12
Green	15-17	CL2-513G	1SFA619403R5132	R 98.12
Yellow	15-17	CL2-513Y	1SFA619403R5133	R 98.12
Rated voltage 110-130 V DC				
Red	8-9	CL2-515R	1SFA619403R5151	R 98.12
Green	8-9	CL2-515G	1SFA619403R5152	R 98.12
Yellow	8-9	CL2-515Y	1SFA619403R5153	R 98.12
Rated voltage 230 V AC				
Red	17	CL2-523R	1SFA619403R5231	R 98.12
Green	17	CL2-523G	1SFA619403R5232	R 98.12
Yellow	17	CL2-523Y	1SFA619403R5233	R 98.12
Blue	17	CL2-523L	1SFA619403R5234	R 98.12
Clear	17	CL2-523C	1SFA619403R5238	R 98.12
Rated voltage 380-415 V AC				
Red	15-17	CL2-524R	1SFA619403R5421	R 98.12
Green	15-17	CL2-524G	1SFA619403R5422	R 98.12
Rated voltage 230 V AC with 60V anti-inductive voltage				
Red	17	CL2-623R	1SFA619403R6231	R 110.55
Green	17	CL2-623G	1SFA619403R6232	R 110.55
Yellow	17	CL2-623Y	1SFA619403R6233	R 110.55


CB1-610R


CB1-620B

Buzzers Illuminated

Color	Rated voltage	Rated current mA	Type	Order code	Price per Unit Excl. VAT
Lights and sound output - Pulsation					
Red	24 V AC/DC	53	CB1-610R	1SFA619600R6101	R 509.08
Red	110-130 V AC	70	CB1-611R	1SFA619600R6111	R 509.08
Red	110-130 V DC	15	CB1-612R	1SFA619600R6121	R 509.08
Red	230 V AC	70	CB1-613R	1SFA619600R6131	R 509.08
Black	24 V AC/DC	48	CB1-630B	1SFA619600R6306	R 509.08
Black	110-130 V AC	48	CB1-631B	1SFA619600R6316	R 509.08
Black	110-130 V DC	15	CB1-632B	1SFA619600R6326	R 509.08
Black	230 V AC	40	CB1-633B	1SFA619600R6336	R 509.08
Lights and sound output - Continuous					
Black	24 V AC/DC	40	CB1-620B	1SFA619600R6206	R 509.08
Black	110-130 V AC	40	CB1-621B	1SFA619600R6216	R 509.08
Black	110-130 V DC	40	CB1-622B	1SFA619600R6226	R 509.08
Black	230 V AC	40	CB1-623B	1SFA619600R6236	R 509.08

For more pilot devices products, please contact your ABB local sales organization.

Pilot Devices
Compact range

Non-illuminated selector switches


C2SS1-10B-10

Color	Contacts	Bezel	Type	Order code	Price per Unit Excl. VAT
2-position, short handle					
 Maintained	1 NO	Black plastic	C2SS1-10B-10	1SFA619200R1016	R 116.64
	2 NO	Black plastic	C2SS1-10B-20	1SFA619200R1026	R 149.82
	1 NO +1 NC	Black plastic	C2SS1-10B-11	1SFA619200R1076	R 116.64
 Maintained	1 NO	Black plastic	C2SS2-10B-10	1SFA619201R1016	R 121.08
	2 NO	Black plastic	C2SS2-10B-20	1SFA619201R1026	R 153.34
	1 NO +1 NC	Black plastic	C2SS2-10B-11	1SFA619201R1076	R 121.08
3-position, short handle					
 Maintained	2 NO	Black plastic	C3SS1-10B-20	1SFA619210R1026	R 153.34
	2 NO	Chrome metal	C3SS1-30B-20	1SFA619210R3026	R 138.59
	1 NO +1 NC	Black plastic	C3SS1-10B-11	1SFA619210R1076	R 153.34
 Momentary	2 NO	Black plastic	C3SS2-10B-20	1SFA619211R1026	R 165.77


C3SS1-30B-20


KA1-8010

Compact range - Accessories

Description	Type	Order code	Price per Unit Excl. VAT
Protective cover			
Protective cover	KA1-8010	1SFA616920R8010	R 141.86
Note: For flush pushbutton to prevent accidental operation. Cannot be used together with Legend plate holder.			
Bezel - pushbutton			
Chrome metal	KA1-8021	1SFA616920R8021	R 76.00
Blanking plug			
Black	MA1-8130	1SFA611920R8130	R 38.88
Adaptors 30 mm			
Black plastic	KA1-8029	1SFA616920R8029	R 93.40
Metal	KA1-8030	1SFA616920R8030	R 136.67
"Note: For use when fitting the 22 mm pilot devices in 30 mm mounting holes (1.5 - 4 mm panels) For use with pushbuttons, selector switches, emergency stop pushbutton and pilot lights"			
Legend plates and holders			
Grey legend plate holder for plastic enclosures	MA6-1060	1SFA611930R1060	R 7.42
Black legend plate holder	KA1-8120	1SFA616920R8120	R 2.21
Legend plate without text or symbol	KA1-8121	1SFA616920R8121	R 1.80
Legend plate for emergency stops for compact enclosures	CA6-1026	1SFA619930R1026	R 25.54
Enclosures			
Yellow compact enclosure for emergency stop pushbuttons	CEPY1-0	1SFA619821R1000	R 174.08
Yellow shroud	CA1-8053	1SFA619920R8053	R 43.32
Distance washer		SK615516-1	R 21.19
For more pilot devices products, please contact your ABB local sales organization.			


Bezel


MA1-81...


KA1-8029
KA1-8030


CEPY1-0

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Modular range
Introduction

The modular range is our most versatile range of operators with high level of flexibility and market leading electrical ratings. The perfect solution for almost every application.



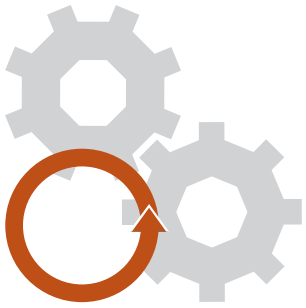
Contact block
Single pole with making or breaking contact

Locking nut

Operator
Buttons, lenses and handles in several colors. Illuminated or non-illuminated

Holder
Available either for three or five blocks in one single row. Additional blocks can be stacked on holder for three blocks

Bezels
Pushbuttons, selector switches and toggle switches with bezel in black plastic, chrome plastic or chrome metal available



High reliability

- High electrical rating
- Wiping action to keep good connectivity even in tough environments
- IP66 / Type 4X



Easy to install

- Tool-free installation with snap-on contact blocks
- Easy to do last-minute changes of both front and contacts
- Up to 6 contacts

Pilot Devices
Modular range


MP1-10R


MP1-20G


MP1-10Y


MP1-10L


MP1-10W


MP3-11R


MP1-11G


MP3-11L

Non-illuminated pushbuttons

Color	Bezel	Type	Order code	Price per Unit Excl. VAT
Momentary flush pushbutton				
Red	Black plastic	MP1-10R	1SFA611100R1001	R 49.06
Red	Chrome plastic	MP1-20R	1SFA611100R2001	R 77.76
Red	Chrome metal	MP1-30R	1SFA611100R3001	R 65.00
Green	Black plastic	MP1-10G	1SFA611100R1002	R 49.06
Green	Chrome plastic	MP1-20G	1SFA611100R2002	R 77.76
Green	Chrome metal	MP1-30G	1SFA611100R3002	R 65.00
Yellow	Black plastic	MP1-10Y	1SFA611100R1003	R 49.06
Blue	Black plastic	MP1-10L	1SFA611100R1004	R 49.06
White	Black plastic	MP1-10W	1SFA611100R1005	R 49.06
Black	Black plastic	MP1-10B	1SFA611100R1006	R 49.06
Black	Chrome plastic	MP1-20B	1SFA611100R2006	R 77.76
Black	Chrome metal	MP1-30B	1SFA611100R3006	R 65.00
Clear	Black plastic	MP1-10C	1SFA611100R1008	R 48.09
Maintained flush pushbutton				
Red	Black plastic	MP2-10R	1SFA611101R1001	R 118.73
Momentary extended pushbutton				
Red	Black plastic	MP3-10R	1SFA611102R1001	R 77.34
Green	Black plastic	MP3-10G	1SFA611102R1002	R 77.34
Black	Black plastic	MP3-10B	1SFA611102R1006	R 77.34
Clear	Black plastic	MP3-10C	1SFA611102R1008	R 75.82

Illuminated pushbuttons

Color	Bezel	Type	Order code	Price per Unit Excl. VAT
Momentary flush pushbutton				
Red	Black plastic	MP1-11R	1SFA611100R1101	R 90.12
Red	Chrome plastic	MP1-21R	1SFA611100R2101	R 110.90
Red	Chrome metal	MP1-31R	1SFA611100R3101	R 141.27
Green	Black plastic	MP1-11G	1SFA611100R1102	R 90.12
Green	Chrome plastic	MP1-21G	1SFA611100R2102	R 110.90
Green	Chrome metal	MP1-31G	1SFA611100R3102	R 141.27
Yellow	Black plastic	MP1-11Y	1SFA611100R1103	R 90.12
Blue	Black plastic	MP1-11L	1SFA611100R1104	R 90.12
White	Black plastic	MP1-11W	1SFA611100R1105	R 90.12
Clear	Black plastic	MP1-11C	1SFA611100R1108	R 90.12
Maintained flush pushbutton				
Red	Black plastic	MP2-11R	1SFA611101R1101	R 174.08
Green	Black plastic	MP2-11G	1SFA611101R1102	R 170.67
Momentary flush pushbutton				
Red	Black plastic	MP3-11R	1SFA611102R1101	R 103.40
Green	Black plastic	MP3-11G	1SFA611102R1102	R 103.40
White	Black plastic	MP3-11W	1SFA611102R1105	R 103.40

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Pilot Devices
Modular range



MPD2-11B


MPD1-11R



MPD13-11G


KP6-40R


KP6-40G


KP6-40B


MPET3-10R


MPET4-10R


MPMT3-11R

Non-illuminated double pushbuttons

Upper button	Lower button	Type	Order code	Price per Unit Excl. VAT
Flush pushbutton				
Green	Red			
No text	No text	MPD1-11B	1SFA611130R1106	R 161.72
I	O	MPD2-11B	1SFA611131R1106	R 161.72
Extended lower pushbutton				
Green	Red			
I	O	MPD13-11B	1SFA611142R1106	R 161.72
START	STOP	MPD15-11B	1SFA611144R1106	R 161.72

Illuminated double pushbuttons

Upper button	Lower button	Indicator light	Type	Order code	Price per Unit Excl. VAT
Flush lower pushbutton					
Green	Red				
No text	No text	Red	MPD1-11R	1SFA611130R1101	R 144.50
I	O	Green	MPD2-11G	1SFA611131R1102	R 157.38
I	O	Yellow	MPD2-11Y	1SFA611131R1103	R 157.38
No text	No text	Clear	MPD1-11C	1SFA611130R1108	R 144.50
I	O	Clear	MPD2-11C	1SFA611131R1108	R 165.70
Extended lower pushbutton					
Green	Red				
I	O	Green	MPD13-11G	1SFA611142R1102	R 143.92
START	STOP	Clear	MPD15-11C	1SFA611144R1108	R 143.92

Heavy duty pushbuttons for 30 mm mounting hole

Color	Type	Order code	Price per Unit Excl. VAT
Heavy duty pushbutton			
Red	KP6-40R	1SFA616105R4001	R 208.56
Green	KP6-40G	1SFA616105R4002	R 208.56
Black	KP6-40B	1SFA616105R4006	R 167.49

Non-illuminated emergency stop pushbuttons

Description	Release method	Type	Order code	Price per Unit Excl. VAT
Ø 30 mm				
Red	Twist release	MPET3-10R	1SFA611520R1001	R 160.87
Ø 40 mm				
Red	Twist release	MPET4-10R	1SFA611523R1001	R 160.87
Red	Pull release	MPEP4-10R	1SFA611524R1001	R 160.87
Red	Key release code 71/ronis 455	MPEK4-11R	1SFA611525R1101	R 321.26
Ø 60 mm				
Red	Twist release	MPMT4-10R	1SFA611513R1001	R174.08

Illuminated emergency stop pushbuttons

Description	Release method	Type	Order code	Price per Unit Excl. VAT
Ø 40 mm				
Red	Twist release	MPMT3-11R	1SFA611510R1101	R 171.02
Ø 60 mm				
Red	Twist release	MPMT4-11R	1SFA611513R1101	R 163.06

Pilot Devices
Modular range


ML1-100R


ML1-100G

Pilot lights

Description	Type	Order code	Price per Unit Excl. VAT
Red	ML1-100R	1SFA611400R1001	R 60.54
Green	ML1-100G	1SFA611400R1002	R 60.54
Yellow	ML1-100Y	1SFA611400R1003	R 60.54
Blue	ML1-100L	1SFA611400R1004	R 60.54
White	ML1-100W	1SFA611400R1005	R 60.54
Clear	ML1-100C	1SFA611400R1008	R 60.54

Non-illuminated selector switches


M2SS1-10B

2-position, short handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Black	Black plastic	M2SS1-10B	1SFA611200R1006	R 114.46
 Maintained	Black	Black plastic	M2SS2-10B	1SFA611201R1006	R 120.65
	Black	Chrome plastic	M2SS2-20B	1SFA611201R2006	R 123.78
	Black	Chrome plastic	M2SS2-30B	1SFA611201R3006	R 152.82

3-position, short handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Black	Black plastic	M3SS1-10B	1SFA611210R1006	R 120.66
	Black	Chrome plastic	M3SS1-20B	1SFA611210R2006	R 123.78
	Black	Chrome metal	M3SS1-30B	1SFA611210R3006	R 152.82
 Momentary, spring return from A to B and from C to B	Black	Black plastic	M3SS2-10B	1SFA611211R1006	R 145.38
 Momentary, spring return from C to B	Black	Black plastic	M3SS2-10B	1SFA611212R1006	R 147.60
 Momentary, spring return from A to B	Black	Black plastic	M3SS7-10B	1SFA611216R1006	R 147.60


M2SS4-10B

2-position, long handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Black	Black plastic	M2SS4-10B	1SFA611203R1006	R 144.07
 Maintained	Black	Black plastic	M2SS5-10B	1SFA611204R1006	R 132.44

3-position, long handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Black	Black plastic	M3SS4-10B	1SFA611213R1006	R 132.44

Illuminated selector switches


M2SS1-11G

2-position, long handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Green	Black plastic	M2SS1-11G	1SFA611200R1102	R 220.08
 Maintained	Green	Black plastic	M2SS2-11G	1SFA611201R1102	R 220.08

3-position, long handle

Description	Color	Bezel	Type	Order code	Price per Unit Excl. VAT
 Maintained	Green	Black plastic	M3SS1-11G	1SFA611210R1102	R 220.08

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Pilot Devices
Modular range



M2SSK1-101

Key-operated selector switches

Description	Bezel	Type	Order code	Price per Unit Excl. VAT
2-positions				
Maintained (The key can be removed in both positions)				
 Key release code 71 /ronis 455	Black plastic	M2SSK1-101	1SFA611280R1001	R 303.58
Maintained (The key can be removed in position B only)				
 Key release code 71 /ronis 455	Black plastic	M2SSK2-101	1SFA611281R1001	R 303.58
Momentary, spring return from C to B (The key can be removed in position B only)				
 Key release code 71 /ronis 455	Black plastic	M2SSK3-101	1SFA611282R1001	R 362.36
3-positions				
Maintained (The key can be removed in all positions)				
 Key release code 71 /ronis 455	Black plastic	M3SSK1-101	1SFA611283R1001	R 311.54
Momentary, spring return from A to B and from C to B (The key can be removed in position B only)				
 Key release code 71 /ronis 455	Black plastic	M3SSK3-101	1SFA611285R1001	R 344.24

Potentiometers

Description	Bezel	Type	Order code	Price per Unit Excl. VAT
Complete potentiometers				
Black knob with integrated position indication and marking in white				
With resistor 5 kohm	Black plastic	MT-105B	1SFA611410R1056	R 638.11
With resistor 5 kohm	Chrome metal	MT-305B	1SFA611410R3056	R 682.72
With resistor 10 kohm	Black plastic	MT-110B	1SFA611410R1106	R 638.11
With resistor 10 kohm	Chrome metal	MT-310B	1SFA611410R3106	R 682.72



MT-105B

Pilot Devices
Modular range


MCBH-00

Assemblies

Description	Type	Order code	Price per Unit Excl. VAT
Holders			
3-positions	MCBH-00	1SFA611605R1100	R 11.48
5-positions*	MCBH5-00	1SFA611601R1100	R 30.04

* Note: Double contact blocks are required on side positions


MCB-01


MCB-10

Description	Type	Order code	Price per Unit Excl. VAT
Contact blocks			
Single contact blocks for front mounting			
1 NO	MCB-10	1SFA611610R1001	R 51.70
1 NC	MCB-01	1SFA611610R1010	R 51.70
1 NO with gold plated contacts	MCB-10G	1SFA611610R1101	R 173.28
1 NC with gold plated contacts	MCB-01G	1SFA611610R1110	R 173.28
Double contact blocks for front mounting			
2 NO	MCB-20	1SFA611610R1002	R 151.54
2 NC	MCB-02	1SFA611610R1020	R 151.54
Single contact blocks for back mounting in enclosures			
1 NO	MCB-10B	1SFA611610R2001	R 57.90
1 NC	MCB-01B	1SFA611610R2010	R 57.90


MCB-20

Description	Type	Order code	Price per Unit Excl. VAT
Contact blocks with holder			
Contact blocks with holder for front mounting, for non-illuminated operators			
1 NO	MCBH-10	1SFA611605R1101	R 90.12
2 NO	MCBH-20	1SFA611605R1102	R 122.87
1 NC	MCBH-01	1SFA611605R1110	R 101.01
2 NC	MCBH-02	1SFA611605R1120	R 162.17
1 NO + 1 NC	MCBH-11	1SFA611605R1111	R 122.87


MCBH-11

LED blocks

Description	Rated current mA	Type	Order code	Price per Unit Excl. VAT
Rated voltage 24 V AC/DC				
Red	10	MLBL-01R	1SFA611621R1011	R 96.32
Green	10	MLBL-01G	1SFA611621R1012	R 96.32
Yellow	10	MLBL-01Y	1SFA611621R1013	R 96.32
Blue	10	MLBL-01L	1SFA611621R1014	R 96.32
White	10	MLBL-01W	1SFA611621R1015	R 96.32
Rated voltage 110-130 V AC				
Red	10	MLBL-04R	1SFA611621R1041	R 96.32
Green	10	MLBL-04G	1SFA611621R1042	R 96.32
Yellow	10	MLBL-04Y	1SFA611621R1043	R 96.32
White	10	MLBL-04W	1SFA611621R1045	R 96.32
Rated voltage 110-130 V DC				
Red	10	MLBL-05R	1SFA611621R1051	R 96.32
Green	10	MLBL-05G	1SFA611621R1052	R 96.32
Yellow	10	MLBL-05Y	1SFA611621R1053	R 96.32
White	10	MLBL-05W	1SFA611621R1055	R 96.32
Rated voltage 230 V AC				
Red	10	MLBL-07R	1SFA611621R1071	R 96.32
Green	10	MLBL-07G	1SFA611621R1072	R 96.32
Yellow	10	MLBL-07Y	1SFA611621R1073	R 96.32
Blue	10	MLBL-07L	1SFA611621R1074	R 96.32
White	10	MLBL-07W	1SFA611621R1075	R 96.32

Note: Care should be taken for DC supply where + and - must be correctly connected. This is marked X1 (+) and X2 (-) on the product.


MLBL-01W

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Pilot Devices
Modular range


KA1


MA1-8015


KA1-8010


MA1-8053


MEP2-0


MEPY1-0

Accessories

Description	Type	Order code	Price per Unit Excl. VAT
30 mm adaptors for 22 mm operator (1.5-4 mm panels)			
For pushbuttons, selector switches, pilot lights, potentiometers and buzzers			
Black plastic	KA1-8029	1SFA616920R8029	R 93.40
Chrome metal	KA1-8030	1SFA616920R8030	R 136.67
Mounting tool for operator			
Mounting tool for tightening the locking nut	MA1-8015	1SFA611920R8015	R 80.44
Protective cover			
Protective cover	KA1-8010	1SFA616920R8010	R 141.85
Note: For flush pushbutton to prevent accidental operation. Cannot be used together with Legend plate holder.			
Shroud for emergency stop			
Yellow	MA1-8053	1SFA611920R8053	R 43.85
Note: For 40 mm emergency stop pushbuttons. To prevent accidental operation. With anti rotation tabs and slot for pad-lock and with water drainage.			

Enclosures

Description	Type	Order code	Price per Unit Excl. VAT
1 seat - dark grey / light grey	MEP1-0	1SFA611811R1000	R 243.04
2 seats - dark grey / light grey	MEP2-0	1SFA611812R1000	R 283.26
3 seats - dark grey / light grey	MEP3-0	1SFA611813R1000	R 324.36
4 seats - dark grey / light grey	MEP4-0	1SFA611814R1000	R 438.36
6 seats - dark grey / light grey	MEP6-0	1SFA611816R1000	R 665.48
1 seat - yellow / light grey	MEPY1-0	1SFA611821R1000	R 248.78

Notes

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Terminals

Terminals	Chapter
Printing Solutions	6.1
P.V. Connectors	6.2
Distribution Blocks	6.3
SNK Series Terminal Blocks	6.4
SNA Series Terminal Blocks	6.5

6

Terminals – Solution Series
MG3 Thermal Transfer Printer



robust marking system

MARKINGenius® MG3 is a high resolution printer based on thermal transfer technology for producing high quality identification and labelling for terminal blocks, cables and all equipment mounted in electrical panels.

Compact, ergonomic, clean and quiet, MARKINGenius® MG3 may be conveniently located in an office or workshop or easily transported in the field.

Thermal transfer technology uses heat to transfer characters or symbols onto a plastic marker through an ink ribbon. Besides the excellent printing quality, there is no drying time and the markers are instantly usable.
With the MG3 thermal transfer printer, forget about drying times and clogged print head problems.

Combined simplicity, performance and make savings

Facilitate your printing process

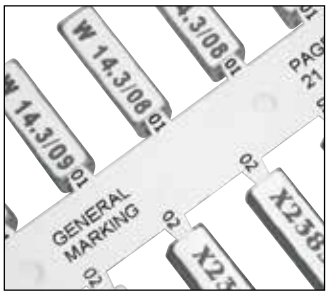
Compact design (382 x 230 x 230 mm) facilitates use in workshops or in the field.
Easy to install and use: comprehensive quick-start kit. Intuitive software with easy data import and entry.
Versatile: many different media available: plastic markers, stickers, labels etc.

Save time and consumables

Gain time with a short printing process:
12 seconds cycle. Carriage loading and unloading operation is fast and simple.
Economic: up to 300 000 markers with one ribbon. Partially printed marker card may be reused to avoid wastage.
No drying time: printed markers are immediately ready to use.

Experience quality

High Quality printing: 300 x 600 dpi for image or graphic printing.
Robust: all moving parts are in metal.



High quality printing



Short printing cycle of 12 seconds



Economic: up to 300 000 markers with one ribbon



Many media types available for printing

Standard discounts do not apply for markers. Please phone for discounts.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Terminals – Solution Series
Blank Markers and Labels for MG3 Thermal Transfer Printer



Terminal block identification

Selection guide for ABB terminal block markers		
ABB Terminal block markers	**MG-CPM-13**	for SNK series
	MG-CPM-...	for SNA and Solution series
	MG-CPMF...	strip labels
Other manufacturers' terminal block markers	**MG-CPM-...**	
End stop markers	**MG-TAA**	
	RC810TT	
	MG-TAR	
End stop label holders and covers	**LH, LH-R1**	for SNK series
	PEB, PEBM, EPR1	for SNA and Solution series
	PEAD, EPR2	for SNA and Solution series



Wire and cable identification

Selection guide for wire and cable markers		
Wire and cable markers	**MG-TDM**	slide-on cable markers
	MG2-TDMO	clip-on cable markers
	MG-ETF	tie-on cable markers
	MG-TPM	ABS cable markers (need label holder)
	MG-TPMF	PVC cable markers (need label holder)
Wire and cables label holders	**UMH**	
	PM, PM-ET, PM-AC	transparent label holder for MG-TPM
	PMF, PMF-ET, PMF-AC	transparent label holder for MG-TPMF



Component and equipment identification

Self-adhesive labels	**MG-TAA**	
	MG-VYT	for dielectric requirements
	MG-17.5A	for strip identification
	MG-PTS	for push-button identification
Pre-cut labels	**MG-TAP**	
	MG-TAPW	9 mm width label
	MG-TAP-CCS	transparent label
	MG-TAR	17 mm width label
	MG-PLC	for PLC's identification
Label holders and covers	**RTR-TAP**	15 mm pre-drilled rail
	RTA-TAP	15 mm self-adhesive rail
	RT-CCP	15 mm protective cover
	RTA-TAPW	9 mm self-adhesive rail



Panel identification

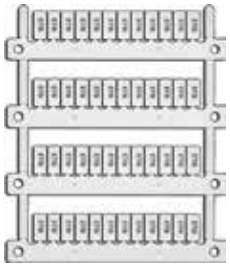
Self-adhesive panel plates	**MG-VRT-A**
Rivet fixing panel plates	**MG-VRT-R**

Other manufacturers markers selection guide

Standard discounts do not apply for markers. Please phone for discounts.

MG-CPM Terminal Block Markers

Blank Markers for SNK, SNA and Solution Series



MG-CPM-13

Description

- Available in different versions to suit all ABB terminal block formats,
- Partially printed marker cards may be re-used to avoid wastage,
- Made of halogen free self-extinguishing polycarbonate,
- Refer to MG3 markers' selection guide for ABB terminal blocks and end stop markers to find the suitable marker for your needs.

Main technical data

Material	Flammability	Temperature range
Polycarbonate	V0	-40°C to +140°C -40°F to +284°F

Ordering details

Spacing mm	Spacing in	Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price

SNK series terminal block markers

MG-CPM-13



Individual markers for SNK series terminal blocks, can be strip mounted when marker and terminal block spacing are equal.

5.2	0.205	5 x 12	0.197 x 0.472	56	White ☐	MG-CPM-13 41790	1SNB041790R0512	113		1960	R1.97
					Yellow ☐	MG-CPM-13 41740	1SNB041740R0512	113		1960	R3.62
6	0.236	6 x 12	0.236 x 0.472	48	White ☐	MG-CPM-13 41791	1SNB041791R0612	114		1680	R1.98
					Yellow ☐	MG-CPM-13 41741	1SNB041741R0612	114		1680	R3.62

Support plate

Included in the MG3 Kit						MG2-ETB 991016	1SNB991016R0000			1	R4,130.18

SNA and Solution series terminal block markers

MG-CPM-01



Individual markers, can be strip mounted when marker and terminal block spacing are equal.

5.1	0.201	5 x 7	0.197 x 0.276	56	White ☐	MG-CPM-01 41094	1SNB041094R0507	13		1960	R1.97

Support plate

Purchased separately						MG2-MTB 991008	1SNB991008R0000			1	R4,130.18

MG-CPM-03



Individual markers, can be strip mounted when marker and terminal block spacing are equal.

5	0.197	5 x 10	0.197 x 0.394	56	White ☐	MG-CPM-03 41291	1SNB041291R0510	25		1960	R1.97

Support plate

Included in the MG3 Kit						MG2-QTB 991011	1SNB991011R0000			1	R4,130.18

MG-CPM-04



Individual markers, can be strip mounted when marker and terminal block spacing are equal.

8	0.315	5 x 10	0.197 x 0.394	32	White ☐	MG-CPM-04 41390	1SNB041390R0510	41		1120	R2.01
					Yellow ☐	MG-CPM-04 41340	1SNB041340R0510	41		1120	R3.65



Strip markers

6	0.236	6 x 10	0.236 x 0.394	48	White ☐	MG-CPM-04 41391	1SNB041391R0610	45		1344	R1.99

Support plate

Included in the MG3 Kit						MG2-QTB 991011	1SNB991011R0000			1	R4,130.18

MG-CPM-05



Individual markers

5	0.197	5 x 10	0.197 x 0.394	56	White ☐	MG-CPM-05 41490	1SNB041490R0510	51		1960	R1.97

Support plate

Purchased separately						MG2-WTB 991004	1SNB991004R0000			1	R4,130.18

MG-CPM-12



Flexible pitch strip markers

5 ... 6	0.197 ... 0.236	4.2 x 9	0.165 x 0.354	56	White ☐	MG-CPM-12 46390	1SNB046390R4209	112		1960	R1.97

Support plate

Purchased separately						MG2-WTB 991004	1SNB991004R0000			1	R4,130.18

Refer to selection page for information on strip markers.

Standard discounts do not apply for markers. Please phone for discounts.

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RC810TT End Stop Markers
Blank Markers for BAM2, BADL, BADH



RC810TT

Description

- Blank marker card designed for high marking quality,
- Excellent marking durability in the most severe environments,
- Made of rigid polycarbonate.

Main technical data

Material	Flammability	Temperature range
Polycarbonate	V0	-50°C to +120°C *-58°F to +248°F*

Ordering details

SNA and Solution series markers



RC810TT

Dimensions mm	Dimensions *in*	Maximum printed digits Hor.	Maximum printed digits Vert.	Nb. of markers per card	Color	Type	Order code	SW code		Pkg card	Price
10 x 8	*0.394 x 0.315*	4	7	30	White	RC810TT	1SNA234600R1000	138		22	R49.42
					Yellow	RC810TT-YL	1SNA234700R1400	138		22	R67.84

LH, LH-R1 End Stop Label Holders
For MG-TAA and MG-TAR Labels

Ordering details

For MG-TAA 49498 and MG-TAA 49448



LH

LH

Spacing mm	Spacing *in*	Dimensions mm	Dimensions *in*	Color	Type	Order code	SW code		Pkg pce	Price
10	*0.394*	8.8 x 30	*0.35 x 1.18*	Dark Grey	LH	1SNK900605R0000			50	R4.78

For MG-TAA 49198, MG-TAA 49148 and MG-TAR 45194



LH-R1

LH-R1

19.5	*0.768*	17.9 x 35.65	*0.70 x 1.40*	Dark Grey	LH-R1	1SNK900607R0000			50	R7.74

Dimensions given apply to the labelling area.

Standard discounts do not apply for markers. Please phone for discounts.

PEB End Stop Label Holders
For MG-TAA and MG-TAR Labels

Ordering details

Dimensions mm	Dimensions *in*	Color	Type	Order code		Pkg pce	Price
PEB							
Label holder for end stop 35 x 17 mm *1.378 x .669 in*, to be snapped onto end stop							
18 x 35.5	*0.709 x 1.378*	Grey	PEB	1SNA113077R1100		50	R5.29
EPR1							
Card of 54 PVC protective covers							
17.5 x 35	*0.689 x 1.378*	Transparent	EPR1	1SNA178431R2200		1	R233.73
PEBM							
"All in one": PEB marker holder with marker and protection included							
			PEBM	1SNA113084R0100		50	R16.12

PEAD End Stop Label Holders
For MG-TAPW49096 Label

Ordering details

Dimensions mm	Dimensions *in*	Color	Type	Order code		Pkg pce	Price
PEAD							
Label holder for end stop, compatible with MG-TAPW49096 markers and EPR2 cover.							
9 x 29	*0.354 x 1.142*	Grey	PEAD	1SNA399719R1000		20	R5.29
EPR2							
Card of 20 covers compatible with MG-TAPW 49096 and 49046.							
9 x 29	*0.354 x 1.142*	Transparent	EPR2	1SNA399726R0700		1	R38.18

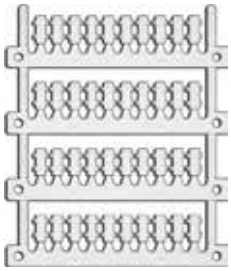
Dimensions given apply to the labelling area.

Standard discounts do not apply for markers. Please phone for discounts.

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MG TDM Wire and Cable Markers

Slide-on Cable Blank Markers



MG-TDM-01

Description

- To be directly printed and slided onto the wire,
- Partially printed marker cards may be re-used to avoid wastage,
- Made of rigid polycarbonate.

Main technical data

Material	Flammability	Temperature range
Polycarbonate	V0	-40°C to +140°C *-40°F to +284°F*

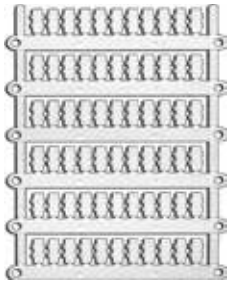
Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
Cable Ø 1.6-3.25 mm *0.06-0.12 in* Section 0.5-1.5 mm²									
MG-TDM-01 Length 12 mm *0.472 in*									
4 x 12	*0.157 x 0.472*	66	White ☐	MG-TDM-01 40190	1SNB040190R0412	121		1320	R1.79
			Yellow ☐	MG-TDM-01 40140	1SNB040140R0412	121		1320	R1.79
Support plate									
Purchased separately				MG2-PTD 991007	1SNB991007R0000			1	R4,130.18
MG-TDM-01 Length 16 mm *0.630 in*									
4 x 16	*0.157 x 0.630*	40	White ☐	MG-TDM-01 40191	1SNB040191R0416	123		800	R2.08
			Yellow ☐	MG-TDM-01 40141	1SNB040141R0416	123		800	R2.08
Support plate									
Purchased separately				MG2-PTM 991010	1SNB991010R0000			1	R4,130.18
Cable Ø 2-4.4 mm *0.07-0.17 in* Section 1-6 mm²									
MG-TDM-02 Length 12 mm *0.472 in*									
4 x 12	*0.157 x 0.472*	66	White ☐	MG-TDM-02 40290	1SNB040290R0412	122		1056	R1.81
			Yellow ☐	MG-TDM-02 40240	1SNB040240R0412	122		1056	R1.81
Support plate									
Purchased separately				MG2-PTD 991007	1SNB991007R0000			1	R4,130.18
MG-TDM-02 Length 16 mm *0.630 in*									
4 x 16	*0.157 x 0.630*	40	White ☐	MG-TDM-02 40291	1SNB040291R0416	124		640	R2.10
			Yellow ☐	MG-TDM-02 40241	1SNB040241R0416	124		640	R2.10
Support plate									
Purchased separately				MG2-PTM 991010	1SNB991010R0000			1	R4,130.18

Standard discounts do not apply for markers. Please phone for discounts.

MG TDMO Wire and Cable Markers

Clip-on Cable Blank Markers



MG2-TDMO-01

Description

- To be directly printed and clip onto the wire,
- Partially printed marker cards may be re-used to avoid wastage,
- Made of rigid polycarbonate.

Main technical data

Material	Flammability	Temperature range
Polycarbonate	V0	-40°C to +140°C *-40°F to +284°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
Cable Ø 2-2.9 mm *0.07-0.11 in* Section 0.5-1.5 mm²									
MG2-TDMO-01									
4 x 12	*0.157 x 0.472*	40	White ☐	MG2-TDMO-01 40390	1SNB040390R0412	125		880	R1.95
			Yellow ☐	MG2-TDMO-01 40340	1SNB040340R0412	125		800	R2.04
4 x 16	*0.157 x 0.630*		White ☐	MG2-TDMO-01 40391	1SNB040391R0416	128		880	R2.23
			Yellow ☐	MG2-TDMO-01 40341	1SNB040341R0416	128		800	R2.32
Cable Ø 2.9-3.5 mm *0.11-0.14 in* Section 1.5-2.5 mm²									
MG2-TDMO-02									
4 x 12	*0.157 x 0.472*	40	White ☐	MG2-TDMO-02 40490	1SNB040490R0412	126		640	R1.99
			Yellow ☐	MG2-TDMO-02 40440	1SNB040440R0412	126		640	R2.07
4 x 16	*0.157 x 0.630*		White ☐	MG2-TDMO-02 40491	1SNB040491R0416	129		640	R2.27
			Yellow ☐	MG2-TDMO-02 40441	1SNB040441R0416	129		640	R2.35
Cable Ø 4-4.6 mm *0.16-0.18 in* Section 4-6 mm²									
MG2-TDMO-03									
4 x 12	*0.157 x 0.472*	40	White ☐	MG2-TDMO-03 40590	1SNB040590R0412	127		560	R2.01
			Yellow ☐	MG2-TDMO-03 40540	1SNB040540R0412	127		560	R2.09
4 x 16	*0.157 x 0.630*		White ☐	MG2-TDMO-03 40591	1SNB040591R0416	130		560	R2.28
			Yellow ☐	MG2-TDMO-03 40541	1SNB040541R0416	130		560	R2.36

Marking system accessories



MG2-PTM

Support plate

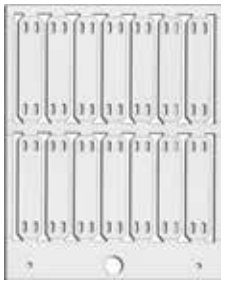
Purchased separately			MG2-PTM 991010	1SNB991010R0000			1	R4,130.18

Standard discounts do not apply for markers. Please phone for discounts.

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MG-ETF Wire and Cable Markers

Tie-on Cable Precut Blank Labels



MG-ETF

Description

- Recommended for marking large diameter cables, hoses, tubes and conduits,
- To be used with cable ties (max. width 4.8 mm *0.19 in*),
- Print area 15 x 20 mm 0.59 x *0.79 in*,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions		Nb. of markers per card	Color	Type	Order code	SW code		Pkg	Price
mm	*in*							marker	
13 x 57	*0.512 x 2.244*	14	White ☐	MG-ETF 54192	1SNB054192R1357	581		700	R6.83
			Yellow ☐	MG-ETF 54142	1SNB054142R1357	581		700	R7.96



Marking system accessories

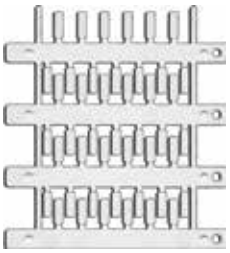
MG2-PLT

Support plate

Included in the MG3 Kit		MG2-PLT 991002	1SNB991002R0000			1	R4,088.58

Standard discounts do not apply for markers. Please phone for discounts.

MG-TPM Wire and Cable Markers
Slide-in Precut Blank Labels



MG-TPM

Description
- To be slided into PM holder,
- For cable up to 240 mm²,
- PM holders can be directly inserted on the markers without removing them from the stems,
- Made of rigid ABS.

Main technical data

Material	Flammability	Temperature range
Acrylonitrile Butadienne Styrene (ABS)	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details



Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
MG-TPM									
4 x 10	*0.157 x 0.394*	45	White ☐	MG-TPM 40090	1SNB040090R0410	1		2250	R1.56
4 x 12	*0.157 x 0.472*		White ☐	MG-TPM 40091	1SNB040091R0412	2		2250	R1.70
4 x 15	*0.157 x 0.591*		White ☐	MG-TPM 40092	1SNB040092R0415	3		2250	R1.83

Marking system accessories



MG2-PWC

Support plate

Included in the MG3 Kit		MG2-PWC 991000	1SNB991000R0000			1	R4,130.18

Standard discounts do not apply for markers. Please phone for discounts.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

PM, PM-ET and PM-AC Transparent
Marker Holders for MG-TPM Markers



PM

Description

– Compatible with MG-TPM markers,
– Made of plasticised PVC.

Main technical data

Material	Flammability	Temperature range
PVC	V0	-40°C to +90°C *-40°F to +194°F*

Ordering details

For cable mounting

PM

Profiled transparent holder to allow each type to accommodate a range of cable sizes



PM-01

Wire ext. diameter mm	Wire ext. diameter *in*	Wire section mm²	Holder length mm	Holder length *in*	Color	Type	Order code	Pkg pce	Price
2 ... 3.7	*0.079 ... 0.146*	0.5 ... 2.5	10	*0.394*	Transparent ☑	PM-01 50100	1SNB050100R0000	6000	R0.34
					Transparent ☑	PM-01 50102	1SNB050102R0001	2000	R0.41
					Transparent ☑	PM-01 50102-HF	1SNB050102R0002	2000	R0.57
			12	*0.472*	Transparent ☑	PM-01 50110	1SNB050110R0000	5000	R0.40
			15	*0.591*	Transparent ☑	PM-01 50120	1SNB050120R0000	4000	R 0.48
					Transparent ☑	PM-01 50122	1SNB050122R0000	1000	R 0.63
3.5 ... 4.3	*0.138 ... 0.169*	2.5 ... 4	10	*0.394*	Transparent ☑	PM-02 50200	1SNB050200R0000	4000	R 0.38
					Transparent ☑	PM-02 50202	1SNB050202R0000	1000	R 0.59
			12	*0.472*	Transparent ☑	PM-02 50210	1SNB050210R0000	4000	R 0.40
					Transparent ☑	PM-02 50212	1SNB050212R0000	1000	R 0.63
			15	*0.591*	Transparent ☑	PM-02 50220	1SNB050220R0000	3000	R 0.55
					Transparent ☑	PM-02 50222	1SNB050222R0000	1000	R 0.78
4 ... 6.3	*0.157 ... 0.248*	4 ... 10	10	*0.394*	Transparent ☑	PM-03 50300	1SNB050300R0000	3000	R 0.41
					Transparent ☑	PM-03 50302	1SNB050302R0000	1000	R 0.63
			12	*0.472*	Transparent ☑	PM-03 50310	1SNB050310R0000	2000	R 0.59
					Transparent ☑	PM-03 50312	1SNB050312R0000	500	R 0.86
			15	*0.591*	Transparent ☑	PM-03 50320	1SNB050320R0000	2000	R 0.62
					Transparent ☑	PM-03 50322	1SNB050322R0000	500	R 0.90
6 ... 10	*0.236 ... 0.394*	10 ... 25	10	*0.394*	Transparent ☑	PM-04 50400	1SNB050400R0000	2000	R 0.59
					Transparent ☑	PM-04 50402	1SNB050402R0000	500	R 0.90
			12	*0.472*	Transparent ☑	PM-04 50410	1SNB050410R0000	1000	R 0.78
					Transparent ☑	PM-04 50411	1SNB050411R0000	500	R 0.95
			15	*0.591*	Transparent ☑	PM-04 50420	1SNB050420R0000	1000	R 0.83
					Transparent ☑	PM-04 50421	1SNB050421R0000	500	R 1.08
9 ... 15	*0.354 ... 0.591*	25 ... 70	10	*0.394*	Transparent ☑	PM-05 50500	1SNB050500R0000	500	R 1.16
			12	*0.472*	Transparent ☑	PM-05 50510	1SNB050510R0000	500	R 1.27
			15	*0.591*	Transparent ☑	PM-05 50521	1SNB050521R0000	250	R 1.70
14 ... 26	*0.551 ... 1.024*	70 ... 240	10	*0.394*	Transparent ☑	PM-06 50600	1SNB050600R0000	500	R 1.52
			12	*0.472*	Transparent ☑	PM-06 50610	1SNB050610R0000	250	R 2.06
			15	*0.591*	Transparent ☑	PM-06 50620	1SNB050620R0000	250	R 2.25

PM-ET

Tie-on transparent holder for longitudinal mounting on cables, hoses, tubes and conduit (tie width max 6 mm *0.236 in*)



PM-ET

			12	*0.472*	Transparent ☑	PM-ET 53010	1SNB053010R0000	2000	R 1.39
			15	*0.591*	Transparent ☑	PM-ET 53020	1SNB053020R0000	2000	R 1.71

For surface mounting

PM-AC

Self-adhesive transparent holder to be used over all plane surfaces



PM-AC

			10	*0.394*	Transparent ☑	PM-AC 51000N	1SNB051000R0000	5000	R 1.54
			12	*0.472*	Transparent ☑	PM-AC 51010N	1SNB051010R0000	4000	R 1.81
			15	*0.591*	Transparent ☑	PM-AC 51020N	1SNB051020R0000	4000	R 2.36

Use holders only with designated cable marker of the same or a shorter length.

Standard discounts do not apply for markers. Please phone for discounts.

PMF, PMF-ET and PMF-AC Transparent
Marker Holders for MG-TPM Markers



PMF-00

Description

– Compatible with MG-TPMF markers,
– Made of plasticised PVC.

Main technical data

Material	Flammability	Temperature range
PVC	V0	-40°C to +90°C *-40°F to +194°F*

Ordering details

For cable mounting

PMF



Profiled transparent holder to allow each type to accommodate a range of cable sizes

Wire ext. diameter mm	Wire ext. diameter *in*	Wire section mm²	Holder length mm	Holder length *in*	Color	Type	Order code		Pkg pce	Price
1.3 ... 2.2	*0.051 ... 0.087*	0.25 ... 0.5	10	*0.394*	Transparent ☑	PMF-00 90000	1SNB090000R0000		8000	R 0.30
			12	*0.472*	Transparent ☑	PMF-00 90010	1SNB090010R0000		7000	R 0.33
			15	*0.591*	Transparent ☑	PMF-00 90020	1SNB090020R0000		6000	R 0.42
2 ... 3.7	*0.079 ... 0.146*	0.5 ... 2.5	10	*0.394*	Transparent ☑	PMF-01 90100	1SNB090100R0000		6000	R 0.34
			12	*0.472*	Transparent ☑	PMF-01 90110	1SNB090110R0000		5000	R 0.40
			15	*0.591*	Transparent ☑	PMF-01 90120	1SNB090120R0000		4000	R 0.48
3.4 ... 4.3	*0.134 ... 0.169*	2.5 ... 4	10	*0.394*	Transparent ☑	PMF-02 90200	1SNB090200R0000		4000	R 0.38
			12	*0.472*	Transparent ☑	PMF-02 90210	1SNB090210R0000		4000	R 0.46
			15	*0.591*	Transparent ☑	PMF-02 90220	1SNB090220R0000		3000	R 0.55
4 ... 6.3	*0.157 ... 0.248*	4 ... 10	10	*0.394*	Transparent ☑	PMF-03 90300	1SNB090300R0000		3000	R 0.41
			12	*0.472*	Transparent ☑	PMF-03 90310	1SNB090310R0000		2000	R 0.59
			15	*0.591*	Transparent ☑	PMF-03 90320	1SNB090320R0000		2000	R 0.62
6 ... 10	*0.236 ... 0.394*	10 ... 25	10	*0.394*	Transparent ☑	PMF-04 90400	1SNB090400R0000		2000	R 0.59
			12	*0.472*	Transparent ☑	PMF-04 90410	1SNB090410R0000		1000	R 0.78
			15	*0.591*	Transparent ☑	PMF-04 90420	1SNB090420R0000		1000	R 0.83
9 ... 15	*0.354 ... 0.591*	25 ... 70	10	*0.394*	Transparent ☑	PMF-05 90500	1SNB090500R0000		500	R 1.16
			12	*0.472*	Transparent ☑	PMF-05 90510	1SNB090510R0000		500	R 1.27
			15	*0.591*	Transparent ☑	PMF-05 90520	1SNB090520R0000		250	R 1.70

PMF-ET



Tie-on transparent holder for longitudinal mounting on cables, hoses, tubes and conduit (tie width max 6 mm 0.236 in)

			15	*0.591*	Transparent ☑	PMF-ET 63020	1SNB063020R0000		2000	R 1.71

For surface mounting

PMF-AC



Self-adhesive transparent holder to be used over all plane surfaces

			10	*0.394*	Transparent ☑	PMF-AC 66000N	1SNB066000R0000		5000	R 1.54
			12	*0.472*	Transparent ☑	PMF-AC 66010N	1SNB066010R0000		4000	R 1.81
			15	*0.591*	Transparent ☑	PMF-AC 66020N	1SNB066020R0000		4000	R 2.36
			20	*0.787*	Transparent ☑	PMF-AC 66040N	1SNB066040R0000		4000	R 3.35

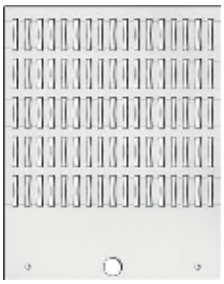
Use holders only with designated cable marker of the same or a shorter length.

All the technical data for UL/CSA standard and dimensions in inches are in italic.

Standard discounts do not apply for markers. Please phone for discounts.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

MG-TPMF Wire and Cable Markers
Slide-in Precut Blank Labels



MG-TPMF

Description
- To be slided into PMF holder,
- For wire and cable up to 70 mm²,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
MG-TPMF									
4 x 10	*0.157 x 0.394*	112	White ☐	MG-TPMF 42090B	1SNB042090R0410	502		5600	R 0.92
4 x 12	*0.157 x 0.472*	80	White ☐	MG-TPMF 42091B	1SNB042091R0412	505		4000	R 1.15
4 x 15	*0.157 x 0.591*		White ☐	MG-TPMF 42092B	1SNB042092R0415	503		4000	R 1.15

MG-TAA Component and Equipment Markers
Self-adhesive Precut Blank Labels



MG-TAA

Description
- To be used for external marking of components and equipment,
- Direct application on suitable surfaces (self-adhesive),
- Made of rigid PVC.

Main technical data

Material	*Flammability*	*Temperature range*
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions mm	*Dimensions in*	*Nb. of markers per card*	*Color*	*Type*	*Order code*	*SW code*		*Pkg* marker	*Price*
7 x 20	*0.276 x 0.787*	60	White ☐	MG-TAA 49196	1SNB049196R0720	179		1500	R 4.16
8 x 17	*0.315 x 0.669*	72	White ☐	MG-TAA 49493	1SNB049493R0817	194		1800	R 4.07
8.5 x 30	*0.335 x 1.181*	33	White ☐	MG-TAA 49498	1SNB049498R8530	720		825	R 13.83
			Yellow ☐	MG-TAA 49448	1SNB049448R8530	720		825	R 15.39
9 x 15	*0.354 x 0.591*	77	White ☐	MG-TAA 49397N	1SNB049397R0915	961		1925	R 6.71
9 x 20	*0.354 x 0.787*	55	White ☐	MG-TAA 49190N	1SNB049190N0920	962		1375	R 6.57
9 x 35	*0.354 x 1.378*	33	White ☐	MG-TAA 49191N	1SNB049191R0935	964		825	R 11.35
15 x 27	*0.591 x 1.063*	28	White ☐	MG-TAA 49193N	1SNB049193R1527	966		700	R 8.16
			Yellow ☐	MG-TAA 49143N	1SNB049143R1527	966		700	R 16.59
15 x 44	*0.591 x 1.732*	12	White ☐	MG-TAA 49298	1SNB049298R1544	854		300	R 24.38
15 x 49	*0.591 x 1.929*	14	White ☐	MG-TAA 49194N	1SNB049194R1549	967		350	R 16.32
			Yellow ☐	MG-TAA 49144N	1SNB049144R1549	967		350	R 32.78
15 x 67	*0.591 x 2.638*	7	White ☐	MG-TAA 49195N	1SNB049195R1567	968		175	R 33.18
			Yellow ☐	MG-TAA 49145N	1SNB049145R1567	968		175	R 62.09
17 x 35	*0.669 x 1.378*	18	White ☐	MG-TAA 49198	1SNB049198R1735	711		450	R 15.75
			Yellow ☐	MG-TAA 49148	1SNB049148R1735	711		450	R 19.16

Standard discounts do not apply for markers. Please phone for discounts.

MG-17.5A & MG-PTS Component and Equipment Markers – Self-adhesive Precut Blank Labels



MG-17.5-A 990824

Description

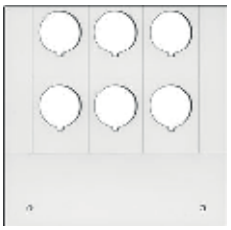
- Used for marking modular components,
- Direct application on suitable surfaces (self-adhesive),
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
15 x 107.5	*0.591 x 4.232*	7	White ☐	MG-17.5-A 990824	1SNB990824R0015	929		175	R 29.57
			Yellow ☐	MG-17.5-A 990826	1SNB990826R0015	929		175	R 34.38



MG-PTS 15090

Description

- To be used for Ø 22.5 mm *0.886 in* or Ø 31 mm *1.220 in* push buttons identification,
- Direct application on suitable surfaces,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
40 x 30	*1.575 x 1.181*	6	White ☐	MG-PTS 15090	1SNB015090R4030	1000		300	R 18.16



MG-TAP

Description

- Versatile precut label used to identify a wide range of devices : modular, component, push button, etc.,
- Can be used with legend rail RTA-TAP,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
8.2 mm *0.323 in* width									
8.2 x 27	*0.323 x 1.063*	44	White ☐	MG-TAP 47096	1SNB047096R0827	807		2200	R 3.58
15 mm *0.591 in* width									
15 x 27	*0.591 x 1.063*	28	White ☐	MG-TAP 47091N	1SNB047091R1527	166		1400	R 2.76
			Yellow ☐	MG-TAP 47041N	1SNB047041R1527	166		1400	R 5.00
15 x 43	*0.591 x 1.693*	14	White ☐	MG-TAP 47198	1SNB047198R1543	353		700	R 8.34
15 x 49	*0.591 x 1.929*		White ☐	MG-TAP 47092N	1SNB047092R1549	167		700	R 6.39
15 x 67	*0.591 x 2.638*	7	White ☐	MG-TAP 47093N	1SNB047093R1567	168		350	R 11.10
18 mm *0.709 in* width									
18 x 27	*0.709 x 1.063*	20	White ☐	MG-TAP 47097	1SNB047097R1827	178		1000	R 7.92
			Yellow ☐	MG-TAP 47047	1SNB047047R1827	178		1000	R 8.20

Standard discounts do not apply for markers. Please phone for discounts.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

RT… Rail Marker Holders & Protective Covers
For MG-TAP Labels



RTR-TAP

Description

- Provide an alternative to direct marking on components,
- Compatible with MG-TAP labels with a width of 15 mm (*0.591 in*),
- Non-deformable up to 90°C, resistant to acid, alcohol, solvents,
- Made of rigid dielectric high-impact PVC .

Main technical data

Material	Flammability	Temperature range
Rigid dielectric high-impact PVC	V0	+10°C to + 40°C *+50°F to +104°F*

Ordering details

Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code		Pkg pce	Price
RTR-TAP								
Pre-drilled rail								
15 x 430	*0.591 x 16.929*		Black ■	RTR-TAP 990454	1SNB990454R0000		25	R 70.62
			Grey □	RTR-TAP 990452	1SNB990452R0000		25	R 83.86
RTA-TAP								
Self-adhesive rail								
15 x 430	*0.591 x 16.929*		Black ■	RTA-TAP 990455N	1SNB990455R0000		25	R 78.64
			Grey □	RTA-TAP 990453N	1SNB990453R0000		25	R 93.10
RT-CCP								
Protective cover								
15 x 430	*0.591 x 16.929*		Transparent ⊘	RT-CCP 990456	1SNB990456R0000		25	R 30.47

Standard discounts do not apply for markers. Please phone for discounts.

MG-TAPW & MG-TAR Component and Equipment Markers – Precut Blank Labels


1SNC160137F0014

MG-TAPW

Description

- 9 mm *0.354 in* width versatile label used to identify a wide range of devices,
- Use with label rail holders RTA-TAPW 990653N,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions		Nb. of markers per card	Color	Type	Order code	SW code		Pkg	Price
mm	*in*							marker	
9 x 12	*0.354 x 0.472*	88	Yellow	MG-TAPW 49042N	1SNB049042R0912	360		2200	R 3.78
9 x 15	*0.354 x 0.591*	77	White	MG-TAPW 49093N	1SNB049093R0915	361		1925	R 3.26
			Yellow	MG-TAPW 49043N	1SNB049043R0915	361		1925	R 3.78
9 x 20	*0.354 x 0.787*	55	White	MG-TAPW 49090N	1SNB049090R0920	362		2750	R 3.25
			Yellow	MG-TAPW 49040N	1SNB049040R0920	362		2750	R 3.76
9 x 29	*0.354 x 1.142*	30	White	MG-TAPW 49096	1SNB049096R0929	363		1500	R 4.88
			Yellow	MG-TAPW 49046	1SNB049046R0929	363		1500	R 5.68
9 x 35	*0.354 x 1.378*	33	White	MG-TAPW 49091N	1SNB049091R0935	364		1650	R 5.11

MG-TAR Component and Equipment Markers
Precut Blank Labels


1SNC160138F0014

MG-TAR 45194

Description

- Designed to fit particular components with a suitable clip-in location,
- Made of rigid PVC.

Main technical data

Material	Flammability	Temperature range
Rigid PVC	V0	-30°C to +80°C *-22°F to +176°F*

Ordering details

Dimensions		Nb. of markers per card	Color	Type	Order code	SW code		Pkg	Price
mm	*in*							marker	
17 x 35	*0.669 x 1.378*	18	White	MG-TAR 45194	1SNB045194R1735	711		900	R 9.94
17 x 44	*0.669 x 1.732*	12	White	MG-TAR 45195	1SNB045195R1744	717		600	R 15.01

MG-VRT-A & MG-VRT-R Panel Plates

Self-adhesive Blank Panel Plates



1SNC160143F0014

MG-VRT-A 88903

Description

- *To be used in identifying panels and cabinets with technical data or logos,*
- *Made of rigid PVC.*

Main technical data

Material	Flammability	Temperature range
Rigid PVC	*V0*	*-30°C to +80°C -22°F to +176°F*

Ordering details

Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
Self-adhesive panel plate for direct application on suitable surfaces									
52 x 107	*2.047 x 4.213*	*2*	*White* ☐	*MG-VRT-A 88903*	*1SNB088903R0052*	*204*		*50*	R 81.19



1SNC160144F0014

MG-VRT-R 48903

Description

- *To be used in identifying panels and cabinets with technical data or logos,*
- *To be fixed with rivets,*
- *Made of rigid PVC.*

Main technical data

Material	Flammability	Temperature range
Rigid PVC	*V0*	*-30°C to +80°C -22°F to +176°F*

Ordering details

Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code	SW code		Pkg marker	Price
Rivet fixing panel plate									
52 x 107	*2.047 x 4.213*	*2*	*White* ☐	*MG-VRT-R 48903*	*1SNB048903R0052*	*204*		*100*	R 51.48

MC…PA Terminal Block Markers
Blank Markers for SNK Series



MC512PA

Description

- Blank marker card in polyamide,
- Terminal blocks are directly independent after strip mounting,
- Improved marking visibility thanks to the increased marking surface +20% (12 mm *0.472 in*).

Main technical data

Material	Flammability
Polyamide	V2

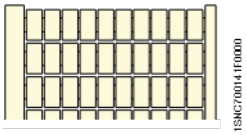
Ordering details

Dimensions mm	Dimensions *in*	Maximum printed digits Hor.	Maximum printed digits Vert.	Nb. of markers per card	Color	Type	Order code		Pkg card	Price
For 5.2 mm *0.205 in* spacing										
MC512PA										
12 x 5	*0.472 x 0.197*	3	8	100	White ☐	MC512PA	1SNK149999R0000		20	R 43.27
For 6 mm *0.236 in* spacing										
MC612PA										
12 x 5.6	*0.472 x 0.220*	3	8	100	White ☐	MC612PA	1SNK159999R0000		20	R 49.76
For 8 mm *0.315 in* spacing										
MC812PA										
12 x 7.6	*0.472 x 0.299*	4	8	100	White ☐	MC812PA	1SNK169999R0000		20	R 64.91

Standard discounts do not apply for markers. Please phone for discounts.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

RC…10 Terminal Block Markers
Blank Markers for SNA and Solution Series



RC510

Description
- Blank card in polyamide,
- Terminal blocks are directly independent after strip mounting,
- To be used to mark spring clamp, ADO System® and screw clamp pluggable SNA terminal blocks.

Main technical data

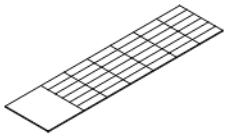
Material	Flammability
Polyamide	V2

Ordering details

Dimensions mm	Dimensions *in*	Maximum printed digits Hor.	Maximum printed digits Vert.	Nb. of markers per card	Color	Type	Order code		Pkg card	Price
For 4 mm *0.157 in* terminal block spacing										
RC410										
10 x 4	*0.394 x 0.157*	2	7	100	White	RC410	1SNA229000R1500		10	R 25.77
For 5 mm *0.197 in* terminal block spacing										
RC510										
10 x 5	*0.394 x 0.197*	3	7	100	White	RC510	1SNA231000R0700		10	R 31.72
		4	4		Yellow	RC510-YL	1SNA103890R2100		10	R 104.22
For 6 mm *0.236 in* terminal block spacing										
RC610										
10 x 6	*0.394 x 0.236*	4	4	100	White	RC610	1SNA233000R0100		10	R 31.72
					Blue	RC610	1SNA206233R0000		10	R 54.00
					Orange	RC610	1SNA206232R0700		10	R 54.00
					Yellow	RC610	1SNA206231R0600		10	R 54.00
					Green	RC610	1SNA206230R1100		10	R 54.00
					Red	RC610	1SNA206235R0200		10	R 54.00
For 8 mm *0.315 in* terminal block spacing										
RC810										
10 x 8	*0.394 x 0.315*	4	4	100	White	RC810	1SNA234000R0200		10	R 63.44
For 10 mm *0.394 in* terminal block spacing										
RC1010										
10 x 10	*0.394 x 0.394*	7	7	80	White	RC1010	1SNA238000R1600		10	R 64.40

Standard discounts do not apply for markers. Please phone for discounts.

MCLH End Stop Markers
Self-adhesive Precut Blank Labels for SNK Series


1SNC702001F0000

MCLH, MCLH-R1

Description
– Identify your terminal blocks assembly with the self-adhesive label adapted to the LH label holders.

Main technical data

Material	Flammability	Temperature range
PVC + Adhesive acrylic	V0	-55°C to +110°C *-67°F to +230°F*

Ordering details

Dimensions mm	Dimensions *in*	Nb. of markers per card	Color	Type	Order code		Pkg card	Price
MCLH								
30 x 8.8	*1.181 x 0.346*	36	White	MCLH	1SNK900630R0000		25	R 221.48
			Yellow	MCLH-YL	1SNK900633R0000		25	R 204.96
MCLH-R1								
35.35 x 17.65	*1.392 x 0.695*	15	White	MCLH-R1	1SNK900631R0000		25	R 318.00
			Yellow	MCLH-R1-YL	1SNK900634R0000		25	R 306.08

LH, LH-R1 End Stop Label Holders
For MCLH Labels


1SNK160210F0014

Description
– Easily identify your terminal blocks assembly with white or yellow labels,
– Adjustable in height for best visibility,
– Compatible with all SNK end stops.

Main technical data

Material	Flammability	Temperature range
Polyamide	V0	-55°C to +110°C *-67°F to +230°F*

Ordering details

Spacing mm	Spacing in	Dimensions mm	Dimensions in	Color	Type	Order code		Pkg pce	Price
For MCLH									
LH									
10	*0.394*	8.8 x 30	*0.35 x 1.18*	Dark Grey	LH	1SNK900605R0000		50	R 5.96
For MCLH-R1									
LH-R1									
19.5	*0.768*	17.9 x 35.65	*0.70 x 1.40*	Dark Grey	LH-R1	1SNK900607R0000		50	R 9.64


LH

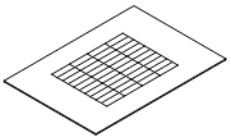

LH-R1

Dimensions given apply to the labelling area.

Standard discounts do not apply for markers. Please phone for discounts.

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RCPEAD End Stop Labels – Precut Blank Labels and PEAD End Stop Label Holders for RCPEAD Label



RCPEAD

Description

– Identify your terminal block assemblies with the self-adhesive label adapted to the PEAD label holders.

Main technical data

Material	Flammability
PVC	

Ordering details

Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code		Pkg card	Price
RCPEAD								
9 x 29	*0.354 x 1.142*	40	White ☐	RCPEAD	1SNA399725R0600		1	R 87.13



PEAD

Description

– Easily identify your terminal block assemblies with white or yellow labels,
– Adjustable in height for best visibility,
– Compatible with BAM2 and BADL SNA series end stops.

Main technical data

Material	Flammability
Polyamide	V0

Ordering details

Dimensions mm	Dimensions in	Color	Type	Order code		Pkg pce	Price
PEAD							
Label holder for end stop, compatible with RCPEAD marker and EPR2 cover.							
9 x 29	*0.354 x 1.142*	Grey ☐	PEAD	1SNA399719R1000		20	R 5.29
EPR2							
Card of 20 covers for RCPEAD and RCPEAD-TT markers							
9 x 29	*0.354 x 1.142*	Transparent ☑	EPR2	1SNA399726R0700		1	R 38.18

Dimensions given apply to the labelling area.

Standard discounts do not apply for markers. Please phone for discounts.

RCPEG, PIB, PIB3 End Stop Markers
Precut Blank Labels



RCPEB

Description
- Blank markers to be inserted onto PEB label holder,
- To be used for terminal block assembly identification.

Main technical data

Material	Flammability
PVC	

Ordering details

Dimensions mm	Dimensions in	Nb. of markers per card	Color	Type	Order code		Pkg pce	Price
RCPEB								
Card of 54 precut labels to be inserted onto PEB label holder								
17.5 x 35	*0.689 x 1.378*	54	White ☐	RCPEB	1SNA178430R0500		1	R 233.73
PIB3								
Strip of 7 labels to be inserted onto PEB label holder								
17.5 x 35	*0.689 x 1.378*	7	White ☐	PIB3	1SNA235462R2200		50	R 25.53
PIB								
Individual labels to be inserted onto PEB label holder, white marking on black background								
17.5 x 35	*0.689 x 1.378*	1	Black ■	PIB	1SNA173812R1300		100	R 10.73

PEB End Stop Label Holders
For RCPEB, PIB, PIB3 Labels



PEB

Description
- To be used for terminal block assembly identification,
- Direct insertion onto end stops from SNA series,
- Compatible with RCPEB, PIB, PIB3 labels.

Main technical data

Material	Flammability	Temperature range
Polyamide (PEB) PVC (EPR1)	V0	-55°C to +110°C *-67°F to +230°F*

Ordering details

Dimensions mm	Dimensions *in*	Color	Type	Order code		Pkg pce	Price
PEB							
Label holder for end stop 35 x 17 mm 1.378 x *.669 in*, to be snapped onto end stop							
18 x 35.5	*0.709 x 1.378*	Grey ☐	PEB	1SNA113077R1100		50	R 5.29
EPR1							
Card of 54 PVC protective covers							
17.5 x 35	*0.689 x 1.378*	Transparent ▨	EPR1	1SNA178431R2200		1	R 233.73
PEBM							
"All in one": PEB marker holder with marker and protection included							
			PEBM	1SNA113084R0100		50	R 16.12

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MC4-Evo2 PV Connectors

The Latest Generation of Photovoltaic Connectors

The MC4-Evo2 range is the latest evolution of MC4 PV connectors. Combining the highest performances on the market and worldwide certifications, this new range benefits from years of expertise making it truly reliable.





Easy to install

Install it everywhere without any operational restriction:

- Installation in unrestricted access locations by any professional (Class A approval)
- Easy and quick preparation thanks to adapted tools
- Efficient locking system saving mounting time.

MC4 and MC4-Evo2 manufactured by Multi-Contact

Safety and protection

Protect personnel and secure installations with:

- Constant contact pressure maintained by a patented contact technology
- Quality track record over the past 20 years
- Integrated lock clip (NEC 2011 compliant).

Reliable in harsh conditions

Trust your installation in all environmental conditions:

- Extensive environmental testing (UV, ammonia, salt-mist spray)
- High IP class (IP65/IP68, 1 m/60 min, mated)
- Impact-resistant polyamide housing
- Worldwide certified.

MC4-Evo2 PV Connectors

Range Overview





Plug connectors				Female	Male
DIA cable insulation		Cross section			
mm	*in*	mm²	*AWG*		
4.7 ... 6.1	*0.18 ... 0.24*	4 ... 6	*12 ... 10*	PV-PLUG-F6/6.1	PV-PLUG-M6/6.1
6.1 ... 7.6	*0.24 ... 0.29*	4 ... 6	*12 ... 10*	PV-PLUG-F6/7.6	PV-PLUG-M6/7.6
7.6 ... 8.5	*0.29 ... 0.33*	4 ... 6	*12 ... 10*	PV-PLUG-F6/8.5	PV-PLUG-M6/8.5
7.6 ... 8.5	*0.29 ... 0.33*	10	*8*	PV-PLUG-F10/8.5	PV-PLUG-M10/8.5





Panel receptacles MC4 original (1)				Female	Male
DIA cable insulation		Cross section			
mm	*in*	mm²	*AWG*		
–	–	4 ... 6	*12 ... 10*	PV-RECEP-F6	PV-RECEP-M6

(1) MC4 original to be replaced by MC4-Evo2 types end of 2016





Branch connectors	Female	Male
In / out		
2 females / 1 male	PV-BRANCH-F	
2 males / 1 female		PV-BRANCH-M

MC4 and MC4-Evo2 manufactured by Multi-Contact

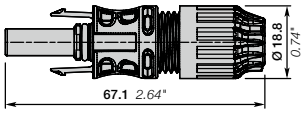
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PV-Plug-F6/6.1, PV Plug Connector

Female – 4…6mm² – 12…10AWG Cross Section Ø 4.7…6.1mm – 0.18…0.24 in Cable Insulation



PV-PLUG-F6/6.1



Description

Combines the highest performances on the market with proven long-term efficiency:
- 1500 V DC (IEC), 1500 V DC (UL),
- Full compatibility with all Multi-Contact MC4 family products,
- Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,
- User manual MA 273.

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Female	PV plug connector	Black	PV-PLUG-F6/6.1	1SNV420862R0000		10	R 48.74
			PV-PLUG-F6/6.1	1SNV420864R0000		100	R 42.37

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	4.7 … 6.1 mm	*- 0.18 … 0.24 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 … 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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Assembly instructions



1. Crimping,
2. Crimped contact insertion,
3. Connector's tightening,
4. Plugging.

1  2 

3 

Tools

	Description		Color	Type	Order code		Pkg qty	Price
1	**Crimping tool**	For plug connectors 4 … 6 mm²	Blue-black	PV-CRIMP-PLUG	1SNV420411R0000		1	R 11,778.94
2	**Wrench tool**	To tighten	Grey	PV-TIGHT-TOOL	1SNV420061R0000		1	R 1,582.66
3	**Open-end spanners**	2 in metal	Black-red	PV-SPANNER	1SNV420581R0000		1	R 1,170.62

Complete information available in the tools section of the catalog.

1 

Accessories

	Description		Color	Type	Order code		Pkg qty	Price
1	**Sealing cap**	For unmated female connectors	Black	PV-CAP-F	1SNV420164R0000		100	R 26.11

Complete information available in the accessories section of the catalog.

MC4 and MC4-Evo2 manufactured by Multi-Contact
All the technical data for UL standard and dimensions in inches are in italic.

PV-Plug-M6/6.1, PV Plug Connector

Male – 4…6mm² – 12…10AWG Cross Section

Ø 4.7…6.1mm – 0.18…0.24 in Cable Insulation



PV-PLUG-M6/6.1

Description

Combines the highest performances on the market with proven long-term efficiency:
- 1500 V DC (IEC), 1500 V DC (UL),
- Full compatibility with all Multi-Contact MC4 family products,
- Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,
- User manual MA 273.

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Male	PV plug connector	Black ■	PV-PLUG-M6/6.1	1SNV420872R0000		10	R 37.47
			PV-PLUG-M6/6.1	1SNV420874R0000		100	R 32.58

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	4.7 … 6.1 mm - *0.18 … 0.24 in*	
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 … 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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Accessories

	Description		Color	Type	Order code		Pkg qty	Price
1	**Sealing cap**	For unmated male connectors	Black ■	PV-CAP-M	1SNV420174R0000		100	R 26.11

Complete information available in the accessories section of the catalog.

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PV-Plug-F6/7.6, PV Plug Connector

Female – 4…6mm² – 12…10AWG Cross Section

Ø 6.1…7.6mm – 0.24…0.29 in Cable Insulation



PV-PLUG-F6/7.6

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Female	PV plug connector	Black ■	PV-PLUG-F6/7.6	1SNV420882R0000		10	R 48.74
			PV-PLUG-F6/7.6	1SNV420884R0000		100	R 42.37

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	6.1 … 7.6 mm -	*0.24 … 0.29 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 ... 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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Accessories

	Description		Color	Type	Order code		Pkg qty	Price
1	**Sealing cap**	For unmated female connectors	Black ■	PV-CAP-F	1SNV420164R0000		100	R 26.11

Complete information available in the accessories section of the catalog.

PV-Plug-M6/7.6, PV Plug Connector

Male – 4…6mm² – 12…10AWG Cross Section

Ø 6.1…7.6mm – 0.24…0.29 in Cable Insulation



PV-PLUG-M6/7.6

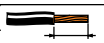
Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Male	PV plug connector	Black ■	PV-PLUG-M6/7.6	1SNV420892R0000		10	R 37.47
			PV-PLUG-M6/7.6	1SNV420894R0000		100	R 32.58

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	6.1 … 7.6 mm -	*0.24 … 0.29 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 ... 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

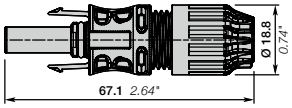
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PV-Plug-F6/8.5, PV Plug Connector

Female – 4…6mm² – 12…10AWG Cross Section Ø 7.6…8.5mm – 0.29…0.33 in Cable Insulation



PV-PLUG-F6/8.5



Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Female	PV plug connector	Black ■	PV-PLUG-F6/8.5	1SNV420902R0000		10	R 48.74
			PV-PLUG-F6/8.5	1SNV420904R0000		100	R 42.37

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	7.6 … 8.5 mm -	*0.29 … 0.33 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 … 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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PV-Plug-M6/8.5, PV Plug Connector

Male – 4…6mm² – 12…10AWG Cross Section Ø 7.6…8.5mm – 0.29…0.33 in Cable Insulation



PV-PLUG-M6/8.5

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Male	PV plug connector	Black ■	PV-PLUG-M6/8.5	1SNV420912R0000		10	R 37.47
			PV-PLUG-M6/8.5	1SNV420914R0000		100	R 32.58

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter	7.6 … 8.5 mm -	*0.29 … 0.33 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	45 / 53 A	*35 / 50 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		3.4 … 3.5 Nm *30.1 …31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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PV-Plug-F10/8.5, PV Plug Connector
Female – 10mm² – 12…8AWG Cross Section
Ø 7.6…8.5mm – 0.29…0.33 in Cable Insulation



PV-PLUG-F10/8.5

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Female	PV plug connector	Black ■	PV-PLUG-F10/8.5	1SNV420924R0000		100	R 46.91

Main technical data

Connecting capacity	IEC	*UL*
Cross section	10 mm²	*8 AWG*
Cable insulation diameter	7.6 ... 8.5 mm	*- 0.29 ... 0.33 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	69 A	*70 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 ... +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 ... 7.5 mm *0.236 ... 0.275 in*
Torque		3.4 ... 3.5 Nm *30.1 ...31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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PV-Plug-M10/8.5, PV Plug Connector
Male – 10mm² – 8AWG Cross Section
Ø 7.6…8.5mm – 0.29…0.33 in Cable Insulation



PV-PLUG-M10/8.5

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Male	PV plug connector	Black ■	PV-PLUG-M10/8.5	1SNV420934R0000		100	R 36.10

Main technical data

Connecting capacity	IEC	*UL*
Cross section	10 mm²	*8 AWG*
Cable insulation diameter	7.6 ... 8.5 mm	*- 0.29 ... 0.33 in*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	69 A	*70 A*
Rated voltage	1500 V DC	*1500 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 ... +85 °C	
Upper limiting temperature	115 °C	

Mounting instructions

Wire stripping length		6 ... 7.5 mm *0.236 ... 0.275 in*
Torque		3.4 ... 3.5 Nm *30.1 ...31 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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PV-RECEP-F6, PV Panel Receptacle

Female – 4…6mm² – 12…10AWG Cross Section



PV-RECEP-F6

Ordering details

Description		Color	Type	Order code	Pkg qty	Price
Female	PV panel receptacle	Black ■	PV-RECEP-F6	1SNV420944R0000	100	R 42.37

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter		
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	39 / 45 A	*30 A*
Rated voltage	1250 V DC	*1000 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	105 °C	

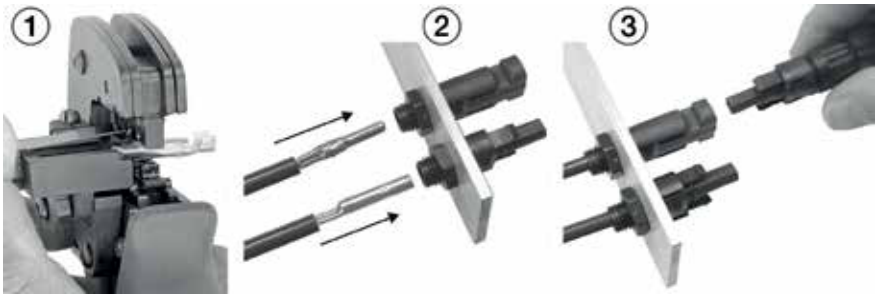
Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		2 Nm *17.7 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

RoHS RoHS · USR · EAC · TUV

Assembly instructions



1. Crimping,
2. Panel receptacles installation and crimped contact insertion,
3. Plugging.

PV-RECEP-M6, PV Panel Receptacle

Male – 4…6mm² – 12…10AWG Cross Section



PV-RECEP-M6

Ordering details

Description		Color	Type	Order code	Pkg qty	Price
Male	PV panel receptacle	Black ■	PV-RECEP-M6	1SNV420954R0000	100	R 32.58

Main technical data

Connecting capacity	IEC	*UL*
Cross section	4 … 6 mm²	*12 … 10 AWG*
Cable insulation diameter		
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	39 / 45 A	*30 A*
Rated voltage	1250 V DC	*1000 V DC*
Rated impulse voltage	16000 V	*12000 V*
Protection (mated)	IP65 / IP68	
Ambient temperature range	-40 … +85 °C	
Upper limiting temperature	105 °C	

Mounting instructions

Wire stripping length		6 … 7.5 mm *0.236 … 0.275 in*
Torque		2 Nm *17.7 lb.in*

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

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PV-BRANCH-F, PV Branch Connector – Female





1SNC160538V0014

PV-BRANCH-F

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Female	PV branch connector	Black ■	PV-BRANCH-F	1SNV420183R0000		20	R 189.79

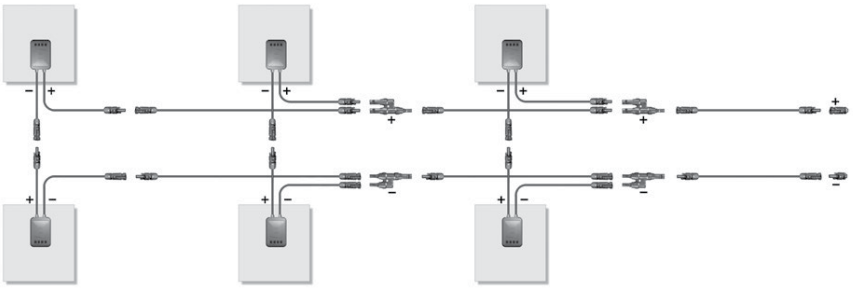
Main technical data

Connecting capacity	IEC	*UL*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	30 A	*50 A*
Rated voltage	1000 V DC	*1500 V DC*
Rated impulse voltage	12000 V	*12000 V*
Protection (mated)	IP67	
Ambient temperature range	-40 … +90 °C	
Upper limiting temperature	105 °C	

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

RoHS RoHS USR EAC

Assembly instructions



Example of PV modules in parallel thanks to branch connectors

PV-BRANCH-F, PV Branch Connector – Male



1SNC160541V0014

PV-BRANCH-M

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Male	PV branch connector	Black ■	PV-BRANCH-M	1SNV420193R0000		20	R 187.10

Main technical data

Connecting capacity	IEC	*UL*
Maximum rated current 4 / 6 mm² - 12 / 10 AWG	30 A	*50 A*
Rated voltage	1000 V DC	*1500 V DC*
Rated impulse voltage	12000 V	*12000 V*
Protection (mated)	IP67	
Ambient temperature range	-40 … +90 °C	
Upper limiting temperature	105 °C	

All other data are provided as supplementary information only. For more details, please consult our certificates and technical datasheet available on http://www.ABB.com

RoHS RoHS USR EAC

MC4-EVo2 PV Accessories



PV-CAP-F



PV-CAP-M

PV-CAP Sealing cap

Description

- *Unmated connectors must be protected from moisture and dirt with a sealing cap,*
- *Full compatibility with all Multi-Contact MC4 family products,*
- *Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,*
- *User manual MA 258.*

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Sealing cap	*For unmated female connectors*	*Black* ■	*PV-CAP-F*	*1SNV420164R0000*		*100*	R 26.11
	For unmated male connectors		*PV-CAP-M*	*1SNV420174R0000*		*100*	R 26.11

6



PV-LOCK

PV-LOCK Lock clip

Description

- *To secure the connection of MC4 panel receptacles and branch connectors (NEC 2011 compliant),*
- *The lock clip is already integrated in the plug connectors,*
- *Can be unlocked with the PV-SPANNER tool,*
- *Full compatibility with all Multi-Contact MC4 family products,*
- *Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,*
- *User manual MA 252.*

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Lock clip	*Nec 2011 compliant*	*Black* ■	*PV-LOCK*	*1SNV420804R0000*		*100*	R 36.10

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MC4-EVo2 PV Tools


1SNC160576F0014

PV-SPANNER

PV-SPANNER Open-end spanners

Description

– To tighten the nuts of plug connectors and panel receptacles,
– To unlock the lock clip and MC4-Evo2 plug connectors (NEC 2011 compliant),
– Full compatibility with all Multi-Contact MC4 family products,
– Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,
– User manual MA 270.

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Open-end spanners	2 in metal	Black-red	PV-SPANNER	1SNV420581R0000		1	R 1,170.62


1SNC160560V0014

PV-TIGHT-TOOL


1SNC160563F0014

PV-SECU-TOOL

PV-WRENCH wrench tool

Description

– To tighten plug connectors and panel receptacles (PV-TIGHT-TOOL),
– To secure the tightening of panel receptacles (PV-SECU-TOOL),
– Full compatibility with all Multi-Contact MC4 family products,
– Use the tools specified by ABB and Multi-Contact to guarantee the connection quality and reliability,
– User manual MA 275.

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Wrench tool	To tighten	Grey	PV-TIGHT-TOOL	1SNV420061R0000		1	R 1,582.66
	To secure	Black	PV-SECU-TOOL	1SNV420261R0000		1	R 1,431.17


1SNC160562F0014

PV-CRIMP-PLUG


1SNC160562F0014

PV-CRIMP-RECEP


1SNC160580V0014

PV-INSERT

PV-CRIMP crimping tool

Description

– For an easy and safe preparation of crimped contacts and cables,
– Crimping tools suitable for 4 ... 6 mm² sections,
– Additional insert to be used for 10 mm² section,
– Crimping is an essential part of connectors' installation: use the crimping tool specified by ABB and Multi-Contact to guarantee the crimping quality and safety,
– User manual MA 251.

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Crimping tool	For plug connectors 4 ... 6 mm²	Blue-black	PV-CRIMP-PLUG	1SNV420411R0000		1	R 11,778.94
	For panel receptacles 4 ... 6 mm²		PV-CRIMP-RECEP	1SNV420191R0000		1	R 11,778.94
	Insert for plug connectors 10 mm²	Black	PV-INSERT	1SNV420421R0000		1	R 5,068.29

MC4 and MC4-Evo2 manufactured by Multi-Contact
All the technical data for UL standard and dimensions in inches are in italic.

Solution Series, Distribution Blocks
DBL Range



The clever distribution concept

The exclusive compact and modular design of our distribution blocks allows easy installation combined with a great flexibility of use.

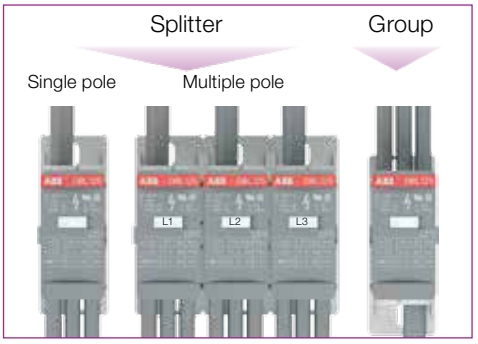


CE RoHS

Improve installation efficiency
Easy to use

The benefit of 3 configurations in 1 product:
- Single pole splitter of power main input into several outputs
- Multiple poles splitter: interlocking function and ready to use marking kit (L1, L2, L3, N, ⏚) delivered with each block.
- Grouping several inputs into 1 output.

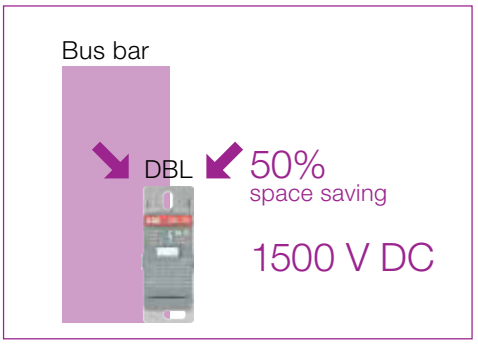
Flexible cover facilitates identification & wiring: Reversible, two directions opening, snap-on, all wiring data's and specifications visible on top.



More control in smaller spaces
Panel space saving

Save up to 50% rail space compared to conventional distribution bars thanks to our modular compact design.

Ready for the future: up to 1500 V DC voltage rating adapted to most recent solar inverter requirements.



Cost effective solution
Increased productivity

Reduce wiring, inventories, hardware and assembly costs:
- Compatible with aluminum or copper conductor
- Stocks 1, product get 3 configurations
- Reduces assembly time by 80% compared to conventional systems. Our modular and touch proof concept eliminates the need for bus bars, isolators, fasteners, protection screens…



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Distribution Terminal Blocks



DBL 80 – Single Pole – 28.4 mm 1.11 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 7 connections	Grey	DBL80	1SNL308010R0000		1	R 125.20



DBL 125 – Single Pole – 28.2 mm 1.11 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 8 connections	Grey	DBL125	1SNL312510R0000		1	R 250.44



DBL 160 – Single Pole – 28.2 mm 1.11 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 8 connections	Grey	DBL160	1SNL316010R0000		1	R 375.64



DBL 175 – Single Pole – 46.2 mm 1.81 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 12 connections	Grey	DBL175	1SNL317510R0000		1	R 482.90



DBL 250 – Single Pole – 46 mm 1.81 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 12 connections	Grey	DBL250	1SNL325010R0000		1	R 635.00



DBL 400 – Single Pole – 46 mm 1.81 in spacing

Ordering details

Description		Color	Type	Order code		Pkg qty	Price
Feed-through	Single pole distribution, 12 connections	Grey	DBL400	1SNL340010R0000		1	R 697.60



Accessories

	Description			Color	Type	Order code		Pkg qty	Price
1	End stops	10 mm	0.394 in	Grey	BAM2	1SNA206351R1600		50	R 20.14
		9 mm	0.354 in		BADL	1SNA399903R0200		50	R 17.94
		12 mm	0.472 in		BADH	1SNA116900R2700		50	R 62.12
2	Terminal block markers	Pre-printed marker card		White	MC512PA	1SNK149002R0000		1	R 68.32
		Blank card			MC512	1SNK140000R0000		22	R 46.96

Complete list of accessories is indicated in the terminal block datasheet including end stops.
Some accessories such as jumper bars may modify the terminal block's ratings: Complete information available in the accessories section of the catalog.

