

Electrification Products

Low Voltage Product Catalogue



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About ABB

Overview

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader with a comprehensive offering for digital industries. With a history of innovation spanning more than 130 years, ABB is today a leader in digital industries with four customer-focused, globally leading businesses: Electrification, Industrial Automation, Motion, and Robotics & Discrete Automation, supported by its common ABB Ability™ digital platform. ABB's market leading Power Grids business will be divested to Hitachi in 2020. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com

Our Electrification Business

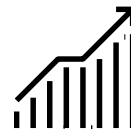
Our Purpose

- We are living through a time of huge change. In today's rapidly evolving world, nearly all aspects of daily life are touched by smart products or devices to monitor, control, optimize and operate systems that we rely upon, some of which adapt autonomously to a changing environment.
- The demand for electricity is constantly growing, while our natural resources become ever more scarce
- To meet the needs of this changing world, ABB Electrification is dedicated to developing pioneering and digital technologies that, from the source to socket, create safe, smart and sustainable electrification – for everyone

Key Facts



~55,000
employees



\$11.7 billion
in revenue (2015)

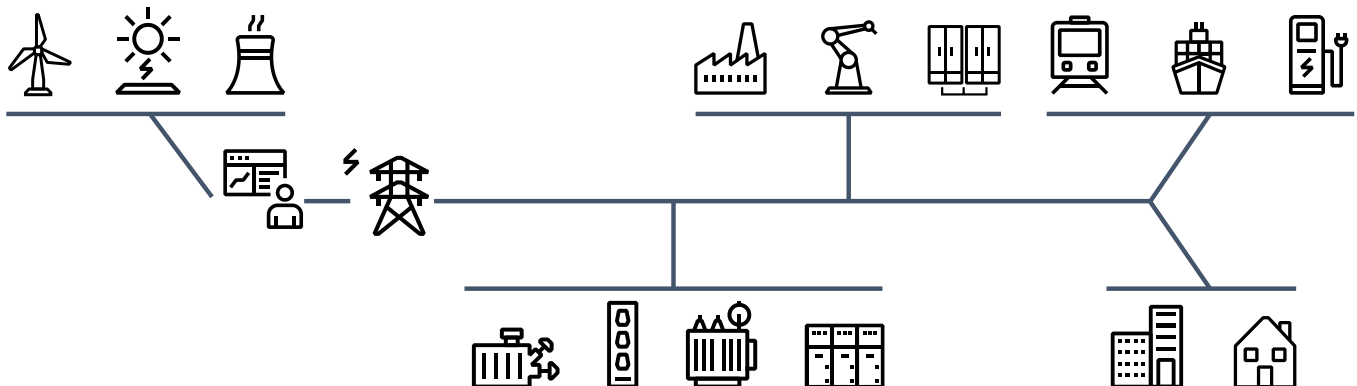


Present in
+100 countries



Manufacturing sites
+200 Delivering more than
1.7 million products a day

What we do



Enabling safe, smart and sustainable electrification - from source to socket

Well positioned in attractive markets

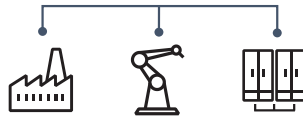
Utilities

- Renewable electrification
- Smart distribution



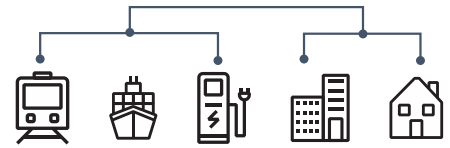
Industry

- Smart 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 in the industry; connecting, protecting, distributing and managing electrical power

Electrification Products are all around us

You will find them...



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



... in the **fastest** EV chargers



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



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



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



... in the **greenest** projects



... in the **tallest** building



... in the largest **cities**



... in the busiest **airports**



... in the most iconic **stadiums**



... in your **home**



... and on **Mars**

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



**Everywhere
can be a work
station...**

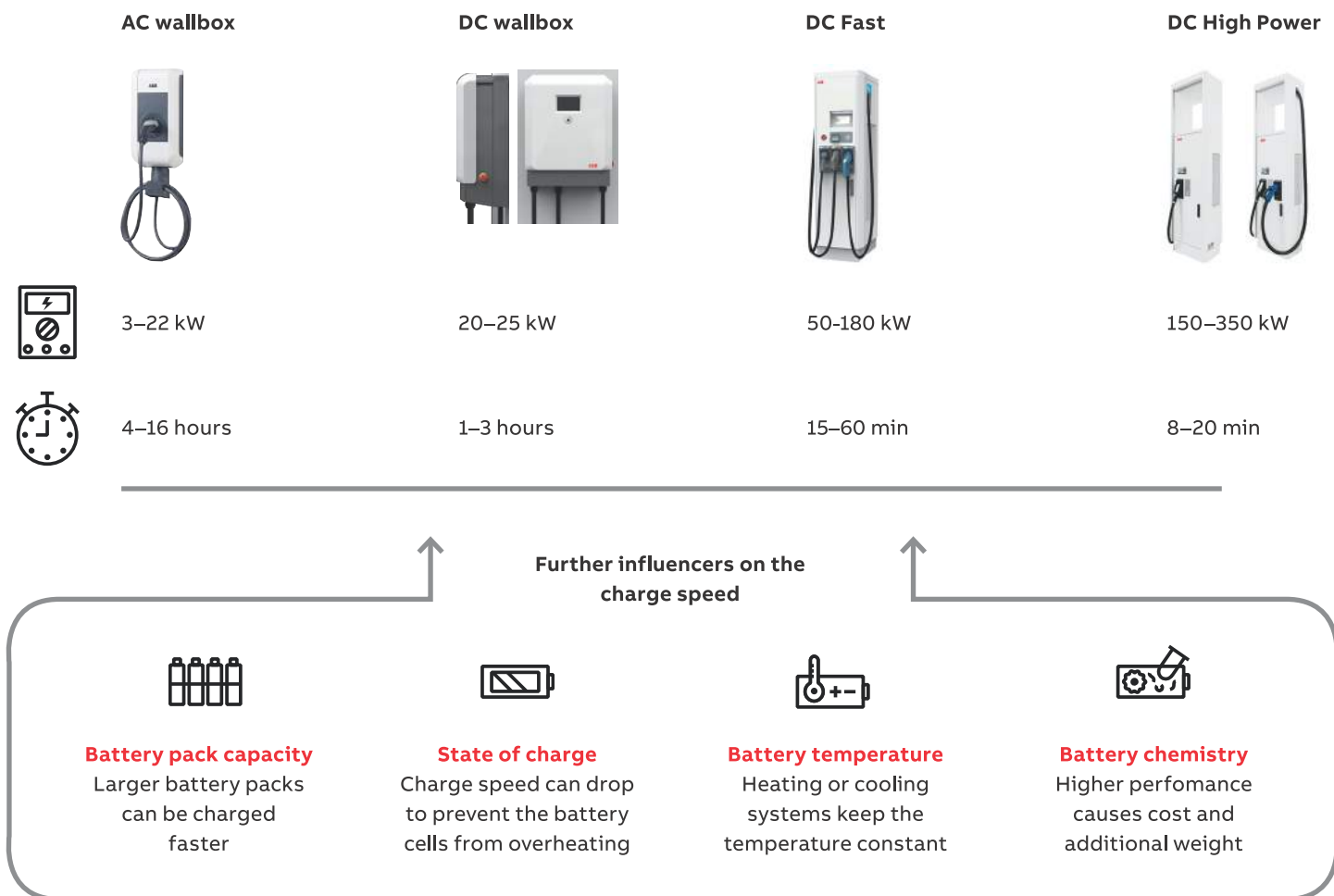
**...as well as a
charging station.**

Smarter Mobility

Holistic charging infrastructure solutions

They say that EV charging infrastructures are the 'fuel station of the future'. With its future-proof charging technology and unrivalled connectivity, ABB wants to ensure that the affordable, long-range electric vehicles of tomorrow are fully supported by reliable infrastructures today. ABB charging points and fast-charging stations will be the fuel of electric cars, electric buses and other passenger service vehicles.

Electrical Vehicle Infrastructure



What are the fast-charging standards currently being used by electric car manufacturers?

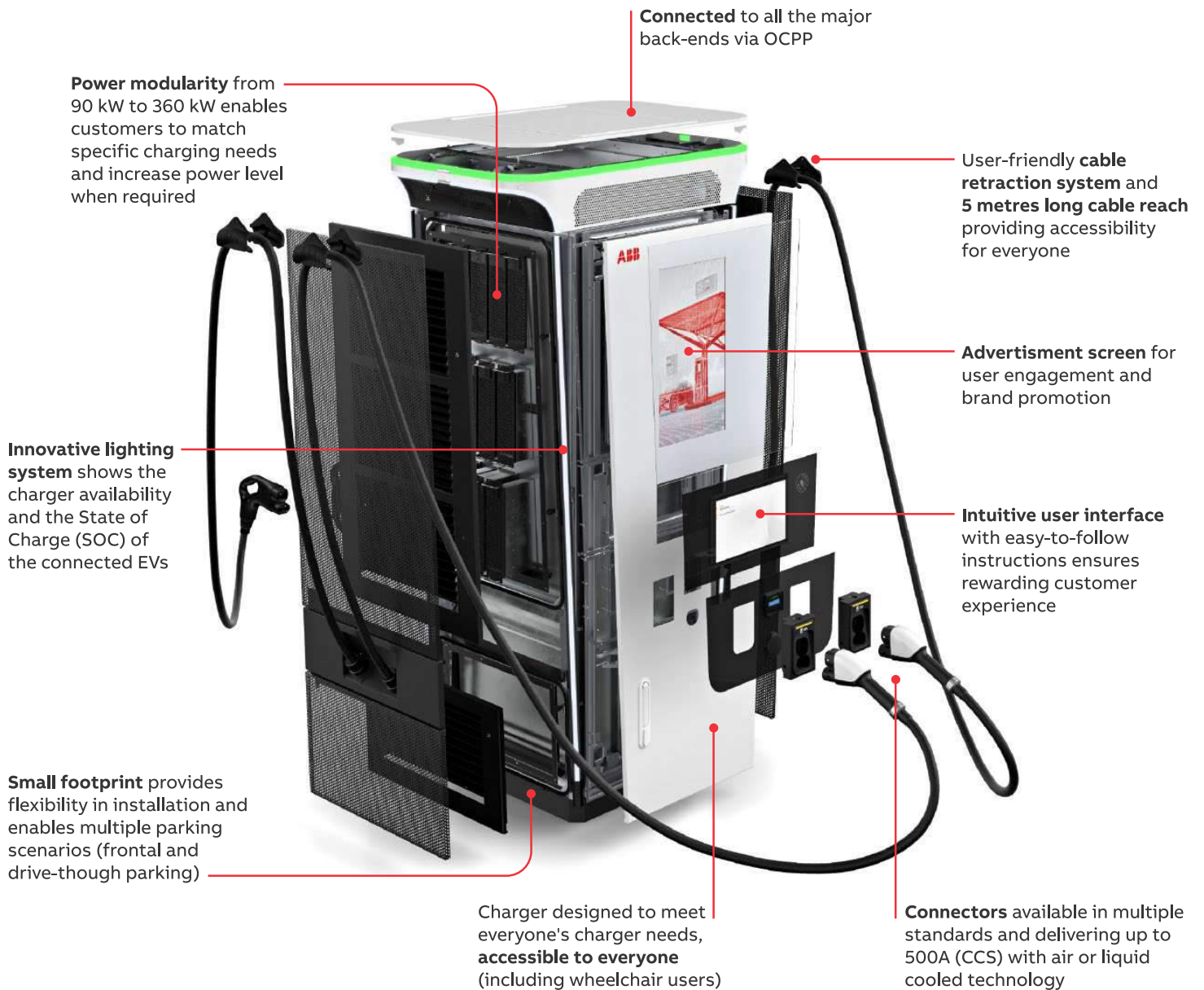
ABB follows the fast charging standards:

- 50 kW CHAdeMO – Global
- 22–43 kW AC – Global
- 50–350 kW CCS2 – EU, US, South Korea, Australia
- Tesla - proprietary - CHAdeMO adapter
- GB/T - China

Fast charging is paramount in making electric vehicles a success. Fast charging makes electric cars more useful because of the reassurance drivers get knowing they can quickly recharge, it eliminates range anxiety. It seems that car owners with fast-charge capable cars, with enough fast charging stations around them, feel capable of taking longer trips.

The Terra 360 all-in-one high-power charger

At a glance



CHARGING POWER

CCS charging up to 360 kW
CHAdemo charging up to 150 kW
AC Type-2 up to 22 kW

POWER CONFIGURATIONS

360 / 240 / 180 / 120 kW
(Upgradable with extra modules)

DIMENSIONS

Height 2200 mm
Width 720 mm
Depth 710 mm

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or other markings.