SNK Series

SNK Screw Clamp Terminal





ZS4 4mm 32A Feed through and Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	ZS4		50	R 9.30
Feed-through		Blue	ZS4-BL	1SNK505020R0000	50	R 9.89
Ground	Profile aligned with ZS6	Green-yellow	ZS4-PE	1SNK505150R0000	20	R 37.90
End sections	2.2 mm	Dark grey	ES4	1SNK505910R0000	20	R 5.08
End stops	10 mm	Dark grey	BAM3	1SNK900001R0000	50	R 15.55
Jumper bars	2 poles	Orange	JB5-2	1SNK905302R0000	50	R 12.12
Jumper bars	3 poles	Orange	JB5-3	1SNK905303R0000	50	R 18.17
Jumper bars	4 poles	Orange	JB5-4	1SNK905304R0000	50	R 24.24
Jumper bars	5 poles	Orange	JB5-5	1SNK905305R0000	50	R 30.29
Jumper bars	10 poles	Orange	JB5-10	1SNK905310R0000	30	R 60.60
Jumper bars	50 poles	Orange	JB5-50	1SNK905350R0000	10	R 302.99





ZS6 6mm 41A Feed through and Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	ZS6	1SNK506010R0000	50	R 14.35
Feed-through		Blue	ZS6-BL	1SNK506020R0000	50	R 14.35
Ground	Profile aligned with ZS6	Green-yellow	ZS6-PE	1SNK506150R0000	20	R 42.72
End sections	2.2 mm	Dark grey	ES4	1SNK505910R0000	20	R 5.08
End stops	10 mm	Dark grey	BAM3	1SNK900001R0000	50	R 15.55
Jumper bars	2 poles	Orange	JB6-2	1SNK906302R0000	50	R 13.54
Jumper bars	3 poles	Orange	JB6-3	1SNK906303R0000	50	R 20.30
Jumper bars	4 poles	Orange	JB6-4	1SNK906304R0000	50	R 27.07
Jumper bars	5 poles	Orange	JB6-5	1SNK906305R0000	50	R 33.83
Jumper bars	10 poles	Orange	JB6-10	1SNK906310R0000	20	R 67.67
Jumper bars	50 poles	Orange	JB6-50	1SNK906350R0000	10	R 338.35





ZS10 10mm 57A Feed through and Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	ZS10	1SNK508010R0000	50	R 18.00
Feed-through		Blue	ZS10-BL	1SNK508020R0000	50	R 18.00
Ground	Profile aligned with ZS10	Green-yellow	ZS10-PE	1SNK508150R0000	20	R 46.28
End sections	2.2 mm	Dark grey	ES4	1SNK505910R0000	20	R 5.08
End stops	10 mm	Dark grey	BAM3	1SNK900001R0000	50	R 15.55
Jumper bars	2 poles	Orange	JB8-2	1SNK908302R0000	50	R 16.37
Jumper bars	3 poles	Orange	JB8-3	1SNK908303R0000	50	R 24.54
Jumper bars	4 poles	Orange	JB8-4	1SNK908304R0000	50	R 32.72
Jumper bars	5 poles	Orange	JB8-5	1SNK908305R0000	40	R 40.90
Jumper bars	10 poles	Orange	JB8-10	1SNK908310R0000	20	R 81.81





ZS16 16mm 76A Feed through and Accessories

Description		Color	Type	Order Code	Pkg pce	Price Per Unit Excl. VAT
Feed-through		Grey	ZS16	1SNK510010R0000	25	R 22.34
Feed-through		Blue	ZS16-BL	1SNK510020R0000	25	R 22.34
Ground	Profile aligned with ZS16	Green-yellow	ZS16-PE	1SNK510150R0000	20	R 62.20
End sections	2.2 mm	Dark grey	ES4	1SNK505910R0000	20	R 5.08
End stops	10 mm	Dark grey	BAM3	1SNK900001R0000	50	R 15.55
Jumper bars	2 poles	Orange	JB10-2	1SNK910302R0000	50	R 24.24
Jumper bars	3 poles	Orange	JB10-3	1SNK910303R0000	50	R 36.36
Jumper bars	4 poles	Orange	JB10-4	1SNK910304R0000	40	R 48.48
Jumper bars	5 poles	Orange	JB10-5	1SNK910305R0000	30	R 60.60
Jumper bars	10 poles	Orange	JB10-10	1SNK910310R0000	20	R 121.20

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SNK Series

SNK Screw Clamp Terminal



ZS25 25mm 101A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	ZS25	1SNK512010R0000	25	R 25.36
Feed-through		Blue	ZS25-BL	1SNK512020R0000	25	R 25.87
Ground	Profile aligned with ZS25	Green-yellow	ZS25-PE	1SNK512150R0000	20	R 72.01
End sections	2.2 mm	Dark grey	ES4	1SNK505910R0000	20	R 5.08
End stops	10 mm	Dark grey	BAM3	1SNK900001R0000	50	R 15.55
Jumper bars	2 poles	Orange	JB12-2	1SNK912302R0000	50	R 27.63
Jumper bars	3 poles	Orange	JB12-3	1SNK912303R0000	50	R 41.45
Jumper bars	5 poles	Orange	JB12-5	1SNK912305R0000	20	R 69.08



ZS35 35mm 125A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block	Grey	ZS35	1SNK516010R0000	20	R 44.21
Feed-through		Blue	ZS35-BL	1SNK516020R0000	20	R 48.06
Ground	Profile aligned with ZS35	Green-yellow	ZS35-PE	1SNK516150R0000	20	R 73.91
End stops	10 mm	Dark grey	BAZH1	1SNK900102R0000	20	R 33.33
Jumper bars	2 poles	Orange	JB16-2	1SNK916302R0000	10	R 41.61
Jumper bars	3 poles	Orange	JB16-3	1SNK916303R0000	10	R 62.42
Jumper bars	4 poles	Orange	JB16-4	1SNK916304R0000	10	R 83.23
Jumper bars	5 poles	Orange	JB16-5	1SNK916305R0000	10	R 104.04
Jumper bars	10 poles	Orange	JB16-10	1SNK916310R0000	10	R 249.68



ZS70 70mm 192A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block	Grey	ZS70	1SNK522010R0000	10	R 152.97
Feed-through		Blue	ZS70-BL	1SNK522020R0000	10	R 152.97
Ground	Profile aligned with ZS70	Green-yellow	ZS70-PE	1SNK522150R0000	10	R 300.55
End stops	10 mm	Dark grey	BAZH1	1SNK900102R0000	20	R 33.33
Jumper bars	2 poles	Orange	JB22-2	1SNK922302R0000	5	R 98.98
Jumper bars	10 poles	Orange	JB22-10	1SNK922310R0000	5	R 393.00



ZS95 95mm 232A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block	Grey	ZS95	1SNK526010R0000	10	R 229.47
Feed-through		Blue	ZS95-BL	1SNK526020R0000	10	R 229.47
Ground	Profile aligned with ZS95	Green-yellow	ZS95-PE	1SNK526150R0000	10	R 394.64
End stops	16 mm	Dark grey	BAZH1	1SNK900102R0000	20	R 33.33
Jumper bars	2 poles	Orange	JB26-2	1SNK926302R0000	5	R 148.48
Jumper bars	2 poles	Orange	JB26-2	1SNK926302R0000	5	R 148.48
Jumper bars	3 poles	Orange	JB26-3	1SNK926303R0000	5	R 222.71
Jumper bars	10 poles	Orange	JB26-10	1SNK926310R0000	5	R 890.00



ZS4 2 Double Deck 4mm 32A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Double deck	2 feed-through circuits	Grey	ZS4-D2	1SNK505210R0000	50	R 27.62
Double deck		Blue	ZS4-D2-BL	1SNK505220R0000	50	R 27.62
End sections	2.55 mm	Dark grey	ES4-D2	1SNK505960R0000	20	R 16.16
End stops	10 mm	Dark grey	BAZH1	1SNK900002R0000	20	R 20.20
Jumper bars	2 poles	Orange	JB5-2	1SNK905302R0000	50	R 12.12
Jumper bars	3 poles	Orange	JB5-3	1SNK905303R0000	50	R 18.17
Jumper bars	4 poles	Orange	JB5-4	1SNK905304R0000	50	R 24.24
Jumper bars	5 poles	Orange	JB5-5	1SNK905305R0000	50	R 30.29
Jumper bars	10 poles	Orange	JB5-10	1SNK905310R0000	30	R 60.60
Jumper bars	50 poles	Orange	JB5-50	1SNK905350R0000	10	R 302.99

SNK Series

SNK Screw Clamp Terminal

ZS6 2 Double Deck 6mm 41A Feed through & Accessories





Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Double deck	2 feed-through circuits	Grey	ZS6-D2	1SNK506210R0000	50	R 32.36
Double deck		Blue	ZS6-D2-BL	1SNK506220R0000	50	R 32.36
Double deck	1 ground circuit	Green-yellow	ZS6-D1-PE	1SNK506250R0000	50	R 32.36
End sections	2.55 mm	Dark grey	ES4-D2	1SNK505960R0000	20	R 16.16
End stops	5.2 mm	Dark grey	BAZ1	1SNK900002R0000	50	R 20.20
Jumper bars	2 poles	Orange	JB6-2	1SNK906302R0000	50	R 13.54
Jumper bars	3 poles	Orange	JB6-3	1SNK906303R0000	50	R 20.30
Jumper bars	4 poles	Orange	JB6-4	1SNK906304R0000	50	R 27.07
Jumper bars	5 poles	Orange	JB6-5	1SNK906305R0000	50	R 33.83
Jumper bars	10 poles	Orange	JB6-10	1SNK906310R0000	20	R 67.67
Jumper bars	50 poles	Orange	JB6-50	1SNK906350R0000	10	R 338.35

Fuse and Disconnect Terminals







Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	Profile aligned with ZS4	Grey	ZS4-S	1SNK505310R0000	50	R 32.36
Disconnect		Blue	ZS4-S-BL	1SNK505320R0000	50	R 32.36
Disconnect	Profile aligned with ZS4-SF	Grey	ZS4-S-R1	1SNK506310R0000	50	R 48.54
Fuses		Grey-dark grey	ZS4-SF	1SNK506410R0000	50	R 53.88
Fuses	With blown fuse indicator 24 ... 110 V AC / DC	Grey-dark grey	ZS4-SF-R1	1SNK506412R0000	50	R 131.05
Fuses	With blown fuse indicator 115 ... 250 V AC / DC	Grey-dark grey	ZS4-SF-R3	1SNK506415R0000	50	R 131.05
End sections	1.5 mm	Dark grey	ES4-SF	1SNK508960R0000	20	R 6.07
Fuses		Grey-dark grey	ZS4-SF1	1SNK508410R0000	50	R 39.26
Fuses	With blown fuse indicator 24 ... 110 V AC / DC	Grey-dark grey	ZS4-SF1-R1	1SNK508412R0000	50	R 116.43
Fuses	With blown fuse indicator 115 ... 250 V AC / DC	Grey-dark grey	ZS4-SF1-R3	1SNK508414R0000	50	R 116.43
Double deck	1 fuse circuit and 1 feed-through circuit	Grey, dark grey	ZS4-D2-SF1	1SNK508425R0000	50	R 70.34
Double deck	1 fuse circuit with blown fuse indicator 24 ... 110 V AC / DC and 1 feed-through circuit	Grey, dark grey	ZS4-D2-SF1-R1	1SNK508423R0000	50	R 148.34
Double deck	1 fuse circuit with blown fuse indicator 115 ... 250 V AC / DC and 1 feed-through circuit	Grey, dark grey	ZS4-D2-SF1-R3	1SNK508424R0000	50	R 148.34
End sections	2.5 mm	Dark grey	ES4-D2-SF1	1SNK508911R0000	20	R 16.16

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SNK Series

SNK PI Push-in Terminal





ZK2.5 PI 2.5mm 24A Feed Through Terminal

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 connections	Grey	ZK2.5	1SNK705010R0000	50	R 8.01
eed-through		Blue	ZK2.5-BL	1SNK705020R0000	50	R 8.34
Ground	Profile aligned with ZK2.5	Green-yellow	ZK2.5-PE	1SNK705150R0000	20	R 28.20
End sections	2 mm	Dark grey	EK2.5	1SNK705910R0000	20	R 7.47
Feed-through	3 connections	Grey	ZK2.5-3P	1SNK705011R0000	50	R 9.98
Ground	Profile aligned with ZK2.5-3P	Green-yellow	ZK2.5-PE-3P	1SNK705151R0000	20	R 33.81
End sections	2 mm	Dark grey	EK2.5-3P	1SNK705911R0000	20	R 8.98
Feed-through	4 connections	Grey	ZK2.5-4P	1SNK705012R0000	50	R 12.74
Ground	Profile aligned with ZK2.5-4P	Green-yellow	ZK2.5-PE-4P	1SNK705152R0000	20	R 43.32
End sections	2 mm	Dark grey	EK2.5-4P	1SNK705912R0000	20	R 8.98
End stops	End stops	Dark grey	BAZ1	1SNK900002R0000	20	R 20.20
Jumper bars	2 poles	Orange	JB5-2	1SNK905302R0000	50	R 12.12
Jumper bars	3 poles	Orange	JB5-3	1SNK905303R0000	50	R 18.17
Jumper bars	4 poles	Orange	JB5-4	1SNK905304R0000	50	R 24.24
Jumper bars	5 poles	Orange	JB5-5	1SNK905305R0000	50	R 30.29
Jumper bars	10 poles	Orange	JB5-10	1SNK905310R0000	30	R 60.60
Jumper bars	50 poles	Orange	JB5-50	1SNK905350R0000	10	R 302.99





ZK4 PI 4mm 32A Feed Through Terminal

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 connections	Grey	ZK4	1SNK706010R0000	50	R 9.88
Ground	Profile aligned with ZK4	Green-yellow	ZK4-PE	1SNK706150R0000	20	R 30.71
End sections	2 mm	Dark grey	EK2.5	1SNK705910R0000	20	R 7.47
Feed-through	3 connections	Grey	ZK4-3P	1SNK706011R0000	50	R 13.09
Ground	Profile aligned with ZK4-3P	Green-yellow	ZK4-PE-3P	1SNK706151R0000	20	R 39.27
End sections	2 mm	Dark grey	EK2.5-3P	1SNK705911R0000	20	R 8.98
Feed-through	4 connections	Grey	ZK4-4P	1SNK706012R0000	50	R 16.79
Ground	Profile aligned with ZK4-4P	Green-yellow	ZK4-PE-4P	1SNK706152R0000	20	R 52.46
End sections	2 mm	Dark grey	EK2.5-4P	1SNK705912R0000	20	R 8.98
End stops	5.2 mm	Dark grey	BAZ1	1SNK900002R0000	50	R 16.77
Jumper bars	2 poles	Orange	JB6-2	1SNK906302R0000	50	R 13.54
Jumper bars	3 poles	Orange	JB6-3	1SNK906303R0000	50	R 20.30
Jumper bars	4 poles	Orange	JB6-4	1SNK906304R0000	50	R 27.07
Jumper bars	5 poles	Orange	JB6-5	1SNK906305R0000	50	R 33.83
Jumper bars	10 poles	Orange	JB6-10	1SNK906310R0000	20	R 67.67
Jumper bars	50 poles	Orange	JB6-50	1SNK906350R0000	10	R 338.35





ZK6 PI 6mm 41mm Feed Through Terminal

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 connections	Grey	ZK6	1SNK708010R0000	50	R 14.75
Ground	Profile aligned with ZK6	Green-yellow	ZK6-PE	1SNK708150R0000	20	R 38.87
End sections	2 mm	Dark grey	EK2.5	1SNK705910R0000	20	R 7.47
End sections	2 mm	Dark grey	EK6-3P	1SNK708911R0000	20	R 9.44
Ground	Profile aligned with ZK6-3P	Green-yellow	ZK6-PE-3P	1SNK708151R0000	20	R 52.81
End sections	2 mm	Dark grey	EK6-3P	1SNK705911R0000	20	R 8.98
End stops	5.2 mm	Dark grey	BAZ1	1SNK900002R0000	50	R 20.20
Jumper bars	2 poles	Orange	JB8-2	1SNK908302R0000	50	R 16.37
Jumper bars	3 poles	Orange	JB8-3	1SNK908303R0000	50	R 24.54
Jumper bars	4 poles	Orange	JB8-4	1SNK908304R0000	50	R 32.72
Jumper bars	5 poles	Orange	JB8-5	1SNK908305R0000	40	R 40.90
Jumper bars	10 poles	Orange	JB8-10	1SNK908310R0000	20	R 81.81

* ***Note:*** *Coloured Terminals available on request*

SNK Series

SNK PI Push-in Terminal





ZK10 PI 10mm 57A Feed Through Terminal

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 connections	Grey	ZK10	1SNK710010R0000	20	R 21.62
Ground	Profile aligned with ZK10	Green-yellow	ZK10-PE	1SNK710150R0000	20	R 52.66
End sections	2 mm	Dark grey	EK10	1SNK710910R0000	20	R 9.44
End stops	5.2 mm	Dark grey	BAZ1	1SNK900002R0000	20	R 20.20
Jumper bars	2 poles	Orange	JB10-2	1SNK910302R0000	50	R 24.24
Jumper bars	3 poles	Orange	JB10-3	1SNK910303R0000	50	R 36.36
Jumper bars	4 poles	Orange	JB10-4	1SNK910304R0000	40	R 48.48
Jumper bars	5 poles	Orange	JB10-5	1SNK910305R0000	30	R 60.60
Jumper bars	10 poles	Orange	JB10-10	1SNK910310R0000	20	R 121.20





ZS16 16mm 76A Feed through Terminal

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 connections	Grey	ZK16	1SNK712010R0000	20	R 25.49
Ground	Profile aligned with ZK16	Green-yellow	ZK16-PE	1SNK712150R0000	20	R 63.69
End sections	2 mm	Dark grey	EK2.5	1SNK705910R0000	20	R 7.47
End stops	5.2 mm	Dark grey	BAZ1	1SNK900002R0000	20	R 20.20
Jumper bars	2 poles	Orange	JB12-2	1SNK912302R0000	50	R 27.63
Jumper bars	3 poles	Orange	JB12-3	1SNK912303R0000	50	R 41.45
Jumper bars	5 poles	Orange	JB12-5	1SNK912305R0000	20	R 69.08





Fuse and Disconnect Terminals

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	with 2 test sockets DIA 2 mm 0.079 in	Grey	ZK2.5-S	1SNK705310R0000	50	R 28.37
End sections	2 mm	Dark grey	EK2.5-3P	1SNK705911R0000	20	R 8.98
Disconnect	Profile aligned with ZK2.5-SF	Grey	ZK2.5-S-R1	1SNK706310R0000	50	R 69.30
End sections	2 mm	Dark grey	EK2.5-3P	1SNK705911R0000	20	R 8.98
Fuse		Grey, dark grey	ZK2.5-SF	1SNK706410R0000	50	R 33.92
Fuse	with blown fuse indicator 24 ... 110 V AC / DC	Grey, dark grey	ZK2.5-SF-R1	1SNK706411R0000	50	R 91.79
Fuse	with blown fuse indicator 115 ... 250 V AC / DC	Grey, dark grey	ZK2.5-SF-R3	1SNK706412R0000	50	R 91.79
End sections	2 mm	Dark grey	EK2.5-3P	1SNK705911R0000	20	R 8.98



ZS4 Double Deck 4mm 32A Feed through & Accessories

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Double deck	2 feed-through circuits	Grey	ZK2.5-D2	1SNK705210R0000	50	R 20.15
Double deck	1 feed-through circuit and 1 ground circuit	Grey, green-yellow	ZK2.5-D2-PE	1SNK705212R0000	20	R 71.46
End sections	2 mm	Dark grey	EK2.5-D2	1SNK705960R0000	20	R 16.16

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SNK Series
SNK Screw Accessories

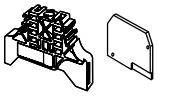
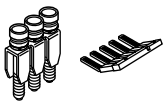


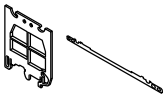
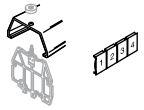




Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Terminal block markers	Blank card	White	MC512	1SNK140000R0000	22	R 46.86
Terminal block markers	Blank card	White	MC612	1SNK150000R0000	22	R 39.14
Terminal block markers	Blank card	White	MC812	1SNK160000R0000	22	R 39.14
Terminal block markers	Universal wire markers holder	Grey	UMH	1SNK900611R0000	10	R 10.68
Label holder	10 mm *0.394 in* width	Dark grey	LH	1SNK900605R0000	50	R 5.96
for LH label holder	36	White	MCLH	1SNK900630R0000	25	R 221.48
Label holder	19.5 mm *0.768 in* width		LH-R1	1SNK900607R0000	50	R 9.64
for LH-R1 label holder	15	White	MCLH-R1	1SNK900631R0000	25	R 318.00
Danger Sign	5.2 mm 0.205 in spacing	Transparent	PL5	1SNK900618R0000	10	R 23.24
Danger sign	6 mm 0.236 in spacing	Transparent	PL6	1SNK900619R0000	10	R 25.61
Danger sign	8 mm 0.315 in spacing	Transparent	PL8	1SNK900620R0000	10	R 28.46
Danger sign	10 mm 0.394 in spacing	Transparent	PL10	1SNK900621R0000	10	R 30.12
Danger sign	16 mm 0.630 in spacing	Transparent	PL16	1SNK900622R0000	10	R 32.02
CO protecting covers	1 m *39.4 in* length	Transparent	CO	1SNK900604R0000	1	R 252.50
Circuit separators	0 mm 0 in spacing	Dark grey	CS	1SNK900101R0000	20	R 4.65
Circuit separators	3 mm *0.118 in* spacing	Dark grey	CS-R1	1SNK900103R0000	20	R 15.15
Circuit separators	3 mm 0.118 in spacing	Dark grey	CS-R2	1SNK900106R0000	20	R 15.15
Circuit separators	3 mm 0.118 in spacing	Dark grey	CS-R3	1SNK900107R0000	20	R 15.15
Components in series with circuit		Dark grey	PG5	1SNK900401R0000	20	R 33.33
Disconnect Plugs	Equipped with linking bar	Orange	PG5-R1	1SNK900402R0000	20	R 27.27
Test connectors	5.2 mm *0.205 in* spacing	Dark grey	TC5	1SNK900200R0000	10	R 78.78

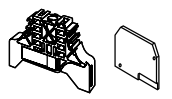
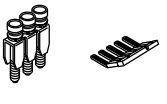
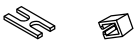
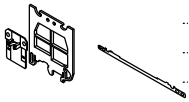
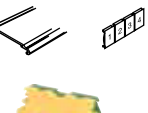
SNA Series
Screw Clamp Terminal Blocks


MA2.5/5 Screw Clamp Terminal Blocks
Feed-through - 5 mm 0.197 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	MA2.5/5	1SNA115486R0300	50	R 10.44
Feed-through		Blue	MA2.5/5.N	1SNA125486R0500	50	R 17.16
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Jumper bars	2 poles		BJMI5-2	1SNA176278R1600	10	R 16.85
Jumper bars	3 poles		BJMI5-3	1SNA176279R1700	10	R 25.28
Jumper bars	4 poles		BJMI5-4	1SNA176280R0500	10	R 33.71
Jumper bars	5 poles		BJMI5-5	1SNA176281R2200	10	R 42.13
Jumper bars	10 poles		BJMI5-10	1SNA176282R2300	10	R 106.88
Lateral jumper bars	2 poles	Grey	PC5-2	1SNA113542R1000	10	R 27.75
Lateral jumper bars	10 poles	Grey	PC5-10	1SNA113544R1200	10	R 51.10
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Insulating tips	For lateral jumper bars type PC...		EIP	1SNA113550R2400	10	R 45.70
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators	0 mm	Grey	SCMA5	1SNA116728R2500	10	R 6.63
Circuit separators	3 mm	Grey	SCFCV1-2	1SNA116795R1100	10	R 50.31
Circuit separators		Grey	SCF6	1SNA118707R0300	20	R 5.44
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Protecting covers	Length 1 m 39 in	Transparent	CPV1-2	1SNA176816R1200	1	R 323.28
Protecting covers	Length 500 mm 19.70 in	Transparent	CPM	1SNA187312R1400	1	R 98.31
Terminal block markers	Blank card	White	RC510	1SNA231000R0700	1	R 31.72
Ground	Profile aligned with MA2.5/5...	Green-yellow	MA2.5/5.P	1SNA165488R2700	50	R 62.65


M4/6 Screw Clamp Terminal Blocks
Feed-through - 6 mm 0.236 in Spacing

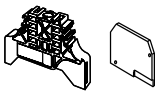
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	M4/6	1SNA115116R0700	50	R 10.44
Feed-through		Blue	M4/6.N	1SNA125116R0100	50	R 17.50
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm		BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Jumper bars	2 poles		BJMI6-2	1SNA176663R0000	10	R 21.81
Jumper bars	3 poles		BJMI6-3	1SNA176664R0100	10	R 25.79
Jumper bars	4 poles		BJMI6-4	1SNA176665R0200	10	R 34.39
Jumper bars	5 poles		BJMI6-5	1SNA176666R0300	10	R 42.99
Jumper bars	10 poles		BJMI6-10	1SNA176667R0400	10	R 109.04
Lateral jumper bars	2 poles	Grey	PC6-2	1SNA113546R1400	10	R 28.33
Lateral jumper bars	10 poles		PC6-10	1SNA113548R2600	10	R 52.13
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Cross spacing jumpers	Universal screw jumper bar kit N°I		BJDP1	1SNA179623R0300	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°III		BJDP3	1SNA179625R0500	10	R 42.16
Insulating tips	For lateral jumper bars type PC...		EIP	1SNA113550R2400	10	R 45.70
Circuit separators	0 mm	Grey	SCM6	1SNA113003R1000	10	R 8.40
Circuit separators	3 mm		SCF6	1SNA118707R0300	20	R 5.44
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Protecting covers	Length 500 mm 19.70 in	Transparent	CPM	1SNA187312R1400	1	R 98.31
Terminal block markers	Blank card	White	RC610	1SNA233000R0100	1	R 30.67
Ground	Profile aligned with M4/6...	Green-yellow	M4/6.P	1SNA165113R1600	50	R 49.50

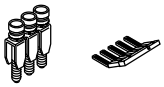
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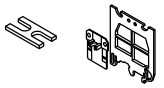
SNA Series
Screw Clamp Terminal Blocks



M6/8 Screw Clamp Terminal Blocks
Feed-through - 8 mm 0.315 in Spacing







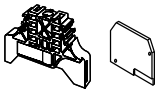


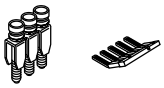


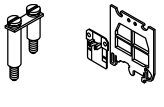
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Feed-through		Grey	M6/8	1SNA115118R1100	50	R 17.71
Feed-through		Blue	M6/8.N	1SNA125118R1300	50	R 21.81
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Jumper bars	2 poles		BJMI8-2	1SNA176669R1600	10	R 23.21
Jumper bars	3 poles		BJMI8-3	1SNA176670R1300	10	R 34.82
Jumper bars	4 poles		BJMI8-4	1SNA176671R0000	10	R 46.42
Jumper bars	5 poles		BJMI8-5	1SNA176672R0100	10	R 58.03
Jumper bars	10 poles		BJMI8-10	1SNA176673R0200	10	R 228.89
Lateral jumper bars	2 poles		PC8-2	1SNA116538R1700	10	R 38.24
Lateral jumper bars	10 poles		PC8-10	1SNA163313R2400	10	R 85.96
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Cross spacing jumpers	Universal screw jumper bar kit N°I		BJDP1	1SNA179623R0300	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°III		BJDP3	1SNA179625R0500	10	R 42.16
Circuit separators	0 mm	Grey	SCM6	1SNA113003R1000	10	R 8.40
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators		Grey	SCFCV1-2	1SNA116795R1100	10	R 50.31
Circuit separators		Grey	SCF6	1SNA118707R0300	20	R 5.44
Protecting covers	Length 1 m 39 in	Transparent	CPV1-2	1SNA176816R1200	1	R 323.28
Protecting covers	Length 500 mm 19.70 in	Transparent	CPM	1SNA187312R1400	1	R 98.31
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67
Ground	Profile aligned with M6/8...	Green-yellow	M6/8.P	1SNA165114R1700	50	R 76.37



M10/10 Screw Clamp Terminal Blocks
Feed-through - 10 mm 0.394 in Spacing





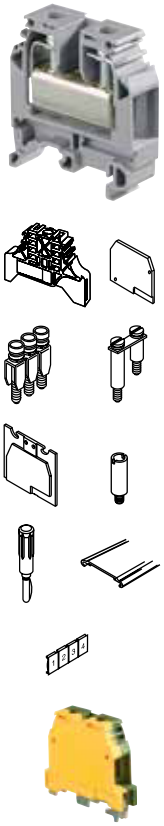






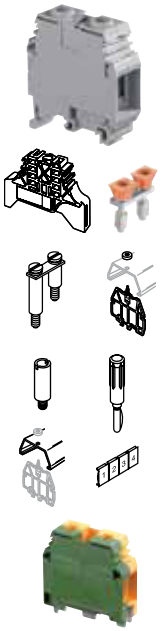
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through		Grey	M10/10	1SNA115120R1700	50	R 23.53
Feed-through		Blue	M10/10.N	1SNA125120R1100	50	R 20.14
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 4.96
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Jumper bars	2 poles		BJMI10-2	1SNA176675R0400	50	R 43.85
Jumper bars	3 poles		BJMI10-3	1SNA176676R0500	10	R 58.46
Jumper bars	4 poles		BJMI10-4	1SNA176677R0600	10	R 73.08
Jumper bars	5 poles		BJMI10-5	1SNA176678R1700	10	R 146.15
Jumper bars	10 poles		BJMI10-10	1SNA176679R1000	10	R 88.63
Lateral jumper bars	10 poles		PC10-10	1SNA163315R2600	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°I		BJDP1	1SNA179623R0300	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°III		BJDP3	1SNA179625R0500	10	R 42.16
Circuit separators	0 mm	Grey	SCM6	1SNA113003R1000	10	R 8.40
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators		Grey	SCFCV1-2	1SNA116795R1100	10	R 50.31
Circuit separators		Grey	SCF6	1SNA118707R0300	20	R 5.44
Protecting covers	Length 1 m 39 in	Transparent	CPV1-2	1SNA176816R1200	1	R 323.28
Protecting covers	Length 500 mm 19.70 in	Transparent	CPM	1SNA187312R1400	1	R 98.31
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40
Ground	Profile aligned with M10/10...	Green-yellow	M10/10.P	1SNA165115R1000	50	R 76.37

SNA Series
Screw Clamp Terminal Blocks



M16/12 Screw Clamp Terminal Blocks
Feed-through - 12 mm 0.472 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	With partition	Grey	M16/12	1SNA115129R1400	20	R 39.11
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	3 mm	Grey	FEM12	1SNA118618R0100	20	R 5.49
Jumper bars	2 poles		BJMI12-2	1SNA179626R0600	10	R 45.22
Jumper bars	3 poles		BJMI12-3	1SNA179628R1000	10	R 67.83
Jumper bars	4 poles		BJMI12-4	1SNA179629R1100	10	R 90.44
Jumper bars	5 poles		BJMI12-5	1SNA179630R1600	10	R 113.05
Jumper bars	10 poles		BJMI12-10	1SNA179631R0300	10	R 226.10
Cross spacing jumpers	Universal screw jumper bar kit N°II		BJDP2	1SNA179624R0400	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°III		BJDP3	1SNA179625R0500	10	R 42.16
Circuit separators	3 mm	Grey	SCF12	1SNA113102R1000	20	R 16.62
Circuit separators		Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators		Grey	SCFCV1-2	1SNA116795R1100	10	R 50.31
Test sockets	DIA 2 mm 0.079 in		AL2	1SNA163043R2100	50	R 7.52
Test sockets	DIA 3 mm 0.120 in		AL3	1SNA163261R0000	50	R 6.45
Test sockets	DIA 4 mm 0.157 in		AL4-M3	1SNA206721R0100	50	R 47.95
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Test plugs	DIA 4 mm 0.157 in	White	FC4	1SNA167860R0100	10	R 75.39
Protecting covers	Length 1 m 39 in	Transparent	CPV1-2	1SNA176816R1200	1	R 323.28
Protecting covers	Length 500 mm 19.70 in	Transparent	CPM	1SNA187312R1400	1	R 98.31
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40
Ground	Profile aligned with M16/12...	Green-yellow	M16/12.P	1SNA165130R2300	20	R 116.68

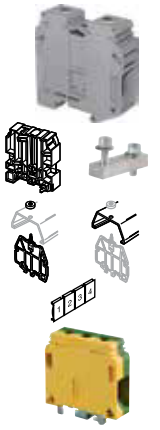


M35/16 Screw Clamp Terminal Blocks
Feed-through - 16 mm 0.630 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block with partition	Grey	M35/16	1SNA115124R0700	20	R 49.08
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
Jumper bars	2 poles	Orange	BYMI16	1SNA206217R000	10	R 41.61
Jumper bars	3 poles	Orange	BYMI16	1SNA206218R1100	10	R 62.42
Jumper bars	4 poles	Orange	BYMI16	1SNA206219R1200	10	R 83.23
Jumper bars	5 poles	Orange	BYMI16	1SNA206220R1700	10	R 104.04
Jumper bars	10 poles	Orange	BYMI16	1SNA206221R10400	10	R 316.02
Cross spacing jumpers	Universal screw jumper bar kit N°I		BJDP1	1SNA179623R0300	10	R 34.47
Cross spacing jumpers	Universal screw jumper bar kit N°II		BJDP2	1SNA179624R0400	10	R 34.47
Circuit separators	3 mm	Grey	SCFCV1-2	1SNA116795R1100	10	R 50.31
Test sockets	DIA 4 mm 0.157 in		AL4-M4	1SNA206723R0300	50	R 17.73
Test plugs	DIA 4 mm 0.157 in	White	FC4	1SNA167860R0100	10	R 75.39
Protecting covers	Length 1 m 39 in	Transparent	CPV1-2	1SNA176816R1200	1	R 323.28
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40
Ground	Profile aligned with M35/16...	Green-yellow	M35/16.P	1SNA165111R1400	20	R 127.26

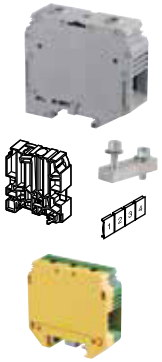
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SNA Series
Screw Clamp Terminal Blocks



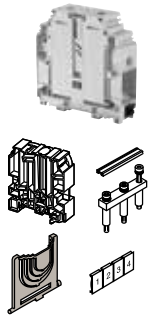
D70/22 Screw Clamp Terminal Blocks
Feed-through - 22 mm 0.866 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block	Grey	D70/22	1SNA400305R1000	10	R 245.47
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		JB22-2	1SNK922302R0000	5	R 98.98
Jumper bars	3 poles		JB22-3	1SNK922303R0000	5	R 148.48
Jumper bars	5 poles		JB22-5	1SNK922305R0000	5	R 247.45
Jumper bars	10 poles		JB22-10	1SNK922310R0000	5	R 704.93
Circuit separators	3 mm	Grey	SCFCV4	1SNA116797R1300	10	R 44.15
Protecting covers	Transparent, length 1 m 39 in	Transparent	CPV4-5	1SNA176791R2100	1	R 443.91
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40
Ground	Profile aligned with D70/22...	Green-yellow	D70/22.P	1SNA400772R1300	10	R 615.97



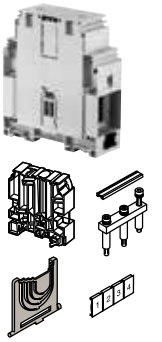
D95/26 Screw Clamp Terminal Blocks
Feed-through - 26 mm 1.024 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block with partition	Grey	D95/26	1SNA400370R2400	10	R 515.40
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		JB26-2	1SNK926302R0000	5	R 148.48
Jumper bars	3 pole		JB26-3	1SNK926303R0000	5	R 222.71
Jumper bars	5 poles		JB26-5	1SNK926305R0000	5	R 371.17
Jumper bars	10 poles		JB26-10	1SNK926310R0000	5	R 1,539.30
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40
Ground	Profile aligned with D95/26...	Green-yellow	D95/26.P	1SNA400620R1700	10	R 690.73



D150/31.D10 Screw Clamp Terminal Blocks
Feed-through - 31 mm 1.220 in Spacing

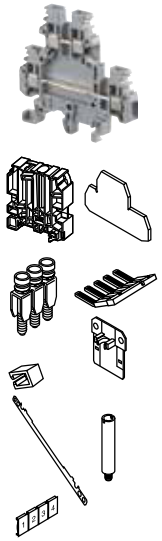
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block with 2 x 10 mm² derivations.	Grey	D150/31.D10	1SNA399715R0400	5	R 528.29
End stops	Tall end stop	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJMI31.2	1SNA206053R0700	1	R 604.25
Jumper bars	3 poles		BJMI31.3	1SNA206054R0000	1	R 906.38
Protecting covers			CPBP1	1SNA399788R1600	20	R 8.66
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40



D240/36.D10 Screw Clamp Terminal Blocks
Feed-through - 36 mm 1.417 in Spacing

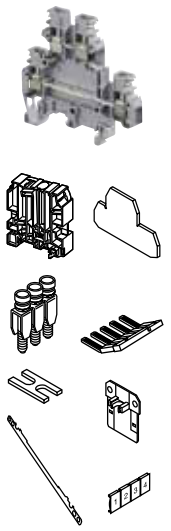
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	Closed block with 2 x 10 mm² derivations.	Grey	D240/36.D10	1SNA399704R1200	5	R 637.05
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJMI36.2	1SNA206126R2500	1	R 728.46
Jumper bars	3 poles		BJMI36.3	1SNA206223R0600	1	R 1,092.70
Protecting covers			CPBP2	1SNA399787R0500	20	R 8.66
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40

SNA Series
Screw Clamp Terminal Blocks



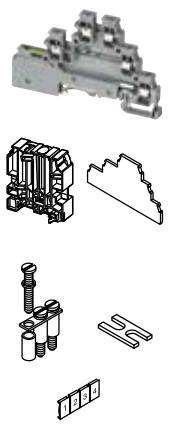
MA2.5/5.D2 Screw Clamp Terminal Blocks
Double deck - 5 mm 0.197 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 feed-through circuits	Grey	MA2.5/5.D2	1SNA115490R1300	50	R 40.74
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
End sections	1 mm	Grey	FEM6D	1SNA118499R2300	20	R 56.23
Jumper bars	2 poles		BJMI5D-2	1SNA176736R2100	10	R 28.91
Jumper bars	3 poles		BJMI5D-3	1SNA176737R2200	10	R 38.86
Jumper bars	4 poles		BJMI5D-4	1SNA176738R0300	10	R 47.99
Jumper bars	5 poles		BJMI5D-5	1SNA176739R0400	10	R 58.00
Jumper bars	10 poles		BJMI5D-10	1SNA176740R1100	10	R 134.54
Lateral jumper bars	2 poles	Grey	PC5-2	1SNA113542R1000	10	R 27.75
Lateral jumper bars	10 poles	Grey	PC5-10	1SNA113544R1200	10	R 51.10
Insulating tips	For lateral jumper bars type PC...		EIP	1SNA113550R2400	10	R 45.70
Circuit separators	0 mm	Grey	SCMA5D	1SNA116720R2100	10	R 6.63
Shield connectors			CBM5D	1SNA173530R2400	50	R 27.01
Inner deck jumper bars			ITV5	1SNA176259R1300	20	R 41.61
Terminal block markers	Blank card	White	RC510	1SNA231000R0700	1	R 30.67



M4/6.D2 Screw Clamp Terminal Blocks
Double deck - 6 mm 0.236 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 feed-through circuits	Grey	M4/6.D2	1SNA115271R2200	50	R 62.19
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
End sections	1 mm	Grey	FEM6D	1SNA118499R2300	20	R 56.23
Jumper bars	2 poles		BJMI6D-2	1SNA179668R2000	10	R 25.29
Jumper bars	3 poles		BJMI6D-3	1SNA179669R2100	10	R 32.89
Jumper bars	4 poles		BJMI6D-4	1SNA179670R2600	10	R 43.41
Jumper bars	5 poles		BJMI6D-5	1SNA179671R1300	10	R 54.90
Jumper bars	10 poles		BJMI6D-10	1SNA179672R1400	10	R 114.94
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Circuit separators	0 mm	Grey	SCM6D	1SNA113482R0500	10	R 6.63
Circuit separators	1 mm	Grey	SCF6D	1SNA118495R1700	20	R 16.32
Shield connectors			CBM5D	1SNA173530R2400	50	R 27.01
Terminal block markers	Blank card	White	RC610	1SNA233000R0100	1	R 31.72

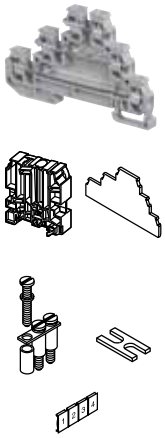


D2.5/6.DP Screw Clamp Terminal Blocks
Double deck + ground - 6 mm 0.236 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through + ground	For 2 wires sensor with ground - 2 feed-through circuits - 1 ground circuit	Grey, Green-Yellow	D2.5/6.DPA1	1SNA115643R2700	25	R 122.10
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
End sections	3 mm	Grey	FED3E	1SNA116771R2000	20	R 12.56
Jumper bars	2 poles		BJD6	1SNA178024R2500	10	R 21.91
Jumper bars	3 poles			1SNA178025R2600	10	R 33.00
Jumper bars	4 poles			1SNA178026R2700	10	R 30.46
Jumper bars	5 poles			1SNA178027R2000	10	R 37.21
Jumper bars	10 poles			1SNA178032R2500	10	R 68.92
Jumper bars	20 poles			1SNA178033R2600	5	R 162.40
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL61	1SNA177812R1700	10	R 17.66
Terminal block markers	Blank card	White	RC65	1SNA232000R0000	1	R 18.47

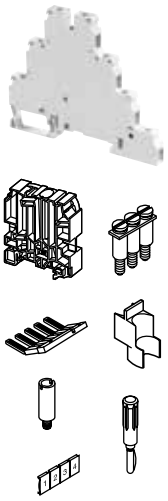
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SNA Series
Screw Clamp Terminal Blocks



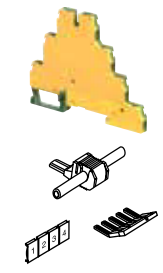
D2.5/6.DA Screw Clamp Terminal Blocks
Triple deck - 6 mm 0.236 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	For 3 wires sensor - 3 feed-through circuits	Grey	D2.5/6.DA	1SNA115541R1100	25	R 98.55
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
End sections	3 mm	Grey	FED3E	1SNA116771R2000	20	R 12.56
Jumper bars	2 poles		BJD6	1SNA178024R2500	10	R 21.91
Jumper bars	3 poles			1SNA178025R2600	10	R 33.00
Jumper bars	4 poles			1SNA178026R2700	10	R 30.46
Jumper bars	5 poles			1SNA178027R2000	10	R 37.21
Jumper bars	10 poles			1SNA178032R2500	10	R 68.92
Jumper bars	20 poles			1SNA178033R2600	5	R 162.40
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL61	1SNA177812R1700	10	R 17.66
Terminal block markers	Blank card	White	RC65	1SNA232000R0000	1	R 18.47



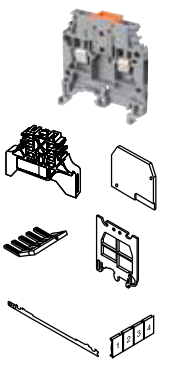
D4/6.T Screw Clamp Terminal Blocks
Triple deck - 6 mm 0.236 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	3 feed-through circuits	Grey	D4/6.T3	1SNA299683R0100	25	R 140.80
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJM62	1SNA173217R2600	10	R 29.04
Jumper bars	3 poles			1SNA173218R0700	10	R 32.17
Jumper bars	4 poles			1SNA173219R0000	10	R 41.18
Jumper bars	5 poles			1SNA173221R2200	10	R 51.47
Jumper bars	10 poles			1SNA173226R2700	10	R 104.84
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Circuit separators	1.5 mm	White	SCD	1SNA103189R2600	10	R 7.95
Test sockets	DIA 2 mm 0.079 in		AL2	1SNA167319R0600	50	R 9.11
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Terminal block markers	Blank card	White	RC65	1SNA232000R0000	1	R 18.47



D4/6.P.T1 Screw Clamp Terminal Blocks
Ground - 6 mm 0.236 in Spacing

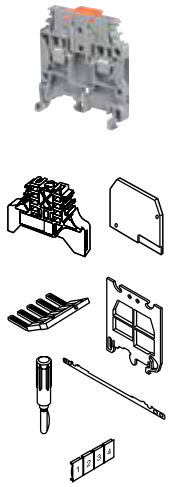
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Ground	Profile aligned with D4/6.T3...	Green-yellow	D4/6.P.T1	1SNA199220R0000	25	R 142.65
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Terminal block markers	Blank card	White	RC65	1SNA232000R0000	1	R 18.47



MA2.5/5.SNB Screw Clamp Terminal Blocks
Disconnect with Blade - 5 mm 0.197 in Spacing

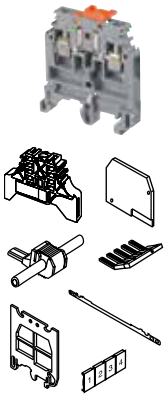
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect		Grey-orange	MA2.5/5.SNB	1SNA115699R2000	50	R 50.03
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Lateral jumper bars	2 poles	Grey	PC5-2	1SNA113542R1000	10	R 27.75
Lateral jumper bars	10 poles		PC5-10	1SNA113544R1200	10	R 51.10
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators		Grey	SCF6	1SNA118707R0300	20	R 5.44
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Terminal block markers	Blank card	White	RC510	1SNA231000R0700	1	R 31.72

SNA Series
Screw Clamp Terminal Blocks



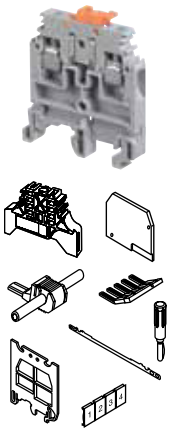
MA2.5/5.SNBT Screw Clamp Terminal Blocks
Disconnect with Blade - with Test Socket

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With 2 tests sockets DIA 2 mm *0.079 in*	Grey-orange	MA2.5/5.SNBT	1SNA115700R0500	50	R 64.66
Disconnect	With 2 tests sockets DIA 2.3 mm *0.091 in*	Grey-orange	MA2.5/5.SNBT	1SNA115701R2200	50	R 61.59
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEM6	1SNA118368R1600	20	R 5.58
Lateral jumper bars	2 poles	Grey	PC5-2	1SNA113542R1000	10	R 27.75
Lateral jumper bars	10 poles	Grey	PC5-10	1SNA113544R1200	10	R 51.10
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Circuit separators		Grey	SCF6	1SNA118707R0300	20	R 5.44
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Terminal block markers	Blank card	White	RC510	1SNA231000R0700	1	R 31.72



M4/6.SNB Screw Clamp Terminal Blocks
Disconnect with Blade - 6 mm 0.236 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect		Grey, Orange	M4/6.SNB	1SNA115986R0000	50	R 50.60
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	3 mm	Grey	FEM62	1SNA114994R0700	20	R 7.89
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Terminal block markers	Blank card	White	RC610	1SNA233000R0100	1	R 31.72

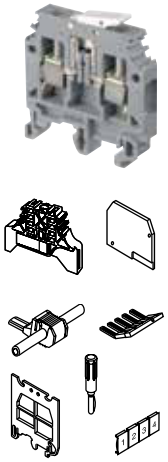


M4/6.SNBT Screw Clamp Terminal Blocks
Disconnect with Blade - with Test Socket - 6 mm 0.236 in

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With 2 tests sockets DIA 2 mm *0.079 in*	Grey, orange	M4/6.SNBT	1SNA115987R0100	50	R 62.52
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	3 mm	Grey	FEM62	1SNA114994R0700	20	R 7.89
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Shield connectors			CBM5	1SNA178745R1400	50	R 10.14
Terminal block markers	Blank card	White	RC610	1SNA233000R0100	1	R 31.72

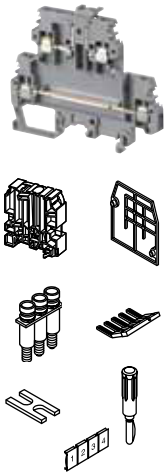
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SNA Series
Screw Clamp Terminal Blocks



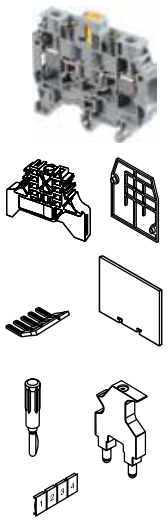
M6/8.SNB Screw Clamp Terminal Blocks
Disconnect with Blade - 8 mm 0.315 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect		Grey, Grey	M6/8.SNB	1SNA115688R2500	50	R 67.90
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	3 mm	Grey	FEM8	1SNA113373R2600	20	R 7.89
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	2 poles		PC8-2	1SNA116538R1700	10	R 38.24
Lateral jumper bars	3 poles		PC8-3	1SNA116539R1000	10	R 57.36
Lateral jumper bars	4 poles		PC8-4	1SNA116540R2500	10	R 68.83
Lateral jumper bars	10 poles		PC8-10	1SNA163313R2400	10	R 85.96
Circuit separators	3 mm	Grey	SCFM6	1SNA114825R0500	20	R 16.29
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44



M4/6.D2.SNBT Screw Clamp Terminal Blocks
Disconnect with Blade - with Test Socket - 6 mm 0.236 in

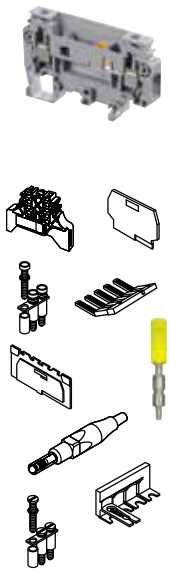
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With 4 tests sockets DIA 2 mm *0.079 in*	Grey	M4/6.D2.SNBT	1SNA115561R1500	50	R 158.62
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 56.23
End sections	1 mm	Grey	FEMS6D	1SNA116591R0500	20	R 17.35
Jumper bars	2 poles	Grey	BJMI6D-2	1SNA179668R2000	10	R 25.29
Jumper bars	3 poles		BJMI6D-3	1SNA179669R2100	10	R 32.89
Jumper bars	4 poles		BJMI6D-4	1SNA179670R2600	10	R 43.41
Jumper bars	5 poles		BJMI6D-5	1SNA179671R1300	10	R 54.90
Jumper bars	10 poles		BJMI6D-10	1SNA179672R1400	10	R 114.94
Lateral jumper bars	10 poles		PC61-10	1SNA163311R2200	10	R 62.96
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Test plugs	DIA 2 mm 0.079 in	Black	FC2	1SNA007865R2600	100	R 36.36
Terminal block markers	Blank card	White	RC610	1SNA233000R0100	1	R 31.72



M6/8.STP Screw Clamp Terminal Blocks
Disconnect with Push-turn Knob - with Test Socket

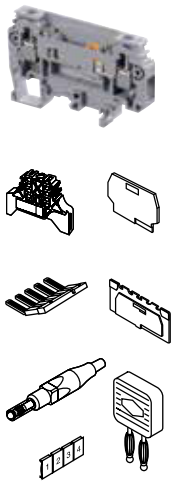
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With 2 test sockets DIA 4 mm 0.157 in	Grey, yellow	M6/8.STP	1SNA115277R2000	25	R 84.40
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	2.8 mm	Grey	FEMT1	1SNA113137R0200	50	R 8.70
Lateral jumper bars	2 poles		PC8-2	1SNA116538R1700	10	R 38.24
Lateral jumper bars	3 poles		PC8-3	1SNA116539R1000	10	R 57.36
Lateral jumper bars	4 poles		PC8-4	1SNA116540R2500	10	R 68.83
Lateral jumper bars	10 poles		PC8-10	1SNA163313R2400	10	R 85.96
Circuit separators	1 mm	Grey	SCFT1	1SNA103588R2600	20	R 32.94
Test plugs	DIA 4 mm 0.157 in	White	FC4	1SNA167860R0100	10	R 75.39
Test plugs	DIA 4 mm 0.157 in IP20	Red	FC4-1	1SNA167927R1000	10	R 112.72
Short circuit plugs	DIA 4 mm 0.157 in		BP8.A4	1SNA173888R2000	10	R 131.50
Short circuit plugs		Red	BNSTP2	1SNA196789R2400	20	R 232.80
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

SNA Series
Screw Clamp Terminal Blocks



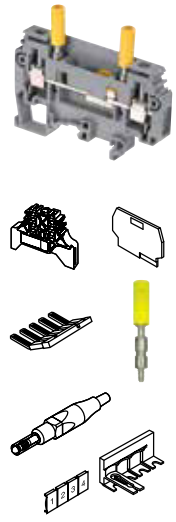
M6/8.ST Screw Clamp Terminal Blocks
Test Disconnect with a Screwdriver Sliding Link

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect		Grey	M6/8.ST	1SNA115236R1700	25	R 100.26
End stops		Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops		Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	1 mm	Grey	FEMT2	1SNA113629R2700	10	R 13.14
Jumper bars	20 poles		BJS8-20	1SNA174789R0500	5	R 164.81
Lateral jumper bars	50 A	Black	PC8-10	1SNA163313R2400	10	R 85.96
Lateral jumper bars			PC8-R1	1SNA400711R0600	10	R 145.83
Lateral jumper bars			PC8-R2	1SNA400712R0700	10	R 145.83
Lateral jumper bars			PC8-R3	1SNA400713R0000	10	R 145.83
Lateral jumper bars			PC8-R4	1SNA400724R0300	10	R 145.83
Circuit separators	3 mm	Grey	SCFT2	1SNA114522R0500	20	R 20.66
Test sockets	DIA 4 mm 0.157 in IP20	Yellow	AJS9	1SNA179726R0200	25	R 32.97
Short circuit bridges	2 poles	Yellow	SC-JB8-2	1SNK900652R0000	25	R 34.53
Short circuit bridges	3 poles	Yellow	SC-JB8-3	1SNK900653R0000	25	R 56.42
Short circuit bridges	4 poles	Yellow	SC-JB8-4	1SNK900654R0000	25	R 60.77
Fastening kits	Sub assembly post + screw + washer	Yellow	EV8S	1SNA168401R0300	20	R 5.93



M6/8.ST Screw Clamp Terminal Blocks
Test Disconnect with a Screwdriver Sliding Link

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With 2 test sockets DIA 4 mm 0.157 in	Grey	M6/8.ST1	1SNA115237R1000	25	R 66.00
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	1 mm	Grey	FEMT2	1SNA113629R2700	10	R 13.14
Lateral jumper bars	50 A	Black	PC8-10	1SNA163313R2400	10	R 85.96
Lateral jumper bars			PC8-R1	1SNA400711R0600	10	R 145.83
Lateral jumper bars			PC8-R2	1SNA400712R0700	10	R 145.83
Lateral jumper bars			PC8-R3	1SNA400713R0000	10	R 145.83
Lateral jumper bars			PC8-R4	1SNA400724R0300	10	R 145.83
Circuit separators	3 mm	Grey	SCFT2	1SNA114522R0500	20	R 20.66
Test plugs	DIA 4 mm 0.157 in IP20	Red	FC4-1	1SNA167927R1000	10	R 112.72
Short circuit plugs	DIA 4 mm 0.157 in		BP8.A4	1SNA173888R2000	10	R 131.50
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67

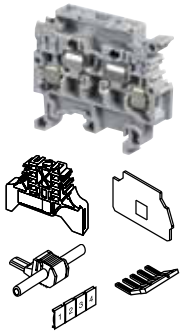


M6/8.ST Screw Clamp Terminal Blocks
Test Disconnect With a Screwdriver Sliding Link

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Disconnect	With two yellow test sockets DIA 4 mm 0.157 in	Grey	M6/8.ST1.IP20	1SNA115971R1000	25	R 124.99
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm		BADL	1SNA399903R0200	50	R 20.14
End sections	1 mm	Grey	FEMT2	1SNA113629R2700	10	R 13.14
Lateral jumper bars	50 A	Black	PC8-10	1SNA163313R2400	10	R 85.96
Lateral jumper bars			PC8-R1	1SNA400711R0600	10	R 145.83
Lateral jumper bars			PC8-R2	1SNA400712R0700	10	R 145.83
Lateral jumper bars			PC8-R3	1SNA400713R0000	10	R 145.83
Lateral jumper bars			PC8-R4	1SNA400724R0300	10	R 145.83
Test sockets	DIA 4 mm 0.157 in IP20	Yellow	AJS9-1	1SNA19726R0200	25	R 28.60
Test plugs	DIA 4 mm 0.157 in IP20	Red	FC4-1	1SNA167927R1000	10	R 112.72
Short circuit bridges	2 poles	Yellow	SC-JB8-2	1SNK900652R0000	25	R 34.53
Short circuit bridges	3 poles		SC-JB8-3	1SNK900653R0000	25	R 56.42
Short circuit bridges	4 poles		SC-JB8-4	1SNK900654R0000	25	R 60.77
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67

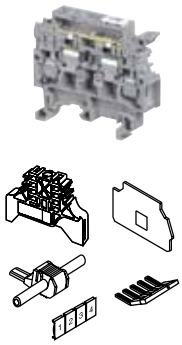
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SNA Series
Screw Clamp Terminal Blocks



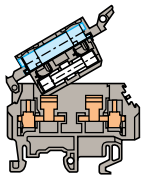
M4/8.SF Screw Clamp Terminal Blocks
For 5 x 20 and 5 x 25 Fuses - 8 mm

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse		Grey	M4/8.SF	1SNA115657R2500	50	R 63.83
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	1.5 mm	Grey	FEM8S	1SNA116951R1500	20	R 6.57
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	10 poles		PC81-10	1SNA173523R1100	10	R 96.13
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67



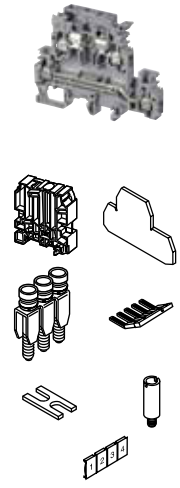
M4/8.SF Screw Clamp Terminal Blocks
For 5x20 and 5x25 Fuses - With Blown Fuse Indicator

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse	With blown fuse indicator by LED 24-110V	Grey	M4/8.SFD3	1SNA115935R0400	50	R 217.52
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End stops	9 mm	Grey	BADL	1SNA399903R0200	50	R 20.14
End sections	1.5 mm	Grey	FEM8S	1SNA116951R1500	20	R 6.57
Jumper bars	1 poles	Grey	AD2.5	1SNA114205R2000	50	R 23.70
Lateral jumper bars	10 poles		PC81-10	1SNA173523R1100	10	R 96.13
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67



M4/8.SF Screw Clamp Terminal Blocks
For 5x20 and 5x25 Fuses - With Blown Fuse Indicator

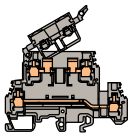
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse	With blown fuse indicator by neon 110-230 V	Grey	M4/8.SFL	1SNA115661R2100	50	R 170.12
Fuse	With blown fuse indicator by LED 24 V AC/DC	Grey	M4/8.SFD	1SNA115663R2300	50	R 234.59



M4/8.D2.SF Screw Clamp Terminal Blocks
For 5 x 20 and 5 x 25 Fuses

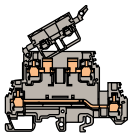
Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse		Grey	M4/8.D2.SF	1SNA115604R2100	50	R 141.91
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 56.23
End sections	1.5 mm	Grey	FEM8D2S	1SNA116913R0700	20	R 22.66
Jumper bars	2 poles		BJMI8-2	1SNA176669R1600	10	R 23.21
Jumper bars	3 poles		BJMI8-3	1SNA176670R1300	10	R 34.82
Jumper bars	4 poles		BJMI8-4	1SNA176671R0000	10	R 46.42
Jumper bars	10 poles		BJMI8-10	1SNA176673R0200	10	R 228.89
Lateral jumper bars	10 poles		PC81-10	1SNA173523R1100	10	R 96.13
Cross spacing jumpers	5 mm 0.200 in - 6 mm 0.236 in - 8 mm 0.315 in		EL6	1SNA173627R2100	10	R 8.02
Test sockets	DIA 2 mm 0.079 in		AL2	1SNA163043R2100	50	R 7.52
Test sockets	DIA 3 mm 0.120 in		AL3	1SNA163261R0000	50	R 6.45
Test sockets	DIA 4 mm 0.157 in		AL4-M3	1SNA206721R0100	50	R 47.95
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 30.67

SNA Series
Screw Clamp Terminal Blocks



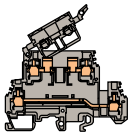
M4/8.D2.SF Screw Clamp Terminal Blocks
For 5 x 20 and 5 x 25 Fuses - with Blown Fuse Indicator

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse	With blown fuse indicator by LED 20-60 V DC/ 40-110 V AC	Grey	M4/8.D2.SFD3	1SNA115936R0500	50	R 264.14



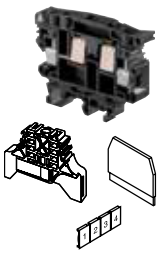
M4/8.D2.SF Screw Clamp Terminal Blocks
With Blown Fuse Indicator by Neon

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse	With blown fuse indicator by neon 110-230 V	Grey	M4/8.D2.SFL	1SNA115646R2200	50	R 208.31



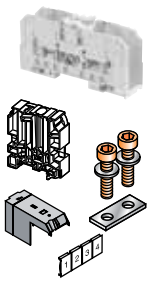
M4/8.D2.SF Screw Clamp Terminal Blocks
With Blown Fuse Indicator

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse	With blown fuse indicator by LED 24 V AC/DC	Grey	M4/8.D2.SFD	1SNA115647R2300	50	R 335.08



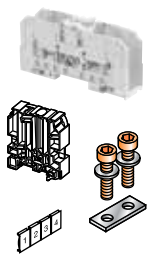
ML10/13.SF Screw Clamp Terminal Blocks
For 6.3 x 25 and 6.3 x 32 Fuses

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Fuse		Black	ML10/13.SF	1SNA199095R1300	20	R 124.30
End stops	10 mm	Grey	BAM2	1SNA206351R1600	50	R 20.14
End sections	1.5 mm	Black	FEM13U	1SNA199635R2400	10	R 12.52
Terminal block markers	Blank card	White	RC1010	1SNA238000R1600	1	R 64.40



D35/27.FF Power Terminal Blocks
Feed-through - 27 mm 1.062 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M6 without cover	Grey	D35/27.FF	1SNA190001R2000	10	R 116.82
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS27-2	1SNA205772R1300	5	R 206.03
Jumper bars	3 poles		BJS27-3	1SNA205773R1400	5	R 379.07
Protecting covers	IP20 rotating protecting cover	Grey	CPUF35	1SNA190016R1600	10	R 32.13
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

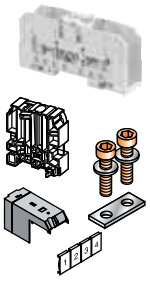


D70/32.FF Power Terminal Blocks
Feed-through - 32 mm 1.260 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M8 without cover	Grey	D70/32.FF	1SNA190002R2100	3	R 160.63
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS32-2	1SNA205774R1500	5	R 473.83
Jumper bars	3 poles		BJS32-3	1SNA205775R1600	5	R 417.64
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

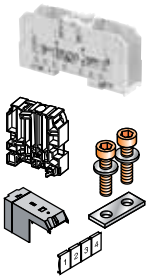
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SNA Series
Screw Clamp Terminal Blocks



D120/42.FF Power Terminal Blocks
Feed-through - 42 mm 1.653 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M10 without cover	Grey	D120/42.FF	1SNA190003R2200	1	R 224.88
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS42-2	1SNA205776R1700	5	R 377.70
Jumper bars	3 poles		BJS42-3	1SNA205777R1000	5	R 472.12
Protecting covers	IP20 rotating protecting cover	Grey	CPUF120	1SNA190018R2000	5	R 46.00
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

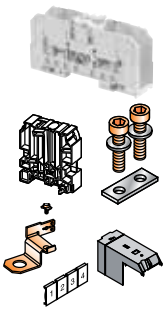


D185/55.FF Power Terminal Blocks
Feed-through - 55 mm 2.165 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M12 without cover	Grey	D185/55.FF	1SNA190004R2300	1	R 299.36
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS551-2	1SNA205778R2100	5	R 421.27
	3 poles		BJS551-3	1SNA205779R2200	5	R 526.60
Protecting covers	IP20 rotating protecting cover	Grey	CPUF185	1SNA190019R2100	5	R 82.44
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

Feed-through - 55 mm 2.165 in Spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M12 without cover	Grey	D185/55.FF	1SNA190004R2300	1	R 299.36
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS551-2	1SNA205778R2100	5	R 421.27
	3 poles		BJS551-3	1SNA205779R2200	5	R 526.60
Protecting covers	IP20 rotating protecting cover	Grey	CPUF185	1SNA190019R2100	5	R 82.44
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44



D300/55.FF Power Terminal Blocks
Feed-through - 55 mm 2.165 in spacing

Description		Color	Type	Order Code	Pkg Pce	Price Per Unit Excl. VAT
Feed-through	2 studs M16 without cover	Grey	D300/55.FF	1SNA190005R2400	1	R 299.36
End stops	12 mm	Grey	BADH	1SNA116900R2700	50	R 62.12
Jumper bars	2 poles		BJS551-2	1SNA205778R2100	5	R 421.27
	3 poles		BJS551-3	1SNA205779R2200	5	R 526.60
Splitters	For 6.35x0.8mm faston clips and screws		DRF16	1SNA205771R1200	10	R 61.33
Protecting covers	IP20 rotating protecting cover	Grey	CPUF185	1SNA190019R2100	5	R 82.44
Terminal block markers	Blank card	White	RC810	1SNA234000R0200	1	R 63.44

Din Rail



Din Rail	Order Code	Price Per Unit Excl. VAT
TS35 STANDARD DINRAIL NONSLOTTED	17430017	P.O.R



Din Rail	Order Code	Price Per Unit Excl. VAT
TS35/F6 STANDARD DINRAIL SLOTTED	17322005	P.O.R



Din Rail	Order Code	Price Per Unit Excl. VAT
TS35/CF6 DEEP DINRAIL NONSLOTTED	16870022	P.O.R



Mini Din Rail	Order Code	Price Per Unit Excl. VAT
TS15/F MINI SLOTTED DINRAIL	16460012	P.O.R



G Rail	Order Code	Price Per Unit Excl. VAT
TS32 'G'RAIL	16305004	P.O.R
TS35/CF6 DEEP DINRAIL SLOTTED	10159826	P.O.R

** Supplied in 2 meter*

Notes

Electronic Products and Relays

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Electronic Timers
CT-D Range



CT-MFD.12

Description
The CT-D range with a width of only 17.5 mm fits into all domestic installation and distribution panels.
The devices offer 4 or 7 time ranges from 0.05 seconds up to 100 hours.
Offers LEDs for status indication.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code	Price
Multifunctional[1)]	24-240 VAC 24-48 VDC	7 (0.05 s – 100 h)	■	1 c/o	CT-MFD.12	1SVR500020R0000	R 1096.42
Multifunctional[1)]	12-240 VAC/DC	7 (0.05 s – 100 h)	■	2 c/o	CT-MFD.21	1SVR500020R1100	R 1281.52
ON-delay	24-240 VAC 24-48 VDC	7 (0.05 s – 100 h)	□	1 c/o	CT-ERD.12	1SVR500100R0000	R 833.00
			□	2 c/o	CT-ERD.22	1SVR500100R0100	R 954.03
OFF-delay			■	1 c/o	CT-AHD.12	1SVR500110R0000	R 833.00
			■	2 c/o	CT-AHD.22	1SVR500110R0100	R 954.03
Impulse- ON			□	1 c/o	CT-VWD.12	1SVR500130R0000	R 833.00
Flasher starting with ON			□		CT-EBD.12	1SVR500150R0000	R 833.00
Pulse generator		2 x 7 (0.05s – 100 h)	■		CT-TGD.122)	1SVR500160R0000	R 939.78
			■	2 c/o	CT-TGD.222)	1SVR500160R0100	R 1110.67
Star-delta change- over		4 (0.05 s - 10 min)	□	2 c/o	CT-SDD.223)	1SVR500211R0100	R 897.07
			□		CT-SAD.224)	1SVR500210R0100	R 954.03

1) Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Flasher starting with ON, Flasher starting with OFF, Pulse former
2) ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h
3) Transition time 50 ms fixed
4) Transition time adjustable

■ Control input with voltage-related triggering
□ no triggering

Synonyms			
used expression	alternative expression(s)	used expression	alternative expression(s)
1 c/o contact	SPDT	voltage-related	wet / non-floating
2 c/o contacts	DPDT	volt-free	dry / floating

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Electronic Timers
CT-E Range



CM-MFE

Description

This range offers highest possible flexibility with:
- 56 single-function timers with 5 different time ranges
- 2 multifunction timers with 6 functions and 8 time ranges

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code	Price
Multi [1]	24-240 V AC/DC	8 (0.05 s - 100 h)	■	1 c/o	CT-MFE	1SVR550029R8100	R 875.71
ON-delay	24 V AC/DC, 220-240 V AC	0.1-10 s	□	1 c/o	CT-ERE	1SVR550107R1100	R 603.75
		0.3-30 s				1SVR550107R4100	R 603.75
		3-300 s				1SVR550107R2100	R 603.75
		0.3-30 min				1SVR550107R5100	R 603.75
	110-130 V AC	0.1-10 s	□			1SVR550100R1100	R 603.75
		0.3-30 s				1SVR550100R4100	R 603.75
		3-300 s				1SVR550100R2100	R 603.75
		0.3-30 min				1SVR550100R5100	R 603.75
OFF-delay	24 V AC/DC	0.1-10 s	■	1 c/o	CT-AHE	1SVR550118R1100	R 783.15
		0.3-30 s				1SVR550118R4100	R 783.15
		3-300 s				1SVR550118R2100	R 783.15
	110-130 V AC	0.1-10 s				1SVR550110R1100	R 783.15
		0.3-30 s				1SVR550110R4100	R 783.15
		3-300 s				1SVR550110R2100	R 783.15
	220-240 V AC	0.1-10 s				1SVR550111R1100	R 783.15
		0.3-30 s				1SVR550111R4100	R 783.15
		3-300 s				1SVR550111R2100	R 783.15
OFF-delay [2]	24 V AC/DC, 220-240 V AC	0.1-10 s	□	1 c/o	CT-ARE	1SVR550127R1100	R 875.71
		0.3-30 s				1SVR550127R4100	R 875.71
	110-130 V AC	0.1-10 s				1SVR550120R1100	R 875.71
		0.3-30 s				1SVR550120R4100	R 875.71
Impulse-ON	24 V AC/DC, 220-240 V AC	0.1-10 s	□	1 c/o	CT-VWE	1SVR550137R1100	R 603.75
		0.3-30 s				1SVR550137R4100	R 686.33
		3-300 s				1SVR550137R2100	R 603.75
	110-130 V AC	0.1-10 s				1SVR550130R1100	R 603.75
		0.3-30 s				1SVR550130R4100	R 603.75
		3-300 s				1SVR550130R2100	R 603.75
Impulse-OFF [2]	24 V AC/DC	0.05-1 s	□	1 c/o	CT-AWE	1SVR550158R3100	R 783.15
	110-130 V AC					1SVR550150R3100	R 783.15
	220-240 V AC					1SVR550151R3100	R 783.15

1) Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Flasher starting with ON, Flasher starting with OFF, Pulse former
2) without auxiliary voltage, True Off-delay timer

■ Control input with voltage-related triggering
□ no triggering

Electronic Timers
CT-E Range Continued



CT-AWE

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code	Price
Impulse-OFF	24 V AC/DC	0.1-10 s	■	1 c/o	CT-AWE	1SVR550148R1100	R 783.15
		0.3-30 s	□			1SVR550148R4100	R 783.15
		3-300 s				1SVR550148R2100	R 783.15
	110-130 V AC	0.1-10 s				1SVR550140R1100	R 783.15
		0.3-30 s				1SVR550140R4100	R 783.15
		3-300 s	□			1SVR550140R2100	R 783.15
	220-240 V AC	0.1-10 s				1SVR550141R1100	R 783.15
		0.3-30 s				1SVR550141R4100	R 783.15
		3-300 s				1SVR550141R2100	R 783.15
Flasher staring with OFF	24 V AC/DC, 220-240 V AC	0.1-10 s	■	1 c/o	CT-EBE [6]	1SVR550167R1100	R 603.75
	110-130 V AC					1SVR550160R1100	R 603.75
Star-delta change-over twice ON-delayed	24 V AC/DC, 220-240 V AC	0.1-10 s		1 c/o	CT-YDE [1] [2]	1SVR550207R1100	R 603.75
		0.3-30 s				1SVR550207R4100	R 603.75
		3-300 s				1SVR550207R2100	R 603.75
	110-130 V AC	0.1-10 s				1SVR550200R1100	R 603.75
		0.3-30 s				1SVR550200R4100	R 603.75
		3-300 s				1SVR550200R2100	R 603.75
Star-delta change-over with impuls	24 V AC/DC, 220-240 V AC	0.3-30 s	℅	1 n/o + 1 n/c	CT-SDE [2] [7]	1SVR550217R4100	R 761.79
	110-130 V AC		□			1SVR550210R4100	R 761.79
	380-415 V AC					1SVR550212R4100	R 761.79
Multifunctional [8]	24-240 V AC/DC	0.1-10 s. 3-300 s		solide-state	CT-MKE [5] [8]	1SVR550019R0000	R 922.68
ON-delay	24-240 V AC/DC	0.1-10 s			CT-EKE	1SVR550509R1000	R 862.40
		0.3-30 s				1SVR550509R4000	R 796.95
		3-300 s				1SVR550509R2000	R 796.95
OFF-delay	24-240 V AC	0.1-10 s	□		CT-AKE	1SVR550519R1000	R 1 033.75
		0.3-30 s				1SVR550519R4000	R 1 033.75
		3-300 s				1SVR550519R2000	R 1 033.75

[1] without auxiliary voltage
[2] with fixed transition time
[3] A1/A2 diagonal
[4] A1/A2 on top
[5] solid-state output, functions and time range selection via external jumpers
[6] symetric ON & OFF times
[7] common contact
[8] Functions: ON-delay (AC/DC), Impuls-ON (AC only), Flasher starting with OFF (AC only)

■ Control input with voltage-related triggering
□ no triggering

Note
CT-...KE are solid-state timers with thyristor output for 2-wire applications. They are connected directly in series with the control coil of contactors or relays. Voltage should not be applied without a load connected, because there is no current limiting in the unit.

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Electronic Timers
CT-S Range

Description
This range is diverse and offers:
- 8 multifunction timers
- 13 single function timers

Innovative connection technology with double chamber cage connection terminals.
The easy connect technology uses push-in terminals which means tool free wiring.


CT-MVS.21P

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code	Price
Multifunctional [5]	24- 240 V AC/DC	10 (0.05 - 300 h)	■	2 c/o	CT-MVS.21S [1) 2) 3)]	1SVR730020R0200	R 1637.50
					CT-MVS.21P [1) 2) 3)]	1SVR740020R0200	R 1680.22
	24-48 V DC, 24-240 V AC				CT-MVS.22S	1SVR730020R3300	R 1423.91
					CT-MVS.22P	1SVR740020R3300	R 1466.62
	380-440 V AC				CT-MVS.23S	1SVR730021R2300	R 1580.54
					CT-MVS.23P	1SVR740021R2300	R 1623.26
Multifunctional [6]	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	■	1 c/o	CT-MVS.12S	1SVR730020R3100	R 1267.27
					CT-MVS.12P	1SVR740020R3100	R 1302.88
Multifunctional [7]	24-48 V DC, 24-240 V AC	2×10 (0.05 s - 300 h)	■	2 c/o	CT- MXS.22S[4)]	1SVR730030R3300	R 1637.50
					CT-MXS.22P[4)]	1SVR740030R3300	R 1680.22
Multifunctional [8]	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-MFS.21S [1) 2) 3)]	1SVR730010R0200	R 1637.50
					CT-MFS.21P [1) 2) 3)]	1SVR740010R0200	R 1680.22
	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	◘ / ◘	2 c/o	CT-MBS.22S [2) 3)]	1SVR730010R3200	R 1423.91
					CT-MBS.22P [2) 3)]	1SVR740010R3200	R 1466.62
Multifunctional [9]	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	□	2 c/o	CT-WBS.22S	1SVR730040R3300	R 1053.67
					CT-WBS.22P	1SVR740040R3300	R 1082.17

S: screw connection **P**: push-in / easy connect

■ Control input with voltage-related triggering
◘ Control input with volt-free triggering
◘ / ◘ two control input with volt-free triggering
□ no triggering

[1)] Extended temperature range -40 °C
[2)] Remote potentiometer connection
[3)] 2nd c/o contact selectable as instantaneous contact
[4)] 2 remote potentiometer connections
[5)] Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Star-delta change-over with impulse, Pulse former, Accumulative ON-delay, ON/OFF-function
[6)] Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Pulse former, Accumulative ON-delay, ON/OFF-function
[7)] Functions: Select function via DIP switches behind the marker label on the front of the unit, asymmetrical ON- and OFF-delay, Impulse-ON/OFF, Pulse generator starting with ON or OFF, Single pulse generator, ON/OFF-function
[8)] Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON, Flasher starting with OFF, Star-delta change-over with impulse, Pulse former, ON/OFF-function
[9)] Functions: Flasher starting with ON, Flasher starting with OFF, Impulse-ON, ON-delay, fixed impulse with adjustable time delay, Adjustable impulse with fixed time delay, ON/OFF-function

Electronic Timers
CT-S Range Continued



CT-ERS.21P

Timing Function	Rated Control Supply Voltage	Time Ranges	Control Input	Output	Type	Order Code	Price
ON-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-ERS.21S[1]	1SVR730100R0300	R 1153.38
					CT-ERS.21P[1]	1SVR740100R0300	R 1188.95
	24-48 V DC, 24-240 V AC				CT-ERS.22S	1SVR730100R3300	R 1003.85
					CT-ERS.22P	1SVR740100R3300	R 1039.46
	24-48 V DC, 24-240 V AC		□	1 c/o	CT-ERS.12S	1SVR730100R3100	R 854.36
					CT-ERS.12P	1SVR740100R3100	R 882.82
OFF-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	■	2 c/o	CT-APS.21S[1]	1SVR730180R0300	R 1302.88
					CT-APS.21P[1]	1SVR740180R0300	R 1345.59
	24-48 V DC, 24-240 V AC				CT-APS.22S	1SVR730180R3300	R 1153.38
					CT-APS.22P	1SVR740180R3300	R 1188.95
			■	1 c/o	CT-APS.12S	1SVR730180R3100	R 1039.46
					CT-APS.12P	1SVR740180R3100	R 1067.92
	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	■	2 c/o	CT-AHS.22S	1SVR730110R3300	R 1153.38
					CT-AHS.22P	1SVR740110R3300	R 1188.95
OFF-delay[5]	24-240 V AC/DC	7 (0.05 s - 10 min)	□	1 c/o	CT-ARS.11S	1SVR730120R3100	R 1423.91
					CT-ARS.11P	1SVR740120R3100	R 1466.62
			□	2 c/o	CT-ARS.21S	1SVR730120R3300	R 1665.97
					CT-ARS.21P	1SVR740120R3300	R 1708.68
Star-delta change-over [6]	24-48 V DC, 24-240 V AC	7 (0.05 s - 10 min)	□	2 n/o	CT-SDS.22S	1SVR730210R3300	R975.39
					CT-SDS.22P	1SVR740210R3300	R 1003.85
	380-440 V AC				CT-SDS.23S	1SVR730211R2300	R 1124.88
					CT-SDS.23P	1SVR740211R2300	R 1160.49

S: screw connection **P**: push-in / easy connect

■ Control input with voltage-related triggering
□ no triggering

[1] Extended temperature range -40 °C
[2] Remote potentiometer connection
[3] 2nd c/o contact selectable as instantaneous contact
[4] 2 remote potentiometer connections
[5] Without auxiliary voltage
[6] 50 ms transition time
[7] For DC contactor coils
[8] With gold-plated contacts

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Measuring and Monitoring Relays
Current Monitoring Relays



CM-SRS.22S

Description
– Monitoring of DC and AC currents: 3mA-15A
– Overcurrent and undercurrent monitoring
– 2 different terminal versions
• screw connection (double chamber cage)
• push in terminals (completely tool-free easy connect)

Rated Control Supply Voltage	Measuring Range	Function	Tripping delay T_v	Type	Order Code	Price
24-240 V AC/DC	3-30 mA 10-100 mA 0.1-1 A	Overcurrent monitoring; Undercurrent monitoring	without	CM-SRS.11S	1SVR730840R0200	R 2541.68
110-130 V AC					1SVR730841R0200	R 2126.37
220-240 V AC					1SVR730841R1200	R 2126.37
24-240 V AC/DC				CM-SRS.11P	1SVR740840R0200	R 2608.12
110-130 V AC					1SVR740841R0200	R 2192.80
220-240 V AC					1SVR740841R1200	R 2192.80
24-240 V AC/DC	0.3-1.5 A 1-5 A 3-15 A	Overcurrent monitoring; Undercurrent monitoring	without	CM-SRS.12S	1SVR730840R0300	R 2541.68
110-130 V AC					1SVR730841R0300	R 2126.37
220-240 V AC					1SVR730841R1300	R 2126.37
24-240 V AC/DC	3-30 mA 10-100 mA 0.1-1 A	Overcurrent monitoring; Undercurrent monitoring	adjustable 0 or 0.1-30 s	CM-SRS.21S	1SVR730840R0400	R 2757.65
110-130 V AC					1SVR730841R0400	R 2358.95
220-240 V AC					1SVR730841R1400	R 2358.95
24-240 V AC/DC				CM-SRS.21P	1SVR740840R0400	R 2840.71
110-130 V AC					1SVR740841R0400	R 2442.01
220-240 V AC					1SVR740841R1400	R 2442.01
24-240 V AC/DC	0.3-1.5 A 1-5 A 3-15 A	Overcurrent monitoring; Undercurrent monitoring	adjustable 0 or 0.1-30 s	CM-SRS.22S	1SVR730840R0500	R 2757.65
110-130 V AC					1SVR730841R0500	R 2358.95
220-240 V AC					1SVR730841R1500	R 2358.95
24-240 V AC/DC	3-30 mA 10-100 mA 0.1-1 A	Overcurrent monitoring; Undercurrent monitoring; Without latching; With latching	adjustable 0 or 0.1-30 s	CM-SRS.M1S	1SVR730840R0600	R 2990.20
				CM-SRS.M1P	1SVR740840R0600	R 3089.88
24-240 V AC/DC	0.3-1.5 A 1-5 A 3-15 A		adjustable 0 or 0.1-30 s	CM-SRS.M2S	1SVR730840R0700	R 2990.20
24-240 V AC/DC	3-30 mA 10-100 mA 0.1-1 A	Overcurrent monitoring; Undercurrent monitoring; Without latching; With latching; 1x2 c/o (SPDT) contacts; 2x1 c/o (SPDT) contact	adjustable 0 or 0.1-30 s	CM-SFS.21S	1SVR730760R0400	R 2990.20
				CM-SFS.21P	1SVR740760R0400	R 3089.88
24-240 V AC/DC	0.3-1.5 A 1-5 A 3-15 A		adjustable 0 or 0.1-30 s	CM-SFS.22S	1SVR730760R0500	R 2990.20

S: SCREW CONNECTION; **P**: PUSH-IN

Overcurrent monitoring
Undercurrent monitoring
Without latching
With latching
1x2 c/o (SPDT) contacts
2x1 c/o (SPDT) contact

Measuring and Monitoring Relays
Voltage Monitoring Relays



CM-ESS.MP

Description
– Monitoring of DC and AC voltages: 3-600V
– Overvoltage and undervoltage monitoring
– 4 measuring ranges:
3-30V; 6-60V; 30-300V; 60-600V

Rated Control Supply Voltage	Measuring Range	Function	Tripping delay T_v	Type	Order Code	Price
24-240 V AC/DC	3-30 V 6-60 V 30-300 V 60-600 V		without	CM-ESS.1S	1SVR730830R0300	R 2335.95
110-130 V AC					1SVR730831R0300	R 1954.26
220-240 V AC					1SVR730831R1300	R 1954.26
24-240 V AC/DC				CM-ESS.1P	1SVR740830R0300	R 2397.03
110-130 V AC					1SVR740831R0300	R 2015.31
220-240 V AC					1SVR740831R1300	R 2015.31
24-240 V AC/DC	3-30 V 6-60 V 30-300 V 60-600 V		adjustable 0 or 0.1-30 s	CM-ESS.2S	1SVR730830R0400	R 2534.43
110-130 V AC					1SVR730831R0400	R 2168.01
220-240 V AC					1SVR730831R1400	R 2168.01
24-240 V AC/DC				CM-ESS.2P	1SVR740830R0400	R 2610.78
110-130 V AC					1SVR740831R0400	R 2244.33
220-240 V AC					1SVR740831R1400	R 2244.33
24-240 V AC/DC	3-30 V 6-60 V 30-300 V 60-600 V		adjustable 0 or 0.1-30 s	CM-ESS.MS	1SVR730830R0500	R 2748.18
				CM-ESS.MP	1SVR740830R0500	R 2839.77
24-240 V AC/DC	3-30 V 6-60 V 30-300 V 60-600 V		adjustable 0 or 0.1-30 s	CM-EFS.2S	1SVR730750R0400	R 2748.18
				CM-EFS.2P	1SVR740750R0400	R 2839.77

S: SCREW CONNECTION; **P**: PUSH-IN

Overcurrent monitoring
Undercurrent monitoring
Without latching
With latching
1x2 c/o (SPDT) contacts
2x1 c/o (SPDT) contact

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Measuring and Monitoring Relays
Three-phase monitoring relays

Description
– Phase failure detection
– Phase sequence monitoring
– Phase unbalance monitoring
– Overvoltage and undervoltage monitoring


CM-PBE

Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Neutral Monitoring	Type	Order Code	Price
3x380-440 V AC, 220-240 V AC	Phase failure detection (Single- and three-phase)	■	CM-PBE [1]	1SVR550881R9400	R 839.70
3x380-440 V AC			CM-PBE	1SVR550882R9500	R 839.70
3x320-460 V AC, 185-265 V AC	Over- / under-voltage and phase failure detection (Single- and three-phase)	■	CM-PVE [1]	1SVR550870R9400	R 908.43
3x320-460 V AC			CM-PVE	1SVR550871R9500	R 908.43
3x208-440 V AC	Phase sequence monitoring and phase failure detection (Three-phase)		CM-PFE [2]	1SVR550824R9100	R 908.43


CM-PAS.31P

Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Type	Order Code	Price
3x200-500 V AC	Phase sequence monitoring and phase failure detection (Three-phase)	CM-PFS.S	1SVR730824R9300	R 1175.61
		CM-PFS.P	1SVR740824R9300	R 1213.77
3x380 V AC	Over- / undervoltage with fixed threshold values ± 10 %	CM-PSS.31S	1SVR730784R2300	R 2106.93
		CM-PSS.31P	1SVR740784R2300	R 2168.01
3x400 V AC		CM-PSS.41S	1SVR740784R3300	R 2106.93
		CM-PSS.41P	1SVR730784R3300	R 2168.01
3x160-300 V AC	Over- and undervoltage with adjustable threshold values (Three-phase)	CM-PVS.31S	1SVR730794R1300	R 2641.32
		CM-PVS.31P	1SVR740794R1300	R 2717.64
3x300-500 V AC		CM-PVS.41S	1SVR730794R3300	R 2641.32
		CM-PVS.41P	1SVR740794R3300	R 2717.64
3x200-400 V AC		CM-PVS.81S	1SVR730794R2300	R 2641.32
		CM-PVS.81P	1SVR740794R2300	R 2717.64
3x160-300 V AC	Phase unbalance (Three-phase)	CM-PAS.31S	1SVR730774R1300	R 2503.89
		CM-PAS.31P	1SVR740774R1300	R 2580.21
3x300-500 V AC		CM-PAS.41S	1SVR730774R3300	R 2503.89
		CM-PAS.41P	1SVR740774R3300	R 2580.21

S: SCREW CONNECTION; **P**: PUSH-IN

[1] The version with neutral monitoring is also suitable for monitoring single-phase mains. For this, all three external conductors (L1,L2,L3) have to be jumpered and connected as one single conductor.
[2] For applications where a reverse fed voltage >60% is expected, we recommend to use our three-phase monitoring relays for unbalanced loads CM-PAS.

Measuring and Monitoring Relays

Three-phase monitoring relays



CM-MPN.52P

Multifunctional

Rated Control Supply Voltage = Measuring Voltage	DIP Switch	Monitoring Function	Neutral Monitoring	Type	Order Code	Price
90-170 V AC	⊠ ■ ○ ∅	Multifunctional (Three-phase phase failure detection, Phase sequence monitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.11S	1SVR730885R1300	R 2824.50
				CM-MPS.11P	1SVR740885R1300	R 2900.85
180-280 V AC				CM-MPS.21S	1SVR730885R3300	R 2824.50
				CM-MPS.21P	1SVR740885R3300	R 2900.85
3x160-300 V AC				CM-MPS.31S	1SVR730884R1300	R 2687.10
				CM-MPS.31P	1SVR740884R1300	R 2763.45
3x300-500 V AC				CM-MPS.41S	1SVR730884R3300	R 2687.10
				CM-MPS.41P	1SVR740884R3300	R 2763.45
180-280 V AC	⊠ ■ ○ ∅ Ⓐ Ⓐ 2x1 c/o 1x2 c/o	Multifunctional(Three-phase phase failure detection, Phasesequence monitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.23S	1SVR730885R4300	R 3328.35
				CM-MPS.23P	1SVR740885R4300	R 3419.94
3x300-500 V AC				CM-MPS.43S	1SVR730884R4300	R 3206.22
				CM-MPS.43P	1SVR740884R4300	R 3297.81
3x350-580 V AC	⊠ ■ ○ ∅ Ⓐ Ⓐ 2x1 c/o 1x2 c/o			CM-MPN.52S	1SVR750487R8300	R 3648.96
				CM-MPN.52P	1SVR760487R8300	R 3755.82
3x450-720 V AC				CM-MPN.62S	1SVR750488R8300	R 3648.96
				CM-MPN.62P	1SVR760488R8300	R 3755.82
3x530-820 V AC				CM-MPN.72S	1SVR750489R8300	R 3648.96
				CM-MPN.72P	1SVR760489R8300	R 3755.82

S: screw connection **P**: push-in / easy connect

⊠ ON-delayed
■ OFF-delayed
○ Phase sequence monitoring activated
∅ Phase sequence monitoring deactivated
Ⓐ Phase sequence correction activated
Ⓐ Phase sequence correction deactivated
2x1 c/o 2x1 c/o (SPDT) contacts
1x2 c/o 1x2 c/o (SPDT) contacts

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Grid feeding monitoring relays:
Voltage and frequency monitoring functions

Application
The multifunctional grid feeding monitoring relays are designed to monitor several grid parameters when feeding energy into the public grid.
The intention is to trip a section switch which is connected between the distributed generation and the public grid in order to disconnect the distributed generation in case of problems (e.g. unstable grid), faults or maintenance on the grid.

Description
– Monitoring of voltage and frequency in single and three-phase mains 2-wire, 3-wire or 4-wire
– Overvoltage and undervoltage monitoring, 10 minutes average value
– Over frequency and under frequency monitoring, 10 minutes average value
– Interrupted neutral detection
– 3 control inputs for remote trip, feedback signal and external signal
– LEDs for the indication of operational states

Characteristics of CM-UFD.M22
– Rate of change of frequency monitoring (ROCOF)

Characteristics of CM-UFD.M31
– Rate of change of frequency monitoring (ROCOF)
– Vector shift detection

Characteristics of CM-UFD.M33
– Rate of change of frequency monitoring (ROCOF)
– Vector shift detection
– Default setting according to G59/3; G83/2 standard

Ordering details

Rated control supply voltage = measuring voltage	Standard	Type	Order code	Price
24-240 V AC/DC	CEI 0-21: 2014-09 + CEI 0-21, V1: 2014-1	CM-UFD.M22	1SVR560730R3400	POR
24-240 V AC/DC	VDE-AR-N 4105 and BDEW	CM-UFD.M31	1SVR560730R3401	POR
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33	1SVR560730R3402	POR

■ **Prices on request (POR). Please contact ABB.**



Measuring and Monitoring Relays
Insulation monitoring relays

Description
– For monitoring the insulation resistance of unearthed IT systems up 400V AC and 600V DC.
– CM-IWN.4.5.6: specifically for applications with high system leakage capacitances, for example in photovoltaic environments
– 1 or 2 measuring ranges (1-100kΩ or 2-200kΩ)
– 3 LEDs for status indication


CM-IWS.1

Rated control supply voltage = measuring voltage	Nominal voltage Un of the	System leakage capacitance, max	Adjustment range of the specified response value R an (threshold)	Type	Order code	Price
24-240 V AC/DC	0-250 V AC / 0-300 V DC	10 µF	1-100 kΩ	CM-IWS.1S CM-IWS.1P	1SVR730660R0100 1SVR740660R0100	R 3450.48 R 3557.37
	0-400 V AC	10 µF	1-100 kΩ	CM-IWS.2S CM-IWS.2P	1SVR730670R0200 1SVR740670R0200	R 2687.10 R 2763.45
	0-400 V AC / 0-600 V DC	20 µF	1-100 kΩ 2-200 kΩ (activated / deactivated by DIP switch)	CM-IWN.1S CM-IWN.1P	1SVR750660R0200 1SVR760660R0200	R 7603.29 R 7847.58
	0-400 V AC / 0-600 V DC	500 µF		CM-IWN.4S CM-IWN.4P	1SVR750660R0300 1SVR760660R0300	R 12 137.76 R 12 504.21
	0-400 V AC / 0-600 V DC	1000 µF		CM-IWN.5S CM-IWN.5P	1SVR750660R0400 1SVR760660R0400	R 13 695.06 R 14 107.29
	0-400 V AC / 0-600 V DC	2000 µF		CM-IWN.6S CM-IWN.6P	1SVR750660R0500 1SVR760660R0500	R 17 939.46 R 18 473.82

Measuring and Monitoring Relays
Motor Load Monitoring Relays

Application
The motor load monitor relay monitoirs the load states of single phase and three phase asynchronous motors. The evaluation of the phase angle between current and voltage allows precise monitoring of the load.

Some applications include:
– Pump monitoring (dry running or closed valve)
– Agitating machines (high consistency or poullution of tank)
– Conveyors (jamming belts, material accumulation)
– Air-conditioning (monitoring of filter pollution, V-belt breakage)

Motor-load Monitoring Relay



Rated Control Supply Voltage = Measuring Voltage	Current range	Type	Order Code	Price
24-240 V AC/DC	0.5-5 A	CM-LWN	1SVR450335R0000	R 2855.04
110-130 V AC			1SVR450330R0000	R 2458.08
220-240 V AC			1SVR450331R0000	R 2458.08
380- 440 V AC			1SVR450332R0000	R 2458.08
480-500 V AC			1SVR450334R0000	R 2458.08
24-240 V AC/DC	2-20 A		1SVR450335R0100	R 3022.98
110-130 V AC			1SVR450330R0100	R 2656.56
220-240 V AC			1SVR450331R0100	R 2656.56
380- 440 V AC			1SVR450332R0100	R 2656.56
480-500 V AC			1SVR450334R0100	R 2656.56

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Monitoring Relays - Motor Protection
Thermistor Protection

Description
– The thermistor motor protection relay measures the resistance of the PTC sensors which reflects the internal motor temperature.
– If the temperature in the motor windings rises excessively the thermistor relay detects this situation and the output relay switches off.
– The direct temperature measuring principle is carried out by a combination of the thermistor motor protection relay and 3 PTC sensors which are installed directly in the motor by the manufacturer.

Order code	1SVR550805R9300	1SVR550800R9300	1SVR550801R9300	1SVR740720R1400	1SVR730720R1400	1SVR740700R0100	1SVR730700R0100	1SVR740700R2100	1SVR730700R2100	1SVR740722R1400	1SVR730722R1400	1SVR740700R0200	1SVR730700R0200	1SVR740700R2200	1SVR730700R2200	1SVR740712R1400	1SVR730712R1400	1SVR740712R0200	1SVR730712R0200	1SVR740712R2200	1SVR730712R2200	1SVR740712R1200	1SVR730712R1200	1SVR740712R1300	1SVR730712R1300
Type	CM-MSE	CM-MSE	CM-MSE	CM-MSS.11P	CM-MSS.11S	CM-MSS.12P	CM-MSS.12S	CM-MSS.13P	CM-MSS.13S	CM-MSS.21P	CM-MSS.21S	CM-MSS.22P	CM-MSS.22S	CM-MSS.23P	CM-MSS.23S	CM-MSS.31P	CM-MSS.31S	CM-MSS.32P	CM-MSS.32S	CM-MSS.33P	CM-MSS.33S	CM-MSS.41P	CM-MSS.41S	CM-MSS.51P	CM-MSS.51S
Characteristics																									
ATEX approval				■	■					■	■					■	■	■	■	■	■	■	■	■	■
Number of sensor circuits	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
Single or accumulative evaluation																								■	■
Number of LEDs				3	3	2	2	2	2	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Contacts																									
1 c/o (SPDT) contact						■	■	■	■																
2 c/o (SPDT) contacts												■	■	■	■			■	■	■	■	■	■		
1 n/o	■	■	■																						
1 n/c and 1 n/o				■	■					■	■					■	■								
2 x 1 c/o or 1 x 2 c/o contacts, configurable																								■	■
Reset																									
Manual												■	■	■	■	■	■	■	■	■	■	■	■	■	■
Remote												■	■	■	■	■	■	■	■	■	■	■	■	■	■
Auto	■	■	■	■	■	■	■	■	■	■	■	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[1]	■[2]	■[2]
Test button																■	■	■	■	■	■	■	■	■	■
Functions																									
Short-circuit detection										■	■					■	■	■	■	■	■				
Short-circuit detection, configurable																						■	■	■	■
Dynamic interrupted wire detection				■	■					■	■					■	■	■	■	■	■	■	■	■	■
Non-volatile fault storage				■	■					■	■					■	■								
Non-volatile fault storage, configurable																						■	■	■	■
Rated control supply voltage U_S																									
24 V AC	■																								
110-130 V AC		■																							
220-240 V AC			■																						
24-240 V AC/DC				■	■					■	■					■	■					■	■	■	■
24 V AC/DC						■	■					■	■					■	■						
110-130 V AC, 220-240 V AC								■	■					■	■					■	■				
Connection type																									
Push-in terminals				■		■		■		■		■		■		■		■		■		■		■	
Double-chamber cage connection terminals					■		■		■		■		■		■		■		■		■		■		■

[1] For automatic reset, connect terminals S1 to T2.
[2] For automatic reset, connect Terminals S1 to 1T2/2T2.

Thermistor motor protection relays
Ordering details

Description
The thermistor motor protection relay CM-MSS monitors the winding temperature and thus protects the motor from overheating, overload and insufficient cooling in accordance to the product standard IEC 60947-8.



CM-MSS.12S

Ordering details CM-MSx

Characteristics	Type	Order code	Price
See "Selection table CM-MSx range" on page 14	CM-MSE	1SVR550805R9300	R 717.57
	CM-MSE	1SVR550800R9300	R 717.57
	CM-MSE	1SVR550801R9300	R 717.57
	CM-MSS.11P	1SVR740720R1400	R 1320.66
	CM-MSS.11S	1SVR730720R1400	R 1267.23
	CM-MSS.12P	1SVR740700R0100	R 870.27
	CM-MSS.12S	1SVR730700R0100	R 824.46
	CM-MSS.13P	1SVR740700R2100	R 870.27
	CM-MSS.13S	1SVR730700R2100	R 824.46
	CM-MSS.21P	1SVR740722R1400	R 1366.44
	CM-MSS.21S	1SVR730722R1400	R 1305.39
	CM-MSS.22P	1SVR740700R0200	R 954.24
	CM-MSS.22S	1SVR730700R0200	R 893.16
	CM-MSS.23P	1SVR740700R2200	R 954.24
	CM-MSS.23S	1SVR730700R2200	R 893.16
	CM-MSS.31P	1SVR740712R1400	R 1694.70
	CM-MSS.31S	1SVR730712R1400	R 1633.62
	CM-MSS.32P	1SVR740712R0200	R 1038.21
	CM-MSS.32S	1SVR730712R0200	R 977.13
	CM-MSS.33P	1SVR740712R2200	R 1038.21
	CM-MSS.33S	1SVR730712R2200	R 977.13
	CM-MSS.41P	1SVR740712R1200	R 1740.51
	CM-MSS.41S	1SVR730712R1200	R 1679.43
	CM-MSS.51P	1SVR740712R1300	R 2168.01
	CM-MSS.51S	1SVR730712R1300	R 2106.93

S: screw connection **P**: push-in connection



C011-70

Ordering details CM-MSS accessories

Rated response temperature T_{NF}	Color coding	Type	Order code	Price
70 °C	white-brown	C011-70[1]	GHC0110003R0001	R 246.03
80 °C	white-white	C011-80[1]	GHC0110003R0002	R 246.03
90 °C	green-green	C011-90[1]	GHC0110003R0003	R 246.03
100 °C	red-red	C011-100[1]	GHC0110003R0004	R 246.03
110 °C	brown-brown	C011-110[1]	GHC0110003R0005	R 246.03
120 °C	gray-gray	C011-120[1]	GHC0110003R0006	R 246.03
130 °C	blue-blue	C011-130[1]	GHC0110003R0007	R 246.03
140 °C	white-blue	C011-140[1]	GHC0110003R0011	R 246.03
150 °C	black-black	C011-150[1]	GHC0110003R0008	R 246.03
160 °C	blue-red	C011-160[1]	GHC0110003R0009	R 246.03
170 °C	white-green	C011-170[1]	GHC0110003R0010	R 246.03
150 °C	black-black	C011-3-150[2]	GHC0110033R0008	R 190.56

[1] Temperature sensor C011, standard version acc. to DIN 44081
[2] Triple temperature sensor C011-3

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Temperature monitoring relays
Selection

	Order number	1SVR 730 740 R9100	1SVR 740 740 R9100	1SVR 730 740 R0100	1SVR 740 740 R0100	1SVR 730 740 R9200	1SVR 740 740 R9200	1SVR 730 740 R0200	1SVR 740 740 R0200	1SVR 730 740 R9300	1SVR 740 740 R9300	1SVR 730 740 R0300	1SVR 740 740 R0300		1SAR 700 100 R0005	1SAR 700 100 R0010	1SAR 700 110 R0010
	Type	CM-TCS.21S	CM-TCS.21P	CM-TCS.11S	CM-TCS.11P	CM-TCS.22S	CM-TCS.22P	CM-TCS.12S	CM-TCS.12P	CM-TCS.23S	CM-TCS.23P	CM-TCS.13S	CM-TCS.13P		C512-24	C512-W	C513-W
Rated control supply voltage U_s																	
24 V AC/DC		■	■			■	■			■	■				■		
24-240 V AC/DC				■	■			■	■			■	■			■	■
Technology																	
analogue		■	■	■	■	■	■	■	■	■	■	■	■				
digital															■	■	■
Sensor circuits (2 or 3 wire)																	
number of temperature sensors		1	1	1	1	1	1	1	1	1	1	1	1		1	1	3
number of thresholds		2	2	2	2	2	2	2	2	2	2	2	2		2	2	3
Sensor type																	
PT100		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
PT100, KTY83, KTY84, NTC, PT1000															■	■	■
Measuring temperature range																	
-50...+50 °C		■	■	■	■												
0...+100 °C						■	■	■	■								
0...+200 °C										■	■	■	■				
-50...+500 °C															■	■	■
Monitoring function																	
overtemperature		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
undertemperature		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
window temperature		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
Operating principle																	
open or closed principle		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
Output contacts																	
n/o															1	1	1
c/o		2	2	2	2	2	2	2	2	2	2	2	2		2	2	2



Temperature monitoring relays
Ordering details



CM-TCS



C512, C513

Description
The temperature monitoring relays of CM-TCS and C51x range are able to measure temperatures of solids, liquids and gaseous media using different types of sensors. Overtemperature and undertemperature monitoring as well as open- or closed-circuit principle is configurable for all devices. As soon as the temperature falls below or exceeds the set threshold value the output relays change their positions according to the configured functionality and the front-face LED's display the current status.

Ordering details - Temperature monitoring relays CM-TCS

Rated control supply voltage	Measuring range	Temperature sensors	Type	Order code	Price
24-240 V AC/DC	-50...+50 °C	PT100	CM-TCS.11S	1SVR730740R0100	R 2870.31
			CM-TCS.11P	1SVR740740R0100	R 2946.66
	0...+100 °C		CM-TCS.12S	1SVR730740R0200	R 2870.31
			CM-TCS.12P	1SVR740740R0200	R 2946.66
	0...+200 °C		CM-TCS.13S	1SVR730740R0300	R 2870.31
			CM-TCS.13P	1SVR740740R0300	R 2946.66
24 V AC/DC	-50...+50 °C		CM-TCS.21S	1SVR730740R9100	R 2351.22
			CM-TCS.21P	1SVR740740R9100	R 2427.57
	0...+100 °C		CM-TCS.22S	1SVR730740R9200	R 2351.22
			CM-TCS.22P	1SVR740740R9200	R 2427.57
	0...+200 °C		CM-TCS.23S	1SVR730740R9300	R 2351.22
			CM-TCS.23P	1SVR740740R9300	R 2427.57

S: screw connection **P:** push-in connection

Ordering details - Temperature monitoring relays C51x

Rated control supply voltage	Measuring range	Temperature sensors	Type	Order code	Price
24 V AC/DC	-50...+500 °C	PT100, PT1000, NTC, KTY84, KTY83	C512-24	1SAR700100R0005	R 4183.32
24-240 V AC/DC			C512-W	1SAR700100R0010	R 4473.42
24-240 V AC/DC			C513-W	1SAR700110R0010	R 6504.00

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Liquid level Monitors and Controls
Selection

Description
All CM-ENS devices
– Devices with wide rated control supply voltage 24-240 V AC/DC
– Cascadable
– High EMC Immunity
– 3 LEDs for the Indication of operational states
– Screw connection technology or Easy Connect Technology
– Housing material for highest fire protection classification UL 94 V-0
– Tool-free mounting and demounting on DIN rall
– 22.5 mm (0.89 In) width

	Order code	1SVR 550 855 R9500	1SVR 550 850 R9500	1SVR 550 851 R9500	1SVR 550 855 R9400	1SVR 550 850 R9400	1SVR 550 851 R9400	1SVR 730 850 R0100	1SVR 740 850 R0100	1SVR 730 850 R2100	1SVR 740 850 R2100	1SVR 730 850 R0200	1SVR 740 850 R0200	1SVR 730 850 R2200	1SVR 740 850 R2200	1SVR 730 850 R0300	1SVR 740 850 R0300
	Type	CM-ENE MIN	CM-ENE MIN	CM-ENE MIN	CM-ENE MAX	CM-ENE MAX	CM-ENE MAX	CM-ENS.11S	CM-ENS.11P	CM-ENS.13S	CM-ENS.13P	CM-ENS.21S	CM-ENS.21P	CM-ENS.23S	CM-ENS.23P	CM-ENS.31S	CM-ENS.31P
Rated control supply voltage U_s																	
24-240 V AC/DC								■	■			■	■			■	■
24 V AC		■			■												
110-130 V AC			■			■				■	■			■	■		
220-240 V AC				■			■			■	■			■	■		
Sensor circuit																	
Number of electrodes (including ground reference)		2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Response sensitivity range																	
0-100 kOhm		■	■	■	■	■	■										
5-100 kOhm								adj	adj	adj	adj						
0.1-1000 kOhm												adj	adj	adj	adj	adj	adj
Monitoring function																	
Dry running protection		■	■	■				■	■	■	■	■	■	■	■	■	■
Overflow protection					■	■	■	■	■	■	■	■	■	■	■	■	■
Liquid level control					■	■	■	■	■	■	■	■	■	■	■	■	■
Operating principle																	
Open-circuit principle		■	■	■				■	■	■	■						
Closed-circuit principle					■	■	■										
Open- or closed-circuit principle												sel	sel	sel	sel	sel	sel
Adjustable ON-/OFF-delay																	
0.1-10 s																■	■
Output contacts																	
n/o		1	1	1	1	1	1										
c/o (SPTD)								1	1	1	1	1	1	1	1	2	2
Connection type																	
Push-in terminals									■		■		■		■		■
Double-chamber cage connection terminals								■		■		■		■		■	

Liquid level monitors and controls
Ordering details



CM-ENE MIN



CM-ENS.11S

Description
The liquid level monitoring relay CM-ENS monitors and controls the liquid level and ratios of mixtures of conductive fluids. It is used for filling and draining applications, to protect pumps against dry-running, tanks against overflow and for signalization of the status of the monitored liquid level.

Liquid level monitoring relays are

Suitable for		Not suitable for	
spring water	acids, bases	chemically pure water	ethylene glycol
drinking water	liquid fertilizers	fuel	concentrated alcohol
sea water	milk, beer, coffee	oils	paraffin
sewage	non-concentrated alcohol	explosive areas (liquid gas)	lacquers

Ordering details

Characteristics	Type	Order code	Price
See “Selection” on page 18	CM-ENE MIN	1SVR550855R9500	R 854.97
		1SVR550850R9500	R 854.97
		1SVR550851R9500	R 854.97
	CM-ENE MAX	1SVR550855R9400	R 854.97
		1SVR550850R9400	R 854.97
		1SVR550851R9400	R 854.97

Ordering details

Characteristics	Type	Order code	Price
See “Selection” on page 18	CM-ENS.11S	1SVR730850R0100	R 1221.42
	CM-ENS.11P	1SVR730850R2100	R 1221.42
	CM-ENS.13S	1SVR740850R0100	R 1313.01
	CM-ENS.13P	1SVR740850R2100	R 1313.01
	CM-ENS.21S	1SVR730850R0200	R 1282.47
	CM-ENS.21P	1SVR740850R0200	R 1374.09
	CM-ENS.23S	1SVR730850R2200	R 1282.47
	CM-ENS.23P	1SVR740850R2200	R 1374.09
	CM-ENS.31S	1SVR730850R0300	R 1771.05
	CM-ENS.31P	1SVR740850R0300	R 1893.18

S: screw connection **P**: push-in connection

Ordering details - Bar electrodes

Description	Material no.	Type	Order code	Price
Compact support for 3 bar electrodes	-	CM-KH-3	1SVR450056R6000	R 2097.33
Distance plate for 3 bar electrodes		CM-AH-3	1SVR450056R7000	R 231.93
Counter nut for 1“ thread		CM-GM-1	1SVR450056R8000	R 231.93
Length: 300 mm	1.4301	CM-SE-300	1SVR450056R0000	R 194.61
Length: 600 mm	1.4301	CM-SE-600	1SVR450056R0100	R 215.79
Length: 1000 mm	1.4301	CM-SE-1000	1SVR450056R0200	R 240.00

Ordering details - Suspension electrodes

Description	Material no.	Type	Order code	Price
CM-HE suspension electrode	1.4104	CM-HE	1SVR402902R0000	R 322.68
CM-HC suspension electrode	1.4104	CM-HC	1SVR402902R1000	R 435.60
CM-HCT supsension electrode suitable for drink water	1.4301	CM-HCT	1SVR402902R2000	R 786.51

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Monitoring Relays
CM-CT current transformers

Plug-in current transformers CM-CT
– Without primary conductor though with foot angle, insulating protective cap and bar fastening screws
– Primary / rated current from 50 A to 600 A
– Secondary current of 1 A to 5 A
– Class 1



CM-CT



CM-CT with mounted accessories

Ordering details

Rated Primary Current	Secondary Current	Burden Class	Type	Order Code	Price
50 A	1 A	1 VA / 1	CM-CT 50/1	1SVR450116R1000	R 743.87
75 A		1.5 VA / 1	CM-CT 75/1	1SVR450116R1100	R 743.87
100 A		2.5 VA / 1	CM-CT 100/1	1SVR450116R1200	R 743.87
150 A		2.5 VA / 1	CM-CT 150/1	1SVR450116R1300	R 743.87
200 A		2.5 VA / 1	CM-CT 200/1	1SVR450116R1400	R 743.87
300 A		5 VA / 1	CM-CT 300/1	1SVR450117R1100	R 743.87
400 A		5 VA / 1	CM-CT 400/1	1SVR450117R1200	R 743.87
500 A		5 VA / 1	CM-CT 500/1	1SVR450117R1300	R 743.87
600 A		5 VA / 1	CM-CT 600/1	1SVR450117R1400	R 743.87
50 A	5 A	1 VA / 1	CM-CT 50/5	1SVR450116R5000	R 627.58
75 A		1.5 VA / 1	CM-CT 75/5	1SVR450116R5100	R 627.58
100 A		2.5 VA / 1	CM-CT 100/5	1SVR450116R5200	R 627.58
150 A		2.5 VA / 1	CM-CT 150/5	1SVR450116R5300	R 627.58
200 A		5 VA / 1	CM-CT 200/5	1SVR450116R5400	R 627.58
300 A		5 VA / 1	CM-CT 300/5	1SVR450117R5100	R 627.58
400 A		5 VA / 1	CM-CT 400/5	1SVR450117R5200	R 627.58
500 A		5 VA / 1	CM-CT 500/5	1SVR450117R5300	R 627.58
600 A		5 VA / 1	CM-CT 600/5	1SVR450117R5400	R 627.58

Primary Switch Mode Power Supplies

CP-D range

Description

The CP-D range of modular power supply units in MDRC design (modular DIN rail components) is ideally suited for installation in distribution panels. This range offers devices with output voltages of 12 V DC and 24 V DC at output currents of 0.42 A to 4.2 A.



CP-D 24/2.5

Input voltage (V)		Rated output		Type	Order code	Price
AC	DC	Voltage	Current			
90-264	120-375	12VDC	0.83A	CP-D 12/0.83	1SVR427041R1000	R 1054.87
90-264	120-375	12VDC	2.1A	CP-D 12/2.1	1SVR427043R1200	R 1270.84
90-264	120-375	24VDC	0.42A	CP-D 24/0.42	1SVR427041R0000	R 971.82
90-264	120-375	24VDC	1.3A	CP-D 24/1.3	1SVR427043R0100	R 1146.24
90-264	120-375	24VDC	2.5A	CP-D 24/2.5	1SVR427044R0200	R 1445.26
90-264	120-375	24VDC	4.2A	CP-D 24/4.2	1SVR427045R0400	R 1943.64

CP-E < 100W

Description

This range offers types with output voltages from 5 V DC to 48 V DC at output currents of 0.625 A to 20 A. The high thermal efficiency of up to 90 %, corresponding to very low power and heat dissipation, allows operation without forced cooling.



CP-E 12/2.5

Input voltage (V)		Rated output		Type	Order code	Price
AC	DC	Voltage	Current			
90-264	120-375	5VDC	3A	CP-E 5/3.0	1SVR427033R3000	R 1320.66
85-264	90-375	12VDC	2.5A	CP-E 12/2.5	1SVR427032R1000	R 1320.66
90-132 ; 180-264	210-375	12VDC	10A	CP-E 12/10.0	1SVR427035R1000	R 2358.95
90-264	120-375	24VDC	0.75A	CP-E 24/0.75	1SVR427030R0000	R 1054.87
85-264	90-375	24VDC	1.25A	CP-E 24/1.25	1SVR427031R0000	R 1146.24
85-264	90-375	24VDC	2.5A	CP-E 24/2.5	1SVR427032R0000	R 1445.26

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Primary Switch Mode Power Supplies

CP-E > 100W



CP-E 48.10.0

Input voltage (V)		Rated output		Type	Order code	Price
AC	DC	Voltage	Current			
90-132 ; 180-264	210-375	24VDC	5A	CP-E 24/5.0	1SVR427034R0000	R 2126.37
90-132 ; 180-264	210-375	24VDC	10A	CP-E 24/10.0	1SVR427035R0000	R 2990.20
90-264	120-375	24VDC	20A	CP-E 24/20.0	1SVR427036R0000	R 4086.62
85-264	90-375	48VDC	0.625A	CP-E 48/0.62	1SVR427030R2000	R 1395.44
85-264	90-375	48VDC	1.25A	CP-E 48/1.25	1SVR427031R2000	R 1777.52
90-132 ; 180-264	210-375	48VDC	5A	CP-E 48/5.0	1SVR427034R2000	R 3588.25
90-264	120-375	48VDC	10A	CP-E 48/10.0	1SVR427035R2000	R 4900.63

CP-T Range

Description
The CP-T range of three-phase power supply units are designed for an ambient temperature of up to 70o C and efficiency of up to 92%.



CP-T 24/10.0,
CP-T 48/5.0

Input voltage (V)		Rated output		Type	Order code	Price
AC	DC	Voltage	Current			
340-575	480-820	24VDC	5A	CP-T 24/5.0	1SVR427054R0000	R 2558.30
340-575	480-820	24VDC	10A	CP-T 24/10.0	1SVR427055R0000	R 3256.02
340-575	480-820	24VDC	20A	CP-T 24/20.0	1SVR427056R0000	R 4036.77
340-575	480-820	24VDC	40A	CP-T 24/40.0	1SVR427057R0000	R 6528.63
340-575	480-820	48VDC	5A	CP-T 48/5.0	1SVR427054R2000	R 3603.15
340-575	480-820	48VDC	10A	CP-T 48/10.0	1SVR427055R2000	R 4442.88
340-575	480-820	48VDC	20A	CP-T 48/20.0	1SVR427056R2000	R 7206.33

Primary Switch Mode Power Supplies
CP-C.1 Range

Description
The CP-C.1 power supplies are ABB's high-performance and most advanced range. With excellent efficiency, high reliability and innovative functionality it is prepared for the most demanding industrial applications. These power supplies have up to 50 % integrated power reserve and operate at an efficiency of up to 94 %. They are equipped with overheat protection and active power factor correction.



CP-C 1 24/5.0

Input voltage (V)		Rated output		Type	Order code	Price
AC	DC	Voltage	Current			
100-240	90-300	24V DC	5A	CP-C.1 24/5.0	1SVR360563R1001	R 2965.86
100-240	90-300	24V DC	10A	CP-C.1 24/10.0	1SVR360663R1001	R 4012.62
100-240	90-300	24V DC	20A	CP-C.1 24/20.0	1SVR360763R1001	R 6138.33

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Electronic Products and Relays
Analog Signal Converters



CC-E Range



CC-U Range

– Universally configurable devices and single-function devices
– Adjustment and operating elements on the front side
– Safe operation by electrical 3-way isolation
– Unambiguous and clear connecting terminal markings

Conversion, measurement and separation of
– Standard signals (0-5 V, 0-10 V, 0-20 mA, 4-20 mA)
– Temperature signals of RTD sensors (PT 100)
– Thermocouple signals (types J and K)
– Current measurement signals (0-5 A, 0-20 A AC/DC)

Characteristics of single-function devices
– No adjustment or balancing necessary.

Characteristics of universal devices
– The required input and output ranges can be configured by means of directly accessible DIP switches positioned on the side
– Gain adjustment of ±5 % by means of an adjustment potentiometer on the front-side
– Offset adjustment of ±5 % by means of adjustment potentiometers on the front-side

– 8 different standard signal outputs on one device
– Input and output side universally configurable
– Also available with 2 threshold relay outputs
– Adjustment and operating elements on the front side
– Safe operation by electrical 3-way isolation
– Plug-in connecting terminals, unambiguously and clearly marked

Conversion, measurement and separation of
– Standard signals
– Signals of RTD sensors (PT10, PT100, PT1000)
– Thermocouple signals
– TRMS values of currents and voltages

Characteristics
– The required input and output ranges can be configured for all devices by means of directly accessible DIP switches positioned on the side.
– Due to the wide input range of the gain and offset stages all input signals between the minimum and the maximum input value can be universally converted to all common output signals.
– Devices for DC or AC (50/60 Hz) supply available.

Analog signal converters – CC-E range
Ordering details - Standard signal converters



CC-E/I

Ordering details - Standard signal converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24 V DC	0-5 V, 0-10 V, 0-20 mA, 4-20 mA	0-5 V, 0-10 V, 0-20 mA, 4-20 mA	CC-E/STD[1]	1SVR011700R0000	R 4178.91
	0-10 V	0-10 V	CC-E V/V	1SVR011710R2100	R 3273.91
		0-20 mA	CC-E V/I	1SVR011711R1600	R 3273.91
		4-20 mA	CC-E V/I	1SVR011712R1700	R 3273.91
	0-20 mA	0-10 V	CC-E I/V	1SVR011713R1000	R 3273.91
		0-20 mA	CC-E I/I	1SVR011714R1100	R 3273.91
		4-20 mA	CC-E I/I	1SVR011715R1200	R 3273.91
	4-20 mA	0-10 V	CC-E I/V	1SVR011716R1300	R 3273.91
		0-20 mA	CC-E I/I	1SVR011717R1400	R 3273.91
		4-20 mA	CC-E I/I	1SVR011718R2500	R 3273.91
	-10...+10 V	-10...+10 V	CC-E V/V	1SVR011719R2600	R 3273.91
110-240 V AC	0-5 V, 0-10 V, 0-20 mA, 4-20 mA	0-5 V, 0-10 V, 0-20 mA, 4-20 mA	CC-E/STD	1SVR011705R2100	R 4178.91
	0-10 V	0-10 V	CC-E V/V	1SVR011720R2300	R 3273.91
		0-20 mA	CC-E V/I	1SVR011721R1000	R 3273.91
		4-20 mA	CC-E V/I	1SVR011722R1100	R 3273.91
	0-20 mA	0-10 V	CC-E I/V	1SVR011723R1200	R 3273.91
		0-20 mA	CC-E I/I	1SVR011724R1300	R 3273.91
		4-20 mA	CC-E I/I	1SVR011725R1400	R 3273.91
	4-20 mA	0-10 V	CC-E I/V	1SVR011726R1500	R 3273.91
		0-20 mA	CC-E I/I	1SVR011727R1600	R 3273.91
		4-20 mA	CC-E I/I	1SVR011728R2700	R 3273.91
loop powered	-10...+10 V	-10...+10 V	CC-E V/V	1SVR011729R2000	R 3273.91
	0-20 mA, 4-20 mA	0-20 mA, 4-20 mA	CC-E I/I-1[2]	1SVR010200R1600	R 3114.22
			CC-E I/I-2[2]	1SVR010201R0300	R 5376.69

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Analog signal converters – CC-E range
Ordering details - RTD converters



CC-E/RTD

Ordering details - RTD converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24 V DC	see below	0-10 V, 0-20 mA, 4-20 mA	CC-E/RTD[2)]	1SVR011701R2500	R 4870.97
	PT100 0...100 °C	0-10 V	CC-E RTD/V	1SVR011730R2500	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011731R1200	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011732R1300	R 3753.02
	PT100 -50...+50 °C	0-10 V	CC-E RTD/V	1SVR011733R1400	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011734R1500	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011735R1600	R 3753.02
	PT100 0...300 °C	0-10 V	CC-E RTD/V	1SVR011736R1700	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011737R1000	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011738R2100	R 3753.02
	PT100 -50...+250 °C	0-10 V	CC-E RTD/V	1SVR011739R2200	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011740R0700	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011741R2400	R 3753.02
110-240 V AC	see below	0-10 V, 0-20 mA, 4-20 mA	CC-E/RTD	1SVR011706R2200	R 4870.97
	PT100 0...100 °C	0-10 V	CC-E RTD/V	1SVR011788R2400	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011789R2500	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011790R2200	R 3753.02
	PT100 -50...+50 °C	0-10 V	CC-E RTD/V	1SVR011791R1700	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011792R1000	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011793R1100	R 3753.02
	PT100 0...300 °C	0-10 V	CC-E RTD/V	1SVR011794R1200	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011795R1300	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011796R1400	R 3753.02
	PT100 -50...+250 °C	0-10 V	CC-E RTD/V	1SVR011797R1500	R 3753.02
		0-20 mA	CC-E RTD/I	1SVR011798R2600	R 3753.02
		4-20 mA	CC-E RTD/I	1SVR011799R2700	R 3753.02

Order code	Input signal
1SVR011701R2500	0-100° C 0-500° C
1SVR011706R2200	-50° C...+50° C -50° C...+450° C

Analog signal converters - CC-E range
Ordering details - Thermocouple converters



CC-E TC

Ordering details - Thermocouple Converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24 V DC	thermocouple types J and K	0-10 V, 0-20 mA, 4-20 mA	CC-E/TC[1)]	1SVR011702R2600	R 4737.89
	type J 0...600 °C	0-10 V	CC-E TC/V	1SVR011750R0100	R 3593.33
		0-20 mA	CC-E TC/I	1SVR011751R2600	R 3593.33
		4-20 mA	CC-E TC/I	1SVR011752R2700	R 3593.33
	type K 0...1000 °C	0-10 V	CC-E TC/V	1SVR011753R2000	R 3593.33
		0-20 mA	CC-E TC/I	1SVR011754R2100	R 3593.33
		4-20 mA	CC-E TC/I	1SVR011755R2200	R 3593.33
110-240 V AC	thermocouple types J and K	0-10 V, 0-20 mA, 4-20 mA	CC-E/TC	1SVR011707R2300	R 4737.89
	type J 0...600 °C	0-10 V	CC-E TC/V	1SVR011760R0300	R 3593.33
		0-20 mA	CC-E TC/I	1SVR011761R2000	R 3593.33
		4-20 mA	CC-E TC/I	1SVR011762R2100	R 3593.33
	type K 0...1000 °C	0-10 V	CC-E TC/V	1SVR011763R2200	R 3593.33
		0-20 mA	CC-E TC/I	1SVR011764R2300	R 3593.33
		4-20 mA	CC-E TC/I	1SVR011765R2400	R 3593.33

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Analog signal converters - CC-E range
Ordering details - Measuring converters



CC-E I_{AC}/ILPO

Ordering details - Measuring Converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24 V DC	0-5 A, 0-20 A, AC/DC	0-10 V, 0-20 mA, 4-20 mA	CC-E/I[1)]	1SVR011703R2700	R 4737.89
	0-5 A, 0-20 A, AC	0-10 V	CC-E I_{AC}/V	1SVR011770R0500	R 3593.33
		0-20 mA	CC-E I_{AC}/I	1SVR011771R2200	R 3593.33
		4-20 mA	CC-E I_{AC}/I	1SVR011772R2300	R 3593.33
	0-5 A, 0-20 A, DC	0-10 V	CC-E I_{DC}/V	1SVR011773R2400	R 4132.33
		0-20 mA	CC-E I_{DC}/I	1SVR011774R2500	R 4132.33
		4-20 mA	CC-E I_{DC}/I	1SVR011775R2600	R 4132.33
110-240 V AC	0-5 A, 0-20 A, AC/DC	0-10 V, 0-20 mA, 4-20 mA	CC-E/I	1SVR011708R0400	R 4737.89
	0-5 A, 0-20 A, AC	0-10 V	CC-E I_{AC}/V	1SVR011780R1100	R 3593.33
		0-20 mA	CC-E I_{AC}/I	1SVR011781R0600	R 3593.33
		4-20 mA	CC-E I_{AC}/I	1SVR011782R0700	R 3593.33
	0-5 A, 0-20 A, DC	0-10 V	CC-E I_{DC}/V	1SVR011783R0000	R 4132.33
		0-20 mA	CC-E I_{DC}/I	1SVR011784R0100	R 4132.33
		4-20 mA	CC-E I_{DC}/I	1SVR011785R1100	R 4132.33
loop powered	0-1 A, 0-5 A, AC	4-20 mA	CC-E I_{AC}/ILPO[2)]	1SVR010203R0500	R 5323.47

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Analog signal converters - CC-U range
Ordering details



CC-U/STDR

Ordering details - Standard Signal Converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24-48 V DC, 24 V AC	refer to technical data table at end	refer to technical data table at end	CC-U/STD	1SVR040000R1700	R 4414.59
110-240 V AC, 100-300 V DC				1SVR040001R0400	R 4414.59
24-48 V DC, 24 V AC		2 c/o	CC-U/STDR[1]	1SVR040010R0000	R 3315.30
110-240 V AC, 100-300 V DC				1SVR040011R2500	R 3315.30



CC-U/RTD

Ordering details - RTD Converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24-48 V DC, 24 V AC	refer to technical data table at end	refer to technical data table at end	CC-U/RTD	1SVR040002R0500	R 4589.07
110-240 V AC, 100-300 V DC				1SVR040003R0600	R 4589.07



CC-U/TC

Ordering details - Thermocouple Converters

Supply voltage range	Input signal	Output signal	Type	Order code	Price
24-48 V DC, 24 V AC	refer to technical data table at end	refer to technical data table at end	CC-U/TC	1SVR040004R0700	R 4885.71
110-240 V AC, 100-300 V DC				1SVR040005R0000	R 4885.71
24-48 V DC, 24 V AC		2 c/o	CC-U/TCR[1]	1SVR040014R2000	R 3472.35
110-240 V AC, 100-300 V DC				1SVR040015R2100	R 3472.35



CC-U/I

Ordering details - Measuring Converters

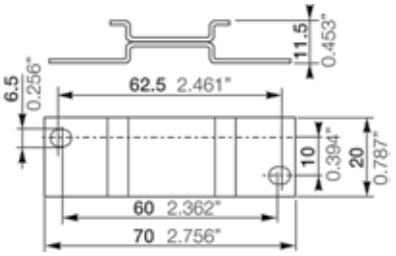
Supply voltage range	Input signal	Output signal	Type	Order code	Price
24-48 V DC, 24 V AC	refer to technical data table at end	refer to technical data table at end	CC-U/I[2]	1SVR040006R0100	R 4275.00
110-240 V AC, 100-300 V DC				1SVR040007R0200	R 4275.00
24-48 V DC, 24 V AC			CC-U/V[3]	1SVR040008R1300	R 4275.00
110-240 V AC, 100-300 V DC				1SVR040009R1400	R 4275.00

[1] with relay output
[2] for current RMS values
[3] for voltage RMS values

Analog signal converters - CC-U range
Ordering details - Accessories

Ordering details - Accessories

For type	Width in mm	Type	Order code	Price
CC-U	22.5	ADP.01	1SVR430029R0100	R 285.00
CC-U		MAR.01	1SVR366017R0100	R 4.81
CC-U	22.5	COV.01	1SVR430005R0100	R 165.67



ADP.01



MAR.01



Sealable cover - COV.01

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Analog signal converters - CC-U range
Technical data

Type			CC-U/STD			CC-U/RTD [3]	CC-U/TC
Input circuits - Analog inputs	J-G-H		Current	Voltage	Potentio-meter	Temperature sensors	Thermocouples (IEC 584-1 and 2)
Input signal			0-20 mA 4-20 mA 10-50 mA 0-1 mA	0-100 mV 0-1 V 0-5 V 1-5 V 0-10 V 2-10 V ± 10 V	470 Ω -1 MΩ [2]	PT10, PT100, PT1000 (IEL 751 and JICC 1604)	TC.K TC.J TC.T TC.S TC.E TC.N TC.R TC.B
Limitation of input signals			± 55 mA	± 11 V		-	-
Rated input range			-	-	-	Max. temperature adjustable: 6-60 °C for PT1000 50-500 °C for PT100 500-850 °C for PT10	refer to temperature specs. of individual thermocouples
Influence of line resistance			-	-	-	0.015 °C/Ω	< 0.01 % / 100 Ω
Gain adjustment range (universal devices)			0.9-110 mA	45 mV - 22 V	-	see DIP switch settings	
Offset adjustment range (universal devices)			-137.5...+62.5 %			± 5 %	± 10 %
Input impedance			for different ranges			-	-
without detection of input signal interruption			51 Ω	6 MΩ	3 GΩ	-	-
with detection of input signal interruption			51 Ω	3.5 MΩ	9.5 GΩ	-	-
Suppression at 50 Hz			-	-	-	-	> 40 dB
Common-mode rejection			-	-	-	120 dB	105 dB
Output circuits - Analog outputs	D-F, A-C		Current			Voltage	
Output signal			0-20 mA, 4-20 mA			0-5 V, 1-5 V, 0-10 V, 2-10 V, ± 10 V	
Output burden			Ω 600 Ω			Ω 4.7 KΩ	
Accuracy [1]			±0.1 % of full-scale			±0.2 % of full-scale	±0.1 % of full-scale
Residual ripple			-			< 0.15 %	-
Response time			200 µs			10 ms	200 ms
Transmission frequency			1 kHz			80 Hz	2 Hz (to -3 dB)
Supply circuits		K-M	DC versions			AC versions	
Rated supply voltage			24-48 V DC			110-240 V AC	
Supply voltage range			24-48 V DC / 24 V AC			110-240 V AC / 100-300 V DC	
Supply voltage tolerance			DC: -15...+15 %			AC: -15...+10 %	
Rated frequency			0 Hz or 50/60 Hz				
Power consumption			2 W at 24 V DC			4.5 VA at 230 V AC	
Indication of operational states							
Supply voltage			U: green LED				
General data							
Ambient temperature rangeoperation / storage			-20...+60 °C / -40...+80 °C				
Temperature coefficient			±150 ppm/°C			±250 ppm/°C	±200 ppm/°C at min. offset ±400 ppm/°C at max. offset
Mounting position			any				
Mounting			DIN rail (IEC/EN 60715), snap-on mounting / screw mounting with adapter				
Electrical connection							
Wire size	rigid		plug-connector with screw terminals 0.2-2.5 mm² (24-12 AWG)				
	fine-strand with(out) wire end ferrule		plug-connector with screw terminals 0.2-2.5 mm² (24-12 AWG)				
Stripping length			7 mm (0.28 inch)				
Tightening torque			0.4 Nm (3.5 ib.in)				
Electromagnetic compatibility							
Interference immunity			EN 61000-6-2				
electrostatic discharge (ESD)		IEC/EN 61000-4-2	Level 3 (±6 kV / ±8 kV)				
electromagnetic field (HF radiation resistance)		IEC/EN 61000-4-3	10 V/m				
fast transients (Burst)		IEC/EN 61000-4-4	Level 3 (±2 kV / 5 kH)				
powerful impulses (Surge)		IEC/EN 61000-4-5	±2 kV / ±1 kV				
HF line emission		IEC/EN 61000-4-6	10 V				
Interference emission		EN 61000-6-4	Class B				
Isolation data							
Isolation test (between all isolated circuits)			1.5 kV				
Test voltage (between all isolated circuits)			1.5 kV / 50 Hz				

[1] Includes non-linearity and factory setting, influenced by supply voltage and output load.
[2] Detection of an input signal break (fail safe) and resistance > 10 k© results in a linearity of ®0.2 %.
[3] When connecting a 2-wire sensor, the terminals J and H have to be jumpered.

Analog signal converters - CC-U range
Technical data

Type			CC-U/STDR			CC-U/TCR
Input circuits - Analog inputs	J-H		Current	Voltage		Thermocouples (IEC 584-1 and 2)
Measuring signal / input range			0-20 mA 4-20 mA	0-1 V / 1-5 V 0-10 / ±10 V		TC.K, TC.J TC.T, TC.S
Input resistance			approx. 50 q	approx. 1.5 Mq		
Adjustable threshold			2-100 % of selected input range			
Adjustable hysteresis			5-50 % of threshold			
Repeat accuracy (constant parameters)			±0.5 % of full-scale			
Output circuits - Relay outputs		E-D-F, B-C-A	Relay, 2 c/o contacts			
Rated switching voltage			250 V AC			
Rated switching current	AC-12 (resistive) 230 V		4 A			
	AC-15 (inductive) 230 V		3 A			
	DC-12 (resistive) 24 V		4 A			
	DC-13 (inductive) 24 V		2 A			
AC rating (UL 508)	Utilization category (Control Circuit Rating Code)		B 300			
	max. rated operational voltage		300 V AC			
	max. continuous thermal current at B 300		5 A			
	max. making/breaking apparent power at B 300		3600/360 VA			
Minimum switching voltage			12 V			
Minimum switching current / power			10 mA / 0.6 VA (W)			
Response time			10 ms			
Mechanical lifetime			30 x 10^6 switching cycles			
Electrical lifetime	at AC-12, 230 V, 4 A		0.1 Mio. switching cycles			
Supply circuits		K-M	DC versions		AC versions	
Rated supply voltage			24-48 V DC		110-240 V AC	
Supply voltage range			24-48 V DC / 24 V AC		110-240 V AC / 100-300 V DC	
Supply voltage tolerance			DC: -15...+15 %		AC: -15...+10 %	
Rated frequency			0 Hz or 50/60 Hz			
Power consumption			2 W at 24 V DC		4.5 VA at 230 V AC	
Indication of operational states						
Supply voltage			U: green LED			
1st / 2nd output relay energized			R1: yellow LED / R2: yellow LED			
General data						
Ambient temperature range	operation / storage		-20...+60 °C / -40...+80 °C			
Temperature coefficient			±300 ppm/°C			
Mounting position			any			
Mounting			DIN rail (IEC/EN 60715), snap-on mounting / screw mounting with adapter			
Electrical connection						
Wire size	rigid		plug-connector with screw terminals 0.2-2.5 mm^2 (24-12 AWG)			
	fine-strand with(out) wire end ferrule		plug-connector with screw terminals 0.2-2.5 mm^2 (24-12 AWG)			
Stripping length			7 mm (0.28 inch)			
Tightening torque			0.4 Nm (3.5 ib.in)			
Electromagnetic compatibility						
Interference immunity			EN 61000-6-2			
electrostatic discharge (ESD)		IEC/EN 61000-4-2	Level 3 (±6 kV / ±8 kV)			
electromagnetic field (HF radiation resistance)		IEC/EN 61000-4-3	10 V/m			
fast transients (Burst)		IEC/EN 61000-4-4	Level 3 (±2 kV / 5 kH)			
powerful impulses (Surge)		IEC/EN 61000-4-5	±2 kV / ±1 kV			
HF line emission		IEC/EN 61000-4-6	10 V			
Interference emission		EN 61000-6-4	Class B			
Isolation data						
Insulation voltage (between all isolated circuits)			2.5 kV			
Test voltage (between all isolated circuits)			2.5 kV			

[1] When connecting a 2-wire sensor, the terminals J and H have to be jumpered.

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Analog signal converters - CC-U range
Technical data

Type		CC-U/I	CC-U/V
Input circuits - Analog inputs	J-G-H	any current signals, RMS measurement	any voltage signals, RMS measurement
Rated input range		0-1 A 0-5 A	0-100 V, 0-150V, 0-250 V 0-300 V, 0-400 V, 0-450 V 0-550 V, 0-600 V
Measuring frequency		0-600 Hz	
Overload capacity of inputs	input range 1	10 x I_{Nom} (10 A) for max. 2 s	-
	input range 2	10 x I_{Nom} (50 A) for max. 2 s	-
Gain adjustment range		±15 %	
Offset adjustment range		±20 %	
Input impedance / resistance		1A: 60 mq, 5 A: 12 mq	> 800 kq
Output circuits - Analog outputs	D-F, A-C	Current	Voltage
Output signal		0-20 mA, 4-20 mA	0-5 V, 1-5 V, 0-10 V, 2-10 V, ± 10 V
Output load		q 600 q	q 4.7 Kq
Accuracy[1)]		±0.5 % of full-scale	
Temperature coefficient		±250 ppm/°C max.	±300 ppm/°C max.
Residual ripple		< 0.15 %	
Response time		150 ms	
Supply circuits	K-M	DC versions	AC versions
Rated supply voltage		24-48 V DC	110-240 V AC
Supply voltage range		24-48 V DC, 24 V AC	110-240 V AC, 100-300 V DC
Supply voltage tolerance		DC: -15...+15 %	AC: -15...+10 %
Rated frequency		0 Hz or 50/60 Hz	
Power consumption		2 W at 24 V DC	4.5 VA at 230 V AC
Indication of operational states			
Supply voltage		U: green LED	
General data			
Ambient temperature range	operation / storage	-20...+60 °C / -40...+80 °C	
Mounting position		any	
Mounting		DIN rail (IEC/EN 60715), snap-on mounting / screw mounting with adapter	
Electrical connection			
Wire size	rigid	plug-connector with screw terminals 0.2-2.5 mm2 (24-12 AWG)	
	fine-strand with(out) wire end ferrule	plug-connector with screw terminals 0.2-2.5 mm2 (24-12 AWG)	
Stripping length		7 mm (0.28 inch)	
Tightening torque		0.4 Nm (3.5 lb.in)	
Standards			
Product standard		-	
Low Voltage directive		2006/95/EC	
EMC directive		2004/108/EC	
RoHS directive		2011/65/EC	
Electromagnetic compatibility			
Interference immunity		EN 61000-6-2	
electrostatic discharge (ESD)	IEC/EN 61000-4-2	Level 3 (±6 kV / ±8 kV)	
electromagnetic field (HF radiation resistance)	IEC/EN 61000-4-3	10 V/m	
fast transients (Burst)	IEC/EN 61000-4-4	Level 3 (±2 kV / 5 kH)	
powerful impulses (Surge)	IEC/EN 61000-4-5	±2 kV / ±1 kV	
HF line emission	IEC/EN 61000-4-6	10 V	
Interference emission	EN 61000-6-4	Class B	
Isolation data			
Insulation voltage (between all isolated circuits)		1.5 kV	
Test voltage (between all isolated circuits)		1.5 kV / 50 Hz	

[1)] Includes non-linearity and factory setting, influenced by supply voltage and output load.

Interface Relays and optocouplers
Benefits and advantages

Slim Relays CR-S



CR-S

– Standard slim relays (5 mm), optocouplers (5 mm), sockets (6.2 mm) and accessories
– Combination of 9 different rated control supply voltages possible: DC versions: 5 V, 12 V, 24 V AC/DC versions: 12 V, 24 V, 48 V, 60 V, 110 V, 230 V
– Output relay: 1 c/o (SPDT) contact (6 A), standard and gold-plated Output optocoupler: Transistor 100 mA - 48 V DC, MOS-FET 2 A - 24 V DC, Triac 2 A - 240 V AC
– Cadmium-free contact material
– All sockets with LED
– Screw and spring connection terminals
– Jumper bar (red, black, blue), marker and separator available as accessories

Pluggable PCB Relays CR-P



CR-P

– 9 different coil voltages
– DC versions: 12 V, 24 V, 48 V, 110 V
– AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
– Output contacts:
– 1 c/o contact (16 A) or
– 2 c/o contacts (8 A) optionally equipped with gold contacts
– Logical or standard sockets
– Cadmium-free contact material
– Width of socket: 15.5 mm
– Pluggable function modules
– Reverse polarity protection/Free wheeling diode
– LED indication
– RC elements
– Overvoltage protection

Pluggable miniature relays CR-M



CR-M

– 2 different coil voltages
– DC versions: 12 V, 24 V, 48 V, 60 V, 110 V, 125 V, 220 V
– AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
– Output contacts
– 2 c/o contacts (12 A) or
– 3 c/o contacts (10 A) or
– 4 c/o contacts (6 A) optionally equipped with gold contacts, LED and free wheeling diode
– Integrated test button for manual actuation and locking of the output contacts (blue = DC, orange = AC) that can be removed if necessary
– With or without integrated LED
– Logical or standard sockets
– Cadmium-free contact material
– Width on socket: 27 mm
– Pluggable function modules
– Reverse polarity protection/Free wheeling diode
– LED indication
– RC elements
– Overvoltage protection

Pluggable universal relays CR-U



CR-U

– 12 different coil voltages
– DC versions: 12 V, 24 V, 48 V, 110 V, 125 V, 220 V
– AC versions: 24 V, 48 V, 60 V, 110 V, 120 V, 230 V
– Output contacts
– 2 c/o contacts (10 A) or
– 3 c/o contacts (10 A)
– Integrated test button for manual actuation and locking of the output contacts (blue = DC, orange = AC) that can be removed if necessary
– With or without integrated LED
– Cadmium-free contact material
– Width on socket: 38 mm
– Pluggable function modules
– Reverse polarity protection/Free wheeling diode
– LED indication
– RC elements
– Overvoltage protection
– Multifunction time module

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Pluggable interface relays
Ordering details - CR-S range



CR-S Interface relay

Ordering details - CR-S range pluggable interface relays

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
5 V DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S005VDC1R	1SVR405501R1010	R 67.05
12 V DC			CR-S012VDC1R	1SVR405501R2010	R 67.05
24 V DC			CR-S024VDC1R	1SVR405501R3010	R 67.05
48 V DC			CR-S048VDC1R	1SVR405501R4010	R 85.98
60 V DC			CR-S060VDC1R	1SVR405501R5010	R 108.87
5 V DC	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W)[1]	CR-S005VDC1RG	1SVR405501R1020	R 82.05
12 V DC			CR-S012VDC1RG	1SVR405501R2020	R 82.05
24 V DC			CR-S024VDC1RG	1SVR405501R3020	R 82.05
48 V DC			CR-S048VDC1RG	1SVR405501R4020	R 102.57
60 V DC			CR-S060VDC1RG	1SVR405501R5020	R 121.50



CR-S060VDC1RG

Ordering details - CR-S range pluggable optocoupler

Rated control supply voltage	Outputs	Type	Order code	Price
24 V DC	Transistor, 100 mA - 48 V DC	CR-S024VDC1TRA	1SVR405510R3050	R 189.33
	MOS-FET, 2 A - 24 V DC	CR-S024VDC1MOS	1SVR405510R3060	R 315.57
	Triac, 2 A - 240 V AC	CR-S024VDC1TRI	1SVR405510R3070	R 291.90

S = screw connection type **Z** = spring connection type

Ordering details - CR-S range complete interface relays (relay + socket)

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
24 V AC/DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S024VADC1CRS	1SVR405541R3110	R 201.96
			CR-S024VADC1CRZ	1SVR405541R3210	R 217.74
110 V AC/DC			CR-S110VADC1CRS	1SVR405541R6110	R 261.90
			CR-S110VADC1CRZ	1SVR405541R6210	R 283.20
230 V AC/DC			CR-S230VADC1CRS	1SVR405541R7110	R 261.90
			CR-S230VADC1CRZ	1SVR405541R7210	R 283.20
24 V AC/DC	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W)[1]	CR-S024VADC1CRGS	1SVR405541R3120	R 216.96
			CR-S024VADC1CRGZ	1SVR405541R3220	R 232.74
110 V AC/DC			CR-S110VADC1CRGS	1SVR405541R6120	R 280.86
			CR-S110VADC1CRGZ	1SVR405541R6220	R 299.79
230 V AC/DC			CR-S230VADC1CRGS	1SVR405541R7120	R 280.86
			CR-S230VADC1CRGZ	1SVR405541R7220	R 299.79

[1] If specified maximum values exceeded, the gold plating is destroyed. The maximum values of the standard contacts are then valid.

Ordering details - CR-S range sockets

Rated control supply voltage	Connection type	Type	Order code	Price
6-24 V DC	Screw	CR-S006/024VDC1SS	1SVR405521R1100	R 119.13
	Spring	CR-S006/024VDC1SZ	1SVR405521R1200	R 131.76
12-24 V AC/DC	Screw	CR-S012/024VADC1SS	1SVR405521R3100	R 119.13
	Spring	CR-S012/024VADC1SZ	1SVR405521R3200	R 134.10
48-60 V AC/DC	Screw	CR-S048/060VADC1SS	1SVR405521R5100	R 124.65
	Spring	CR-S048/060VADC1SZ	1SVR405521R5200	R 134.10
110-125 V AC/DC	Screw	CR-S110/125VADC1SS	1SVR405521R6100	R 141.99
	Spring	CR-S110/125VADC1SZ	1SVR405521R6200	R 161.73
220-240 V AC/DC	Screw	CR-S220/240VADC1SS	1SVR405521R7100	R 141.99
	Spring	CR-S220/240VADC1SZ	1SVR405521R7200	R 161.73

Ordering details - CR-S range accessories

Version	Type	Order code	Price
Jumper bar 20 pole, blue color	CR-SJB20-BLUE	1SVR405598R0700	R 52.86
Jumper bar 20 pole, red color	CR-SJB20-RED	1SVR405598R0800	R 52.86
Jumper bar 20 pole, black color	CR-SJB20-BLACK	1SVR405598R0900	R 52.86
Separator	CR-SSEP	1SVR405599R0000	R 22.08

Pluggable interface relays
Ordering details - CR-P range



CR-P

Ordering details - CR-P range

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	1 c/o (SPDT)	250 V, 16 A	CR-P012DC1	1SVR405600R4000	R 41.64
24 V DC			CR-P024DC1	1SVR405600R1000	R 41.64
48 V DC			CR-P048DC1	1SVR405600R6000	R 43.06
110 V DC			CR-P110DC1	1SVR405600R8000	R 57.44
24 V AC			CR-P024AC1	1SVR405600R0000	R 48.81
48 V AC			CR-P048AC1	1SVR405600R5000	R 50.27
110 V AC			CR-P110AC1	1SVR405600R7000	R 61.02
120 V AC			CR-P120AC1	1SVR405600R2000	R 61.02
230 V AC			CR-P230AC1	1SVR405600R3000	R 81.11
12 V DC	2 c/o (SPDT)	250 V, 8 A	CR-P012DC2	1SVR405601R4000	R 48.81
24 V DC			CR-P024DC2	1SVR405601R1000	R 48.81
48 V DC			CR-P048DC2	1SVR405601R6000	R 50.27
110 V DC			CR-P110DC2	1SVR405601R8000	R 64.62
24 V AC			CR-P024AC2	1SVR405601R0000	R 58.16
48 V AC			CR-P048AC2	1SVR405601R5000	R 59.58
110 V AC			CR-P110AC2	1SVR405601R7000	R 68.93
120 V AC			CR-P120AC2	1SVR405601R2000	R 68.93
230 V AC			CR-P230AC2	1SVR405601R3000	R 89.73

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CR-P024DC2

Ordering details - CR-P range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
24 V DC	2 c/o (SPDT) gold contact	250 V, 8 A	CR-P024DC2	1SVR405606R1000	R 92.40
24 V AC			CR-P024AC2G	1SVR405606R0000	R 92.85
110 V AC			CR-P110AC2G	1SVR405606R7000	R 104.37
230 V AC			CR-P230AC2G	1SVR405606R3000	R 125.22



CR-PLS

Ordering details - Accessories

Version	Connection terminal	Type	Order code	Price
Logical socket with protective separation	screw	CR-PLS	1SVR405650R0000	R 62.48
Logical socket	screw	CR-PLSx	1SVR405650R0100	R 68.15
	spring	CR-PLC	1SVR405650R0200	R 83.29
Standard socket	screw	CR-PSS	1SVR405650R1000	R 59.58
Plastic holder for socket		CR-PH	1SVR405659R0000	R 4.88
Jumper bar for sockets with screw connection		CR-PJ	1SVR405658R5000	R 45.95
Marker		CR-PM	1SVR405658R0000	R 1.58

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Pluggable interface relays
Ordering details - CR-M range



CR-M024DC2

Ordering details - CR-M range without LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2	1SVR405611R4000	R 91.18
24 V DC			CR-M024DC2	1SVR405611R1000	R 91.18
48 V DC			CR-M048DC2	1SVR405611R6000	R 101.01
60 V DC			CR-M060DC2	1SVR405611R4200	R 101.01
110 V DC			CR-M110DC2	1SVR405611R8000	R 113.55
125 V DC			CR-M125DC2	1SVR405611R8200	R 113.55
220 V DC			CR-M220DC2	1SVR405611R9000	R 121.37
24 V AC			CR-M024AC2	1SVR405611R0000	R 95.50
48 V AC			CR-M048AC2	1SVR405611R5000	R 96.90
110 V AC			CR-M110AC2	1SVR405611R7000	R 99.08
120 V AC			CR-M120AC2	1SVR405611R2000	R 99.08
230 V AC			CR-M230AC2	1SVR405611R3000	R 106.98
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3	1SVR405612R4000	R 94.04
24 V DC			CR-M024DC3	1SVR405612R1000	R 94.04
48 V DC			CR-M048DC3	1SVR405612R6000	R 104.17
60 V DC			CR-M060DC3	1SVR405612R4200	R 104.17
110 V DC			CR-M110DC3	1SVR405612R8000	R 106.98
125 V DC			CR-M125DC3	1SVR405612R8200	R 106.98
220 V DC			CR-M220DC3	1SVR405612R9000	R 114.85
24 V AC			CR-M024AC3	1SVR405612R0000	R 99.08
48 V AC			CR-M048AC3	1SVR405612R5000	R 110.42
60 V AC			CR-M060AC3	1SVR405612R5200	R 112.00
110 V AC			CR-M110AC3	1SVR405612R7000	R 102.67
120 V AC			CR-M120AC3	1SVR405612R2000	R 102.67
230 V AC			CR-M230AC3	1SVR405612R3000	R 109.85
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4	1SVR405613R4000	R 96.90
24 V DC			CR-M024DC4	1SVR405613R1000	R 96.90
48 V DC			CR-M048DC4	1SVR405613R6000	R 99.08
60 V DC			CR-M060DC4	1SVR405613R4200	R 108.09
110 V DC			CR-M110DC4	1SVR405613R8000	R 109.85
125 V DC			CR-M125DC4	1SVR405613R8200	R 109.85
220 V DC			CR-M220DC4	1SVR405613R9000	R 128.45
24 V AC			CR-M024AC4	1SVR405613R0000	R 102.67
48 V AC			CR-M048AC4	1SVR405613R5000	R 113.55
110 V AC			CR-M110AC4	1SVR405613R7000	R 105.53
120 V AC			CR-M120AC4	1SVR405613R2000	R 105.53
230 V AC			CR-M230AC4	1SVR405613R3000	R 113.43

Pluggable interface relays
Ordering details - CR-M range



CR-M with LED

Ordering details - CR-M range with LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2L	1SVR405611R4100	R 109.12
24 V DC			CR-M024DC2L	1SVR405611R1100	R 109.12
48 V DC			CR-M048DC2L	1SVR405611R6100	R 110.57
60 V DC			CR-M060DC2L	1SVR405611R4300	R 120.62
110 V DC			CR-M110DC2L	1SVR405611R8100	R 132.36
125 V DC			CR-M125DC2L	1SVR405611R8300	R 132.36
220 V DC			CR-M220DC2L	1SVR405611R9100	R 141.77
24 V AC			CR-M024AC2L	1SVR405611R0100	R 114.15
48 V AC			CR-M048AC2L	1SVR405611R5100	R 126.08
110 V AC			CR-M110AC2L	1SVR405611R7100	R 117.03
120 V AC			CR-M120AC2L	1SVR405611R2100	R 117.03
230 V AC			CR-M230AC2L	1SVR405611R3100	R 124.92
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3L	1SVR405612R4100	R 111.99
24 V DC			CR-M024DC3L	1SVR405612R1100	R 111.99
48 V DC			CR-M048DC3L	1SVR405612R6100	R 124.53
60 V DC			CR-M060DC3L	1SVR405612R4300	R 124.53
110 V DC			CR-M110DC3L	1SVR405612R8100	R 136.28
125 V DC			CR-M125DC3L	1SVR405612R8300	R 136.28
220 V DC			CR-M220DC3L	1SVR405612R9100	R 144.89
24 V AC			CR-M024AC3L	1SVR405612R0100	R 117.03
48 V AC			CR-M048AC3L	1SVR405612R5100	R 129.20
110 V AC			CR-M110AC3L	1SVR405612R7100	R 119.89
120 V AC			CR-M120AC3L	1SVR405612R2100	R 130.78
230 V AC			CR-M230AC3L	1SVR405612R3100	R 128.50
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4L	1SVR405613R4100	R 115.57
24 V DC			CR-M024DC4L	1SVR405613R1100	R 115.57
48 V DC			CR-M048DC4L	1SVR405613R6100	R 127.66
60 V DC			CR-M060DC4L	1SVR405613R4300	R 127.66
110 V DC			CR-M110DC4L	1SVR405613R8100	R 128.50
125 V DC			CR-M125DC4L	1SVR405613R8300	R 140.19
220 V DC			CR-M220DC4L	1SVR405613R9100	R 148.02
24 V AC			CR-M024AC4L	1SVR405613R0100	R 119.89
48 V AC			CR-M048AC4L	1SVR405613R5100	R 132.36
110 V AC			CR-M110AC4L	1SVR405613R7100	R 123.47
120 V AC			CR-M120AC4L	1SVR405613R2100	R 123.47
230 V AC			CR-M230AC4L	1SVR405613R3100	R 131.38

Ordering details - CR-M range with LED and free-wheeling diode

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4LD	1SVR405614R1100	R 129.20

Ordering details - CR-M range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4G	1SVR405618R1000	R 168.42
24 V AC			CR-M024AC4G	1SVR405618R0000	R 172.74
110 V AC			CR-M110AC4G	1SVR405618R7000	R 175.62
230 V AC			CR-M230AC4G	1SVR405618R3000	R 184.26

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Pluggable interface relays
Ordering details - CR-M range



CR-M with gold contacts and LED

Ordering details – CR-M range with gold contacts and LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	4 c/o (SPDT)	250 V / 6 A	CR-M012DC4LG	1SVR405618R4100	R 185.70
24 V DC			CR-M024DC4LG	1SVR405618R1100	R 185.70
48 V DC			CR-M048DC4LG	1SVR405618R6100	R 187.14
60 V DC			CR-M060DC4LG	1SVR405618R4300	R 187.14
110 V DC			CR-M110DC4LG	1SVR405618R8100	R 198.66
125 V DC			CR-M125DC4LG	1SVR405618R8300	R 198.66
220 V DC			CR-M220DC4LG	1SVR405618R9100	R 207.30
24 V AC			CR-M024AC4LG	1SVR405618R0100	R 190.02
48 V AC			CR-M048AC4LG	1SVR405618R5100	R 191.46
110 V AC			CR-M110AC4LG	1SVR405618R7100	R 192.90
120 V AC			CR-M120AC4LG	1SVR405618R2100	R 192,90
230 V AC			CR-M230AC4LG	1SVR405618R3100	R 202.98



CR-M4SS

Ordering details - Accessories

Version	Connection terminal	Type	Order code	Price
Logical socket for 2 c/o	screw	CR-M2LS	1SVR405651R1100	R 59.58
Logical socket for 3 c/o		CR-M3LS	1SVR405651R2100	R 63.90
Logical socket for 2/4 c/o		CR-M4LS	1SVR405651R3100	R 68.93
Logical socket for 2 c/o	spring	CR-M2LC	1SVR405651R1200	R 108.88
Logical socket for 2/4 c/o		CR-M4LC	1SVR405651R3200	R 120.62
Standard socket for 2 c/o	screw	CR-M2SS	1SVR405651R1000	R 56.72
Standard socket for 3 c/o		CR-M3SS	1SVR405651R2000	R 61.02
Standard socket for 2/4 c/o		CR-M4SS	1SVR405651R3000	R 65.34
Standard socket for 2 c/o	fork type	CR-M2SF	1SVR405651R1300	R 59.54
Standard socket for 2/4 c/o		CR-M4SF	1SVR405651R3300	R 69.70
Plastic holder		CR-MH	1SVR405659R1000	R 8.06
Metal holder		CR-MH1	1SVR405659R1100	R 6.17
Jumper bar for sockets with screw connection		CR-MJ	1SVR405658R6000	R 57.44
Marker		CR-MM	1SVR405658R1000	R 1.58



CR-MJ

Pluggable interface relays
Ordering details CR-P/M functional modules



CR-P/M ...

Ordering details - CR-P/M range

Rated control supply voltage	Description	Version	Type	Order code	Price
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-P/M 22	1SVR405651R0000	R 17.95
6-24 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-P/M 42	1SVR405652R0000	R 39.93
		green, A1+, A2-	CR-P/M 42V	1SVR405652R1000	R 36.60
24-60 V DC		red, A1+, A2-	CR-P/M 42B	1SVR405652R4000	R 39.93
		green, A1+, A2-	CR-P/M 42BV	1SVR405652R4100	R 39.93
110 V DC		red, A1+, A2-	CR-P/M 42C	1SVR405652R9000	R 36.60
		green, A1+, A2-	CR-P/M 42CV	1SVR405652R9100	R 39.93
6-24 V AC/DC	Spark quenching		CR-P/M 52B	1SVR405653R0000	R 43.85
24-60 V AC/DC			CR-P/M 52D	1SVR405653R4000	R 43.85
110 V AC/DC			CR-P/M 52C	1SVR405653R1000	R 43.85
6-24 V AC/DC	Diode, LED and reverse polarity protection	red, for DC A1+, A2-	CR-P/M 62	1SVR405654R0000	R 41.64
		green, for DC A1+, A2-	CR-P/M 62V	1SVR405654R1000	R 41.64
24-60 V AC/DC		red, for DC A1+, A2-	CR-P/M 62E	1SVR405654R4000	R 45.43
		green, for DC A1+, A2-	CR-P/M 62EV	1SVR405654R4100	R 41.64
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92	1SVR405654R0100	R 45.43
		green, for DC A1+, A2-	CR-P/M 92V	1SVR405654R1100	R 41.64
6-24 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-P/M 62C	1SVR405655R0000	R 63.45
		green, for DC A1+, A2-	CR-P/M 62CV	1SVR405655R1000	R 69.70
24-60 V AC/DC		red, for DC A1+, A2-	CR-P/M 62D	1SVR405655R4000	R 63.45
		green, for DC A1+, A2-	CR-P/M 62DV	1SVR405655R4100	R 69.70
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92C	1SVR405655R0100	R 63.45
		green, for DC A1+, A2-	CR-P/M 92CV	1SVR405655R1100	R 69.70
24 V AC	Overvoltage protection		CR-P/M 72	1SVR405656R0000	R 45.43
115 V AC			CR-P/M 72A	1SVR405656R1000	R 45.43
230 V AC			CR-P/M 82	1SVR405656R2000	R 45.43

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Pluggable interface relays
Ordering details - CR-U range



CR-U



CR-U2S

Ordering details - CR-U range without LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2	1SVR405621R4000	R 137.13
24 V DC			CR-U024DC2	1SVR405621R1000	R 137.13
48 V DC			CR-U048DC2	1SVR405621R6000	R 138.55
110 V DC			CR-U110DC2	1SVR405621R8000	R 159.76
220 V DC			CR-U220DC2	1SVR405621R9000	R 162.89
24 V AC			CR-U024AC2	1SVR405621R0000	R 138.55
48 V AC			CR-U048AC2	1SVR405621R5000	R 152.72
110 V AC			CR-U110AC2	1SVR405621R7000	R 141.45
120 V AC			CR-U120AC2	1SVR405621R2000	R 141.45
230 V AC			CR-U230AC2	1SVR405621R3000	R 145.00
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3	1SVR405622R4000	R 141.45
24 V DC			CR-U024DC3	1SVR405622R1000	R 141.45
48 V DC			CR-U048DC3	1SVR405622R6000	R 143.59
110 V DC			CR-U110DC3	1SVR405622R8000	R 152.17
125 V DC			CR-U125DC3	1SVR405622R8200	R 166.01
220 V DC			CR-U220DC3	1SVR405622R9000	R 155.07
24 V AC			CR-U024AC3	1SVR405622R0000	R 143.59
48 V AC			CR-U048AC3	1SVR405622R5000	R 158.18
60 V AC			CR-U060AC3	1SVR405622R5200	R 159.76
110 V AC			CR-U110AC3	1SVR405622R7000	R 146.45
120 V AC			CR-U120AC3	1SVR405622R2000	R 146.45
230 V AC			CR-U230AC3	1SVR405622R3000	R 150.76

Ordering details - CR-U range with LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2L	1SVR405621R4100	R 155.07
24 V DC			CR-U024DC2L	1SVR405621R1100	R 155.07
48 V DC			CR-U048DC2L	1SVR405621R6100	R 170.71
110 V DC			CR-U110DC2L	1SVR405621R8100	R 163.70
220 V DC			CR-U220DC2L	1SVR405621R9100	R 183.25
24 V AC			CR-U024AC2L	1SVR405621R0100	R 156.49
48 V AC			CR-U048AC2L	1SVR405621R5100	R 172.29
110 V AC			CR-U110AC2L	1SVR405621R7100	R 173.87
120 V AC			CR-U120AC2L	1SVR405621R2100	R 159.38
230 V AC			CR-U230AC2L	1SVR405621R3100	R 162.24
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3L	1SVR405622R4100	R 159.38
24 V DC			CR-U024DC3L	1SVR405622R1100	R 159.38
48 V DC			CR-U048DC3L	1SVR405622R6100	R 160.80
110 V DC			CR-U110DC3L	1SVR405622R8100	R 170.87
220 V DC			CR-U220DC3L	1SVR405622R9100	R 173.74
24 V AC			CR-U024AC3L	1SVR405622R0100	R 160.80
48 V AC			CR-U048AC3L	1SVR405622R5100	R 177.00
110 V AC			CR-U110AC3L	1SVR405622R7100	R 163.70
120 V AC			CR-U120AC3L	1SVR405622R2100	R 163.70
230 V AC			CR-U230AC3L	1SVR405622R3100	R 169.42

Ordering details - Accessories

Version	Type	Order code	Price
Socket for 2 c/o and module	CR-U2S	1SVR405670R0000	R 68.20
Socket for 3 c/o and module	CR-U3S	1SVR405660R0000	R 69.65
Socket for 3 c/o	CR-U3E	1SVR405660R0100	R 65.34
Socket small for 2 c/o	CR-U2SM	1SVR405670R1100	R 68.15
Socket small for 3 c/o	CR-U3SM	1SVR405660R1100	R 65.34
Holder for CR-U socket	CR-UH	1SVR405669R0000	R 22.98

Pluggable interface relays
Ordering details - CR-U accessories



CR-U...



CR-U T

Ordering details - CR-U range

Rated control supply voltage	Description	Version	Type	Order code	Price
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-U 21	1SVR405661R0000	R 22.98
6-24 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-U 41	1SVR405662R0000	R 41.64
		green, A1+, A2-	CR-U 41V	1SVR405662R1000	R 45.43
24-60 V DC		red, A1+, A2-	CR-U 41B	1SVR405662R4000	R 45.43
		green, A1+, A2-	CR-U 41BV	1SVR405662R4100	R 45.43
110 V DC		red, A1+, A2-	CR-U 41C	1SVR405662R9000	R 45.43
		green, A1+, A2-	CR-U 41CV	1SVR405662R9100	R 45.43
6-24 V AC/DC	Spark quenching		CR-U 51B	1SVR405663R0000	R 51.67
24-60 V AC/DC			CR-U 51D	1SVR405663R4000	R 51.67
110 V AC/DC			CR-U 51C	1SVR405663R1000	R 51.67
6-24 V AC/DC	Diode and LED	red, for DC A1+, A2-	CR-U 61	1SVR405664R0000	R 78.32
		green, for DC A1+, A2-	CR-U 61V	1SVR405664R1000	R 78.32
24-60 V AC/DC		red, for DC A1+, A2-	CR-U 61E	1SVR405664R4000	R 78.32
		green, for DC A1+, A2-	CR-U 61EV	1SVR405664R4100	R 78.32
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-U 91	1SVR405664R0100	R 78.32
		green, for DC A1+, A2-	CR-U 91V	1SVR405664R1100	R 71.79
6-24 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-U 61C	1SVR405665R0000	R 78.32
		green, for DC A1+, A2-	CR-U 61CV	1SVR405665R1000	R 78,32
24-60 V AC/DC		red, for DC A1+, A2-	CR-U 61D	1SVR405665R4000	R 78.32
		green, for DC A1+, A2-	CR-U 61DV	1SVR405665R4100	R 78.32
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-U 91C	1SVR405665R0100	R 78.32
		green, for DC A1+, A2-	CR-U 91CV	1SVR405665R1100	R 78.32
24 V AC	Overvoltage protection, varistor		CR-U 71	1SVR405666R0000	R 61.87
115 V AC			CR-U 71A	1SVR405666R1000	R 61.87
230 V AC			CR-U 81	1SVR405666R2000	R 61.87
24-240 V AC/DC	Multifunction time module	pluggable onto CR-U2S and CR-U3S	CR-U T	1SVR405667R0000	R 702.08

All CR-U modules can be plugged onto sockets CR-U2S and CR-U3S.