SECTION 1

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

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Miniature Switch Disconnectors

1.1 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
SHD201/25	2CDD27111R0025	1	25	10	0.075	10
SHD201/40	2CDD27111R0040	1	40	10	0.075	10
SHD201/63	2CDD27111R0063	1	63	10	0.075	10
E201/80 r *	2CDE281001R0080	1	80	25	0.095	10
E201/100 r *	2CDE281001R0100	1	100	25	0.095	10
E201/125 r *	2CDE281001R0125	1	125	6	0.095	10



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
SHD202/25	2CDD27211R0025	2	25	10	0.150	5
SHD202/40	2CDD27211R0040	2	40	10	0.150	5
SHD202/63	2CDD27211R0063	2	63	10	0.150	5
E202/80 r *	2CDE282001R0080	2	80	25	0.190	5
E202/100 r *	2CDE282001R0100	2	100	25	0.190	5
E202/125 r *	2CDE282001R0125	2	125	6	0.190	5



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
SHD203/25	2CDD27311R0025	3	25	10	0.225	1
SHD203/40	2CDD27311R0040	3	40	10	0.225	1
SHD203/63	2CDD27311R0063	3	63	10	0.225	1
E203/80 r *	2CDE283001R0080	3	80	25	0.290	1
E203/100 r *	2CDE283001R0100	3	100	25	0.290	1
E203/125 r *	2CDE283001R0125	3	125	6	0.330	1



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
SHD204/25	2CDD27411R0025	4	25	10	0.300	1
SHD204/40	2CDD27411R0040	4	40	10	0.300	1
SHD204/63	2CDD27411R0063	4	63	10	0.300	1
E204/80 r *	2CDE284001R0080	4	80	25	0.390	1
E204/100 r *	2CDE284001R0100	4	100	25	0.390	1
E204/125 r *	2CDE284001R0125	4	125	6	0.440	1

* Possible to fit S2C – H6R

Din Rail Fuse Holders

1.2 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
E91hN/32	2CSM200913R1801	2	1	32	690	10 x 38	6

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
E93hN/32	2CSM204743R1801	4	3	32	690	10 x 38	2

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
E91/32	2CSM200923R1801	1	1	32	690	10 x 38	6
E91/50	2CSM279022R1801	1	1.5	50	690	14 x 51	4
E91/125	2CSM277572R1801	1	2	100	690	22 x 58	4

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
E93/32	2CSM204753R1801	3	3	32	690	10 x 38	2
E93/50	2CSM277962R1801	3	4.5	50	690	14 x 51	1
E93/125	2CSM277502R1801	3	6	100	690	22 x 58	1

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
E91N/32	2CSM200893R1801	1+N	2	32	690	10 x 38	3
E91N/50	2CSM277982R1801	1+N	3	50	690	14 x 51	2
E91N/125	2CSM277352R1801	1+N	4	100	690	22 x 58	2

Miniature Circuit Breaker Curve C

1.3 up to 3kA- SR200T Series

Breaking capacity: 3kA MCB has been issued with LOA based on VC8036

Tripping characteristics: Curve C

Terminals- cross section of conductors: 25mm²



SR201T Single Pole MCB 3kA Din Rail Mount (230Vac)

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
SR201T-C6	2CDS231070R0064	1	6	3	3	10
SR201T-C10	2CDS231070R0104	1	10	3	3	10
SR201T-C16	2CDS231070R0164	1	16	3	3	10
SR201T-C20	2CDS231070R0204	1	20	3	3	10
SR201T-C25	2CDS231070R0254	1	25	3	3	10
SR201T-C32	2CDS231070R0324	1	32	3	3	10
SR201T-C40	2CDS231070R0404	1	40	3	3	10
SR201T-C50	2CDS231070R0504	1	50	3	3	10
SR201T-C63	2CDS231070R0634	1	63	3	3	10



SR202T Double Pole MCB 3kA Din Rail Mount (400Vac)

Type	Order Code	No. of Poles (17.5mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units per pack
SR202T-C6	2CDS232070R0064	2	6	3	3	5
SR202T-C10	2CDS232070R0104	2	10	3	3	5
SR202T-C16	2CDS232070R0164	2	16	3	3	5
SR202T-C20	2CDS232070R0204	2	20	3	3	5
SR202T-C25	2CDS232070R0254	2	25	3	3	5
SR202T-C32	2CDS232070R0324	2	32	3	3	5
SR202T-C40	2CDS232070R0404	2	40	3	3	5
SR202T-C50	2CDS232070R0504	2	50	3	3	5
SR202T-C63	2CDS232070R0634	2	63	3	3	5

1

Miniature Circuit Breaker Curve C

1.3 up to 3kA- SR200T Series

Breaking capacity:

3kA MCB has been issued with LOA based on VC8036

Tripping characteristics:

Curve C

Terminals- cross section of conductors:

25mm²



SR203T Triple Pole MCB 3kA Din Rail Mount (400Vac)

Type	Order Code	No. of Poles (17.5mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units per pack
SR203T-C6	2CDS233070R0064	3	6	3	3	1
SR203T-C10	2CDS233070R0104	3	10	3	3	1
SR203T-C16	2CDS233070R0164	3	16	3	3	1
SR203T-C20	2CDS233070R0204	3	20	3	3	1
SR203T-C25	2CDS233070R0254	3	25	3	3	1
SR203T-C32	2CDS233070R0324	3	32	3	3	1
SR203T-C40	2CDS233070R0404	3	40	3	3	1
SR203T-C50	2CDS233070R0504	3	50	3	3	1
SR203T-C63	2CDS233070R0634	3	63	3	3	1



SR204T Four MCB 3kA Din Rail Mount (400Vac)

Type	Order Code	No. of Poles (17.5mm)	Rated Current (A)	Rated kA at 400 VAC (Icu)	Rated kA at 400 VAC (Ics)	Units per pack
SR204T-C10	2CDS234070R0104	4	10	3	3	1
SR204T-C16	2CDS234070R0164	4	16	3	3	1
SR204T-C25	2CDS234070R0254	4	25	3	3	1
SR204T-C32	2CDS234070R0324	4	32	3	3	1
SR204T-C40	2CDS234070R0404	4	40	3	3	1
SR204T-C50	2CDS234070R0504	4	50	3	3	1
SR204T-C63	2CDS234070R0634	4	63	3	3	1

Miniature Circuit Breakers Curve C

1.4 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
S201-C2	2CDS251001R0024	1	2	10	7.5	10
S201-C6	2CDS251001R0064	1	6	10	7.5	10
S201-C10	2CDS251001R0104	1	10	10	7.5	10
S201-C16	2CDS251001R0164	1	16	10	7.5	10
S201-C20	2CDS251001R0204	1	20	10	7.5	10
S201-C25	2CDS251001R0254	1	25	10	7.5	10
S201-C32	2CDS251001R0324	1	32	10	7.5	10
S201-C40	2CDS251001R0404	1	40	10	7.5	10
S201-C50	2CDS251001R0504	1	50	10	7.5	10
S201-C63	2CDS251001R0634	1	63	10	7.5	10
S201-C80	2CDS251001R0804	1	80	6	6	10
S201-C100	2CDS251001R0824	1	100	6	6	10

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
S202-C2	2CDS252001R0024	2	2	10	7.5	5
S202-C6	2CDS252001R0064	2	6	10	7.5	5
S202-C10	2CDS252001R0104	2	10	10	7.5	5
S202-C16	2CDS252001R0164	2	16	10	7.5	5
S202-C20	2CDS252001R0204	2	20	10	7.5	5
S202-C25	2CDS252001R0254	2	25	10	7.5	5
S202-C32	2CDS252001R0324	2	32	10	7.5	5
S202-C40	2CDS252001R0404	2	40	10	7.5	5
S202-C50	2CDS252001R0504	2	50	10	7.5	5
S202-C63	2CDS252001R0634	2	63	10	7.5	5
S202-C80	2CDS252001R0804	2	80	6	6	5
S202-C100	2CDS252001R0824	2	100	6	6	5

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
S203-C2	2CDS253001R0024	3	2	10	7.5	1
S203-C6	2CDS253001R0064	3	6	10	7.5	1
S203-C10	2CDS253001R0104	3	10	10	7.5	1
S203-C16	2CDS253001R0164	3	16	10	7.5	1
S203-C20	2CDS253001R0204	3	20	10	7.5	1
S203-C25	2CDS253001R0254	3	25	10	7.5	1
S203-C32	2CDS253001R0324	3	32	10	7.5	1
S203-C40	2CDS253001R0404	3	40	10	7.5	1
S203-C50	2CDS253001R0504	3	50	10	7.5	1
S203-C63	2CDS253001R0634	3	63	10	7.5	1
S203-C80	2CDS253001R0804	3	80	6	6	1
S203-C100	2CDS253001R0824	3	100	6	6	1

Note:

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

Miniature Circuit Breakers Curve C

1.4 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
S204-C2	2CDS254001R0024	4	2	10	7.5	1
S204-C6	2CDS254001R0064	4	6	10	7.5	1
S204-C10	2CDS254001R0104	4	10	10	7.5	1
S204-C16	2CDS254001R0164	4	16	10	7.5	1
S204-C20	2CDS254001R0204	4	20	10	7.5	1
S204-C25	2CDS254001R0254	4	25	10	7.5	1
S204-C32	2CDS254001R0324	4	32	10	7.5	1
S204-C40	2CDS254001R0404	4	40	10	7.5	1
S204-C50	2CDS254001R0504	4	50	10	7.5	1
S204-C63	2CDS254001R0634	4	63	10	7.5	1
S204-C80	2CDS254001R0804	4	80	6	6	1
S204-C100	2CDS254001R0824	4	100	6	6	1

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
S201-C6 NA	2CDS251103R0064	1 + N	6	10	7.5	5
S201-C10 NA	2CDS251103R0104	1 + N	10	10	7.5	5
S201-C16 NA	2CDS251103R0164	1 + N	16	10	7.5	5
S201-C20 NA	2CDS251103R0204	1 + N	20	10	7.5	5
S201-C25 NA	2CDS251103R0254	1 + N	25	10	7.5	5
S201-C32 NA	2CDS251103R0324	1 + N	32	10	7.5	5
S201-C40 NA	2CDS251103R0404	1 + N	40	10	7.5	5
S201-C50 NA	2CDS251103R0504	1 + N	50	10	7.5	5
S201-C63 NA	2CDS251103R0634	1 + N	63	10	7.5	5
S201-C80 NA	2CDS251103R0804	1 + N	80	6	6	5
S201-C100 NA	2CDS251103R0824	1 + N	100	6	6	5



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
S203-C6 NA	2CDS253103R0064	3 + N	6	10	7.5	1
S203-C10 NA	2CDS253103R0104	3 + N	10	10	7.5	1
S203-C16 NA	2CDS253103R0164	3 + N	16	10	7.5	1
S203-C20 NA	2CDS253103R0204	3 + N	20	10	7.5	1
S203-C25 NA	2CDS253103R0254	3 + N	25	10	7.5	1
S203-C32 NA	2CDS253103R0324	3 + N	32	10	7.5	1
S203-C40 NA	2CDS253103R0404	3 + N	40	10	7.5	1
S203-C50 NA	2CDS253103R0504	3 + N	50	10	7.5	1
S203-C63 NA	2CDS253103R0634	3 + N	63	10	7.5	1
S203-C80 NA	2CDS253103R0804	3 + N	80	6	6	1
S203-C100 NA	2CDS253103R0824	3 + N	100	6	6	1

Note:

Icu/Ics rating according to IEC 60947-2

Miniature Circuit Breakers Curve D

1.5 Up to 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
S201-D2	2CDS251001R0021	1	2	10	7.5	10
S201-D6	2CDS251001R0061	1	6	10	7.5	10
S201-D10	2CDS251001R0101	1	10	10	7.5	10
S201-D16	2CDS251001R0161	1	16	10	7.5	10
S201-D20	2CDS251001R0201	1	20	10	7.5	10
S201-D25	2CDS251001R0251	1	25	10	7.5	10
S201-D32	2CDS251001R0321	1	32	10	7.5	10
S201-D40	2CDS251001R0401	1	40	10	7.5	10
S201-D50	2CDS251001R0501	1	50	10	7.5	10
S201-D63	2CDS251001R0631	1	63	10	7.5	10

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
S202-D2	2CDS252001R0021	2	2	10	7.5	5
S202-D6	2CDS252001R0061	2	6	10	7.5	5
S202-D10	2CDS252001R0101	2	10	10	7.5	5
S202-D16	2CDS252001R0161	2	16	10	7.5	5
S202-D20	2CDS252001R0201	2	20	10	7.5	5
S202-D25	2CDS252001R0251	2	25	10	7.5	5
S202-D32	2CDS252001R0321	2	32	10	7.5	5
S202-D40	2CDS252001R0401	2	40	10	7.5	5
S202-D50	2CDS252001R0501	2	50	10	7.5	5
S202-D63	2CDS252001R0631	2	63	10	7.5	5

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
S203-D2	2CDS253001R0021	3	2	10	7.5	1
S203-D6	2CDS253001R0061	3	6	10	7.5	1
S203-D10	2CDS253001R0101	3	10	10	7.5	1
S203-D16	2CDS253001R0161	3	16	10	7.5	1
S203-D20	2CDS253001R0201	3	20	10	7.5	1
S203-D25	2CDS253001R0251	3	25	10	7.5	1
S203-D32	2CDS253001R0321	3	32	10	7.5	1
S203-D40	2CDS253001R0401	3	40	10	7.5	1
S203-D50	2CDS253001R0501	3	50	10	7.5	1
S203-D63	2CDS253001R0631	3	63	10	7.5	1

S204 Four 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
S204-D2*	2CDS254001R0021	4	2	10	7.5	1
S204-D6*	2CDS254001R0061	4	6	10	7.5	1
S204-D10*	2CDS254001R0101	4	10	10	7.5	1
S204-D16*	2CDS254001R0161	4	16	10	7.5	1
S204-D20*	2CDS254001R0201	4	20	10	7.5	1
S204-D25*	2CDS254001R0251	4	25	10	7.5	1
S204-D32*	2CDS254001R0321	4	32	10	7.5	1
S204-D40*	2CDS254001R0401	4	40	10	7.5	1
S204-D50*	2CDS254001R0501	4	50	10	7.5	1
S204-D63*	2CDS254001R0631	4	63	10	7.5	1

Note:

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

* Contact ABB for availability.

Miniature Circuit Breakers Curve C

1.6 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
S201M-C2	2CDS271001R0024	1	2	15	11.2	10
S201M-C6	2CDS271001R0064	1	6	15	11.2	10
S201M-C10	2CDS271001R0104	1	10	15	11.2	10
S201M-C16	2CDS271001R0164	1	16	15	11.2	10
S201M-C20	2CDS271001R0204	1	20	15	11.2	10
S201M-C25	2CDS271001R0254	1	25	15	11.2	10
S201M-C32	2CDS271001R0324	1	32	15	11.2	10
S201M-C40	2CDS271001R0404	1	40	15	11.2	10
S201M-C50	2CDS271001R0504	1	50	15	7.5	10
S201M-C63	2CDS271001R0634	1	63	15	7.5	10



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
S202M-C2	2CDS272001R0024	2	2	15	11.2	5
S202M-C6	2CDS272001R0064	2	6	15	11.2	5
S202M-C10	2CDS272001R0104	2	10	15	11.2	5
S202M-C16	2CDS272001R0164	2	16	15	11.2	5
S202M-C20	2CDS272001R0204	2	20	15	11.2	5
S202M-C25	2CDS272001R0254	2	25	15	11.2	5
S202M-C32	2CDS272001R0324	2	32	15	11.2	5
S202M-C40	2CDS272001R0404	2	40	15	11.2	5
S202M-C50	2CDS272001R0504	2	50	15	7.5	5
S202M-C63	2CDS272001R0634	2	63	15	7.5	5



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
S203M-C2	2CDS273001R0024	3	2	15	11.2	1
S203M-C6	2CDS273001R0064	3	6	15	11.2	1
S203M-C10	2CDS273001R0104	3	10	15	11.2	1
S203M-C16	2CDS273001R0164	3	16	15	11.2	1
S203M-C20	2CDS273001R0204	3	20	15	11.2	1
S203M-C25	2CDS273001R0254	3	25	15	11.2	1
S203M-C32	2CDS273001R0324	3	32	15	11.2	1
S203M-C40	2CDS273001R0404	3	40	15	11.2	1
S203M-C50	2CDS273001R0504	3	50	15	7.5	1
S203M-C63	2CDS273001R0634	3	63	15	7.5	1

S204 M Four 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
S204M-C2	2CDS274001R0024	4	2	15	11.2	1
S204M-C6	2CDS274001R0064	4	6	15	11.2	1
S204M-C10	2CDS274001R0104	4	10	15	11.2	1
S204M-C16	2CDS274001R0164	4	16	15	11.2	1
S204M-C20	2CDS274001R0204	4	20	15	11.2	1
S204M-C25	2CDS274001R0254	4	25	15	11.2	1
S204M-C32	2CDS274001R0324	4	32	15	11.2	1
S204M-C40	2CDS274001R0404	4	40	15	11.2	1
S204M-C50	2CDS274001R0504	4	50	15	7.5	1
S204M-C63	2CDS274001R0634	4	63	15	7.5	1

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

1.7 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
S201P-C2	2CDS281001R0024	1	2	25	12.5	10
S201P-C6	2CDS281001R0064	1	6	25	12.5	10
S201P-C10	2CDS281001R0104	1	10	25	12.5	10
S201P-C16	2CDS281001R0164	1	16	25	12.5	10
S201P-C20	2CDS281001R0204	1	20	25	12.5	10
S201P-C25	2CDS281001R0254	1	25	25	12.5	10



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
S202P-C2	2CDS282001R0024	2	2	25	12.5	5
S202P-C6	2CDS282001R0064	2	6	25	12.5	5
S202P-C10	2CDS282001R0104	2	10	25	12.5	5
S202P-C16	2CDS282001R0164	2	16	25	12.5	5
S202P-C20	2CDS282001R0204	2	20	25	12.5	5
S202P-C25	2CDS282001R0254	2	25	25	12.5	5



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
S203P-C2	2CDS283001R0024	3	2	25	12.5	1
S203P-C6	2CDS283001R0064	3	6	25	12.5	1
S203P-C10	2CDS283001R0104	3	10	25	12.5	1
S203P-C16	2CDS283001R0164	3	16	25	12.5	1
S203P-C20	2CDS283001R0204	3	20	25	12.5	1
S203P-C25	2CDS283001R0254	3	25	25	12.5	1

S204 P Four 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
S204P-C2*	2CDS284001R0024	4	2	25	12,5	1
S204P-C6*	2CDS284001R0064	4	6	25	12,5	1
S204P-C10*	2CDS284001R0104	4	10	25	12,5	1
S204P-C16*	2CDS284001R0164	4	16	25	12,5	1
S204P-C20*	2CDS284001R0204	4	20	25	12,5	1
S204P-C25*	2CDS284001R0254	4	25	25	12,5	1

Note:

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

* Contact ABB for availability.

Miniature Circuit Breakers Curve C

1.8 25kA – S300P Series

Miniature Circuit Breaker S300P (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: Domestic, commercial and industrial.



S301 P Single Pole MCB 25kA Din Rail Mount (240 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S301P-C2	2CDS381001R0024	1	2	25	12,5	10
S301P-C4	2CDS381001R0044	1	4	25	12,5	10
S301P-C6	2CDS381001R0064	1	6	25	12,5	10
S301P-C10	2CDS381001R0104	1	10	25	12,5	10
S301P-C16	2CDS381001R0164	1	16	25	12,5	10
S301P-C20	2CDS381001R0204	1	20	25	12,5	10
S301P-C25	2CDS381001R0254	1	25	25	12,5	10
S301P-C32	2CDS381001R0324	1	32	25	10	10
S301P-C40	2CDS381001R0404	1	40	25	10	10
S301P-C50	2CDS381001R0504	1	50	25	7,5	10
S301P-C63	2CDS381001R0634	1	63	25	7,5	10



S301 P NA Single Pole and Neutral MCB 25kA Din Rail Mount (240 VAC - 60 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S301P-C2NA	2CDS381103R0024	1P+N	2	25	12,5	5
S301P-C4NA	2CDS381103R0044	1P+N	4	25	12,5	5
S301P-C6NA	2CDS381103R0064	1P+N	6	25	12,5	5
S301P-C10NA	2CDS381103R0104	1P+N	10	25	12,5	5
S301P-C16NA	2CDS381103R0164	1P+N	16	25	12,5	5
S301P-C20NA	2CDS381103R0204	1P+N	20	25	12,5	5
S301P-C25NA	2CDS381103R0254	1P+N	25	25	12,5	5
S301P-C32NA	2CDS381103R0324	1P+N	32	25	10	5
S301P-C40NA	2CDS381103R0404	1P+N	40	25	10	5
S301P-C50NA	2CDS381103R0504	1P+N	50	25	7,5	5
S301P-C63NA	2CDS381103R0634	1P+N	63	25	7,5	5



S302 P Double Pole MCB 25kA Din Rail Mount (415 VAC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S302P-C2	2CDS382001R0024	2	2	25	12,5	5
S302P-C4	2CDS382001R0044	2	4	25	12,5	5
S302P-C6	2CDS382001R0064	2	6	25	12,5	5
S302P-C10	2CDS382001R0104	2	10	25	12,5	5
S302P-C16	2CDS382001R0164	2	16	25	12,5	5
S302P-C20	2CDS382001R0204	2	20	25	12,5	5
S302P-C25	2CDS382001R0254	2	25	25	12,5	5
S302P-C32	2CDS382001R0324	2	32	25	10	5
S302P-C40	2CDS382001R0404	2	40	25	10	5
S302P-C50	2CDS382001R0504	2	50	25	7,5	5
S302P-C63	2CDS382001R0634	2	63	25	7,5	5

Miniature Circuit Breakers Curve C

1.8 25kA – S300P Series

Miniature Circuit Breaker S300P (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: Domestic, commercial and industrial.



S303 P Triple Pole MCB 25kA Din Rail Mount (415 VAC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S303P-C2	2CDS383001R0024	3	2	25	12,5	1
S303P-C4	2CDS383001R0044	3	4	25	12,5	1
S303P-C6	2CDS383001R0064	3	6	25	12,5	1
S303P-C10	2CDS383001R0104	3	10	25	12,5	1
S303P-C16	2CDS383001R0164	3	16	25	12,5	1
S303P-C20	2CDS383001R0204	3	20	25	12,5	1
S303P-C25	2CDS383001R0254	3	25	25	12,5	1
S303P-C32	2CDS383001R0324	3	32	25	10	1
S303P-C40	2CDS383001R0404	3	40	25	10	1
S303P-C50	2CDS383001R0504	3	50	25	7,5	1
S303P-C63	2CDS383001R0634	3	63	25	7,5	1



S303 P NA Triple Pole and Neutral MCB 25kA Din Rail Mount (415 VAC - 125 VDC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S303P-C2NA	2CDS383103R0024	3P+N	2	25	12,5	1
S303P-C4NA	2CDS383103R0044	3P+N	4	25	12,5	1
S303P-C6NA	2CDS383103R0064	3P+N	6	25	12,5	1
S303P-C10NA	2CDS383103R0104	3P+N	10	25	12,5	1
S303P-C16NA	2CDS383103R0164	3P+N	16	25	12,5	1
S303P-C20NA	2CDS383103R0204	3P+N	20	25	12,5	1
S303P-C25NA	2CDS383103R0254	3P+N	25	25	12,5	1
S303P-C32NA	2CDS383103R0324	3P+N	32	25	10	1
S303P-C40NA	2CDS383103R0404	3P+N	40	25	10	1
S303P-C50NA	2CDS383103R0504	3P+N	50	25	7,5	1
S303P-C63NA	2CDS383103R0634	3P+N	63	25	7,5	1



S304 P Four Pole MCB 25kA Din Rail Mount (415 VAC)

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Rated kA at 240 VAC (Icu)	Rated kA at 240 VAC (Ics)	Units Per Pack
S304P-C2	2CDS384001R0024	4	2	25	12,5	1
S304P-C4	2CDS384001R0044	4	4	25	12,5	1
S304P-C6	2CDS384001R0064	4	6	25	12,5	1
S304P-C10	2CDS384001R0104	4	10	25	12,5	1
S304P-C16	2CDS384001R0164	4	16	25	12,5	1
S304P-C20	2CDS384001R0204	4	20	25	12,5	1
S304P-C25	2CDS384001R0254	4	25	25	12,5	1
S304P-C32	2CDS384001R0324	4	32	25	10	1
S304P-C40	2CDS384001R0404	4	40	25	10	1
S304P-C50	2CDS384001R0504	4	50	25	7,5	1
S304P-C63	2CDS384001R0634	4	63	25	7,5	1

Miniature Circuit Breakers DC Application

1.9 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
S201M-B6UC	2CDS271061R0065	1	6	10	10	10
S201M-B10UC	2CDS271061R0105	1	10	10	10	10
S201M-B16UC	2CDS271061R0165	1	16	10	10	10
S201M-B20UC	2CDS271061R0205	1	20	10	10	10
S201M-B25UC	2CDS271061R0255	1	25	10	10	10