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Interface relays and optocouplers - R600 range
Benefits and advantages

R600 series interface relays and optocouplers

– Boxed slim relays and optocouplers modules 6 mm or 12 mm
– 8 different rated control supply voltages:
  DC versions: 5 V, 12 V, 24 V
  AC/DC versions: 24 V, 48-60 V, 115 V, 230 V, 60-230 V
– Output relay: 1 n/c contact, 1 n/o contact, 1 c/o (SPDT) contact, 2 c/o (SPDT) contacts
  Output optocoupler: Transistor 100 mA - 58 V DC. MOS-FET 2 A / 5 A - 58 V DC, Triac 1 A / 2 A - 230 V AC
– Devices with output contacts protected by built in RC circuit, which result in increased contact life
– Devices with leakage current protection on the input side
– All products with LED for the indication of the operational state
– Screw or spring-type terminals
– Jumper bars and separator end section as accessories

Boxed Interface relays - R600 range
Ordering details



R600 - 6 mm

1 n/c contact: 250 V, 10 mA - 6 A, width 12 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
24 V AC/DC	Screw	RC circuit parallel to output contact	RB101R-24VUC	1SNA645019R0400	R437.25
	Spring		RBR101R-24VUC	1SNA645519R0600	R535.26

1 n/o contact: 250 V, 10 mA - 6 A, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
24 V AC/DC	Screw		RB111-24VUC	1SNA645014R2700	R293.70
115 V AC/DC	Screw		RB111-115VUC	1SNA645016R2100	R472.11
230 V AC/DC	Screw		RB111-230VUC	1SNA645017R2200	R492.63
24 V AC/DC	Spring		RBR111-24VUC	1SNA645514R2100	R307.89

1 n/o contact: 250 V, 10 mA - 6 A, width 12 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
24 V AC/DC	Screw	RC circuit parallel to output contact	RB111R-24VUC	1SNA645018R0300	R425.34
	Spring		RBR111R-24VUC	1SNA645518R0500	R535.26

Boxed Interface relays - R600 range
Ordering details



R600 - 12 mm

1 c/o (SPDT) contact: 250 V, 10 mA - 6 A, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
5 V DC	Screw	A1-A2 polarized	RB121P-5VDC	1SNA645034R2300	R446.25
12 V DC	Screw	A1-A2 polarized	RB121P-12VDC	1SNA645035R2400	R382.50
12 V DC	Screw		RB121-12VDC	1SNA645073R0000	R750.00
24 V DC	Screw		RB121-24VDC	1SNA645071R0000	R226.20
24 V AC/DC	Screw		RB121-24VUC	1SNA645001R0300	R254.61
48-60 V AC/DC	Screw		RB121-48-60VUC	1SNA645002R0400	R276.33
115 V AC/DC	Screw		RB121-115VUC	1SNA645003R0500	R367.11
230 V AC/DC	Screw		RB121-230VUC	1SNA645004R0400	R382.50
5 V DC	Spring	A1-A2 polarized	RBR121P-5VDC	1SNA645534R2500	R428.22
12 V DC	Spring	A1-A2 polarized	RBR121P-12VDC	1SNA645535R2600	R401.46
24 V DC	Spring		RBR121-24VDC	1SNA645571R0000	R750.00
24 V AC/DC	Spring		RBR121-24VUC	1SNA645501R0500	R267.45
48-60 V AC/DC	Spring		RBR121-48-60VUC	1SNA645502R0600	R290.13
115 V AC/DC	Spring		RBR121-115VUC	1SNA645503R0700	R384.87
230 V AC/DC	Spring		RBR121-230VUC	1SNA645504R0000	R401.46

1 c/o (SPDT) contact: 250 V, 3 mA - 6 A, gold-plated contacts, width 6 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
5 V DC	Screw	A1-A2 polarized	RB121PG-5VDC	1SNA645036R2500	R461.43
12 V DC	Screw		RB121G-12VDC	1SNA645075R0000	R1100.00
24 V DC	Screw		RB121G-24VDC	1SNA645072R0000	R255.15
24 V AC/DC	Screw		RB121G-24VUC	1SNA645005R0700	R265.47
48-60 V AC/DC	Screw		RB121G-48-60VUC	1SNA645006R0000	R344.61
115 V AC/DC	Screw		RB121G-115VUC	1SNA645007R0100	R405.48
230 V AC/DC	Screw		RB121G-230VUC	1SNA645008R1200	R395.52
24 V DC	Spring		RBR121G-24VDC	1SNA645572R0000	R251.07
24 V AC/DC	Spring		RBR121G-24VUC	1SNA645505R0100	R279.27
48-60 V AC/DC	Spring		RBR121G-48-60VUC	1SNA645506R0200	R361.20
115 V AC/DC	Spring		RBR121G-115VUC	1SNA645507R0300	R399.09
230 V AC/DC	Spring		RBR121G-230VUC	1SNA645508R1400	R414.48

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Boxed interface relays R600 range
Ordering details

1 c/o (SPDT) contact: 250 V, 10 mA - 6 A, width 12 mm

Rated control supply voltage	Connection type	Particularities	Type	Order code	Price
60-230 V AC/DC	Screw		RB121-60-230VUC	1SNA645020R0100	R720.39
115 V AC/DC	Screw	Leakage current protection, RC circuit parallel to input	RB121R-115VUC	1SNA645046R0700	R625.95
230 V AC/DC	Screw		RB121R-230VUC	1SNA645011R2400	R562.50
60-230 V AC/DC	Spring		RBR121-60-230VUC	1SNA645520R0300	R911.85
230 V AC/DC	Spring	Leakage current protection, RC circuit parallel to input	RBR121R-230VUC	1SNA645511R2600	R710.52

2 c/o (SPDT) contacts: 250 V, 1 mA - 8 A, gold-plated contacts, width 12 mm

Rated control supply voltage	Connection type	Type	Order code	Price
24 V AC/DC	Screw	RB122G-24VUC	1SNA645012R2500	R433.41
48-60 V AC/DC	Screw	RB122G-48-60VUC	1SNA645040R1500	R484.35
115 V AC/DC	Screw	RB122G-115VUC	1SNA645041R0200	R580.80
230 V AC/DC	Screw	RB122G-230VUC	1SNA645013R2600	R569.22
24 V AC/DC	Spring	RBR122G-24VUC	1SNA645512R2700	R378.96
48-60 V AC/DC	Spring	RBR122G-48-60VUC	1SNA645540R1700	R423.36
115 V AC/DC	Spring	RBR122G-115VUC	1SNA645541R0400	R596.85
230 V AC/DC	Spring	RBR122G-230VUC	1SNA645513R2000	R532.89

Ordering details - Accessories

Description	Type	Order code	Price
Jumper bar, 10 poles	BJ612-10	1SNA290488R0100	R51.03
Jumper bar, 20 poles	BJ612-20	1SNA206754R0000	R103.14
Separator end section	SC612	1SNA290474R0200	R35.82

Boxed interface relays R600 range
Selection

	Order number	1SNA645034R2300	1SNA645036R2500	1SNA645534R2500	1SNA645073R0000	1SNA645035R2400	1SNA645075R0000	1SNA645535R2600	1SNA645019R0400	1SNA645519R0600	1SNA645014R2700	1SNA645018R0300	1SNA645518R0500	1SNA645514R2100	1SNA645001R0300	1SNA645005R0700	1SNA645501R0500	1SNA645505R0100	1SNA645012R2500	1SNA645512R2700	1SNA645071R0000	1SNA645571R0000	1SNA645072R0000	1SNA645572R0000
	Type	RB121P-5VDC	RB121PG-5VDC	RBR121P-5VDC	RB121-12VDC	RB121P-12VDC	RB121G-12VDC	RBR121P-12VDC	RB101R-24VUC	RBR101R-24VUC	RB111-24VUC	RB111R-24VUC	RBR111R-24VUC	RBR111-24VUC	RB121-24VUC	RB121G-24VUC	RBR121-24VUC	RBR121G-24VUC	RB122G-24VUC	RBR122G-24VUC	RB121-24VDC	RBR121-24VDC	RB121G-24VDC	RBR121G-24VDC
Input voltage																								
5 V DC		■	■	■																				
12 V DC					■	■	■	■																
24 V DC									■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
48-60 V DC																								
115 V DC																								
230 V DC																								
60-230 V DC																								
24 V AC									■	■	■	■	■	■	■	■	■	■	■	■				
48-60 V AC																								
115 V AC																								
230 V AC																								
60-230 V AC																								
Output rating																								
10 mA - 6 A		■		■	■	■		■	■	■	■	■	■	■	■			■				■	■		
3 mA - 6 A			■				■									■		■						■	■
1 mA - 8 A																			■	■					
Output contacts																								
c/o		1	1	1	1	1	1	1							1	1	1	1	2	2	1	1	1	1
n/o											1	1	1	1										
n/c									1	1														
Terminal type																								
Screw		■	■		■	■	■		■		■	■			■	■			■		■		■	
Spring				■				■		■			■	■			■	■		■		■		■

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1SNA645002R0400	1SNA645006R0000	1SNA645502R0600	1SNA645506R0200		1SNA645040R1500	1SNA645540R1700	1SNA645003R0500	1SNA645007R0100	1SNA645046R0700	1SNA645503R0700	1SNA645507R0300	1SNA645041R0200	1SNA645541R0400	1SNA645016R2100	1SNA645017R2200	1SNA645004R0400	1SNA645008R1200	1SNA645011R2400	1SNA645504R0000	1SNA645508R1400	1SNA645511R2600	1SNA645013R2600	1SNA645513R2000	1SNA645020R0100	1SNA645520R0300
RB121-48-60VUC	RB121G-48-60VUC	RBR121-48-60VUC	RBR121G-48-60VUC		RB122G-48-60VUC	RBR122G-48-60VUC	RB121-115VUC	RB121G-115VUC	RB121R-115VUC	RBR121-115VUC	RBR121G-115VUC	RB122G-115VUC	RBR122G-115VUC	RB111-115VUC	RB111-230VUC	RB121-230VUC	RB121G-230VUC	RB121R-230VUC	RBR121-230VUC	RBR121G-230VUC	RBR121R-230VUC	RB122G-230VUC	RBR122G-230VUC	RB121-60-230VUC	RBR121-60-230VUC
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		■	■			■				■	■		■						■	■	■		■		■

Boxed Interface optocouplers - R600 range
Ordering details



R600 - 6 mm

Transistor output, 58 V DC, 100 mA, width 6 mm

Rated control supply voltage	Connection type	Type	Order code	Price
5 - 12 V DC	Screw	OBIC0100-5-12VDC	1SNA645047R0000	R 377.97
24 V DC	Screw	OBIC0100-24VDC	1SNA645021R2600	R 349.02
48 - 60 V AC/DC	Screw	OBIC0100-48-60VUC	1SNA645049R1200	R 377.97
115 - 230 V AC/DC	Screw	OBIC0100-115-230	1SNA645022R2700	R 413.49
5 - 12 V DC	Spring	OBRIC0100-5-12VDC	1SNA645547R0200	R 396.72
24 V DC	Spring	OBRIC0100-24VDC	1SNA645521R2000	R 359.22
48 - 60 V AC/DC	Spring	OBRIC0100-48-60VUC	1SNA645549R1400	R 396.72
115 - 230 V AC/DC	Spring	OBRIC0100-115-230	1SNA645522R2100	R 434.22

MOS-FET output, 58 V DC, 2 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code	Price
5 - 12 V DC	Screw	OBOC2000-5-12VDC	1SNA645050R1700	R 532.89
24 V DC	Screw	OBOC2000-24VDC	1SNA645051R0400	R 498.36
24 V AC/DC	Screw	OBOC2000-24VUC	1SNA645025R2200	R 498.36
48 - 60 V AC/DC	Screw	OBOC2000-48-60VUC	1SNA645053R0600	R 532.89
115 V AC/DC	Screw	OBOC2000-115VUC	1SNA645054R0700	R 548.58
230 V AC/DC	Screw	OBOC2000-230VUC	1SNA645026R2300	R 547.71
5 - 12 V DC	Spring	OBROC2000-5-12VDC	1SNA645550R1100	R 557.58
24 V DC	Spring	OBROC2000-24VDC	1SNA645551R0600	R 523.02
24 V AC/DC	Spring	OBROC2000-24VUC	1SNA645525R2400	R 523.02
48 - 60 V AC/DC	Spring	OBROC2000-48-60VUC	1SNA645553R0000	R 557.58
230 V AC/DC	Spring	OBROC2000-230VUC	1SNA645526R2500	R 577.32



R600 - 12 mm

MOS-FET output, 58 V DC, 5 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code	Price
24 V DC	Screw	OBOC5000-24VDC	1SNA645024R2100	R 636.51
115 V AC/DC	Screw	OBOC5000-115VUC	1SNA645058R1300	R 745.08
24 V DC	Spring	OBROC5000-24VDC	1SNA645524R2300	R 671.07
230 V AC/DC	Spring	OBROC5000-230VUC	1SNA645559R1600	R 789.48

Triac output, 400 V AC, 1 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code	Price
24 V DC	Screw	OBOA1000-24VDC	1SNA645027R2400	R 498.36
115 V AC/DC	Screw	OBOA1000-115VUC	1SNA645062R0700	R 537.84
230 V AC/DC	Screw	OBOA1000-230VUC	1SNA645028R0500	R 547.71
24 V DC	Spring	OBROA1000-24VDC	1SNA645527R2600	R 523.02

Triac output, 230 V AC, 2 A, width 12 mm

Rated control supply voltage	Connection type	Type	Order code	Price
24 V DC	Screw	OBOA2000-24VDC	1SNA645029R0600	R 636.51
24 V DC	Spring	OBROA2000-24VDC	1SNA645529R0000	R 671.07

Ordering details - Accessories

Description	Type	Order code	Price
Jumper bar, 10 poles	BJ612-10	1SNA290488R0100	R 51.03
Jumper bar, 20 poles	BJ612-20	1SNA206754R0000	R 103.14
Separator end section	SC612	1SNA290474R0200	R 35.82

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Boxed interface optocouplers R600 range

Selection

Order number	1SNA645047R0000	1SNA645547R0200	1SNA645021R2600	1SNA645521R2000	1SNA645549R1400	1SNA645022R2700	1SNA645522R2100	1SNA645050R1700	1SNA645550R1100	1SNA645051R0400	1SNA645025R2200	1SNA645024R2100	1SNA645551R0600	1SNA645525R2400	1SNA645524R2300	1SNA645053R0600	1SNA645553R0000	1SNA645054R0700	1SNA645058R1300	1SNA645026R2300	1SNA645526R2500	1SNA645559R1600	1SNA645027R2400	1SNA645029R0600	1SNA645527R2600	1SNA645529R0000	1SNA645062R0700	1SNA645028R0500
Type	OBIC0100-5-12VDC	OBRIC0100-5-12VDC	OBIC0100-24VDC	OBRIC0100-24VDC	OBRIC0100-48-60VUC	OBIC0100-115-230	OBRIC0100-115-230	OBOC2000-5-12VDC	OBROC2000-5-12VDC	OBOC2000-24VDC	OBOC2000-24VUC	OBOC5000-24VDC	OBROC2000-24VDC	OBROC2000-24VUC	OBROC5000-24VDC	OBOC2000-48-60VUC	OBROC2000-48-60VUC	OBOC2000-115VUC	OBOC5000-115VUC	OBOC2000-230VUC	OBROC2000-230VUC	OBROC5000-230VUC	OBOA1000-24VDC	OBOA2000-24VDC	OBROA1000-24VDC	OBROA2000-24VDC	OBOA1000-115VUC	OBOA1000-230VUC
Input voltage																												
5-12 V DC	■	■						■	■																			
24 V DC			■	■						■	■	■	■	■	■								■	■	■	■		
48-60 V DC					■											■	■											
115-230 V DC						■	■																					
115 V DC																		■	■								■	
230 V DC						■	■													■	■	■						■
24 V AC											■			■														
48-60 V AC					■											■	■											
115-230 V AC						■	■																					
115 V AC																		■	■								■	
230 V AC																				■	■	■						■
Output rating																												
100 mA	■	■	■	■	■	■	■																					
1 A																							■		■		■	■
2 A								■	■	■	■		■	■		■	■	■		■	■			■		■		
5 A												■			■				■			■						
Output voltage																												
58 V DC	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
230 V AC																								■		■		
400 V AC																							■		■		■	■
Terminal type																												
Screw	■		■			■		■		■	■	■				■		■	■	■			■	■			■	■
Spring		■		■	■		■		■				■	■	■		■				■	■			■	■		



Motor protection and control

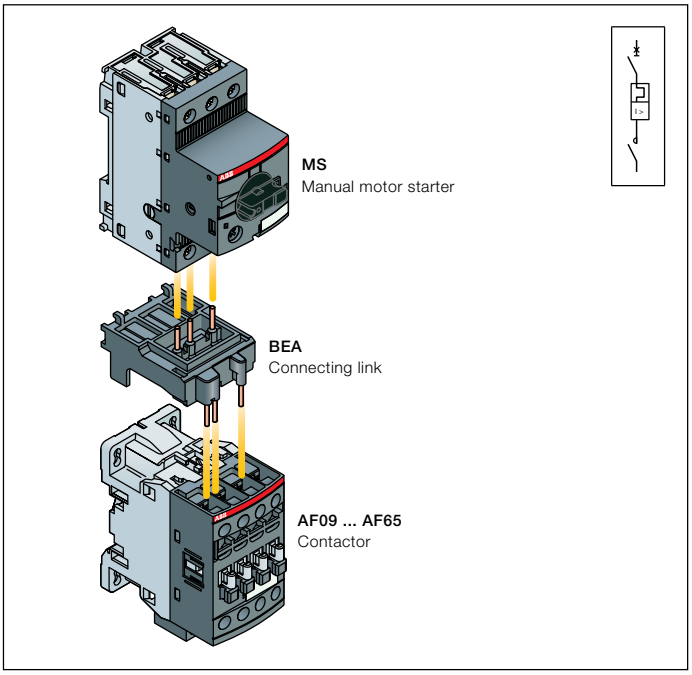
Contactors, overload relays and manual motor starters

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Protected by overload relays	8.2

3-pole contactors

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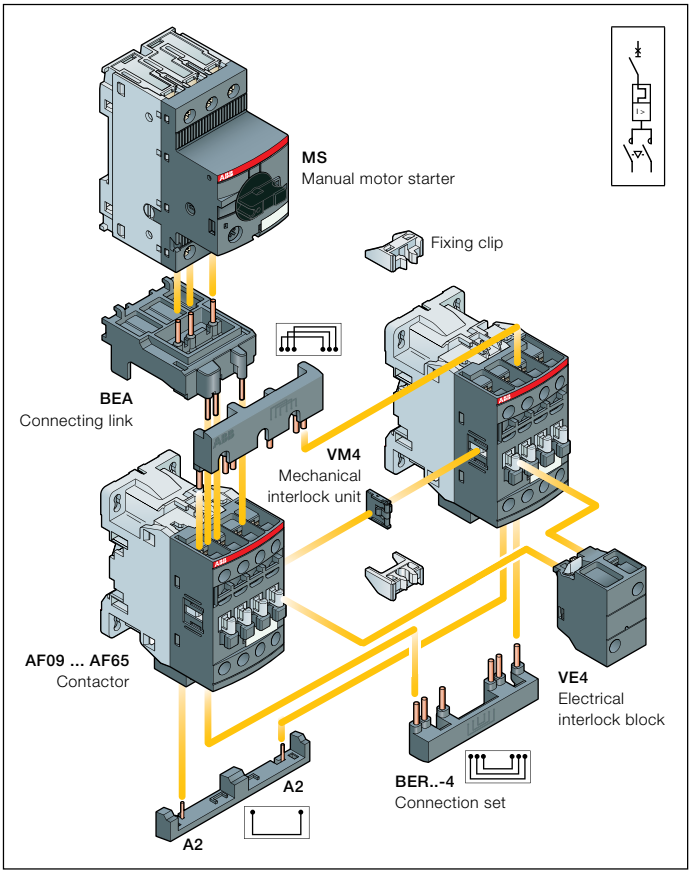
DOL and reversing starters protected by manual motor starters with AF contactors - Open Type Version in Kit Form



Direct-on-line starters

Description

You can easily assemble a direct-on-line starter by using the BEA..-4 connecting link 3-pole insulated. It is used to electrically and mechanically connect MS116, MS132 or MS165 manual motor starter and AF09 ... AF65 contactor, AC or DC operated.



Reversing starters

Description

You can easily assemble reversing starter thanks to our complete range of accessories:

– BEA..-4 connecting link 3-pole insulated: it is used to electrically and mechanically connect MS116, MS132 or MS165 manual motor starter and AF09 ... AF65 contactor, AC or DC operated
– For AF09 ... AF38, use VEM4 mechanical and electrical interlock set for reversing starter in 90 mm width. It includes:
- VM4 mechanical interlock unit including 2 fixing clips
- VE4 electrical interlock block with A2-A2 connection.
– For AF40 ... AF96, use VM96-4 mechanical interlock unit and additional auxiliary contact blocks for electrical interlocking
– BER..-4 connection set: it assures a safe and simple reversing connection between both contactor main terminals.

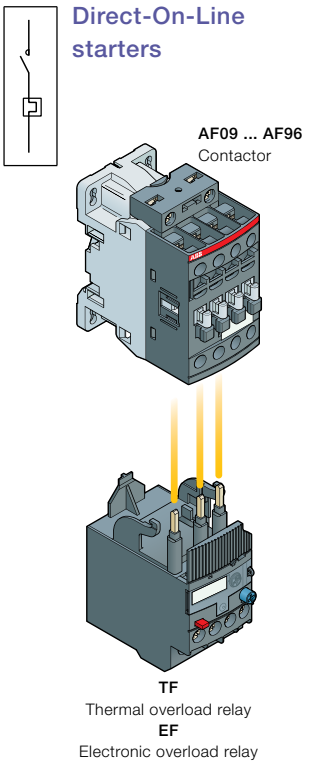
Select now easily and quickly your starter in the following pages for coordination type 1 or 2 at 400 V, 50/60 Hz, Iq = 16 kA up to 18.5 kW and Iq = 50 kA up to 45 kW.

For the full coordination tables:
www.abb.com/lowvoltage then go to the right menu: "Support", select: "Online Product Selection Tools" then select "Coordination Tables for motor protection"

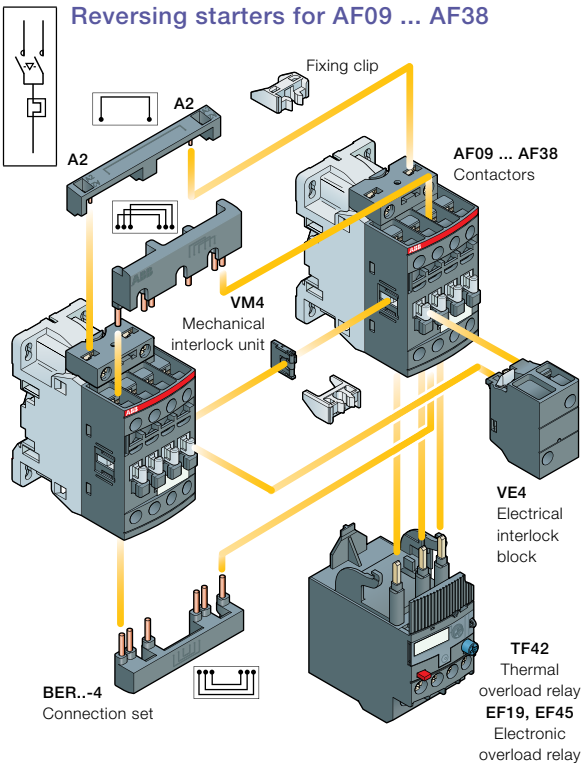
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DOL and reversing starters protected by overload relays with AF contactors - Open Type Version in Kit Form

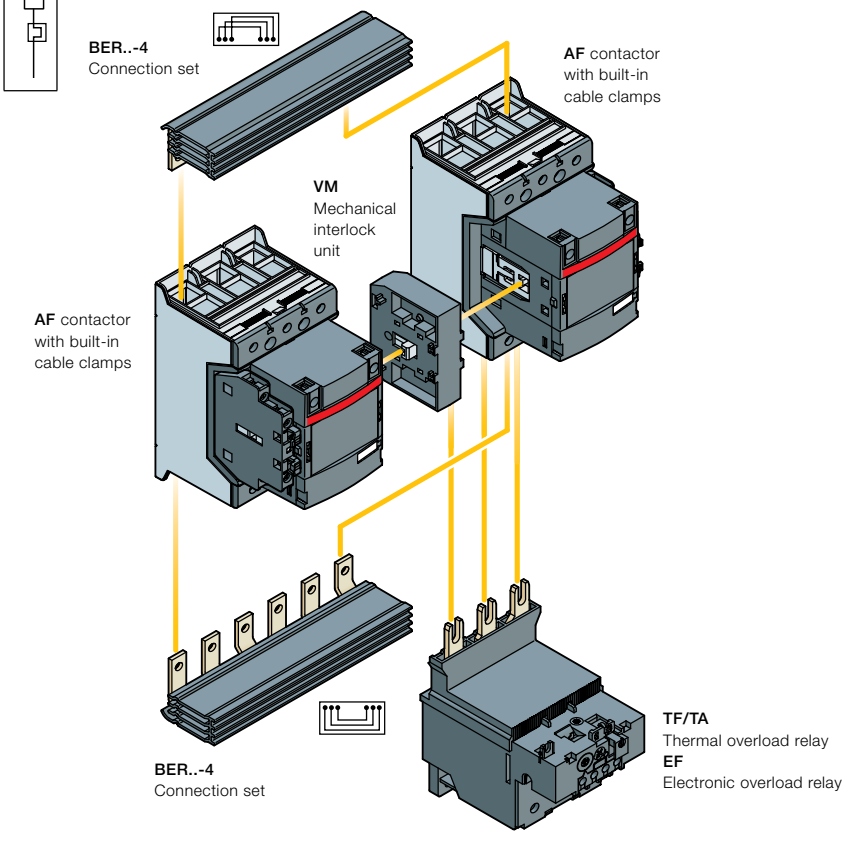
Direct-On-Line starters



Reversing starters for AF09 ... AF38



Reversing starters for AF116 ... AF370



Description

You can easily assemble a direct-on-line starter by connecting AF contactor and TF thermal overload relay or EF electronic overload relay.
You can also easily assemble reversing starter thanks to our complete range of accessories:

– For AF09 ... AF38, use VEM4 mechanical and electrical interlock set for reversing starter in 90 mm width.
It includes:
- VM4 mechanical interlock unit including 2 fixing clips
- VE4 electrical interlock block with A2-A2 connection.

– For AF40 ... AF370, use VM mechanical interlock unit and additional auxiliary contact blocks for electrical interlocking.
– BER..-4 connection set: it assures a safe and simple reversing connection between both contactor main terminals.

For the full coordination tables: www.abb.com/lowvoltage then go to the right menu: "Support", select: "Online Product Selection Tools" then select "Coordination Tables for motor protection"

3-pole Contactors, for Motor Control and Power Switching

Overview






AC / DC Control supply		Type	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
IEC AC-3 Rated operational power	220 - 230 - 240 V	kW	2,2	3	4	6,5	9	11	11	15	18,5	22	25
θ ≤ 60 °C for AF09 ... AF370	380 - 400 V	kW	4	5,5	7,5	11	15	18,5	18,5	22	30	37	45
θ ≤ 55 °C for AF400 ... AF2650	415 V	kW	4	5,5	9	11	15	18,5	22	30	37	45	55
	440 V	kW	4	5,5	9	15	18,5	22	22	30	37	45	55
	500 V	kW	5,5	7,5	9	15	18,5	22	22	30	37	45	55
	690 V	kW	5,5	7,5	9	15	18,5	22	22	30	37	45	55
	1000 V	kW	—	—	—	—	—	—	—	—	—	35	40
Rated operational current	380 - 400 V	A	9	12	18	26	32	38	40	53	65	80	96
AC-1 Rated operational current	θ ≤ 40 °C, 690 V	A	25	28	30	45	50	50	70	100	105	125	130
UL / CSA 1-phase motor rating	120 V	hp	0,75	1	1,5	2	2	2	3	3	5	7,5	7,5
	240 V	hp	1,5	2	3	3	5	5	7,5	10	15	15	20
3-phase motor rating	200 - 208 V	hp	2	3	5	7,5	10	10	10	15	20	25	30
	220 - 240 V	hp	2	3	5	7,5	10	10	15	20	25	30	30
	440 - 480 V	hp	5	7,5	10	15	20	25	30	40	50	69	60
	550 - 600 V	hp	7,5	10	15	20	25	30	40	50	60	75	75
General use rating	600 V	A	25	28	30	45	50	50	60	80	90	105	115
NEMA NEMA Size			00	0	—	1	—	—	2	—	—	3	—

"1000 V IEC ratings available for AF80, AF96 and AF146 … AF2650 contactors.
θ ≤ 55 °C AF400 ... AF2650 contactors."

Main accessories													
Auxiliary contact blocks	Front mounting		CA4-10(1 x N.O.) CA4-01(1 x N.C.)										
	Side mounting		CAL4-11(1 x N.O. + 1 x N.C.)										
Timers	Electronic		TEF4-ON TEF4-OFF										
Interlocking units (3)	Mechanical		VM4						VM96-4				
	Mechanical / Electrical		VEM4										
Connection sets	For reversing contactors		BER16-4			BER38-4			BER65-4			BER96-4	
Surge suppressors	Varistor (AC/DC)		Built-in surge protection										
	RC type (AC)												
	Transil diode (DC)												

(3) See available reversing contactors VB6, VB7 and VAS09 ... VAS16.

Overload relays													
Thermal relays	Class 10 (Class 10A for TF140, TA200DU)		TF42 (0.10…38 A)						TF65 (22...67 A)			TF96 (40...96 A)	
Electronic relays Class 10E, 20E, 30E	Class 10E, 20E, 30E		EF19 (0.10…18.9 A)			EF19 (0.10…18.9 A) EF45 (9…45 A)			EF65 (20...70 A)			EF96 (36...100 A)	



Manual motor starters													
	Thermal / magnetic protection Class 10		MS116 (0.10...32 A) Ics up to 50 kA for class 10A						MS165 (10...65A) Ics up to 100kA			MS5100 (40…100 A) to 50 kA	
			MS132 (0.10...32 A) Ics up to 100 kA						MS495 (45...100A) Ics up to 50kA				
									MS497 (22…100 A) Ics up to 100 kA				
	Magnetic only types		MO132 (0.16...32 A) Ics up to 100 kA						MO165 (16...65A) Ics up to 100kA			MS497 (22…100 A) Ics up to 100 kA	
												MO495 (63…100 A) Ics up to 50 kA	
Accessories	For contactor mounting		BEA16-4			BEA38-4			BEA65-4 (5)				

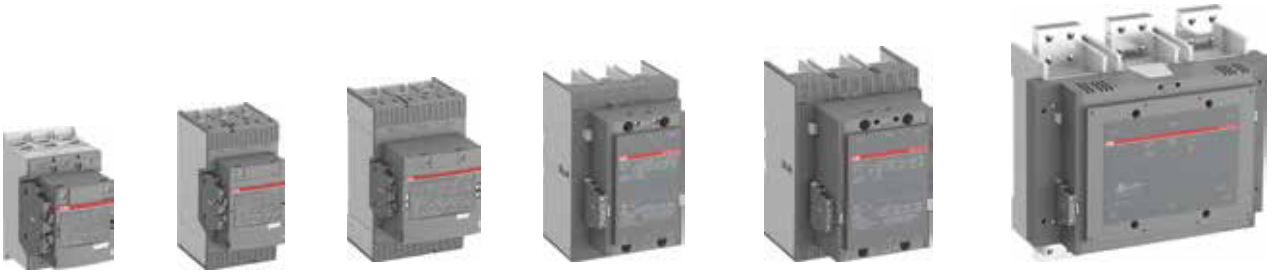


(4) MS165/MO165 are suitable for use with AF09 ... AF30 for North american applications.
(5) BEA65-4 suitable for MS165 and MO165 only.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

3-pole Contactors, for Motor Control and Power Switching

Overview



AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
30	37	45	55	55	75	90	110	110	132	160	220	—	257	315	—	—
55	75	75	90	110	132	160	200	200	250	315	400	—	475	560	—	—
55	75	75	90	110	132	160	200	220	250	355	425	—	500	630	—	—
75	90	90	110	132	160	160	200	220	250	355	450	—	560	710	—	—
75	90	90	110	132	160	200	250	250	315	400	520	—	560	710	—	—
55	75	90	132	160	200	250	315	315	355	500	600	—	800	1000	—	—
—	—	75	110	132	132	132	132	220	280	355	400	—	—	—	—	—
116	140	146	190	205	265	305	370	400	460	580	750	—	860	1060	—	—
160	200	225	275	350	400	500	600	600	700	800	1050	1260	1350	1650	2050	2650

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	40	40	50	60	75	100	125	125	150	200	250	—	—	—	—	—
40	50	50	60	75	100	125	150	150	200	250	300	—	400	450	—	—
75	100	100	125	150	200	250	300	350	400	500	600	—	800	900	—	—
100	125	125	150	200	250	300	350	400	500	600	700	—	1000	1150	—	—
160	200	200	250	300	350	400	520	550	650	750	900	1210	1350	1650	2100	2700
—	4	—	—	—	5	—	—	—	6	—	7	—	—	8	—	—

CAL19-11 (1 x N.O. + 1 x N.C.)								CAL18-11 (1 x N.O. + 1 x N.C.)								
VM19 (for same size contactors)								VM750H VM750V					VM1650H			

BER140-4		BER205-4	BER370-4				BEM460-30	BEM750-30							

"TF140DU (66...142 A) θ ≤ 55 °C"		"TA200DU (66...200 A) θ ≤ 55 °C"													
EF146 (54...150 A)		EF205 (63...210 A)	EF370 (115...380 A)				EF460 (150…500 A)	EF750 (250…800 A)					E1250DU (375…1250)		

Short-circuit protection devices

Ics up

MCCB and switch-fuses



Contactors and Contactor Relays

AF Range 3-pole Contactors, Ordering Details

AF09 ... AF38 3-pole contactors



AF09-30-10



AF26-30-00

IEC Rated operational power 400 V AC-3 kW	IEC Rated operational current θ ≤ 40 °C AC-1 A	UL/CSA 3-phase motor rating hp	UL/CSA General use rating 600 V AC A	Rated control circuit voltage Uc min. … Uc max V 50/60 Hz	Rated control circuit voltage Uc min. … Uc max V DC	"Auxiliary contacts fitted"		Type [1]	Order code	Price per Unit Excl VAT
4	25	5	25	24...60	20...60	1	0	AF09-30-10-11	1SBL137001R1110	R 451.23
						0	1	AF09-30-01-11	1SBL137001R1101	R 533.01
				48...130	48...130	1	0	AF09-30-10-12	1SBL137001R1210	R 451.23
						0	1	AF09-30-01-12	1SBL137001R1201	R 533.01
				100...250	100...250	1	0	AF09-30-10-13	1SBL137001R1310	R 451.23
						0	1	AF09-30-01-13	1SBL137001R1301	R 533.01
				250...500	250...500	1	0	AF09-30-10-14	1SBL137001R1410	R 451.23
						0	1	AF09-30-01-14	1SBL137001R1401	R 533.01
5,5	28	7,5	28	24...60	20...60	1	0	AF12-30-10-11	1SBL157001R1110	R 487.52
						0	1	AF12-30-01-11	1SBL157001R1101	R 566.15
				48...130	48...130	1	0	AF12-30-10-12	1SBL157001R1210	R 487.52
						0	1	AF12-30-01-12	1SBL157001R1201	R 566.15
				100...250	100...250	1	0	AF12-30-10-13	1SBL157001R1310	R 487.52
						0	1	AF12-30-01-13	1SBL157001R1301	R 566.15
				250...500	250...500	1	0	AF12-30-10-14	1SBL157001R1410	R 487.52
						0	1	AF12-30-01-14	1SBL157001R1401	R 566.15
7,5	30	10	30	24...60	20...60	1	0	AF16-30-10-11	1SBL177001R1110	R 638.60
						0	1	AF16-30-01-11	1SBL177001R1101	R 715.23
				48...130	48...130	1	0	AF16-30-10-12	1SBL177001R1210	R 638.60
						0	1	AF16-30-01-12	1SBL177001R1201	R 715.23
				100...250	100...250	1	0	AF16-30-10-13	1SBL177001R1310	R 638.60
						0	1	AF16-30-01-13	1SBL177001R1301	R 715.23
				250...500	250...500	1	0	AF16-30-10-14	1SBL177001R1410	R 638.60
						0	1	AF16-30-01-14	1SBL177001R1401	R 715.23
11	45	15	45	24...60	20...60	0	0	AF26-30-00-11	1SBL237001R1100	R 933.19
				48...130	48...130	0	0	AF26-30-00-12	1SBL237001R1200	R 933.19
				100...250	100...250	0	0	AF26-30-00-13	1SBL237001R1300	R 933.19
				250...500	250...500	0	0	AF26-30-00-14	1SBL237001R1400	R 933.19
15	50	20	50	24...60	20...60	0	0	AF30-30-00-11	1SBL277001R1100	R 1390.46
				48...130	48...130	0	0	AF30-30-00-12	1SBL277001R1200	R 1390.46
				100...250	100...250	0	0	AF30-30-00-13	1SBL277001R1300	R 1390.46
				250...500	250...500	0	0	AF30-30-00-14	1SBL277001R1400	R 1390.46
18,5	50	25	50	24...60	20...60	0	0	AF38-30-00-11	1SBL297001R1100	R 1636.10
				48...130	48...130	0	0	AF38-30-00-12	1SBL297001R1200	R 1636.10
				100...250	100...250	0	0	AF38-30-00-13	1SBL297001R1300	R 1636.10
				250...500	250...500	0	0	AF38-30-00-14	1SBL297001R1400	R 1636.10

[1] For other auxiliary contacts arrangements, please contact your ABB local sales organization.

[2] For 24...60 V 50/60 Hz - 20...60 V DC, use AF..Z-30-..-21.

AF40 ... AF96 3-pole contactors



AF40-30-00



AF80-30-00

IEC Rated operational power 400 V AC-3 kW	IEC Rated operational current θ ≤ 40 °C AC-1 A	UL/CSA 3-phase motor rating hp	UL/CSA General use rating 600 V AC A	Rated control circuit voltage Uc min. … Uc max V 50/60 Hz	Rated control circuit voltage Uc min. … Uc max V DC	"Auxiliary contacts fitted"		Type [1]	Order code	Price per Unit Excl VAT
18,5	70	30	60	24...60	20...60 [2]	0	0	AF40-30-00-11	1SBL347001R1100	R 2311.09
				48...130	48...130	0	0	AF40-30-00-12	1SBL347001R1200	R 2311.09
				100...250	100...250	0	0	AF40-30-00-13	1SBL347001R1300	R 1815.53
				250...500	250...500	0	0	AF40-30-00-14	1SBL347001R1400	R 1815.53
22	100	40	80	24...60	20...60 [2]	0	0	AF52-30-00-11	1SBL367001R1100	R 2413.24
				48...130	48...130	0	0	AF52-30-00-12	1SBL367001R1200	R 2413.24
				100...250	100...250	0	0	AF52-30-00-13	1SBL367001R1300	R 1917.13
				250...500	250...500	0	0	AF52-30-00-14	1SBL367001R1400	R 1917.13
30	105	50	90	24...60	20...60 [2]	0	0	AF65-30-00-11	1SBL387001R1100	R 3065.57
				48...130	48...130	0	0	AF65-30-00-12	1SBL387001R1200	R 3065.57
				100...250	100...250	0	0	AF65-30-00-13	1SBL387001R1300	R 2569.56
				250...500	250...500	0	0	AF65-30-00-14	1SBL387001R1400	R 2569.56
37	125	60	105	24...60	20...60 [2]	0	0	AF80-30-00-11	1SBL397001R1100	R 3765.11
				48...130	48...130	0	0	AF80-30-00-12	1SBL397001R1200	R 3765.11
				100...250	100...250	0	0	AF80-30-00-13	1SBL397001R1300	R 3266.77
				250...500	250...500	0	0	AF80-30-00-14	1SBL397001R1400	R3266.77
45	130	60	115	24...60	20...60 [2]	0	0	AF96-30-00-11	1SBL407001R1100	R 3871.48
				48...130	48...130	0	0	AF96-30-00-12	1SBL407001R1200	R 3871.48
				100...250	100...250	0	0	AF96-30-00-13	1SBL407001R1300	R 3371.42
				250...500	250...500	0	0	AF96-30-00-14	1SBL407001R1400	R 3371.42

[1] For other auxiliary contacts arrangements, please contact your ABB local sales organization.

[2] AF..-30-..-11 not suitable for direct control by PLC-output.

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Contactors and Contactor Relays

AF..Z Range 3-pole Contactors Low Consumption



AF09Z-30-10



AF26Z-30-00

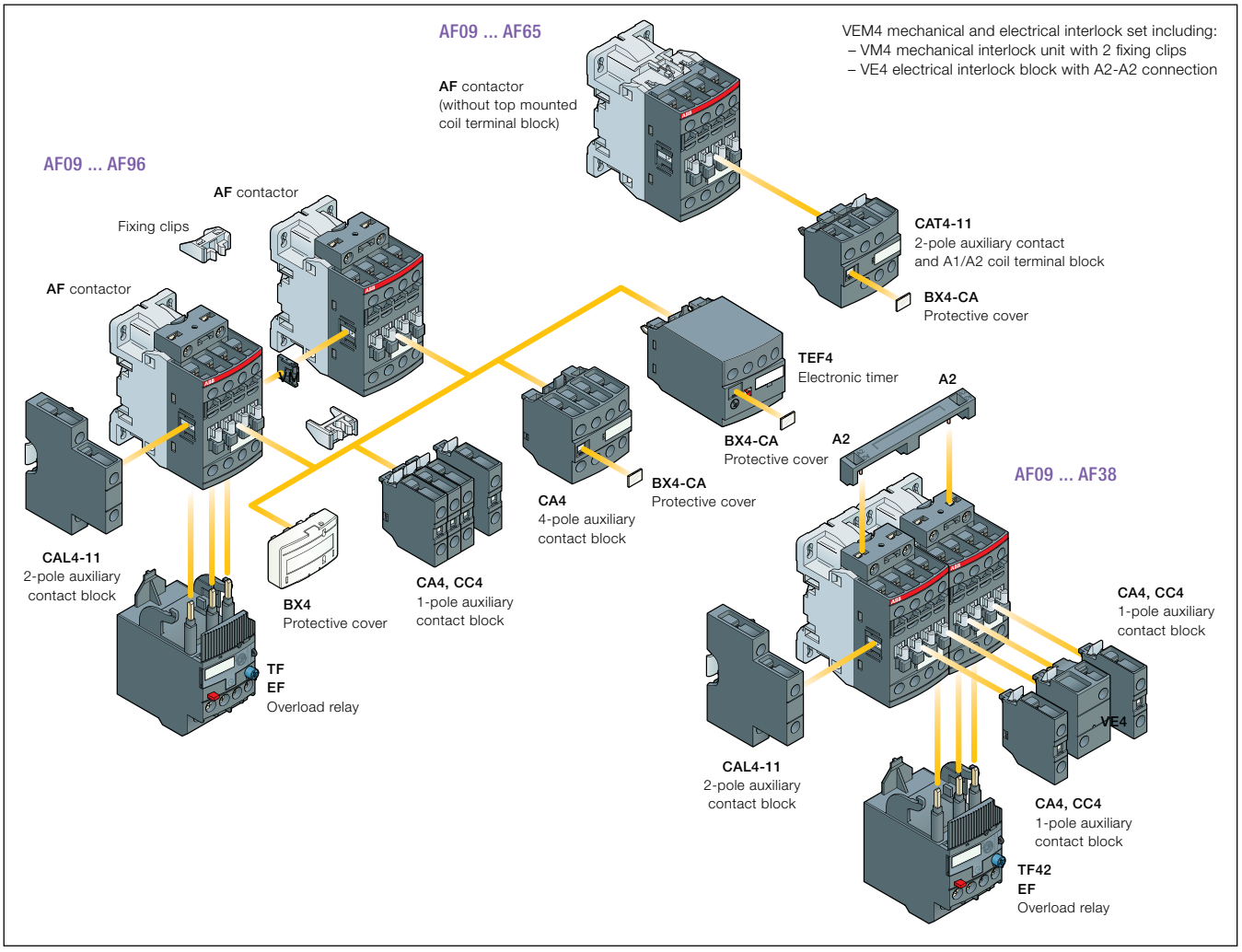
AF09Z ... AF38Z 3-pole contactors

IEC		UL/CSA		Rated control circuit voltage Uc min. … Uc max		Auxiliary contacts fitted		Type [1]	Order code	Price per Unit Excl VAT
Rated operational		3-phase	General							
power 400 V AC-3 kW	current θ ≤ 40 °C AC-1 A	motor rating hp	use rating 600 V AC A	V 50/60 Hz	V DC					
4	25	5	25	-	12...20	1	0	AF09Z-30-10-20	1SBL136001R2010	R 679.80
						0	1	AF09Z-30-01-20	1SBL136001R2001	R 760.83
				24...60	20...60	1	0	AF09Z-30-10-21	1SBL136001R2110	R 679.80
						0	1	AF09Z-30-01-21	1SBL136001R2101	R 760.83
				48...130	48...130	1	0	AF09Z-30-10-22	1SBL136001R2210	R 679.80
						0	1	AF09Z-30-01-22	1SBL136001R2201	R 760.83
				100...250	100...250	1	0	AF09Z-30-10-23	1SBL136001R2310	R 679.80
						0	1	AF09Z-30-01-23	1SBL136001R2301	R 760.83
5.5	28	7.5	28	-	12...20	1	0	AF12Z-30-10-20	1SBL156001R2010	R 731.26
						0	1	AF12Z-30-01-20	1SBL156001R2001	R 809.89
				24...60	20...60	1	0	AF12Z-30-10-21	1SBL156001R2110	R 731.26
						0	1	AF12Z-30-01-21	1SBL156001R2101	R 809.89
				48...130	48...130	1	0	AF12Z-30-10-22	1SBL156001R2210	R 731.26
						0	1	AF12Z-30-01-22	1SBL156001R2201	R 809.89
				100...250	100...250	1	0	AF12Z-30-10-23	1SBL156001R2310	R 731.26
						0	1	AF12Z-30-01-23	1SBL156001R2301	R 809.89
7.5	30	10	30	-	12...20	1	0	AF16Z-30-10-20	1SBL176001R2010	R 957.91
						0	1	AF16Z-30-01-20	1SBL176001R2001	R 1034.55
				24...60	20...60	1	0	AF16Z-30-10-21	1SBL176001R2110	R 957.91
						0	1	AF16Z-30-01-21	1SBL176001R2101	R 1034.55
				48...130	48...130	1	0	AF16Z-30-10-22	1SBL176001R2210	R 957.91
						0	1	AF16Z-30-01-22	1SBL176001R2201	R 1034.55
				100...250	100...250	1	0	AF16Z-30-10-23	1SBL176001R2310	R 957.91
						0	1	AF16Z-30-01-23	1SBL176001R2301	R 1034.55
11	45	15	45	-	12...20	0	0	AF26Z-30-00-20	1SBL236001R2000	R 1399.80
				24...60	20...60	0	0	AF26Z-30-00-21	1SBL236001R2100	R 1399.80
				48...130	48...130	0	0	AF26Z-30-00-22	1SBL236001R2200	R 1399.80
				100...250	100...250	0	0	AF26Z-30-00-23	1SBL236001R2300	R 1399.80
15	50	20	50	-	12...20	0	0	AF30Z-30-00-20	1SBL276001R2000	R 2154.38
				24...60	20...60	0	0	AF30Z-30-00-21	1SBL276001R2100	R 2154.38
				48...130	48...130	0	0	AF30Z-30-00-22	1SBL276001R2200	R 2154.38
				100...250	100...250	0	0	AF30Z-30-00-23	1SBL276001R2300	R 2154.38
18.5	50	25	50	-	12...20	0	0	AF38Z-30-00-20	1SBL296001R2000	R 2454.16
				24...60	20...60	0	0	AF38Z-30-00-21	1SBL296001R2100	R 2454.16
				48...130	48...130	0	0	AF38Z-30-00-22	1SBL296001R2200	R 2454.16
				100...250	100...250	0	0	AF38Z-30-00-23	1SBL296001R2300	R 2454.16

[1] For other auxiliary contacts arrangements, please contact your ABB local sales organization.
Note: Only AF..Z contactors with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole.

AF09 ... AF96 3-pole Contactors
Main Accessories

Contactor and main accessories (other accessories available)



Main accessory fitting details

Many configurations of accessories are possible depending on whether these are front-mounted or side-mounted.

Contactor types	Main poles		Built-in auxiliary contacts		Front-mounted accessories										Side-mounted accessories		
					Auxiliary contact blocks						Electronic timer		Electrical and mechanical interlock set		Auxiliary contact blocks		
					1-pole CA4								(between 2 contactors)		Left side		Right side
					1-pole CC4		2-pole CAT4-11		4-pole CA4		TEF4		VEM4		2-pole CAL4-11		
					Max. N.C. built-in and add-on N.C. auxiliary contacts: 4 N.C. max. on positions 1, 2, 3, 4 and 3 N.C. max. on positions 1 ±30°, 5												
AF09 ... AF16	3	0	0	1	4 max.	or	1	or	1	or	1		–	+	1		–
AF09 ... AF16	3	0	1	0	2 max.	or	1		–	or	1		–	+	1	+	1
AF26 ... AF38	3	0	0	0	3 max.		–		–		–	+	1	+	1	or	1
					Max. add-on N.C. auxiliary contacts: 6 N.C. max. on positions 1, 1 ±30°, 2, 3, 4, 5												
AF40 ... AF65	3	0	0	0	4 max.	or	1	or	1	or	1		–	+	1	+	1
AF80, AF96	3	0	0	0	4 max.		–	or	1	or	1		–	+	1	+	1

Overload relays fitting details [1]

Contactor types	Thermal overload relays	Electronic overload relays
AF09 ... AF38	TF42 (0.10...38 A)	EF19 (0.10...19 A)
AF26 ... AF38	TF42 (0.10...38 A)	EF45 (9...45 A)
AF40 ... AF65	TF65 (22...67 A)	EF65 (20...70 A)
AF80, AF96	TF96 (40...96 A)	EF96 (36...100 A)

The addition of an overload relay on the contactor does not prevent fitting of many other accessories as shown above.
[1] Direct mounting - No kit required.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Contactors and Contactor Relays

AF09 ... AF96 3-pole Contactors Main Accessories



CA4-10

Front-mounted instantaneous auxiliary contact blocks

For contactors	Auxiliary contacts				Type	Order code	Pkg qty	Price per Unit Excl VAT
AF09 ... AF96	1	0	–	–	CA4-10	1SBN010110R1010	1	R 52.64
	1	0	–	–	CA4-10-T	1SBN010110T1010	10	R 52.64
	0	1	–	–	CA4-01	1SBN010110R1001	1	R 52.64
	0	1	–	–	CA4-01-T	1SBN010110T1001	10	R 52.64
AF09 ... AF16..-30-10	2	2	–	–	CA4-22M	1SBN010140R1122	1	R 223.52
AF26 ... AF96..-30-00	2	2	–	–	CA4-22E	1SBN010140R1022	1	R 223.52
AF09 ... AF16..-30-01	2	2	–	–	CA4-22U	1SBN010140R1322	1	R 223.52



CAL4-11

Front-mounted Instantaneous Auxiliary Contact Blocks

AF09 ... AF96	-	-	1	0	CC4-10	1SBN010111R1010	1	R 169.31
	-	-	0	1	CC4-01	1SBN010111R1001	1	R 169.31

Side-mounted Instantaneous Auxiliary Contact Blocks

AF09 ... AF96	1	1	-	-	CAL4-11	1SBN010120R1011	1	R 140.29
	1	1	-	-	CAL4-11-T	1SBN010120T1011	10	R 140.29



CA4-22E

Front-mounted Instantaneous Auxiliary Contact and A1/A2 Coil Terminal Blocks

AF09 ... AF16..-30-10	1	1	-	-	CAT4-11M	1SBN010151R1111	1	R 133.67
AF26 ... AF65..-30-00	1	1	-	-	CAT4-11E	1SBN010151R1011	1	R 133.67
AF09 ... AF16..-30-01	1	1	-	-	CAT4-11U	1SBN010151R1311	1	R 133.67

Note: CAT4 not suitable for AF..Z contactors with DC control voltage 12...20 V DC.

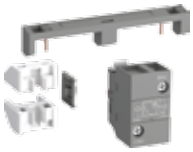


CAT4-11E

Mechanical Interlock Unit

AF09 ... AF38					VM4	1SBN030105T1000	10	R 116.64
AF40 ... AF96					VM96-4	1SBN033405T1000	10	R 141.87

Note: VM4 and VM96-4 include 2 fixing clips (BB4) to maintain together both contactors.

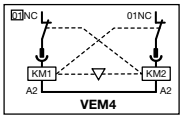


VEM4

Mechanical and Electrical Interlock set

AF09 ... AF16 AF26 ... AF38	0	2	-	-	VEM4	1SBN030111R1000	1	R 250.34

Note: - VEM4 includes a VM4 mechanical interlock unit with 2 fixing clips (BB4), a VE4 electrical interlock block. VE4 block must be used with A2-A2 connection to respect the electrical connection diagram.
- VEM4 not suitable for AF..Z contactors with DC control voltage 12...20 V DC.



VEM4

For Contactors	Time Delay Range Selected by Switch	Delay Type	Auxiliary Contacts		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Electronic timers								
AF09 ... AF96	0.1...1 s 1...10 s 10...100 s	ON-delay OFF-delay	1 1	1 1	TEF4-ON TEF4-OFF	1SBN020112R1000 1SBN020114R1000	1 1	R 798.67 R 853.57

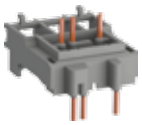
Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.



TEF4-ON

Connecting Links with Manual Motor Starters

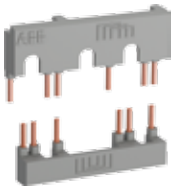
AF09 ... AF16	with	MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25	MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25	MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25	BEA16-4	1SBN081306T1000	10	R 109.39
AF26 ... AF38	with	MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10	MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10	MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10	BEA26-4	1SBN082306T1000	10	R 129.27
	with	MS116-20 ... MS116-32, MS132-12 ... MS132-32	MS116-20 ... MS116-32, MS132-12 ... MS132-32	MS116-20 ... MS116-32, MS132-12 ... MS132-32	BEA38-4	1SBN082306T2000	10	R 128.86



BEA16-4

Connection Sets for Reversing Contactors

AF09 ... AF16					BER16-4	1SBN081311R1000	1	R 215.31
AF26 ... AF38					BER38-4	1SBN082311R1000	1	R 297.92
AF40 ... AF65					BER65-4	1SBN083411R1000	1	R 362.58
AF80 ... AF96					BER96-4	1SBN083911R1000	1	R 614.77



BER16-4

Connection Sets for Star-delta Starting

AF09 ... AF16	With or without VM4	BEY16-4	1SBN081313R2000	1	R 281.55
AF26 ... AF38	With or without VM4	BEY38-4	1SBN082713R2000	1	R 463.45
AF40 ... AF65	With or without VM96-4	BEY65-4	1SBN083413R2000	1	R 599.01
AF80 ... AF96	With or without VM96-4	BEY96-4	1SBN083913R2000	1	R 756.64

Contactors and Contactor Relays

AF Range 3-pole Contactors, Ordering Details



AF146-30-00

AF116 ... AF146 3-pole contactors - For connection with built-in cable clamps

IEC		UL/CSA		Rated control circuit voltage Uc min. ... Uc max		Auxiliary contacts fitted		Type (1)	Order code	Price per Unit Excl VAT
Rated operational		3-phase	General use rating 600 V AC A							
power 400 V AC-3 kW	current θ ≤ 40 °C AC-1 A	motor rating hp		V 50/60 Hz	V DC					
55	160	75	160	24...60	20...60	0	0	AF116-30-00-11	1SFL427001R1100	R 4820.91
				48...130	48...130	0	0	AF116-30-00-12	1SFL427001R1200	R 4820.91
				100...250	100...250	0	0	AF116-30-00-13	1SFL427001R1300	R 3521.67
				250...500	250...500	0	0	AF116-30-00-14	1SFL427001R1400	R 4186.02
75	200	100	200	24...60	20...60	0	0	AF140-30-00-11	1SFL447001R1100	R 5822.80
				48...130	48...130	0	0	AF140-30-00-12	1SFL447001R1200	R 5559.11
				100...250	100...250	0	0	AF140-30-00-13	1SFL447001R1300	R 4556.67
				250...500	250...500	0	0	AF140-30-00-14	1SFL447001R1400	R 5170.78
75	225	100	200	24...60	20...60	0	0	AF146-30-00-11	1SFL467001R1100	R 7006.67
				48...130	48...130	0	0	AF146-30-00-12	1SFL467001R1200	R 6690.35
				100...250	100...250	0	0	AF146-30-00-13	1SFL467001R1300	R 4828.33
				250...500	250...500	0	0	AF146-30-00-14	1SFL467001R1400	R 6222.91

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.



AF146-30-00



AF370-30-00

AF190 ... AF370 3-pole contactors

IEC		UL/CSA		Rated control circuit voltage Uc min. ... Uc max		Auxiliary contacts fitted		Type (1)	Order code	Price per Unit Excl VAT
Rated operational		3-phase	General use rating 600 V AC A							
power 400 V AC-3 kW	current θ ≤ 40 °C AC-1 A	motor rating hp		V 50/60 Hz	V DC					
90	275	125	250	24...60	20...60	0	0	AF190-30-00-11	1SFL487002R1100	R 8360.71
				48...130	48...130	0	0	AF190-30-00-12	1SFL487002R1200	R 8360.71
				100...250	100...250	0	0	AF190-30-00-13	1SFL487002R1300	R 6402.41
				250...500	250...500	0	0	AF190-30-00-14	1SFL487002R1400	R 7592.03
110	350	150	300	24...60	20...60	0	0	AF205-30-00-11	1SFL527002R1100	R 9946.92
				48...130	48...130	0	0	AF205-30-00-12	1SFL527002R1200	R 9946.92
				100...250	100...250	0	0	AF205-30-00-13	1SFL527002R1300	R 7587.18
				250...500	250...500	0	0	AF205-30-00-14	1SFL527002R1400	R 8993.15
132	400	200	350	24...60	20...60	0	0	AF265-30-00-11	1SFL547002R1100	R 13 383.03
				48...130	48...130	0	0	AF265-30-00-12	1SFL547002R1200	R 13 383.03
				100...250	100...250	0	0	AF265-30-00-13	1SFL547002R1300	R 10 241.38
				250...500	250...500	0	0	AF265-30-00-14	1SFL547002R1400	R 12 132.13
160	500	250	400	24...60	20...60	0	0	AF305-30-00-11	1SFL587002R1100	R 15 761.34
				48...130	48...130	0	0	AF305-30-00-12	1SFL587002R1200	R 15 761.34
				100...250	100...250	0	0	AF305-30-00-13	1SFL587002R1300	R 11 858.73
				250...500	250...500	0	0	AF305-30-00-14	1SFL587002R1400	R 14 044.51
200	600	300	520	24...60	20...60	0	0	AF370-30-00-11	1SFL607002R1100	R 17 772.24
				48...130	48...130	0	0	AF370-30-00-12	1SFL607002R1200	R 17 772.24
				100...250	100...250	0	0	AF370-30-00-13	1SFL607002R1300	R 17 421.96
				250...500	250...500	0	0	AF370-30-00-14	1SFL607002R1400	R 21 797.31

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

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Contactors and Contactor Relays

AF116...AF370 - 3-pole Contactors Main Accessories



AF116 ... AF370 - 3-pole contactors Main accessories

For Contactors	Auxiliary Contacts		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Side-mounted Instantaneous Auxiliary Contact Blocks						
AF116 ... AF370	1	1	CAL19-11	1SFN010820R1011	2	R 187.47
	1	1	CAL19-11B	1SFN010820R3311	2	R 195.81



Mechanical Interlock Unit						
AF116 ... AF370			VM19	1SFN030300R1000	1	R 789.84
AF116 ... AF146 and AF190, AF205			VM140/190	1SFN034403R1000	1	R 789.84
AF190, AF205 and AF265 ... AF370			VM205/265	1SFN035203R1000	1	R 789.84
Terminal Shrouds						
AF116 ... AF146, with compression lugs			LT140-30L	1SFN124203R1000	2	R 147.47
AF190, AF205, with cable clamps			LT205-30C	1SFN124801R1000	2	R 170.23
AF190, AF205, with compression lugs			LT205-30L	1SFN124803R1000	2	R 184.21
AF190, AF205, with shorting bar or between contactor and TOL/EOL in DOL-starters			LT205-30Y	1SFN124804R1000	1	R 231.66
AF265 ... AF370, with cable clamps			LT370-30C	1SFN125401R1000	2	R 170.23
AF265 ... AF370, with compression lugs			LT370-30L	1SFN125403R1000	2	R 299.57
AF265 ... AF370, with shorting bar or between contactor and TOL/EOL in DOL-starters			LT370-30Y	1SFN125404R1000	1	R 330.27
AF265 ... AF370, for use with extending cable clamps, ATK300/2 and OZXB4			LT370-30D	1SFN125406R1000	1	R 359.56



For Contactors	Dimensions		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
	hole Ø mm	bar mm				
Terminal Enlargements						
AF116...AF146	6.5	13 x 3	LW140	1SFN074207R1000	1	R 207.90
AF190...AF205	10.5	17.5 x 5	LW205	1SFN074807R1000	1	R 1005.67
AF265...AF370	10.5	20 x 5	LW370	1SFN075407R1000	1	R 1182.43



Terminal Extension						
AF116...AF146	6.5	13 x 3	LX140	1SFN074210R1000	1	R 588.91
AF190...AF250	8.5	17.5 x 5	LX205	1SFN074810R1000	1	R 735.87
AF265...AF370	10.5	20 x 5	LX370	1SFN075410R1000	1	R 1103.36

(1) For more information, refer to main catalog "Accessories" section.

Contactors and Contactor Relays

AF Range 3-pole Contactors, Ordering Details

AF400 ... AF750 - 3-pole contactors

Ordering Details

IEC		UL/CSA		Rated Control Circuit Voltage Uc min. ... Uc max.		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational		3-phase Motor Rating 480 V hp	General Use Rating 600 V AC A							
Power 400 V AC-3 kW	Current θ ≤ 40 °C 690 V AC-1 A			V 50/60 Hz	V DC					
200	600	350	550	-	24…60	1	1	AF400-30-11	1SFL577001R6811 (1)	R 18 746.05
				48…130	48…130	1	1	AF400-30-11	1SFL577001R6911	R 18 746.05
				100…250	100…250	1	1	AF400-30-11	1SFL577001R7011	R 18 746.05
				250…500	250…500	1	1	AF400-30-11	1SFL577001R7111	R 18 746.05
250	700	400	650	-	24…60	1	1	AF460-30-11	1SFL597001R6811 (1)	R 18 409.02
				48…130	48…130	1	1	AF460-30-11	1SFL597001R6911	R 18 409.02
				100…250	100…250	1	1	AF460-30-11	1SFL597001R7011	R 18 409.02
				250…500	250…500	1	1	AF460-30-11	1SFL597001R7111	R 19 454.25
315	800	500	750	-	24…60	1	1	AF580-30-11	1SFL617001R6811 (1)	R 28 771.36
				48…130	48…130	1	1	AF580-30-11	1SFL617001R6911	R 28 771.36
				100…250	100…250	1	1	AF580-30-11	1SFL617001R7011	R 28 771.36
				250…500	250…500	1	1	AF580-30-11	1SFL617001R7111	R 29 815.59
400	1050	600	900	-	24…60	1	1	AF750-30-11	1SFL637001R6811 (1)	R 34 526.21
				48…130	48…130	1	1	AF750-30-11	1SFL637001R6911	R 34 526.21
				100…250	100…250	1	1	AF750-30-11	1SFL637001R7011	R 34 526.21
				250…500	250…500	1	1	AF750-30-11	1SFL637001R7111	R 34 526.21

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.
(2) Up to 850 V DC for AF580, AF750.



AF460-30-11

AF1250 ... AF2650 - 3-pole contactors

IEC		UL/CSA		Rated Control Circuit Voltage Uc (1)		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational		3-phase Motor Rating 480 V hp	General Use Rating 600 V AC (2) A							
Power 400 V AC-3 kW	Current θ ≤ 40 °C 690 V AC-1 A			V 50/60 Hz	V DC					
-	1260	-	1210	-	24…60	1	1	AF1250-30-11	1SFL647001R6811 (1)	R 55 454.08
				48…130	48…130	1	1	AF1250-30-11	1SFL647001R6911	R 55 454.08
				100…250	100…250	1	1	AF1250-30-11	1SFL647001R7011	R 55 454.08
				250…500	250…500	1	1	AF1250-30-11	1SFL647001R7111	R 55 454.08
475	1350	800	1350	100…250	100…250	1	1	AF1350-30-11	1SFL657001R7011	R 76 388.47
560	1650	900	1650	100…250	100…250	1	1	AF1650-30-11	1SFL677001R7011	R 94 097.44
-	2050	-	2100	100…250	100…250	1	1	AF2050-30-11	1SFL707001R7011	R 117 622.23
-	2650	-	2700	100...250	100...250	1	1	AF2650-30-11	1SFL667001R7011	R 229 363.57

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.(2) AF2650: Maximum operational voltage = 1000 V according to UL / CSA.



AF2650-30-11

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Contactors and Contactor Relays
AF400...AF2650 - 3-pole Main Accessories



CAL18-11



VM750H



LT460-AC

AF400... AF2650 - 3-pole contactors Main accessories

For Contactors	Auxiliary Contacts		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
						
Side-mounted Instantaneous Auxiliary Contact Blocks						
AF400 ... AF2650	1	1	CAL18-11	1SFN010720R1011	2	R 195.81
	1	1	CAL18-11B	1SFN010720R3311	2	R 195.81
Mechanical Interlock Unit						
AF400 ... AF1250			VM750H	1SFN035700R1000	1	R 859.16
AF1350 ... AF2650			VM1650H	1SFN036503R1000	1	R 2749.51
Terminal Shrouds						
AF400, AF460 with connectors			LT460-AC	1SFN125701R1000	2	R 397.70
AF400, AF460 with lugs			LT460-AL	1SFN125703R1000	2	R 453.53
AF580 ... AF750 with connectors			LT750-AC	1SFN126101R1000	2	R 567.97
AF580 ... AF750 with lugs			LT750-AL	1SFN126103R1000	2	R 681.00

For Contactors	Dimensions		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
	hole Ø mm	bar mm				
Terminal Enlargements						
AF400, AF460	10.5	25 x 5	LW460	1SFN075707R1000	1	R 1569.90
AF580, AF750	13	40 x 6	LW750	1SFN076107R1000	1	R 1674.59
AF1250	13	50 x 10	LW1250	1SFN076407R1000	1	R 1575.46
Terminal Extension						
AF400, AF460	10.5	25 x 5	LX460	1SFN075710R1000	1	R 1702.95
AF580, AF750	13	40 x 6	LX750	1SFN076110R1000	1	R 2099.72

(1) For more information, refer to main catalog "Accessories" section.

4-pole Block Contactors
Overview






IEC	AC-1 Rated operational current	θ ≤ 40 °C, 690 V	A	25	30	45	55	70	100	125
UL/CSA	General use rating	600 V	A	25	30	45	55	60	80	105
AC / DC Control supply			Type	AF09	AF16	AF26	AF38	AF40	AF52	AF80
AC Control supply			Type	AF09	AF16	AF26	AF38	AF40	AF52	AF80
DC Control supply			Type	AF09	AF16	AF26	AF38	AF40	AF52	AF80
IEC	AC-1 Rated operational current 690 V	θ ≤ 40 °C	A	25	30	45	55	70	100	125
		θ ≤ 60 °C (1)	A	25	30	40	45	60	80	105
		θ ≤ 70 °C	A	22	26	32	37	50	70	90
	With conductor cross sectional area		mm^2	4	6	10	16	35	35	50
	Rated operational voltage Ue max.		V	690	690	690	690	690	690	690

(1) θ ≤ 55 °C for EK550, EK1000 contactors

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Main accessories

Auxiliary contact blocks	Front mounting	CA4-10 (1 x N.O.), CA4-01 (1 x N.C.)	
	Side mounting	CAL4-11 (1 x N.O. + 1 x N.C.)	
Timers	Electronic	TEF4-ON TEF4-OFF	
Interlocking units	Mechanical	VM4	VM96-4
	Mechanical / Electrical	VEM4	
Surge suppressors	Varistor + RC (AC / DC)	Built-in surge protection	

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4-pole Block Contactors
Overview






	160	200	275	350	400	500	525	800	1000
	160	175	230	250	300	350	420	540	—
	AF116	AF140	AF190	AF205	AF265	AF305	AF370	—	—
	AF116	AF140	AF190	AF205	AF265	AF305	AF370	EK550	EK1000
	AF116	AF140	AF190	AF205	AF265	AF305	AF370	EK550	EK1000
	160	200	275	350	400	500	525	800	1000
	145	175	250	300	350	400	425	650	800
	130	160	200	240	290	325	350	575	720
	70	95	150	240	240	300	2 x 185	2 x 240	2 x 300
	690	690	1000	1000	1000	1000	1000	1000	1000

	CAL19-11 (1 x N.O. + 1 x N.C.)	CAL16-11 (1 x N.O. + 1 x N.C.)
	VM19 (for same size contactors)	VH800
		RC-EH800

Contactors and Contactor Relays

AF Range 4-pole Contactor, Ordering Details

AF09...AF38 - 4-pole contactors

IEC	UL/CSA	Rated Control Circuit Voltage Uc min. … Uc max.		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational Current u ≤ 40 °C AC-1 A	General Use Rating 600 V AC A	V 50/60 Hz	V DC					
4 N.O. Main Poles								
25	25	24...60	- [1]	0	0	AF09-40-00-41	1SBL137201R4100	R 521.86
		48...130	48...130	0	0	AF09-40-00-12	1SBL137201R1200	R 521.86
		100...250	100...250	0	0	AF09-40-00-13	1SBL137201R1300	R 521.86
		250...500	250...500	0	0	AF09-40-00-14	1SBL137201R1400	R 521.86
30	30	24...60	- [1]	0	0	AF16-40-00-41	1SBL177201R4100	R 622.34
		48...130	48...130	0	0	AF16-40-00-12	1SBL177201R1200	R 622.34
		100...250	100...250	0	0	AF16-40-00-13	1SBL177201R1300	R 622.34
		250...500	250...500	0	0	AF16-40-00-14	1SBL177201R1400	R 622.34
45	45	24...60	- [1]	0	0	AF26-40-00-41	1SBL237201R4100	R 1040.25
		48...130	48...130	0	0	AF26-40-00-12	1SBL237201R1200	R 1040.25
		100...250	100...250	0	0	AF26-40-00-13	1SBL237201R1300	R 1040.25
		250...500	250...500	0	0	AF26-40-00-14	1SBL237201R1400	R 1040.25
55	55	24...60	- [1]	0	0	AF38-40-00-41	1SBL297201R4100	R 1779.62
		48...130	48...130	0	0	AF38-40-00-12	1SBL297201R1200	R 1779.62
		100...250	100...250	0	0	AF38-40-00-13	1SBL297201R1300	R 1779.62
		250...500	250...500	0	0	AF38-40-00-14	1SBL297201R1400	R 1779.62



AF09Z-40-00

2 N.O. + 2 N.C. Main Poles								
25	25	24...60	- [1]	0	0	AF09-22-00-41	1SBL137501R4100	R 576.79
		48...130	48...130	0	0	AF09-22-00-12	1SBL137501R1200	R 576.79
		100...250	100...250	0	0	AF09-22-00-13	1SBL137501R1300	R 576.79
		250...500	250...500	0	0	AF09-22-00-14	1SBL137501R1400	R 576.79
30	30	24...60	- [1]	0	0	AF16-22-00-41	1SBL177501R4100	R 794.41
		48...130	48...130	0	0	AF16-22-00-12	1SBL177501R1200	R 794.41
		100...250	100...250	0	0	AF16-22-00-13	1SBL177501R1300	R 794.41
		250...500	250...500	0	0	AF16-22-00-14	1SBL177501R1400	R 794.41
45	45	24...60	- [1]	0	0	AF26-22-00-41	1SBL237501R4100	R 1161.00
		48...130	48...130	0	0	AF26-22-00-12	1SBL237501R1200	R 1161.00
		100...250	100...250	0	0	AF26-22-00-13	1SBL237501R1300	R 1161.00
		250...500	250...500	0	0	AF26-22-00-14	1SBL237501R1400	R 1161.00
55	55	24...60	- [1]	0	0	AF38-22-00-41	1SBL297501R4100	R 2009.25
		48...130	48...130	0	0	AF38-22-00-12	1SBL297501R1200	R 2009.25
		100...250	100...250	0	0	AF38-22-00-13	1SBL297501R1300	R 2009.25
		250...500	250...500	0	0	AF38-22-00-14	1SBL297501R1400	R 2009.25



AF26Z-40-00

[1] For 24...60 V 50/60 Hz - 20...60 V DC, use AF..-..-..-11 (see voltage code table).
AF..-..-..-11 not suitable for direct control by PLC-output.

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Contactors and Contactor Relays

AF Range 4-pole Contactor, Ordering Details

AF40 ... AF80 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage Uc min. … Uc max		Auxiliary contacts fitted		Type (1)	Order code	Price per Unit Excl VAT
Rated operational current θ ≤ 40 °C AC-1 A	General use rating 600 V AC A	V 50/60 Hz	V DC					
4 N.O. main poles								
70	60	24...60	20...60 (1)	0	0	AF40-40-00-11	1SBL347201R1100	R 3179.67
		48...130	48...130	0	0	AF40-40-00-12	1SBL347201R1200	R 3179.67
		100...250	100...250	0	0	AF40-40-00-13	1SBL347201R1300	R 2322.00
		250...500	250...500	0	0	AF40-40-00-14	1SBL347201R1400	R 2229.54
100	80	24...60	20...60 (1)	0	0	AF52-40-00-11	1SBL367201R1100	R 3482.58
		48...130	48...130	0	0	AF52-40-00-12	1SBL367201R1200	R 3482.58
		100...250	100...250	0	0	AF52-40-00-13	1SBL367201R1300	R 2888.33
		250...500	250...500	0	0	AF52-40-00-14	1SBL367201R1400	R 2649.84
125	105	24...60	20...60 (1)	0	0	AF80-40-00-11	1SBL397201R1100	R 4515.66
		48...130	48...130	0	0	AF80-40-00-12	1SBL397201R1200	R 4515.66
		100...250	100...250	0	0	AF80-40-00-13	1SBL397201R1300	R 4095.99
		250...500	250...500	0	0	AF80-40-00-14	1SBL397201R1400	R 3933.03



AF40-40-00

2 N.O. + 2 N.C. main poles

70	60	24...60	20...60 (1)	0	0	AF40-22-00-11	1SBL347501R1100	R 3482.58
		48...130	48...130	0	0	AF40-22-00-12	1SBL347501R1200	R 3482.58
		100...250	100...250	0	0	AF40-22-00-13	1SBL347501R1300	R 2517.39
		250...500	250...500	0	0	AF40-22-00-14	1SBL347501R1400	R 2517.39
125	105	24...60	20...60 (1)			AF80-22-00-11	1SBL397501R1100	R 5680.89
		48...130	48...130	0	0	AF80-22-00-12	1SBL397501R1200	R 5680.89
		100...250	100...250	0	0	AF80-22-00-13	1SBL397501R1300	R 4224.21
		250...500	250...500	0	0	AF80-22-00-14	1SBL397501R1400	R 4224.21

(1) AF..-..-..-11 not suitable for direct control by PLC-output.



AF80-40-00

Contactors and Contactor Relays

AF Range 4-pole Contactor, Ordering Details



AF140-40-00

AF116 … AF140 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage Uc min. … Uc max		Auxiliary contacts fitted		Type [1]	Order code	Price per Unit Excl VAT
Rated operational current θ ≤ 40 °C AC-1 A	General use rating 600 V AC A	V 50/60 Hz	V DC					
4 N.O. main poles								
160	160	24...60	20...60	0	0	AF116-40-00-11	1SFL427101R1100	R 7491.20
		48...130	48...130	0	0	AF116-40-00-12	1SFL427101R1200	R 7491.20
		100...250	100...250	0	0	AF116-40-00-13	1SFL427101R1300	R 7157.81
		250...500	250...500	0	0	AF116-40-00-14	1SFL427101R1400	R 7491.20
200	175	24...60	20...60	0	0	AF140-40-00-11	1SFL447101R1100	R 8845.60
		48...130	48...130	0	0	AF140-40-00-12	1SFL447101R1200	R 8845.60
		100...250	100...250	0	0	AF140-40-00-13	1SFL447101R1300	R 8451.92
		250...500	250...500	0	0	AF140-40-00-14	1SFL447101R1400	R 8845.60

[1] For other auxiliary contacts arrangements, please contact your ABB local organization.



AF205-40-00

AF190 … AF370 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage Uc min. … Uc max		Auxiliary contacts fitted		Type [1]	Order code	Price per Unit Excl VAT
Rated operational current θ ≤ 40 °C AC-1 A	General use rating 600 V AC A	V 50/60 Hz	V DC					
4 N.O. main poles								
275	230	24...60	20...60	0	0	AF190-40-00-11	1SFL487102R1100	R 11 518.66
		48...130	48...130	0	0	AF190-40-00-12	1SFL487102R1200	R 11 518.66
		100...250	100...250	0	0	AF190-40-00-13	1SFL487102R1300	R 10 481.91
		250...500	250...500	0	0	AF190-40-00-14	1SFL487102R1400	R 11 518.66
350	250	24...60	20...60	0	0	AF205-40-00-11	1SFL527102R1100	R 13 963.90
		48...130	48...130	0	0	AF205-40-00-12	1SFL527102R1200	R 13 963.90
		100...250	100...250	0	0	AF205-40-00-13	1SFL527102R1300	R 12 707.07
		250...500	250...500	0	0	AF205-40-00-14	1SFL527102R1400	R 13 963.90
400	300	24...60	20...60	0	0	AF265-40-00-11	1SFL547102R1100	R 15 448.00
		48...130	48...130	0	0	AF265-40-00-12	1SFL547102R1200	R 15 448.00
		100...250	100...250	0	0	AF265-40-00-13	1SFL547102R1300	R 14 057.61
		250...500	250...500	0	0	AF265-40-00-14	1SFL547102R1400	R 15 448.00
500	350	24...60	20...60	0	0	AF305-40-00-11	1SFL587102R1100	R 18 146.19
		48...130	48...130	0	0	AF305-40-00-12	1SFL587102R1200	R 18 146.19
		100...250	100...250	0	0	AF305-40-00-13	1SFL587102R1300	R 17 613.81
		250...500	250...500	0	0	AF305-40-00-14	1SFL587102R1400	R 18 146.19
525	420	24...60	20...60	0	0	AF370-40-00-11	1SFL607102R1100	R 20 384.38
		48...130	48...130	0	0	AF370-40-00-12	1SFL607102R1200	R 20 384.38
		100...250	100...250	0	0	AF370-40-00-13	1SFL607102R1300	R 18 549.69
		250...500	250...500	0	0	AF370-40-00-14	1SFL607102R1400	R 20 384.38

[1] For other auxiliary contacts arrangements, please contact your ABB local organization.



AF370-40-00

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Contactors and Contactor Relays
EK Range 4-pole Contactors



EK1000-40-11

Description

EK550 4-pole contactors are mainly used for controlling non-inductive or slightly inductive loads (i.e. resistance furnaces...) and generally for controlling power circuits up to 1000 V AC and 600 V DC, EK1000 up to 1000 V AC.
These contactors are of the block type design with:
– 4 main poles
– control circuit: AC operated
– add-on auxiliary contact blocks for side mounting and a wide range of accessories

EK550, EK1000 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage Uc [1]		Auxiliary contacts fitted		Type [1]	Order code	Price per Unit Excl VAT
Rated operational current θ ≤ 40 °C AC-1 A	General use rating 600 V AC A	V 50 Hz	V 60 Hz					
4 N.O. main poles								
800	540	110…115	115…127	1	1	EK550-40-11	SK827041-EG	R 34 239.24
		220…230	230…255	1	1	EK550-40-11	SK827041-EM	R 34 239.24
		400…415	-	1	1	EK550-40-11	SK827041-AR	R 34 239.24
1000	-	110…115	115…127	1	1	EK1000-40-11	SK827044-EG	R 38 496.81
		220…230	230…255	1	1	EK1000-40-11	SK827044-EM	R 38 496.81
		400…415	-	1	1	EK1000-40-11	SK827044-AP	R 38 496.81

[1] For other control voltages, please contact your ABB local sales organisation

Contactors and Contactor Relays
Contactors for Capacitor Switching 3 Pole

Contactors for Capacitor Switching 3 Pole 12.5 to 30 kvar



UA16 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA16-30-10RA	24	24	1SBL181024R8110	R 1629.30
UA16-30-10RA	48	48	1SBL181024R8310	R 1629.30
UA16-30-10RA	110	110 ... 120	1SBL181024R8410	R 1629.30
UA16-30-10RA	220 ... 230	230 ... 240	1SBL181024R8010	R 1629.30
UA16-30-10RA	230 ... 240	240 ... 260	1SBL181024R8810	R 1629.30
UA16-30-10RA	380 ... 400	400 ... 415	1SBL181024R8510	R 1629.30
UA16-30-10RA	400 ... 415	415 ... 440	1SBL181024R8610	R 1629.30

UA26 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA26-30-10RA	24	24	1SBL241024R8110	R 2027.96
UA26-30-10RA	48	48	1SBL241024R8310	R 2027.96
UA26-30-10RA	110	110 ... 120	1SBL241024R8410	R 2027.96
UA26-30-10RA	220 ... 230	230 ... 240	1SBL241024R8010	R 2027.96
UA26-30-10RA	230 ... 240	240 ... 260	1SBL241024R8810	R 2027.96
UA26-30-10RA	380 ... 400	400 ... 415	1SBL241024R8510	R 2027.96
UA26-30-10RA	400 ... 415	415 ... 440	1SBL241024R8610	R 2027.96

UA30 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA30-30-10RA	24	24	1SBL281024R8110	R 2481.39
UA30-30-10RA	48	48	1SBL281024R8310	R 2481.39
UA30-30-10RA	110	110 ... 120	1SBL281024R8410	R 2481.39
UA30-30-10RA	220 ... 230	230 ... 240	1SBL281024R8010	R 2481.39
UA30-30-10RA	230 ... 240	240 ... 260	1SBL281024R8810	R 2481.39
UA30-30-10RA	380 ... 400	400 ... 415	1SBL281024R8510	R 2481.39
UA30-30-10RA	400 ... 415	415 ... 440	1SBL281024R8610	R 2481.39

Contactors for Capacitor Switching 3 Pole 40 to 60 kvar



UA50 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA50-30-00RA	24	24	1SBL351024R8100	R 3951.10
UA50-30-00RA	48	48	1SBL351024R8300	R 3951.10
UA50-30-00RA	110	110 ... 120	1SBL351024R8400	R 3951.10
UA50-30-00RA	220 ... 230	230 ... 240	1SBL351024R8000	R 3951,10
UA50-30-00RA	230 ... 240	240 ... 260	1SBL351024R8800	R 3951.10
UA50-30-00RA	380 ... 400	400 ... 415	1SBL351024R8500	R 3951.10
UA50-30-00RA	400 ... 415	415 ... 440	1SBL351024R8600	R 3951.10

UA63 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA63-30-00RA	24	24	1SBL371024R8100	R 4491.36
UA63-30-00RA	48	48	1SBL371024R8300	R 4491.36
UA63-30-00RA	110	110 ... 120	1SBL371024R8400	R 4491.36
UA63-30-00RA	220 ... 230	230 ... 240	1SBL371024R8000	R 4491.36
UA63-30-00RA	230 ... 240	240 ... 260	1SBL371024R8800	R 4491.36
UA63-30-00RA	380 ... 400	400 ... 415	1SBL371024R8500	R 4491.36
UA63-30-00RA	400 ... 415	415 ... 440	1SBL371024R8600	R 4491.36



UA75 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA75-30-00RA	24	24	1SBL411024R8100	R 4909.77
UA75-30-00RA	48	48	1SBL411024R8300	R 4909.77
UA75-30-00RA	110	110 ... 120	1SBL411024R8400	R 4909.77
UA75-30-00RA	220 ... 230	230 ... 240	1SBL411024R8000	R 4909.77
UA75-30-00RA	230 ... 240	240 ... 260	1SBL411024R8800	R 4909.77
UA75-30-00RA	380 ... 400	400 ... 415	1SBL411024R8500	R 4909.77
UA75-30-00RA	400 ... 415	415 ... 440	1SBL411024R8600	R 4909.77

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Contactors and Contactor Relays
Contactors for Capacitor Switching 3 Pole

Contactors for Capacitor Switching 3 Pole 70 to 80 kvar

UA95 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA95-30-00RA	24	24	1SFL431024R8100	R 4916.70
UA95-30-00RA	48	48	1SFL431024R8300	R 4916.70
UA95-30-00RA	110	110 ... 120	1SFL431024R8400	R 4916.70
UA95-30-00RA	220 ... 230	230 ... 240	1SFL431024R8000	R 4916.70
UA95-30-00RA	230 ... 240	240 ... 260	1SFL431024R8800	R 4916.70
UA95-30-00RA	380 ... 400	400 ... 415	1SFL431024R8500	R 4916.70
UA95-30-00RA	400 ... 415	415 ... 440	1SFL431024R8600	R 4916.70

UA110 Unlimited Peak Current Î

Description	V - 50Hz	V - 60Hz	Order Code	Price Per Unit Excl. VAT
UA110-30-00RA	24	24	1SFL451024R8100	R 5392.11
UA110-30-00RA	48	48	1SFL451024R8300	R 5392.11
UA110-30-00RA	110	110 ... 120	1SFL451024R8400	R 5392.11
UA110-30-00RA	220 ... 230	230 ... 240	1SFL451024R8000	R 5392.11
UA110-30-00RA	230 ... 240	240 ... 260	1SFL451024R8800	R 5392.11
UA110-30-00RA	380 ... 400	400 ... 415	1SFL451024R8500	R 5392.11
UA110-30-00RA	400 ... 415	415 ... 440	1SFL451024R8600	R 5392.11

Contactors and Contactor Relays

Contactor Relays NFZ Range 4 Pole

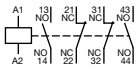
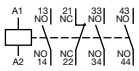
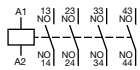


NF22E



NFZ22E

NFZ22E Low Consumption

Number of Contacts	Rated Control Circuit Voltage Uc min. ... Uc max. V 50/60 Hz	Rated Control Circuit Voltage Uc min. ... Uc max. V DC	Type	Order Code	Price Per Unit Excl. VAT
	–	12...20	NFZ22E-20	1SBH136001R2022	R 726.19
	24...60	20...60	NFZ22E-21	1SBH136001R2122	R 726.19
	48...130	48...130	NFZ22E-22	1SBH136001R2222	R 726.19
	100...250	100...250	NFZ22E-23	1SBH136001R2322	R 726.19
	–	12...20	NFZ31E-20	1SBH136001R2031	R 726.19
	24...60	20...60	NFZ31E-21	1SBH136001R2131	R 726.19
	48...130	48...130	NFZ31E-22	1SBH136001R2231	R 726.19
	100...250	100...250	NFZ31E-23	1SBH136001R2331	R 726.19
	–	12...20	NFZ40E-20	1SBH136001R2040	R 726.19
	24...60	20...60	NFZ40E-21	1SBH136001R2140	R 726.19
	48...130	48...130	NFZ40E-22	1SBH136001R2240	R 726.19
	100...250	100...250	NFZ40E-23	1SBH136001R2340	R 726.19

Note: Only NFZ contactor relays with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole.

NFZ Main Accessories



CA4-10

Ordering Details (1)

For Contactor Relays	Auxiliary Contacts				Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Front-mounted Instantaneous Auxiliary Contact Blocks								
4-pole NF	1	0	–	–	CA4-10	1SBN010110R1010	1	R 52.64
	1	0	–	–	CA4-10-T	1SBN010110T1010	10	R 52.64
	0	1	–	–	CA4-01	1SBN010110R1001	1	R 52.64
	0	1	–	–	CA4-01-T	1SBN010110T1001	10	R 52.64
	4	0	–	–	CA4-40N	1SBN010140R1240	1	R 223.52
	3	1	–	–	CA4-31N	1SBN010140R1231	1	R 223.52
	2	2	–	–	CA4-22N	1SBN010140R1222	1	R 223.52
	1	3	–	–	CA4-13N	1SBN010140R1213	1	R 223.52
NF..40E	0	4	–	–	CA4-04N	1SBN010140R1204	1	R 223.52



CA4-22N



CAL4-11

Front-mounted Auxiliary Contact Blocks with N.O. Leading Contact and N.C. Lagging Contact

4-pole NF	–	–	1	0	CC4-10	1SBN010111R1010	1	R 169.31
	–	–	0	1	CC4-01	1SBN010111R1001	1	R 169.31

Side-mounted Instantaneous Auxiliary Contact Blocks

NF	1	1	–	–	CAL4-11	1SBN010120R1011	1	R 140.29
	1	1	–	–	CAL4-11-T	1SBN010120T1011	10	R 140.29



TEF4-ON

For Contactors	Time Delay Range Selected by Switch	Delay Type	Auxiliary Contacts		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Electronic Timers								
NF	0.1...1 s 1...10 s 10...100 s	ON-delay	1	1	TEF4-ON	1SBN020112R1000	1	R 798.67
		OFF-delay	1	1	TEF4-OFF	1SBN020114R1000	1	R 853.57

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.



LDC4

Additional Coil Terminal Block

NF	LDC4	1SBN070156T1000	10	R 28.36



BX4

Protective Covers

All 1-stack contactor relays	BX4	1SBN110108T1000	10	R 31.52
4-pole CA4 auxiliary contact blocks and TEF4 electronic timer	BX4-CA	1SBN110109W1000	50	R 12.60

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Contactors and Contactor Relays
Contactors AS Range 3 Pole

AS09



IEC		UL/CSA		Rated Control Circuit Voltage Uc (1)		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational Power 400 V AC-3 kW	Current θ ≤ 40 °C AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating 600 V AC A	V 50 Hz	V 60 Hz					
4	22	5	20	230	230	1	0	AS09-30-10-26	1SBL101001R2610	R 274.37
						0	1	AS09-30-01-26	1SBL101001R2601	R 282.61
				400	400	1	0	AS09-30-10-28	1SBL101001R2810	R 274.37
						0	1	AS09-30-01-28	1SBL101001R2801	R 282.61

AS12



IEC		UL/CSA		Rated Control Circuit Voltage Uc (1)		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational Power 400 V AC-3 kW	Current θ ≤ 40 °C AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating 600 V AC A	V 50 Hz	V 60 Hz					
5.5	24	7.5	20	230	230	1	0	AS12-30-10-26	1SBL111001R2610	R283.44
						0	1	AS12-30-01-26	1SBL111001R2601	R291.95
				400	400	1	0	AS12-30-10-28	1SBL111001R2810	R283.44
						0	1	AS12-30-01-28	1SBL111001R2801	R291.95

AS16



IEC		UL/CSA		Rated Control Circuit Voltage Uc (1)		Auxiliary Contacts Fitted		Type	Order Code	Price Per Unit Excl. VAT
Rated Operational Power 400 V AC-3 kW	Current θ ≤ 40 °C AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating 600 V AC A	V 50 Hz	V 60 Hz					
7.5	24	10	20	230	230	1	0	AS16-30-10-26	1SBL121001R2610	R415.59
						0	1	AS16-30-01-26	1SBL121001R2601	R428.02
				400	400	1	0	AS16-30-10-28	1SBL121001R2810	R415.59
						0	1	AS16-30-01-28	1SBL121001R2801	R428.02

Note: for multiple packaging, please contact your ABB local sales organization.
(1) Other control voltages see voltage code table.