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
S202M-B6UC	2CDS272061R0065	2	6	10	10	5
S202M-B10UC	2CDS272061R0105	2	10	10	10	5
S202M-B16UC	2CDS272061R0165	2	16	10	10	5
S202M-B20UC	2CDS272061R0205	2	20	10	10	5
S202M-B25UC	2CDS272061R0255	2	25	10	10	5

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
S201M-K1UC	2CDS271061R0217	1	1	10	10	10
S201M-K2UC	2CDS271061R0277	1	2	10	10	10
S201M-K6UC	2CDS271061R0377	1	6	10	10	10
S201M-K10UC	2CDS271061R0427	1	10	10	10	10
S201M-K16UC	2CDS271061R0467	1	16	10	10	10
S201M-K20UC	2CDS271061R0487	1	20	10	10	10
S201M-K25UC	2CDS271061R0517	1	25	10	10	10
S201M-K32UC	2CDS271061R0537	1	32	10	10	10
S201M-K40UC	2CDS271061R0557	1	40	10	10	10
S201M-K50UC	2CDS271061R0577	1	50	10	10	10
S201M-K63UC	2CDS271061R0607	1	63	10	10	10

Note:

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

Miniature Circuit Breakers DC Application

1.9 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
S202M-K1UC	2CDS272061R0217	2	1	10	10	5
S202M-K2UC	2CDS272061R0277	2	2	10	10	5
S202M-K6UC	2CDS272061R0377	2	6	10	10	5
S202M-K10UC	2CDS272061R0427	2	10	10	10	5
S202M-K16UC	2CDS272061R0467	2	16	10	10	5
S202M-K20UC	2CDS272061R0487	2	20	10	10	5
S202M-K25UC	2CDS272061R0517	2	25	10	10	5
S202M-K32UC	2CDS272061R0537	2	32	10	10	5
S202M-K40UC	2CDS272061R0557	2	40	10	10	5
S202M-K50UC	2CDS272061R0577	2	50	10	10	5
S202M-K63UC	2CDS272061R0607	2	63	10	10	5



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
S203M-K1UC	2CDS273061R0217	3	1	10	10	1
S203M-K2UC	2CDS273061R0277	3	2	10	10	1
S203M-K6UC	2CDS273061R0377	3	6	10	10	1
S203M-K10UC	2CDS273061R0427	3	10	10	10	1
S203M-K16UC	2CDS273061R0467	3	16	10	10	1
S203M-K20UC	2CDS273061R0487	3	20	10	10	1
S203M-K25UC	2CDS273061R0517	3	25	10	10	1
S203M-K32UC	2CDS273061R0537	3	32	10	10	1
S203M-K40UC	2CDS273061R0557	3	40	10	10	1
S203M-K50UC	2CDS273061R0577	3	50	10	10	1
S203M-K63UC	2CDS273061R0607	3	63	10	10	1



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
S204M-K1UC	2CDS274061R0217	4	1	10	10	1
S204M-K2UC	2CDS274061R0277	4	2	10	10	1
S204M-K6UC	2CDS274061R0377	4	6	10	10	1
S204M-K10UC	2CDS274061R0427	4	10	10	10	1
S204M-K16UC	2CDS274061R0467	4	16	10	10	1
S204M-K20UC	2CDS274061R0487	4	20	10	10	1
S204M-K25UC	2CDS274061R0517	4	25	10	10	1
S204M-K32UC	2CDS274061R0537	4	32	10	10	1
S204M-K40UC	2CDS274061R0557	4	40	10	10	1
S204M-K50UC	2CDS274061R0577	4	50	10	10	1
S204M-K63UC	2CDS274061R0607	4	63	10	10	1

Note:

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

Miniature Circuit Breakers

1.10 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
S 2C-S/H6R	2CDS200922R0001	Signal contact / Auxiliary switch (1NO/1NC)	10	RH
S 2C-H6R	2CDS200912R0001	Auxiliary switch (1NO/1NC)	10	RH

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
S 2C-H11L	2CDS200936R0001	Auxiliary contact (1NO/1NC)	10	LH
S 2C-H20L	2CDS200936R0002	Auxiliary contact (2NO)	10	LH
S 2C-H02L	2CDS200936R0003	Auxiliary contact (2NC)	10	LH

* Contact load = AC14, 2A/230V

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
S 2C-H01	2CDS200970R0001	Auxiliary contact (1NC)	2*	Bottom
S 2C-H10	2CDS200970R0002	Auxiliary contact (1NO)	2*	Bottom

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
S 2C-A1	2CDS200909R0001	1	12 - 60	12 - 60	1	RH
S 2C-A2	2CDS200909R0002	1	110 - 415	110 - 250	1	RH

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
S2C-UA 24 AC	2CSS200911R0002	1	24	-	1	RH
S2C-UA 24 DC	2CSS200911R0007	1	-	24	1	RH
S2C-UA 110 AC	2CSS200911R0004	1	110	-	1	RH
S2C-UA 230 AC	2CSS200911R0005	1	230	-	1	RH
S2C-UA 400 AC	2CSS200911R0006	1	400	-	1	RH

Miniature Circuit Breakers

1.10 Accessories



Busbars for MCCBs Without Supplementary Devices

Type	Order Code	No of Ways	Connector Capacity mm ²	No. of Poles	Description
PS 1/60	2CDL210001R1060	60	10	1	1 Phase Insulated busbar60 way
PS 1/60/16	2CDL210001R1660	60	16	1	1 Phase Insulated busbar60 way
PS 2/58	2CDL220001R1058	58	10	2	2 Phase Insulated busbar58 way
PS 2/58/16	2CDL220001R1658	58	16	2	2 Phase Insulated busbar58 way
PS 3/60	2CDL230001R1060	60	10	3	3 Phase Insulated busbar60 way
PS 3/60/16	2CDL230001R1660	60	16	3	3 Phase Insulated busbar60 way

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)
S2C-CM1*	2CSS201997R0013	MDS for1P S200 MCBs	12-30Vac; 12-48Vdc
S2C-CM2/3*	2CSS203997R0013	MDS for2P and 3P S200 MCBs	12-30Vac; 12-48Vdc
S2C-CM4*	2CSS204997R0013	MDS for4P S200 MCBs	12-30Vac; 12-48Vdc
F2C-CM*	2CSF200997R0013	MDS for2P and 4P F200 RCCBs	12-30Vac; 12-48Vdc

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)
F2C-ARI*	2CSF200996R0013	ARU for2P and 4P F200 RCCBs	12-30Vac; 12-48Vdc
F2C-ARI30*	2CSF200995R0013	ARU for2P and 4P F200 RCCBs (30")	12-30Vac; 12-48Vdc

Rotary Operating Mechanism and Key Lock

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

Suitable for MCBs S200 Series

Type	Order Code	To Fit	Description	Units Per Package
S2C-DH*	GHS2001901R0003	S200	Bracket fits on left side of MCB	1
Pistol handle and shaft				
OX56X330	1SCA101661R1001	S2C-DH	6mm shaft For selector type handles, 330mm long	1
OHBS2AJ	1SCA105213R1001	S2C-DH	Selector Type Handle	1
Round Padlockable handle and shaft				
OX6X300	1SCA111933R1001	S2C-DH	For round padlockable type handles, 300mm long	1
OZ331SPB	1SCA112983R1001	S2C-DH	Round Padlockable handles	1

* S2C-DH rotary handle Mech requires a handle and shaft to be ordered separately

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
SA 1	GJF1101903R0001	Locking device for MCB Handle	3	1
SA 1E	GJF1101903R0004	Locking device for MCB Handle	6	1
SA 3	GJF1101903R0003	Lock adaptor incl. padlock with 3 keys		1

* Contact ABB for availability

High Performance Miniature Circuit Breakers

1.11 Curve C and D 16kA – S800B 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
S801B-C32	2CCS811001R0324	1	32	16	1
S801B-C40	2CCS811001R0404	1	40	16	1
S801B-C50	2CCS811001R0504	1	50	16	1
S801B-C63	2CCS811001R0634	1	63	16	1
S801B-C80	2CCS811001R0804	1	80	16	1
S801B-C100	2CCS811001R0824	1	100	16	1
S801B-C125	2CCS811001R0844	1	125	16	1



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
S802B-C32	2CCS812001R0324	2	32	16	1
S802B-C40	2CCS812001R0404	2	40	16	1
S802B-C50	2CCS812001R0504	2	50	16	1
S802B-C63	2CCS812001R0634	2	63	16	1
S802B-C80	2CCS812001R0804	2	80	16	1
S802B-C100	2CCS812001R0824	2	100	16	1
S802B-C125	2CCS812001R0844	2	125	16	1



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
S803B-C32	2CCS813001R0324	3	32	16	1
S803B-C40	2CCS813001R0404	3	40	16	1
S803B-C50	2CCS813001R0504	3	50	16	1
S803B-C63	2CCS813001R0634	3	63	16	1
S803B-C80	2CCS813001R0804	3	80	16	1
S803B-C100	2CCS813001R0824	3	100	16	1
S803B-C125	2CCS813001R0844	3	125	16	1



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
S804B-C32	2CCS814001R0324	4	32	16	1
S804B-C40	2CCS814001R0404	4	40	16	1
S804B-C50	2CCS814001R0504	4	50	16	1
S804B-C63	2CCS814001R0634	4	63	16	1
S804B-C80	2CCS814001R0804	4	80	16	1
S804B-C100	2CCS814001R0824	4	100	16	1
S804B-C125	2CCS814001R0844	4	125	16	1

High Performance Miniature Circuit Breakers

1.11 Curve C and D 16kA – S800B 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), 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
S801B-D32*	2CCS811001R0321	1	32	16	1
S801B-D40*	2CCS811001R0401	1	40	16	1
S801B-D50*	2CCS811001R0501	1	50	16	1
S801B-D63*	2CCS811001R0631	1	63	16	1
S801B-D80*	2CCS811001R0801	1	80	16	1
S801B-D100*	2CCS811001R0821	1	100	16	1
S801B-D125*	2CCS811001R0841	1	125	16	1



S802B Double 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
S802B-D32*	2CCS812001R0321	2	32	16	1
S802B-D40*	2CCS812001R0401	2	40	16	1
S802B-D50*	2CCS812001R0501	2	50	16	1
S802B-D63*	2CCS812001R0631	2	63	16	1
S802B-D80*	2CCS812001R0801	2	80	16	1
S802B-D100	2CCS812001R0821	2	100	16	1
S802B-D125*	2CCS812001R0841	2	125	16	1

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
S803B-D32*	2CCS813001R0321	3	32	16	1
S803B-D40*	2CCS813001R0401	3	40	16	1
S803B-D50*	2CCS813001R0501	3	50	16	1
S803B-D63	2CCS813001R0631	3	63	16	1
S803B-D80	2CCS813001R0801	3	80	16	1
S803B-D100	2CCS813001R0821	3	100	16	1
S803B-D125	2CCS813001R0841	3	125	16	1

S804B Four 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
S804B-D32*	2CCS814001R0321	4	32	16	1
S804B-D40*	2CCS814001R0401	4	40	16	1
S804B-D50*	2CCS814001R0501	4	50	16	1
S804B-D63*	2CCS814001R0631	4	63	16	1
S804B-D80	2CCS814001R0801	4	80	16	1
S804B-D100*	2CCS814001R0821	4	100	16	1
S804B-D125*	2CCS814001R0841	4	125	16	1

* Contact ABB for availability

High Performance Miniature Circuit Breakers

1.12 Curve C 36kA – S800N 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
S801N-C10	2CCS891001R0104	1	10	36	30	1
S801N-C16	2CCS891001R0164	1	16	36	30	1
S801N-C20	2CCS891001R0204	1	20	36	30	1
S801N-C25	2CCS891001R0254	1	25	36	30	1
S801N-C32	2CCS891001R0324	1	32	36	30	1
S801N-C40	2CCS891001R0404	1	40	36	30	1
S801N-C50	2CCS891001R0504	1	50	36	30	1
S801N-C63	2CCS891001R0634	1	63	36	30	1
S801N-C80	2CCS891001R0804	1	80	36	30	1
S801N-C100	2CCS891001R0824	1	100	36	30	1
S801N-C125	2CCS891001R0844	1	125	36	30	1



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
S802N-C10	2CCS892001R0104	2	10	36/30	4.5/3	1
S802N-C16	2CCS892001R0164	2	16	36/30	4.5/3	1
S802N-C20	2CCS892001R0204	2	20	36/30	4.5/3	1
S802N-C25	2CCS892001R0254	2	25	36/30	4.5/3	1
S802N-C32	2CCS892001R0324	2	32	36/30	4.5/3	1
S802N-C40	2CCS892001R0404	2	40	36/30	4.5/3	1
S802N-C50	2CCS892001R0504	2	50	36/30	4.5/3	1
S802N-C63	2CCS892001R0634	2	63	36/30	4.5/3	1
S802N-C80	2CCS892001R0804	2	80	36/30	4.5/3	1
S802N-C100	2CCS892001R0824	2	100	36/30	4.5/3	1
S802N-C125	2CCS892001R0844	2	125	36/30	4.5/3	1



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
S803N-C10	2CCS893001R0104	3	10	36/30	4.5/3	1
S803N-C16	2CCS893001R0164	3	16	36/30	4.5/3	1
S803N-C20	2CCS893001R0204	3	20	36/30	4.5/3	1
S803N-C25	2CCS893001R0254	3	25	36/30	4.5/3	1
S803N-C32	2CCS893001R0324	3	32	36/30	4.5/3	1
S803N-C40	2CCS893001R0404	3	40	36/30	4.5/3	1
S803N-C50	2CCS893001R0504	3	50	36/30	4.5/3	1
S803N-C63	2CCS893001R0634	3	63	36/30	4.5/3	1
S803N-C80	2CCS893001R0804	3	80	36/30	4.5/3	1
S803N-C100	2CCS893001R0824	3	100	36/30	4.5/3	1
S803N-C125	2CCS893001R0844	3	125	36/30	4.5/3	1

S804N Four 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
S804N-C10*	2CCS894001R0104	4	10	36/30	4.5/3	1
S804N-C16*	2CCS894001R0164	4	16	36/30	4.5/3	1
S804N-C20	2CCS894001R0204	4	20	36/30	4.5/3	1
S804N-C25*	2CCS894001R0254	4	25	36/30	4.5/3	1
S804N-C32	2CCS894001R0324	4	32	36/30	4.5/3	1
S804N-C40*	2CCS894001R0404	4	40	36/30	4.5/3	1
S804N-C50*	2CCS894001R0504	4	50	36/30	4.5/3	1
S804N-C63*	2CCS894001R0634	4	63	36/30	4.5/3	1
S804N-C80*	2CCS894001R0804	4	80	36/30	4.5/3	1
S804N-C100	2CCS894001R0824	4	100	36/30	4.5/3	1
S804N-C125	2CCS894001R0844	4	125	36/30	4.5/3	1

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

* Contact ABB for availability

High Performance Miniature Circuit Breakers

1.13 Curve C 50kA – S800S 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
S801S-C10	2CCS861001R0104	1	10	50	40	1
S801S-C16	2CCS861001R0164	1	16	50	40	1
S801S-C20	2CCS861001R0204	1	20	50	40	1
S801S-C25	2CCS861001R0254	1	25	50	40	1
S801S-C32	2CCS861001R0324	1	32	50	40	1
S801S-C40	2CCS861001R0404	1	40	50	40	1
S801S-C50	2CCS861001R0504	1	50	50	40	1
S801S-C63	2CCS861001R0634	1	63	50	40	1
S801S-C80	2CCS861001R0804	1	80	50	40	1
S801S-C100	2CCS861001R0824	1	100	50	40	1
S801S-C125	2CCS861001R0844	1	125	50	40	1



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
S802S-C10	2CCS862001R0104	2	10	50/40	6/4	1
S802S-C16	2CCS862001R0164	2	16	50/40	6/4	1
S802S-C20	2CCS862001R0204	2	20	50/40	6/4	1
S802S-C25	2CCS862001R0254	2	25	50/40	6/4	1
S802S-C32	2CCS862001R0324	2	32	50/40	6/4	1
S802S-C40	2CCS862001R0404	2	40	50/40	6/4	1
S802S-C50	2CCS862001R0504	2	50	50/40	6/4	1
S802S-C63	2CCS862001R0634	2	63	50/40	6/4	1
S802S-C80	2CCS862001R0804	2	80	50/40	6/4	1
S802S-C100	2CCS862001R0824	2	100	50/40	4.5/3	1
S802S-C125	2CCS862001R0844	2	125	50/40	4.5/3	1



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
S803S-C10	2CCS863001R0104	3	10	50/40	6/4	1
S803S-C16	2CCS863001R0164	3	16	50/40	6/4	1
S803S-C20	2CCS863001R0204	3	20	50/40	6/4	1
S803S-C25	2CCS863001R0254	3	25	50/40	6/4	1
S803S-C32	2CCS863001R0324	3	32	50/40	6/4	1
S803S-C40	2CCS863001R0404	3	40	50/40	6/4	1
S803S-C50	2CCS863001R0504	3	50	50/40	6/4	1
S803S-C63	2CCS863001R0634	3	63	50/40	6/4	1
S803S-C80	2CCS863001R0804	3	80	50/40	6/4	1
S803S-C100	2CCS863001R0824	3	100	50/40	4.5/3	1
S803S-C125	2CCS863001R0844	3	125	50/40	4.5/3	1

S804S Four 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
S804S-C10*	2CCS864001R0104	4	10	50/40	6/4	1
S804S-C16*	2CCS864001R0164	4	16	50/40	6/4	1
S804S-C20*	2CCS864001R0204	4	20	50/40	6/4	1
S804S-C25*	2CCS864001R0254	4	25	50/40	6/4	1
S804S-C32*	2CCS864001R0324	4	32	50/40	6/4	1
S804S-C40*	2CCS864001R0404	4	40	50/40	6/4	1
S804S-C50*	2CCS864001R0504	4	50	50/40	6/4	1
S804S-C63*	2CCS864001R0634	4	63	50/40	6/4	1
S804S-C80*	2CCS864001R0804	4	80	50/40	6/4	1
S804S-C100	2CCS864001R0824	4	100	50/40	4.5/3	1
S804S-C125*	2CCS864001R0844	4	125	50/40	4.5/3	1

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

* Contact ABB for availability

High Performance Miniature Circuit Breaker

1.14 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
S 800-AUX/ALT	2CCS800900R0021	Signal / Auxiliary switch (2 change over contacts)	6	LH

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
S 800-AUX	2CCS800900R0011	Auxiliary contact (2NO/2NC)	6	LH

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
S800-SOR24	2CCS800900R0191	1	24	24	1	LH
S800-SOR130	2CCS800900R0221	1	48-130	48-130	1	LH
S800-SOR250	2CCS800900R0211	1	110-250	110-250	1	LH
S800-SOR400	2CCS800900R0231	1	220-400	220-400	1	LH

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
S800-UVR36	2CCS800900R0241	1	24-36	24-36	1	LH
S800-UVR60	2CCS800900R0251	1	48-60	48-60	1	LH
S800-UVR130	2CCS800900R0261	1	110-130	110-130	1	LH
S800-UVR250	2CCS800900R0271	1	220-250	220-250	1	LH

Busbars for MCBs S800 Series



Type	Order Code	No. of Ways	Ampere (A)	No. of Poles	Description
S803-BB250	2CCS800900R0071	24	250	3	250A busbar - 2 end caps

Under Voltage Releases

Rotary Handle for 3 or 4 Pole



Type	Order Code	Description
S800-RD	2CCS800900R0041	Rotary drive adaptor for 3/4 pole S800
S800-RHE-H		
S800-RHE-S	1SDA060179R1	Extension shaft for rotary handle (500mm)
S800-RHE-H	1SDA060150R1	Rotary handle for door assembly
S800-RHE-S		
S800-RHE-H	1SDA060150R1	Rotary handle for door assembly
S800-RHE-S	1SDA060179R1	Extension shaft for rotary handle (500mm)

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



Type	Order Code	Description	Cross Bar mm	Units Per Package
S800-PLL	2CCS800900R0051	Padlock lever lock - 4mm hasp	4	1



Residual Current Devices

1.15 FGH201 and GSH201

FGH201: Earth Leakage Unit without Overload Protection
GSH201: Earth Leakage Unit with Overload Protection



FGH201 Single Pole and Neutral RCCB
Din Rail Mount
30mA 3kA



GSH201 Single Pole and Neutral RCBO
Din Rail Mount
30mA 3kA



FGH201 Single Pole and Neutral RCCB Din Rail Mount 30mA 3kA

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Sensitivity (mA)	Withstand kA at 230/400 VAC (Ina)	Units per pack
FGH201 AC-63/0.03	2TAZ225111R2630	1+N	63	30	3	1



GSH201 Single Pole and Neutral RCBO Din Rail Mount 30mA 3kA

Type	Order Code	No. of Poles (17.5 mm)	Rated Current (A)	Sensitivity (mA)	Withstand kA at 230/400 VAC (Ina)	Units per pack
GSH201 AC-C63/0.03	2TAZ220111R2634	1+N	63	30	3	1

Residual Current Devices

1.16 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 $I_{\Delta n} = 30\text{mA}$) 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
FH202 AC-63/0.03	2CSF202006R1630	2	63	30	6	1

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
F202 AC - 63/0.03	2CSF202005R1630	2	63	30	10	1

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
F204 AC - 63/0.03	2CSF204005R1630	4	63	30	10	1

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 $I_{\Delta n} = 30\text{mA}$) 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)
DDA202 AC-63/0.03	2CSB202001R1630	2	63	30	1	70

DDA203 AC

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

DDA204 AC

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

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 and Toroidal Transformers

1.17 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)

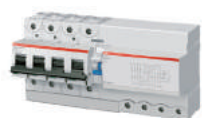
Function: Protection against overload and short-circuit currents, protection against the effects of sinusoidal alternating earth fault currents, protection against indirect contacts and additional protection against direct ($I_{\Delta n}=30\text{mA}$) contacts, command and isolation of resistive and 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)
DS802N-C125/0.03AP-R	2CCB892004R0844	2	125	30	36/30	4.5/3



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)
DS804N-C125/0.03AP-R	2CCB894004R0844	4	125	30	36/30	4.5/3



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 $I_{\Delta n}$	Tripping Time Setting Δt
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
RD3	2CSJ201001R0002	230-400 Vac		
RD3 P	2CSJ203001R0002	230-400 Vac		

1

Residual Current Devices and Toroidal Transformers

1.17 DS800, RD3 and ELR Series

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.



* Contact ABB for availability

ELR				
Type	Order Code	Operating voltage	Sensitivity Settings IΔn	Tripping Time Setting Δt
ELR48P*	2CSG252211R1202	110 V a.c./d.c. - 230 V a.c.		
ELR48V24P*	2CSG452211R1202	24 - 48 V a.c./d.c.		
ELR72	2CSG252120R1202	110 V a.c./d.c. - 230 V a.c.		
ELR72P	2CSG152424R1202	110 V a.c./d.c. - 230 V a.c.		
ELR72V24P	2CSG452424R1202	24 - 48 V a.c./d.c.		
ELR96	2CSG152130R1202	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
ELR96P	2CSG152434R1202	110 V a.c./d.c. - 230 V a.c.		
ELR96V24	2CSG452130R1202	24 - 48 V a.c./d.c.		
ELR96PF	2CSG152435R1202	110, 230, 400 V a.c.		
ELR96PD	2CSG152436R1202	110, 230, 400 V a.c.		



Toroidal Transformers- for use with RD3 & ELR			
Type	Order Code	Diameter mm	Units per Package
TRM	2CSM029000R1211	35	1
TR1	2CSG035100R1211	35	1
TR2	2CSG060100R1211	60	1
TR3	2CSG080100R1211	80	1
TR4	2CSG110100R1211	110	1
TR160	2CSG160100R1211	160	1
TR5	2CSG210100R1211	210	1
TR4/A	2CSG110200R1211	110 Openable	1
TR160 A	2CSG160200R1211	160 Openable	1
TR5/A	2CSG210200R1211	210 Openable	1

Other Modular Devices

1.18 ESB..N and EN..N 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.

ABB's hum-free installation contactor designs now offer a wider range of ratings from 16 A to 100 A. Widely used in buildings for switching and controlling lighting, heating, ventilation, motor and pumps, the installation contactors take noise reduction to a new level. With an innovative AC / DC coil design that eliminates hum, a broad selection of common accessories as well as manual and automatic versions, installation contactors offer peace of mind in noise-sensitive applications.

- ESB..N series is providing the following benefits:
- Hum-free operation, low power consumption and integrated overvoltage protection.
 - Various contact combinations and accessories are available.