Contactors and Contactor Relays
Thermal Overload Relays



T16



T16 + DB16



DB16



TF42



TF42 + DB42



DB42

Thermal overload relays for B and AS range

T16

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
0.10 ... 0.13	0.5 A, fuse type T	10	T16-0.13	1SAZ711201R1005	R 400.62
0.13 ... 0.17	1.0 A, fuse type T	10	T16-0.17	1SAZ711201R1008	R 400.62
0.17 ... 0.23	1.0 A, fuse type T	10	T16-0.23	1SAZ711201R1009	R 400.62
0.23 ... 0.31	1.0 A, fuse type T	10	T16-0.31	1SAZ711201R1013	R 400.62
0.31 ... 0.41	2.0 A, fuse type gG	10	T16-0.41	1SAZ711201R1014	R 400.62
0.41 ... 0.55	2.0 A, fuse type gG	10	T16-0.55	1SAZ711201R1017	R 400.62
0.55 ... 0.74	4.0 A, fuse type gG	10	T16-0.74	1SAZ711201R1021	R 400.62
0.74 ... 1.00	6.0 A, fuse type gG	10	T16-1.0	1SAZ711201R1023	R 400.62
1.00 ... 1.30	6.0 A, fuse type gG	10	T16-1.3	1SAZ711201R1025	R 400.62
1.30 ... 1.70	10.0 A, fuse type gG	10	T16-1.7	1SAZ711201R1028	R 400.62
1.70 ... 2.30	10.0 A, fuse type gG	10	T16-2.3	1SAZ711201R1031	R 400.62
2.30 ... 3.10	10.0 A, fuse type gG	10	T16-3.1	1SAZ711201R1033	R 400.62
3.10 ... 4.20	20.0 A, fuse type gG	10	T16-4.2	1SAZ711201R1035	R 400.62
4.20 ... 5.70	20.0 A, fuse type gG	10	T16-5.7	1SAZ711201R1038	R 400.62
5.70 ... 7.60	35.0 A, fuse type gG	10	T16-7.6	1SAZ711201R1040	R 400.62
7.60 ... 10.0	35.0 A, fuse type gG	10	T16-10	1SAZ711201R1043	R 400.62
10.0 ... 13.0	40.0 A, fuse type gG	10	T16-13	1SAZ711201R1045	R 400.62
13.0 ... 16.0	40.0 A, fuse type gG	10	T16-16	1SAZ711201R1047	R 410.72

Single mounting kit T16

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
T16	Single mounting kit	DB16	1SAZ701901R0001	R 205.91

Thermal overload relays for AF09…AF38 range

TF42

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
0.10 ... 0.13	0.5 A, fuse type T	10	TF42-0.13	1SAZ721201R1005	R 472.42
0.13 ... 0.17	1.0 A, fuse type T	10	TF42-0.17	1SAZ721201R1008	R 472.42
0.17 ... 0.23	1.0 A, fuse type T	10	TF42-0.23	1SAZ721201R1009	R 472.42
0.23 ... 0.31	1.0 A, fuse type T	10	TF42-0.31	1SAZ721201R1013	R 472.42
0.31 ... 0.41	2.0 A, fuse type gG	10	TF42-0.41	1SAZ721201R1014	R 472.42
0.41 ... 0.55	2.0 A, fuse type gG	10	TF42-0.55	1SAZ721201R1017	R 472.42
0.55 ... 0.74	4.0 A, fuse type gG	10	TF42-0.74	1SAZ721201R1021	R 472.42
0.74 ... 1.00	6.0 A, fuse type gG	10	TF42-1.0	1SAZ721201R1023	R 472.42
1.00 ... 1.30	6.0 A, fuse type gG	10	TF42-1.3	1SAZ721201R1025	R 472.42
1.30 ... 1.70	10.0 A, fuse type gG	10	TF42-1.7	1SAZ721201R1028	R 472.42
1.70 ... 2.30	10.0 A, fuse type gG	10	TF42-2.3	1SAZ721201R1031	R 472.42
2.30 ... 3.10	10.0 A, fuse type gG	10	TF42-3.1	1SAZ721201R1033	R 472.42
3.10 ... 4.20	20.0 A, fuse type gG	10	TF42-4.2	1SAZ721201R1035	R 472.42
4.20 ... 5.70	20.0 A, fuse type gG	10	TF42-5.7	1SAZ721201R1038	R 472.42
5.70 ... 7.60	35.0 A, fuse type gG	10	TF42-7.6	1SAZ721201R1040	R 472.42
7.60 ... 10.0	35.0 A, fuse type gG	10	TF42-10	1SAZ721201R1043	R 472.42
10.0 ... 13.0	40.0 A, fuse type gG	10	TF42-13	1SAZ721201R1045	R 523.33
13.0 ... 16.0	40.0 A, fuse type gG	10	TF42-16	1SAZ721201R1047	R 523.33
16.0 ... 20.0	63.0 A, fuse type gG	10	TF42-20	1SAZ721201R1049	R 523.33
20.0 ... 24.0	63.0 A, fuse type gG	10	TF42-24	1SAZ721201R1051	R 666.34
24.0 ... 29.0	63.0 A, fuse type gG	10	TF42-29	1SAZ721201R1052	R 763.85
29.0 ... 35.0	80.0 A, fuse type gG	10	TF42-35	1SAZ721201R1053	R 785.50
35.0 ... 38.0/40.0	80.0 A, fuse type gG	10	TF42-38	1SAZ721201R1055	R 785.50

Single Mounting Kit TF42

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
TF42	Single mounting kit	DB42	1SAZ701902R0001	R 244.36

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Contactor and Contactor Relays
Thermal Overload Relays

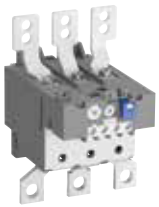

TF65


DB65


TF96


DB96


TF140DU


TA200DU

Thermal overload relays for AF40…AF65 range

TF65					
Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
22.0 ... 28.0	80 A, gG Type Fuses	10	TF65-28	1SAZ811201R1001	R 813.19
25.0 ... 33.0	80 A, gG Type Fuses	10	TF65-33	1SAZ811201R1002	R 1047.07
30.0 ... 40.0	100 A, gG Type Fuses	10	TF65-40	1SAZ811201R1003	R 937.45
36.0 ... 47.0	125 A, gG Type Fuses	10	TF65-47	1SAZ811201R1004	R 960.04
44.0 ... 53.0	125 A, gG Type Fuses	10	TF65-53	1SAZ811201R1005	R 1095.56
50.0 ... 60.0	125 A, gG Type Fuses	10	TF65-60	1SAZ811201R1006	R 1129.45
57.0 ... 67.0	160 A, gG Type Fuses	10	TF65-67	1SAZ811201R1007	R 1145.18

Single Mounting Kit for TF65

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
TF65	DB65 Single Mounting Kit	DB65	1SAZ801901R1001	R 420.77

Thermal overload relays for AF80…AF96 range

TF96					
Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
40.0 ... 51.0	125 A, gG Type Fuses	10	TF96-51	1SAZ911201R1001	R 1095.56
48.0 ... 60.0	160 A, gG Type Fuses	10	TF96-60	1SAZ911201R1002	R 1185.93
57.0 ... 68.0	160 A, gG Type Fuses	10	TF96-68	1SAZ911201R1003	R 1242.38
65.0 ... 78.0	200 A, gG Type Fuses	10	TF96-78	1SAZ911201R1004	R 1456.97
75.0 ... 87.0	200 A, gG Type Fuses	10	TF96-87	1SAZ911201R1005	R 1581.23
84.0 ... 96.0	250 A, gG Type Fuses	10	TF96-96	1SAZ911201R1006	R 1694.16

Single Mounting Kit for TF96

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
TF96	DB96 Single Mounting Kit	DB96	1SAZ901901R1001	R 807.87

Thermal overload relays for AF116…AF140 range

TF140					
Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
66 ... 90	200 A, fuse type gG	10A	TF140DU-90	1SAZ431201R1001	R 1728.05
80 ... 110	224 A, fuse type gG	10A	TF140DU-110	1SAZ431201R1002	R 1863.57
100 ... 135	224 A, fuse type gG	10A	TF140DU-135	1SAZ431201R1003	R 1976.53
110 ... 142	250 A, fuse type gG	10A	TF140DU-142	1SAZ431201R1004	R 2089.46

Thermal overload relays for AF190…AF205 range

TA200					
Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
66 ... 90	200 A, fuse type gG / 125 A aM	10A	TA200DU-90	1SAZ421201R1001	R 1861.30
80 ... 110	224 A, fuse type gG / 160 A aM	10A	TA200DU-110	1SAZ421201R1001	R 1977.66
100 ... 135	224 A, fuse type gG / 200 A aM	10A	TA200DU-135	1SAZ421201R1001	R 2093.99
110 ... 150	250 A, fuse type gG / 200 A aM	10A	TA200DU-150	1SAZ421201R1001	R 2210.32
130 ... 175	315 A, fuse type gG / 250 A aM	10A	TA200DU-175	1SAZ421201R1001	R 2233.59
150 ... 200	315 A, fuse type gG / 250 A aM	10A	TA200DU-200	1SAZ421201R1001	R 2280.12

Single Mounting Kit for TA200DU

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
TA200DU	DB200 Single Mounting Kit	DB200	1SAZ401110R0001	R 471.87

Contactor and Contactor Relays
Electronic Overload Relays


E16DU-1.0

Electronic overload relays for B range

E16DU electronic overload relays

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
0.10 ... 0.32	1 A, fuse type gG	10E, 20E, 30E	E16DU-0.32	1SAX111001R1101	R 1278.84
0.30 ... 1.00	4 A, fuse type gG	10E, 20E, 30E	E16DU-1.0	1SAX111001R1102	R 1278.84
0.80 ... 2.70	10 A, fuse type gG	10E, 20E, 30E	E16DU-2.7	1SAX111001R1103	R 1278.84
2.00 ... 6.30	20 A, fuse type gG	10E, 20E, 30E	E16DU-6.3	1SAX111001R1104	R 1418.55
5.70 ... 18.9	50 A, fuse type gG	10E, 20E, 30E	E16DU-18.9	1SAX111001R1105	R 1418.55


EF19-18.9

Single Mounting Kit for E16DU

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
E16DU	Single mounting kit	DB16E	1SAX101110R0001	R 255.76


EF45-30

Electronic overload relays for AF09…AF38 range

EF19, EF45 electronic overload relays

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT

EF19 electronic overload relays [1)]

0.10 … 0.32	1 A, fuse type gG	10E, 20E, 30E	EF19-0.32	1SAX121001R1101	R 1052.09
0.30 … 1.00	4 A, fuse type gG	10E, 20E, 30E	EF19-1.0	1SAX121001R1102	R 1052.09
0.80 … 2.70	10 A, fuse type gG	10E, 20E, 30E	EF19-2.7	1SAX121001R1103	R 1052.09
1.90 … 6.30	20 A, fuse type gG	10E, 20E, 30E	EF19-6.3	1SAX121001R1104	R 1167.05
5.70 … 18.9	50 A, fuse type gG	10E, 20E, 30E	EF19-18.9	1SAX121001R1105	R 1167.05


DB19EF

EF45 electronic overload relays [1)]

9.00 … 30.0	160 A, fuse type gG	10E, 20E, 30E	EF45-30	1SAX221001R1101	R 2235.31
15.0 … 45.0	160 A, fuse type gG	10E, 20E, 30E	EF45-45	1SAX221001R1102	R 2686.68


DB45EF

Single mounting kit for E19, EF45

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
EF19	Single mounting kit	DB19EF	1SAX101910R1001	R 542.15
EF45	Single mounting kit	DB45EF	1SAX201910R0001	R 385.94


EF65-70

Electronic overload relays for AF40..AF146 range

EF65, EF96, EF146 electronic overload relays

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
20 ... 56	160 A, fuse type gG	10E, 20E, 30E	EF65-56	1SAX331001R1102	R 2683.23
25 ... 70	160 A, fuse type gG	10E, 20E, 30E	EF65-70	1SAX331001R1101	R 2864.57
36 ... 100	200 A, fuse type gG	10E, 20E, 30E	EF96-100	1SAX341001R1101	R 3501.14
54 ... 150	315 A, fuse type gG	10E, 20E, 30E	EF146-150	1SAX351001R1101	R 3890.16


EF205-210

Single mounting kit for EF96

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
EF96	DB96 Single Mounting Kit	DB96	1SAZ901901R1001	R 807.87

Electronic overload relays for AF190..AF370 range

EF205, EF370 electronic overload relays

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT
63 ... 210	1250 A, fuse type gG	10E, 20E, 30E	EF205-210	1SAX531001R1101	R 4463.55
115 ... 380	1600 A, fuse type gG	10E, 20E, 30E	EF370-380	1SAX611001R1101	R 5836.95


EF460-500

Electronic overload relays for AF400..AF1650

EF460,EF750,E1250 electronic overload relay

Setting range A	Short-circuit protective device	Trip class	Type	Order code	Price per Unit Excl VAT

EF460 electronic overload relay

150 ... 500	690 V: 630 A, Type gG 1000 V: 1600 A, Type gG	10E, 20E, 30E	EF460-500	1SAX721001R1101	R 10 336.62


EF750-800

EF750 electronic overload relay

250 ... 800	690 V: 800 A, Type gG 1000 V: 1600 A, Type gG	10E, 20E, 30E	EF750-800	1SAX821001R1101	R 12 896.74


E1250DU-1250

E1250DU electronic overload relay

375 ... 1250		10E, 20E, 30E	E1250DU-1250	1SFA739001R1000	R 52 340.34

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Contactors and Contactor Relays
Mini Contactors

IEC		UL/CSA		Rated Control Circuit Voltage Uc		Auxiliary Contacts Fitted	Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Rated Operational Power 400 V AC-3 kW	Rated Operational Current θ ≤ 40 °C AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating	50 Hz V AC	60 Hz V AC					
3 Pole AC Operated B6										
4	20	3	300 V / 12 A	24	24	1 0	B6-30-10-01	GJL1211001R0101	10	R 293.77
						0 1	B6-30-01-01	GJL1211001R0011	10	R 293.77
				42	42	1 0	B6-30-10-02	GJL1211001R0102	10	R 293.77
						0 1	B6-30-01-02	GJL1211001R0012	10	R 293.77
				48	48	1 0	B6-30-10-03	GJL1211001R0103	10	R 293.77
						0 1	B6-30-01-03	GJL1211001R0013	10	R 293.77
				110…127	110…127	1 0	B6-30-10-84	GJL1211001R8104	10	R 293.77
						0 1	B6-30-01-84	GJL1211001R8014	10	R 293.77
				220…240	220…240	1 0	B6-30-10-80	GJL1211001R8100	10	R 293.77
						0 1	B6-30-01-80	GJL1211001R8010	10	R 293.77
				380…415	380…415	1 0	B6-30-10-85	GJL1211001R8105	10	R 293.77
						0 1	B6-30-01-85	GJL1211001R8015	10	R 293.77
3 Pole AC Operated B7										
5.5	20	5	600 V / 16 A	24	24	1 0	B7-30-10-01	GJL1311001R0101	10	R 328.59
						0 1	B7-30-01-01	GJL1311001R0011	10	R 328.59
				42	42	1 0	B7-30-10-02	GJL1311001R0102	10	R 328.59
						0 1	B7-30-01-02	GJL1311001R0012	10	R 328.59
				48	48	1 0	B7-30-10-03	GJL1311001R0103	10	R 328.59
						0 1	B7-30-01-03	GJL1311001R0013	10	R 328.59
				110…127	110…127	1 0	B7-30-10-84	GJL1311001R8104	10	R 328.59
						0 1	B7-30-01-84	GJL1311001R8014	10	R 328.59
				220…240	220…240	1 0	B7-30-10-80	GJL1311001R8100	10	R 328.59
						0 1	B7-30-01-80	GJL1311001R8010	10	R 328.59
				380…415	380…415	1 0	B7-30-10-85	GJL1311001R8105	10	R 328.59
						0 1	B7-30-01-85	GJL1311001R8015	10	R 328.59
3 Pole DC Operated B6										
4	20	3	300 V / 12 A	12	1 0	BC6-30-10-07	GJL1213001R0107	10	R 329.17	
					0 1	BC6-30-01-07	GJL1213001R0017	10	R 329.17	
				24	1 0	BC6-30-10-01	GJL1213001R0101	10	R 329.17	
					0 1	BC6-30-01-01	GJL1213001R0011	10	R 329.17	
				48	1 0	BC6-30-10-16	GJL1213001R1106	10	R 329.17	
					0 1	BC6-30-01-16	GJL1213001R1016	10	R 329.17	
				60	1 0	BC6-30-10-03	GJL1213001R0103	10	R 329.17	
					0 1	BC6-30-01-03	GJL1213001R0013	10	R 329.17	
				110…125	1 0	BC6-30-10-04	GJL1213001R0104	10	R 329.17	
					0 1	BC6-30-01-04	GJL1213001R0014	10	R 329.17	
				220…240	1 0	BC6-30-10-05	GJL1213001R0105	10	R 329.17	
					0 1	BC6-30-01-05	GJL1213001R0015	10	R 329.17	
3 Pole DC Operated B7										
5.5	20	5	600 V / 16 A	12	1 0	BC7-30-10-07	GJL1313001R0107	10	R 362.13	
					0 1	BC7-30-01-07	GJL1313001R0017	10	R 362.13	
				24	1 0	BC7-30-10-01	GJL1313001R0101	10	R 362.13	
					0 1	BC7-30-01-01	GJL1313001R0011	10	R 362.13	
				48	1 0	BC7-30-10-16	GJL1313001R1106	10	R 362.13	
					0 1	BC7-30-01-16	GJL1313001R1016	10	R 362.13	
				60	1 0	BC7-30-10-03	GJL1313001R1103	10	R 362.13	
					0 1	BC7-30-01-03	GJL1313001R0013	10	R 362.13	
				110…125	1 0	BC7-30-10-04	GJL1313001R0104	10	R 362.13	
					0 1	BC7-30-01-04	GJL1313001R0014	10	R 362.13	
				220…240	1 0	BC7-30-10-05	GJL1313001R0105	10	R 362.13	
					0 1	BC7-30-01-05	GJL1313001R0015	10	R 362.13	

Contactors and Contactor Relays
Mini Contactors

IEC		UL/CSA		Rated Control Circuit Voltage Uc		Auxiliary Contacts Fitted	Type	Order Code	Pkg qty	Price Per Unit Excl. VAT
Rated Operational Power 400 V AC-3 kW	Current θ ≤ 40 °C AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating	50 Hz V AC	60 Hz V AC					
3-pole Mini Reversing Contactors VB6										
4	20	3	300 V / 12 A	24	24	1 0	VB6-30-10-01	GJL1211901R0101	5	R 602.03
						0 1	VB6-30-01-01	GJL1211901R0011	5	R 602.03
				42	42	1 0	VB6-30-10-02	GJL1211901R0102	5	R 602.03
						0 1	VB6-30-01-02	GJL1211901R0012	5	R 602.03
				48	48	1 0	VB6-30-10-03	GJL1211901R0103	5	R 602.03
						0 1	VB6-30-01-03	GJL1211901R0013	5	R 602.03
				110…127	110…127	1 0	VB6-30-10-84	GJL1211901R8104	5	R 602.03
						0 1	VB6-30-01-84	GJL1211901R8014	5	R 602.03
				220…240	220…240	1 0	VB6-30-10-80	GJL1211901R8100	5	R 602.03
						0 1	VB6-30-01-80	GJL1211901R8010	5	R 602.03
				380…415	380…415	1 0	VB6-30-10-85	GJL1211901R8105	5	R 602.03
						0 1	VB6-30-01-85	GJL1211901R8015	5	R 602.03
3-pole Mini Reversing Contactors VB7										
5.5	20	5	600 V / 16 A	24	24	1 0	VB7-30-10-01	GJL1311901R0101	5	R 651.82
						0 1	VB7-30-01-01	GJL1311901R0011	5	R 651.82
				42	42	1 0	VB7-30-10-02	GJL1311901R0102	5	R 651.82
						0 1	VB7-30-01-02	GJL1311901R0012	5	R 651.82
				48	48	1 0	VB7-30-10-03	GJL1311901R0103	5	R 651.82
						0 1	VB7-30-01-03	GJL1311901R0013	5	R 651.82
				110…127	110…127	1 0	VB7-30-10-84	GJL1311901R8104	5	R 651.82
						0 1	VB7-30-01-84	GJL1311901R8014	5	R 651.82
				220…240	220…240	1 0	VB7-30-10-80	GJL1311901R8100	5	R 651.82
						0 1	VB7-30-01-80	GJL1311901R8010	5	R 651.82
				380…415	380…415	1 0	VB7-30-10-85	GJL1311901R8105	5	R 651.82
						0 1	VB7-30-01-85	GJL1311901R8015	5	R 651.82

Other types on request.





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Contactors and Contactor Relays
Mini Contactors

Accessories

For Contactors	Auxiliary Contacts		Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Front-mounted Instantaneous Auxiliary Contact Blocks (Not Allowed for Mounting on TBC, B6S, B7S, Interface Contactors) (1)						
 B6-, B7-40-00, BC6-, BC7-40-00 VB6, VB7, VBC6, VBC7, VB6A, VB7A VBC6A, VBC7A	1	1	CAF6-11E	GJL1201330R0002	10	R 161.68
	2	0	CAF6-20E	GJL1201330R0006	10	R 161.68
	0	2	CAF6-02E	GJL1201330R0010	10	R 161.68
 B6-, B7-30-10, BC6-, BC7-30-10 VB6, VB7, VBC6, VBC7, VB6A, VB7A VBC6A, VBC7A	1	1	CAF6-11M	GJL1201330R0003	10	R 161.68
	2	0	CAF6-20M	GJL1201330R0007	10	R 161.68
	0	2	CAF6-02M	GJL1201330R0011	10	R 161.68
 B6-, B7-30-01, BC6-, BC7-30-01 VB6, VB7, VBC6, VBC7, VB6A, VB7A VBC6A, VBC7A	1	1	CAF6-11N	GJL1201330R0004	10	R 161.68
	2	0	CAF6-20N	GJL1201330R0008	10	R 161.68
	0	2	CAF6-02N	GJL1201330R0012	10	R 161.68
Side-mounted Instantaneous Auxiliary Contact Block (1)						
B6-, B7-40-00, BC6-, BC7-40-00	1	1	CA6-11E	GJL1201317R0002	10	R 152.95
B6-, B7-30-10, BC6-, BC7-30-10	1	1	CA6-11M	GJL1201317R0003	10	R 152.95
B6-, B7-30-01, BC6-, BC7-30-01	1	1	CA6-11N	GJL1201317R0004	10	R 152.95

(1) CA6 and CAF6 must not be fitted simultaneously.

For Contactors	Rated Control Circuit Voltage Uc V DC	Connection Type	Type	Order Code	Pkg Qty	Price Per Unit Excl. VAT
Surge Suppressors for Contactor Coils						
 BC6, BC7	24...60	Cable lug	RV-BC6/60	GHV2501902R0002	10	R 117.29
		Flat pin, 2.8 mm	RV-BC6-F/60	GHV2501902R0003	10	R 117.29
	50...250	Cable lug	RV-BC6/250	GHV2501903R0002	10	R 117.29
		Flat pin, 2.8 mm	RV-BC6-F/250	GHV2501903R0003	10	R 117.29
	380	Cable lug	RV-BC6/380	GHV2501904R0002	10	R 117.29
		Flat pin, 2.8 mm	RV-BC6-F/380	GHV2501904R0003	10	R 117.29

Note: Mini contactors for AC operation have an integrated protective circuit.

Connecting Links with Manual Motor Starters			
 To connect B..VB.. mini contactor to MS116, MS132	BEA7/132	1SBN080906R1002	10	R 105.58
To connect B..VB.. mini contactors to MS325	BEA7/325	1SBN080906R1001	10	R 135.14
Connection Sets for Reversing Contactors			
VB6, VB7, VBC6, VBC7, VB6A, VB7A, VBC6A, VBC7A, cross-section 1.8 mm²	BSM6-30	GJL1201908R0001	10	R 70.87
Parallel Connecting Link			
B6, B7, BC6, BC7	LP6	GJL1201907R0001	100	R 5.01
Cover Cap, Transparent Fitting to DIN Rail Design, Sealable			
B6, B7, BC6, BC7	LT6-B	GJL1201906R0001	10	R 39.07

Automation Devices
Manual Motor Starters



MS116-16



MS116-25



MS132-10



MS132-32

Rated operational power 400 V AC-3 Kw	Setting range A	Short-circuit breaking capacity Ics at 400 VAC kA	Rated instan-taneous short-circuit current setting Ii A	Type	Order code	Price per Unit Excl VAT
MS116						
0.03	0.10 ... 0.16	50	2.00 [1]	MS116-0.16	1SAM250000R1001	R 508.47
0.06	0.16 ... 0.25	50	3.10 [1]	MS116-0.25	1SAM250000R1002	R 508.47
0.09	0.25 ... 0.40	50	5.00 [1]	MS116-0.4	1SAM250000R1003	R 508.47
0.12	0.40 ... 0.63	50	7.90 [1]	MS116-0.63	1SAM250000R1004	R 508.47
0.25	0.63 ... 1.00	50	12.5 [1]	MS116-1.0	1SAM250000R1005	R 510.42
0.55	1.00 ... 1.60	50	20.0 [1]	MS116-1.6	1SAM250000R1006	R 510.42
0.75	1.60 ... 2.50	50	31.3 [1]	MS116-2.5	1SAM250000R1007	R 510.42
1.5	2.50 ... 4.00	50	50.0	MS116-4.0	1SAM250000R1008	R 518.66
2.2	4.00 ... 6.30	50	78.8	MS116-6.3	1SAM250000R1009	R 518.66
4	6.30 ... 10.0	50	150	MS116-10	1SAM250000R1010	R 560.93
5.5	8.00 ... 12.0	25	180	MS116-12	1SAM250000R1012	R 560.93
7.5	10.0 ... 16.0	16	240	MS116-16	1SAM250000R1011	R 560.93
7.5	16.0 ... 20.0	10	300	MS116-20	1SAM250000R1013	R 752.59
11	20.0 ... 25.0	10	375	MS116-25	1SAM250000R1014	R 854.74
15	25.0 ... 32.0	10	480	MS116-32	1SAM250000R1015	R 1069.78
MS132						
0.03	0.10 ... 0.16	100	2.00 [1]	MS132-0.16	1SAM350000R1001	R 625.62
0.06	0.16 ... 0.25	100	3.10 [1]	MS132-0.25	1SAM350000R1002	R 625.62
0.09	0.25 ... 0.40	100	5.00 [1]	MS132-0.4	1SAM350000R1003	R 625.62
0.12	0.40 ... 0.63	100	7.90 [1]	MS132-0.63	1SAM350000R1004	R 625.62
0.25	0.63 ... 1.00	100	12.5 [1]	MS132-1.0	1SAM350000R1005	R 717.46
0.55	1.00 ... 1.60	100	20.0 [1]	MS132-1.6	1SAM350000R1006	R 717.46
0.75	1.60 ... 2.50	100	31.3 [1]	MS132-2.5	1SAM350000R1007	R 717.46
1.5	2.50 ... 4.00	100	50.0	MS132-4.0	1SAM350000R1008	R 717.46
2.2	4.00 ... 6.30	100	78.8	MS132-6.3	1SAM350000R1009	R 717.46
4	6.30 ... 10.0	100	150	MS132-10	1SAM350000R1010	R 849.45
5.5	8.00 ... 12.0	100	180	MS132-12	1SAM350000R1012	R 849.45
7.5	10.0 ... 16.0	100	240	MS132-16	1SAM350000R1011	R 849.45
7.5	16.0 ... 20.0	100	300	MS132-20	1SAM350000R1013	R 918.32
11	20.0 ... 25.0	50	375	MS132-25	1SAM350000R1014	R 1038.87
15	25.0 ... 32.0	25	480	MS132-32	1SAM350000R1015	R 1308.64

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.

[1] The data is valid for products, produced after week 34, 2014.

[2] 690 V

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Automation Devices
Manual Motor Starters


MS165-65

Rated operational power 400 V AC-3 Kw	Setting range A	Short-circuit breaking capacity Ics at 400 V AC kA	Rated instan-taneous short-circuit current setting Ii A	Type	Order code	Price per Unit Excl VAT
MS165						
7.5	10 ... 16	100	240	MS165-16	1SAM451000R1011	R 1832.58
7.5	14 ... 20	100	300	MS165-20	1SAM451000R1012	R 1865.78
11	18 ... 25	100	375	MS165-25	1SAM451000R1013	R 2020.00
15	23 ... 32	100	480	MS165-32	1SAM451000R1014	R 2219.40
22	30 ... 42	50	630	MS165-42	1SAM451000R1015	R 2457.06
22	40 ... 54	30	810	MS165-54	1SAM451000R1016	R 2763.56
30	52 ... 65	30	975	MS165-65	1SAM451000R1017	R 2867.41

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.

MS132-T circuit breakers for transformer protection

Description

Circuit breakers for transformer protection are electro mechanical protection devices specially designed to protect control transformers on the primary side. They allow fuse-less protection against overload and shortcircuit, saving space and cost and ensuring a quick reaction under short-circuit condition by switching off the transformer within milliseconds. The short-circuit current setting is fixed to 20 times the operating current to handle the high inrush current generated by transformers. The device allows manual connection and disconnection of the transformer from the mains.

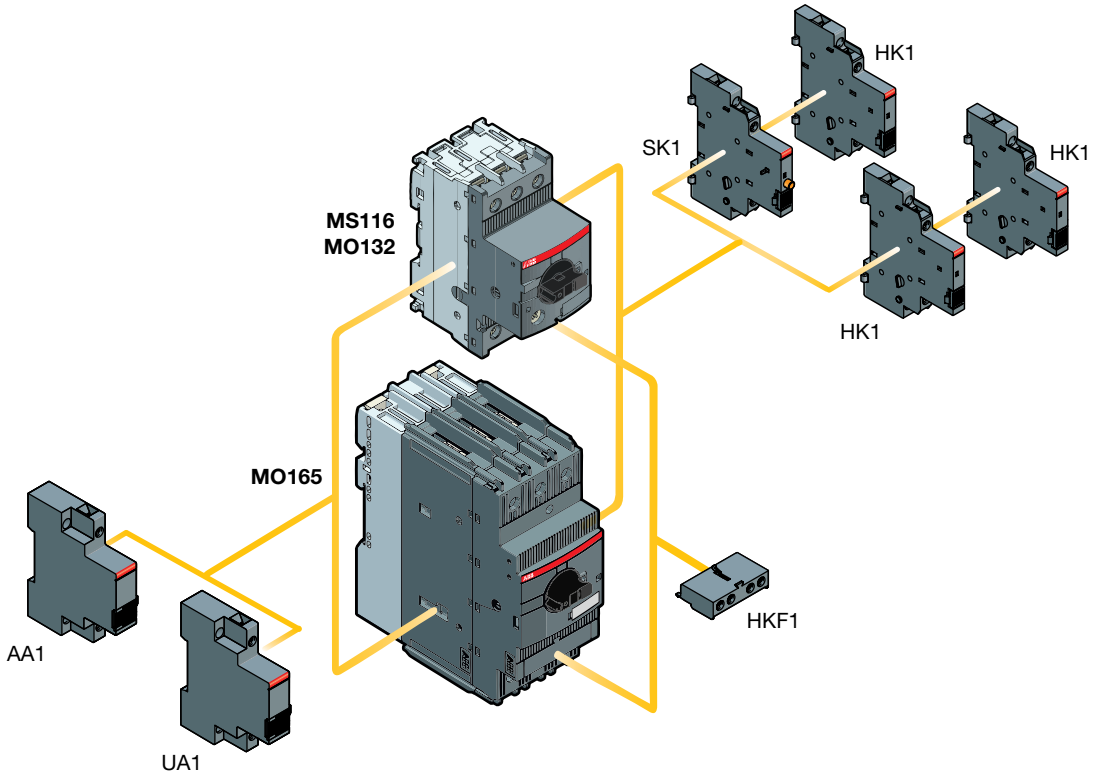

MS132-10T


MS132-25T

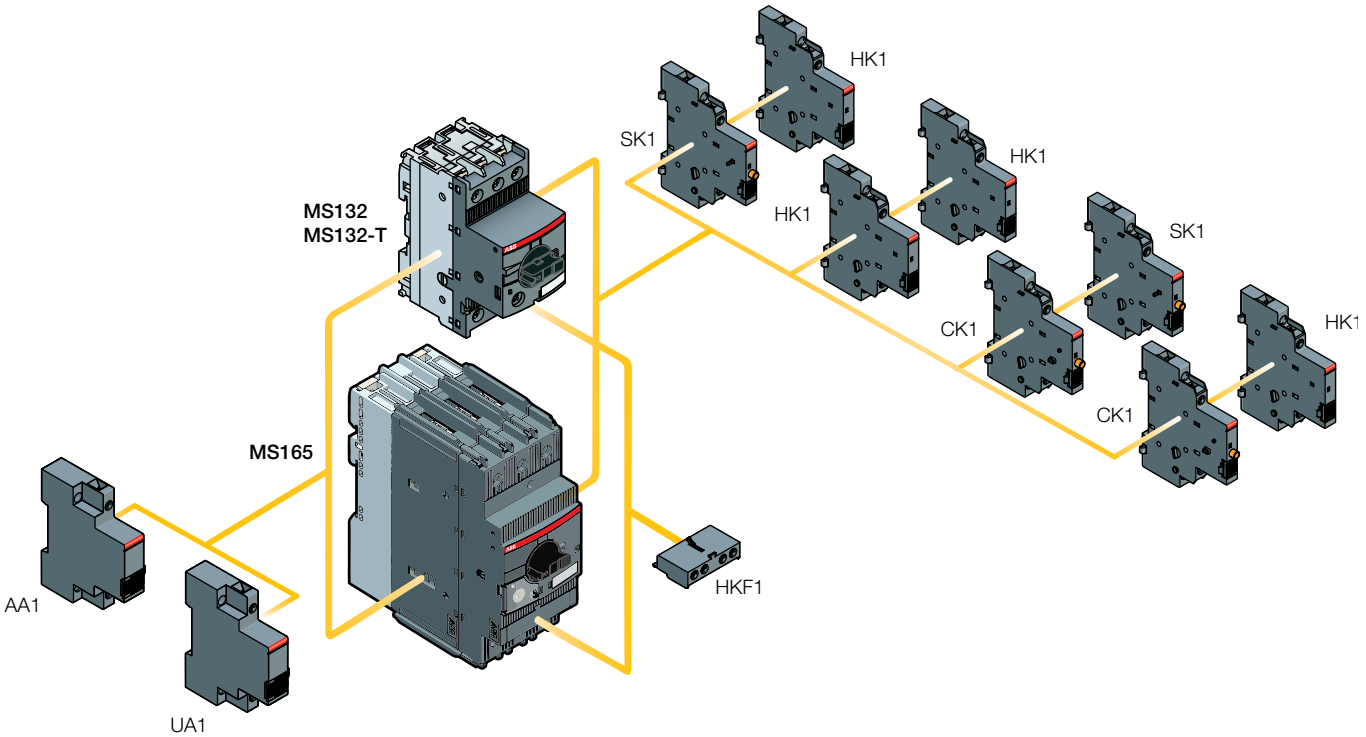
Setting range	Short-circuit breaking capacity Ics at 400 V AC	Rated instan-taneous short-circuit current setting Ii	Type	Order code	Price per Unit Excl VAT
	kA	A			
0.10 … 0.16	100	3.2	MS132-0.16T	1SAM340000R1001	R 614.69
0.16 … 0.25	100	5	MS132-0.25T	1SAM340000R1002	R 614.69
0.25 … 0.40	100	8	MS132-0.4T	1SAM340000R1003	R 614.69
0.40 … 0.63	100	12.6	MS132-0.63T	1SAM340000R1004	R 614.69
0.63 … 1.00	100	20	MS132-1.0T	1SAM340000R1005	R 704.90
1.00 … 1.60	100	32	MS132-1.6T	1SAM340000R1006	R 704.90
1.60 … 2.50	100	50	MS132-2.5T	1SAM340000R1007	R 704.90
2.50 … 4.00	100	80	MS132-4.0T	1SAM340000R1008	R 704.90
4.00 … 6.30	100	126	MS132-6.3T	1SAM340000R1009	R 704.90
6.30 … 10.0	100	200	MS132-10T	1SAM340000R1010	R 797.43
8.00 … 12.0	100	240	MS132-12T	1SAM340000R1012	R 797.43
10.0 … 16.0	100	320	MS132-16T	1SAM340000R1011	R 797.43
16.0 … 20.0	100	400	MS132-20T	1SAM340000R1013	R 862.10
20.0 … 25.0	50	500	MS132-25T	1SAM340000R1014	R 975.26

MS116, MS132, MS165, MO132, MO165, MS132-T
Main Accessories

Manual motor starters with accessories (MS116, MO132, MO165)



Manual motor starters with accessories (MS132, MS165) and circuit breaker for transformer protection (MS132-T)



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Automation Devices
Manual Motor Starters - Main Accessories



HKF1-11

MS116, MS132, MS165, MO132, MO165, MS132-T - Main accessories

Suitable for	Auxiliary contacts N.O.	Auxiliary contacts N.C.	Description	Type	Order code	Price per Unit Excl VAT
Auxiliary contacts – mountable on the front						
MS116,	1	1		HKF1-11	1SAM201901R1001	R 110.22
MS132, MS165	1	0		HKF1-10	1SAM201901R1003	R 72.32
MO132, MO165	0	1		HKF1-01	1SAM201901R1004	R 72.32
MS132-T	2	0		HKF1-20	1SAM201901R1002	R 110.22
Auxiliary contacts – mountable on the right						
MS116,	1	1	max. 2 pieces	HK1-11	1SAM201902R1001	R 128.10
MS132, MS165	2	0	max. 2 pieces	HK1-20	1SAM201902R1002	R 128.10
MO132, MO165	0	2	max. 2 pieces	HK1-02	1SAM201902R1003	R 128.10
MS132-T	2	0	with lead contacts	HK1-20L	1SAM201902R1004	R 128.10
Signaling contacts – mountable on the right						
MS116, MS132, MS165 MO132, MO165 MS132-T	1	1	for tripped alarm, max. 2 pieces	SK1-11	1SAM201903R1001	R 155.47
	2	0	for tripped alarm, max. 2 pieces	SK1-20	1SAM201903R1002	R 155.47
	0	2	for tripped alarm, max. 2 pieces	SK1-02	1SAM201903R1003	R 155.47
MS116, MS132, MS165 MO132, MO165 MS132-T	1	1	for short-circuit alarm, max. 2 pieces	CK1-11	1SAM301901R1001	R 162.34
	2	0	for short-circuit alarm, max. 2 pieces	CK1-20	1SAM301901R1002	R 162.34
	0	2	for short-circuit alarm, max. 2 pieces	CK1-02	1SAM301901R1003	R 162.34



HK1-11



SK1-11



CK1-11

Suitable for	Rated control supply voltage 50 Hz V AC	Rated control supply voltage 60 Hz V AC	Type	Order code	Price per Unit Excl VAT
Shunt trips – mountable on the left					
MS116, MS132, MS165, MO132, MO165, MS132-T	20 ... 24	20 ... 24	AA1-24	1SAM201910R1001	R 632.87
	110	110	AA1-110	1SAM201910R1002	R 525.74
	200 ... 240	200 ... 240	AA1-230	1SAM201910R1003	R 632.87
	350 ... 415	350 ... 415	AA1-400	1SAM201910R1004	R 646.94
Shunt trips – mountable on the left					
MS116, MS132, MS165, MO132, MO165, MS132-T	20	24	UA1-20	1SAM201904R1010	R 409.55
	24	-	UA1-24	1SAM201904R1001	R 409.55
	48	-	UA1-48	1SAM201904R1002	R 409.55
	60	-	UA1-60	1SAM201904R1003	R 409.55
	110	120	UA1-110	1SAM201904R1004	R 409.55
	-	208	UA1-208	1SAM201904R1008	R 409.55
	230	240	UA1-230	1SAM201904R1005	R 409.55
	400	-	UA1-400	1SAM201904R1006	R 409.55
	415	480	UA1-415	1SAM201904R1007	R 409.55
	-	575	UA1-575	1SAM201904R1009	R 409.55

Automation Devices
Manual Motor Starters - Main Accessories


PS1-2-0-65


PS1-3-1-100


S1-M1-25


S1-M2-25


SA2


SA1


PB1-1-32


S1-PB1-25

MS116, MS132, M0132, MS132-T - Main accessories

Suitable for	Rated operational current A	Number of MMS	Number of lateral aux.	Type	Order code	Price per Unit Excl VAT
Three-phase busbars						
MS116, MS132, M0132	65	2	0	PS1-2-0-65	1SAM201906R1102	R 114.03
	65	3	0	PS1-3-0-65	1SAM201906R1103	R 140.26
	65	4	0	PS1-4-0-65	1SAM201906R1104	R 159.76
	65	5	0	PS1-5-0-65	1SAM201906R1105	R 184.24
	65	2	1	PS1-2-1-65	1SAM201906R1112	R 117.94
	65	3	1	PS1-3-1-65	1SAM201906R1113	R 148.09
	65	4	1	PS1-4-1-65	1SAM201906R1114	R 164.67
	65	5	1	PS1-5-1-65	1SAM201906R1115	R 189.46
	65	2	2	PS1-2-2-65	1SAM201906R1122	R 121.99
	65	3	2	PS1-3-2-65	1SAM201906R1123	R 159.76
	65	4	2	PS1-4-2-65	1SAM201906R1124	R 173.94
	65	5	2	PS1-5-2-65	1SAM201906R1125	R 203.64
MS116, MS132, M0132	100	3	0	PS1-3-0-100	1SAM201916R1103	R 173.94
	100	4	0	PS1-4-0-100	1SAM201916R1104	R 206.53
	100	5	0	PS1-5-0-100	1SAM201916R1105	R 237.36
	100	3	1	PS1-3-1-100	1SAM201916R1113	R 191.90
	100	4	1	PS1-4-1-100	1SAM201916R1114	R 223.18
	100	5	1	PS1-5-1-100	1SAM201916R1115	R 257.20
	100	3	2	PS1-3-2-100	1SAM201916R1123	R 228.53

Suitable for	Rated operational current A	Rated cross section mm²	Mounting form	Type	Order code	Price per Unit Excl VAT
Three-phase feeder terminals						
MS116, MS132, M0132	65	25	Flat	S1-M1-25	1SAM201907R1101	R 115.02
	65	25	High	S1-M2-25	1SAM201907R1102	R 129.65
	65	25	UL type E and IEC	S1-M3-25	1SAM201907R1103	R 145.10
	100	35	UL type E and IEC	S1-M3-35	1SAM201913R1103	R 221.70

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
MS116, MS132, M0132	Protection cover for busbars	BS1-3	1SAM201908R1001	R 18.23
MS116	Lock handle	SA1	GJF1101903R0001	POA
	Lock handle box SA1/SA2	SA3	GJF1101903R0003	POA
Accessories for single-phase connection (IEC only)				
MS116, MS132, M0132, MS132-T	Phase connecting link	PB1-1-32	1SAM201914R1001	R 79.71
	Phase power infeed block	S1-PB1-25	1SAM201914R1002	R 63.78

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Automation Devices
Manual Motor Starters - Main Accessories


PS2-2-0-125


PS2-3-0-125



KA165


BS2-3



SA2

MS165, MO165 - Main accessories

Suitable for	Rated operational current A	Number of MMS	Number of lateral aux.	Type	Order code	Price per Unit Excl VAT
Three-phase busbars						
MS165, MO165	125	2	0	PS2-2-0-125	1SAM401920R1002	R 443.78
	125	3	0	PS2-3-0-125	1SAM401920R1003	R 529.63
	125	4	0	PS2-4-0-125	1SAM401920R1004	R 658.46
	125	2	2	PS2-2-2-125	1SAM401920R1022	R 486.69
	125	3	2	PS2-3-2-125	1SAM401920R1023	R 601.22
	125	4	2	PS2-4-2-125	1SAM401920R1024	R 744.38

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
MS165, MO165	Terminal shroud	KA165	1SAM401922R1001	R 48.67
	Protection cover for busbars	BS2-3	1SAM401921R1001	R 100.19
	Padlock + two keys	SA2	GJF1101903R0002	POA

General Accessories
MS1xx, MOxx, MS49x, MO49x


MSHD-LB


MSHD-LY


MSMN


MSH-AR


MSAH1


RHD Normal Direct Handle

Suitable for	Description	Shaft length mm	Color	Type	Order code	Price per Unit Excl VAT
Shafts						
MS116, MS132, M0132, MS165, M0165, MS4xx, M04xx	For MSHD handles. Shaft diameter 6 mm. Shaft extension for door coupling driver.	85		0XS6X85	1SCA101647R1001	POA
		105		0XS6X105	1SCA108043R1001	POA
		130		0XS6X130	1SCA101655R1001	POA
		180		0XS6X180	1SCA101659R1001	POA
IP64 handles (UL/CSA Type 1, 3R, 12)						
MS116, MS132, M0132, MS165, M0165, MS4xx, M04xx	Padlockable max. 3 padlocks with bail diameter 5 … 8 mm, door interlock in ON position defeatable, for use with 6 mm OXS6… types up to 180 mm or driver shafts MSOX.		Black	MSHD-LB	1SAM201920R1001	R 210.71
			Yellow	MSHD-LY	1SAM201920R1002	R 210.71
			Black	MSHD-LTB	1SAM201920R1011	R 210.71
			Yellow	MSHD-LTY	1SAM201920R1012	R 210.71
Driver						
MS116, MS132, M0132, MS165, M0165, MS4xx, M04xx	Coupling driver for use with 6 mm OXS6… types up to 180 mm.			MSMN	1SAM101923R0002	R 20.91
				MSMNO	1SAM101923R0012	R 34.37
Shaft alignment ring						
MS116, MS132, M0132, MS165, M0165, MS4xx, M04xx	The MSH-AR supports the long shafts for alignment to the handle inlet. It makes closing panel doors more easy. Use for OXS6X > 105 mm.			MSH-AR	1SAM201920R1000	R 52.67
Shaft supporter						
MS116, MS132, M0132,	With the MSAH it is possible to support the shaft in the extension of handle (MSHD). It is mandatory for the usage of shafts >130 mm.			MSAH1	1SAM201909R1021	R 105.38

Automation Devices
Manual Motor Starters & Accessories


MS495-40


MS497-100


HK4-11


HKS4-20


SK4-11


AA4-24


UA4-110


SA2

Rated operational power 400 V AC-3 Kw	Setting range A	Short-circuit breaking capacity Ics at 400 V AC kA	Rated instan-taneous short-circuit current setting Ii A	Type	Order code	Price per Unit Excl VAT
MS495 manual motor starters						
30	45.0 … 63.0	25	819	MS495-63	1SAM550000R1007	R 3466.73
37	57.0 … 75.0	25	975	MS495-75	1SAM550000R1008	R 3678.62
45	70.0 … 90.0	25	1170	MS495-90	1SAM550000R1009	R 3928.98
55	80.0 … 100.0	25	1235	MS495-100	1SAM550000R1010	R 4256.37
MS497 manual motor starters						
15	22.0 … 32.0	50	416	MS497-32	1SAM580000R1004	R 4275.63
18.5	28.0 … 40.0	50	520	MS497-40	1SAM580000R1005	R 5219.37
22	36.0 … 50.0	50	650	MS497-50	1SAM580000R1006	R 5219.37
30	45.0 … 63.0	50	819	MS497-63	1SAM580000R1007	R 5315.68
37	57.0 … 75.0	50	975	MS497-75	1SAM580000R1008	R 5546.78
45	70.0 … 90.0	50	1170	MS497-90	1SAM580000R1009	R 5681.62
55	80.0 … 100.0	50	1235	MS497-100	1SAM580000R1010	R 5989.78

The MS49x range offers phase loss sensitivity

MS49x, MO49x manual motor starters - Main accessories

Suitable for	Auxiliary contacts N.O.	Auxiliary contacts N.C.	Description	Type	Order code	Price per Unit Excl VAT
Auxiliary contacts – mountable on the front						
MS49x, MO49x	1	1	Changeover	HK4-11	1SAM401901R1001	R 160.45
Auxiliary contacts – mountable on the left						
MS49x, MO49x	1	1	Max. 1 piece	HKS4-11	1SAM401902R1001	R 159.45
	2	0	Max. 1 piece	HKS4-20	1SAM401902R1002	R 159.45
	0	2	Max. 1 piece	HKS4-02	1SAM401902R1003	R 159.45
Signalling contacts – mountable on the left						
MS49x, MO49x	2	2	Separate signalling acc. UL508E 1 N.O. + 1 N.C. for short circuit alarm and 1 N.O. + 1 N.C. for tripped alarm, max. 1x SK4-11 + 1 x HKS4-xx	SK4-11	1SAM401904R1001	R 315.54

Suitable for	Rated control supply voltage	Frequency	Type	Order code	Price per Unit Excl VAT
Shunt trip units – mountable on the right					
MS49x, MO49x	20 ... 24	50/60	AA4-24	1SAM401907R1001	R 486.32
	90 ... 110	50/60	AA4-110	1SAM401907R1002	R 486.32
	200 ... 240	50/60	AA4-230	1SAM401907R1003	R 486.32
	350 ... 415	50/60	AA4-400	1SAM401907R1004	R 486.32
Undervoltage releases – mountable on the right					
MS49x, MO49x	24	50/60	UA4-24	1SAM401905R1004	R 486.32
	110/120	50/60	UA4-110	1SAM401905R1001	R 486.32
	230/240	50/60	UA4-230	1SAM401905R1002	R 486.32
	400/440	50/60	UA4-400	1SAM401905R1003	R 486.32
	230/240	50/60	UA4-HK-230	1SAM401906R1001	R 674.24
	400/440	50/60	UA4-HK-400	1SAM401906R1002	R 674.24

Suitable for	Description	Type	Order code	Price per Unit Excl VAT
MS495, MS497	Terminal shroud	KA495	1SAM501901R1001	R 69.41
MS495, MS497	Padlock + two keys	SA2	GJF1101903R0002	POA

[1] Is plugged onto the housing after removing the box terminals, if using cable lugs.

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Advanced Control and Safety Devices
Softstarters, Universal Motor Controller & Arc Guard System™ and Machine Safety

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PSR – The CompactRange
Overview





Normal start In-Line connected	PSR3	PSR6	PSR9	PSR12	PSR16	PSR25	PSR30	PSR37	PSR45	PSR60	PSR72	PSR85	PSR105
(400 V) kW	1.5	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55
IEC, max. A	3.9	6.8	9	12	16	25	30	37	45	60	72	85	105
(440-480 V) hp	2	3	5	7.5	10	15	20	25	30	40	50	60	75
UL, max. FLA	3.4	6.1	9	11	15.2	24.2	28	34	46.2	59.4	68	80	104
	400 V, 40 °C												
Using manual motor starter or MCCB, type 1 coordination will be achieved [1]	Manual motor starter (50 kA)												
	MS116			MS132				MS450		MS495			—
Using gG fuses, type 1 coordination will be achieved [1]	Fuse protection (80 kA), Semiconductor fuses, Bussman												
	10 A	16 A	25 A	32 A		50 A	63 A	100 A	125 A		200 A		250 A
Suitable switch fuse for the above gG fuses [1]	Switch fuse												
	OS32GD							OS125GD			OS250D		
J-type fuses for UL coordination [1]	Max. fuse, J-type												
	35 A					60 A		90 A		110 A	125 A	150 A	200 A
Overload protection is used to protect the motor from overheating [1]	Manual motor starter (50 kA)												
	TF42DU								TA75DU			TA110DU	
The line contactor is not required for the softstarter itself but often used to open if OL trips. [1]	Line contactor												
	AF9			AF12	AF16	AF26	AF30	AF38	AF52	AF65	AF80	AF96	AF116

[1] This is an example of coordination. For more examples see: applications.it.abb.com/SOC

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PSE – The Efficient Range

Overview



Normal start In-Line connected	PSE18	PSE25	PSE30	PSE37	PSE45	PSE60	PSE72	PSE85	PSE105
(400 V) kW	7,5	11	15	18,5	22	30	37	45	55
IEC, max. A	18	25	30	37	45	60	72	85	106
(440-480 V) hp	10	15	20	25	30	40	50	60	75
UL, max. FLA	18	25	28	34	42	60	68	80	104
	400 V, 40 °C								
Using MCCB only, type 1 coordination will be achieved. [1]	MCCB (35 kA)								
	T2N160							T3N250	
	MCCB (50 kA)								
	T2S160							T3S250	
To achieve type 2 coordination, semiconductor fuses must be used. [1]	Fuse protection (80 kA), Semiconductor fuses, Bussman								
	170M1563	170M1564	170M1566	170M1567	170M1568	170M1569	170M1571	170M1572	170M3819
Suitable switch fuse for the recommended semiconductor fuses. [1]	Switch fuse								
	OS32GD			OS63GD			OS125GD		OS250D
The line contactor is not required for the softstarter itself but often used to open if OL trips. [1])	Line contactor								
	AF26		AF30	AF38	AF52	AF65	AF80	AF96	AF116

[1]This is an example of coordination. For more examples see: applications.it.abb.com/SOC

PSE – The Efficient Range

Overview





Normal start In-Line connected		PSE142	PSE170	PSE210	PSE250	PSE300	PSE370
	(400 V) kW	75	90	110	132	160	200
	IEC, max. A	143	171	210	250	300	370
	(440-480 V) hp	100	125	150	200	250	300
	UL, max. FLA	130	169	192	248	302	361
		400 V, 40 °C					
Using MCCB only, type 1 coordination will be achieved. [1]		**MCCB (35 kA)**					
		T3N250		T4N320	T5N400		T5N630
		MCCB (50 kA)					
		T3S250		T4S320	T5S400		T5S630
To achieve type 2 coordination, semiconductor fuses must be used. [1]		**Fuse protection (80 kA), Semiconductor fuses, Bussman**					
		170M1563	170M1564	170M1566	170M1567	170M1568	170M1569
Suitable switch fuse for the recommended semiconductor fuses. [1]		**Switch fuse**					
		OS400D				OS630D	
The line contactor is not required for the softstarter itself but often used to open if OL trips. [1]		**Line contactor**					
		AF140	AF190	AF205	AF265	AF305	AF370

[1] This is an example of coordination. For more examples see: applications.it.abb.com/SOC

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PSTX – The Advanced Range
Overview





Normal start In-Line connected	PSTX30	PSTX37	PSTX45	PSTX60	PSTX72	PSTX85	PSTX105	PSTX142	PSTX170
(400 V) kW	15	18,5	22	30	37	45	55	75	90
IEC, max. A	30	37	45	60	72	85	106	143	171
(440-480 V) hp	20	25	30	40	50	60	75	100	125
UL, max. FLA	28	34	42	60	68	80	104	130	169
	400 V, 40 °C								
Using manual motor starter or MCCB, type 1 coordination will be achieved. [1]	MCCB (50 kA)								
	XT2S160								XT4S250
Using gG fuses, type 1 coordination will be achieved. To achieve type 2 coordination, semiconductor fuses must be used. [1]	Fuse protection (80 kA), Semiconductor fuses, Bussman								
	170M1567	170M1568	170M1569		170M1571	170M1572	170M3819	170M5810	170M5812
Suitable switch fuse for the recommended semiconductor fuses. [1]	Switch fuse								
	OS32G	OS63G			OS125G		OS250	OS400	
The line contactor is not required for the softstarter itself but often used to open if OL trips. [1]	Line contactor								
	AF30	AF38	AF52	AF65	AF80	AF96	AF116	AF140	AF190

[1] This is an example of coordination. For more examples see: applications.it.abb.com/SOC

PSTX – The Advanced Range

Overview






Normal start In-Line connected		PSTX210	PSTX250	PSTX300	PSTX370	PSTX470	PSTX570	PSTX720	PSTX840	PSTX1050	PSTX1250
	(400 V) kW	110	132	160	200	250	315	400	450	560	710
	IEC, max. A	210	250	300	370	470	570	720	840	1050	1250
	(440-480 V) hp	150	200	250	300	400	500	600	700	900	1000
	UL, max. FLA	192	248	302	361	480	590	720	840	1062	1250
	400 V, 40 °C										
Using manual motor starter or MCCB, type 1 coordination will be achieved. [1]	MCCB (50 kA)										
	T4S320	T5S400		T5S630	T7S800		T7S1250		E2.2N 2000		
Using gG fuses, type 1 coordination will be achieved. To achieve type 2 coordination, semiconductor fuses must be used. [1]	Fuse protection (80 kA), Semiconductor fuses, Bussman										
	170M5812	170M5813	170M6812	170M6813		170M6814	170M8554	170M6018	170M6020	170M6021	
Suitable switch fuse for the recommended semiconductor fuses. [1]	Switch fuse										
	OS400		OS630				OS800		—		
The line contactor is not required for the softstarter itself but often used to open if OL trips. [1]	Line contactor										
	AF205	AF265	AF305	AF370	AF460	AF580	AF750	AF1350	AF1650	—	

[1] This is an example of coordination.
For more examples see: applications.it.abb.com/SOC

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PSR – The Compact Range
Ordering Details

Description
Selection table for normal start. Typical applications:
– Bow thruster
– Centrifugal pump
– Compressor
– Conveyor belt (short)
– Elevator
For a more precise selection, use the online softstarter selection tool available by using the selection tool available on:
new.abb.com/low-voltage/products/softstarters


PSR3 ... PSR16


PSR25 ... PSR30

Rated operational voltage U_e, 208-600 V

Rated control supply voltage U_s, 100-240 V AC, 50/60 Hz

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			current			
230 V P_e kW	400 V P_e kW	500 V P_e kW	I_e A			
0.75	1.5	2.2	3.9	PSR3-600-70	1SFA896103R7000	R 3095.61
1.5	3	4	6.8	PSR6-600-70	1SFA896104R7000	R 3362.15
2.2	4	4	9	PSR9-600-70	1SFA896105R7000	R 3949.62
3	5.5	5.5	12	PSR12-600-70	1SFA896106R7000	R 4269.66
4	7.5	7.5	16	PSR16-600-70	1SFA896107R7000	R 4910.18
5.5	11	15	25	PSR25-600-70	1SFA896108R7000	R 5604.19
7.5	15	18.5	30	PSR30-600-70	1SFA896109R7000	R 6564.75
7.5	18.5	22	37	PSR37-600-70	1SFA896110R7000	R 8379.32
11	22	30	45	PSR45-600-70	1SFA896111R7000	R 10 834.44
15	30	37	60	PSR60-600-70	1SFA896112R7000	R 11 981.95
22	37	45	72	PSR72-600-70	1SFA896113R7000	R 15 107.33
22	45	55	85	PSR85-600-70	1SFA896114R7000	R 17 407.09
30	55	55	105	PSR105-600-70	1SFA896115R7000	R 18 222.51


PSR37 ... PSR45


PSR60 ... PSR105

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 24 V AC/DC, 50/60 Hz

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			**current**			
230 V P_e kW	400 V P_e kW	500 V P_e kW	I_e A			
0.75	1.5	2.2	3.9	PSR3-600-11	1SFA896103R1100	R 3095.61
1.5	3	4	6.8	PSR6-600-11	1SFA896104R1100	R 3362.15
2.2	4	4	9	PSR9-600-11	1SFA896105R1100	R 3949.62
3	5.5	5.5	12	PSR12-600-11	1SFA896106R1100	R 4269.66
4	7.5	7.5	16	PSR16-600-11	1SFA896107R1100	R 4910.18
5.5	11	15	25	PSR25-600-11	1SFA896108R1100	R 5604.19
7.5	15	18.5	30	PSR30-600-11	1SFA896109R1100	R 6564.75
7.5	18.5	22	37	PSR37-600-11	1SFA896110R1100	R 8379.32
11	22	30	45	PSR45-600-11	1SFA896111R1100	R 10 834.44
15	30	37	60	PSR60-600-11	1SFA896112R1100	R 11 981.95
22	37	45	72	PSR72-600-11	1SFA896113R1100	R 15 107.33
22	45	55	85	PSR85-600-11	1SFA896114R1100	R 17 407.09
30	55	55	105	PSR105-600-11	1SFA896115R1100	R 18 222.51

PSR – The Compact Range
Accessories


PSR16-MS116


PSR30-MS132


PSR45-MS450


PSR105-MS495


PSR-FAN3-45A


PSR-FAN60-105A


PSLW


PS-FBPA

Connection kit

For softstarter type	Type	Order code	Price per Unit Excl VAT
PSR3 ... PSR16 with MS116 or MS132	PSR16-MS116	1SFA896211R1001	R 168.38
PSR25 ... PSR30 with MS132-12 ... MS132-32	PSR30-MS132	1SFA896212R1001	R 392.59
PSR37 ... PSR45 with MS450	PSR45-MS450	1SFA896213R1001	R 419.13
PSR60 ... PSR105 with MS495	PSR105-MS495	1SAM501903R1001	R 557.35

Fan

For softstarter type	Type	Order code	Price per Unit Excl VAT
PSR3 ... PSR45	PSR-FAN3-45A	1SFA896311R1001	R 747.06
PSR60 ... PSR105	PSR-FAN60-105A	1SFA896313R1001	R 971.71

Terminal enlargements

For softstarter type	Type	Order code	Price per Unit Excl VAT
PSR60 ... PSR105 Wire range mm2 1 x 10...50 mm2, 2 x 10...25 mm²	PSLW-72	1SFA899002R1072	R 434.92

FieldBusPlug connection accessory

For softstarter type	Type	Order code	Price per Unit Excl VAT
PSR3 ... PSR105	PS-FBPA	1SFA896312R1002	R 2509.51

9



Motor protection with manual motor starter

Use the PSR together with the MMS to get a complete motor starter with soft start and stop together with overload and short circuit protection.

Connection kit (optional)

The connection kits simplifies installation of the PSR by making the connection to the MMS screwless.

Screw or DIN-rail mounted

PSR is fast and easy to install by using screw mounting or DIN-rail mounting (PSR3 ... PSR45).

Output signal relays

PSR has output relays for Run and Top of ramp (PSR25 ... PSR105).

LED indicators

PSR has LED indicators for On/Ready and Run/Top of ramp.

Three potentiometers for settings

Set-up is made very easy with only three potentiometers, for start ramp time, stop ramp time and initial/end voltage level.

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PSE – The Efficient Range
Ordering Details

Normal starts, class 10, in-line,
Description
Selection table for normal start. Typical applications:
– Bow thruster
– Centrifugal pump
– Compressor
– Elevator
– Conveyor belt (short)
If more than 10 starts/h, select one size larger than the standard selection.
For a more precise selection, use the online softstarter selection tool available by using the selection tool available on:
new.abb.com/low-voltage/products/softstarters


PSE18 ... PSE105


PSE142 ... PSE170

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 100-240 V AC, 50/60 Hz

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			current			
230 V P_e kW	400 V P_e kW	500 V P_e kW	I_e A			
4	7,5	11	18	PSE18-600-70	1SFA897101R7000	R 11 445.19
5,5	11	15	25	PSE25-600-70	1SFA897102R7000	R 12 294.54
7,5	15	18,5	30	PSE30-600-70	1SFA897103R7000	R 12 685.27
9	18,5	22	37	PSE37-600-70	1SFA897104R7000	R 13 576.99
11	22	30	45	PSE45-600-70	1SFA897105R7000	R 14 468.22
15	30	37	60	PSE60-600-70	1SFA897106R7000	R 16 286.05
18,5	37	45	72	PSE72-600-70	1SFA897107R7000	R 18 001.09
22	45	55	85	PSE85-600-70	1SFA897108R7000	R 19 716.56
30	55	75	106	PSE105-600-70	1SFA897109R7000	R 24 744.93
40	75	90	143	PSE142-600-70	1SFA897110R7000	R 28 098.70
45	90	110	171	PSE170-600-70	1SFA897111R7000	R 31 452.47
59	110	132	210	PSE210-600-70	1SFA897112R7000	R 37 294.40
75	132	160	250	PSE250-600-70	1SFA897113R7000	R 41 023.56
90	160	200	300	PSE300-600-70	1SFA897114R7000	R 45 125.77
110	200	250	370	PSE370-600-70	1SFA897115R7000	R 49 638.25

Heavy-duty, class 30, in-line,
Description
Selection table for normal start. Typical applications:
– Centrifugal fan
– Conveyor belt (long)
– Crusher
– Mill
– Mixer
– Stirrer
If more than 10 starts/h, select one size larger than the standard selection.
For a more precise selection, use the online softstarter selection tool available by using the selection tool available on:
new.abb.com/low-voltage/products/softstarters

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 100-250 V AC, 50/60 Hz


PSE18 ... PSE105


PSE142 ... PSE170

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			current			
230 V P_e kW	400 V P_e kW	500 V P_e kW	I_e A			
3	5,5	7,5	12	PSE18-600-70	1SFA897101R7000	R 11 445.19
4	7,5	11	18	PSE25-600-70	1SFA897102R7000	R 12 294.54
5,5	11	15	25	PSE30-600-70	1SFA897103R7000	R 12 685.27
7,5	15	18,5	30	PSE37-600-70	1SFA897104R7000	R 13 576.99
9	18,5	22	37	PSE45-600-70	1SFA897105R7000	R 14 468.22
11	22	30	45	PSE60-600-70	1SFA897106R7000	R 16 286.05
15	30	37	60	PSE72-600-70	1SFA897107R7000	R 18 001.09
18,5	37	45	72	PSE85-600-70	1SFA897108R7000	R 19 716.56
22	45	55	85	PSE105-600-70	1SFA897109R7000	R 24 744.93
30	55	75	106	PSE142-600-70	1SFA897110R7000	R 28 098.70
40	75	90	143	PSE170-600-70	1SFA897111R7000	R 31 452.47
45	90	110	171	PSE210-600-70	1SFA897112R7000	R 37 294.40
59	110	132	210	PSE250-600-70	1SFA897113R7000	R 41 023.56
75	132	160	250	PSE300-600-70	1SFA897114R7000	R 45 125.77
90	160	200	300	PSE370-600-70	1SFA897115R7000	R 49 638.25

PSE – The Efficient Range
Accessories



LZ...

Cable conne cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty	Price per Unit Excl VAT
	mm^2	Nm				
PSE142 … PSE170	6...120	14	–	1SDA066917R1	3	POA
PSE142 … PSE170	2 x (50...120)	16	LZ185-2C/120	1SFN074709R1000	3	R 427.22
PSE210 … PSE370	16...300	25	–	1SDA055016R1	3	POA



Cable connectors for Al and Cu cables

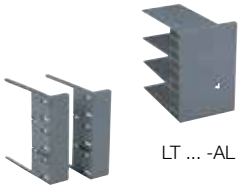
For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty	Price per Unit Excl VAT
	mm^2	Nm				
PSE142 … PSE170	95...185	31	–	1SDA054988R1	3	POA
PSE210 … PSE370	185...240	43	–	1SDA055020R1	3	POA



LW...

Terminal enlargements

For softstarter type	Dimensions		Type	Order code	Pkg qty	Price per Unit Excl VAT
	hole ø	bar				
	mm^2	mm^2				
PSE18 ... PSE105	6.5	15 x 3	LW110	1SFN074307R1000	1	R 207.90
PSE142 ... PSE170	10.5	17.5 x 5	LW185	1SFN074707R1000	1	R 1005.67
PSE210 ... PSE370	10.5	20 x 5	LW300	1SFN075107R1000	1	R 1103.36



LT ... -AC

LT ... -AL

Terminal shrouds

For softstarter type	Req. qty	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSE142 ... PSE170, short for use with cable clamps	2	LT185-AC	1SFN124701R1000	2	R 170.23
PSE142 ... PSE170, long for use with compression lugs	2	LT185-AL	1SFN124703R1000	2	R 184.21
PSE210 ... PSE370, short for use with cable clamps	2	LT300-AC	1SFN125101R1000	2	R 170.23
PSE210 ... PSE370, long for use with compression lugs	2	LT300-AL	1SFN125103R1000	2	R 299.57



PSEEK

External keypad including a 3m cable

For softstarter type	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSE18 ... PSE370	PSEEK	1SFA897100R1001	1	R 2722.08



PSECA

USB cable for Service Engineer Tool

For softstarter type	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSE18 ... PSE370	PSECA	1SFA897201R1001	1	R 1731.79



PS-FBPA

FieldBusPlug connection accessory

For softstarter type	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSE18 ... PSE370	PS-FBPA	1SFA896312R1002	1	R 2509.51

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PSTX – The Advanced Range

Normal Starts, Class 10, In-line, Ordering Details

Description

Selection table for normal start. Typical applications:

– Bow thruster
– Centrifugal pump
– Compressor
– Elevator
– Conveyor belt (short)

For a more precise selection, use the online softstarter selection tool available by using the selection tool available on:
new.abb.com/low-voltage/products/softstarters



PSTX142 ... PSTX170



PSTX470 ... PSTX570

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 100-250 V AC, 50/60 Hz

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			current			
400 V P_e kW	500 V P_e kW	690 V P_e kW	I_e A			
15	18,5	-	30	PSTX30-600-70	1SFA898103R7000	R 19 434.81
18,5	22	-	37	PSTX37-600-70	1SFA898104R7000	R 20 578.26
22	25	-	45	PSTX45-600-70	1SFA898105R7000	R 21 503.46
30	37	-	60	PSTX60-600-70	1SFA898106R7000	R 23 626.66
37	45	-	72	PSTX72-600-70	1SFA898107R7000	R 24 769.66
45	55	-	85	PSTX85-600-70	1SFA898108R7000	R 27 247.27
55	75	-	106	PSTX105-600-70	1SFA898109R7000	R 30 485.93
75	90	-	143	PSTX142-600-70	1SFA898110R7000	R 32 963.09
90	110	-	171	PSTX170-600-70	1SFA898111R7000	R 40 013.06
110	132	-	210	PSTX210-600-70	1SFA898112R7000	R 45 728.89
132	160	-	250	PSTX250-600-70	1SFA898113R7000	R 49 539.74
160	200	-	300	PSTX300-600-70	1SFA898114R7000	R 57 161.48
200	257	-	370	PSTX370-600-70	1SFA898115R7000	R 82 747.67
250	315	-	470	PSTX470-600-70	1SFA898116R7000	R 93 827.03
315	400	-	570	PSTX570-600-70	1SFA898117R7000	R 10 1986.20
400	500	-	720	PSTX720-600-70	1SFA898118R7000	R 13 2582.21
450	600	-	840	PSTX840-600-70	1SFA898119R7000	R 22 9469.09
560	730	-	1050	PSTX1050-600-70	1SFA898120R7000	R 25 4965.79
710	880	-	1200	PSTX1250-600-70	1SFA898121R7000	R 30 0859.62



PSTX210 ... PSTX370



PSTX1050 ... PSTX1250

Rated operational voltage Ue, 208-690 V

Rated control supply voltage U_s, 100-250 V AC, 50/60 Hz

IEC				Type	Order code	Price per Unit Excl VAT
Rated operational power			current			
400 V P_e kW	500 V P_e kW	690 V P_e kW	I_e A			
15	18,5	25	30	PSTX30-690-70	1SFA898203R7000	R 23 321.77
18,5	22	30	37	PSTX37-690-70	1SFA898204R7000	R 24 693.90
22	25	37	45	PSTX45-690-70	1SFA898205R7000	R 25 804.16
30	37	55	60	PSTX60-690-70	1SFA898206R7000	R 28 351.98
37	45	59	72	PSTX72-690-70	1SFA898207R7000	R 29 723.60
45	55	75	85	PSTX85-690-70	1SFA898208R7000	R 32 696.71
55	75	90	106	PSTX105-690-70	1SFA898209R7000	R 36 583.12
75	90	132	143	PSTX142-690-70	1SFA898210R7000	R 39 555.71
90	110	160	171	PSTX170-690-70	1SFA898211R7000	R 48 015.68
110	132	184	210	PSTX210-690-70	1SFA898212R7000	R 54 874.68
132	160	220	250	PSTX250-690-70	1SFA898213R7000	R 59 447.69
160	200	257	300	PSTX300-690-70	1SFA898214R7000	R 68 593.78
200	257	355	370	PSTX370-690-70	1SFA898215R7000	R 99 297.20
250	315	450	470	PSTX470-690-70	1SFA898216R7000	R 112 592.43
315	400	560	570	PSTX570-690-70	1SFA898217R7000	R 122 383.45
400	500	710	720	PSTX720-690-70	1SFA898218R7000	R 159 098.63
450	600	800	840	PSTX840-690-70	1SFA898219R7000	R 275 362.89
560	730	1000	1050	PSTX1050-690-70	1SFA898220R7000	R 305 958.93
710	880	1200	1250	PSTX1250-690-70	1SFA898221R7000	R 361 031.55

PSTX – The Advanced Range

Heavy-duty, Class 30, In-line, Ordering Details

Description

Selection table for heavy-duty start. Typical applications:

– Centrifugal fan
– Conveyor belt (long)
– Crusher
– Mill
– Mixer
– Stirrer

For a more precise selection, use the online softstarter selection tool available by using the selection tool available on:
new.abb.com/low-voltage/products/softstarters



PSTX142 ... PSTX170



PSTX470 ... PSTX570

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 100-250 V AC, 50/60 Hz

IEC Rated operational power 400 V P_e kW	500 V P_e kW	690 V P_e kW	current I_e A	Type	Order code	Price per Unit Excl VAT
11	15	-	22	PSTX30-600-70	1SFA898103R7000	R 19 434.81
15	18,5	-	30	PSTX37-600-70	1SFA898104R7000	R 20 578.26
18,5	22	-	37	PSTX45-600-70	1SFA898105R7000	R 21 503.46
22	25	-	45	PSTX60-600-70	1SFA898106R7000	R 23 626.66
30	37	-	60	PSTX72-600-70	1SFA898107R7000	R 24 769.66
37	45	-	72	PSTX85-600-70	1SFA898108R7000	R 27 247.27
45	55	-	85	PSTX105-600-70	1SFA898109R7000	R 30 485.93
55	75	-	106	PSTX142-600-70	1SFA898110R7000	R 32 963.09
75	90	-	143	PSTX170-600-70	1SFA898111R7000	R 40 013.06
90	110	-	171	PSTX210-600-70	1SFA898112R7000	R 45 728.89
110	132	-	210	PSTX250-600-70	1SFA898113R7000	R 49 539.74
132	160	-	250	PSTX300-600-70	1SFA898114R7000	R 57 161.48
160	200	-	300	PSTX370-600-70	1SFA898115R7000	R 82 747.67
200	257	-	370	PSTX470-600-70	1SFA898116R7000	R 93 827.03
250	315	-	470	PSTX570-600-70	1SFA898117R7000	R 101 986.20
315	400	-	570	PSTX720-600-70	1SFA898118R7000	R 132 582.21
400	500	-	720	PSTX840-600-70	1SFA898119R7000	R 229 469.09
450	600	-	840	PSTX1050-600-70	1SFA898120R7000	R 254 965.79
560	730	-	1050	PSTX1250-600-70	1SFA898121R7000	R 300 859.62



PSTX210 ... PSTX370



PSTX720 ... PSTX840

Rated operational voltage Ue, 208-600 V

Rated control supply voltage U_s, 100-250 V AC, 50/60 Hz

IEC Rated operational power 400 V P_e kW	500 V P_e kW	690 V P_e kW	current I_e A	Type	Order code	Price per Unit Excl VAT
11	15	18,5	22	PSTX30-690-70	1SFA898203R7000	R 23 321.77
15	18,5	25	30	PSTX37-690-70	1SFA898204R7000	R 24 693.90
18,5	22	30	37	PSTX45-690-70	1SFA898205R7000	R 25 804.16
22	25	37	44	PSTX60-690-70	1SFA898206R7000	R 28 351.98
30	37	55	60	PSTX72-690-70	1SFA898207R7000	R 29 723.60
37	45	59	72	PSTX85-690-70	1SFA898208R7000	R 32 696.71
45	55	75	85	PSTX105-690-70	1SFA898209R7000	R 36 583.12
55	75	90	106	PSTX142-690-70	1SFA898210R7000	R 39 555.71
75	90	132	143	PSTX170-690-70	1SFA898211R7000	R 48 015.68
90	110	160	171	PSTX210-690-70	1SFA898212R7000	R 54 874.68
110	132	184	210	PSTX250-690-70	1SFA898213R7000	R 59 447.69
132	160	220	250	PSTX300-690-70	1SFA898214R7000	R 68 593.78
160	200	257	300	PSTX370-690-70	1SFA898215R7000	R 99 297.20
200	257	355	370	PSTX470-690-70	1SFA898216R7000	R 112 592.43
250	315	450	470	PSTX570-690-70	1SFA898217R7000	R 122 383.45
315	400	560	570	PSTX720-690-70	1SFA898218R7000	R 159 098.63
400	500	710	720	PSTX840-690-70	1SFA898219R7000	R 275 362.89
450	600	800	840	PSTX1050-690-70	1SFA898220R7000	R 305 958.93
560	730	1000	1050	PSTX1250-690-70	1SFA898221R7000	R 361 031.55

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PSTX – The Advanced Range
Accessories





LZ...

Cable connectors for Cu cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty	Price per Unit Excl VAT
	mm^2	Nm				
PSTX142 ... PSTX170	6...120	8	-	1SDA066917R1	3	POA
PSTX142 ... PSTX170	2 x (50...95)	16	LZ185-2C/120	1SFN074709R1000	3	R 427.22
PSTX210 ... PSTX370	16...240	25	-	1SDA055016R1	3	POA
PSTX210 ... PSTX370	2 x (70...185)	22	OZXB4	1SCA022194R0890	3	POA
PSTX720 ... PSTX840	2 x (120...240)	35	-	1SDA013922R1	3	POA
PSTX570 ... PSTX1050	3 x (70...185)	45	-	1SDA013956R1	3	POA

Cable connectors for Al cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty	Price per Unit Excl VAT
	mm^2	Nm				
PSTX142 ... PSTX170	95...185	31	–	1SDA054988R1	3	POA
PSTX210 ... PSTX370	185...240	43	–	1SDA055020R1	3	POA
PSTX470 ... PSTX570	2 x (120...240)	31	–	1SDA023380R1	3	POA



LX...

Terminal extensions

For softstarter type	Dimensions		Type	Order code	Pkg qty	Price per Unit Excl VAT
	hole ø	bar				
	mm^2	mm^2				
PSTX142 … PSTX170	8,5	17.5 x 5	LX205	1SFN074810R1000	1	R 735.87
PSTX210 ... PSTX370	10,5	20 x 5	LX370	1SFN075410R1000	1	R 1103.36
PSTX470 ... PSTX570	10,5	25 x 5	LX460	1SFN075710R1000	1	R 1702.95
PSTX720 ... PSTX840	13	40 x 6	LX750	1SFN076110R1000	1	R 1991.00



LW...

Terminal enlargements

For softstarter type	Dimensions		Type	Order code	Pkg qty	Price per Unit Excl VAT
	hole ø	bar				
	mm^2	mm^2				
PSTX30 … PSTX105	6,5	15 x 3	LW110	1SFN074307R1000	1	R 207.90
PSTX142 ... PSTX170	10,5	17.5 x 5	LW205	1SFN074807R1000	1	R 1005.67
PSTX210 ... PSTX370	10,5	20 x 5	LW370	1SFN075407R1000	1	R 1182.43
PSTX470 ... PSTX570	10,5	25 x 5	LW460	1SFN075707R1000	1	R 1569.90
PSTX720 ... PSTX840	13	40 x 6	LW750	1SFN076107R1000	1	R 1674.59



LT ... -AC
LT ... -C

Terminal shrouds

For softstarter type	Req. qty	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSTX142 ... PSTX170, short for use with cable clamps	2	LT205-30C	1SFN124801R1000	2	R 170.24
PSTX142 ... PSTX170, long for use with compression lugs	2	LT205-30L	1SFN124803R1000	2	R 184.21
PSTX210 ... PSTX370, short for use with cable clamps	2	LT370-30C	1SFN125401R1000	2	R 170.23
PSTX210 ... PSTX370, long for use with compression lugs	2	LT370-30L	1SFN125403R1000	2	R 299.57
PSTX210 ... PSTX370, long and deep for use with extending cable clamps, ATK300/2 and OZXB4	2	LT370-30D	1SFN125406R1000	2	R 359.56
PSTX470 ... PSTX570 , short for use with cable clamps	2	LT460-AC	1SFN125701R1000	2	R 397.70
PSTX470 ... PSTX570, long for use with compression lugs	2	LT460-AL	1SFN125703R1000	2	R 453.53
PSTX720 ... PSTX840, short for use with cable clamps	2	LT750-AC	1SFN126101R1000	2	R 567.97
PSTX720 ... PSTX840, long for usewith compression lugs	2	LT750-AL	1SFN126103R1000	2	R 681.00



LT ... -AL
LT ... -L

FieldBusPlug connection accessory

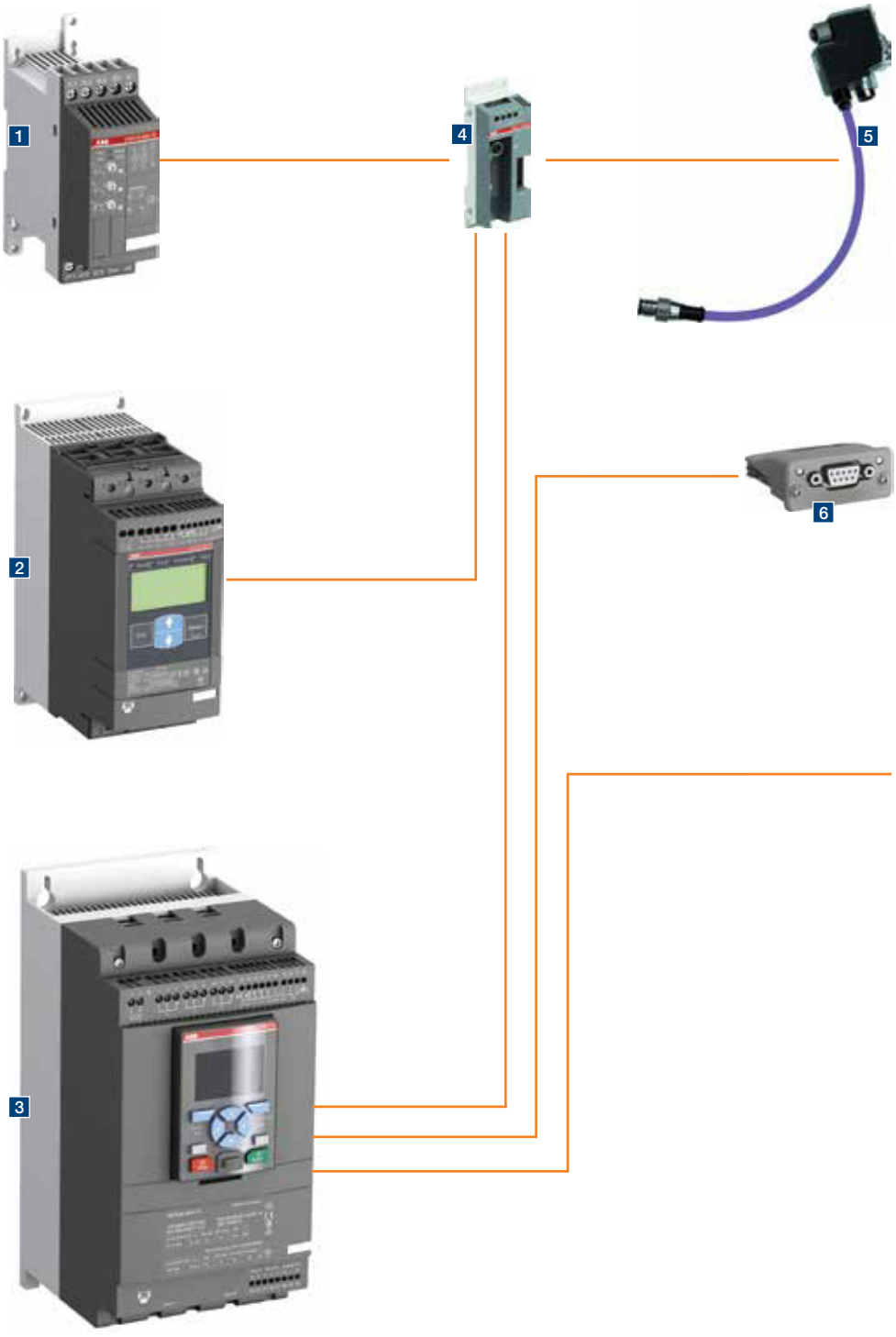
For softstarter type	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSTX30 ... PSTX1250	PS-FBPA	1SFA896312R1002	1	R 2509.51

I/O module, 24 V DC digital input

For softstarter type	Type	Order code	Pkg qty	Price per Unit Excl VAT
PSTX30 … PSTX1250	DX111-FBP.0	1SAJ611000R0101	1	R 5043.88

Fieldbus Communication
Introduction

PSR, PSE and PSTX softstarters can be connected to a fieldbus network for monitoring and control. All major industrial fieldbus protocols are covered with different accessories making the installation very flexible.



Protocols with FieldBusPlug
- Modbus-RTU pg 348
- Profibus pg 347
- DeviceNet pg 348
- Modbus TCP pg 345 (only PSE)

Protocols with Anybus
- Modbus-RTU
- Profibus
- DeviceNet
- EtherNet/IP
- Modbus TCP
- Profinet

Integrated protocol
- Modbus-RTU

1 Softstarter PSR

2 Softstarter PSE

3 Softstarter PSTX

4 FieldBusPlug adapter

5 FieldBusPlug

6 Anybus

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Fieldbus Communication
Ordering details



Profibus
Modbus-RTU



DeviceNet



EtherNet/IP (1-port)
Modbus TCP (1-port)



EtherNet/IP (2-port)
Modbus TCP (2-port)
Profinet (2-port)

Anybus communication interfaces

For communication protocol	Type	Order code	Price per Unit Excl VAT
Profibus	AB-PROFIBUS-1	1SFA899300R1001	R 5247.11
DeviceNet	AB-DEVICENET-1	1SFA899300R1002	R 5247.11
Modbus-RTU	AB-MODBUS-RTU-1	1SFA899300R1003	R 5247.11
EtherNet/IP (1-port)	AB-ETHERNET-IP-1	1SFA899300R1005	R 6821.25
EtherNet/IP (2-port)	AB-ETHERNET-IP-2	1SFA899300R1006	R 7345.94
Modbus TCP (1-port)	AB-MODBUS-TCP-1	1SFA899300R1007	R 6821.25
Modbus TCP (2-port)	AB-MODBUS-TCP-2	1SFA899300R1008	R 7345.94
Profinet (2-port)	AB-PROFINET-IO-2	1SFA899300R1010	R 9446.65



SoftstarterCare™ – Service Engineer Tool
Software for easy set-up of PSE and PSTX, using a PC.

new.abb.com/low-voltage/products/softstarters

Universal Motor Controller UMC100

Motor Management System and Accessories



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Motor Management System – UMC100.3
Ordering Details

Description
Intelligent motor management system for single and three-phase motors with I = 0.24 - 63 A in one single device. Compact housing with integrated current transformer for cable cross section up to 25 mm² (max. Ø with Insulation 11 mm). Higher currents with additional external current transformer. hermal overload protection according to EN/IEC 60947-4-1, selectable trip classes 5E, 10E, 20E, 30E, 40E.