Modular Contactors AC/DC Operated

Type	Order Code	Rated Current (AC1)	Coil Voltage (V AC/DC)	No. of NO Contacts	No. of NC Contacts
ESB16-20N-01	1SBE111111R0120	16	24	2	0
ESB16-20N-06	1SBE111111R0620	16	230	2	0
ESB16-02N-01	1SBE111111R0102	16	24	0	2
ESB16-02N-06	1SBE111111R0602	16	230	0	2
ESB16-11N-01	1SBE111111R0111	16	24	1	1
ESB16-11N-06	1SBE111111R0611	16	230	1	1
ESB20-20N-01	1SBE121111R0120	20	24	2	0
ESB20-20N-06	1SBE121111R0620	20	230	2	0
ESB20-02N-01	1SBE121111R0102	20	24	0	2
ESB20-02N-06	1SBE121111R0602	20	230	0	2
ESB20-11N-01	1SBE121111R0111	20	24	1	1
ESB20-11N-06	1SBE121111R0611	20	230	1	1
ESB25-40N-01	1SAE231111R0140	25	24	4	0
ESB25-40N-06	1SAE231111R0640	25	230 ... 240	4	0
ESB25-04N-01	1SAE231111R0104	25	24	0	4
ESB25-04N-06	1SAE231111R0604	25	230 ... 240	0	4
ESB25-22N-01	1SAE231111R0122	25	24	2	2
ESB25-22N-06	1SAE231111R0622	25	230 ... 240	2	2
ESB25-31N-01	1SAE231111R0131	25	24	3	1
ESB25-31N-06	1SAE231111R0631	25	230 ... 240	3	1
ESB25-13N-01	1SAE231111R0113	25	24	1	3
ESB25-13N-06	1SAE231111R0613	25	230 ... 240	1	3
ESB25-30N-06	1SAE231111R0630	25	230 ... 240	3	0
ESB40-40N-01	1SAE341111R0140	40	24	4	0
ESB40-40N-06	1SAE341111R0640	40	230	4	0
ESB40-22N-01	1SAE341111R0122	40	24	2	2
ESB40-22N-06	1SAE341111R0622	40	230	2	2
ESB40-31N-01	1SAE341111R0131	40	24	3	1
ESB40-31N-06	1SAE341111R0631	40	230	3	1
ESB40-30N-01	1SAE341111R0130	40	24	3	0
ESB40-30N-06	1SAE341111R0630	40	230	3	0
ESB40-20N-01	1SAE341111R0120	40	24	2	0
ESB40-20N-06	1SAE341111R0620	40	230	2	0
ESB63-40N-01	1SAE351111R0140	63	24	4	0
ESB63-40N-06	1SAE351111R0640	63	230	4	0
ESB63-31N-06	1SAE351111R0631	63	230	3	1
ESB63-30N-06	1SAE351111R0630	63	230	3	0
ESB63-20N-01	1SAE351111R0120	63	24	2	0
ESB63-20N-06	1SAE351111R0620	63	230	2	0
ESB100-40N-01	1SAE661111R0140	100	24	4	0
ESB100-40N-06	1SAE661111R0640	100	230	4	0
ESB100-20N-01	1SAE361111R0120	100	24	2	0
ESB100-20N-06	1SAE361111R0620	100	230	2	0



ESB16..N



ESB25..N



ESB63..N



ESB100-40N



Other Modular Devices

1.18 ESB..N and EN..N Installation Contactors

The EN2..N installation contactors are used to control single-phase loads up to 40 A and can be operated by AC or DC voltages. They have a built-in toggle switch to be operated manually or automatically. These contactors are made for use in industrial environment as well as in domestic applications.

- ESB..N series is providing the following benefits:**
- Hum-free operation, low power consumption and integrated overvoltage protection.
 - Various contact combinations and accessories are available.



Modular Contactors AC/DC Operated

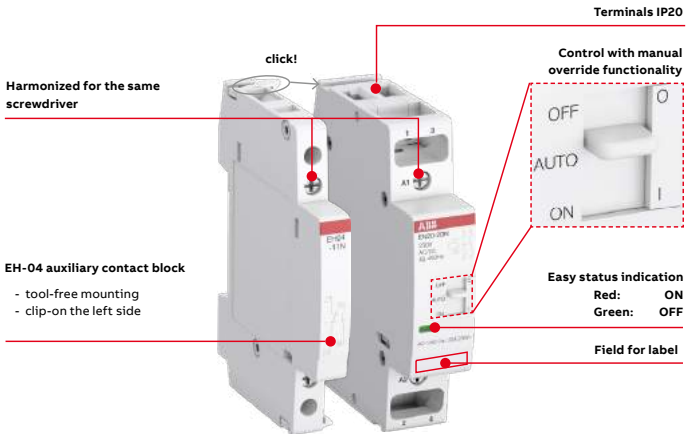
Type	Order Code	Rated Current (AC1)	Coil Voltage (V AC/DC)	No. of NO Contacts	No. of NC Contacts
EN20-20N-01*	1SBE122111R0120	20	24	2	0
EN20-20N-06*	1SBE122111R0620	20	230	2	0
EN25-40N-01*	1SAE232111R0140	25	24	4	0
EN25-40N-06*	1SAE232111R0640	25	230 ... 240	4	0
EN25-31N-01*	1SAE232111R0131	25	24	3	1
EN25-31N-06*	1SAE232111R0631	25	230 ... 240	3	1
EN25-30N-06*	1SAE232111R0630	25	230 ... 240	3	0
EN40-40N-01*	1SAE342111R0140	40	24	4	0
EN40-40N-06*	1SAE342111R0640	40	230	4	0
EN40-31N-01*	1SAE342111R0131	40	24	3	1
EN40-31N-06*	1SAE342111R0631	40	230	3	1
EN40-30N-06*	1SAE342111R0630	40	230	3	0
EN40-20N-06*	1SAE342111R0620	40	230	2	0

* Contact ABB for availability

ESB..N & EN..N auxiliary contact blocks

Type	Order Code	Description
EH04-11N	1SAE901901R1011	1NO+1NC auxiliary contact blocks for ESB..N and EN..N
EH04-20N	1SAE901901R1020	2NO auxiliary contact blocks for ESB..N and EN..N

ABB´s installation contactors come with many features that make installation and maintenance easier. The mechanical Indicator with green and red color for status indication ensures a quick diagnostic of the system. Also, some speciality types feature a manual override functionality with a toggle switch to control independently from control source. Accessories can be mounted tool-free on the contactor, for example auxiliaries, space holders as well as security and safety covers.

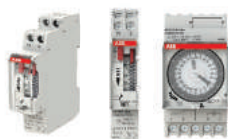


Other Modular Devices

1.19 Signalling Devices, Time Switches and Load Control

AG Timer electro-mechanical time switches- These analog timers are designed for installation on DIN-rail.

Digital weekly time switch - DW1 and DW2 are weekly digital time switches with 1 and 2 channels.



AG Timer electro-mechanical time switches (230VAC, 16A Resistive Load)

Type	Order Code	Description	No. of Modules	Running reserve(h)
AD1NO-15m	2CSM222471R1000	Daily time switch without reserve, 1NO	1	
AD1NO-R-15m	2CSM222461R1000	Daily time switch, running reserve, 1NO	1	100
AD1CO-30m	2CSM222451R1000	Daily time switch without reserve, 1NO/NC	2	
AD1CO-R-30m	2CSM222441R1000	Daily time switch, running reserve, 1NO/NC	2	150
AW1CO-R-210m	2CSM222431R1000	Weekly time switch, running reserve, 1NO/1NC	2	150



DBT Timer digital time switches (230 VAC, 16A Resistive Load)

Type	Order Code	Description	No. of Modules	Running reserve(h)
DW1	2CSM222531R1000	DW1 Weekly digital time switch 1 x CO, 6yr power reserve with Bluetooth communication	2	6
DW2	2CSM222521R1000	DW2 Weekly digital time switch 2 x CO, 6yr power reserve with Bluetooth communication	2	6

Modular Din Rail Components (MDRCs)

Application: Buildings, both residential and commercial.



Load management relay - LCR

Type	Order Code	Description
32A	2CSM229901R1311	LCR Load management relay



E450 Priority Switch

Type	Order Code	Description
E 451 - 5.7A	2CDE160000R0901	6.7 to 39A Priority switch for pneumatically controlled flow type heaters
E 452 - 5.7A	2CDE160010R0901	6.7 to 39A Priority switch for electronically controlled flow type heaters

E217 Luminous Pushbuttons (250VAC, 16A)

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

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
E219-B220	2CCA703400R0001	1	White	115 - 250VAC	0.04	10
E219-C220	2CCA703401R0001	1	Red	115 - 250VAC	0.04	10
E219-D220	2CCA703402R0001	1	Green	115 - 250VAC	0.04	10
E219-E220	2CCA703403R0001	1	Yellow	115 - 250VAC	0.04	10
E219-G220	2CCA703404R0001	1	Blue	115 - 250VAC	0.04	10
E219-3CDE	2CCA703902R0001	1	Red, Yellow and Green	115-250VAC	0.044	10



Surge Protection Devices

1.20 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 - I_{max} (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
OVR T2 20 275	2CTB804200R1100	1	17.5	20	230	275	No
OVR T2-T3 20-440 P QS	2CTB803871R1100	1	17.5	20	230	440	No
OVR T2-T3 1N 20-275 P QS	2CTB803972R1200	1+N	35	20	230	275	No
OVR T2-T3 3N 20-275 P QS	2CTB803973R1200	3+N	70	20	230	275	No
OVR T2-T3 3N 20-440 P QS	2CTB803973R1300	3+N	70	20	230	440	No

Class 2 - I_{max} (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
OVR T2 40 275	2CTB804201R1100	1	17.5	40	230	275	No
OVR T2 40-440 P QS	2CTB803871R1200	1	17.5	40	230	440	No
OVR T2 1N 40-275 P QS	2CTB803972R1100	1+N	35	40	230	275	No
OVR T2 3N 40-275 P QS	2CTB803973R1100	3+N	70	40	230	275	No
OVR T2 3N 40-275 P TS QS	2CTB803973R0500	3+N	70	40	230	440	Yes
OVR T2 3N 40-440 P QS	2CTB803973R1400	3+N	70	40	230	440	No
OVR T2 80-275s P QS	2CTB851708R1200	1	17.5	80	230	275	No
OVR T2 80-440s P QS	2CTB851708R4100	1	17.5	80	230	440	No
OVR T2 3N 80-275s P QS	2CTB851708R2000	3+N	70	80	230	275	No
OVR T2 3N 80-440s P QS	2CTB851708R4900	3+N	70	80	230	440	No

Class 1/2 I_{max} (8/20): - I_{imp} (10/350): 12.5kA

Type	Order Code	No. of Poles	Total Width mm	Impulse Current I _{imp} 10/350 kA	Nominal Voltage (V) (Un)	Max Operating Voltage (V) (L-N)	Voltage Protection Level Up (kV)	Aux Contact End of Life Signal
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
OVR T1-T2 3N 12.5-275s P QS	2CTB815710R1900	3+N	70	12.5	230	275	1.3	No
OVR T1-T2 3N 12.5-275s P TS QS	2CTB815710R0700	3+N	70	12.5	230	275	1.3	Yes

Type	Order Code	Protected lines	Impulse current	Max. discharge current	Nominal current I _n	Voltage protection	Max. cont. operating voltage (U _{cpv})
OVR T1-T2 12.5-275s P QS	2CTB815710R1200	1	12.5	80		1.4	230
Type T1-T2 PV							
OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	1+1	5	30	20	5/5	1500
OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500	1+1	5	30	20	5/6	1500
Type T2 PV - U_c 1000 V DC							
OVR PV T2 40-1000 P	2CTB802400R1000	1+1		40	20	4	1000
OVR PV T2 40-1000 P TS	2CTB802401R1000	1+1		40	20	4	1000
Type T2 PV - U_c 1500 V DC							
OVR PV T2 40-1500 P	2CTB802400R1500	1+1		40	15	5	1500
OVR PV T2 40-1500 P TS	2CTB802401R1500	1+1		40	10	5	1500

Din Rail Products for Photovoltaic Applications

1.21 Fuse Disconnectors & Surge Protection Devices



Fuse Holders for Photovoltaic Networks (1000V)

Type	Order Code	No. of	Rated	Rated	Fuse	Blown
E 91/32 PV	2CSM204713R1801	1	32	1000VDC	10 x 38	No
E 91/32 PVs	2CSM204693R1801	1	32	1000VDC	10 x 38	Yes
E 92/32 PV	2CSM204703R1801	2	32	1000VDC	10 x 38	No
E 92/32 PVs	2CSM256913R1801	2	32	1000VDC	10 x 38	Yes



E9F PV 1500 V DC 10x85 mm fuses - Photovoltaic Networks

Type	Order Code	No. of	Rated	Rated	Weight 1 pc/kg	Units Per Package
E91/32 PV1500	2CSM205245R1801	1	30	1500VDC	0,09	5



Type	Order Code	Protected lines	Impulse current	Max. discharge current	Nominal current In	Voltage protection	Max. cont. operating voltage (Ucpv)
OVR T1-T2 12.5-275s P QS	2CTB815710R1200	1	12.5	80		1.4	230

Type T1-T2 PV

OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	1+1	5	30	20	5/5	1500
OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500	1+1	5	30	20	5/6	1500