UMC100.3 DC

Universal Motor Controller UMC100.3

Description		Order code	Price per Unit Excl VAT
UMC100.3 DC	Universal Motor Controller, 24 V DC	1SAJ530000R0100	R 7392.00
UMC100.3 UC	Universal Motor Controller, 110-240 V AC/DC	1SAJ530000R1100	R 7392.00
UMC100.3 DC EX	Universal Motor Controller, ATEX, 24 V DC	1SAJ530000R0200	R 7842.43
UMC100.3 UC EX	Universal Motor Controller, ATEX, 110-240 V AC/DC	1SAJ530000R1200	R 7842.43


UMC100-PAN

Operating panel UMC100-PAN and Accessories

Description		Order code	Price per Unit Excl VAT
UMC100-PAN	Operating panel	1SAJ590000R0103	R 3278.58
UMCPAN-CAB.070	0.7 m ext. cable with door mounting set	1SAJ510003R0002	R 802.37
UMCPAN-CAB.150	1.5 m ext. cable with door mounting set	1SAJ510004R0002	R 984.82
UMCPAN-CAB.300	3 m ext. cable with door mounting set	1SAJ510002R0002	R 1092.77


DX111-FBP


VI150-FBP

Expansion modules and Accessories

Description		Order code	Price per Unit Excl VAT
DX111	I/O module for UMC100, 24 V DC digital input	1SAJ611000R0101	R 5043.88
DX122	I/O module for UMC100, 110 – 230 V AC digital input	1SAJ622000R0101	R 6108.57
VI150	3 phase voltage module for grounded networks	1SAJ650000R0100	R 3500.11
VI155	3 phase voltage module for all networks	1SAJ655000R0100	R 4418.40
AI111	Analog/temperature module 3 analogue inputs	1SAJ613000R0101	R 4724.65
UMCIO-CAB.030	Connection cable UMC100 - I/O module, length	1SAJ691000R0001	R 220.91
IOIO-CAB.030	Connection cable IO-module - IO-module, length 0,30 m	1SAJ692000R0001	R 220.91
UMCTB	Terminal set for UMC100.3 DC (spare parts)	1SAJ929160R0001	R 361.99
UMCTB	Terminal set for UMC100.3 UC (spare parts)	1SAJ929160R0002	R 361.99


UTP22-FBP


UTF21-FBP

Configuration software

Description		Order code	Price per Unit Excl VAT
UTP22-FBP	USB interface for PROFIBUS networks	1SAJ924013R0001	R 48815.31
PBDTM-FBP	PDP22/PDQ22 Device Type Manager (DTM) incl. FDT/DTM frame application	1SAJ924012R0006	R 3777.23
UTF21-FBP.0	USB to FBP-interface cable	1SAJ929400R0002	R 7705.56


CEM11-FBP

Earth fault monitors CEM11-FBP for use with Universal Motor Controller

Description	Earth fault currents [mA]	Through-hole diameter	Order code	Price per Unit Excl VAT
CEM11-FBP.20	80[1], 300, 550, 750, 1000, 1200, 1500, 1700	20 mm	1SAJ929200R0020	R 3739.67
CEM11-FBP.35	100[1], 500, 1000, 1400, 2000, 2400, 3000, 3400	35 mm	1SAJ929200R0035	R 3899.36
CEM11-FBP.60	120[1], 1000, 2000, 2800, 4000, 4800, 6000, 6800	60 mm	1SAJ929200R0060	R 4059.08
CEM11-FBP.120	300[1], 2000, 4000, 5600, 8000, 9600, 12000, 13600	120 mm	1SAJ929200R0120	R 8344.40

[1] lower values have higher inaccuracy


CT5L500R/4, CT5L850R/4

Current transformers for use with Universal Motor Controller

Description	Current range	Order code	Price per Unit Excl VAT
CT4L185R/4	60…185 A AC	1SAJ929500R0185	R 3952.61
CT4L310R/4	180…310 A AC	1SAJ929500R0310	R 4737.78
CT5L500R/4	300…500 A AC	1SAJ929501R0500	R 6534.43
CT5L850R/4	500…850 A AC	1SAJ929501R0850	R 7053.47

Motor Management System – UMC100.3
Fieldbus Communication Interfaces, Ordering Details



PDP32.0

Fieldbus communication interfaces

Description		Order code	Price per Unit Excl VAT
PDP32.0	Profibus DP communication interface	1SAJ242000R0001	R 4487.71
MRP31.0	Modbus RTU communication interface; terminal block for fieldbus connection included	1SAJ251000R0001	R 4099.06
DNP31.0	DeviceNet communication interface; terminal block for fieldbus connection included	1SAJ231000R0001	R 3964.21
PDR31.0	Profibus DP active bus termination	1SAJ243000R0001	R 1993.95



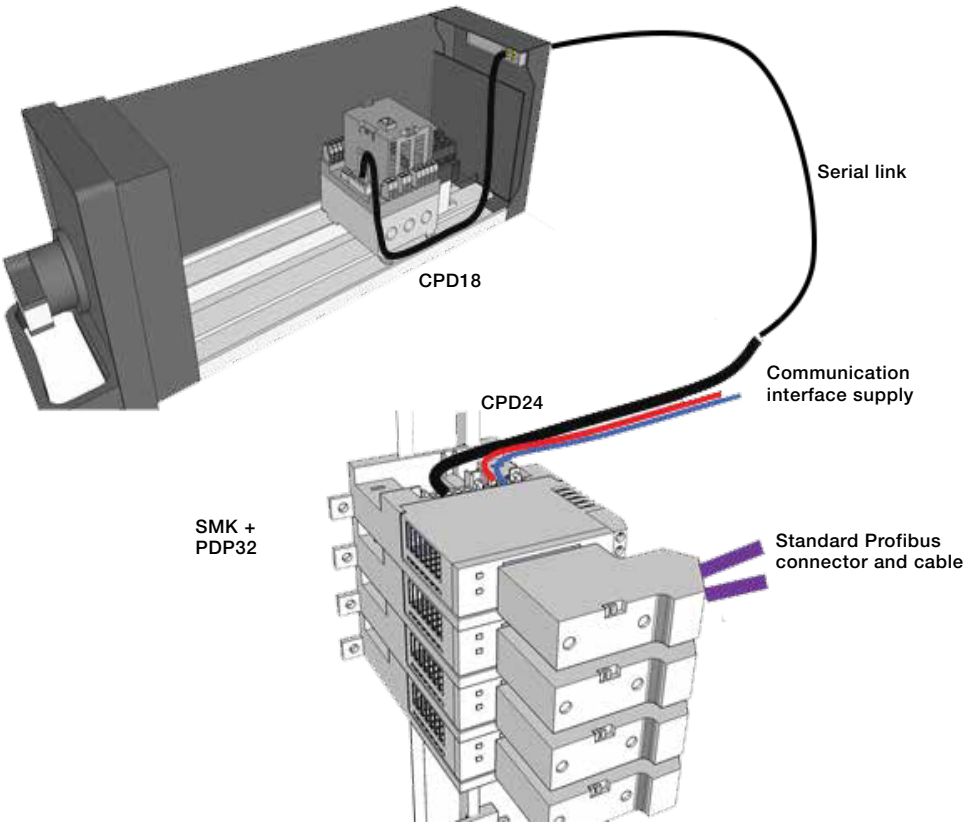
SMK3.0

Fieldbus communication interfaces

Description		Order code	Price per Unit Excl VAT
SMK3.0	Adapter for separate mounting of a communica tion interface; terminal block for 24 V DC supply included	1SAJ929600R0001	R 652.32
CDP18.150	Cable for drawer inside, length 1.5 m	1SAJ929180R0015	R 411.23
CDP24.150	Cable from SMK3.0 to drawer outside, length	1SAJ929240R0015	R 456.64
SMK3-X2.10	Terminal block 2-pol for SMK3.0 supply / 10 pcs per pck. (spare parts)	1SAJ929610R0001	R 78.27
SMK3-X1.10	Terminal block 5-pol for SMK3.0 comm. / 10 pcs per pck. (spare parts)	1SAJ929620R0001	R 139.62



MRP31.0





DNP31.0



PDR31.0

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Motor Management System – UMC100.3
Ethernet Communication Interfaces, Ordering Details



MTQ22



PNQ22

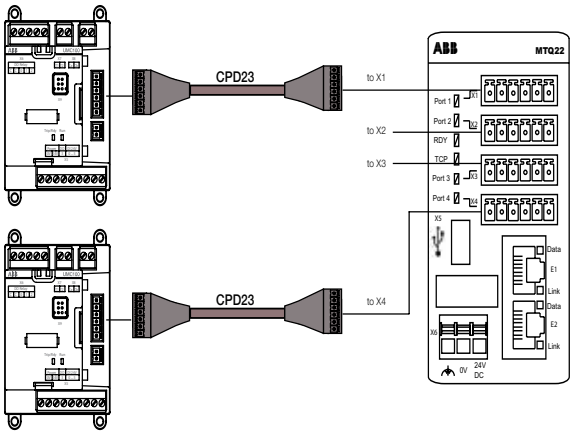
Ethernet communication interfaces

Description		Order code	Price per Unit Excl VAT
MTQ22.0	Ethernet Modbus TCP interface	1SAJ260000R0100	R 11 742.57
PNQ22.0	Ethernet Profinet IO interface	1SAJ261000R0100	R 10 999.04

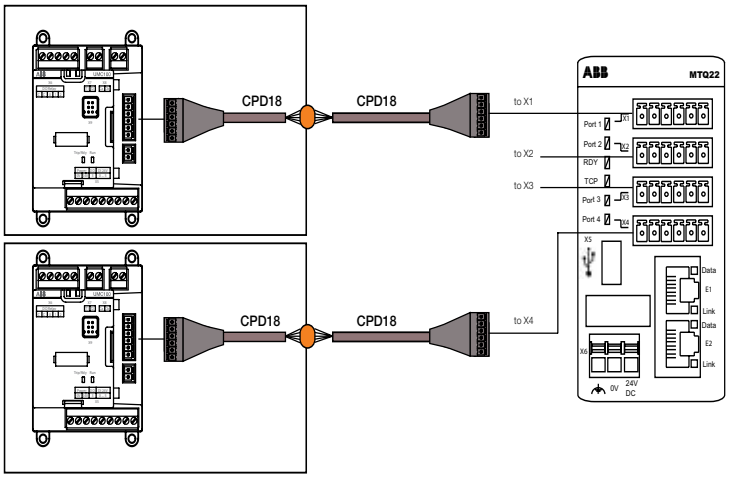
Ethernet communication interfaces - Accessories

Description		Order code	Price per Unit Excl VAT
CDP18.150	Cable for drawer in- and outside, length 1.5 m	1SAJ929180R0015	R 411.23
CDP23.150	Cable ethernet interface - UMC100.3, length 1.5 m	1SAJ929230R0015	R 772.92
CDP23.300	Cable ethernet interface – UMC100.3, length 3 mgth	1SAJ929230R0030	R 835.22
ETHTB-FBP.4	Terminal bloc for MTQ22/PNQ22 X1…X4, 4 pcs	1SAJ929200R0001	R 149.73
ETHTB-FBP.50	Terminal bloc for MTQ22/PNQ22 X1…X4, 50 pcs	1SAJ929200R0002	R 101.04

UMC100.3, fix mounted application with solution MTQ22 / PNQ22



UMC100.3, withdrawable application with MTQ22 / PNQ22



Universal Motor Controller
UMC100-FBP, Ordering Details


UMC100-FBP


UMC100-PAN


CP-E 24/2.5


CP-S 24/5.0


CDP12-FBP


CDP13-FBP

Universal Motor Controller UMC100-FBP

Description		Order code	Price per Unit Excl VAT
UMC100-FBP.0	Universal Motor Controller, 0.24 – 63 A	1SAJ520000R0101	R 7891.90
UMC100-FBP.0	Universal Motor Controller, ATEX , 0.24 – 63 A	1SAJ520000R0201	R 8207.71

Operating panel UMC100-PAN and Accessories

Description		Order code	Price per Unit Excl VAT
UMC100-PAN	Operating panel - Replaced all former UMC100 operator panels, fully compatible USB port for use with UMC100.3 only	1SAJ590000R0103	R 3278.58
UMCPAN-CAB.300	3 m ext. cable with door mounting set	1SAJ510002R0002	R 1092.77
UMCPAN-CAB.070	0.7 m ext. cable with door mounting set	1SAJ510003R0002	R 802.37
UMCPAN-CAB.150	1.5 m ext. cable with door mounting set	1SAJ510004R0002	R 984.82

Miscellaneous accessories

Description		Order code	Price per Unit Excl VAT
CAL11-FBP.0	Addressing labels for FieldBusPlugs / 40 pcs	1SAJ929005R0001	R 242.69
CCC11-FBP.0	M12 covering caps for FieldBusPlugs / 10 pcs	1SAJ929006R0001	R 22.43

FieldBusPlug power supply unit

Description		Order code	Price per Unit Excl VAT
CP-E 24/2.5	Power supply unit 24 V / 2.5 A	1SVR427032R0000	R 1445.26
CP-S 24/5.0	Power supply unit 24 V / 5 A	1SVR427014R0000	R 2297.25

Accessories for installation in control cabinet drawer systems

Description	Current range	Order code	Price per Unit Excl VAT
CDP11-FBP.0	Passive plug fixing bracket for drawer systems / 50 pcs	1SAJ929100R0001	R 61.87
CDP11-FBP.4	Passive plug fixing bracket for drawer systems / 4 pcs	1SAJ929100R0004	R 153.07
CDP12-FBP.100	Passive cable for drawer sys- tems (outside), 1m	1SAJ929120R0001	R 1237.67
CDP13-FBP.100	Passive cable for drawer sys- tems (inside), 1m	1SAJ929110R0001	R 411.23

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Universal Motor Controller
Fieldbus Devices, Ordering Details


PDP22-FBP


PDQ22-FBP


PDF11-FBP.050


PDM11-FBP.050


PDX11-FBP


PDM11-FBP.0


PDF11-FBP.0


PDV11-FBP.0
PDV12-FBP.0


PDR11-FBP.150


PDA11-FBP.050


PDA12-FBP.050

Profibus DP FieldBusPlug

Description	Cable length	Order code	Price per Unit Excl VAT
PDP22-FBP.025	0.25 m	1SAJ240100R1003	R 5922.24
PDP22-FBP.050	0.50 m	1SAJ240100R1005	R 5988.78
PDP22-FBP.100	1.00 m	1SAJ240100R1010	R 6055.32
PDP22-FBP.200	2.00 m	1SAJ240100R1020	R 6175.12
PDP22-FBP.500	5.00 m	1SAJ240100R1050	R 6361.42

Quadruple bus connector

Description		Order code	Price per Unit Excl VAT
PDQ22-FBP	Quadruple bus connector	1SAJ240200R0050	R 11 418.62

Round cables for bus junctions

Description		Order code	Price per Unit Excl VAT
PDF11-FBP.050	Round cable with female connector, 0.50 m	1SAJ924002R0005	R 492.40
PDM11-FBP.050	Round cable with male connector, 0.50 m	1SAJ924003R0005	R 492.40

Several Universal Motor Controllers on a PROFIBUS DP node

Description		Order code	Price per Unit Excl VAT
PDX11-FBP.050	PROFIBUS DP extension cable, 0.50 m	1SAJ924001R0005	R 771.89
PDX11-FBP.100	PROFIBUS DP extension cable, 1.00 m	1SAJ924001R0010	R 818.48
PDX11-FBP.300	PROFIBUS DP extension cable, 3.00 m	1SAJ924001R0030	R 1071.32
PDX11-FBP.500	PROFIBUS DP extension cable, 5.00 m	1SAJ924001R0050	R 1317.54
CDP15-FBP.030	Connection cable, 0.30 m	1SAJ929140R0003	R 576.24
CDP15-FBP.060	Connection cable, 0.60 m	1SAJ929140R0006	R 589.57
CDP15-FBP.150	Connection cable, 1.50 m	1SAJ929140R0015	R 598.87
CDP11-FBP.0	Fixing bracket for passive plug	1SAJ929100R0001	R 61.87

Round cables for bus extension

Description		Order code	Price per Unit Excl VAT
PDX11-FBP.050	Ready-made cable, 0.50 m	1SAJ924001R0005	R 771.89
PDX11-FBP.100	Ready-made cable, 1.00 m	1SAJ924001R0010	R 818.48
PDX11-FBP.300	Ready-made cable, 3.00 m	1SAJ924001R0030	R 1071.32
PDX11-FBP.500	Ready-made cable, 5.00 m	1SAJ924001R0050	R 1317.54
PDC11-FBP.999	Cable on coil, 100.00 m	1SAJ924004R1000	R 15 278.08

Accessories for bus extension

Description	Current range	Order code	Price per Unit Excl VAT
PDM11-FBP.0	Male plug for round cables	1SAJ924005R0001	R 411.23
PDF11-FBP.0	Female plug for round cables	1SAJ924006R0001	R 411.23

Accessories for bus extension

Description	Current range	Order code	Price per Unit Excl VAT
PDR11-FBP.150	Line termination 150 ohms	1SAJ924007R0001	R 2794.77
PDV11-FBP.0	Feeding connector 24 V DC, code B-A	1SAJ924008R0001	R 2302.37
PDV12-FBP.0	Feeding connector 24 V DC, code A-A	1SAJ924011R0001	R 2302.37
PDA11-FBP.050	Adapter Dsub9-M12, cable length 0.50 m	1SAJ924009R0005	R 2342.30
PDA12-FBP.050	Adapter M12-Dsub9-M12, cable length 2 x 0.50 m	1SAJ924010R0005	R 2741.55

Universal Motor Controller
Fieldbus Devices, Ordering Details


CDP15-FBP


CDP16-FBP

DeviceNet™
Modbus®


DNP21-FBP
MRP21-FBP


DNF11-FBP.050


DNM11-FBP.050


DNX11-FBP


DNF11-FBP.0 DNM11-FBP.0


DNR11-FBP.120

Several Universal Motor Controllers on a PROFIBUS DP node

Description		Order code	Price per Unit Excl VAT
CDA11-FBP.0	DIN rail adapter for PDQ22-FBP	1SAJ929300R0001	R 1131.20
CDP11-FBP.0	Fixing bracket for pas- sive plug of connection cable	1SAJ929100R0001	R 61.87
CDP15-FBP.030	Connection cable (female/male), shielded, length 0.3 m	1SAJ929140R0003	R 576.24
CDP15-FBP.060	Connection cable (female/male), shielded, length 0.6 m	1SAJ929140R0006	R 589.56
CDP15-FBP.150	Connection cable (female/male), shielded, length 1.5 m	1SAJ929140R0015	R 598.87
CDP16-FBP.150	Connection cable (male/open end), shielded,length 1.5 m	1SAJ929150R0015	R 381.94

DeviceNet FieldBusPlug

Description	Cable length	Order code	Price per Unit Excl VAT
DNP21-FBP.025	0.25 m	1SAJ230000R1003	R 4232.06
DNP21-FBP.050	0.5 m	1SAJ230000R1005	R 4311.93
DNP21-FBP.100	1.00 m	1SAJ230000R1010	R 4391.79
DNP21-FBP.500	5.00 m	1SAJ230000R1050	R 4724.50

Modbus-RTU FieldBusPlug

Description	Cable length	Order code	Price per Unit Excl VAT
MRP21-FBP.025	0.25 m	1SAJ250000R0003	R 5383.97
MRP21-FBP.050	0.5 m	1SAJ250000R0005	R 5463.52
MRP21-FBP.100	1.00 m	1SAJ250000R0010	R 5543.11
MRP21-FBP.500	5.00 m	1SAJ250000R0050	R 5874.62

Accessories for DeviceNet, Modbus-RTU bus connection Round cables for bus junctions

Description		Order code	Price per Unit Excl VAT
DNF11-FBP.050	Round cable with female connector, 0.50 m	1SAJ923002R0005	R 492.40
DNM11-FBP.050	Round cable with male connector, 0.50 m	1SAJ923003R0005	R 492.40

Round cables for bus extension

Description		Order code	Price per Unit Excl VAT
DNX11-FBP.100	Ready-made cable, 1.00 m	1SAJ923001R0010	R 698.68
DNX11-FBP.300	Ready-made cable, 3.00 m	1SAJ923001R0030	R 1151.18
DNX11-FBP.500	Ready-made cable, 5.00 m	1SAJ923001R0050	R 1477.23
DNC11-FBP.999	Cable on coil, 100.00 m	1SAJ923004R1000	R 15 278.08

Accessories for bus extension and termination resistor

Description	Current range	Order code	Price per Unit Excl VAT
DNM11-FBP.0	Male plug for round cable	1SAJ923005R0001	R 247.56
DNF11-FBP.0	Female plug for round cable	1SAJ923006R0001	R 247.56
DNR11-FBP.120	Termination resistor 120 ohms	1SAJ923007R0001	R 369.96

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Advanced Control and Safety Devices
Arc Guard System™ – TVOC-2

Arc Guard System™

TVOC-2, ABB's Arc Monitor, builds on the well known TVOC design. Its new functions and features improve an already great product, putting even more focus on reliability, flexibility and simplicity.
Arc Guard System™ protects people and equipment, and eliminates unnecessary production stops.
Arc monitor type TVOC-2 is ABB's state-of-the-art solution for arc fault protection in all applications, providing functional safety.
With over 35 years of experience, Arc Guard System™ has become an industry standard in several key markets, helping to protect personnel and businesses around the world.
Typical applications include all low- and medium-voltage switchgears.

Reliability

- Certified according to functional safety (SIL-2) standard
- Over 35 years experience in Arc Guard Systems
- Pre-calibrated optical sensors

Flexibility

- HMI (Human Machine Interface) can be mounted on the panel door
- COM Module operates in the same way as HMI. With added ability to communicate with a remote station using Modbus RTU
- Expandable with up to 30 optical sensors
- Configure the system according to various needs

Simplicity

- User-friendly start-up menu
- DIN-rail or wall-mounted
- Easy to expand as the switchgear functions are added





Arc Guard System™ – TVOC-2
Ordering Details



Arc Monitor with COM Module



Extension unit



HMI



COM Module



CSU



Detector cable



Mounting kit



Label



Mounting bracket

TVOC-2

Description	Rated supply voltage Uc		Type	Order code	Price per Unit Excl VAT
	V 50/60 Hz	V DC			
Arc Monitor	–	24...48	TVOC-2-48	1SFA664001R1002	R 44 570.37
including one HMI and door mounting accessories	100...240	100...250	TVOC-2-240	1SFA664001R1001	R 44 570.37
Arc Monitor	–	24...48	TVOC-2-48-C	1SFA664001R1004	R 44 570.37
including one COM Module and door mounting accessories	100...240	100...250	TVOC-2-240-C	1SFA664001R1003	R 44 570.37

Accessories

Description	Type	Order code	Price per Unit Excl VAT
Extension 10 optical inputs	TVOC-2-E1	1SFA664002R1001	R 13 370.91
Extension 10 optical inputs for cable TVOC-2-DP60 only	TVOC-2-E3	1SFA664002R3001	R 13 370.91
HMI (Human machine interface) additional	TVOC-2-H1	1SFA664002R1005	R 5955.85
COM Module with communication interface (Modbus RTU) and door mounting accessories	TVOC-2-COM	1SFA664002R4001	R 5955.85

Detectors

Description		Type	Order code	Price per Unit Excl VAT
Cable length	1 m	TVOC-2-DP1	1SFA664003R1010	R 1985.28
Cable length	2 m	TVOC-2-DP2	1SFA664003R1020	R 2149.03
Cable length	4 m	TVOC-2-DP4	1SFA664003R1040	R 2271.81
Cable length	6 m	TVOC-2-DP6	1SFA664003R1060	R 2496.94
Cable length	8 m	TVOC-2-DP8	1SFA664003R1080	R 2865.36
Cable length	10 m	TVOC-2-DP10	1SFA664003R1100	R 3070.11
Cable length	15 m	TVOC-2-DP15	1SFA664003R1150	R 3684.04
Cable length	20 m	TVOC-2-DP20	1SFA664003R1200	R 4298.50
Cable length	25 m	TVOC-2-DP25	1SFA664003R1250	R 4912.07
Cable length	30m	TVOC-2-DP30	1SFA664003R1300	R 5730.72
Cable length (1)	60m	TVOC-2-DP60	1SFA664003R3600	R 7368.57

1) Only to be used with TVOC-2-E3

CSU

Description	Type	Order code	Price per Unit Excl VAT
Current sensing unit	CSU	1SFA663002-A	R 28 715.97

Optical cable between two TVOC-2 - Arc monitors and Current sensing units

Description		Type	Order code	Price per Unit Excl VAT
Cable length	0.5 m	TVOC-1T02-OP05	1SFA664004R2005	POA
Cable length	1 m	TVOC-1T02-OP1	1SFA664004R2010	R 1402.89
Cable length	2 m	TVOC-1T02-OP2	1SFA664004R2020	POA
Cable length	4 m	TVOC-1T02-OP4	1SFA664004R2040	R 1776.42
Cable length	6 m	TVOC-1T02-OP6	1SFA664004R2060	R 1964.34
Cable length	8 m	TVOC-1T02-OP8	1SFA664004R2080	R 2244.38
Cable length	10 m	TVOC-1T02-OP10	1SFA664004R2100	R 2525.34
Cable length	15 m	TVOC-1T02-OP15	1SFA664004R2150	R 3180.28
Cable length	20 m	TVOC-1T02-OP20	1SFA664004R2200	R 3554.26
Cable length	25 m	TVOC-1T02-OP25	1SFA664004R2250	R 4115.70
Cable length	30m	TVOC-1T02-OP30	1SFA664004R2300	R 4863.21

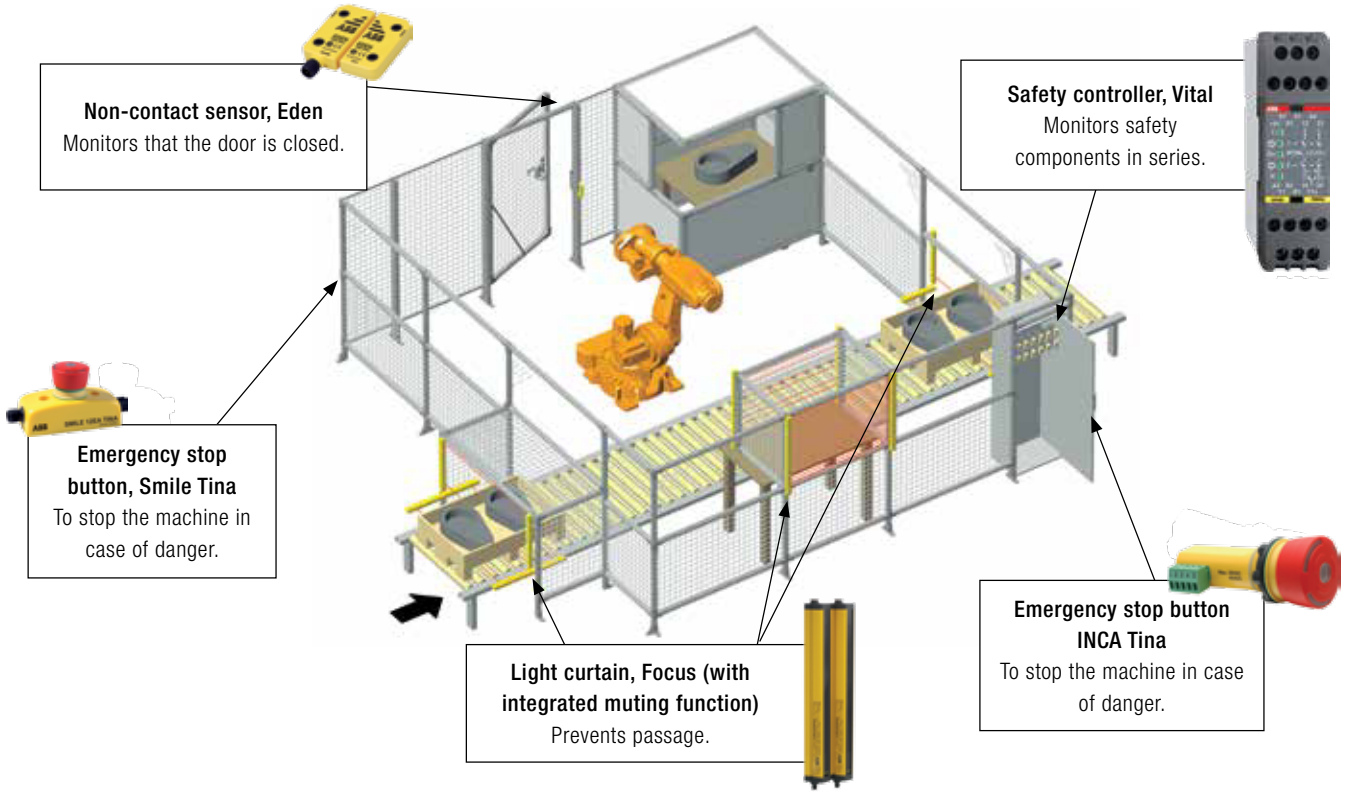
Optical cable between two TVOC-2 - Arc monitors (transfering CSU signal)

Description		Type	Order code	Price per Unit Excl VAT
Cable length	0.5 m	TVOC-2_0P05	1SFA664004R1005	POA
Cable length	1 m	TVOC-2-OP1	1SFA664004R1010	R 1535.01
Cable length	2 m	TVOC-2-OP2	1SFA664004R1020	POA
Cable length	4 m	TVOC-2-OP4	1SFA664004R1040	R 1944.84
Cable length	6 m	TVOC-2-OP6	1SFA664004R1060	R 2149.03
Cable length	8 m	TVOC-2-OP8	1SFA664004R1080	R2456.02
Cable length	10 m	TVOC-2-OP10	1SFA664004R1100	R 2763.49
Cable length	15 m	TVOC-2-OP15	1SFA664004R1150	R 3479,85
Cable length	20 m	TVOC-2-OP20	1SFA664004R1200	R 4575.41
Cable length	25 m	TVOC-2-OP25	1SFA664004R1250	R 4503.17
Cable length	30m	TVOC-2-OP30	1SFA664004R1300	R 5321.82
Cable straps	1 set incl 50 pcs	TVOC-2-MK1	1SFA664006R1001	R 10 393.48
Mounting Kit	600 mm		1SFA663006R1001	R 581.91
	800/1000 mm		1SFA663006R1002	R 581.91
Label	1 set incl. 10 pcs		1SFA663005R1001	R 56.31
Mounting Bracket	1 set incl. 5 bracket pcs and 10 cable strap pcs		1SFA663006R1010	R 581.91

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Machine Safety
Jokab Safety Products

Protection layout for a robot cell with high risks.



Machine Safety
Jokab Safety Products

Programmable Safety Controllers

Designation	Product code	Description	Price Per Unit Excl. VAT
Pluto B20 v2	2TLA020070R4600	Safety PLC with Pluto safety bus. Totally 20 I/O: 8 failsafe inputs + 8 nonfailsafe outputs/failsafe inputs + 2 individually failsafe relay outputs + 2 individually failsafe transistor outputs.	R 14 074.57
Pluto B46 v2	2TLA020070R1700	Safety PLC with Pluto safety bus. Totally 46 I/O: 24 failsafe inputs + 16 non-failsafe outputs/failsafe inputs + 4 individually failsafe relay outputs + 2 individually failsafe transistor outputs.	R 16 747.18
Pluto D20	2TLA020070R6400	Safety PLC with Pluto safety bus and analogue inputs. Totally 20 I/O: 4 combined failsafe analogue and digital inputs + 4 failsafe inputs + 8 nonfailsafe outputs/failsafe inputs + 2 individually failsafe relay outputs + 2 individually failsafe transistor outputs. Analogue input range 0-10V/4-20mA.	R 18 756.84
Pluto D45	2TLA020070R6600	Safety PLC with Pluto safety bus and analogue inputs. Totally 45 I/O: 8 combined failsafe analogue and digital inputs + 16 failsafe inputs + 15 non-failsafe outputs/failsafe inputs + 4 individually failsafe relay outputs + 2 individually failsafe transistor outputs. Analogue input range 0-10V/4-20mA.	R 22 883.85

Accessories for Programmable Safety Controllers

Designation	Product code	Description	Price Per Unit Excl. VAT
Gate-P2 Pluto Gateway PROFIBUS-DP	2TLA020071R8000	Gateway for 2-way communication between the Pluto bus and Profibus.	R 5567.57
Gate-D2 Pluto Gateway DeviceNet	2TLA020071R8200	Gateway for 2-way communication between the Pluto bus and Devicenet.	R 5567.57
Gate-EIP Pluto Gateway EtherNet	2TLA020071R9000	Gateway for 2-way communication between the Pluto bus and Ethernet. Ethernet protocol EtherNet I/P	R 7586.99
Gate-EC Pluto Gateway EtherCAT	2TLA020071R9100	Gateway for 2-way communication between the Pluto bus and Ethernet. Ethernet protocol EtherCAT	R 7365.44
Gate-PN Pluto Gateway PROFINET	2TLA020071R9300	Gateway for 2-way communication between the Pluto bus and Ethernet. Ethernet protocol PROFINET	R 7365.44
IDFIX-R	2TLA020070R2000	Identifier, read only. For assigning Pluto an address on the Pluto bus. The IDFIX number is fixed by delivery.	R 213.97
IDFIX-RW	2TLA020070R2100	Identifier, read/write. For assigning Pluto an address on the Pluto bus. The IDFIX number is programmable.	R 295.40
IDFIX DATA	2TLA020070R2300	Identifier, read/write and AS-i safety codes. For assigning Pluto an address on the Pluto bus and storage of AS-i safety codes. The IDFIX number is programmable. Intended for Pluto AS-i and B42 AS-i but can be used for all Pluto types.	R 352.37
IDFIX-PROG 10k	2TLA020070R2600	External program memory, 10 kbyte. For projects with only one Pluto the memory can store the PLC program. Can also be used to give Pluto AS-i a specific address.	R 786.10
Pluto programming cable USB	2TLA020070R5800	For connecting PC, USB port to Pluto for programming and on-line monitoring.	R 841.16
Pluto cable HMI ABB CP600	2TLA020070R6900	Cable for connecting HMI-panel ABB CP600 to Pluto programming port. Connector at HMI-side: 9-pole D-sub	R 842.19
Pluto cable HMI ABB CP400	2TLA020070R6700	Cable for connecting HMI-panel ABB CP400 to Pluto programming port. Connector at HMI-side: 9-pole D-sub	R 89912
CAN-Bus cable 1 x 2 x 0.75 mm2	2TLA020070R6800	CAN-Bus cable, yellow, 1 x 2 x 0.75 mm2. UL & CSA approved.	R 107.78

AS-interface - Pluto AS-i

Designation	Product code	Description	Price Per Unit Excl. VAT
Pluto AS-i v2	2TLA020070R1100	Safety PLC with AS-i bus and Pluto safety bus. Totally 12 I/O: 4 failsafe inputs + 4 non-failsafe outputs/failsafe inputs + 2 individual failsafe relay outputs + 2 individual failsafe transistor outputs.	R 12 611.57
Pluto B42 AS-i	2TLA020070R1400	Safety PLC with AS-i bus and Pluto safety bus. Totally 42 I/O: 20 failsafe inputs + 16 non-failsafe outputs/failsafe inputs + 4 individually failsafe relay outputs + 2 individually failsafe transistor outputs.	R 17 549.10

AS-i adaption units for safety inputs

Designation	Product code	Description	Price Per Unit Excl. VAT
URAX-A1R	2TLA020072R0100	Safe input slave for AS-i bus with 1 safe input for dynamic sensors + 1 nonsafe output. Input for local reset.	R 2522.71
URAX-B1R	2TLA020072R0200	Safe input slave for AS-i bus with 1 safe input for dynamic sensors + 3 nonsafe outputs. Input for local reset.	R 2980.04
URAX-C1R	2TLA020072R0400	Safe input slave for AS-i bus with 2 safe inputs for devices with dual channel contacts. Input for local reset.	R 2765.31
URAX-D1R	2TLA020072R0500	Safe input slave for AS-i bus with 1 safe dual channel input for safety devices with transistor outputs (OSSD) + 3 non-safe outputs. Input for local reset.	R 2980.04

AS-i integrated safety sensors

Designation	Product code	Description	Price Per Unit Excl. VAT
Smile 11 EA AS-i	2TLA030052R0000	Emergency stop in Smile enclosure, adapted for AS-i system, programable status LED in button, 1 × M12 5-pin male connector.	R 1931.55
JSHD4-2-AF-A	2TLA019995R0700	Three-position device incl. LEDs, front button and top button with M12 connection (4 poles) and 2 AS-i nodes (for front and top button) and Antitamper PCB.	R 7896.05
Eva AS-i	2TLA020051R8000	Eva actuator for use with Adam AS-i sensors in the Eden sensor system, IP69K, yellow, 4 pcs of DA2 spacer rings are included.	R 674.85
Adam AS-i M12	2TLA020051R6000	Adam safety sensor unit with a fixed M12 male connector, AS-i node, IP69K, yellow, 4 pcs of DA1 protection plate and 4 pcs of DA2 spacer rings are included.	R 1587.75

Accessories for AS-interface

Designation	Product code	Description	Price Per Unit Excl. VAT
AS-i T-connector with M12	2TLA020073R0000	Flat cable connector to M12 5-pole.	R 150.02
JSM D25 Bracket for URAX/FLEX	2TLA020072R9800	Bracket including fasteners for URAX mounting on ABB Jokab Safety fence system.	R 215.91
URAX/FLEX Bottom Plate	2TLA020072R9900	URAX Bottom Plate.	R 333.45
JSAUR1 M12 plug	2TLA020073R0100	Auto reset plug for URAX-R.	R 219.18

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Machine Safety
Jokab Safety Products

Safety Controller Vital and Tina Units - Vital

Designation	Product code	Description	Price Per Unit Excl. VAT
Vital 1	2TLA020052R1000	"Safety module with one single channel input for dynamic sensors. Relay outputs 2NO."	R 3691.41
Vital 2	2TLA020070R4300	Safety module with two single channel inputs for dynamic sensors.	R 8112.33
Vital 3	2TLA020070R4400	"Safety module with one single channel input for dynamic sensors, and one dual channel input for closing switches."	R 8112.33

Tina

Designation	Product code	Description	Price Per Unit Excl. VAT
Tina 1A	2TLA020054R0000	Tina 1A is a device that is designed for use with the connection block Tina 4A or 8A, where it is used as a blind plug in unused M12 connection.	R 636.11
Tina 2A	2TLA020054R0100	Adaption unit for dynamic circuits. Tina 2A is with M20 fitting for connection of emergency stops and other safety devices having a suitable combination of potential free contacts.	R 784.19
Tina 3A	2TLA020054R0200	Adaption unit for dynamic circuits. Tina 3A with M12 connection and M20 fitting for use with emergency stop and other safety sensors with potential free contacts.	R 693.11
Tina 5A ver G	2TLA020054R1900	Bypass unit for dynamic units with supervision of the bypass lamp.	R 2085.78
Tina 7A	2TLA020054R0700	Adaption unit for dynamic circuits. Tina 7A for installation on DIN rails in Electrical cabinets. Electrical connection via detachable terminal blocks. Tina 7A is used for emergency stops in the same Electrical cabinet.	R 795.43
Tina 10A	2TLA020054R1200	Adaption unit were OSSD outputs (PNP) from Focus II can be transformed for dynamic circuits.	R 1450.92
Tina 10C	2TLA020054R1600	Adaption unit were OSSD outputs (PNP) from Focus II can be transformed for dynamic circuits. Tina 10C has an extra M12 connector were a the light protections transmitter can be connected (For power).	R 1692.28

Safety relay - RT-series

Designation	Product code	Description	Price Per Unit Excl. VAT
RT6 24 VDC	2TLA010026R0000	A universal safety relay for several safety applications. Relay outputs 3NO / 1NC.	R 2419.97
RT6 115 VAC	2TLA010026R0400	A universal safety relay for several safety applications. Relay outputs 3NO / 1NC.	R 2818.08
RT6 230 VAC	2TLA010026R0500	A universal safety relay for several safety applications. Relay outputs 3NO / 1NC.	R 2613.41
RT7A 1.5s 24 VDC	2TLA010028R2000	A universal safety relay for several safety applications. 2 delayed outputs of 1.5 sec. Relay outputs 2NO / 2NO / 1NC.	R 4385.64
RT7B 3s 24 VDC	2TLA010028R1000	A universal safety relay for several safety applications. 2 delayed outputs of 3 sec. Relay outputs 2NO / 2NO / 1NC.	R 4886.31
RT9 24 VDC	2TLA010029R0000	A universal safety relay for several safety applications. Relay outputs 2NO.	R 2011.04
JSBRT11 24 VDC	2TLA010025R0000	A flexible safety relay with many outputs. Relay outputs 7NO / 2NC.	R 4772.14
JSBRT11 115 VAC	2TLA010025R0400	A flexible safety relay with many outputs. Relay outputs 7NO / 2NC.	R 4840.35
JSBRT11 230 VAC	2TLA010025R0500	A flexible safety relay with many outputs. Relay outputs 7NO / 2NC.	R 4840.35

Safety relay – JSB-series

Designation	Product code	Description	Price Per Unit Excl. VAT
JSBR4 24 VDC	2TLA010002R0000	Safety relay for two hand device and many other safety products. Power supply 24 VDC. Relay outputs 3NO / 1NC.	R 3363.06
JSBR4 230 VAC	2TLA010002R0500	Safety relay for two hand device and many other safety products. Relay outputs 3NO / 1NC.	R 3420.05
JSBT4 24 VDC	2TLA010004R0000	Safety relay with synchronised dual input channels Relay outputs 3NO / 1NC.	R 3420.05
BT50 24 VDC	2TLA010033R0000	Safety relay/expansion relay. Relay outputs 3NO / 1NC.	R 1681.56
BT50T 24 VDC	2TLA010033R1000	Safety relay/expansion relay. Time delay 0-1.5 sec. Relay outputs: 4NO.	R 2252.92
BT51 24 VDC	2TLA010033R2000	Safety relay/expansion relay. Relay outputs 4NO.	R 1681.56
JSBT5T 24 VAC/VDC	2TLA010005R1100	Single channel and "dual" channel safety relay. Relay outputs 3NO / 1NC.	R 2203.68

Safety expansion relays

Designation	Product code	Description	Price Per Unit Excl. VAT
E1T 0s 24 VDC	2TLA010030R0000	Safety expansion relay - for expanding the outputs of safety relays. Time delay 0 sec. Relay outputs 4NO.	R 1465.62
E1T 1s 24 VDC	2TLA010030R2000	Safety expansion relay - for expanding the outputs of safety relays. Time delay 1 sec. Relay outputs 4NO.	R 1883.28
JSR3T 24 VAC/VDC	2TLA010017R0100	Safety expansion relay for safe delayed outputs. Hardwire Selectable Delay 0.5 - 10.0 sec. Relay Outputs 1NO + 1NO.	R 1456.07

Sentry safety relays - Basic Safety Relays and expansion relays

Designation	Product code	Description	Price Per Unit Excl. VAT
BSR10	2TLA010040R0000	"1 or 2 channels, supply +24 VDC, relay outputs 3 NO + 1 NC "	R 1840.19
BSR11	2TLA010040R0200	"1 or 2 channels, supply +24 VDC, relay outputs 4 NO "	R 1840.19
BSR23	2TLA010041R0600	"1 or 2 channels, supply +24 VDC, relay outputs 4 NO + 1 NC "	R 1602.05

Sentry safety relays - Single function Safety Relays

Designation	Product code	Description	Price Per Unit Excl. VAT
SSR10	2TLA010050R0000	"1 or 2 channels, OSSD, supply +24 VDC, relay outputs 3 NO + 1 NC "	R 2258.47
SSR10M	2TLA010050R0100	"2 channels, supply 85-265 VAC/120-275 VDC, relay outputs 3 NO + 1 NC "	R 2857.74
SSR20	2TLA010051R0000	"2 channels, supply +24 VDC, relay outputs 3 NO + 1 NC "	R 2479.88

Sentry safety relays - Safety Relays with timer function

Designation	Product code	Description	Price Per Unit Excl. VAT
SSR32	2TLA010052R0400	"1 or 2 channels, OSSD Off-delay 0.5 s, supply +24 VDC, 2 NO + 2 delayed NO "	R 3609.08
SSR42	2TLA010053R0400	"1 or 2 channels, OSSD Off-delay 1.5 s, supply +24 VDC, 2 NO + 2 delayed NO "	R 3609.08
TSR20	2TLA010061R0000	"1 or 2 channels, OSSD Off-delay 0.5 & 1.5 s, supply +24 VDC, delayed 3 NO + 1 NC "	R 2258.47

Sentry safety relays - Universal Safety Relays

Designation	Product code	Description	Price Per Unit Excl. VAT
USR10	2TLA010070R0000	"Universal relay 0-999 s timer functions, supply +24 VDC, 3 NO + 1 NC "	R 3410.28
USR22	2TLA010070R0400	"Universal relay 0-999 s timer functions, supply +24 VDC, 2 NO + 2 NO "	R 4760.45

Machine Safety
Jokab Safety Products

Light curtains Orion

Designation	Product code	Description	Price Per Unit Excl. VAT
Orion1-4-30-015-B	2TLA022302R0000	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 150 mm	R 10 375.20
Orion1-4-30-030-B	2TLA022302R0100	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 300 mm	R 12 530.93
Orion1-4-30-045-B	2TLA022302R0200	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 450 mm	R 14 704.03
Orion1-4-30-060-B	2TLA022302R0300	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 600 mm	R 16 875.92
Orion1-4-30-075-B	2TLA022302R0400	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 750 mm	R 19 033.68
Orion1-4-30-090-B	2TLA022302R0500	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 900 mm	R 21 205.19
Orion1-4-30-105-B	2TLA022302R0600	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1050 mm	R 23 472.55
Orion1-4-30-120-B	2TLA022302R0700	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1200 mm	R 25 866.15
Orion1-4-30-135-B	2TLA022302R0800	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1350 mm	R 28 006.91
Orion1-4-30-150-B	2TLA022302R0900	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1500 mm	R 30 162.64
Orion1-4-30-165-B	2TLA022302R1000	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1650 mm	R 32 336.15
Orion1-4-30-180-B	2TLA022302R1100	Orion1 Base Transmitter + Receiver - R = 30 mm - H = 1800 mm	R 34 507.66
Orion1-4-30-030-E	2TLA022303R0100	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 300 mm	R 17 439.93
Orion1-4-30-045-E	2TLA022303R0200	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 450 mm	R 20 464.37
Orion1-4-30-060-E	2TLA022303R0300	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 600 mm	R 23 487.10
Orion1-4-30-075-E	2TLA022303R0400	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 750 mm	R 26 490.16
Orion1-4-30-090-E	2TLA022303R0500	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 900 mm	R 29 512.37
Orion1-4-30-105-E	2TLA022303R0600	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1050 mm	R 32 667.96
Orion1-4-30-120-E	2TLA022303R0700	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1200 mm	R 35 999.27
Orion1-4-30-135-E	2TLA022303R0800	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1350 mm	R 38 978.67
Orion1-4-30-150-E	2TLA022303R0900	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1500 mm	R 41 978.94
Orion1-4-30-165-E	2TLA022303R1000	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1650 mm	R 45 003.93
Orion1-4-30-180-E	2TLA022303R1100	Orion1 Extended Transmitter + Receiver - R = 30 mm - H = 1800 mm	R 48 026.13

Light grids Orion

Designation	Product code	Description	Price Per Unit Excl. VAT
Orion2-4-K2-050-B	2TLA022304R0000	Orion2 Base Transmitter + Receiver - 2 beams - H = 500 mm	R 13 275.31
Orion2-4-K3-080-B	2TLA022304R0100	Orion2 Base Transmitter + Receiver - 3 beams - H = 800 mm	R 15 691.34
Orion2-4-K4-090-B	2TLA022304R0200	Orion2 Base Transmitter + Receiver - 4 beams - H = 900 mm	R 17 768.60
Orion2-4-K4-120-B	2TLA022304R0300	Orion2 Base Transmitter + Receiver - 4 beams - H = 1200 mm	R 19 725.93
Orion2-4-K2-050-E	2TLA022305R0000	Orion2 Extended Transmitter + Receiver - 2 beams - H = 500 mm	R 14 370.16
Orion2-4-K3-080-E	2TLA022305R0100	Orion2 Extended Transmitter + Receiver - 3 beams - H = 800 mm	R 16 985.47
Orion2-4-K4-090-E	2TLA022305R0200	Orion2 Extended Transmitter + Receiver - 4 beams - H = 900 mm	R 19 234.04
Orion2-4-K4-120-E	2TLA022305R0300	Orion2 Extended Transmitter + Receiver - 4 beams - H = 1200 mm	R 21 352.81
Orion3-4-K1C-050-E	2TLA022307R0000	Orion3 Extended - Active unit - 2 beams - H = 500 mm	R 11 380.09
Orion3-4-K2C-080-E	2TLA022307R0100	Orion3 Extended - Active unit - 3 beams - H = 800 mm	R 13 380.15
Orion3-4-K2C-090-E	2TLA022307R0200	Orion3 Extended - Active unit - 4 beams - H = 900 mm	R 15 054.51
Orion3-4-K2C-120-E	2TLA022307R0300	Orion3 Extended - Active unit - 4 beams - H = 1200 mm	R 15 798.15
Orion3-4-M1C-050	2TLA022306R1000	Orion3 Extended - Passive unit (mirror) - H = 500 mm	R 3674.35
Orion3-4-M2C-080	2TLA022306R1100	Orion3 Extended - Passive unit (mirror) - H = 800 mm	R 4414.15
Orion3-4-M2C-090	2TLA022306R1300	Orion3 Extended - Passive unit (mirror) - H = 900 mm	R 5095.43
Orion3-4-M2C-120	2TLA022306R1400	Orion3 Extended - Passive unit (mirror) - H = 1200 mm	R 6571.46

Spot

Designation	Product code	Description	Price Per Unit Excl. VAT
Spot 10 T/R	2TLA020009R0600	Safety light beam for up to 10 m distance. M18 steel casing with M12 connector.	R 5413.05

Accessories for Orion

Designation	Product code	Description	Price Per Unit Excl. VAT
Orion Laser	2TLA022310R5000	Orion Laser pointer	R 7203.82
JSM Orion01	2TLA022310R0000	4 standard brackets for Orion1 & Orion2	R 682.79
JSM Orion02	2TLA022310R1000	4 standard brackets for Orion3	R 1919.97
M12-C02PT2T	2TLA022315R0100	Transmitter cable for Orion1 Extended	R 469.81
M12-C02PT6RB	2TLA022315R0200	Receiver cable for Orion1 Extended when no muting	R 626.43
M12-C02PT62RM	2TLA022315R0300	Receiver cable for Orion1 Extended when muting	R 845.66
M12-C65	2TLA020056R7200	Straight M12-12 female connector with 6 m shielded cable	R 689.25
M12-C105	2TLA020056R7300	Straight M12-12 female connector with 10 m shielded cable	R 765.08
M12-C205	2TLA020056R7500	Straight M12-12 female connector with 20 m shielded cable	R 1516.39
M12-CT132	2TLA020060R0600	M12-CT132 Transfer cable, L=1 m, 8 x 0.34 mm2 + shield with straight M12-5 pole male + M12-8 pole female connectors. Shield connected to pin 3 (0V) on male connector. Can be used when connecting Orion2 Base, Orion2 Extended and Orion3 Extended to an URAX-D1R.	R 278.72

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Machine Safety
Jokab Safety Products

Sensors, switches and locks - Eden-Non-contact safety sensor

Designation	Product code	Description	Price Per Unit Excl. VAT
Adam AS-i M12	2TLA020051R6000	Adam safety sensor unit with a fixed M12 male connector, AS-i node, IP69K, yellow, 4pcs of DA 1 protection plate and 4pcs of DA 2B spacer rings are included.	R 1587.75
Eva AS-i	2TLA020051R8000	Eva actuator for use with Adam AS-i sensors in the Eden sensor system, IP69K, yellow, 4pcs of DA2 spacer rings are included.	R 674.85
"Adam DYN-Info 5 M12-5 contact"	2TLA020051R5100	Adam safety sensor unit with dynamic signal, information output, fixed 5-pole M12 male connector, IP69K, yellow, 4pcs of DA 1B protection plate and 4pcs of DA 2B spacer rings are included.	R 1040.67
"Adam DYN-Reset 5 M12-8 contact"	2TLA020051R5300	Adam safety sensor unit with dynamic signal, reset with indication, fixed 5-pole M12 male connector, IP69K, yellow, 4pcs of DA 1B protection plate and 4pcs of DA 2B spacer rings are included.	R 1408.73
Eva General code	2TLA020046R0800	Eva actuator with general code for use with Adam DYN/OSSD sensors in the Eden sensor system, IP69K, yellow, 4pcs of DA 2B spacer rings are included.	R 332.22
Eva Unique code	2TLA020046R0900	Eva actuator with unique code for use with Adam DYN/OSSD sensors in the Eden sensor system, IP69K, yellow, 4pcs of DA 2B spacer rings are included.	R 580.89

Sensors, switches and locks - MKey-Interlock Switch

Designation	Product code	Description	Price Per Unit Excl. VAT
MKey5+ - 40N	2TLA050003R0111	Safety interlock switch, 2NC / 1NO, plastic body, stainless steel head, 3 x M20 Conduits entries, 40N holding force, standard key.	R 1210.57
MKey8Z - 24 VDC	2TLA050011R0122	Safety interlock switch, 2NC + 2NC, stainless steel housing and spring lock, 3 x M20 Conduits entries, 24 VDC, standard key.	R 8058.46

Sensors, switches and locks - Sense-Magnetic Switch

Designation	Product code	Description	Price Per Unit Excl. VAT
"Sense7 5 m cable"	2TLA050056R5100	Safety Magnetic Switch, 2NC / 1NO, plastic, LED, 5 m cable.	R 1548.20
"Sense7 10 m cable"	2TLA050056R6100	Safety Magnetic Switch, 2NC / 1NO, plastic, LED, 10 m cable.	R 1766.42
"Sense7Z 5 m cable"	2TLA050056R5120	Safety Magnetic Switch, 2NC / 1NO, stainless steel, LED, 5 m cable.	R 2660.97

Magne – Magnetic process lock

Designation	Product code	Description	Price Per Unit Excl. VAT
Magne 2Ax v2	2TLA042022R1700	Magnetic lock with indication. Electro-magnet with 5-pole M12-contact. Anchor plate. Cell rubber. Adam (built-in) + Eva (included) door position sensor.	R 4548.12
JSM D21B	2TLA042023R0500	Mounting kit for Magne. For conventional door (5–15 mm door gap). Fits all Magne. Note: When used with Magne 2A/B,–2Ax/Bx a mounting kit for Eva is also required (JSM D24).	R 583.95
JSM D24	2TLA042023R0300	Mounting kit for Eva. For conventional door.	R 515.33

Knox – Safety and process lock

Designation	Product code	Description	Price Per Unit Excl. VAT
Knox 1A-R v2	2TLA020105R5000	Knox door part for outward-opening door with hinges to the right.	R 5788.48
Knox 1A-L v2	2TLA020105R5100	Knox door part for outward-opening door with hinges to the left.	R 5788.48
Knox 2A v2	2TLA020105R2200	Safety lock Knox frame part with 8-pin M12 contact. Delivered for door with hinges to the right, but can be mirrored. See instructions for mirroring in Knox manual.	R 6749.44
Knox 2X v2	2TLA020105R2300	Process lock version of Knox (no duplicate unlocking signal), with 5-pin M12 contact. Delivered for door with hinges to the right, but can be mirrored. See instructions for mirroring in Knox manual.	R 6749.44
"Knox PC plate for mesh door"	2TLA020106R0000	When mounting Knox on door with mesh the accessory PC plate for Knox is recommended. This is to avoid emergency opening from the outside.	R 296,.54

Control devices - Safeball–One hand devices

Designation	Product code	Description	Price Per Unit Excl. VAT
"JSTD1-A Safeball 2 m cable"	2TLA020007R3000	JSTD1-A Safeballs each have 1NO & 1NC independent switches, maximum load of 30 VDC - 2A resistive. Ergonomic design with several grip possibilities and low activation force (approx. 2N) and flexible mounting options. Provides highest level of safety for use in two hand control applications when using two Safeballs in conjunction with a JSBR4 safety relay or Pluto Safety PLC. IP67 protection degree, plastic body, 2 meters molded cable.	R 1931.55
"JSTD1-B Safeball 200 mm cable"	2TLA020007R3100	JSTD1-B Safeballs each have 1NO & 1NC independent switches, maximum load of 30 VDC - 2A resistive. Ergonomic design with several grip possibilities and low activation force (approx. 2N) and flexible mounting options. Provides highest level of safety for use in two hand control applications when using two Safeballs in conjunction with a JSBR4 safety relay or Pluto Safety PLC. IP67 protectiondegree, plastic body, 0.2 m wires × 4 for direct connection into an enclosure.	R 1567.97

Control devices - Safeball – Two hand devices

Designation	Product code	Description	Price Per Unit Excl. VAT
"JSTD20A Twohand station"	2TLA020007R2000	Two-hand device with conventional operating buttons. Operating push buttons are 60 mm in diameter, black, 9N operating force, 1 NO + 1 NC contacts, rated current of 10A. Buttons are mounted in black painted steel housing designed for two-hand applications. IP65. Terminal blocks within housing for connection to buttons. Highest level of safety can be achieved when using in conjunction with a JSBR4 safety relay for two-hand buttons or a Pluto Safety PLC.	R 6748.66
"JSTD20C Twohand station housing"	2TLA020007R2200	Two-hand housing only. Steel and black painted. Accepts up to 60 mm operating buttons for two-hand device and 40 mm e-stop button.	R 4692.28
"JSTD25F Twohand station, 5-pole M12 Male"	2TLA020007R6000	Two-hand device with JSTD1-B Safeballs. Buttons are side mounted 44 × 88 extruded aluminum profile designed for two hand applications. Pre-wired to a M12 5-pin connector with protective flanges of the safeballs. Highest level of safety can be achieved when used in conjunction with a JSBR4 safety relay or Pluto Safety PLC.	R 4930.65
JSTK40S	2TLA020007R6700	JSTK40S Spiral cable 4 m for JSTD25P-1.	R 1942.82
"Universal shelf for JSTD25P-1."	2TLA020007R8000	Universal shelf for JSTD25P-1.	R 909.00

Machine Safety
Jokab Safety Products

Emergency stops and Pilot devices -Smile

Designation	Product code	Description	Price Per Unit Excl. VAT
Smile 11 EA	2TLA030051R0000	Emergency stop in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector.	R 1226.85
Smile 11 EA AS-i	2TLA030052R0000	Emergency stop in Smile enclosure, adapted for AS-i system, programable status LED in button, 1 × M12 5-pin male connector.	R 1931.55
Smile 11 EA Tina	2TLA030050R0000	Emergency stop in Smile enclosure, Tina adaption unit included for dynamic ciruit, Status LED in button, 1 × M12 5-pin male connector.hinges to the right, but can be mirrored. See instructions for mirroring in Knox manual.	R 1386.16
Smile 11 RA	2TLA030053R0000	Reset button in Smile enclosure, 1 × NO button, 1 × Blue LED, 1 × M12 5-pin male connector.	R 1045.44
Smile 11 SA Tina	2TLA030050R0500	Machine stop (Black button) in Smile enclosure, Tina adaption unit included for dynamic ciruit, Status LED in button, 1 × M12 5-pin male connector.	R 1431.14
Smile 11 SA AS-i	2TLA030052R0100	Machine stop(Black button) in Smile enclosure, adapted for AS-i system, programable statu s LED in button, 1 x M12 5-pin male connector	R 2011.80
Smile 12 EA	2TLA030051R0200	Emergency stop in Smile enclosure, 2 × NC, Status LED in button, 1 × M12 5-pin male connector and 1 × M12 5-pin female connector.	R 1340.82
Smile 12 EA Tina	2TLA030050R0200	Emergency stop in Smile enclosure, Tina adaption unit included for dynamic ciruit, Status LED in button, 1 × M12 5-pin male connector and 1 × M12 5-pin female connector.	R 1510.97

Accessories for Smile and INCA

Designation	Product code	Description	Price Per Unit Excl. VAT
Yellow surround for Inca	2TLA030054R0400	Elevated yellow surround for panel mounted emergency stop button.	R 99.86
Emergency Stop Sign	2TLA030054R0600	"Yellow surround for panel mounted emergency stop button, for 22.5 mm hole, with text in English, French and German."	R 47.57
JST2	2TLA030051R1300	"Termination for Smile 12, M12 5-pole connector, connects pin 1 with pin 5, and pin 2 with pin 4."	R 238.78

Emergency stop EStrongZ and Grab wire safety switch LineStrong

Designation	Product code	Description	Price Per Unit Excl. VAT
EStrongZ (LED)	2TLA050220R0222	Emergency stop, 2NC / 2NO, stainless steel 316 body, LED status indication, conduit entry 3 x M20.	R 3691.79
LineStrong1	2TLA050200R0030	Emergency stop grab wire safety switch, 2NC + 2NO, up to 50 m length, die cast housing, conduit entry 3 x M20.	R 2699.45
LineStrong2Z	2TLA050202R0332	Emergency stop grab wire safety switch, 2NC + 2NO, up to 100 m length, stainless steel 316 body, LED status indication, conduit entry 3 x M20.	R 3850.73
LineStrong3L	2TLA050206R0332	Emergency stop grab wire safety switch, 4NC + 2NO, switch placement to the left, up to 125 m length, yellow die cast housing, LED status indication, conduit entry 3 x M20	R 4485.67
LineStrong3R	2TLA050208R0332	Emergency stop grab wire safety switch, 4NC + 2NO, Switch placement to the right, Up to 125m length, yellow die cast housing, LED status indication, Conduit entry 3xM20	R 5023.94
"10 m Wire Kit, Galvanized"	2TLA050210R0130	10 m galvanized wire pull kit. Includes 10 m wire (one end is terminated with thimble and permanent clamp), 5 pcs eyebolts, 1 pcs tensioner, 1 pcs allen key.	R 1822.52
"80 m Wire Kit, Galvanized"	2TLA050210R0630	80 m galvanized wire pull kit. Includes 80 m wire, 30 pcs eyebolts, 2 pcs tensioner, 1 pcs allen key.	R 3734.96
"Wire Tensioner, Galvanized"	2TLA050210R4030	Wire tensioner/gripper for emergency pull wire switch systems, galvanized.	R 674.85
"Spring, 220mm, Stainless Steel"	2TLA050211R0004	Spring for emergency pull wire switch systems, 220 mm, stainless steel. When using one emergency pull wire switch the wire should be anchored at the other end using this spring.	R 377.17
Wire Tensioner, SS	2TLA050210R4020	Wire Tensioner/Gripper for Emergency Pull Wire Switch systems, Stainless Steel.	R 972.57
"Eyebolt M8x1.25 SS "	2TLA050210R8020	Eyebolt M8x1.25 for Emergency Pull Wire Switch systems, 8 pcs, Stainless Steel	R 714.40

Accessories, connectors and cables

Designation	Product code	Description	Price Per Unit Excl. VAT
M12-3A	2TLA020055R0000	M12 Y connector for series connection of dynamic safety devices such as Eden Sensors, Smile E-Stops, Inca E-Stops, Spot Single Beams, and Tina Dynamic Adapters. 5-pole M12 female connector (2) for connection of the safety device, 5-pole M12 male connector (1) for connecting 24 VDC, 0 VDC and the dynamic transmit signal to the field devices and 5-pole M12 female connector (3) for either the continuation of the circuit or the return of the dynamic receive signal to the Vital 1/Pluto controller.	R 361.66
M12-3D	2TLA020055R0300	M12 Y connector for easy installation of Light Grids and Light Curtains Transmitter and receiver. One M12 8-pole female connector for connection of the Focus Receiver (1), one M12 5-Pole female connector (3) for connection of the Focus Transmitter and one M12 8-pole male connector (1) for cabling to safety control unit.	R 361.66
M12-C61	2TLA020056R0000	6 m cable 5 × 0.34 mm2 + screen with straight M12 female connector.	R 350.02
M12-C101	2TLA020056R1000	10 m cable 5 × 0.34 mm2 + screen with straight M12 female connector.	R 405.84
M12-C112	2TLA020056R2000	1 m cable 5 × 0.34 mm2 + screen with straight M12 female + male connectors. Screen connected to pin3 (0 VDC) on male connector.	R 357.77
M12-C612	2TLA020056R2200	6 m cable 5 × 0.34 mm2 + screen with straight M12 female + male connectors. Screen connected to pin3 (0 VDC) on male connector.	R 509.34
M12-C1012	2TLA020056R2300	10 m cable 5 × 0.34 mm2 + screen with straight M12 female + male connectors. Screen connected to pin3 (0 VDC) on male connector.	R 628.36
M12-C63	2TLA020056R3000	6 m cable 8 × 0.34 mm2 + screen with straight M12 female connector.	R 525.25
M12-C103	2TLA020056R4000	10 m cable 8 × 0.34 mm2 + screen with straight M12 female connector.	R 676.03

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Apparatus
Instrument Transformers and Sensors, Outdoor and Indoor Apparatus

Instrument Transformers and Sensors

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Apparatus – Instrument Transformers & Sensors
Outdoor Current Transformers

TP..xx
Outdoor current transformers
The TPO 7x.xx transformers are cast in epoxy resin, capable of withstanding outdoor environmental conditions, and designed for insulation voltages to 40.5 kV.

Description
The TPO XX.XXX are Outdoor Current transformers, they are cast epoxy resin, capable of withstanding outdoor environmental conditions, and designed for insulation voltages up-to 40.5kV. Typically installed in outdoor substations. The TPO XX.XXX transformers are designed as single-or-multiple turn transformers, with one transformer ratio, and if necessary, with the possibility to be reconnectable on the primary or secondary side.

Price
Upon request

Other ranges available upon request such as KON or special CT application.



Parameters		
Rated primary currents [1]	[A]	10 ÷ 3000
Primary current reconnectable	[A]	20-40 ÷ 600-1200
Rated secondary currents [2]	[A]	5; 1
Rated frequency	[Hz]	50; 60
Highest voltage for equipment	[kV]	up to 40.5
Rated power-frequency withstand voltage (r.m.s.), 1 min.	[kV]	up to 90
Rated lightning impulse withstand voltage (peak)	[kV]	up to 200
Rated short – time thermal current, 1 sec.	[kA]	100
Max. rated burden/classes [3]	[VA/cl]	3 ÷ 60/ 0,2; 0,2S; 0,5; 0,5S; 1; 3; 5P; 10P
Temperature class		E
Ambient temperature	[°C]	-60...+55
Reconnectable		primary or secondary

[1] Different primary currents can be supplied to special order.
[2] It is possible to combine different values in one transformer.
[3] Other classes are available on request.

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Apparatus – Instrument Transformers & Sensors
Indoor Current Transformers

TPU xx.xxx transformers
The TPU 7x.xx transformers are cast in epoxy resin, capable of withstanding outdoor environmental conditions, and designed for insulation voltages to 40.5 kV.

Description
The TPU xx.xxx transformers are cast in epoxy resin and designed for insulation voltages up to 40.5 kV. The transformers are designed as single-or-multiple turn transformers, with one or double transformer ratio, or with the possibility to be switched over on the secondary or primary side. The number of secondary windings are from 1 to 8 (usually 2 secondary windings), depending on the combination of parameters (such as the accuracy class, shortcircuit current, overcurrent factor…). The secondary windings are used for measurement or protection purposes, or for special use (testing winding, „PX“ class windings ..). Typically installed in Secondary and Primary Switchgear.

Price
Upon request

Other ranges available upon request such as TPE range, TTR range, BB range, KOKS range.



Transformer parameters	Value
Highest voltage for equipment, U_m	36; 38.5; 40.5 kV
Power frequency test voltage, 1 min.	70; 80; 90 kV
Lighting impulse test voltage	170; 180; 200 kV
Rated current	10 - 2500 A
Rated short-time thermal current	up to 100 kA
Burdens, classes	5-30 VA / 0.2-1 / 5P; 10P (acc. to other param. - Ith)
Reconnectible (primary till 600-1200 A)	prim. or sec.

Apparatus – Instrument Transformers & Sensors
Outdoor Voltage Transformers



VOL-40.5 Outdoor voltage transformer

Description

The VOL-XX are outdoor double-pole insulated voltage transformers are made in epoxy resin insulation and are designed for networks with the highest voltage for equipment up to 40.5kV. The double-pole voltage transformers are generally connected between two phases in three-phase network, usually in the 'V' type of connection. The majority of the transformers are equipped with a single secondary winding for measurement purpose. One of the terminal of each secondary winding must be earthed during the transformer operation. Typically installed in outdoor susbtations.

Price

Upon request

Other ranges available upon request such as TJO, VOG, TDO.

Unit performance

Highest voltage for equipment (r.m.s.)	[kV]	up 40.5
Rated power-frequency withstand voltage (r.m.s.)	[kV]	up to 95
Rated lightning impulse withstand voltage (peak)	[kV]	up to 200
Rated frequency	[Hz]	50, 60
Rated primary voltages	[kV]	up to 38
Voltage factor	[-]	1,2xUn/continuous
Max. number of secondary winding	[-]	2 (max. 2 secondary windings with voltage range: 100V – 120V, other voltage on request)
Rated secondary voltages	[V]	up to 230
Max. rated output*/ accuracy class	[VA/-]	50/cl.0,2; 100/cl.0,5; 200/cl.1; 500/cl.3, cl.3P or 6P
Thermal limiting output	[VA]	800
Creepage distance	[mm]	1325
Approximate weight	[kg]	70
Ambient temperature	[°C]	-40 ÷ +40
Standards	[-]	IEC 61869-3; PN-EN 61869-3
Versions	[-]	1. Base plate 2RFA016266 - Fig.1 2. Rails 2RFA016267 - Fig.2

* sum of rated output per voltage transformers

Other value of parameters: rated output; accuracy class; rated frequency; voltage factor; rated secondary voltage; rated primary voltage; version with reconnectable voltage (on secondary side); version with fuse of secondary winding, can also be supplied on request.

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Apparatus – Instrument Transformers & Sensors
Indoor Voltage Transformers

TDC7 Indoor voltage transformer
Description

The TDC 7 double-pole insulated voltage transformers are casted in epoxy resin and designed mostly for insulation

voltage 36 kV. Insulation voltages different from the above are to be the subject of an agreement between the manufacturer and the customer. If no a different value is required the transformers are manufactured with a overvoltage factor of 1.2 x Un. Both outlets of the primary winding, including the respective terminal is insulated from the earth to a level which corresponds to the rated insulation value. Most of the transformers are equipped with one secondary winding. One terminal of each secondary winding has to be earthed during the transformer operation.

The transformer can be mounted in any position. The transformers are fixed by four screws. Typically installed in Secondary and Primary Switchgear.

Price

Upon request

Other ranges available upon request such as KGUG range, KGUGI range, TJC range, TJP range.



Highest voltage for equipment	[kV]	36
Power frequency test voltage, 1 min.	[kV]	70
Lightning impulse test voltage	[kV]	170
Max. rated burden, classes	[VA/cl]	50/0.2 - 150/0.5 - 250/1
Residual winding	[VA/cl]	50 - 200/6P

Apparatus – Instrument Transformers & Sensors
Indoor Combined Sensors

KEVCD A Indoor combined sensor
Description
Electronic Instrument Transformers (Sensors) offer an alternative way of making the current and voltage measurements needed for the protection and monitoring of medium voltage power systems. Sensors based on alternative principles have been introduced as successors to conventional instrument transformers in order to significantly reduce size, increase safety, and to provide greater rating standardization and a wider functionality range. These well known principles can only be fully utilized in combination with versatile electronic relays. Typically installed in Secondary and Primary Switchgear.

Price
Upon request

Other ranges available upon request such as KEVCY and Indoor voltage sensor KEVA and Indoor current sensor KECA



Parameters for Application	Unit	Value
Rated primary current of application	A	80 up to 1250
Rated primary voltage of application	kV	6/√3 up to 24/√3

Sensor Parameters	Unit	Value
Rated primary voltage, U_{pn}	kV	11/√3; 15/√3; 22/√3
Highest voltage for equipment, U_m	kV	12; 17.5; 24
Rated power frequency withstand voltage	kV	28 (42); 38; 50
Rated lighting impulse withstand voltage	kV	75; 95; 125
Rated primary current, I_{pr}	A	80
Rated continuous thermal current, I_{cth}	A	1250
Rated transformation ratio, K_{ra} for current measurement	-	80 A / 150 mV at 50 Hz 180 mV at 60 Hz
Rated transformation ratio, K_n for voltage measurement	-	10 000 : 1
Current accuracy class	-	0.5/5P630
Voltage accuracy class	-	0.5/3P
Length of cable	m	5.0; 6.5; 7.5

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Apparatus – Instrument Transformers & Sensors
Passive Voltage Indicators

Visivolt Passive Voltage Indicator



First Passive Indicator of Voltage Presence for Indoor and Outdoor Use. Nominal voltage: 3 kV to 36 kV. ABB's VisiVolt™ is a compact and easily installable indicator of voltage presence applicable on outdoor and indoor medium voltage systems. This technical innovation is based on the liquid-crystal technology and neither employs any electronic circuit nor needs any power supply, what makes it a robust and durable device. VisiVolt's large reflective display provides good visibility in all lighting conditions from dim indoor light to bright outdoor sunlight.

Medium Voltage Products

Key product features

- Applicable on any unscreened medium voltage system; for permanent installation
- For nominal system voltages from 3 kV to 36 kV
- Information on voltage presence status of the system available all the time
- Outdoor and indoor application
- Good visibility in all lighting conditions
- Economical solution
- Maintenance free; passive device no power supply needed
- Easy to install
- Can be installed on:
  - busbars
  - conductors
  - unshielded, naked or insulated,
  - of any typical diameter or cross section

Functions

Check of voltage status

Without using any additional equipment, the personnel can check the status of voltage presence.

Easier fault finding

By immediate visual information on voltage status at every point of the system, application of VisiVolt makes fault finding easier and quicker.

Additional warning function

Contributes to a higher level of safety of operating and servicing the system. Provides additional and independent indication of presence of dangerous voltage and, by active warning the personnel, can prevent accidents and the related costs and other consequences.

Operation

VisiVolt indicates the presence of voltage by displaying a large, well visible lightning arrow sign on its LCD. VisiVolt indication is based on its sensitivity to the electric field around the live conductor, on which it is installed.

In 3-phase systems VisiVolt indicates the presence of both phasephase and phase-ground voltages. In 1-phase systems VisiVolt indicates the presence of phase-ground voltage.

VisiVolt indicates presence of voltage when it is greater or equal to 45% of nominal voltage value in 3-phase systems or 78% of nominal voltage value in 1-phase systems (voltage thresholds required by standards IEC-61958 and IEC-61243).

Two types, VV-A and VV-B are available for two ranges of nominal voltages.

VisiVolt indicator is a completely passive device (powered by the electric field surrounding the energized conductor, on which it is installed) and is entirely maintenance free.

Description

First Passive Indicator of Voltage Presence for Indoor and Outdoor Use. Nominal voltage: 3 kV – 36 kV. ABB's VisiVolt™ is a compact and easily installable indicator of voltage presence applicable on outdoor and indoor medium voltage systems. This technical innovation is based on the liquid-crystal technology and neither employs any electronic circuit nor needs any power supply, what makes it a robust and durable device. VisiVolt's large reflective display provides good visibility in all lighting conditions from dim indoor light to bright outdoor sunlight. Typically installed on BusBars , Cables in outdoor and indoor substations.

Price

Upon request

Apparatus – Instrument Transformers & Sensors

Passive Voltage Indicators

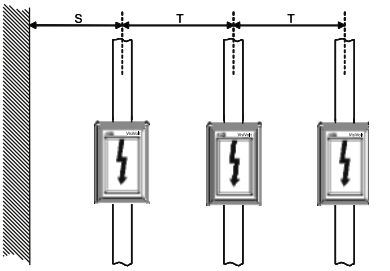
Specification & dimensions

VisiVolt type			VV-A	VV-B
3-phase system	Nominal voltage (Un)	[kV]	3.0 ÷ 6.0[1)] 6.0 ÷ 15.0	13.8 ÷ 36.0
	Rated voltage, max.	[kV]	3.6 ÷ 17.5[2)]	17.5 ÷ 40.5[2)]
	Threshold voltage (p-g and p-p)[3) 4)]		> 0.6 kV < 45% Un	> 1.5 kV < 45% Un
1-phase line	Nominal voltage (Un p-g)[3)]	[kV]	4.8 ÷ 8.0	8.0 ÷ 20.0
	Threshold voltage (p-g)[3)]		> 1.0 kV < 78% Un	> 1.5 kV < 78% Un
Application range			Non insulated (bare) metal bars and conductors; insulated circular-section conductors with maximal insulation thickness 3 mm.	
Nominal frequency		[Hz]	50 – 60	
Response time		[s]	< 1 at temperature –20°C and above < 3 at temperature –30°C < 10 at temperature –40°C	
Short-time (symmetrical) withstand current (1s)[5)]		[kA]	63	
Peak withstand current[5)]		[kA]	164	
Operation temperature range		[°C]	–40 ÷ +85	
Physical dimensions		[mm]	H: 92 × W: 63 × D: 38	
Net weight		[g]	109	

[1)] On not insulated (bare) circular-section conductors and on bars of width up to 30mm
[2)] Depending on pole distance (see recommended minimum clearances)
[3)] p-g voltage = phase-ground voltage; p-p voltage = phase-phase voltage
[4)] For pole distance ranges within limits given in installation and operation instructions
[5)] Rated withstand currents given are valid to VisiVolt indicators only and do not supersede the specifications of the system the indicators are installed on.

Allowable pole distances

Nominal voltage Un (p-p)	Maximum allowed pole distance T max
[kV]	[mm]
3.0 ÷ 3.3	110
4.16 ÷ 4.8	135
6.0 ÷ 6.9	400
≥ 8.3	without limit









Allowable clearances

Rating		Power frequency withstand voltage 50 Hz 1 min*		Impulse withstand voltage 1,2/50 µs*		Recommended minimum clearances*	
IEC	ANSI	IEC	ANSI	IEC	ANSI	T min	S min
		[kV] r.m.s. value		[kV] peak value		[mm]	
3.6		10		40		100	
7.2	4.8	20	19	60		120	
12.0	8.3	28		75		140	
17.5		38		95		160	
24.0	15.5	50		95	110	210	
24.0	27.0	50	60	125		230	
			70		150	320	
36.0		70		145		290	
				170		330	
40.5	38.0	80		165	150	320	
		80	95	190		360	400

*Minimum clearances and withstand voltages given are valid to VisiVolt indicators only and do not supersede the requirements and specifications for the system the indicators are installed on. Withstand voltages given correspond to the minimum recommended clearances; larger clearances will typically result in larger withstand voltages.

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Apparatus – Outdoor Apparatus
Outdoor Live Tank Circuit Breakers

SF6 Circuit Breaker OHB up to 40.5kV
Description
OHB circuit-breakers are gas insulated circuit-breakers for outdoor installation. They are used in power distribution for controlling and protecting lines, substations, transformers, rectifier units, capacitor banks, etc. Thanks to the autopuffer breaking technique, they do not generate operating overvoltages. This means they are also highly suitable for retrofitting, where the plant insulating materials may be sensitive to dielectric stresses.

Price
Price upon request



Circuit-breaker on Column		
Standard		IEC 62271-100
Rated voltage	Ur [kV]	40.5
Rated insulation voltage	Us [kV]	40.5
Withstand voltage at 50 / 60 Hz	Ud (1 min) [kV]	95
Impulse withstand voltage	Up [kV]	200
Rated frequency	fr [Hz]	50-60
Rated normal current (400C)	Ir [A]	2500
Rated breaking capacity	Isc [kA]	31.5
Rated short-time withstand current (3 s)	Ik [kA]	31.5
Making capacity	Ip [kA]	80

Vacuum Circuit Breaker OVB-VBF up to 40.5kV
Description
Vacuum Circuit Breakers OVB-VBF are used in distribution systems rate data at 24 / 36 / 40.5 kV and are of live tank design. The vacuum interrupters are housed in hollow porcelain insulators filled with SF6/Nitrogen gas at 0.5 bar above atmospheric pressure to safeguard against condensation. A spring operated mechanism is housed in a weather-proof cabinet and a sturdy extruded steel angle structure is used for mounting the breaker.

Price
Price upon request



Circuit-breaker on Column		
Standard		IEC 62271-100
Rated voltage	(kV)	40.5
Rated insulation voltage	(kV)	40.5
Power frequency withstand	(kV /min)	31
Impulse withstand voltage	(kV peak)	200
Rated frequency	(Hz)	50-60
Rated normal current	(Amps)	2500
Rated symmetrical breaking capacity	(kA r.m.s)	31.5
Rated short time withstand current (3s)	(kA r.m.s)	31.5
Asymmetrical breaking capacity	(% of d.c Component at t=45ms)	35
Rated making capacity.	(kA peak)	80
Operating sequence		0-0.3sec- CO - 3 Min - CO & CO-15sec- CO

Apparatus – Outdoor Apparatus

FSK II Vacuum Breaker for Railways Application

FSK II Vacuum Breaker for railways application

ABB's FSK II + vacuum breaker uses a well-proven combination of magnetic actuator and electronic controller that eliminates several moving parts, making it robust, reliable and essentially maintenance-free.

Description

FSK II + vacuum breaker is a Single- or two-phase outdoor vacuum breaker with magnetic actuator for railway power supply. ABB's FSK II + vacuum breaker uses a well-proven combination of magnetic actuator and electronic controller that eliminates several moving parts, making it robust, reliable and essentially maintenance-free.

Price

Upon request



Technical data	
Rated voltage	27.5 kV
Rated continuous current	1250/1600 A - 2000/2500 A
Rated frequency	50 (60) Hz
Number of phases	1 or 2
Rated short-circuit breaking current	8....25 kA
Rated short-circuit making current	50....63 kA
Rated short time withstand current	25 kA, 3 s
Rated power frequency withstand voltage	105 kV
Rated impulse withstand voltage	250 kV
Opening/Closing time	≤ 45 /≤ 65 ms
Electrical endurance, at rated current (operations)	20,000
Mechanical endurance to first maintenance (operations)	Class M2, 10,000
Standard applied	EN 50152-1 / IEC 62271-100

Key features

- Simple and flexible design with selection of HV terminal configurations
- Highly compact
- Well-proven solution using a magnetic actuator and electronic controller
- Poles fitted with polymeric insulators (or porcelain on request)
- Fast and easy to replace any main component; poles and control units are replaceable
- No SF6 gas
- Available in single- or two-phase configurations
- Suitable for new installations, refurbishments and upgrades
- Suitable for 1x25 kV and 2x25 kV lines, classic structure mounted outdoor switchgear (SMOS), and integrated modules

ABB as your competitive edge

- More than 100 years of expertise in rail best practices
- Dedicated team of rail professionals
- Global supplier with global footprint
- Proven track record with many customer references worldwide
- All equipment manufactured internally by ABB with full monitoring and control of the entire design, production and delivery process
- Unrivalled level of engineering support and after-sales service

Customer benefits and savings

- Easy to adapt and integrate into new or existing installations
- Reduction of design/redesign time
- Same design covers single- and two-phase applications
- Compact footprint (less visual impact on the landscape, land saving, cost saving per m2, reduced civil works)
- Easy to install and commission
- No need for mechanical adjustment
- Low overall power demand
- Minimal maintenance costs
- Fewer moving parts
- Easy site delivery (pole and controller are totally independent and do not need to be paired on site)
- Better performance in polluted environments with polymeric insulators (no frequent cleaning cost, no vandalism damage, minimal inventory costs)
- No SF6 emission, lower environmental impact
- No need for SF6 inventory or control
- No leak or failure concern

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Apparatus – Outdoor Apparatus
Electronic Sectionalizer – Autolink Family



Electronic Sectionalizer – Autolink family
Description

Sectionalizers are an economical solution to sectionalizing large outdoor networks, and often used in locations where coordination with other devices is difficult. Sectionalizers are suitable for use on outdoor medium voltage overhead distribution networks, in conjunction with automatic circuit recloser protection.

The ABB AutoLink sectionalizer is an isolating device that automatically isolates the faulted section of the network when a permanent fault occurs. If a temporary fault occurs, the AutoLink allows the upstream recloser or breaker to clear the fault without interrupting the circuit. The AutoLink is designed for use on overhead distribution lines to improve reliability and service continuity. Due to new technology introduced in this sectionalizer, the actuating current and number of counts are customer configurable, which enhances the protection of the distribution system in a simple and economical way.

Price

Upon request

Technical specifications	Dim			
Model				
Nominal current	A	<200 A		
Rated maximum voltage	kV	38 kV		
Rated Frequency	Hz	50-60		
Actuating current range	A	Resettable between 5 and 200 A in steps of 1A.		
Number of opening counts	-	Resettable between 1 and 4 counts		
Inrush current detection method	-	Harmonic analysis		
Types of inrush currents detected	-	Symmetric and asymmetric		
Inrush detection time	-	<1 cycles		
Dead line detection	mA	Configurable between 200 to 700		
Dead line verification time	msec	Max. 80		
Total opening time single phase	sec	<0,1		
Maximum operation time for bi-phase or three-phase operation	sec	<0,5		
Memory resetting time	sec	Programmable between 10 and 300 seconds.		
Minimum pre-current in the line required to operate	A	Minimum requirement: 3 A		
Insulation level	kV	110	125/150 (*)	150/170 (*)
Short-time current (1 sec)	kA sym	4		
Current (peak value)	kA	10		
Maximum distance between each unit of the three-phase set of AutoLink	m	10		
Operating temperature range (guarantee up to 200A)	°C	-40 to +55		
LED Feature		LED Blinking to check Electronics Status		
Firmware Upgradable		Using MS Windows Desktop App		
Maximun Altitude		3000 m		
Potection Class (IP)		IP68		
Certified Radio Module		FCC, IC and ETSI		
Enviromental Information		RoHS Complaint, WEEE Complaint		
Loadbreak capability		Yes	Yes	No

Apparatus – Outdoor Apparatus
Three-Phase Vacuum Reclosers



OVR-15 15.5kV three-phase vacuum recloser

Description

Reclosers are predominantly located on the distribution feeder, though as the continuous and interrupting current ratings increase, they are seen in substations, where traditionally a circuit breaker would be located. Reclosers have two basic functions on the distribution system: reliability and overcurrent protection. Reclosers are frequently applied to increase reliability, mainly due to three of their benefits: reclosing capability, single phase reclosing, and automated loop capabilities.

Price

Upon request

Technical data

Parameter	Units	OVR-15
Interrupting medium		Vacuum
Insulating medium		HCEP
Actuator type		Magnetic
Cabinets material		Stainless steel
Current sensing technology per phase		Current transformer
Voltage sensing technology per phase		Resistive voltage divider
Load and source voltage sensing availability		Yes
Ambient air temperature range	°C	-40°C... +55°C
Rated max. voltage	kV	15.5
Rated lightning impulse withstand voltage (BIL)	kV	110
Rated continuous (normal) current	A	630
Rated short-time withstand current	kA	12.5
Rated duration of short circuit	s	3
Rated symmetrical interrupting current	kA	12.5
Rated symmetrical making current	kAp	33
Rated frequency	Hz	50/60
Rated operating sequence		O-0.2s-CO-2s-CO-2s-CO
Min. guaranteed CO operations at rated continuous current	Ops	10000
Number of max. tripping operations	n	4
Standards		IEC 62271-111-2012 IEEE C37.60-2012 (dual logo standard)
Auxiliary voltage supply	V	110/240 VAC
Pollution level as defined in IEC 60815		Very heavy
Controller (IED)		RER615

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Apparatus – Outdoor Apparatus
Three-Phase Vacuum Reclosers

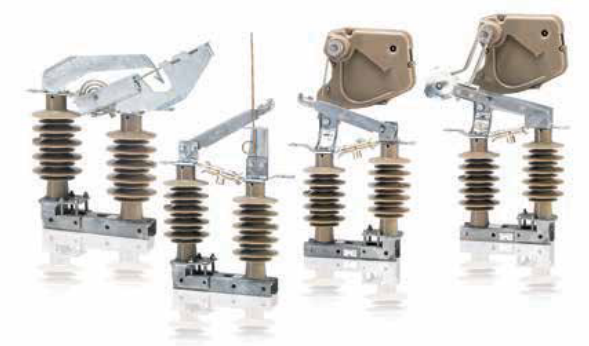


OVR-27 27kV three-phase vacuum recloser
Price
Upon request

Parameter	Units	OVR-27
Interrupting medium		Vacuum
Insulating medium		HCEP
Actuator type		Magnetic
Cabinet material		Stainless steel
Current sensing technology per phase		Current transformer
Voltage sensing technology per phase		Voltage divider
Ambient air temperature range	°C	-40..+55
Rated max. voltage	kV	27
Rated lightning impulse withstand voltage (BIL)	kV	125
Rated continuous (normal) current	A	1000
Rated short time withstand current	kA	12.5
Rated duration of short circuit	s	33
Rated symmetrical interrupting current	kA	12.5
Rated symmetrical making current	kA	33
Rated frequency	Hz	50/60
Rated operating sequence		O-0.2s-CO-2s-CO-2s-CO
Min. guaranteed operations at rated continuous current	Ops	10000
Number of max. tripping operations	n	4
Standards		IEC62271-111 - 2012 IEEE C37-60 edition 2.0 2012-09
Auxiliary voltage supply	V	110-240 VAC
Pollution level as defined in IEC 60815		Very heavy
Controller (IED)		RER615

Apparatus – Outdoor Apparatus

Outdoor Three-Phase Earth Switch NPS



Outdoor three-phase earth switch NPS

Description

NPS is an outdoor overhead line isolating device. The NPS can be either manually or remotely controlled, with the option of incorporation into automated networks as a sectionalizer. Thanks to its modular construction and important design features, the NPS is a key component in creating future smart grids.

Price

Upon request

24kV with epoxy insulators

Phase element's type:	**NPS24B1-WWJ2**	**NPS24B1-J2**	**NPS24B1-K1J2**	**NPS24B1-K4J2**	**NPS24B1-K5J2**
Insulators	Hydrofobic cycloelifatic epoxy resin 755 mm creepage distance				
Rated voltage	24 kV				
Rated power frequency withstand voltage:					
– to earth and between phases	55 kV		50 kV		
– across isolating distance	75 kV		60 kV		
Rated lightning impulse withstand voltage:					
– to earth and between phases	125 kV				
– across isolating distance	145 kV				
Rated normal current	630 A				
Rated mainly active load breaking current/ no. of cycles	-	25 A/100CO	50 A/30CO	250 A/100CO	400 A/100CO 630 A/10CO
Cable-charging rated breaking current /no. of cycles	-	15 A/10CO	20 A/10CO	10 A/20CO	10 A/20CO
Line rated breaking current /no. of cycles	-	15 A/10CO	20 A/10CO	10 A/20CO	10 A/20CO
Rated short circuit withstand current (1s)/peak	16 kA/40 kA				
Mechanical endurance	2000 C/O	2000 C/O (300C/O for whip)	2000 C/O		
Parameters are related only to phase elements					

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Apparatus – Outdoor Apparatus
Outdoor Three-Phase SF6 Switch Sectos



Sectos NXA
Description
The NXA or B is a SF6-insulated pole mounted switch disconnector suitable for both conventional overhead lines and BLX type lines with insulated conductors and specifically designed for use in modern tele-controlled distribution automation systems. The NXA or B offers reliable maintenance free operation even in the most demanding climatic conditions including salt laden atmospheres, corrosive industrial pollution, snow and ice.

Price
Upon request

Sectos NXA switch disconnector complies with the IEC 60265-1 (1998) requirements for General purpose switches in electrical endurance class E2 and mechanical endurance class M2.The breaking tests under earth fault conditions enable use also in isolated or resonant earthed neutral systems.