Type T2 PV - Uc 1000 V DC

OVR PV T2 40-1000 P	2CTB802400R1000	1+1		40	20	4	1000
OVR PV T2 40-1000 P TS	2CTB802401R1000	1+1		40	20	4	1000

Type T2 PV - Uc 1500 V DC

OVR PV T2 40-1500 P	2CTB802400R1500	1+1		40	15	5	1500
OVR PV T2 40-1500 P TS	2CTB802401R1500	1+1		40	10	5	1500



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

Type	Order Code	No. of Poles	Total Width mm	Max discharge current I _{max} 8/20 kA	Impulse current I _{imp} 10/350 kA	Voltage protection level Up kV	Max. continuous operating voltage U _{cpv} V
ESP DC550/12.5/PV	7TCA085460R0147	2	72	20	12.5	1.7	550
ESP DC1000/12.5/PV	7TCA085460R0146	2	72	20	12.5	2.4	1000





Din Rail Products for Photovoltaic Applications

1.21 Switch Disconnectors

1



S800PV-M-H Two Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S802PV-M32-H	2CCP247204R0001	2	32	1
S802PV-M63-H	2CCP247205R0001	2	63	1
S802PV-M100-H	2CCP247212R0001	2	100	1



S800PV-SD Two Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S803PV-SD32	2CCF019635R0001	2	32	1
S803PV-SD63	2CCF019634R0001	2	63	1
S803PV-SD125	2CCF019636R0001	2	125	1



S800PV-SD Three Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S803PV-SD32	2CCF019637R0001	3	32	1
S803PV-SD63	2CCF019638R0001	3	63	1
S803PV-SD125	2CCF019639R0001	3	125	1



S800PV-SD Four Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S804PV-SD32	2CCF019640R0001	4	32	1
S804PV-SD63	2CCF019641R0001	4	63	1
S804PV-SD125	2CCF019642R0001	4	125	1

Din Rail Products for Photovoltaic Applications

1.21 Miniature Circuit Breakers

S800PV series with cage terminal, B characteristic

Function: protection and control of photovoltaic strings against overloads, short-circuits



S800PV-SP Two Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S802PV-SP5*	2CCF019596R0001	2	5	1
S802PV-SP6*	2CCF019643R0001	2	6	1
S802PV-SP8*	2CCF019644R0001	2	8	1
S802PV-SP10*	2CCF019597R0001	2	10	1
S802PV-SP13*	2CCF019598R0001	2	13	1
S802PV-SP16*	2CCF019599R0001	2	16	1
S802PV-SP20*	2CCF019600R0001	2	20	1
S802PV-SP25*	2CCF019601R0001	2	25	1
S802PV-SP32*	2CCF019602R0001	2	32	1
S802PV-SP40*	2CCF019603R0001	2	40	1
S802PV-SP50*	2CCF019604R0001	2	50	1
S802PV-SP63*	2CCF019605R0001	2	63	1
S802PV-SP80*	2CCF019606R0001	2	80	1
S802PV-SP100*	2CCF019607R0001	2	100	1
S802PV-SP125*	2CCF019608R0001	2	125	1



S800PV-SP Three Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S803PV-SP5*	2CCF019609R0001	3	5	1
S803PV-SP6*	2CCF019645R0001	3	6	1
S803PV-SP8*	2CCF019646R0001	3	8	1
S803PV-SP10*	2CCF019610R0001	3	10	1
S803PV-SP13*	2CCF019611R0001	3	13	1
S803PV-SP16*	2CCF019612R0001	3	16	1
S803PV-SP20*	2CCF019613R0001	3	20	1
S803PV-SP25*	2CCF019614R0001	3	25	1
S803PV-SP32*	2CCF019615R0001	3	32	1
S803PV-SP40*	2CCF019616R0001	3	40	1
S803PV-SP50*	2CCF019617R0001	3	50	1
S803PV-SP63*	2CCF019618R0001	3	63	1
S803PV-SP80*	2CCF019619R0001	3	80	1
S803PV-SP100*	2CCF019620R0001	3	100	1
S803PV-SP125*	2CCF019621R0001	3	125	1



S800PV-SP Four Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S804PV-SP5	2CCF019586R0001	4	5	1
S804PV-SP6	2CCF019647R0001	4	6	1
S804PV-SP8	2CCF019648R0001	4	8	1
S804PV-SP10	2CCF019622R0001	4	10	1
S804PV-SP13	2CCF019623R0001	4	13	1
S804PV-SP16	2CCF019624R0001	4	16	1
S804PV-SP20	2CCF019625R0001	4	20	1
S804PV-SP25	2CCF019626R0001	4	25	1
S804PV-SP32	2CCF019627R0001	4	32	1
S804PV-SP40	2CCF019628R0001	4	40	1
S804PV-SP50	2CCF019629R0001	4	50	1
S804PV-SP63	2CCF019630R0001	4	63	1
S804PV-SP80	2CCF019631R0001	4	80	1
S804PV-SP100	2CCF019632R0001	4	100	1
S804PV-SP125	2CCF019633R0001	4	125	1

* Contact ABB for availability

Miniature Circuit Breakers

1.22 Coordination Tables – Cascading

MCB - MCB @ 415 V

Supply S.			S200	S200M	S200P	S280
	Char.	B-C	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
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	30	36	40	40	30	40	40	40	30	40	30	
		13..63																		16
S200M	B, C, D, K, Z	0.5..10	15	18	25	30	36	36	30	50	40	40	30	70	40	40	30	40	30	
		13..63																		25
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
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

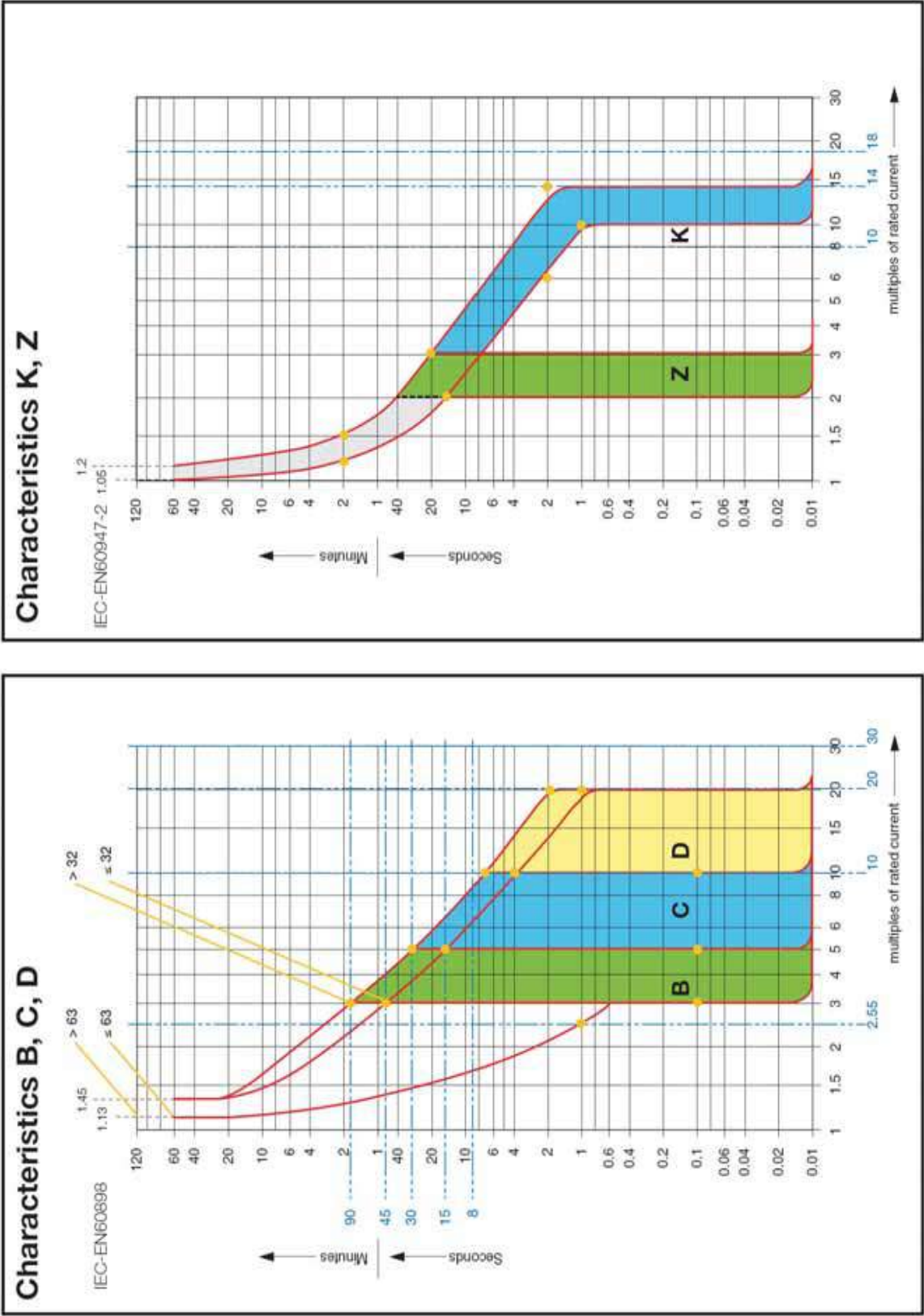
			Supply s.	XT1	XT1	XT1	XT2	XT3	XT4	XT1	XT2	XT3	XT4	XT1	XT2	XT4	XT2	XT4	XT2	XT4			
			Version	B	C	N				S				H				L				V	
Load s.	Char.	In [A]	Icu [kA]	18	25	36				50				70				120				150	
S800B	B, C	32...100	16	18	25	36	36	36	36	50	50	50	50	70	70	70	120	120	150	150			
	D, K	125*		18	25	36	36	36	36	50	50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

Miniature Circuit Breakers

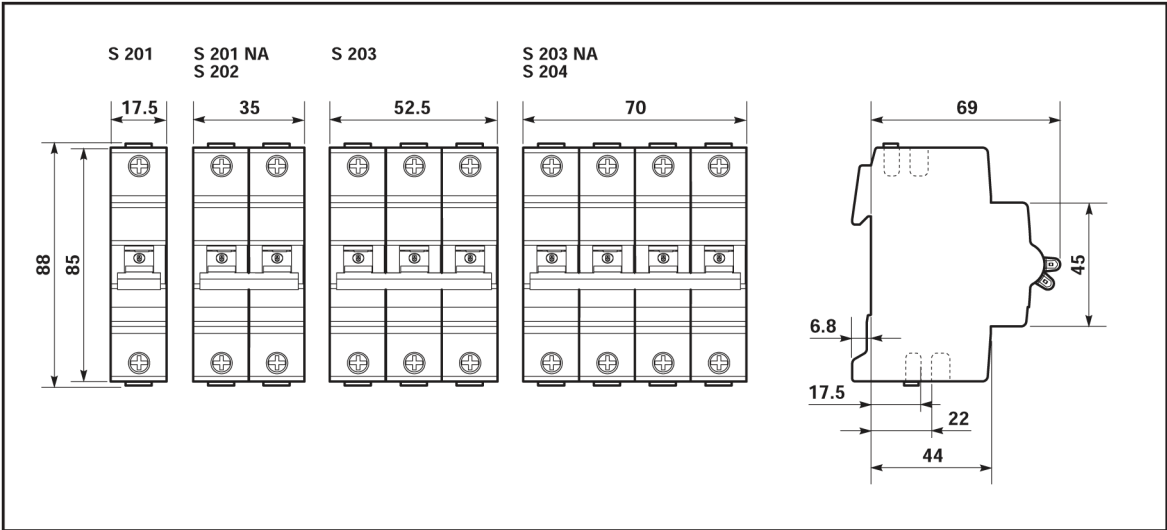
1.23 Characteristic Tripping Curve Diagrams