Ratings		NXA 36
Insulation level		
Rated voltage	kV	36
Power-frequency withstand voltage, 60 sec wet		
– to earth and between phases kV	kV	70
– across isolating distance	kV	80
Lightning impulse withstand voltage		
– to earth and between phases	kV	170
– across isolating distance	kV	195
Current ratings		
Electrical endurance class		E2/E3
Rated normal current	A	630
Mainly active load breaking current	A	630/400
Number of breaking operations CO		50/400
Closed loop breaking current	A	630
Line- and cable-charging breaking current	A	40
Earth fault breaking current	A	175
Cable-charging breaking current		
under earth fault conditions	A	80
No-load transformer breaking current	A	20
Short-circuit ratings		
Electrical endurance class		E2/E3
Short-time withstand current I_k (3 s)	kA	12.5
Peak withstand current, I_{dyn}, peak	kA	31.5
Short-circuit making current	kA	31.5/25
Number of making operations		3/5
Degree of protection (Top motor box)		IPX7
Creepage distance of insulators	mm	960
Mechanical endurance (number of close - open operations)		5000
Ambient air temperature limits		-40℃...+60℃
Filling pressure (+20℃)	bar(abs)	1.5
Weight	kg	99

Apparatus – Outdoor Apparatus

Outdoor Three-Phase SF6 Switch Sectos



Sectos NXB

Price
Upon request

Sectos NXB switch disconnector complies with the IEC 60265-1 (1998) requirements for General purpose switches in electrical endurance class E3 (Ik = 12,5 kA) and E2 (Ik = 20 kA) and mechanical endurance class M2 and requirements of EATS 41-27. The breaking tests under earth fault conditions enable use also in isolated or resonant earthed neutral systems.

Ratings		NXB 12	NXB 17.5	NXB 24
Insulation level				
Rated voltage	kV	12	17.5	24
Power-frequency withstand voltage				
– to earth and between phases	kV	75	95	125
– across isolating distance	kV	85	110	145
Power-frequency withstand voltage				
– to earth and between phases	kV	28	38	50
– across isolating distance	kV	32	45	60
Current ratings				
Rated normal current	A	630	630	630
Mainly active load breaking current (100 CO operations)	A	630	630	630
Line- and cable-charging breaking current	A	16	16	16
Earth fault breaking current	A	50	50	50
Cable-and line-charging breaking current				
under earth fault conditions	A	28	28	28
No-load transformer breaking current	A	6.3	6.3	6.3
Short-circuit ratings				
Short-time withstand current I_k (3 s)	kA	20	20	20
Peak withstand current, I_{dyn}, peak	kA	50	50	50
Short-circuit making current	kA	50	50	50
Number of short-circuit making operations				
- main switch 50kA (CL E2)	n	3	3	3
- main switch 31.5kA (CL E3)	n	10	10	10
- earthing swith 50kA (CL E2)	n	3	3	3
- earthing swith 31.5kA (CL E3)	n	5	5	5

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Apparatus – Indoor Apparatus
Indoor Vacuum Circuit Breaker VD4



VD4 Circuit Breaker up to 36kV, 4000A, 50kA

Description

The VD4 circuit-breakers are used in power distribution for control and protection of cables, overhead lines, transformer and distribution substations, motors, transformers, generators and capacitor banks.

The VD4 circuit-breakers are available in the fixed and withdrawable version with front operating mechanism.

The withdrawable version is available for UniGear ZS1, ZS2, ZS8.4 and UniSec switchgear and for PowerCube and Powerbloc enclosures.

The VD4 circuit-breakers comply with the IEC 62271-100 Standards and with those of the major industrialised countries.

Rated Voltage	Pole Distance	Rated Current	Breaking Capacity	Description	Order Code	Unit Sales Price (ZAR)	Esitimated Delivery
Fixed VD4 Circuit Breaker							
12 kV	150 MM	630 A	25 KA	VD4 12.06.25 P150	1VCF337111R1141	92,600	12-14 weeks
17.5 kV	210 MM	2000 A	25 KA	VD4 17.20.25 P210	1VCF337113R0542	193,300	12-14 weeks

Standard Accessories for Fixed VD4 Circuit Breaker		
shunt opening release	2,900	12-14 weeks
shunt closing release	2,900	12-14 weeks
undervoltage release	6,200	12-14 weeks
15 auxiliary contacts fig.34 vd4/p/w/us	7,200	12-14 weeks
motor operator	8,500	12-14 weeks
electrical signalling for charged/discharged springs	700	12-14 weeks
locking electromagnet on operating mechanism supply voltage	2,100	12-14 weeks
opening/closing buttons protection	500	12-14 weeks

Draw-Out VD4/P Circuit Breaker							
12 KV	150 MM	630 A	25 KA	VD4/P 12.06.25 P150	1VCF337121R1141	79,900	12-14 weeks
17.5 KV	210 MM	2000 A	25 KA	VD4/P 17.20.25 P210	1VCF337123R0542	168,500	12-14 weeks

Standard Accessories for Draw-Out VD4/P Circuit Breaker		
shunt opening release	2,900	12-14 weeks
shunt closing release	2,900	12-14 weeks
undervoltage release	6,200	12-14 weeks
15 auxiliary contacts fig.34 vd4/p/w/us	7,200	12-14 weeks
transmitted contacts on truck	5,800	12-14 weeks
Position contact for truck	1,300	12-14 weeks
motor operator	8,500	12-14 weeks
electrical signalling for charged/discharged springs	700	12-14 weeks
opening/closing buttons protection	500	12-14 weeks
locking electromagnet on operating mechanism	2,100	12-14 weeks
Racking-in interlock with the door	600	12-14 weeks
kit extension L=3M 58 pins plug and socket	4,200	12-14 weeks

Apparatus – Indoor Apparatus

Gas Insulated Circuit Breaker HD4



HD4 Circuit Breaker up to 40.5kV, 3600A, 50kA

Description

HD4 circuit-breakers are used in power distribution to control and protect lines, transformer and distribution substations, motors, transformers, capacitor banks, etc.

HD4 circuit-breakers are available in the fixed and withdrawable version with front operating mechanism.

The withdrawable version is available for PowerCube modules and UniGear type ZS1, ZS2, ZS3.2 switchgears.

The breaking technique of HD4 circuit-breakers is based on compression and self-blast techniques to obtain top performances at all service current values, with minimum arc times, gradual arc extinction without chopping, and no restriking or operating overvoltages.

The HD4 series brings to medium voltage the advantages of the “autopuffer” breaking technique already used in high voltage.

Rated Voltage	Pole Distance	Rated Current	Breaking Capacity	Description	Order Code	Unit Sales Price (ZAR)	Estimated Delivery
Fixed HD4 Circuit Breaker							
12 kV	150 MM	630A	25 KA	HD4 12.06.25 P150	1VCF347111R0141	106,900	12-14 weeks
24 kV	275 MM	2000 A	25 KA	HD4 24.20.25 P275	1VCF347114R0544	248,100	12-14 weeks

Standard Accessories for Fixed HD4 Circuit Breaker		
shunt opening release	2,900	12-14 weeks
shunt closing release	2,900	12-14 weeks
undervoltage release on the incoming side	6,200	12-14 weeks
15 auxiliary contacts fig.9	7,200	12-14 weeks
motor operator	11,300	12-14 weeks
Locking electromagnet on operating mechanism	2,100	12-14 weeks
electrical signalling for charged springs	400	12-14 weeks
opening button lock device without padlock	500	12-14 weeks
closing button lock device without padlock	500	12-14 weeks

Draw-Out HD4/P Circuit Breaker							
12 KV	150 MM	630A	25 KA	HD4/P 12.06.25 P150	1VCF347171R0141	99,900	12- 14 weeks
17,5 KV	210 MM	2000 A	25 KA	HD4/P 17.20.25 P210	1VCF347183R0542	210,800	12- 14 weeks

Standard Accessories for Draw-Out HD4/P Circuit Breaker		
shunt opening release	2,900	12- 14 weeks
shunt closing release	2,900	12- 14 weeks
undervoltage release on the incoming side	6,200	12- 14 weeks
15 auxiliary contacts fig.9	7,200	12- 14 weeks
Position contact for truck	1,300	12- 14 weeks
transmitted contacts on truck for HD4/P HD4/W	5,800	12- 14 weeks
motor operator	11,300	12- 14 weeks
electrical signalling for charged springs	400	12-14 weeks
electrical signalling for discharged springs	400	12- 14 weeks
opening button lock device without padlock	500	12- 14 weeks
closing button lock device without padlock	500	12- 14 weeks
locking electromagnet on truck HD4/P HD4/W	2,100	12- 14 weeks
racking-in interlock with the door	2,100	12- 14 weeks

(*) please ask ABB for availability

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Apparatus – Indoor Apparatus

Vacuum Circuit Breaker with Mangnetic Actuator VM1



Description

The VM1 circuit-breaker is the first vacuum circuit-breaker applying a combination of maintenance-free, moulded in vacuum interrupters, maintenance- free magnetic actuator and maintenance-free electronic controller without auxiliary switches and with sensors.

The actuator is a bi-stable magnet system, in which switchover of the armature to the relevant limit position is effected by the magnetic field of two electrically excited coils. The armature is held magnetically in the limit positions by the fields of two permanent magnets. Switching operations are released by excitation of one of the two coils until the retaining force of the permanent magnets is exceeded. Even on complete failure of auxiliary power, electrical operation is still possible for a period of 60 s. The circuit-breaker can then be opened by the standard emergency manual operating system.

Rated Voltage	Pole Distance	Rated Current	Breaking Capacity	Description	Order Code	Unit Sales Price (ZAR)	Expected Delivery
Fixed VM1 Circuit Breaker							
12 KV	150 MM	630 A	25 KA	VM1 12.06.25 P150	1VCF336111R1141	120,500	12 - 14 weeks
17.5 kV	210 MM	2000 A	25 KA	VM1 17.20.25 P210	1VCF336113R0542	230,600	12 - 14 weeks
Standard Accessories for Fixed VM1 Circuit Breaker							
electronic device ed2.0 100/250v full options						19,200	12 - 14 weeks
10no+10nc auxiliary contacts for fixed circuit breaker						7,200	12 - 14 weeks
Draw-Out VM1//P Circuit Breaker							
12 KV	150 MM	630 A	25 KA	VM1/P 12.06.25 P150	1VCF336121R0141	95,800	12 - 14 weeks
17.5 KV	210 MM	2000 A	25 KA	VM1/P 17.20.25 P210	1VCF336123R0542	202,100	12 - 14 weeks
Standard Accessories for Draw-Out VM1/P Circuit Breaker							
electronic device ed2.0 100/250v full options						19,200	12 - 14 weeks
5no+5nc auxiliary contacts for fixed with plug or draw-out						4,800	12 - 14 weeks
transmitted contacts on truck						5,800	12 - 14 weeks
locking electromagnet on truck						2,100	12 - 14 weeks
racking-in interlock with the door						600	12 - 14 weeks

Apparatus – Indoor Apparatus
Medium Voltage Vacuum Contactor VSC



V-Contact VSC
Description

The medium voltage V-Contact VSC contactors are apparatus suitable for operating in alternating current and are normally used to control users requiring a high number of hourly operations. The V-Contact VSC contactor introduces the drive with permanent magnets, already widely used, experimented and appreciated in medium voltage circuit-breakers, into the worldwide panorama of medium voltage contactors.

The drive with permanent magnets is activated by means of an electronic multi-voltage feeder. The feeders differ according to the integrated functions and to the auxiliary power supply voltage. Each feeder is able to take any voltage value within its own operating band.

Rated Voltage	Rated Current	Latching Type	Feeder Type	Description	Order Code	Unit Sales Price (ZAR)	Expected Delivery
Fixed VSC Contactor							
7.2kV	400 A	SCO	110...130 V	VSC 7,2KV 400A 110/130V SCO	1VCF305111R1310	46,600	12 - 14 weeks
7.2kV	400 A	DCO	110...130 V	VSC 7,2KV 400A 110/130V DCO	1VCF305111R1320	51,800	12-14 weeks
12kV	400 A	SCO	110...130 V	VSC 12KV 400A 110/130V SCO	1VCF305112R1310	52,400	12 - 14 weeks
12kV	400 A	DCO	110...130 V	VSC 12KV 400A 110/130V DCO	1VCF305112R1320	57,500	12-14 weeks
Standard Accessories for Fixed VSC Circuit Breaker							
operations mechanical counter for vsc						1,300	12 - 14 weeks
undervoltage vsc						2,300	12 - 14 weeks
Draw-Out VSC/P Contactor							
7.2kV	400 A	SCO	110...130 V	VSC/P 7,2KV 400A 110/130V SCO	1VCF305121R1310	70,900	12 - 14 weeks
7.2kV	400 A	DCO	110...130 V	VSC/P 7,2KV 400A 110/130V DCO	1VCF305121R1320	76,000	12 - 14 weeks
12kV	400 A	SCO	110...130 V	VSC/P 12KV 400A 110/130V SCO	1VCF305122R1310	82,000	12 - 14 weeks
12kV	400 A	DCO	110...130 V	VSC/P 12KV 400A 110/130V DCO	1VCF305122R1320	87,200	12 - 14 weeks
Standard Accessories for Draw-Out VSC/P Circuit Breaker							
operations mechanical counter for vsc/p						2,600	12 - 14 weeks
transmitted contacts on truck						5,800	12 - 14 weeks
undervoltage vsc						2,300	12 - 14 weeks
locking electromagnet on truck						2,100	12 - 14 weeks
Fixed Fused Contactor							
7.2kV	400 A	SCO	110...130 V	VSC/F 7,2KV 400A 110/130V SCO	1VCF305171R1310	56,300	12 - 14 weeks
7.2kV	400 A	DCO	110...130 V	VSC/F 7,2KV 400A 110/130V DCO	1VCF305171R1320	61,400	12 - 14 weeks
12kV	400 A	SCO	110...130 V	VSC/F 12KV 400A 110/130V SCO	1VCF305172R1310	67,500	12 - 14 weeks
12kV	400 A	DCO	110...130 V	VSC/F 12KV 400A 110/130V DCO	1VCF305172R1320	73,700	12 - 14 weeks
Standard Accessories for VSC Fused							
operations mechanical counter for vsc						1,300	12 - 14 weeks
Adapter for fuse application						3,500	12 - 14 weeks
undervoltage vsc						2,300	12 - 14 weeks

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Apparatus – Indoor Apparatus
Cassettes and Frames



PowerCube type PB
Description

PowerCube modules can be used to make metal-clad medium voltage air-insulated switchgear with the same rated current values as the enclosure. The rated currents of the enclosures refer to versions tested in ABB UniSafe switchgear.

PowerCube units type PB are available in two different versions: PB/M and PB/E. PB/M: complete module that also includes the cable access cubicle, which can also be pre-engineered to house the withdrawable TV compartment.

PB/E: enclosure without cable access compartment thus unable to house the withdrawable VT which, being smaller in size, is more flexible and suitable for creating double-deck switchgear.

PowerCube modules are preassembled and tested in the factory. They can be used to make switchgear conforming to Standards IEC 62271-200, CEI 17-1, IEC 62271-1, CEI 17-6

They are available with the following specifications:

Rated voltage (kV) ... 17.5 24

Rated current (A) ... 4000 ... 2500

Rated short-time withstand current of main circuit (kA)

... 40 x 3s ... 31.5 x 3s

... 50 x 1s

The following apparatus can be installed in PowerCube modules:

- series VD4, VM1 and Vmax vacuum circuit-breakers
- series HD4 gas circuit-breakers
- series V-Contact VSC vacuum contactors
- service trolleys.

All the switching operations are carried out from the front of the module/enclosure.

Rated Voltage	Module Width	Rated Current	Earthing Switch Short Time Current	Description	Order Code	Unit Sales Price (ZAR)	Estimated Delivery
PB1/E Enclosures							
12 kV	600 MM	630 A	25KA 3S	PB1/E L600 12KV 630A 25KA 3S	1VCF597111R0230	66,500	12 - 14 weeks
17,5 KV	600 MM	630 A	25KA 3S	PB1/E L600 17KV 630A 25KA 3S	1VCF597113R0230	66,500	12 - 14 weeks
PB2/E Enclosures							
12 KV	750 MM	630 A	25KA 3S	PB2/E L750 12KV 630A 25KA 3S	1VCF597121R0230	82,500	12 - 14 weeks
17.5 KV	750 MM	2000 A	25KA 3S	PB2/E L750 17KV 2000A 25KA 3S	1VCF597123R0530	89,100	12 - 14 weeks
PB3/E Enclosures							
12 KV	1000 MM	2500 A	25KA 3S	PB3/E L1000 12KV 2500A 25KA 3S	1VCF597131R0630	136,800	12 - 14 weeks
17.5 KV	1000 MM	2500 A	25KA 3S	PB3/E L1000 17KV 2500A 25KA 3S	1VCF597133R0630	136,800	12 -14 weeks
Standdard PBE Accessories without Earthing Swich							
fail-safe f.shutter elements						2,300	12 - 14 weeks
heater						3,100	12 -14 weeks
5NO+5NC isolated and 5NO+5NC connected auxiliary contacts pb1-pb2-pb3						4,300	12 -14 weeks
padlock device for n. 2 shutter elementes						1,700	12 -14 weeks
58 pole conn.+ self-extinguishing wiring l=3m						2,600	12- 14 weeks
Standard PBE Accessories with Earthing Switch							
fail-safe f.shutter elements						2,300	12 - 14 weeks
heater						3,100	12 -14 weeks
5NO+5NC isolated and 5NO+5NC connected auxiliary contacts pb1-pb2-pb3						4,300	12 -14 weeks
padlock device for n. 2 shutter elementes						1,700	12 -14 weeks
58 pole conn.+ self-extinguishing wiring l=0.8M						2,600	12- 14 weeks
n.5 auxiliary contacts for earthing switch pb1-pb2-pb3						4,300	12 - 14 weeks
contact for earthing truck in racking-in position pb1-pb2-pb3						2,200	12 -14 weeks
interlock for door earthing switch						1,100	12 -14 weeks
st-e 17.50 210 PB earthing switch						11,500	12 -14 weeks

Apparatus – Indoor Apparatus
Indoor Air Switch NAL



NAL/NALF for 12&24kV
Description

The NAL/NALF with a unique design that extinguishes electric arcs and enables high switching capacity, they represent an attractive solution as a key breaking element for applications in enclosed switchgear and transformer compact substations.

In combination with type CEF current limiting fuses, NALF switch-fuse combination ensures control over the full range of overload and short-circuit currents.

Rated Voltage	Rated Current	Description	Order Code	Unit SalesPrice (ZAR)	Expected Delivery
NAL 12 KV					
12 kV	630	NAL12-6A150R	1YMX054041M0001	30,300	8 -10 weeks
NALF with fuse tripping - Pivot side					
12kV	630	NALF12-6A150R	1YMX054091M0001	40,200	8 -10 weeks
NALF with fuse tripping - opening side fuse base					
12kV	630	NALF12-6A150R	1YMX354091M0001	41,000	8 -10 weeks
Earth Switch for Switch Disconnector					
12kV	630	E12-150	1YMX054235M0001	10,300	8 -10 weeks
Earth Switch for fuse base					
12kV	630	E12-150	1YMX054225M0001	8,400	8 -10 weeks

NAL Accessories					
Front Bearing with card. Joint			1YMX053233M0001	1,700	8 -10 weeks
Bevel Gear			1YMX053362M0002	1,800	8 -10 weeks
Operating Handle			1YMX053235M0001	900	8 -10 weeks
Mechanical interlock for earthing switch mounting - on NAL 12			1YMX054275M0001	1,500	8 -10 weeks
Mechanical interlock for earthing switch mounting - on NALF 12. Fuse e=292 mm			1YMX054277M0001	2,100	8 -10 weeks
Aux. Switches - for NAL(F) 12-24 - 4NO+4NC			1YMX054714M0002	3,300	8 -10 weeks
Aux. Switches - for E/EB 12-24 - 4NO+4NC			1YMX054717M0001	3,900	8 -10 weeks
Shunt trip for A-mech.without auxiliary switch				2,100	8 - 10 weeks

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Distribution Automation Products

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The Relion® Family of Protection and Control Products

605 series



REF601
REJ603
REM601

610 series



REF610
REM610
REU610

611 Series



REB611
REF611
REM611

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The Relion® Family of Protection and Control Products

615 series



RED615
REF615
REM615
RET615
REU615

REV615
REC615
RER615
REG615

620 series



REF620
REM620
RET620

630 series



REG630
REF630
REM630
RET630
PML630

Distribution

Distribution Automation Products
Feeder Protection



REF615 IEC

- Feeder Protection and Control Relay
- Directional and non-directional overcurrent and earth-fault protection including multifrequency admittance-based earth fault protection. Voltage and frequency based protection and measurement functions, synchro check, CB condition monitoring and CB control.
- Additionally Admittance, Wattmetric and Harmonic based earth-fault, Arc protection, Autoreclosing, Power Quality, RTD/mA-inputs, Fault locator or interconnection protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 18/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Basic Range REF615 5.0 FP1	
HBFCACABNNA1ANN11G Product Unit Price: ≈ZAR 22,067	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main Application	• Feeder protection and control
• Standard Configuration	• C: Non-directional O/C and non-directional E/F
• Analog Inputs/Outputs	• 4I (Io 1/5A)
• Binary Inputs/Outputs	• 4BI + 6BO
• Communication (Serial)	• None
• Communication (Ethernet)	• None
• Communication (Protocol)	• IEC 61850
• Language	• English
• Front Panel	• Small LCD
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

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Distribution Automation Products
Feeder Protection



REF615 IEC

- Feeder Protection and Control Relay
- Directional and non-directional overcurrent and earth-fault protection including multifrequency admittance-based earth fault protection. Voltage and frequency based protection and measurement functions, synchro check, CB condition monitoring and CB control.
- Additionally Admittance, Wattmetric and Harmonic based earth-fault, Arc protection, Autoreclosing, Power Quality, RTD/mA-inputs, Fault locator or interconnection protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 18/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End REF615 5.0 FP1	
HBFJAEAGNBC1BCA11G Product Unit Price: ≈ZAR 54,642	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main Application	• Feeder protection and control
• Standard Configuration	• J: Directional O/C, directional E/F, voltage & frequency based protection, synchro-check and CB condition monitoring (optional power quality, RTD option)
• Analog Inputs/Outputs	• 4I (Io 1/5A) + 5U
• Binary Inputs/Outputs	• 16BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• Arc Protection and reclosing
• Option 2	• Directional E/F
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

Distribution Automation Products
Motor Protection



REM 615 IEC

- Motor Protection and Control Relay
- Motor protection with current, voltage and frequency based protection and measurement functions for asynchronous motors
- Additionally Arc protection or RTD/mA inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 16/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Basic Unit REM615 5.0 FP1	
HBMAACABNNA1ANN11G Product Unit Price: ≈ZAR 23,514	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main Application	• Motor protection and control
• Standard configuration	• A: Basic motor protection (RTD option)
• Analog Inputs/Outputs	• 4I (Io 1/5A)
• Binary Inputs/Outputs	• 4BI+6BO
• Communication (Serial)	• None
• Communication (Ethernet)	• None
• Communication (Protocol)	• IEC 61850
• Language	• English
• Front Panel	• Small LCD
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Distribution Automation Products
Motor Protection



REM 615 IEC

- Motor Protection and Control Relay
- Motor protection with current, voltage and frequency based protection and measurement functions for asynchronous motors
- Additionally Arc protection or RTD/mA inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 16/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End Unit REM615 5.0 FP1	
HBMCAEAGNGC1BBN11G Product Unit Price : ≈ZAR 42,916	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main Application	• Motor protection and control
• Standard configuration	• C: Motor protection with voltage & frequency based protection and measurements
• Analog Inputs/Outputs	• 4I (Io 1/5A) + 5U
• Binary Inputs/Outputs	• 16BI+10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (3xRJ45) with HSR/PRP and IEC61850-9-2LE
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• Arc Protection
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products
Transformer Protection



RET615 IEC

- Transformer Protection and Control Relay
- Three-phase transformer differential protection for two-winding power transformers, numerical restricted earthfault protection, phase-voltage based protection and measurement functions and RTD/mA-inputs
- Additionally Arc protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 14/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Low End Unit RET615 5.0 FP1	
HBTDBABANNA1ANN11G Product Unit Price: ≈ZAR 47,201	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Transformer protection and control
• Standard Configuration	• D: Transformer differential with high imp. restricted EF on MV side
• Analog inputs/Outputs	• 7I (Io 1/5A)
• Binary I/O	• 8BI+ 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• None
• Communication (Protocol)	• IEC 61850
• Language	• English
• Front Panel	• Small LCD
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Distribution Automation Products
Transformer Protection



RET615 IEC

- Transformer Protection and Control Relay
- Three-phase transformer differential protection for two-winding power transformers, numerical restricted earthfault protection, phase-voltage based protection and measurement functions and RTD/mA-inputs
- Additionally Arc protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 14/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End Unit RET615 5.0 FP1	
HBTHBCADNGC1BBN11G Product Unit Price: ≈ZAR 64,430	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Transformer protection and control
• Standard Configuration	• H: Transformer differential with voltage protection & measurements and high imp. restricted EF on MV side
• Analog inputs/Outputs	• 7I (Io 1/5A) + 5U
• Binary I/O	• 12BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (3xRJ45) with HSR/PRP and IEC61850-9-2LE
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• Arc Protection
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products
Line Differential Protection for Feeders



RED615 IEC

- Line Differential Protection and Control Relay
- Line differential protection with in-zone power transformer support, directional/non-directional overcurrent and earth-fault protection functions. Voltage and frequency based protection, synchro-check
- Additionally Admittance, Wattmetric and Harmonic based earth-fault, Autoreclosing, RTD/mA inputs or Fault locator available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 18/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Low End Unit RED615 5.0 FP1	
HBDAACADNHC1ANN11G Product Unit Price: ≈ZAR 44,725	
• IED casing and test switches	• Complete Relay
• Standard	• IEC
• Main Application	• Line Differential Protection
• Functional Application	• A: Line differential protection
• Analog Inputs/Outputs	• 4I (Io 1/5A)
• Binary I/O	• 12BI+10BO
• Substation communication (Serial)	• None
• Protection and substation communication (Ethernet)	• Ethernet 100Base TX (RJ45) and line differential, single mode fiber (LC)
• Communication (Protocol)	• IEC 61850 + Modbus
• Language	• English
• Front Panel	• Small LCD
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Distribution Automation Products
Line Differential Protection for Feeders



RED615 IEC

- Line Differential Protection and Control Relay
- Line differential protection with in-zone power transformer support, directional/non-directional overcurrent and earth-fault protection functions. Voltage and frequency based protection, synchro-check
- Additionally Admittance, Wattmetric and Harmonic based earth-fault, Autoreclosing, RTD/mA inputs or Fault locator available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 18/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End Unit RED615 5.0 FP1	
HBDDAEAGNMC1BNA11G Product Unit Price: ≈ZAR 65,087	
• Main Application	• Line Differential Protection
• Functional Application	• D: Line differential protection with directional O/C, directional E/F, voltage & frequency based protection & measurements, synchro-check and CB condition monitoring (RTD option, optional power quality and fault locator)
• Analog Inputs/Outputs	• 4I (Io 1/5A) + 5U
• Binary I/O	• 16BI + 10BO
• Substation communication (Serial)	• None
• Protection and substation communication (Ethernet)	• 2 x Ethernet 100Base FX (LC) with HSR/PRP and line differential, single mode fiber (LC)
• Communication (Protocol)	• IEC 61850 + Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• Directional E/F
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products
Generator Protection



REG615 IEC

- Generator and Interconnection Protection relay
- Interconnection protection, control, measurement and supervision of the common point of coupling distributed power generation into the utility network. Main or backup protection for generator in small or medium size in diesel, gas, hydroelectric, combined heat and power (CHP), and steam power plants.
- Additionally high-speed outputs, RTD/mA-inputs, Power Quality and Arc protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 16/10
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Low End Unit REG615 5.0 FP1	
HBGAAEAGNBC1BNN11G Product Unit Price: ≈ZAR 50,999	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Generator and Interconnection protection and control
• Standard configuration	• A: Interconnection protection for distributed power generation
• Analog inputs/Outputs	• 4I (Io 1/5A) + 5U
• Binary I/O	• 16BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Distribution Automation Products
Generator Protection



REG615 IEC

- Generator and Interconnection Protection relay
- Interconnection protection, control, measurement and supervision of the common point of coupling distributed power generation into the utility network. Main or backup protection for generator in small or medium size in diesel, gas, hydroelectric, combined heat and power (CHP), and steam power plants.
- Additionally high-speed outputs, RTD/mA-inputs, Power Quality and Arc protection available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 16/10
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End Unit REG615 5.0 FP1	
HBGDBCADNGC1BFN11G Product Unit Price: ≈ZAR 73,992	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Generator and Interconnection protection and control
• Standard configuration	• D: Generator protection with generator differential, directional O/C and synchro-check
• Analog inputs/Outputs	• 7I (Io 1/5A) + 5U
• Binary I/O	• 12BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (3xRJ45) with HSR/PRP and IEC61850-9-2LE
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• Power Quality and Arc Protection
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products

Voltage Protection and Automatic Voltage Regulation



REU615 IEC

- Voltage Protection and Control Relay
- Voltage and frequency based protection functions, synchrocheck and load shedding functions
- Also offers Automatic voltage regulator function
- Additionally Arc protection or RTD/mA-inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 14/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Price for Unit REU615 5.0 FP1	
HBUAEAADNBC1BNN11G Product Unit Price: ≈ZAR 41,499	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Voltage protection and control
• Standard configuration	• A: Voltage & frequency protection, synchro-check and load shedding
• Analog inputs/Outputs	• 5U
• Binary I/O	• 12BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Distribution Automation Products

Voltage Protection and Automatic Voltage Regulation



REU615 IEC

- Voltage Protection and Control Relay
- Voltage and frequency based protection functions, synchrocheck and load shedding functions
- Also offers Automatic voltage regulator function
- Additionally Arc protection or RTD/mA-inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 14/13
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Price for Unit REU615 5.0 FP1	
HBUBCAAHNBC1BNN11G Product Unit Price: ≈ZAR 45,801	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Voltage protection and control
• Standard configuration	• B: Automatic Voltage Regulator
• Analog inputs/Outputs	• 4I (Io 1/5A) + 3U
• Binary I/O	• 8BI + 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products
Busbar Protection



REB611 IEC

- Busbar and Multipurpose differential Protection and Control IED
- High-impedance differential and non-direction earth fault protection
- Binary inputs/outputs up to 4/6
- Communication protocols IEC 61850, Modbus® supported
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical Price for Unit REB611 2.0	
REB611HBAABC1NN11G Product Unit Price: ≈ZAR 27,900	
• Standard complience	• IEC
• IED case, plugin unit, test switch	• Complete Relay
• Standard Configuration/Analog Inputs	• High impedance differential [4I + 4BI (Io 1/5A)]
• Communication module	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• For future use	• version - 2.0
• Version	• Product version - 2.0
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Distribution Automation Products
Capacitor Bank Protection



REV615 IEC

- Capacitor bank Protection and Control Relay
- Capacitor bank overload and unbalance protection, non-directional overcurrent protection, directional earth-fault and voltage based protection functions
- Additionally Arc protection, Power Quality or RTD/mA-inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 8/10
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical low end unit REV615 5.0 FP1	
HBVABABANBC1BNN11G Product Unit Price: ≈ZAR 50,271	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Capacitor bank protection and control
• Standard configuration	• A: Capacitor bank overload and unbalance protection, non-directional O/C and E/F and CB condition monitoring
• Analog inputs/Outputs	• 7I (Io 1/5A)
• Binary I/O	• 8BI+ 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (RJ45)
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

Distribution Automation Products
Capacitor Bank Protection



REV615 IEC

- Capacitor bank Protection and Control Relay
- Capacitor bank overload and unbalance protection, non-directional overcurrent protection, directional earth-fault and voltage based protection functions
- Additionally Arc protection, Power Quality or RTD/mA-inputs available
- Control of 1 Circuit-breaker and 3 additional objects available
- Binary inputs/outputs up to 8/10
- Communication protocols IEC 61850, Modbus®, IEC 60870-5-103, DNP3 and Profibus supported
- LCD display with single line diagram (SLD) available
- Plug-in design speeds up installation, maintenance and testing of the protection relay

Typical High End Unit REV615 5.0 FP1	
HBVBBEBANGC1BNN11G Product Unit Price: ≈ZAR 69,547	
• Relay casing and test switches	• Complete Relay
• Standard	• IEC
• Main application	• Capacitor bank protection and control
• Standard configuration	• B: Capacitor bank overload and unbalance protection, non-directional O/C and directional E/F, voltage & frequency based protection & measurements and CB condition monitoring
• Analog inputs/Outputs	• 7I (Io 1/5A) + 5U + 2RTD + 1mA
• Binary I/O	• 8BI+ 10BO
• Communication (Serial)	• None
• Communication (Ethernet)	• Ethernet 100Base TX (3xRJ45) with HSR/PRP and IEC61850-9-2LE
• Communication (Protocol)	• IEC 61850+Modbus
• Language	• English
• Front Panel	• Large LCD with Single Line Diagram (SLD)
• Option 1	• None
• Option 2	• None
• Power Supply	• 48-250 Vdc; 100-240 Vac
• Version	• Product Version 5.0 FP1

≈ Approximate pricing

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Solutions

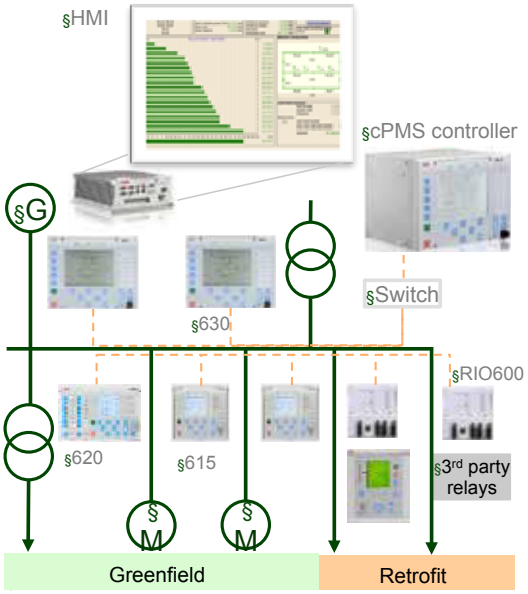
REA arc fault protection system and cPMS (compact Power Management Solution)

Arc Protection



- Minimizes the risks of an arc fault
- Injury to people can be avoided
- Damage to the equipment can be minimized
- Production losses are limited to a minimum
- Interrupts the fault current before the arc causes damage, by sending a tripping signal within 2.5 ms
- Detects light by means of an uncoated optical fiber forming an extended light sensor
- A smart investment to ensure security for investments and assets in the switchgear/ substation
- Use of ultra-fast earthing switch UFES with REA possible

Load Shedding



- Uses IEC 61850 to deliver high performance and ease of handling
- For power system protection against black-outs
- Fast load-shedding based on power balance in less than 100 ms guaranteed for both for greenfield and retrofit applications
- Slow load-shedding based on overload and maximum demand violation
- Manual load-shedding
- Back-up load-shedding based on frequency

Solutions

Arctic family – Products in the family

Arctic 600 series gateways



ARG600 Wireless Gateway

GPRS/3G/LTE
TCP/IP router
Serial over TCP/IP
VPN and firewall
Single and dual SIM variants



ARP600 Wireless Protocol Gateway

GPRS/3G/LTE
Protocol converter
TCP/IP router
Serial over TCP/IP
VPN and firewall
Single and dual SIM variants



ARR600 Wireless I/O Gateway

GPRS/3G/LTE
Integrated I/O
Protocol converter
TCP/IP router
Serial over TCP/IP
VPN and firewall



ARC600 Wireless Controller

Control and indication of three switching devices
Indication of three earthing switches
Protocol converter
Battery charger
GPRS/3G/LTE
TCP/IP router
VPN and firewall

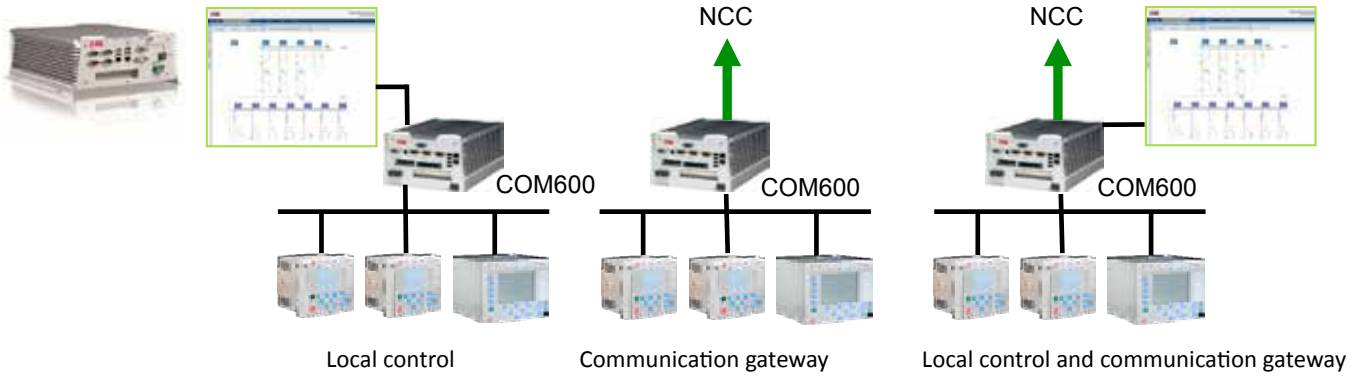


ARM600 M2M Gateway

Central communication server
VPN concentrator
Firewall and routing
Arctic Patrol condition monitoring
Static IP addressing

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Solutions
Grid Automation Controller COM600



- All-in-one communication gateway, automation platform and user interface solution for utility and industrial distribution substations with seamless IEC 61850 connectivity
- Can be used as a local data warehouse for technical documentation and network data
- Extensive collection and reporting of information of network fault situations

Notes

Secondary Switchgear

Gas Insulated Secondary Switchgear

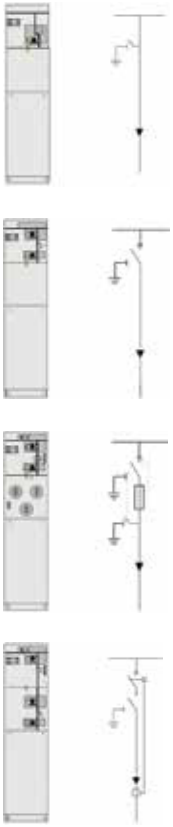
	Chapter
SafeRing - Ring Main Units	12.1
SafeRing - SafePlus up to 24kV, 21kA	12.2
SafeRing - SafePlus 12kV Standard Configurations	12.3
SafeRing - SafePlus up to 36kV, 630A	12.4
Safelink CB outdoor 12kV, 630A	12.5
Safelink 2 up to 12kV, 21kA	12.6

Air Insulated Secondary Switchgear

UniSec up to 24kV, 1250A, 25kA	12.7

Secondary Switchgear
SafeRing – Ring Main Units





Legend

De – Direct cable connection (De-module) is connected directly to the cable without switching, but includes an earthing switch using SF6-gas as an arc quenching medium. It is rated at 630A and has a short time current of 25kA 3sec

C – The cable switch (C-Module) is a three position switch disconnector and earthing switch using SF6-gas as an arc quenching medium. It is rated at 630A and has a short time current of 25kA 3sec

F – The switch-fuse (F-module) is a three position switch disconnector and earthing switch. By means of the fuse tripping device it operates as a switchfuse combination. It is rated at 200A, with max fuse size of 125A @ 12kV and 63A @ 24kV. It has a short time current rating of 5kA 1sec

V – The vacuum circuit-breaker (V-Module) has vacuum bottles as interrupters of the current. A three-position disconnector/earthing switch is connected in series with the circuit-breaker main circuit. It is rated at 200A or 630A, and has a short time current rating of 21kA 3esc

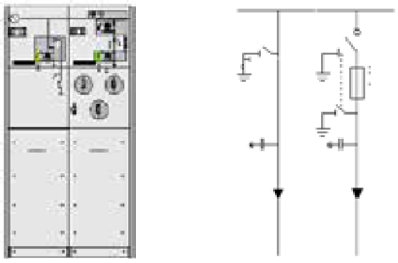
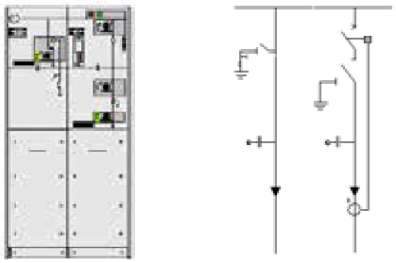
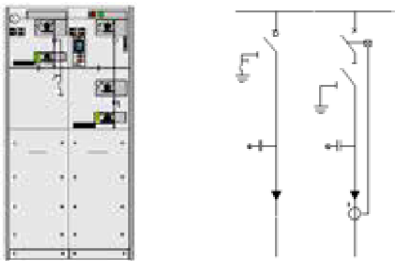
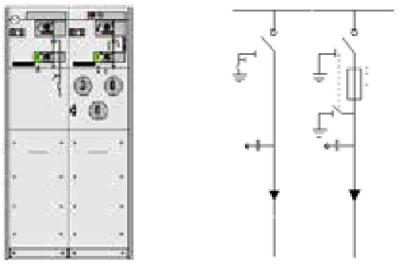
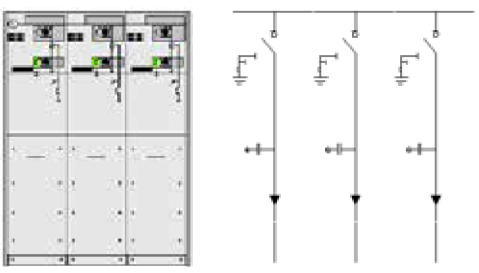
Ratings & Options Overview

Voltage	This is the rated voltage of the unit. This can be either 7.2kV, 12kV, 17.5kV or 24kV. Because of this variation in system network voltages, it is mandatory to select the correct voltage for the ring main unit to be used.
Circuit Rating	This is the current rating of the circuit breaker. It is determined by the load that the customer would need to use in his application. V - Our circuit breakers are rated at either 200A or 630A. The standard protection relay offered on the circuit breaker is an ABB REJ603 with HMI F - Our fuse switches are rated at 200A C - Our isolators are rated at 630A
Indoor option	For typical indoor applications, customers require that the ring main unit be supplied on a raised base frame. This is mainly due to the cable trench within the substation being to shallow, or non existent. This raised base frame will add additional height to the cable entry into the ring main unit so as to accommodate the bending radius of the customers MV cables. We can offer either a 300mm base or a higher 450mm base option..
Outdoor Option	Customers that would want to use the ring main units outdoors can do so by adding the outdoor kiosk (enclosure) option. The ring main unit is then housed inside the metal enclosure rated at IP44, category 2. The standard colour is Avocado Greennclosure to allow it to be used in the outdoor enviroments. Our kiosks are rated at IP44, catagory 2. The standard colour is Avocado Green
Voltage Indication	Voltage indication is an important safety feature. Option 1: VPIS - Is an LED indicator that will light up if there is a presence of system voltage. Option 2: CAPDIS S1+ - Is an LCD display to indicate the presence of voltage, the absence of voltage and the over or under voltage condition. Both of these voltage indicator options come with test points, used in phasing of the cables
Auxiliary Trip Coil	In addition to the protection relay trip coil, an auxiliary trip coil can be fitted to the operating mechanism of the circuit breaker (V module) that enables remote circuit breaker tripping, using an external auxiliary voltage. Available options are 24VDC, 110VDC, 110VAC & 230VAC.
Auxilary Contacts	Used for position signaling/indication of the earth switch, switch disconnector, circuit breaker, fuse switch and fuse blown devices. Option 1: (No) No auxiliary switches fitted Option 2: (Yes) With auxiliary contacts fitted to all devices

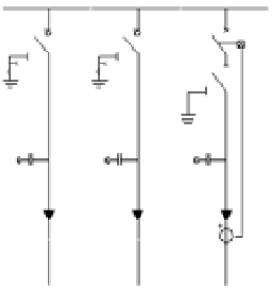
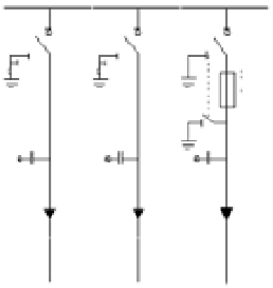
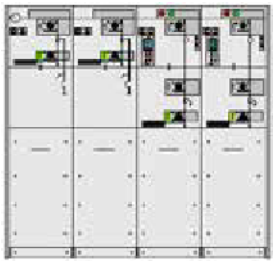
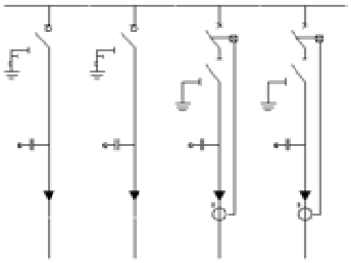
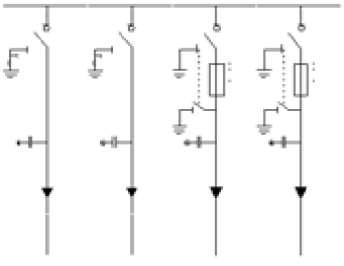
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Secondary Switchgear
SafeRing – Ring Main Units

Basic RMU Configurations

XPDeV		De - Direct cable connection module with earthing switch. V - Vacuum circuit-breaker module with earthing switch. Fitted in one common SF6 gas tank
XPDeF		De - Direct cable connection module with earthing switch. F - Switch-fuse module with earthing switch. Fitted in one common SF6 gas tank
XPCV		C - Cable switch module with earthing switch V - Vacuum circuit-breaker module with earthing switch Fitted in one common SF6 gas tank
XPCF		C - Cable switch module with earthing switch. F - Switch-fuse module with earthing switch. Fitted in one common SF6 gas tank
XPCCC		3 x C - Cable switch module with earthing switch Fitted in one common SF6 gas tank

Secondary Switchgear
SafeRing – Ring Main Units

XPCCV	 	2 x C - Cable switch module with earthing switch. V - Vacuum circuit-breaker module with earthing switch. Fitted in one common SF6 gas tank
XPCCF	 	2 x C - Cable switch module with earthing switch F - Switch-fuse module with earthing switch Fitted in one common SF6 gas tank.
XPCCVV	 	2 x C - Cable switch module with earthing switch 2 x V - Vacuum circuit-breaker module with earthing switch Fitted in one common SF6 gas tank
XPCCFF	 	2 x C - Cable switch module with earthing switch 2 x F - Switch-fuse module with earthing switch Fitted in one common SF6 gas tank.

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Secondary Switchgear
SafeRing – Ring Main Units

Ordering code & Pricing

All ordering codes will start with XP, then followed by the basic RMU configuration.
Thereafter, please follow the table below to complete your selection.

Selection numbers for Ordering Code

XP	-	D	e	V	12	6	B03	C	T4	Y
			1		2	3	4	5	6	7

Unit Price	=	1	+	2	+	3	+	4	+	5	+	6	+	7

Price applicable to selection for each position

		Position	Ordering Code	Price per unit Excl. VAT
(1)	**RMU Unit**			
	DeV	1	–DeV	R 116 005.00
	DeF	1	–DeF	R 104 375.00
	CV	1	– –CV	R 140 855.00
	CF	1	– –CF	R 94 755.00
	CCC	1	–CCC	R 141 085.00
	CCV	1	–CCV	R 158 930.00
	CCF	1	–CCF	R 139 335.00
	CCVV	1	CCVV	R 227 340.00
	CCFF	1	CCFF	R 177 685.00
(1)	**System Voltage**			
	6.6kV	2	06	R 3 790.00
(2)	12kV	2	12	R 5 685.00
	17.5kV	2	17	R 9 475.00
	24kV	2	24	R 11 365.00
	V Current Rating (per V module)			
	N/A For fuse or Isolator switches	3	0	-
(2)	200A	3	2	R 8 935.00
	630A	3	6	R 17 870.00
	Indoor Base (Indoor Option)			
(2)	No base or kiosk required	4	N00	-
	Base 300mm galvanized 2 way	4	B01	R 3 755.00
	Base 300mm powder coated 2 way	4	B02	R 3 755.00
	Base 450mm galvanized 2 way	4	B03	R 5 135.00
	Base 450mm powder coated 2 way	4	B04	R 5 135.00
	Base 300mm galvanized 3 way	4	B05	R 4 670.00
	Base 300mm powder coated 3 way	4	B06	R 4 670.00
	Base 450mm galvanized 3 way	4	B07	R 5 825.00
	Base 450mm powder coated 3 way	4	B08	R 5 825.00
	Base 300mm galvanized 4 way	4	B09	R 5 585.00
	Base 300mm powder coated 4 way	4	B10	R 5 585.00
	Base 450mm galvanized 4 way	4	B11	R 6 510.00
	Base 450mm powder coated 4 way	4	B12	R 6 510.00
	Outdoor Enclosure (Outdoor Option)			
	Enclosure mild steel 2 way	4	K01	R 53 075.00

Secondary Switchgear
SafeRing – Ring Main Units

		Position	Ordering Code	Price per unit Excl. VAT
	Enclosure 3CR12 (stainless steel) 2 way	4	K02	R 65 380.00
	Enclosure mild steel 3 way	4	K03	R 62 085.00
	Enclosure 3CR12 (stainless steel) 3 way	4	K04	R 75 470.00
	Enclosure mild steel 4 way	4	K05	R 71 840.00
	Enclosure 3CR12 (stainless steel) 4 way	4	K06	R 86 840.00
(1)	**Voltage Indication (per switch module)**			
(2)	VPIS	5	V	-
	CAPDIS S1+	5	C	R 1 615.00
	AUX Trip Coil (optional per V or F module)			
(2)	No Auxuilary Trip Coil	6	T0	-
	24VDC	6	T1	R 2 330.00
	110VDC	6	T2	R 2 330.00
	110VAC	6	T3	R 2 330.00
	230VAC	6	T4	R 2 330.00
	AUX Contacts (optional per module)			
(2)	No Auxuilary Contacts	7	N	-
	2NO/2NC	7	Y	R 3 230.00

(1) This is a mandatory selection requirement
(2) These will be the default values should no selection be made

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Gas Insulated Secondary Switchgear
SafeRing – SafePlus up to 24kV, 21kA



SafeRing and SafePlus – two products, one range

The SafeRing and SafePlus concepts represent a complete solution for secondary distribution networks.

Both products offer a completely sealed system with all live parts enclosed in a stainless steel tank ensuring constant atmospheric conditions. This enables a high level of reliability and safety besides ensuring a virtually maintenance-free system.

The SafeRing and SafePlus concepts offer a choice between a switch fuse combination or a circuit breaker with relay for protection of the transformer.

SafeRing is extendable and can be combined with SafePlus units.

SafePlus has a unique flexibility due to its extendable features and the possible combination of fully modular and semi modular configurations.

SafeRing and SafePlus have identical user interfaces.

Features and benefits

- SF6 gas-insulated switchgear
- 24kV, 630A
- Auto-reclosing capability
- Metal-enclosed design
- Well proven technology – years of experience
- Type tested according to all relevant IEC standards
- Manufactured according to ISO 9001, 14001 and OHSAS 18 001
- Recyclable and very low environmental impact
- Maintenance free
- Internal arc classified (IAC)
- Extensible in both directions
- No exposure of live parts
- 420 mm wide functional units
- Arc suppressor as option
- Reduced height 1.700 mm as option

Medium Voltage Products

SafeRing and SafePlus – two products, one range The SafeRing and SafePlus concepts represent a complete solution for secondary distribution networks.

Both products offer a completely sealed system with all live parts enclosed in a stainless steel tank ensuring constant atmospheric conditions. This enables a high level of reliability and safety besides ensuring a virtually maintenance-free system.

The SafeRing and SafePlus concepts offer a choice between a switch fuse combination or a circuit breaker with relay for protection of the transformer.

SafeRing is extendable and can be combined with SafePlus units.

SafePlus has a unique flexibility due to its extendable features and the possible combination of fully modular and semi modular configurations.

SafeRing and SafePlus have identical user interfaces.

Common applications for SafeRing and SafePlus

- Small industries
- Wind power plants
- Buildings, hotels, shopping centers
- Mining applications
- Airports
- Railway systems
- Underground installations

In addition SafePlus is well suited for small utilities. The most common application for SafeRing is in Compact Secondary Substations.

Gas Insulated Secondary Switchgear

SafeRing – SafePlus 12kV Standard Configurations



CCF Unit is made of:

Module C
1 Manometer
1 Snap action mech. for manual operation
1 Cable cover standard
1 Cable bushings interface C (400 bolted), 630 A, standard
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Cable support bars, standard for 1-way unit

Module C
1 Snap action mech. for manual operation
1 Cable cover standard
1 Cable bushings interface C (400 bolted), 630 A, standard
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Cable support bars, standard for 1-way unit

Module F
1 Stored energy mech. for manual operation
1 Without padlocking device push buttons
1 Cable cover standard
1 Cable bushings interface C (400 bolted), 200 A
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Prepared for CEF fuse 12 kV 125A
1 Cable support bars, standard for 1-way unit

SafeRing & SafePlus

Type	Description	Unit Sales Price (ZAR)	Expected Delivery
CCFF	SafeRing type CCFF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 286,400.00	12 – 14 weeks
CCFF Arc Proof	SafeRing type CCFF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 297,900.00	12 – 14 weeks
CCFF Arc Proof Cable Test	SafeRing type CCFF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 304,700.00	12 – 14 weeks
CCF	SafeRing type CCF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 149.000.00	12 – 14 weeks
CCF Arc Proof	SafeRing type CCF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 160,400.00	12 – 14 weeks
CCF Arc Proof Cable Test	SafeRing type CCF 12kV , 630A ,21kA ,95 BIL ,50Hz	R 167,300.00	12 – 14 weeks
CCVV	SafePlus type CCVV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 286,400.00	12 – 14 weeks
CCVV Arc Proof	SafePlus type CCVV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 297,900.00	12 – 14 weeks
CCVV Arc Proof Cable Test	SafePlus type CCVV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 304,700.00	12 – 14 weeks
CCV	SafePlus type CCV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 153,500.00	12 – 14 weeks
CCV Arc Proof	SafePlus type CCV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 165.000.00	12 – 14 weeks
CCV Arc Proof Cable Test	SafePlus type CCV Compact switchgear 12kV,28kV/1 min,95BIL,50Hz	R 171,900.00	12 – 14 weeks

CCV Unit is made of:

C Unit: Three position load break switch and earthing switch, busbars, interlocking and earthbar.
1 SafePlus type C: Cable switch 12kV, 630A
1 Manometer
1 Snap action mech. for manual operation
1 Cable cover standard
1 Cable bushings interface C (400 bolted), 630 A, standard
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Cable support bars, standard for 1-way unit

C Unit: Three position load break switch and earthing switch, busbars, interlocking and earthbar.
1 SafePlus type C: Cable switch 12kV, 630A
1 Manometer
1 Snap action mech. for manual operation
1 Cable cover standard
1 Cable bushings interface C (400 bolted), 630 A, standard
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Cable support bars, standard for 1-way unit

V Unit: Vacuum CB module with vacuum CB, three position isolator/earthing switch, busbars, interlocking, earthbar and stored spring energy mechanism (A-mech.).
1 SafePlus type V: Vacuum circuit breaker 12kV, 630A
1 Stored energy mech. for man.operation
1 Without padlocking device push buttons
1 Cable cover standard
1 Protection relay type ABB REJ 603 with Display
1 Cable bushings interface C (400 bolted), 630A
1 Capacitive voltage indication fixed type VPIS 6-12 kV
1 Cable support bars, standard for 1-way unit
3 Ring core current transformer type CT2 16-56A (Ø50mm) 1YMA583791R0001

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Gas Insulated Secondary Switchgear

SafeRing – SafePlus up to 36kV, 630A



SafeRing and SafePlus – two products, one range The SafeRing and SafePlus concepts represent a complete solution for secondary distribution networks.

Both products offer a completely sealed system with all live parts enclosed in a stainless steel tank ensuring constant atmospheric conditions. This enables a high level of reliability and safety besides ensuring a virtually maintenance-free system.

The SafeRing and SafePlus concepts offer a choice between a switch fuse combination or a circuit breaker with relay for protection of the transformer.

SafeRing is extendable and can be combined with SafePlus units. SafePlus has a unique flexibility due to its extendable features and the possible combination of fully modular and semi modular configurations.

SafeRing and SafePlus have identical user interfaces.

Features and benefits

- SF6 gas-insulated switchgear
- 36kV, 630A
- Auto-reclosing capability
- Metal-enclosed design
- Well proven technology – years of experience
- Type tested according to all relevant IEC standards
- Manufactured according to ISO 9001, 14001 and OHSAS 18 001
- Recyclable and very low environmental impact
- Maintenance free
- Internal arc classified (IAC)
- Extensible in both directions
- No exposure of live parts
- 420 mm wide functional units
- Arc suppressor as option
- Reduced height 1.700 mm as option

Common applications for SafeRing and SafePlus

- Small industries
- Wind power plants
- Buildings, hotels, shopping centers
- Mining applications
- Airports
- Railway systems
- Underground installations

In addition SafePlus is well suited for small utilities.

The most common application for SafeRing is in Compact Secondary Substations.

Technical data

		C-module		F-module		V-module	
		Switch disconnector	Earthing switch	Switch-fuse disconnector	Downstream earthing switch	Vacuum circuit-breaker	Earthing switch / disconnector
Rated voltage	kV	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5	36 / 40,5
Power frequency withstand voltage	kV	70 / 95	70 / 95	70 / 95	70 / 95	70 / 95	70 / 95
- across disconnector	kV	80 / 110		80 / 110			80 / 110
Lightning impulse withstand voltage	kV	170 / 185	170 / 185	170 / 185	170 / 185	170 / 185	170 / 185
- across disconnector	kV	195 / 215		195 / 215			195 / 215
Rated normal current	A	630 / 630 [1]		200 / 200 [2]		630 / 630 [1]	
Breaking capacities:							
- active load	A	630 / 630		200 / 200			
- closed loop	A	630 / 630		200 / 200			
- off load cable charging	A	20 / 21		20 / 21		50 (Class C1)	
- earth fault	A	60 / 63		60 / 63			
- earth fault cable charging	A	35 / 36		35 / 36			
- transfer current	A			840 / 750			
- short-circuit breaking current	kA			see [3]		20 / 20	
Making capacity	kA	50 / 50	50 / 50	see [3]	2,5 / 2,5	50 / 50	50 / 50
Class (Electrical endurance)		E3 / E2	E2 / E2	- / -	E2 / E2	E1 / E1	E2 / E2
Short time current 1 sec. [4]	kA	16 / 16	16 / 16		1 / 1	16 / 16	16 / 16
Short time current 1 sec. [5]	kA	25 / 25	25 / 25			25 / 25	25 / 25
Short time current 3 sec. [5]	kA	20 / 20	20 / 20			20 / 20	20 / 20
Internal arc classification IAC AFL, 1s	kA	20 / 20		20 / 20		20 / 20	

Gas Insulated Secondary Switchgear
Safelink CB Outdoor 12kV, 630A



SF6 gas insulated switchgear with extremely compact and robust design

- 12 kV, 630 A, 21 kA for 3 sec; Metal Enclosed design with IP54 degree of protection, suitable for Outdoor conditions
- Internal Arc classified and fully type tested according to latest IEC standards
- Robotically welded stainless steel tank
- Vacuum Circuit Breaker with high mechanical endurance of 5000 operations
- Maintenance free and complete safety for user and pedestrian with no exposure to live parts
- All in built mandatory safety interlocks provided to ensure operator safety
- Manufactured according to ISO 9001 14001 and OHSAS 18001
- Complete solutions including applications for remote control and monitoring
- Recyclable and very low environmental impact

Technical data

		C Module		V Module	
		Switch disconnector	Earthing Switch	Vacuum cicuit breaker	Earthing switch / disconnector
Rated voltage	kV	12	12	12	12
Power frequency withstand voltage	kV	38	38	38	38
- across disconnector	kV	45	45	45	45
Lightning impulse withstand voltage	kV	95	95	95	95
- across disconnector	kV	110	110	110	110
Rated normal current	A	630	630	630	630
Breaking capacities					
- active load breaking current	A	630			
- closed loop breaking current	A	630			
- cable charging breaking current	A	25		25 (Class C2)	
- earth fault breaking current	A	75			
- earth fault cable and line charging	A	43.5			
- short circuit breaking current	kA			21	
Making capacity	kA	52.5	52.5	52.5	see[1)]
Short time current (3-sec)	kA	21	21	21	21
Mechanical Operations	nos	M1	M0	M1+3000	M0
1) Disconnector manually opearated, earthing operation is through Vacuum BKR. Hence no making capacity assigned					
Internal Arc Classification (IAC)		IAC-(20 kA for 1 sec)			

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Gas Insulated Secondary Switchgear

Safelink 2 up to 12kV, 21kA



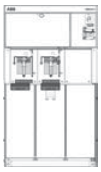
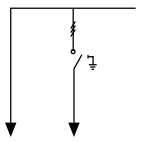
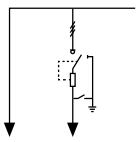
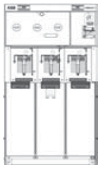
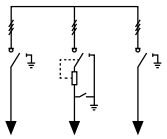
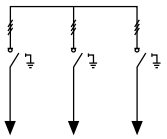
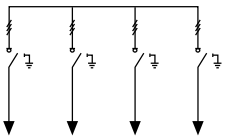
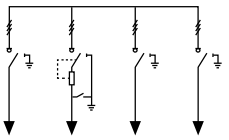
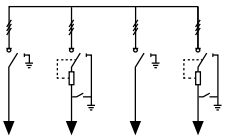
SafeLink 2 ring main switchgear from ABB delivers smart, safe and compact solutions for secondary distribution applications.

The result is an inherently safe, cost-effective, flexible and innovative solution.

Electrical Data [1]		Ring Switch		Switch Fuse	
		Main Switch	Earthing Switch	Main Switch	Earthing Switch
Rated Voltage	Ur	12 kV	12 kV	12 kV	12 kV
Frequency	Fr	50 Hz	50 Hz	50 Hz	50 Hz
Rated Current	Ir	630 A		See note 2	
Lightning Impulse Withstand Voltage	Up	95 kV / 110 kV		95 kV / 110 kV	
Short-Time Withstand current	Ik	21 kA	21 kA		3.15 kA
Duration of Short Circuit	tk	3 s	3 s		3 s
Short Circuit Making Current	Ima	52.5 kA	52.5 kA		7.9 kA
Number of Load Break operations	n	100		100	
Power Frequency Withstand Voltage	Ud	28 kV / 32 kV		28 kV / 32 kV	
Electrical Endurance Class	Er	E3	E2		E2

SafeLink 2 is manufactured and tested in accordance with the latest edition of the following IEC regulations. IEC 62271-1, IEC 62271-102, IEC 62271-105, IEC 62271-200, IEC 60265-1 (1998-01), IEC 60137 (1995-12), IEC 60529 (1989-11), IEC 62271-206

1 General Ratings @ 1.1bar abs SF
2 Dependent on fuse current rating.
6 Pressure

Function	Configuration		Height	Width	Depth	Weight
2-Way	DC	DF	mm	mm	mm	kg
			1350 / 1380 [1]	705 / 810 [1]	700 / 838 [1]	300 / 420 [2]
3-Way	CFC	CCC				
			1350 / 1380 [1]	705 / 810 [1]	700 / 838 [1]	300 / 420 [2]
4-Way	CCCC	CFCC				
			1350 / 1380 [1]	910 / 1015 [1]	700 / 838 [1]	320 / 453 [2]
	CFCF					
			1350 / 1380 [1]	1130 / 1235 [1]	700 / 838 [1]	400 / 550 [2]

Configuration types:
C - Cable switch connection **D - Direct cable connection** **F - Switch-fuse connection**

1 Outdoor enclosure
2 Weight with SafeLink Automation box and outdoor enclosure.

Air Insulated Secondary Switchgear
Unisec up to 24kV, 1250A, 25kA

UniSec switchgear features
- **Air insulation of all live parts**
- **SF_6 switch-disconnector**
- **Removable and withdrawable vacuum and SF_6 circuit-breakers for LSC2A service continuity panel**
- **Withdrawable vacuum contactor up to 12 kV and vacuum and SF_6 circuit-breaker for LSC2B service continuity panel**
- **Multi-function apparatus with integreted vacuum circuit-breaker and gas-insulated disconnector**
- **LSC2A-PM classification for panels with switch-disconnector, LSC2B-PM for panels with withdrawable contactor, circuit-breaker up to 17.5 kV and LSC2B-PI at 24 kV**
- **Complete range of functional units and accessories**
- **Wide choice of state-of-the-art protection relays, either integrated on circuit-breakers or mounted separately for protection, control and measurement functions**



Available versions
- Arc fault tested in accordance with standard IEC 62271-200 in the IAC AF arc proof version on front side at 12.5 kA and 16 kA, IAC AFL arc proof version on two sides (front and laterals) 12.5 kA and IAC AFLR arc proof version on three sides (front, laterals, rear) 12.5 kA, 16 kA and 21 kA; 25 kA for panels with LSC2B service continuity and at 12 kV for LSC2A units, high 2000 mm and wide 750 mm (further details at pag. 17)
- Seismic withstand version in accordance with standard IEEE 693[3]
- Marine version.

Normal service conditions
- Storage temperature: -5 °C ... +70 °C [*]
- Range of ambient temperature: -5 °C ... +40 °C [*]
- Maximum relative humidity without condensation: 95 %
- Minimum relative humidity without condensation: 5 %
- Altitude: <1000 m above the sea level [**].

Degrees of protection[1]
- For IP 3X enclosure
- For IP 2X partition between compartments
- For IP 3X mechanical operating equipment.

As options:
- For IP 31 enclosure and mechanical operating equipment
- For IP 32 enclosure and mechanical operating equipment
- For IP 4X enclosure and mechanical operating equipment
- For IP 41 enclosure and mechanical operating equipment
- For IP 42 enclosure and mechanical operating equipment

Reference Standards

The switchgear and the main equipment it contains comply with the following standards:
- IEC 62271-1 for the general application
- IEC/EN 62271-200 for the switchgear. With reference to the classifications established by the standards, UniSec switchgear is defined as described below:
  - continuity of service classification: LSC2A and LSC2B
  - classification of the segregations: PM (metallic partition) and PI (insulation partition) for withdrawable circuit-breakers at 24 kV only
- IEC 62271-102 for the earthing switch
- IEC 62271-100 for the circuit-breakers
- IEC 60071-2 for insulation co-ordination
- IEC 62271-106 for the contactors
- IEC 62271-103 for the switch disconnectors
- IEC 60529 for the protection classes
- IEEE 693 Seismic qualification testing of the switchgear.
- IEC 62271-304 for severe climatic conditions[2]

Applications

UniSec is suitable, according to maximum ratings and available technical solutions for a lot of applications: substations, utilities, commercial and residential buildings, Smart Grids, grid with distributed generations, light industry, hospital, renewable (solar, wind, small hydropower, etc.), marine, transportation, etc.

[*] Contact ABB for -25 °C operating temperatures and -40 °C storage temperatures.
[**] For higher altitudes, contact ABB.
[1] In case of IP X1 or IP X2 to consider an extra height of 120 mm due to the additional roof on the unit.
[2] Please contact ABB.
[3] Please contact ABB to optimize switchgear configuration.

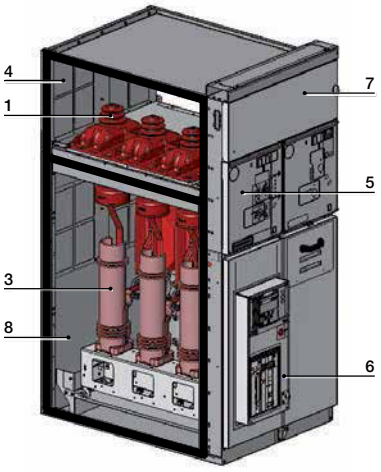
Air Insulated Secondary Switchgear
Unisec up to 24kV, 1250A, 25kA

Switchgear electrical characteristics

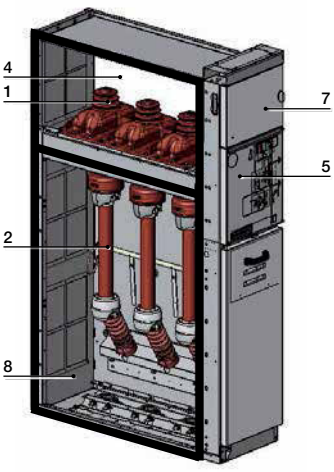
Rated voltage	kV	12	17.5	24
Test voltage (50-60 Hz x 1 min)	kV	28	38	50
Impulse withstand voltage	kV	75	95	125
Rated frequency	Hz	50-60	50-60	50-60
Rated main busbar current	A	630/800/1250	630/800/1250	630/1250
Rated current of apparatus:				
– VD4/R-Sec - HD4/R-Sec - HD4/RE-Sec removable circuit-breaker	A	630/800	630/800	630
– VD4/R-Sec - HD4/R-Sec withdrawable circuit-breaker	A	630	630	630
– HySec multi-function apparatus	A	630	630	630
– GSec gas switch-disconnector	A	630/800	630/800	630
– Vmax/Sec withdrawable circuit-breaker	A	630/1250	630/1250	–
– VD4/Sec withdrawable circuit-breaker	A	–	–	630/1250
– HD4/Sec withdrawable circuit-breaker	A	630/1250	630/1250	630/1250
– VSC/P withdrawable vacuum contactor	A	400	–	–
Rated short time withstand current	kA (3s)	16 [4]/20 [3]/25 [1] [2]	16 [4]/20 [3]/25 [2]	16 [4]/20 [3]
Peak current	kA	40 [4]/50 [3]/62.5	40 [4]/50 [3]/62.5	40 [4]/50 [3]
Internal arc withstand current (up to IAC AFLR)	kA (1s)	12.5/16 [4]/21/25 [2] [5]	12.5/16 [4]/21/25 [2]	12.5/16 [4]/21

[1] 25 kA 2s for LSC2A service continuity classification
[2] For LSC2B service continuity classification
[3] Contact ABB for 21 kA/52.5 kAp
[4] For HySec 16 kA(1s)/40 kAp
[5] For LSC2A unit with gas duct at 12kV, high 2000 mm and wide 750 mm (further details at pag. 17)

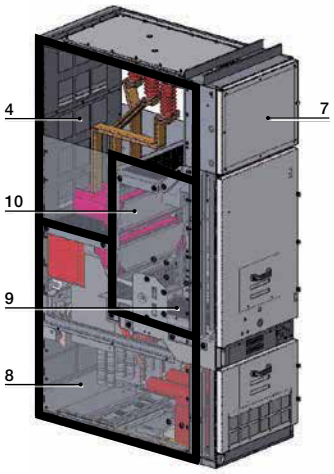
LSC2A



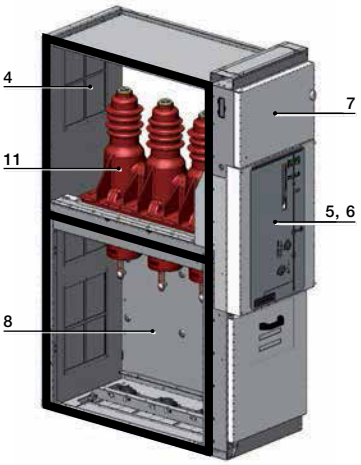
LSC2A



LSC2B



LSC2A



1 – Switch-disconnector
2 – Fuses
3 – Circuit-breaker
4 – Busbar compartment
5 – Mechanism compartment
6 – Circuit-breaker operating mechanism
7 – LV compartment for auxiliary circuits
8 – Cable compartment
9 – Apparatus compartment
10 – Metallic shutters for panels up to 17.5 kV and insulating shutters up to 24 kV
11 – Multi functional apparatus

Notes

Primary Switchgear

Air Insulated Primary Switchgear

	Chapter
Unigear ZS1 up to 50kA, 24kV	13.1
UniGear Digital	13.2
Unigear ZS2 up to 31.5kA, 36kV	13.3

Gas Insulated Primary Switchgear

ZX0 SBB up to 24kV, 25kA, 1250A	13.4
ZX0.2 SBB up to 36kV, 31.5kA, 2500A	13.5
ZX1.2 SBB up to 40kV, 31.5kA, 2500A	13.6
ZX2 SBB or DBB up to 40kV, 40kA, 2500A	13.7

13

Air Insulated Primary Switchgear
Unigear ZS1 up to 50kA, 24kV



Single Bus Bar System

UniGear ZS1 is medium voltage switchgear with a metal enclosure, suitable for indoor installations. Metal partitions segregate the compartments from each other and the live parts are air-insulated. Since the switchgear is highly modular type, this make simple selection of components required by any application. The functional units of the switchgear are guaranteed arc proof in accordance with the IEC 62271-200 Standards, appendix AA, class A accessibility, criteria 1 to 5.

All the installation, operation and maintenance operations can be carried out from the front of the unit. The switchgear and the earthing switches are operated from the front with the door closed.

The switchgear can be back to wall installed.

Apparatus

The range of apparatus available for UniGear ZS1 switchgear is the most complete on the market, including:

- withdrawable vacuum circuit-breakers with mechanical or magnetic actuator,
- withdrawable gas circuit-breakers,
- withdrawable vacuum contactors with fuses,
- fixed version of switch-disconnectors.

This makes it possible to offer a single switchgear-user interface, with the same operational and maintenance procedures.

The switchgear can be fitted with instrument transformers or sensors for current and voltage measurement and protection and any type of protection and control unit.

Switchgear, busbar configuration

In the completion of the traditional functional units in single level-single busbar arrangement, the UniGear ZS1 switchgear platform is fitted with:

- Double-level,
- Compact units equipped with contactors with fuses,
- Double Busbar Systems.

The use of these units allows extremely efficient use of space. In addition UniGear ZS1 single busbar is possible to combine to other members of UniGear family like:

- UniGear 550,
- UniGear 500R,
- UniGear MCC.

Normal operation conditions

The rated characteristics of the switchgear are guaranteed under the following ambient conditions:

- minimum ambient temperature: – 5 °C
- maximum ambient temperature: + 40 °C

For different temperature ranges, please contact your ABB sales representative.

- Ambient humidity:
  - maximum 24 h average of relative humidity 95% RH
  - maximum 24 h average of water vapour pressure 2.2 kPa
  - maximum monthly average of relative humidity 90% RH
  - maximum monthly average of water vapour pressure 1.8 kPa
- The normal operational altitude is up to 1,000 m above sea level. For higher altitude applications, please contact your ABB sales representative.
- Presence of normal, non-corrosive and uncontaminated atmosphere

Air Insulated Primary Switchgear
Unigear ZS1 up to 50kA, 24kV

Standards
The switchgear and main apparatus contained in it comply with the following Standards:

- IEC 62271-1 for general purposes.
- IEC 62271-200 for the switchgear.
- IEC 62271-102 for the earthing switch.
- IEC 62271-100 for the circuit-breakers.
- IEC 60071-2 for the insulation coordination.
- IEC 62271-106 for the contactors.
- IEC 60265-1 for the switch-disconnectors.
- IEC 60529 for degree of protections.

Colour of the external surfaces
RAL7035 - ligh grey (front doors and side sheets).

Other colours are available on request.

Degrees of protection
The degrees of protection of the switchgear conform with IEC 60529 Standards.

UniGear ZS1 switchgear is normally supplied with the following standard degrees of protection:

- IP4X for the enclosure.
- IP2X for the partition between compartments.

On request, the external housing can be supplied with a higher degree of protection; in this case please contact your ABB sales representative.

The electrical characteristics of the switchboard can vary for ambient conditions other than those described in the previous section and also if a higher degree of protection is used.ambient conditions other than those described in the previous section and also if a higher degree of protection is used.

IEC electrical characteristics of UniGear ZS1 - Single Busbar System

Rated voltage	kV	7.2	12	17.5	24
Rated insulation voltage	kV	7.2	12	17.5	24
Rated power frequency withstand voltage	kV 1min	20	28	38	50
Rated lightning impulse withstand voltage	kV	60	75	95	125
Rated frequency	Hz	50/60	50/60	50/60	50/60
Rated short time withstand current	kA 3 s	…50	…50	…50	…31.5
Peak current	kA	…125	…125	…125	…80
Internal arc withstand current	kA 1 s	…50	…50	…50	…31.5
Main busbar rated current	A	...4,000	...4,000	...4,000	...3,150
Circuit-breaker rated current	A	630	630	630	630
		1,250	1,250	1,250	1,250
		1,600	1,600	1,600	1,600
		2,000	2,000	2,000	2,000
		2,500	2,500	2,500	2,300
		3,150	3,150	3,150	2,500
Circuit-breaker rated current with forced ventilation	A	3,600	3,600	3,600	2,500
		4,000	4,000	4,000	3,150

1) For other versions, please refer to the chapters no. 2 (Double Busbar System) and chapter no. 3 (Marine Applications).
2) GB/DL version is available with higher request in dielectric characteristics (42 kV) and short time withstand current (4 s).
3) The values indicated are valid for both vacuum and SF6 circuit-breaker.
4) For panel with contactor the rated current value is 400 A.
5) CSA version is available for 27,6 kV.

Air Insulated Primary Switchgear
Unigear ZS1 up to 50kA, 24kV

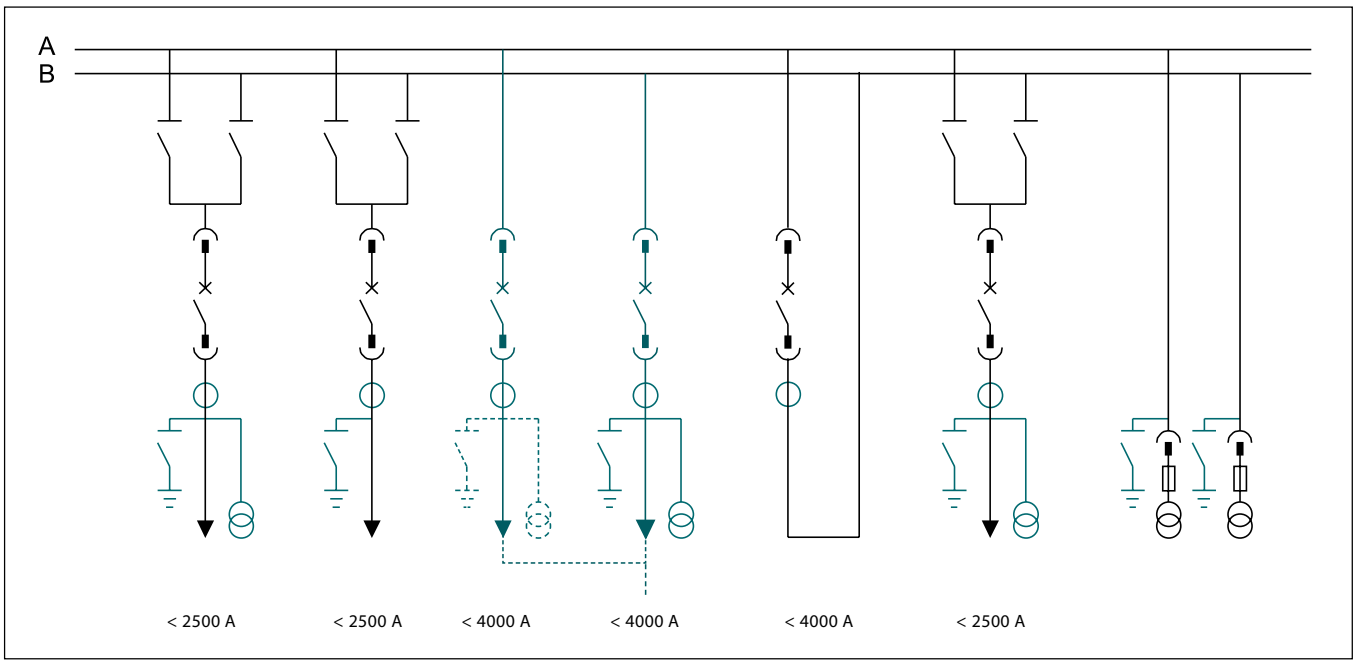


Double Bus Bar System

When ABB developed UniGear ZS1, the double busbar system was included since the beginning. The users of UniGear ZS1 double busbar system are mainly power utility companies, main substations and heavy industries. In any case the using of this product is highly recommended where there is the request to increase the service continuity.

The use of UniGear ZS1 double busbar switchgear is necessary when some of the following features are required:

- Load shedding of outgoing feeders with a different level of importance during emergency conditions;
- Isolation of particular outgoing feeders from the normal network;
- Outgoing feeders balancing on two busbar systems during normal operating condition;
- Flexibility during inspection and maintenance procedures without switchgear load interruption;
- Extension of switchgear without shutdown.
- Motor operated line-disconnector that permit fast switching between the two busbar systems during emergency situations (only possible with Bus-tie transversal closed).
- Free access to one busbar system during maintenance operations while the other is in operation and the considered unit is out of operation.
- Incoming feeders and the most important outgoing feeders can be equipped with two circuit-breakers in order to allow apparatus redundancy.
- Circuit-breaker maintenance and testing without feeder shutdown.
- Fewer number of components and less switching apparatus.



Example of one section of Unigear ZS1 double bas bar system

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Air Insulated Primary Switchgear
Unigear ZS1 up to 50kA, 24kV

The UniGear ZS1 double busbar systems are based on two different panel types:

- Two busbar systems, two busbar-disconnectors and one circuit-breaker (up to 2500 A-12-17.5 and 2000 A-24 kV);
- Two busbar systems, two circuit-breakers compartments with one or two circuit breakers, this version is called duplex system (up to 4000 A-12-17.5 kV and 2500 A-24 kV).

Both types provide full busbar system redundancy

(physical isolation between source busbar systems) and allow uninterrupted and reliable service conditions.

Thanks to the numerous standard units available, the switchgear can be suitably configured to satisfy all configuration requirements.

Each switchgear panel can be equipped with circuit-breakers.

All the significant components and accessories are identical to those used for UniGear ZS1 single level and double level units and therefore the same operation and maintenance procedures are guaranteed.

ABB double busbar system can be provided with single section or two or more sections in order to satisfy the most demanding customer request.

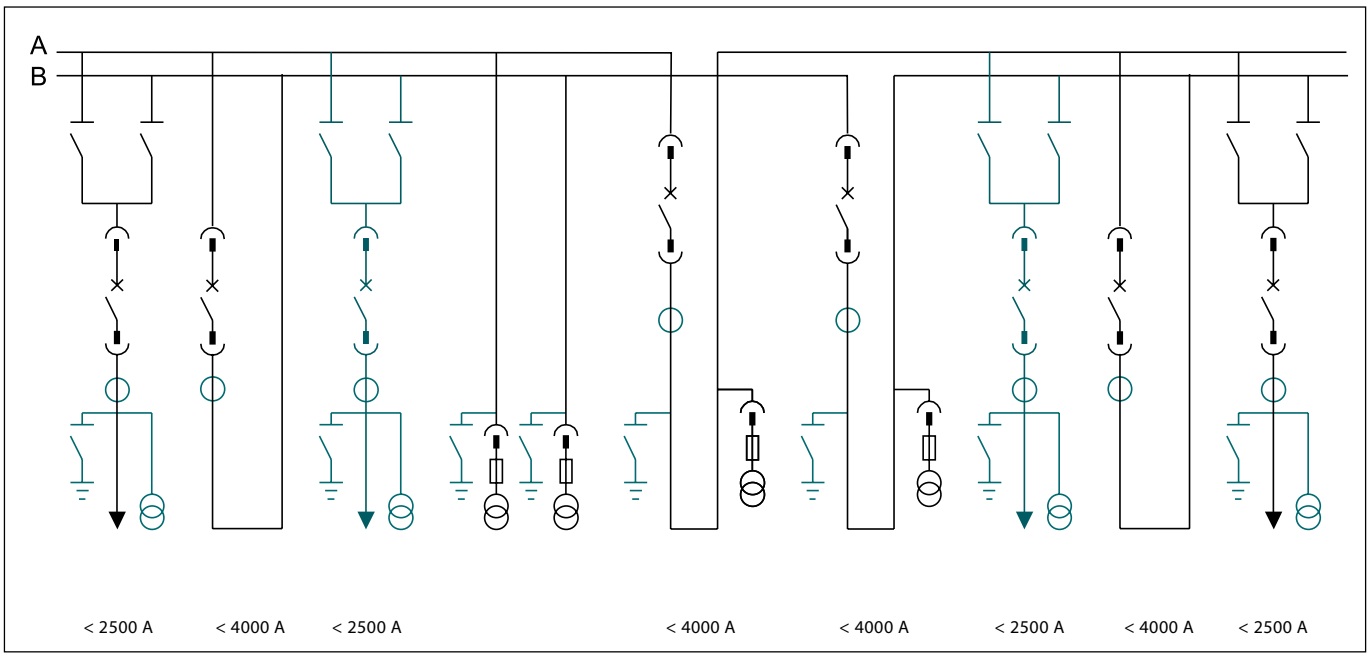
For examples refer to the two sections:

- One section of double busbar
- Two sections of double busbar.

IEC electrical characteristics

Rated voltage	kV		12	17.5	24
Test voltage	kV 1 min		28*	38*	50
Impulse withstand voltage	kV		75	95	125
Rated frequency	Hz		50/60	50/60	50/60
Rated short-time withstand current	kA 3 s	up to	31.5	31.5	25
Peak withstand current	kA	up to	80	80	63
Internal arc withstand current	kA 1 s	up to	31.5	31.5	25
Rated current of the main busbars	A	up to	4000	4000	2500
Rated circuit-breaker thermal current	A	up to	4000	4000	2500
Double busbar-disconnector feeders rated current	A		630	630	630
			1250	1250	1250
			1600	1600	1600
			2000	2000	2000
			2500	2500	-
Duplex feeder rated current	A		3150	3150	-
Duplex feeders rated current with forced ventilation	A		3600	3600	2500
			4000	4000	-

1) For other versions, please refer to the chapters nr.1 (Single Level) and chapter nr.3 (Double level).
2) The values indicated are valid for both vacuum and SF6 circuit-breaker.
3) For panel with contactor the rated current value is 400 A.
* 42 kV (GB/DL)



Example of two sections of Unigear ZS1 double bas bar system

Air Insulated Primary Switchgear
UniGear Digital



UniGear Digital represents advanced switchgear solution addressing important requirements of the future:

- Flexibility
- Increased process efficiency
- Lower cost of operation
- Maximized integration
- Reliability and safety

Thanks to UniGear Digital you do not need to face many of the practical challenges in today's more complex applications, and you have less worries in your electrical network.

UniGear Digital makes it easy to focus on applications and create reliable, efficient electrical network due to use of well-proven components: current and voltage sensors, protection and control relays with IEC 61850 digital communication.

UniGear Digital is...

Safe and reliable

- Increases equipment reliability
- Increases safety level in your substation
- Extended communication supervision functionality is available Intelligent and ready for the future
- Provides flexibility towards varying load flows
- Provides flexibility during switchgear operation
- Offers possibility of late customizations and changes

* compared to a conventional UniGear ZS1

** compared to typical substation with 14 switchgear panels of UniGear ZS1 type over 30 years of operation

Simple and efficient

- Minimizes lifetime costs during switchgear operation
- Saves space in your switchgear room by reducing switchgear footprint
- Offers 30 % quicker delivery time from order to switchgear operation *

Lower environmental impact

- Provides flexibility towards varying load flows
- Provides flexibility during switchgear operation
- Offers possibility of late customizations and changes
- Lowers energy consumption up to 250 MWh ** which represents saving of 13 000 EUR
- Saves up 150 tons of CO2 **, that is equal to emissions produced by mid-size European car driven for 1 250 000 km

Overview of UniGear Digital solution in UniGear switchgear family

Switchgear type	Busbar arrangement	UniGear Digital	Voltage level	Rated feeder current	Rated short-circuit current
UniGear ZS1	Single busbar	Yes	up to 24 kV	up to 4 000 A	up to 50 kA / 3 s
	Double busbar	No	up to 24 kV	up to 4 000 A	up to 31.5 kA / 3 s
	Back To Back	No	up to 24 kV	up to 4 000 A	up to 50 kA / 3 s
UniGear 550	Single busbar	Yes	up to 17.5 kV	up to 1 250 A	up to 31.5 kA / 3 s
UniGear 500R *	Single busbar	Yes	up to 12 kV	up to 2 000 A	up to 31.5 kA / 3 s
UniGear MCC	Single busbar	Yes	up to 12 kV	up to 400 A	up to 50 kA / 3 s

* IEC version

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Air Insulated Primary Switchgear
Unigear ZS2 up to 31.5kA, 36kV



- Air insulated switchgear
- LSC2B-PM type according to IEC 62271-200
- Interchangeable Vacuum and SF6 Gas Circuit breaker
- Compact dimensions
- Construction with ALUZINK sheet without welding points
- Space saving by wall standing solution
- Cable compartment accessible from the front
- Double busbar system
- Earthing switch with making capacity
- Earthing switch fitted with interlocks with the circuit-breaker
- Operational safety, circuit-breaker racking in / out with door closed

Technical data

Type of construction		IAC AFLR
Rated voltage	[kV]	36
Insulation Levels	[kV]	36/70/170
Rated frequency	[Hz]	50-60
Rated main busbar current (40 °C)	[A]	3150
Rated branch connection current (40 °C)	[A]	2500
Arc proof withstand current	[kA x 1 s]	31.5
Rated short-time withstand current (3 s)	[kA x 3 s]	... 31.5
Overall dimensions of basic cubicle	H [mm]	2310
	W [mm]	1000/1200
	D [mm]	2400/2600
Technical catalogue	No.	1YTS100001

Gas Insulated Primary Switchgear
ZX0 SBB up to 24kV, 25kA, 1250A

ZX0

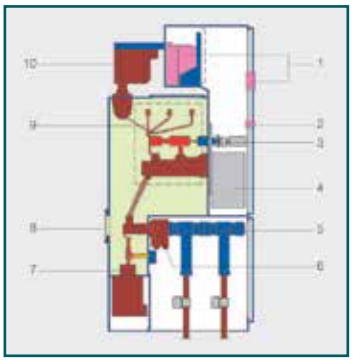
Compact system for distribution applications in block design. Installation against a wall or free-standing in the room. Both local manual operation and remote control are facilitated. Together with vacuum circuit-breakers, there are switch-disconnectors with and without fuses.

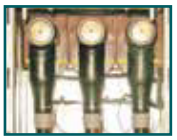
ZX offers maximum economy

The compact design of the panels reduces the space required and therefore the size of the station. Freedom from maintenance is achieved by constant conditions in the high voltage compartments in conjunction with the selection of suitable materials. As a rule, therefore, isolation of the switchgear to perform maintenance work is not required. The panels are designed for an expected service life of over 40 years. Thanks to the plug-in technology applied in the areas of the busbars, cables and secondary systems, extremely short installation times are possible. No gas work is required as a rule at site.

ZX0 elements at a glance

1 Multifunctional protection and control unit
2 Measuring sockets for capacitive voltage indicator system
3 Three position disconnector
4 Vacuum circuit-breaker
5 Cable connector at outer cone
6 Ring-type current transformer
7 Isolatable voltage transformer – feeder
8 Pressure relief disk
9 Busbars
10 Plug-in voltage transformer – busbar





Technical data		IEC Ratings	
Rated voltage	kV	12	24
Maximum operating voltage	kV	12	24
Test voltages	kV	28/75	50/125
Rated frequency	Hz	50/60	50/60
Rated busbar current	A	… 1250	… 1250
Rated current of feeder with CB	A	… 1250	… 1250
Rated current of feeder with load break switch	A	… 630	… 630
Rated peak withstand current	kA	… 62.5	… 62.5
Rated short-time current 3 s	kA	… 25	… 25
Internal Arc Classification [1]	Wall installation: IAC AFL 25 kA 1s ; Free-standing installation IAC AFLR 25 kA 1s		

[1] according to VDE 0671 part 200

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Gas Insulated Primary Switchgear
ZX0.2 SBB up to 36kV, 31.5kA, 2500A

ZX0.2

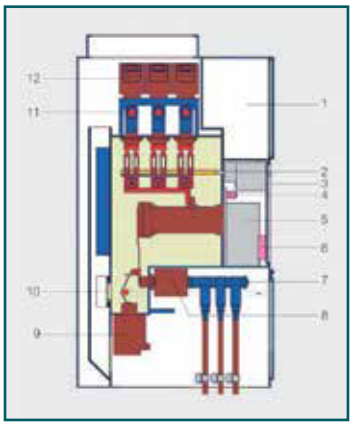
Metal-enclosed single busbar system for transformer and distribution switchgear in individual panel design. Installation against a wall or free-standing in the room. All systems have mechanical controls for local operation, but can also be remote controlled with optional motorized mechanisms for the three position disconnectors. Together with vacuum circuit-breakers, ZX0.2 also offers three position switch disconnector and fuse combinations (up to 24 kV).

Sealed gas compartments

The filling with SF6 ensures permanently constant ambient conditions. Nevertheless, components such as switching devices or bushings may have to be repaired or possibly replaced. Topping up in the event of a loss of insulating gas can be performed without interrupting operation, and possible shutdowns can therefore be planned. The SF6 is monitored with temperature compensation, by density sensors with a self-monitoring function. As a result of the closed circuit design, wire breakages and defective plug or terminal connections are signalled as faults.

ZX0.2 elements at a glance

1 Removable low voltage compartment with protection and control unit
2 Three position disconnector
3 Local controls in front of mechanism bay
4 Gas density sensor and filling valve
5 Vacuum circuit-breaker
6 Measuring sockets for capacitive voltage indicator system
7 Cable connector at outer cone
8 Ring-type current transformer
9 Isolatable voltage transformer – feeder
10 Pressure relief disk
11 Solid-insulated busbars
12 Plug-in voltage transformer – busbar





Tecnical data		IEC Ratings				
Rated voltage	kV	12		24		36
Maximum operating voltage	kV	12		24		36
Test voltages	kV	28/75		50/125		70/170
Rated frequency	Hz	50/60		50/60		50/60
Rated current of busbars	A	... 1250 ... 2500		... 1250 ... 2500		... 1250 ... 2500
Rated current of tee-off with circuit-breaker	A	... 630	... 1250 ... 2500	... 630	... 1250 ... 2500	... 1250 ... 2500
Rated current of tee-off with switch-disconnector and fuses	A	... 100		... 63		-
Rated peak withstand current for circuit-breaker	kA	... 62.5	... 80	... 62.5	... 80	... 80
Rated short-time current 3 s for circuit-breaker	kA	... 25	... 31.5	... 25	... 31.5	... 31.5
Internal Arc Classification [1]	Wall installation: IAC AFL 31.5 kA 1s ; Free-standing installation IAC AFLR 31.5 kA 1s					
[1] according to VDE 0671 part 200	Pressure relief in the switchroom or via duct to the outside					

Gas Insulated Primary Switchgear
ZX1.2 SBB up to 40kV, 31.5kA, 2500A

ZX1.2

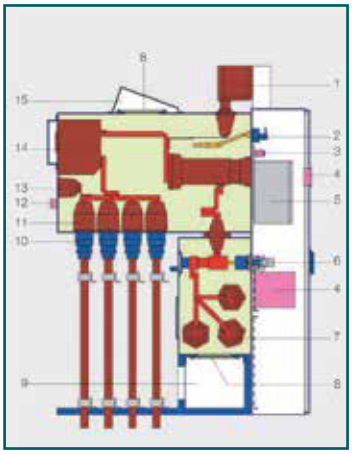
Metal partitioned single busbar system for transformer and distribution substations with raised cable terminations for ultra-simple cable installation from the rear. All switching devices can be remote controlled and optionally mechanically interlocked.

TheZX ensures maximum operator safety

All live components are enclosed to prevent accidental contact. As the high voltage compartments are independent of external influences (degree of protection IP65), the probability of a fault during operation is extremely low. As evidenced by arc fault testing, our switchgear systems are notable for maximum operator safety. A further enhancement can be achieved by providing pressure relief to outside the switchgear room.

Main components of ZX1.2

1 Plug-in voltage transformer – feeder
2 Isolating system for voltage transformer
3 Gas density sensor and filling valve
4 Multifunctional protection and control unit
5 Vacuum circuit-breaker
6 Three position disconnector
7 Busbars
8 Pressure relief disk
9 Pressure relief duct
10 Inner cone cable connector
11 Cable socket
12 Measuring sockets for capacitive voltage indicator system
13 Test socket
14 Current transformer or combined current and voltage sensor
15 Plasma diverter





Technical data		IEC Ratings					Special Ratings
Rated voltage	kV	12		24		36	
Maximum operating voltage	kV	12		24		36	40.5
Test voltages	kV	28/75		50/125		70/170	85/185
Rated frequency	Hz	50/60		50/60		50/60	50/60
Rated busbar current	A	... 1250 ... 2500		... 1250 ... 2500		... 1250 ... 2500	... 1250 ... 2500
Rated current of feeder	A	... 630	...1250 ... 2500	... 630	...1250 ... 2500	... 1250 ... 2500	... 1250 ... 2500
Rated peak withstand current	kA	... 62.5	... 80	... 62.5	... 80	... 80	... 80
Rated short-time current 3 s	kA	... 25	... 31.5	... 25	... 31.5	... 31.5	... 31.5
Internal Arc Classification [1]	with plasma diverter IAC AFL 31.5 kA 1s ; with plasma absorber and duct IAC AFLR 31.5 kA 1s						
[1] according to VDE 0671 part 200	Pressure relief in the switchroom or via duct to the outside						

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Gas Insulated Primary Switchgear
ZX2 SBB or DBB up to 40kV, 40kA, 2500A

ZX2

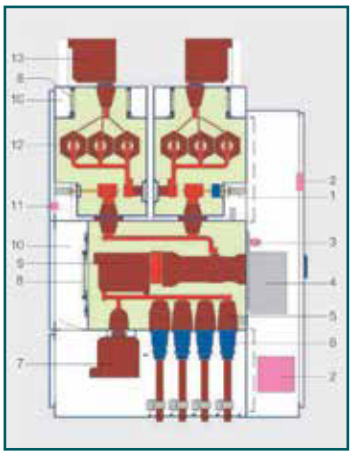
Metal partitioned single or double busbar system for all applications – even with the highest parameters. Cables accessible from the rear. All switching devices can be remote controlled and optionally mechanically interlocked. Both combined protection and control devices and pure protection devices are used.

The Easy, simple and fast

The busbar technology permits simple and therefore safe assembly. In spite of the extremely low failure probability of the ZX switchgear systems, replacement of components in the gas compartments and therefore a rapid return to service after repairs is possible. In gas-insulated switchgear, earthing of switchgear sections is performed by a high quality vacuum circuit-breaker. The circuit-breaker can close onto a short-circuit significantly more frequently and reliably than a positively making earthing switch.

ZX2 key elements

1 Three position disconnector
2 Multifunctional protection and control unit
3 Gas density sensor and filling valve
4 Vacuum circuit-breaker
5 Cable socket
6 Inner cone cable connector
7 Plug-in voltage transformer – feeder
8 Pressure relief disk
9 Current transformer or combined current and voltage sensor
10 Pressure relief duct
11 Measuring sockets for capacitive voltage indicator system
12 Busbars
13 Plug-in voltage transformer – busbar





Technical data		IEC Ratings					Special Ratings
Rated voltage	kV	12		24		36	
Maximum operating voltage	kV	12		24		36	42
Test voltages	kV	28/75		50/125		70/170	85/200
Rated frequency	Hz	50/60		50/60		50/60	50/60
Rated busbar current [2]	A	... 1250 ... 2500		... 1250 ... 2500		... 1250 ... 2500	... 1250 ... 2500
Rated current of feeder	A	... 630	...1250 ... 2500	... 630	...1250 ... 2500	... 1250 ... 2500	... 1250 ... 2500
Rated peak withstand current	kA	... 62.5	... 100	... 62.5	... 100	... 100	... 100
Rated short-time current 3 s	kA	... 25	... 40	... 25	... 40	... 40	... 40
Internal Arc Classification [1]	IAC AFLR 40 kA 1s						
[1] according to VDE 0671 part 200	Pressure relief via duct in the switchroom or to the outside						

[2] Single busbar systems up to 4000 A on request

Notes

Modular Systems

Modular Systems	Chapter
UniPack Bulk Metering	14.1
UniPack CSS – Steel up to 3000 kVA, 40.5 kV	14.2
UniPack-G – Gloss Fibre Reinforced Polyester up to 1000 kVA, 24 kV	14.3
Secondary Skid Unit (SSU)	14.4
E-Houses & Product Packaging	14.5

14

Compact Secondary Substations
UniPack Bulk Metering



ABB recently introduced their new bulk metering unit to satisfy the increasing demand in the secondary switchgear and metering market. This new design is aimed at reducing the cost and size from previously supplied units and making it more compact, safe and reliable.

Compact Design and Type Tested

- Mild Steel or 3CR12 Enclosure
- Easy Operation
- Ability for Dual Metering
- Cost Competitive

The type tested outdoor enclosures are designed to house from a 3 way ABB SafePlus unit up to a 5 way ABB SafePlus unit. The configuration of the units are variable to suit customer requirements. The units can be configured by using any combination of Load Isolators (C- module), Fuse Disconnectors (F – module) or Circuit Breaker feeders (V- module). . The enclosure is manufacture of mild steel for inland purposes and 3CR12 stainless steel for coastal applications.

The most commonly used configuration consists of a 4 way Unit (CCFV) which consist of two isolators, one fused T-off and one customer feeder via a vacuum circuit breaker The two isolators are used as ring feeds to complete the secondary distribution ring, The fused T-off provides the added feature of disconnecting the fully screened voltage transformers without disrupting the supply to the end customer. The vacuum circuit breaker, with protection and metering current transformers, serves as the main feeder to the end customer.

The voltage transformers are fitted in the same outdoor enclosure as part of the ring main unit and do not require a separate compartment.

The metering is done in a separate low voltage cubicle fitted to the side of the outdoor enclosure. This provides access for meter readings to be obtained by the utility without entering or exposing any medium voltage compartments. Main and check meters can be fitted if required.

This new compact design further provides the opportunity to supply two individual customers from one bulk metering unit. In this design each customer can be metered independently by using two independent vacuum circuit breaker feeders in one ring main unit.

Description	Order Code	Unit Sales Price (ZAR)	Esitimated Delivery
CFV12 In Outdoor 3CR12 Enclosure with Metering 100/1A CT	BCFVXXS111D0110001	R 501,001.00	18-20 weeks
CCFV12 In Outdoor 3CR12 Enclosure with Metering 100/1A CT	BCCFVXS111D0110002	R 574,800.00	18-20 weeks
CCFVV12 In Outdoor 3CR12 Enclosure with Metering 100/1A CT	BCCFVVS211D0110003	R 727,077.00	18-20 weeks

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Compact Secondary Substations
UniPack Bulk Metering

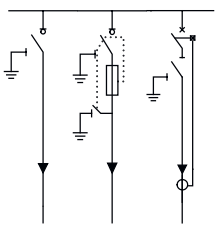
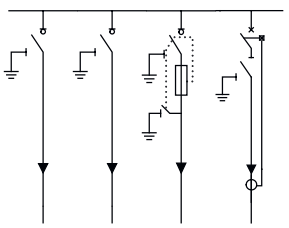
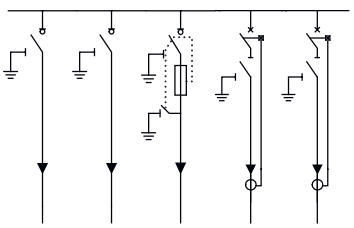




Metering VT'S
– Neat and tidy arrangement

Easily accessible meter reading
– seperate metering cabinets
– No accecss to MV parts

Technical Details

	3 way	4 way	5 way
RMU (standard)	**CFV** 	**CCFV** 	**CCFVV** 
No. of metering feeders	1	1 to 2	1 to 2
Dimensions (LXWXH)	1300x1200x2150	1650x1200x2150	2000X1200X2150
Weight	730Kg	935Kg	1140Kg
Degree of protection	IP54	IP54	IP54
Voltage transformers	Fully Screened (IEC…..) 3.3-24kV CL 0.2/0.5/1 VA 20/50	Fully Screened (IEC…..) 3.3-24kV CL 0.2/0.5/1 VA 20/50	Fully Screened (IEC…..) 3.3-24kV CL 0.2/0.5/1 VA 20/50
Metering CT's	200/1A Class X	200/1A Class X	200/1A Class X
Energy Meter	To client specification	To client specification	To client specification
Check Metering	Available	Available	Available

Compact Secondary Substations

UniPack CSS – Steel up to 3000kVA, 40.5kV

Application

Substations are used in a large number of different areas.

Secondary Substation	Application
Distribution	Transformation and public distribution
Operation	Operation at medium voltage level
Supply	Supply to satellite stations
Customer supply	Supply to major electricity customers
Feeding	Connection of decentralised power plant to the public network
Satellite	Substations for the end of radial connections
Pylon feeder station	Smaller stations connected to overhead lines

Modular structure

The buildings in the CSS range consist of 300 mm wide modules (M) plus corner sections measuring 115 x 115 mm. The roof is supplied with two roof slopes, 6° and 18°. The doors are 2, 3 or 4 m wide, and are fitted as either single or double doors. The ventilation doors are 2 or 3 m wide.

Type designations

CSS-SC.5.7	
Product type	CSS = Compact Secondary Substation
Materials	S = Steel C = Concrete
Layout	W = Walk-in N = Non Walk-in
	C = Compact
Width	5 = Number of modules wide
Length	7 = Number of modules long

Product overview

The Power IT CSS range comprises three main types, which are supplied in a number of different layouts and various styling.



CSS-SC

Compact station. Operated from the outside and installed partly below ground level



CSS-SN

Non Walk-in station. Operated from the outside and surface mounted.



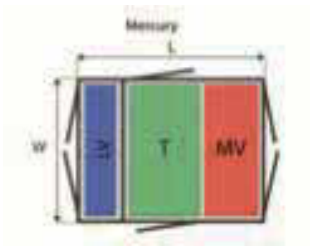
CSS-SW

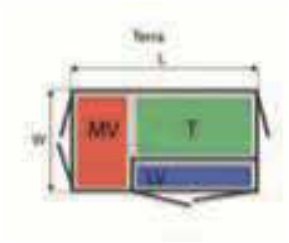
Walk-in station. Operated from the inside and surface mounted.

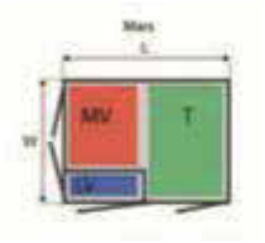
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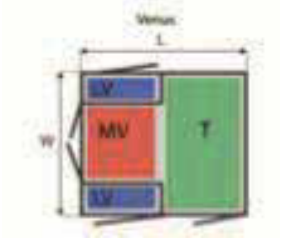
Compact Secondary Substations

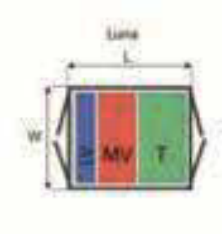
UniPack CSS – Steel up to 3000kVA, 40.5kV

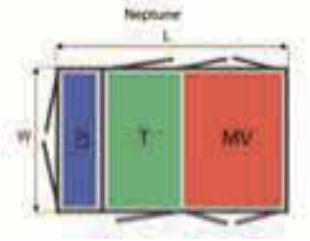


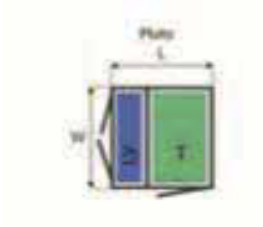


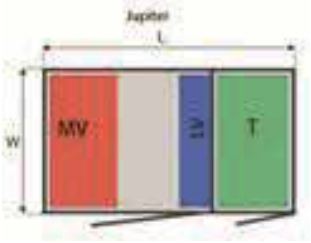














Solutions available

The following layouts are available in the Power [IT] CSS portfolio.

The name refers to the layout model, the number indicates the size of max transformer, and the letter the type of CSS.

CSS Name	L (mm)	W (mm)	H* (mm)
Mercury 3C	2434	1534	1997
Mercury 6C	2434	1834	2013
Mercury 10C	2734	2134	2427
Mercury 16C	3034	2434	2893
Mercury 16N	2734	2434	2558
Mars 2N	1834	1534	2050
Mars 5C	2434	1834	2411
Mars 8C	2434	2134	2427
Luna 2C	1834	1534	2385
Pluto 2C	1534	1534	1987
Pluto 3C	1534	1534	1997
Pluto 8C	2134	1834	2411
Terra 4N	2134	1834	2076
Terra 6C	2734	1534	1997
Venus 6C	2434	2134	2427
Nepture 10C	3334	2134	2693
Neptune 16C	3934	2434	2697
Jupiter 10W	3634	2134	2342
Jupiter 16W	3634	2434	2558

**With 6 degrees roof*

For further details on each layout we refer to our product data sheets.

Compact Secondary Substations

UniPack – G Glass fiber reinforced polyester up to 1000kVA, 24kV

Glass Fiber Reinforced Polyester (GRP) Value



- Proven material technology in the boat, car, railway, housing and electrical industry.
- Corrosion resistant.
- Can be located in harsh environments.
- Long maintenance free life cycle.
- Lightweight solution.
- Easier delivery to remote locations.
- Optimized installation cost.
- GRP will not dampen radio waves.
- External radio antenna not required.
- Double layer design.
- Minimal impact from ambient temperature and temperature changes
- Increased mechanical strength.
- Improved protection against vandalism

Features

- Type tested per latest IEC 62271-202 and GB 17467-2010.
- Internal Arc Classification IAC-AB 20 kA, 1 second.
- High level of safety for equipment and personnel.
- All equipment inside CSS are type tested.
- GRP housing.
- Modular construction with compartmented design.
- Engineered footprint meeting required clearance standards.
- Engineered for smooth air flow and natural cooling.
- Oil collection pit underneath the transformer.
- Can be lifted with transformer installed.
- Locking system for all doors to prevent un-authorized entry of personnel.
- No access to live parts.

Equipment description

Transformer – CSS is designed and manufactured to install dry or oil transformers.

Medium Voltage 12, 24, 40.5 kV – CSS can be provided with different options of Medium Voltage Switchgear from ABB compact secondary switchgear portfolio.

Low Voltage – there can be a breaker (ACB, or MCCB) mounted between the transformer and LV busbar or the cables can be mounted directly on the busbar. Various number and ratings of outgoing feeders depending on transformer size and customer needs. Special low voltage equipment available upon request.

Additional equipment

- Devices for metering and control circuit available.
- Smart Grid ready for easy connection to any SCADA System through standard communication protocols.
- Remote Terminal Unit (RTU) to monitor the CSS and store data for operation, maintenance and fault analysis. Local and remote monitoring and commands available.
- Smart Grid compatibility provides supervision and operation of all substations from a central office by utilizing end user communication infrastructure and ABB Station Automation device.

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Compact Secondary Substations
UniPack – G Glass fiber reinforced polyester up to 1000kVA, 24kV

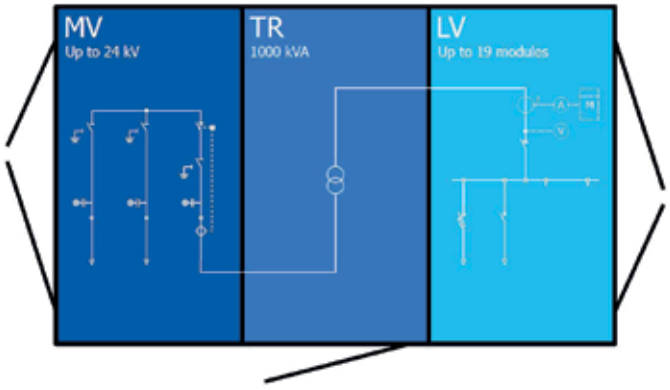
Installation

- Factory delivers a factory tested solution to the installation site, and provides all necessary lifting device for moving the substation.
- No complicated civil engineering job is needed in advance or during the installation.
- Only a pit has to be excavated and the substation has to be placed into this installation pit.
- When the substation is in its place, then the commissioning can be started after the incoming and outgoing cables had been connected.
- For detailed information please see our installation manual.

Technical Data for UniPack-G – Compact Secondary Substation – Spica Layout

Description	UniPack-G – Compact Secondary Substation – Spica Layout
Max power	1000 kVA
Type of layout	Spica 10N
Rated voltage	Up to 24 kV
Short circuit withstand current of internal earthing network	20 kA/1s
Overall dimensions (LxWxH)	3000 X 2470 X 2460 mm
Weight of substation excluding transformer (approximate)	2 tons
Transformer compartment dimension (LxWxH)	1400 X 2180 X 2100 mm
Maximum transformer load losses to be installed	11600 W
Transformer compartment IP protection degree	IP 23D / IP 35D / IP 45
MV/LV compartment IP protection degree	IP 54
CSS enclosure thermal class	15K with IP 23D transformer compartment
MV compartment	5-way SafeRing / SafeRing Air
LV compartment	Max space for outgoing feeders 1900 mm. Kabeldon, InLine, Tmax, Emax2 on request.
MV cabling	The connecting cables can be from Al or Cu according to customer request. If not specified, then the cross section is selected to fulfill short circuit requirement of the arrangement.
MV terminations	The connecting cables can be equipped with pre-molded / cold shrink / heat shrink cable heads upon customer request.
LV connection to transformer	Busbar or double insulated cable sized according to the rated power of trnsformer.
Rated current of LV panel	Up to 1600 A
Rated short circuit withstand capacity of LV busbar system	50 kA/1s

SLD



Compact Secondary Substations
Secondary Skid Unit (SSU)

Secondary Skid Unit (SSU)

A Secondary Skid Unit (SSU) is an assembly comprising of MV switchgear and a transformer packaged for power collection in wind and solar generating plants. The SSU is the power collection unit which converts the solar energy generated by the solar panels and wind turbine into a usable grid voltage. The SSU is a plug-and-play solution usually installed as close to the solar and wind strings as possible, enabling solar and wind power to be easily and rapidly connected to the electrical grid.

Features

- Simple and quick installation – pre-test units at the factory, drop in place and connect cables
- Pre-engineered products to reduce time to quote and supply, while reducing risks
- Engineered for efficient cooling in order to extend the life of the equipment
- All ABB designs are green to support the environment
- No exposed live parts, more safe for operator and personnel
- SCADA ready
- All equipment contained in the solar modules are type tested according to their relevant standards
- Easy access to equipment for visual inspection and service
- Open-air cooling for maximum efficiency
- Compact and easily transportable
- Economic solution
- Locking system for MV compartment to prevent unauthorized entry

Transformer

The SSU is designed and manufactured to be installed with liquid filled or dry type transformers. The transformer can be provided with alarm and trip contacts for temperature and gas pressure.

Medium Voltage

The SSU can be provided with different options of medium voltage switchgear from ABB's SF6 or air insulated switchgear portfolio. The MV switchgear can be provided with SF6 gas alarm, switch position contacts, plug-in MV surge arresters or auto reclosing functions.

Low Voltage

The low voltage protection is included in the inverter equipment.

LV cables are directly connected to the transformer LV bushing.

Smart Grid

- Smart grid ready for easy connection to any SCADA system through any standard communication protocols
- Remote Terminal Unit (RTU) to monitor the SSU and store data for operation, maintenance and fault analysis
- Local and remote monitoring commands available
- Smart grid compatibility provides supervision and operation of substations from a central office by utilizing end user communication and infrastructure and ABB Station automation device

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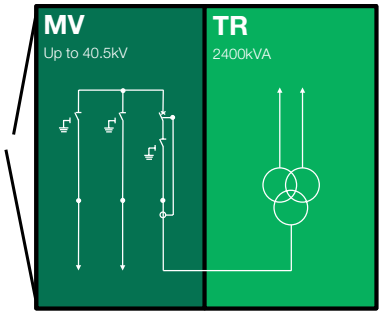
Compact Secondary Substations
Secondary Skid Unit (SSU)

Pre-engineered solution technical data

Pre-designed solutions are available for optimized designs and quicker delivery. Power ratings are aligned with the most common inverter power ratings. The solutions are equipped with medium voltage switchgear SafeRing CCV configuration (cable loop with breaker and relay protection). The transformer includes standard integrated protection for pressure and gas (RIS). Product datasheets are available with an overview of other options available. Pre-designed solutions for Power Collection are shown below:

Style number	SSU-S-1510-0CCV-4000	SSU-S-2410-0CCV-3000	SSU-S-2410-0CCV-4000	SSU-S-2410-0CCV-2000
Enclosure type	Skid	Skid	Skid	Skid
Overall parameters				
Length x Width x Height, mm	3400 x 2550 x 2800	3400 x 2550 x 2800	3400 x 2550 x 2800	3400 x 2550 x 2800
Approximate weight (metric tons)	8	9.5	9	9
MV switchgear				
Switchgear type	SafeRing CCV	SafeRing CCV	SafeRing CCV	SafeRing CCV
Protection Relay	REJ603	REJ603	REJ603	REJ603
Transformer				
Transformer type	oil immersed	oil immersed	oil immersed	oil immersed
Power rating, kVA	1500	2400	2400	2400
LV Voltage level, V	300 to 400	300 to 400	300 to 400	300 to 400
MV Voltage level, kV max	13.8	40.5	13.8	24
Standard protection	RIS	RIS	RIS	RIS

Single line diagram/layout (without inverter)



General technical data	
Nominal output voltage range	6 kV to 40.5 kV
Ambient temperature range	-25 °C to +40 °C
Relative humidity, non-condensing	95%
Max altitude above sea level w/out derating	1000m
Corrosion class (ISO 12944-2)	C5M
IP rating	IP44

E-Houses (Application Modules)
E-Houses & Product Packaging



Typical E-House installation

Background

During the 1990's, ABB recognized the evolving preference of global customers for an increased level of partnering on major projects. The drivers for this market shift were;

- A desire to reduce site costs and risk exposures by adopting the E-House principal
- The need to package multiple equipment elements under single contracts to reduce coordination & product integration issues, reduce procurement costs, reduce project engineering & management resource requirements
- Requirement for greater project control in order to achieve predictable project outcomes

Product packaging and E-House solutions satisfy these requirements.

Underpinning the value of the E-House principal, is the ability to reduce on site risk. Typical activities now performed off site as part of vendor scope are;

- Mechanical installation of switchgrears and equipment (including client free issue items)
- Installation of cable reticulation systems
- Electrical cabling between switch gears and equipment
- Pre commissioning of the fully installed equipment

Our Expertise

ABB has a global footprint of dedicated Modular Systems Business Units, specialising in Product Packaging & E-House solutions. These teams have the capability to support your project from concept design, to formal pricing through to project engineering & delivery.

Modular Systems core compatencies include;

- Project management
- E-House design and integration
- Equipment design, & manufacture
- Supply third party equipment (eg DC Battery Systems & UPS)
- Equipment installation
- Cable schedules and electrical installation
- Document control
- Commissioning
- Logistics
- Site support

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E-Houses (Application Modules)
E-Houses & Product Packaging



LNG Plant E-House Installations



Power Generation Plant E-House Installation



Industrial Plant E-House installation



Above Ground Mining Skid

ABB E-House & Packaging Customer Benefits

Risk Mitigation

- Reduced site works and exposure to external factors than can cause dellay & cost overrun eg weather., labour issues, material shortages
- Vendor responsibility for product element integration & interface

Project Schedule & Cost Control

- Reduced schedule based on extensive FAT and pre commissioning of completed E-House solution before delivery
- Efficient change management during manufacture and testing

Compliance

- Global experience with relevant codes and standards including IEC, NEMA, AS, BCA, GOST

Reduced Resources

- Reduced client resources for project tendering, engineering & project management

Project Management

- Single project management contact point for total package
- Project co ordination & supply chain management for ABB, & non ABB product elements

Commercial

- Single set of commercial conditions for total package

Based on ABB's extensive geographic and market segment coverage, multiple E-House design and equipment options are available to meet local market expectations and requirements.

Notes

UPS and Solar Inverters

UPS	Chapter
UPS	15.1

Solar Inverters

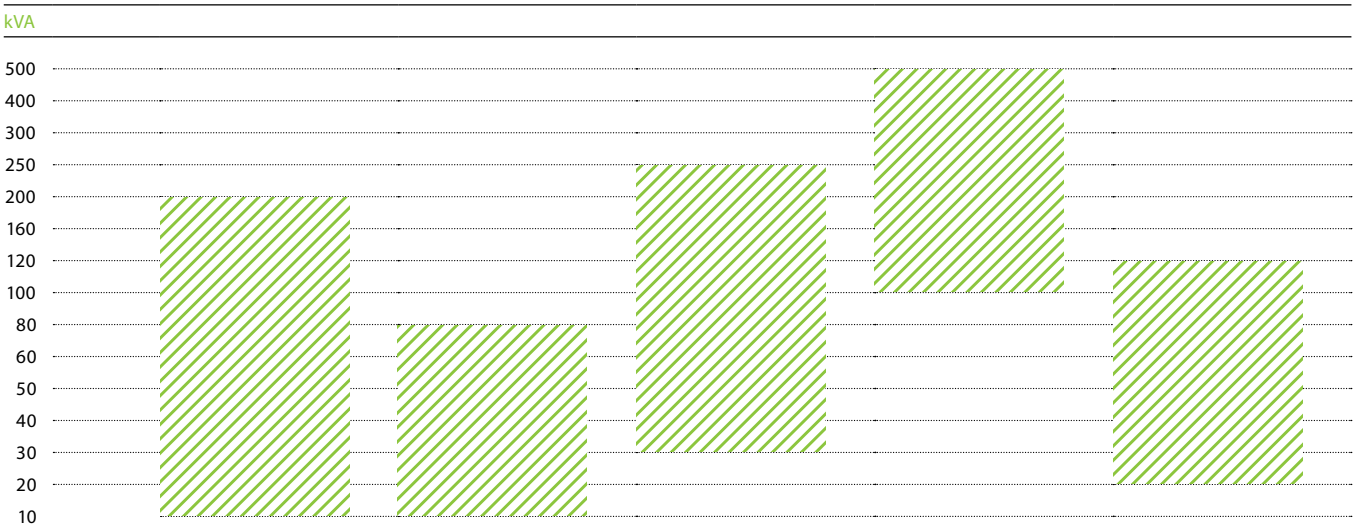
Single Phase Inverters	15.11
Three Phase Inverters	15.12
Trio-50.0-TL-Outd	15.13
Communication and Monitoring Devices	15.14

UPS

At the core of our business is a technically advanced product portfolio of high-quality and reliable three-phase and single-phase transformerless uninterruptible power supplies. All our UPSs provide online double conversion topology and are designed for continuous power protection of critical equipment against all power problems: power failure, power sag, power surge, undervoltage, overvoltage, switching transient, line noise, frequency variation and harmonic distortion.

ABB's modular UPSs

UPS cabinet rated power



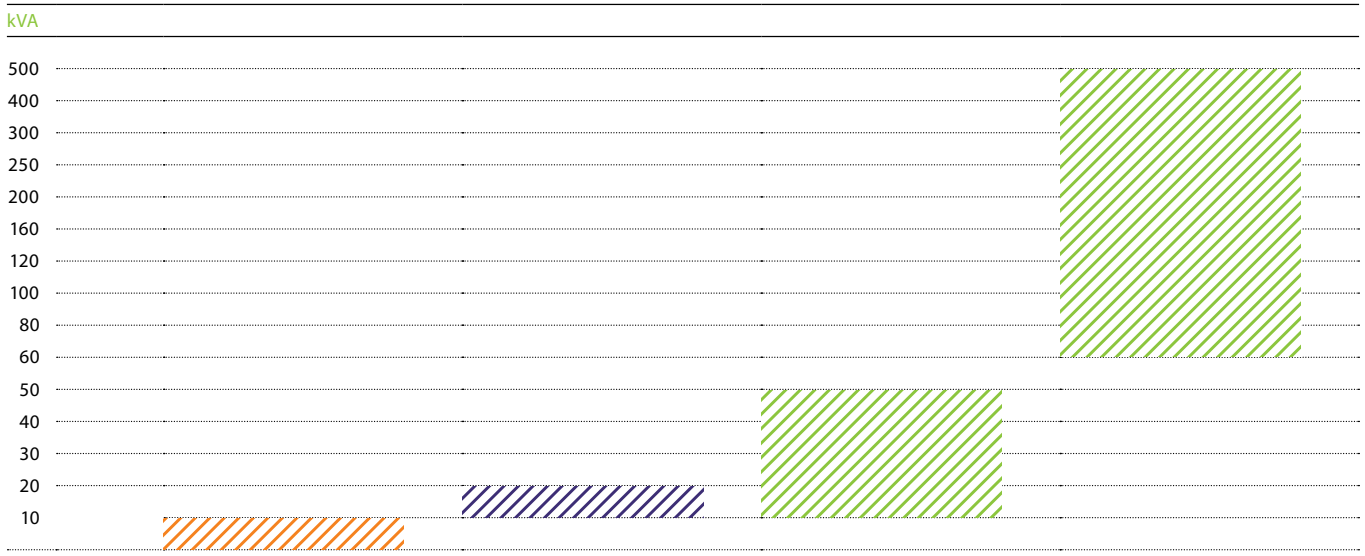
Product	DPA UPScale ST	DPA UPScale RI	Conceptpower DPA	Conceptpower DPA 500	PowerLine DPA
					
Parallelable	Up to 20 modules	–	Up to 30 modules	Up to 30 modules	Up to 3 modules
System power	400 kW	80 kW	1500 kVA	3000 kW	120 kVA
Application	Network, server and storage	Network, server and storage	Data center and facility	Data center and facility	Industrial applications
UPS type	Three-phase modular UPS	Three-phase modular UPS (rack-independent)	Three-phase modular UPS	Three-phase modular UPS	Three-phase modular UPS

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UPS

ABB's standalone UPSs

UPS cabinet rated power








Parallelable	Up to 2 units	Up to 4 units	Up to 20 units	Up to 10 units
System power	20 kVA	80 kVA	1000 kVA	5000 kW
Application	Workstation and home office	Workstation and home office	Network, server and storage	Data center and facility
UPS type	Single-phase rack or tower convertible	Single-phase standalone tower	Three-phase standalone tower	Three-phase standalone tower

UPS





Rated power	Article No.	Runtime (mins, at 75% load)	Description
1 kVA	4NWP100100R0001	4	UPS PowerValue 11 RT 1kVA B
	1 x 4NWP100100R0001 1 x 4NWP100105R0001	24	UPS PowerValue 11 RT 1kVA B + 1 x EBM
	1 x 4NWP100100R0001 2 x 4NWP100105R0001	48	UPS PowerValue 11 RT 1kVA B + 2 x EBM
	1 x 4NWP100100R0001 3 x 4NWP100105R0001	71	UPS PowerValue 11 RT 1kVA B + 3 x EBM
	1 x 4NWP100100R0001 4 x 4NWP100105R0001	97	UPS PowerValue 11 RT 1kVA B + 4 x EBM
2 kVA	4NWP100101R0001	6	UPS PowerValue 11 RT 2kVA B
	1 x 4NWP100101R0001 1 x 4NWP100106R0001	18	UPS PowerValue 11 RT 1kVA B + 1 x EBM
	1 x 4NWP100101R0001 2 x 4NWP100106R0001	31	UPS PowerValue 11 RT 1kVA B + 2 x EBM
	1 x 4NWP100101R0001 3 x 4NWP100106R0001	49	UPS PowerValue 11 RT 1kVA B + 3 x EBM
	1 x 4NWP100101R0001 4 x 4NWP100106R0001	63	UPS PowerValue 11 RT 1kVA B + 4 x EBM
3 kVA	4NWP100102R0001	6	UPS PowerValue 11 RT 3kVA B
	1 x 4NWP100102R0001 1 x 4NWP100107R0001	19	UPS PowerValue 11 RT 1kVA B + 1 x EBM
	1 x 4NWP100102R0001 2 x 4NWP100107R0001	33	UPS PowerValue 11 RT 1kVA B + 2 x EBM
	1 x 4NWP100102R0001 3 x 4NWP100107R0001	51	UPS PowerValue 11 RT 1kVA B + 3 x EBM
	1 x 4NWP100102R0001 4 x 4NWP100107R0001	67	UPS PowerValue 11 RT 1kVA B + 4 x EBM
6 kVA	4NWP100103R0001	No internal batteries	UPS PowerValue 11 RT 6kVA
	1 x 4NWP100103R0001 1 x 4NWP100108R0001	9	UPS PowerValue 11 RT 1kVA B + 1 x EBM
	1 x 4NWP100103R0001 2 x 4NWP100108R0001	22	UPS PowerValue 11 RT 1kVA B + 2 x EBM
	1 x 4NWP100103R0001 3 x 4NWP100108R0001	36	UPS PowerValue 11 RT 1kVA B + 3 x EBM
	1 x 4NWP100103R0001 4 x 4NWP100108R0001	51	UPS PowerValue 11 RT 1kVA B + 4 x EBM
10 kVA	4NWP100104R0001	No internal batteries	UPS PowerValue 11 RT 10kVA
	1 x 4NWP100104R0001 1 x 4NWP100109R0001	7	UPS PowerValue 11 RT 1kVA B + 1 x EBM
	1 x 4NWP100104R0001 2 x 4NWP100109R0001	18	UPS PowerValue 11 RT 1kVA B + 2 x EBM
	1 x 4NWP100104R0001 3 x 4NWP100109R0001	29	UPS PowerValue 11 RT 1kVA B + 3 x EBM
	1 x 4NWP100104R0001 4 x 4NWP100109R0001	41	UPS PowerValue 11 RT 1kVA B + 4 x EBM

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UPS





Items per pallet	Net dimensions (WxHxD) (mm)	Rack units	Net weight (kg)	Details	Qty per unit	Unit price (ZAR)
16	438 x 86.5 x 436	2U	16.2	Internal batteries: 1 x 3 x 7.2 Ah	1	8,656.50
	438 x 174 x 436	4U	38.4		2	14,601.50
	438 x 260 x 436	6U	60.6		3	20,546.50
	438 x 347 x 436	8U	82.8		4	26,491.50
	438 x 434 x 436	10U	105		5	32,436.50
16	438 x 86.5 x 436	2U	19.7	Internal batteries: 1 x 4 x 9 Ah	1	14,819.00
	438 x 174 x 436	4U	47.2		2	22,576.50
	438 x 260 x 436	6U	74.7		3	30,334.00
	438 x 347 x 436	8U	102.2		4	38,091.50
	438 x 434 x 436	10U	129.7		5	45,849.00
8	438 x 86.5 x 608	2U	28.6	Internal batteries: 1 x 6 x 9 Ah	1	18,429.50
	438 x 174 x 608	4U	69.1		2	28,115.50
	438 x 260 x 608	6U	109.6		3	37,801.50
	438 x 347 x 608	8U	150.1		4	47,487.50
	438 x 434 x 608	10U	190.6		5	57,173.50
6	438 x 129 x 594	3U	20.1	No internal batteries	1	36,163.00
	438 x 259 x 594	6U	62.8		2	50,344.00
	438 x 388 x 594	9U	106.6		3	64,525.00
	438 x 517 x 594	12U	150.4		4	78,706.00
	438 x 646 x 594	15U	194.2		5	92,887.00
4	439 x 215.5 x 594	5U	26	No internal batteries	1	50,648.50
	439 x 345 x 594	8U	88.5		2	68,730.00
	439 x 474 x 594	11U	151		3	86,811.50
	439 x 603 x 594	14U	213.5		4	104,893.00
	439 x 732 x 594	17U	276		5	122,974.50

UPS



UPS with Winpower card installed in the SNMP slot

Rated power	Article No.	Runtime (mins, at 75% load)	Description
	4NWP100100R0005	4	UPS PowerValue 11 RT 1kVA B+NMC
1 kVA	1 x 4NWP100100R0005 1 x 4NWP100105R0001	24	UPS with NMC + 1 EBM
	1 x 4NWP100100R0005 2 x 4NWP100105R0001	48	UPS with NMC + 2 EBM
	1 x 4NWP100100R0005 3 x 4NWP100105R0001	71	UPS with NMC + 3 EBM
	1 x 4NWP100100R0005 4 x 4NWP100105R0001	97	UPS with NMC + 4 EBM
	4NWP100101R0005	6	UPS PowerValue 11 RT 2kVA B+NMC
	1 x 4NWP100101R0005 1 x 4NWP100106R0001	18	UPS with NMC + 1 EBM
2 kVA	1 x 4NWP100101R0005 2 x 4NWP100106R0001	31	UPS with NMC + 2 EBM
	1 x 4NWP100101R0005 3 x 4NWP100106R0001	49	UPS with NMC + 3 EBM
	1 x 4NWP100101R0005 4 x 4NWP100106R0001	63	UPS with NMC + 4 EBM
	4NWP100102R0005	6	UPS PowerValue 11 RT 3kVA B+NMC
	1 x 4NWP100102R0005 1 x 4NWP100107R0001	19	UPS with NMC + 1 EBM
3 kVA	1 x 4NWP100102R0005 2 x 4NWP100107R0001	33	UPS with NMC + 2 EBM
	1 x 4NWP100102R0005 3 x 4NWP100107R0001	51	UPS with NMC + 3 EBM
	1 x 4NWP100102R0005 4 x 4NWP100107R0001	67	UPS with NMC + 4 EBM

UPS





	Items per pallet	Net dimensions (WxHxD) (mm)	Rack units	Net weight (kg)	Details	Qty per unit	
	16	438 x 86.5 x 436	2U	16.2	These articles are available only for full container FOB Hong Kong Price is already discounted by 15%, no further discount applicable Different models might be included in the same container	1	9,555.50
		438 x 174 x 436	4U	38.4		2	15,500.50
		438 x 260 x 436	6U	60.6		3	21,445.50
		438 x 347 x 436	8U	82.8		4	27,390.50
		438 x 434 x 436	10U	105		5	33,335.50
	16	438 x 86.5 x 436	2U	19.7		1	14,790.00
		438 x 174 x 436	4U	47.2		2	22,547.50
		438 x 260 x 436	6U	74.7		3	30,305.00
		438 x 347 x 436	8U	102.2		4	38,062.50
		438 x 434 x 436	10U	129.7		5	45,820.00
	8	438 x 86.5 x 608	2U	28.6		1	17,864.00
		438 x 174 x 608	4U	69.1		2	27,550.00
		438 x 260 x 608	6U	109.6		3	37,236.00
		438 x 347 x 608	8U	150.1		4	46,922.00
		438 x 434 x 608	10U	190.6		5	56,608.00

UPS

6 kVA	4NWP100103R0005	No internal batteries	UPS PowerValue 11 RT 6kVA+NMC
	1 x 4NWP100103R0005 1 x 4NWP100108R0001	9	UPS with NMC + 1 EBM
	1 x 4NWP100103R0005 2 x 4NWP100108R0001	22	UPS with NMC + 2 EBM
	1 x 4NWP100103R0005 3 x 4NWP100108R0001	36	UPS with NMC + 3 EBM
	1 x 4NWP100103R0005 4 x 4NWP100108R0001	51	UPS with NMC + 4 EBM
10 kVA	4NWP100104R0005	No internal batteries	UPS PowerValue 11 RT 10kVA+NMC
	1 x 4NWP100104R0005 1 x 4NWP100109R0001	7	UPS with NMC + 1 EBM
	1 x 4NWP100104R0005 2 x 4NWP100109R0001	18	UPS with NMC + 2 EBM
	1 x 4NWP100104R0005 3 x 4NWP100109R0001	29	UPS with NMC + 3 EBM
	1 x 4NWP100104R0005 4 x 4NWP100109R0001	41	UPS with NMC + 4 EBM
UPS with 6 A battery charger			
Rated power	Article No.	Runtime (mins, at 75% load)	Description
1 kVA	4NWP102193R0001	No internal batteries	UPS PowerValue 11 RT 1kVA S
	1 x 4NWP102193R0001 1 x 4NWP100105R0001	11	UPS PowerValue 11 RT 1kVA S + 1 x EBM
	1 x 4NWP102193R0001 2 x 4NWP100105R0001	34	UPS PowerValue 11 RT 1kVA S + 2 x EBM
	1 x 4NWP102193R0001 3 x 4NWP100105R0001	62	UPS PowerValue 11 RT 1kVA S + 3 x EBM
	1 x 4NWP102193R0001 4 x 4NWP100105R0001	99	UPS PowerValue 11 RT 1kVA S + 4 x EBM
2 kVA	4NWP102194R0001	No internal batteries	UPS PowerValue 11 RT 2kVA S
	1 x 4NWP102194R0001 1 x 4NWP100106R0001	<5	UPS PowerValue 11 RT 2kVA S + 1 x EBM
	1 x 4NWP102194R0001 2 x 4NWP100106R0001	17	UPS PowerValue 11 RT 2kVA S + 2 x EBM
	1 x 4NWP102194R0001 3 x 4NWP100106R0001	34	UPS PowerValue 11 RT 2kVA S + 3 x EBM
	1 x 4NWP102194R0001 4 x 4NWP100106R0001	53	UPS PowerValue 11 RT 2kVA S + 4 x EBM
3 kVA	4NWP102195R0001	No internal batteries	UPS PowerValue 11 RT 3kVA S
	1 x 4NWP102195R0001 1 x 4NWP100107R0001	5	UPS PowerValue 11 RT 3kVA S + 1 x EBM
	1 x 4NWP102195R0001 2 x 4NWP100107R0001	17	UPS PowerValue 11 RT 3kVA S + 2 x EBM
	1 x 4NWP102195R0001 3 x 4NWP100107R0001	34	UPS PowerValue 11 RT 3kVA S + 3 x EBM
	1 x 4NWP102195R0001 4 x 4NWP100107R0001	53	UPS PowerValue 11 RT 3kVA S + 4 x EBM
External battery modules (EBM)			
Rated power	Article No.	Runtime (mins, at 75% load)	Description
	4NWP100105R0001		External Battery PowerValue 11 RT 1kVA
	4NWP100106R0001		External Battery PowerValue 11 RT 2kVA
	4NWP100107R0001		External Battery PowerValue 11 RT 3kVA
	4NWP100108R0001		External Battery PowerValue 11 RT 6kVA
	4NWP100109R0001		External Battery PowerValue 11 RT 10kVA

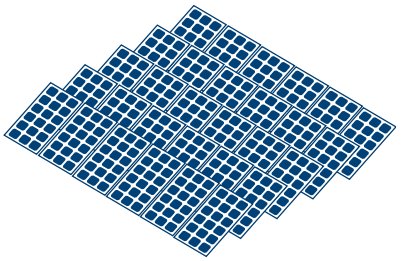
UPS

	6	438 x 129 x 594	3U	20.1		1	32,929.50
		438 x 259 x 594	6U	62.8		2	47,110.50
		438 x 388 x 594	9U	106.6		3	61,291.50
		438 x 517 x 594	12U	150.4		4	75,472.50
		438 x 646 x 594	15U	194.2		5	89,653.50
	4	439 x 215.5 x 594	5U	26		1	45,240.00
		439 x 345 x 594	8U	88.5		2	63,321.50
		439 x 474 x 594	11U	151		3	81,403.00
		439 x 603 x 594	14U	213.5		4	99,484.50
		439 x 732 x 594	17U	276		5	117,566.00

	Items per pallet	Net dimensions (WxHxD) (mm)	Rack units	Net weight (kg)	Details	Qty per unit	
	16	438 x 86.5 x 436	2U	8.4	No internal batteries	1	9,526.50
		438 x 174 x 436	4U	30.6		2	15,471.50
		438 x 260 x 436	6U	52.8		3	23,416.50
		438 x 347 x 436	8U	75		4	27,361.50
		438 x 434 x 436	10U	97.2		5	33,306.50
	16	438 x 86.5 x 436	2U	9.3	No internal batteries	1	16,008.00
		438 x 174 x 436	4U	36.8		2	23,765.50
		438 x 260 x 436	6U	64.3		3	31,523.00
		438 x 347 x 436	8U	91.8		4	39,280.50
		438 x 434 x 436	10U	119.3		5	47,038.00
	8	438 x 86.5 x 608	2U	13	No internal batteries	1	19,546.00
		438 x 174 x 608	4U	53.5		2	29,232.00
		438 x 260 x 608	6U	94		3	38,918.00
		438 x 347 x 608	8U	134.5		4	48,604.00
		438 x 434 x 608	10U	175		5	58,290.00

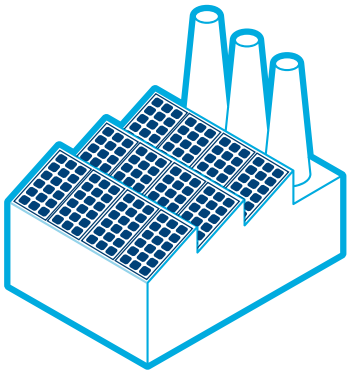
	Items per pallet	Net dimensions (WxHxD) (mm)	Rack units	Net weight (kg)	Details	Qty per unit	
	16	438 x 86.5 x 436	2U	22.2	2 x 3 x 7.2 Ah	1	5,945.00
	16	438 x 86.5 x 436	2U	27.5	2 x 4 x 7.2 Ah	1	7,757.50
	8	438 x 86.5 x 608	2U	40.5	2 x 6 x 7.2 Ah	1	9,686.00
	6	438 x 129 x 594	3U	48.4	1 x 15 x 9 Ah	1	14,181.00
	6	438 x 129 x 594	3U	62.5	1 x 20 x 9 Ah	1	18,081.50

ABB's solar inverter portfolio
Your brightest choice for everything under the sun



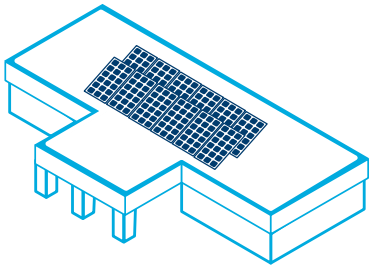
Power plants

In large multi-megawatt photovoltaic (PV) power plants the PV modules are typically mounted at ground level, either on fixed-tilted structures facing the sun or on tracking devices. For these land-based power plants ABB central inverters offer the most cost-effective solution for PV energy generation by feeding electricity directly to the medium voltage (MV) power distribution network (i.e. grid). ABB's offering for large plants includes a wide range of central inverters, inverter stations and megawatt stations.



Commercial and industrial

PV power systems installed on commercial and industrial buildings represent distributed power generation at its best close-to-consumption point. In these systems the peak load typically coincides with maximum PV production and thus electricity demand from the distribution network can be reduced during peak daytime hours. This is beneficial as energy transmission demand and losses in the grid are thus also reduced. For these applications ABB has advanced string inverters with full flexibility to be used together with smaller string inverters to meet your required system design.



Small commercial and residential

PV systems are among the few power generation technologies that can be installed right at the point of consumption, regardless of the amount of energy demanded. This saves infrastructure costs for cabling, transformers and switchgear. ABB's string inverters make it possible to cover a wide variety of design needs required in these applications.

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Big or small, commercial or residential, utility or industry, ABB has the power to support you

Solar Inverters

Single Phase Inverters, PVI Range

	P/N	Product Name	Description	Price
	3G96990S000A	PVI-3.0-TL-OUTD-S	• 3000Wac nominal power / 3300Wac max power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R18,390.00
	3G97990S100A	PVI-3.6-TL-OUTD-S	• 3600Wac nominal power / 4000Wac max power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R20,614.00
	3G79990S100A	PVI-4.2-TL-OUTD-S	• 4200Wac nominal power / 4600Wac max power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R22,283.00
	3G04990S100A	PVI-5000-TL-OUTD-S	• 5000Wac • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R24,618.00
	3G03990S100A	PVI-6000-TL-OUTD-S	• 6000Wac • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R27,473.00
	82000006292-G	WAGO Screwdriver	WAGO flat head angled screwdriver with insulated handle for the installation of PVI-5000/6000	R220.00
	3N81990FS00A	PVI-10.0-TL-OUTD-FS	• 10000Wac nominal power / 11000Wac max power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect and string fuses • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R37,931.00
	3N82990FS00A	PVI-12.5-TL-OUTD-FS	• 12500Wac nominal power / 13800Wac max power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC disconnect and string fuses • 5 year warranty • DC connector counterparts are not included, refer to multicontact dc cable connector kit	R42,411.00

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Solar Inverters

Three Phase Inverters, TRIO Range





P/N	ITEM	Description	Price
3M97990S005A	TRIO-5.8-TL-OUTD-S	• 5800Wac • 1 MPPT • RS485 • IP65 • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R33,231.00
3M99990S005A	TRIO-8.5-TL-OUTD-S	• 8500Wac • 2 MPPT • RS485 • IP65 • Integrated DC disconnect • 5 year warranty • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R35,838.00
3M44990F205A	TRIO-20.0-TL-OUTD-400	• 20000Wac nominal power • 22000Wac maximum power • 2 MPPT • RS485 • IP65 (NEMA4x) • 5 year warranty	R61,395.00
3M44990F001A	TRIO-20.0-TL-OUTD-S2X-400	• 20000Wac nominal power • 22000Wac maximum power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC and AC disconnect switch • DC and AC OV suppressor class II • String fuses (4+4 on each MPPT) and single string current monitoring • 5 year warranty • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R73,452.00
3M22990F200A	TRIO-27.6-TL-OUTD-400	• 27600Wac nominal power • 30000Wac maximum power • 2 MPPT • RS485 • IP65 (NEMA4x) • 5 year warranty	R71,199.00
3M22990F001A	TRIO-27.6-TL-OUTD-S2X-400	• 27600Wac • 30000Wac maximum power • 2 MPPT • RS485 • IP65 (NEMA4x) • Integrated DC and AC disconnect switch • DC and AC OV suppressor class II • String fuses (5+5 on each MPPT) and single string current monitoring • 5 year warranty • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R83,874.00

Solar Inverters

Three Phase Inverters, TRIO Range



3M870010000A	Fixing screw string combiner	fixing screw string combiner trio-20.0/27.6 families	R353.00
3N659900000A	PRO-33.0-TL-OUTD-400	• 33000Wac • 1 MPPT • IP 65 (IP54 fans) • 5 year warranty	R71,704.00
3N659900SX0A	PRO-33.0-TL-OUTD-SX-400	• 33000Wac • 1 MPPT • IP 65 (IP54 fans) • Integrated DC switch • DC OV suppressor class II • String fuses (8+8) and single string current monitoring • 5 year warranty • DC connector counterparts are not included, refer to sunclix dc cable connector kit	R79,668.00
3P090010000A	multicontact dc cable connector kit – 10 bags	• (4 MC connectors DC+ per bag) x 10bags • (4 MC connectors DC• per bag) x 10bags • Compatible with PVI-3.0/3.6/4.2-TL-OUTD, PVI-5000/6000-TL-OUTD, PVI-10.0/12.5-TL-OUTD families only	R4,227.00
3M8700CK000A	WM dc cable connector kit – 20 bags	• (10 WM connectors DC+ and 10 WM connectors DC• per bag) x 20 bags • Compatible with TRIO-5.8/7.5/8.5-TL-OUTD, TRIO-20.0/27.6-TL-OUTD, TRIO-50.0-TL-OUTD families only	R19,724.00
3N750080000A	Sunclix dc cable connector kit 1 bag	• 8 Sunclix connectors DC+ • 8 Sunclix connectors DC- • Compatible with PRO-33.0-TL-OUTD-SX-400 model only	R1,270.00
3P5899000000A	TRI0-50.0-TL-OUTD-S2X	Code 3P589900000A (TRI0-50.0-TL-OUTD-S2X) includes the following items: • Wall mounting bracket;TRIO-50.0 (3N639901000A) • DCWB-SX-TRIO-50.0-TL-OUTD/12 INPUTS (3N83000DC06A) • TRIO-50.0-TL-OUTD-POWER MODULE (3N639900000A) • ACWB-SX-TRIO-50.0-TL-OUTD (3N83000AC03A)	R90,520.00
3P5899030000A	TRI0-50.0-TL-OUTD-S1X	Code 3P589903000A (TRI0-50.0-TL-OUTD-S1X) includes the following items: • Wall mounting bracket;TRIO-50.0 (3N639901000A) • DCWB-SX-TRIO-50.0-TL-OUTD/12 INPUTS (3N83000DC06A) • TRIO-50.0-TL-OUTD-POWER MODULE (3N639900000A) • ACWB-TRIO-50.0-TL-OUTD (3N83000AC01A)	R89,900.00



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Solar Inverters

Trio-50.0-TL-Outd, Service Spares

P/N	ITEM	Description	Price
3N639901000A	WALL MOUNTING BRACKET;TRIO-50.0	• Vertical mounting bracket to be used for vertical mounting (wall, posts, etc) the TRIO 50.0 power module, DC & AC wiring boxes	R974.00
3N639902000A	HORIZONTAL MOUNTING BRACKET;TRIO-50.0	• Horizontal mounting bracket to be used for horizontal mounting (flat on rooftop, etc) the TRIO 50.0 power module, DC & AC wiring boxes	R1,345.00
3N639900000A	TRIO-50.0-TL-OUTD-POWER MODULE	• 50000Wac • 1 MPPT • IP 65 (IP54 fans) • 5 year warranty to be assembled with DC & AC wiring boxes and mounting bracket	R80,950.00
3N83000DC01A	DCWB-TRIO-50.0-TL-OUTD	TRIO-50.0 DC wiring box: • DC terminal block (Cu) • RS485 communication board • SD card slot • 5 year warranty to be assembled with AC wiring box, power module and mounting bracket	R10,363.00
3N83000DC02A	DCWB-S-TRIO-50.0-TL-OUTD	TRIO-50.0 DC wiring box: • DC terminal block (Cu) • DC disconnect switch • RS485 communication board • SD card slot • 5 year warranty to be assembled with AC wiring box, power module and mounting bracket	R11,875.00
3N83000DC06A	DCWB-SX-TRIO-50.0-TL-OUTD/12 INPUTS	TRIO-50.0 DC wiring box: • 12+12 DC input with 12+12 string fuses • Current monitoring in group of 3 inputs • DC surge protection Type II • DC disconnect switch • RS485 communication board • SD card slot • 5 year warranty to be assembled with AC wiring box, power module and mounting bracket • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R19,251.00
3N83000DC08A	DCWB-SX-TRIO-50.0-TL-OUTD/16 INPUTS	TRIO-50.0 DC wiring box: • 16+16 DC input with 16+16 string fuses • Current monitoring in group of 4 inputs • DC surge protection Type II • DC disconnect switch • RS485 communication board • SD card slot • 5 year warranty to be assembled with AC wiring box, power module and mounting bracket • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R19,657.00
3N83000DC07A	DCWB-SY-TRIO-50.0-TL-OUTD	TRIO-50.0 DC wiring box: • 12+12 DC input with 12+12 string fuses • Current monitoring in group of 3 inputs • DC surge protection Type I+ II • DC disconnect switch • RS485 communication board • SD card slot • 5 year warranty to be assembled with AC wiring box, power module and mounting bracket • DC connector counterparts are not included, refer to weidmuller dc cable connector kit	R22,201.00
3N83000AC01A	ACWB-TRIO-50.0-TL-OUTD	TRIO-50.0 AC wiring box: • AC terminal block (Cu) • 5 year warranty to be assembled with DC wiring box, power module and mounting bracket	R14,825.00
3N83000AC02A	ACWB-S-TRIO-50.0-TL-OUTD	TRIO-50.0 AC wiring box: • AC disconnect switch • 5 year warranty to be assembled with DC wiring box, power module and mounting bracket	R15,932.00
3N83000AC03A	ACWB-SX-TRIO-50.0-TL-OUTD	TRIO-50.0 AC wiring box: • AC disconnect switch • AC surge protection Type II • 5 year warranty to be assembled with DC wiring box, power module and mounting bracket	R16,374.00

Solar Inverters

Communication and Monitoring Devices

	P/N	ITEM	Description	Price
	3L64001F000A	PVI-PMU	Power management unit for active and reactive power control • PVI-CENTRAL and 3-ph string inverters (when applicable) • Including power supply • RS485 input & output	R4,523.00
	3I58001F000A	PVI-USB-RS232_485 converter	Adapter RS485 or RS232 to USB for PC interface • 2 year warranty	R1,872.00
	3N160010000	VSN300 WIFI LOGGER CARD	WIFI LOGGER CARD • IEEE 802.11 b/g/n (2.4 GHz) Wi-Fi Certified™ • Compatible with all ABB string inverters except PRO-33 • Modbus/TCP server (Sunspec certified) for SCADA integration • 30 days of local data storage • free standard access to Aurora Vision monitoring portal for the duration of the inverter warranty • 2 year warranty	R3,096.00
	VSN700-01-E0	VSN700-01	VSN700-01 Data Logger for the residential market • supports up to five ABB single phase inverters and TRIO-5.8/7.5/8.5 three phase inverters • two RS485 inputs, two Ethernet interfaces • external power supply (wall plug) for EU • 30 days of local data storage • free standard access to Aurora Vision monitoring portal for the duration of the inverter warranty • No DC string monitoring, No energy meter, No agency reporting • enclosure not included • 2 year warranty	R14,311.00
	VSN700-03-E0	VSN700-03	VSN700-03 Data Logger for the small to medium commercial market • supports up to ten ABB string inverters and one VSN800 Weather Station • two RS485 inputs, two Ethernet interfaces • external power supply (wall plug) for EU • 30 days of local data storage • free standard access to Aurora Vision monitoring portal for the duration of the inverter warranty • enclosure not included • 2 year warranty	R16,351.00
	VSN700-05-E0	VSN700-05	VSN700-05 Data Logger for all markets • supports all ABB inverters and select meters, combiners & weather stations • Modbus TCP gateway for SCADA integration • two RS485 inputs, two Ethernet interfaces • external power supply (wall plug) for EU • 30 days of local data storage • free standard access to Aurora Vision monitoring portal for the duration of the inverter warranty • enclosure not included • 2 year warranty	R20,837.00
	VS799-057-0	VSN-MGR-DIN	DIN rail mounting kit for all VSN700 Data Loggers	R420.00
	VSN800-12	VSN800-12	VSN800 Weather Station with basic sensor set • 1 ambient temp sensor • 1 panel temp sensor • 1 solar irradiation sensor (pyranometer) • NEMA 3R polymeric enclosure • 2 year warranty	R43,601.00
	VSN800-14	VSN800-14	VSN800 Weather Station with advanced sensor set • 1 ambient temp sensor • 1 panel temp sensor • 1 attached solar irradiance sensor • 1 detached solar irradiance sensor for plane of array • 1 wind speed sensor • 1 wind direction sensor • NEMA 3R polymeric enclosure • 2 year warranty	R58,321.00

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Installation Products

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Flexible conduit - Range overview	16.2
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Non-metallic conduit systems - Adaptaflex	16.4
Wire and cable management - Range overview	16.5
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Furse - Earthing and lightning protection	16.9

Flexible conduit
Cable protection systems









ABB has an excellent reputation for delivering high quality, robust yet flexible cable protection systems. With four major brands we provide unrivalled solutions for protecting electrical, data and telecommunications cabling across a wide range of markets.

Combining innovative design with dedicated manufacturing facilities, ABB offer customers one of the world's broadest ranges of cable protection products and solutions. The range covers metallic and non-metallic flexible conduit systems for the protection of critical power and data cables.

ABB flexible conduit systems are available to meet the demands of a wide range of markets including:

– Commercial contracting

– Machinery / Mechanical

– Rail / Infrastructure

– Marine

– Security / CCTV

– Data cabling / Critical power

System solutions need to perform in a wide variety of environments from high temperature to freezing subzero conditions. The products are also designed and tested to withstand constant vibrations, water ingress and offer corrosion resistance.

Flexible conduit
Range overview



Adaptalok ATS™ non-metallic fittings
Designed with an integral conduit seal and face seal washer for a rapid and highly reliable installation, as the seal can never be left out. Available as straight, 90°, 45°, 'Y' & 'T' piece fittings, with polyamide or nickel-plated brass threads.



Adaptasteel metallic fittings
Nickel-plated brass connectors for effective, long-lasting connection to metallic conduit. Connectors are available in all common thread types, as straight fittings or with elbows for 90° or 45° joints.



Adaptaflex / Adaptasteel conduit
Adaptaflex non-metallic conduit systems provide high flexibility & performance life. Conduit diameters range from 10 - 106 mm. Adaptasteel metallic conduit systems are ideal for more demanding & abrasive environments and come in galvanised or stainless steel.



PMAFIX connectors
High grade polyamide connectors with either polyamide or nickel-plated brass threads, for push-in assembly to achieve an ingress protection of up to IP68 and IP69K, static and dynamic.



PMAFLEX non-metallic conduit
Highly flexible to semi-rigid, in light to heavy duty, ideal for technically demanding applications, including rail, automation and engineering. Sizes range from 6 - 125 mm diameter.



Conduit accessories
For forming high quality electrical connections without external power or heat source.



Kopex stainless steel conduit systems
Highly flexible uncovered metallic conduit constructed from helically wound galvanised steel. Flexible galvanised steel conduit is also available with a flame retardant PVC covering. For use with Kopex straight fittings.



Kopex liquid tight conduit systems
An extensive range of conduits suited for liquid tight applications. All the conduits are fully flexible with exceptional mechanical strength, for use with Kopex liquid tight straight fittings.



Contractor packs
A set of budget to professional convenience packs are available in 20 & 25 mm diameter conduit systems.

Kopex-Ex
Hazardous area cable protection systems

Kopex-Ex conduit systems have been specifically designed to provide the optimal, safe solution to cable protection in hazardous areas.

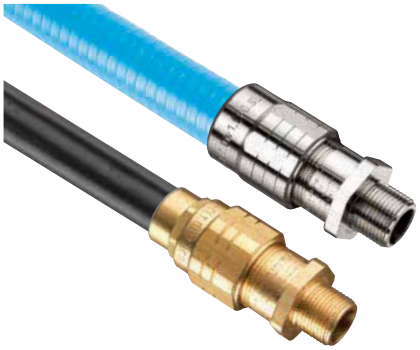
Kopex-Ex flexible conduit and connectors deliver significant safety benefits across a range of industries where hazardous areas exist or hazardous manufacturing processes are performed, incuding oil & gas, petrochemical, food & beverage and pharmaceutical industries. Our products include metallic and flexible nylon conduits and fittings - meeting the strictest worldwide standards for use in explosive hazardous atmospheres including ATEX/IECEx, UL and CSA.



Non-metallic explosion proof conduit
Kopex-Ex non-metallic nylon conduit has approval for use in Exe applications



Metallic explosion proof conduit
Kopex-Ex metallic conduit with galvanised steel core is available with a number of coatings for varying applications within hazardous areas.



Liquid tight conduit
Robust conduit made from galvanised or Stainless Steel 316 core with a coating for increased protection from dilute acids, alkali's, and hydro-carbon products.



G1 glands
Constructed from either brass or stainless steel, (optional nylon seal with epoxy resin, for Group I 90º). The Group I Flameproof Gland is a high quality, high specification product, ideal for Ex I & II 2 GD gas and dust, Exde IIC and Exe II applications.



Universal glands
Manufactured from brass, stainless steel or nickel plated, and with an epoxy resin barrier, the Universal Gland can be combined with rigid conduit, allowing it to be used in Class I Div I applications under CEC or NEC regulations.



Cable glands
Enhanced protectors for twisted pair and 3-wire applications with very low let-through voltages. Slim line protectors, ideal where installation space is at a premium and large numbers of lines require protection.

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Non-metallic conduit systems
Adaptaflex



Type PA
Standard Weight Conduit

Type PA
Standard weight conduit/ **Materials:** Polyamide (Nylon) 6 / **Colour:** Black (BL), Grey (GR)

Part No.	Nominal conduit size	NW conduit size	Conduit pitch	Outside Diameter	Inside Diameter	Min. Bend Radius	Reel Length (BL)	(GR)	Price per Max Reel Excl. VAT
PAFS10	10mm	7.5	Fine	10.0mm	6.5mm	15mm	50m	50m	R 1 024.82
PAFS13	13mm	10	Fine	13.0mm	9.6mm	25mm	50m	50m	R 1 024.82
PAFS16	16mm	13	Fine	15.8mm	11.8mm	35mm	10/25/50m	50m	R 1 024.82
PAFS21	21mm	17	Fine	21.2mm	16.5mm	45mm	10/25/50m	50m	R 1 024.82
PAFS28	28mm	23	Fine	28.5mm	22.6mm	50mm	10/25/50m	50m	R 1 410.73
PACS34	34mm	29	Coarse	34.5mm	27.7mm	60mm	10/25/50m	50m	R 2 687.09
PACS42	42mm	36	Coarse	42.5mm	35.2mm	65mm	10/25/50m	25m	R 4 030.66
PACS54	54mm	48	Coarse	54.5mm	46.5mm	75mm	10/25/50m	25m	R 5 239.86
PACS80	80mm	70	Coarse	79.3mm	67.0mm	160mm	10m	10m	R 5 374.19
PACS106	106mm	95	Coarse	106.0mm	91.5mm	210mm	10m	10m	R 6 878.96

To order quote part number, colour & reel length, e.g. PAFS13/BL/50M



Jumbo Type FL/A
Straight Panel Mounting
Swivel Flange

Jumbo Type FL/A - Adaptalok
Straight Panel Mounting Swivel Flange / **Materials:** Polyamide (Nylon) 66 / **Colour:** Black (BL) only
Accessories subject to minimum order quantity

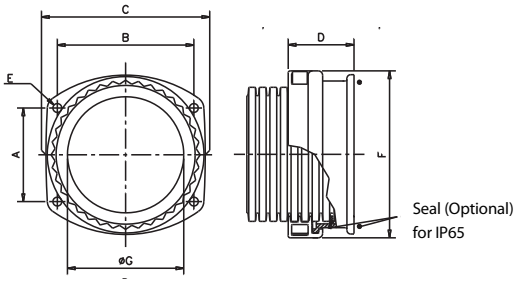
Part No.	Nominal conduit size	Price per unit Excl. VAT
ADC80/FL/A	80mm	R 114.67
ADC106/FL/A	106mm	R 133.00

To order quote part number, e.g. ADC80/FL/A/BL

Approvals

IP Rating	Appropriate Conduit	Temperature Range
For use with: Type PA / PI / PR 80/106		Static Applications: -50ºC to +120ºC
IP40	Yes	Moving Applications: -45ºC to +120ºC
IP65	Yes + SK Seal	
IP68	N/A	
IP69K	N/A	

Nominal Size	Part No.	
	ADC80/FL/A	ADC106/FL/A
A	60mm	74mm
B	80mm	108mm
C	98mm	126mm
D	52.5mm	52.5mm
Eø	7mm	7mm
F	106mm	132mm



Non-metallic conduit systems
Adaptaflex



Type A
Straight Fitting

Type A - Adaptalok

Straight Fitting - Fixed External Male Thread / For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY **Materials:** Polyamide (Nylon) 66 / **Colour:** Black (BL), Grey (GR) Accessories subject to minimum order quantity

Part No.	Nominal conduit size	Metric thread	Price per unit Excl. VAT
AL10/M12/A	10mm	M16	R 11.95
AL16/M20/A	16mm	M20	R 13.15
AL21/M20/A	21mm	M20	R 13.15
AL28/M25/A	28mm	M25	R 17.93
AL34/M32/A	34mm	M32	R 27.45

To order quote part number & body colour, e.g. AL10/M12/A/BL

Approvals

IP Rating	Appropriate Fitting	Temperature Range
For use with: Type PA / PI / CP / PR / PF		Static Applications: -50ºC to +120ºC
IP66	Yes	Moving Applications: -45ºC to +120ºC
IP67	Yes + ALS Seal	
IP68	Yes + ALS Seal	
IP69K	Yes + ALS Seal	



Type C90
90º Elbow Fitting

Type C90 - Adaptalok

90° Elbow Fitting - Fixed External Male Thread / For insertion into knockouts using a locknut. Locknut supplied with METRIC THREAD ONLY **Materials:** Polyamide (Nylon) 66 / **Colour:** Black (BL), Grey (GR) Accessories subject to minimum order quantity

Part No.	Nominal conduit size	Price per unit Excl. VAT
AL10/M12/C90	10mm	R 29.27
AL13/M16/C90	13mm	R 29.27
AL16/M16/C90	16mm	R 29.40
AL16/M20/C90	16mm	R 29.58
AL21/M20/C90	21mm	R 33.34
AL28/M25/C90	28mm	R 34.93
AL34/M32/C90	34mm	R 42.59
AL42/M40/C90	42mm	R 73.89
AL54/M50/C90	54mm	R 93.38
AL54/M63/C90	54mm	R 112.86

Approvals

IP Rating	Appropriate Fitting	Temperature Range
For use with: Type PA / PI / CP / PR / PF		Static Applications: -50ºC to +120ºC
IP66	Yes	Moving Applications: -45ºC to +120ºC
IP67	Yes + ALS Seal	
IP68	Yes + ALS Seal	
IP69K	Yes + ALS Seal	

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

Non-metallic conduit systems
Adaptaflex



Type T
Inspection T-Piece

Approvals

Type T - Adaptaseal

Inspection T-Piece / For connection to corrugated flexible conduit
Materials: Polyamide (Nylon) 66 / **Colour:** Black (BL) Only
Accessories subject to minimum order quantity

Part No.	Nominal conduit size	Price per unit Excl. VAT
ASF16X3/T	16mm	R 134.37
ASF21X3/T	21mm	R 145.09
ASC28X3/T	28mm	R 153.15
ASC34X3/T	34mm	R 188.08

To order quote part number & body colour, e.g. ASF10X3/T/BL

IP Rating	Appropriate Conduit	Temperature Range
For use with: Type PA / PI / CP / PR / PF		Static Applications: -40ºC to +120ºC
IP66	Yes	Moving Applications: -5ºC to +120ºC
IP67	Yes	
IP68	N/A	
IP69K	N/A	



Type AC
Conduit Clips

Type AC

Conduit Clips / With integral lid
Materials: Polyamide (Nylon) 66, Impact Modified Nylon - ST Version Only / **Colour:** Black (BL), Grey (GR)
Accessories subject to minimum order quantity

Part No.			
Black	Grey	Nominal conduit size	Price per unit Excl. VAT
ACB10	ACG10	10mm	R 10.76
ACB13	ACG13	13mm	R 11.82
ACB16	ACG16	16mm	R 16.78
ACB21	ACG21	21mm	R 16.82
ACB28	ACG28	28mm	R 18.55
ACB34	ACG34	34mm	R 26.52
ACB42	ACG42	42mm	R 42.99
ACB54	ACG54	54mm	R 48.35



Type LNP
Nylon Locknuts

Type LNP

Nylon Locknuts / **Materials:** Polyamide (Nylon) 6 / **Colour:** Black (BL), Grey (GR)
Accessories subject to minimum order quantity

Part No.			
Black	Grey	Metric thread	Price per unit Excl. VAT
LNPB/M12	–	M12	R 4.53
LNPB/M16	LNPG/M16	M16	R 4.53
LNPB/M20	LNPG/M20	M20	R 4.83
LNPB/M25	LNPG/M25	M20	R 5.59
LNPB/M32	LNPG/M32	M20	R 13.42
LNPB/M40	LNPG/M40	M20	R 18.82
LNPB/M50	LNPG/M50	M32	R 24.17
LNPB/M63	LNPG/M63	M20	R 30.23

Wire and cable management
Range overview

Ty-Rap® Ty-Met™ Ty-Fast® TwistTail® Shield-Kon® Sta-Kon®

ABB's broad offering of cable ties, connectors and insulation products make the task of fastening, bundling, clamping and managing wires easier and quicker for industrial applications.

When strength, aesthetics, reliability and performance are required, knowledgeable professionals turn to the original and the best source for cable management products.
Core wire & cable management product lines include:
– Ty-Rap® premium cable ties with steel locking barb
– Ty-Met™ stainless steel ties for extreme conditions
– Ty-Fast® & Ty-Grip™ cable ties
– Twist Tail™ tool-free cable ties



Ty-Rap® cable ties
The premium cable tie with a steel locking barb, available in a range of lengths and widths, with tensile strength up to 780 Nm. Ty-Rap® cable ties can be supplied in a number of colours options, to suit customer preference. Ergonomic fastening tools provide a rugged, long-lasting solution for rapid cable tie installation.



Ty-Met® stainless steel cable ties
High mechanical strength, chemical durability and temperature resistance make Ty-Met® cable ties the ideal solution in more aggressive environments. Available coated or uncoated, in ladder, ball-lock and releasable types.



ABB Trunking
ABB Trunking products offer a total solution for routing and concealing wiring in control panels.



Ty-Fast® cable ties
All-plastic cable ties are available in a variety of formats, including extra long, releasable or with identification tag, for low cost cable tying.



Twist-Tail™ cable ties
Easy to install cable ties with a unique twist to break tail which leaves no sharp edges to scratch hands or cabling..



Shield-Kon® shielded cable termination
An effective crimping solution for shielded termination on shielded cables.



Shrink-Kon® heat shrink technologies
Heavy, medium and thin wall tubing for insulation of bare Sta-Kon® connectors and splices.



Sta-Kon® solderless crimp connectors
Non-insulated and insulated solderless connectors, for high reliability with low installed cost.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

E-Klips
Spring Steel Fasteners

E-Klips®

The ABB E-Klips range of spring steel fasteners offer a simple, effective and reliable method of fixing services to steelwork without the need for bracket making, drilling holes or the use of nuts and bolts.

ABB's E-Klips range provides a fixing for almost every application to main and secondary steelwork, including cabling, trunking, cable tray, conduit, ducting, pipework, suspended ceilings and lighting - delivering immense flexibility in installation. E-Klips fasteners are specifically developed to keep installation time to a minimum, using only a hammer, screwdriver, spanner or pliers to complete the installation.



Purlin clips for chain and wire
For simple, secure suspension of loads up to 72kg from various styles of purlin, with connection via cable or wire.



Girder clips for conduit
Ideal for securing 12 - 57 mm conduit discreetly above girders.



Girder clips for cables
Clips of various styles for securing cables from 5 - 32 mm diameter.



Self-aligning purlin clip for threaded rod
Designed to hang threaded dropper rods from purlin with automatic vertical alignment.



Catenery wire, tensioners and accessories
Including catenery wire, thimbles, bulldog grips, tensioners and suspension plates.



Pipe hangers
Lined, unlined and filbow types are available, to enable suspension from threaded rods.



Suspended ceiling clips
Zinc coated or white painted, for suspension of loads up to 22kg from false ceiling grid.



Girder clips / clamps for threaded rod
Suitable for hanging threaded rods from 6 - 12 mm diameter.



Decking clips
For suspension from decking, either directly or with addition of chain, wire or rod.

Emergi-Lite
Emergency lighting and central battery systems

EMERGI-LITE®

Emergi-Lite is a leading life safety brand from ABB, delivering state-of-the-art emergency lighting systems and products to the market. Protecting lives, critical processes and property in the most demanding safety-critical applications.

With emphasis on innovative product development supported by scheme Emergi-Lite products offer state-of-the-art safety technology and proven electrical components that meet global safety and reliability standards. Product ranges extend from the high value specification brands such as Serenga, Horizon and Aqualux, through to our purpose-designed LED solutions for the distribution market, Escape Line. In addition to our range of emergency lighting offered, we also provide central battery systems with our renowned EMEX ranges.



Serenga 2
A high power, low energy consumption LED solution, specially designed lens for optimized light distribution. Modular components allow a First-Fix installation.



Guideway
Innovative and stylish product design, quick and simple installation, inherent energy efficiency and minimum maintenance.



Way-Fer emergency lighting
Low-profile emergency luminaire or exit sign (LED or 8 W T5), for commercial or light warehousing use.



Previx 11
A high grade polycarbonate back lit LED emergency exit sign/ emergency luminaire available with IP40, IP65, IP67 and IK10 ratings.



Aqualux
Hard wearing, high output luminaire and exit sign range for both interior and exterior use. Impressive light output even at high ceiling heights. Ideal for projects requiring heavy duty emergency lighting.



Horizon
A simple, unobtrusive LED downlighter with high lumen output and excellent spacings. Delivers excellent spacings, with options for both escape routes and open areas.

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DTS
Hazardous area lighting and enclosures

DTS provide a complete range of explosion proof lighting, emergency lighting, enclosures, junction boxes and control panels. Specifically designed to cope with harsh environments providing reliability, longevity and high performance for critical systems.

DTS products provide solutions covering all zones of potential explosion gas and dust atmospheres. They are compliant with the most stringent National, European and International regulations including IECEx, ATEX and ISO 9001 standards. Our products can be used in a wide variety of industries across the globe. Specialising in lighting and enclosure solutions for:
– Hazardous Environment Protection. Full range of IECEx and ATEX certified lighting and enclosure solutions for gas and dust areas
– Corrosive and harsh environment protection. We offer special materials and coating options for protection in the harshest environments such as sea salt, UV radiation etc.
– Total project cost reductions. Smart and modular product design reducing installation and maintenance cost of our luminaires
– Complimentary to DTS we also offer Kopex-Ex, a full range of nylon and metallic cable protection systems ATEX, IECEx, UL/CSA approved





Hazardous area tubular & self contained lighting fittings
Our tubular LED fittings offer an operating life of more than 100,000 hours, output of 5000 lumens with 100 percent yield, and components mounted on a sliding gear tray to facilitate installation and maintenance, which may be retrofitted into existing fixtures Fittings are manufactured with low-copper, marine-grade aluminum castings, and are finished with offshore-grade paint.

Floodlights & beacons
Manufactured from marine grade aluminum alloy (copper free), with toughened borosilicate glass and high output beams. Robust and durable through the severest industrial applications.

Hazardous area enclosures (Junction boxes)
DTS Ex d control panels are designed, manufactured and tested according to the ATEX protection type Ex d. (Ex d type of protection: Flameproof enclosure). They can be composed of a wide variety of standard components which are switches, contactors and relays for instance.



Furse
Earthing and lightning protection

ABB Furse provides world leading earthing, lightning and electronic systems protection solutions. From our own designed and manufactured products, through to risk assessment and systems design, we provide a Total Solution to earthing & lightning protection.

Furse product lines include:

– Air termination systems

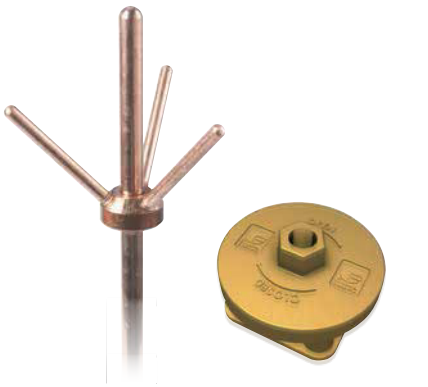
– Lightning protection & earthing conductors

– Conductor clips & clamps

– Earth electrodes & earth bars

– Exothermic joint welding

– AC & DC power, data, signal & telecoms surge protectors



Air terminals
Copper & aluminium air terminals to protect structures against direct lightning strikes



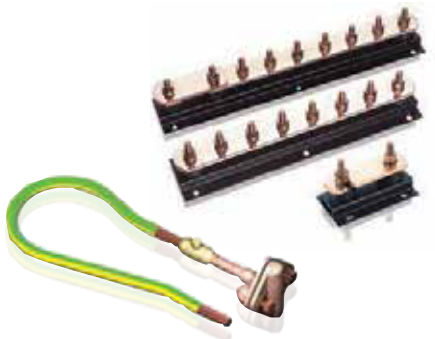
Bare/PVC covered conductors
High conductivity copper or aluminium tape, solid circular or stranded bare conductor. PVC covered tape and solid circular conductor in colours to match most common building materials.



Conductor clamps & clips
High quality copper or aluminium alloy clips for excellent corrosion resistance and high pull off loads. Square, crossover and test clamps for joining conductors and allowing disconnection and testing. Non-metallic clips for bare or PVC covered conductors.



Earth rods & clamps
High strength, corrosion resistant solid copper, stainless steel or copperbond earth rods are available. High copper content alloy clamps deliver a low resistance connection to earth conductors, rods and plates.



Earth bars & earth points
Earth bars provide an efficient way to provide a common earth point, with optional disconnecting links for easy isolation. Standard earth points are available with single or double pre-welded tails for connection to rebars.



Earth pits
Lightweight plastic and concrete inspection pits for protecting and allowing access to earthing connections.

Prices exclude VAT, subject to change without notice | E & O.E. Terms & Conditions apply

ABB South Africa (Pty) Ltd
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Longmeadow Business Estate North
Modderfontein, 1609
Private Bag X10004
Edenvale, 1610
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