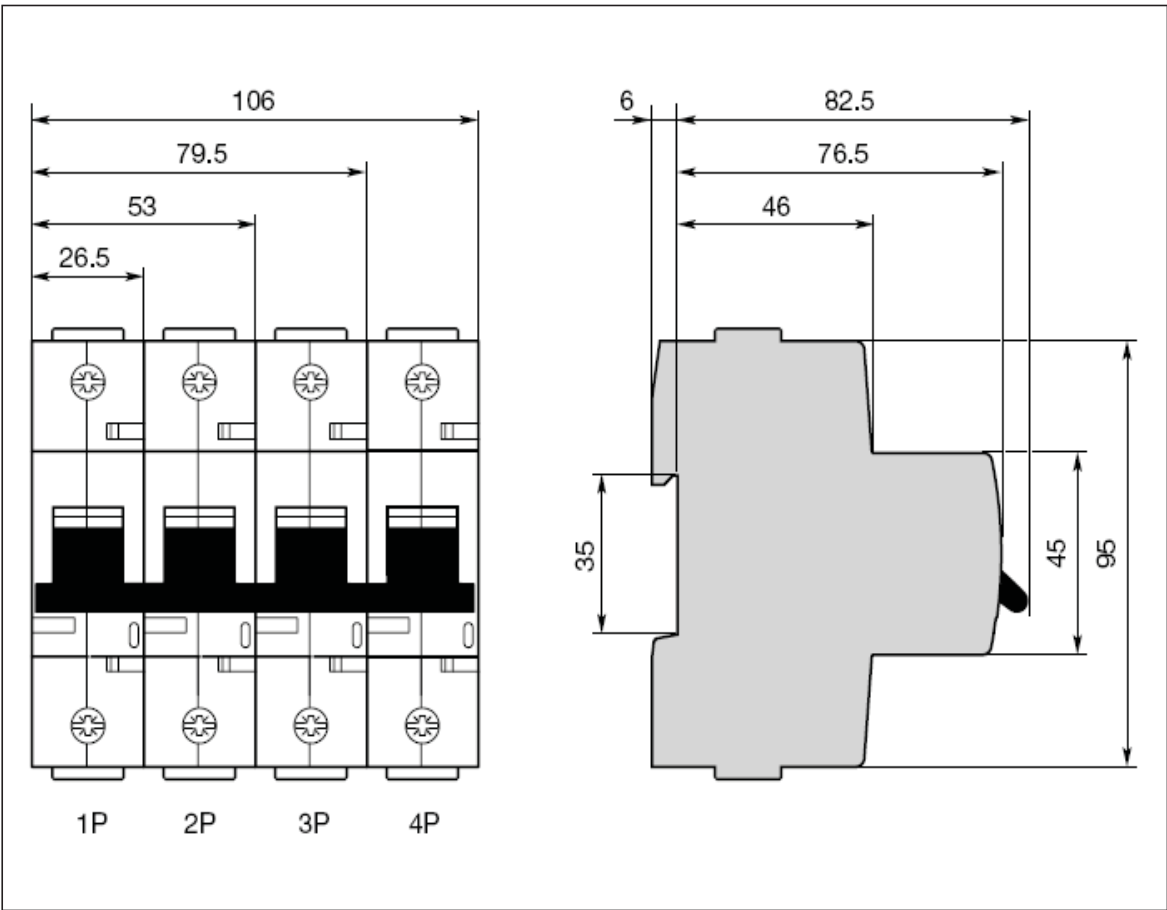
Miniature Circuit Breakers

1.24 Dimensional Drawings

S200 Series Dimentions



S800 Series Dimentions



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SECTION 2

Electricity Metering Solutions

2

Electricity Metering & Monitoring

Electrical Energy Meters - EQ Meter Series	2.1
Power Meters - M1M and M4M	2.2
Energy Management - EQmatic	2.3
Energy Efficiency - Insite SCU100 Circuit Monitoring System	2.4

Electrical Energy Meters

2.1 EQ Meter 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
C11 110-301 Steel	2CMA103572R1000	Direct mount single phase kW/h meter	Direct Single Phase	1	1 Output - Pulse or Alarm	1

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

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class
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
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

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

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class
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
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
B24 111-100 Steel	2CMA100177R1000	CT connected three phase kW/h meter	CT Three Phase	1	Output - Pulse or Alarm IR Port	1
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

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

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class
A42 552-100 Platinum	2CMA100238R1000	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

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

Type	Order Code	Description	Connection	Tariffs	Communication	Accuracy Class
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
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

Power Meters

2.2 M1M and M4M

2



M1M Multifunction Meters

Type	Order Code	Description	Communication
M1M 12	1SYG207591R4051	CT Connected Meter	
M1M 12 Modbus	1SYG207581R4051	CT Connected Meter, Modbus	Modbus



M4M Power Quality Meters

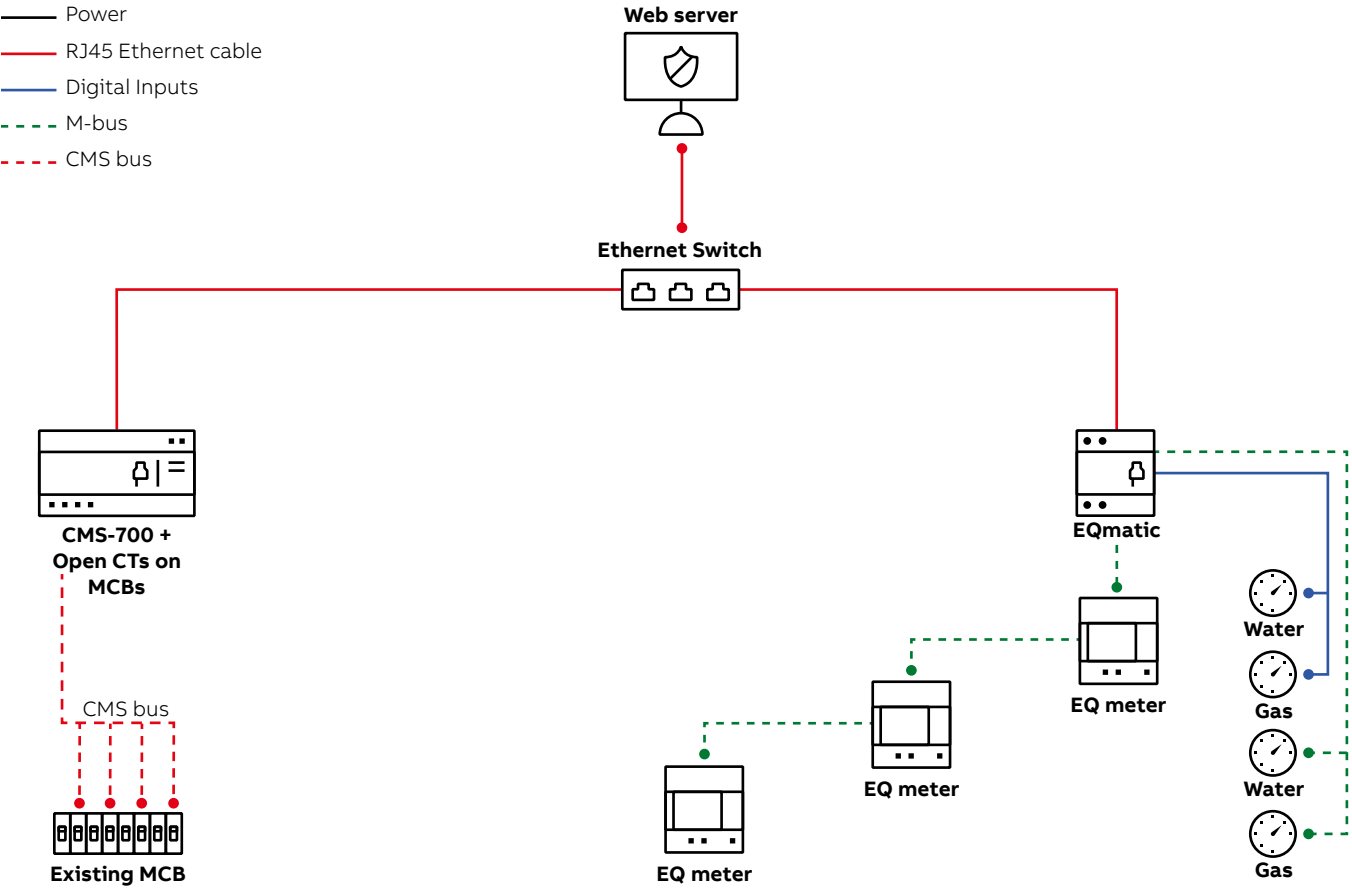
Type	Order Code	Description	Communication
M4M 30 MODBUS	2CSG274761R4051	CT Connected Meter, Modbus RTU 4 Progr. I/O	Modbus RTU
M4M 30 ETHERNET	2CSG274681R4051	CT Connected Meter, Modbus TCP/IP 4 Progr. I/O	Modbus TCP/IP
M4M 20	2CSG251151R4051	CT Connected Meter, 2 Digital out	
M4M 20 MODBUS	2CSG251141R4051	CT Connected Meter, Modbus RTU, 2 Digital out	Modbus RTU
M4M 20 ETHERNET	2CSG204471R4051	CT Connected Meter, Modbus TCP/IP, 2 Digital out	Modbus TCP/IP
M4M 20 PROFIBUS	2CSG251131R4051	CT Connected Meter, Profibus DP-V0, 2 Digital out	Profibus DP-V0
M4M 20 I/O	2CSG251161R4051	CT Connected Meter, Modbus RTU, Progr. I/O, 2 Digital out., 2 Analogue out	Modbus RTU

Energy Management

2.3 EQmatic



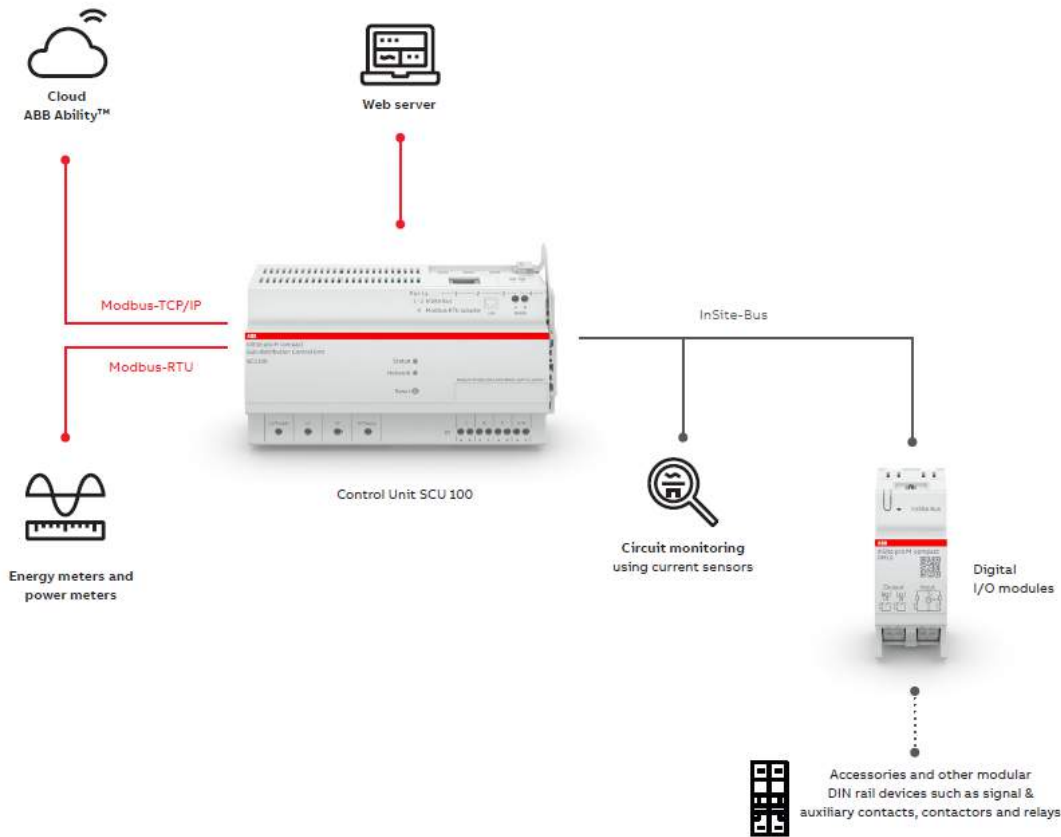
Meter Communication	Type	Max. number of meters	Order Code
Modbus RTU	QA/S 4.16.1	16	2CDG110228R0011
Modbus RTU	QA/S 4.64.1	64	2CDG110229R0011
M-Bus	QA/S 3.16.1	16	2CDG110226R0011
M-Bus	QA/S 3.64.1	64	2CDG110227R0011



Energy Efficiency

2.4 Insite SCU100 Circuit Monitoring System

2



CMS-120CA

Rating	Type	Description	Order Code
Open-core sensors 18 mm for cable tie mounting (universal use)			
80A	CMS-120CA		2CCA880220R0001
40A	CMS-121CA		2CCA880221R0001
20A	CMS-122CA		2CCA880222R0001

CMS-102CA

Rating	Type	Description	Order Code
Solid-core sensors 18 mm for cable tie mounting (universally usable)			
80A	CMS-100CA		2CCA880107R0001
40A	CMS-101CA		2CCA880108R0001
20A	CMS-102CA		2CCA880109R0001
Solid-core sensors 25 mm for cable tie mounting (universal use)			
160A	CMS-200CA		2CCA880117R0001
80A	CMS-201CA		2CCA880118R0001
20A	CMS-202CA		2CCA880119R0001

Rating	Type	Description	Order Code
Open-core sensors 18 mm for cable tie mounting (universal use)			
96 sensors	SCU100 Control Unit	SCU100- Control Unit Energy Monitor 96 sensors	2CCG000242R0001
	DM10 Digital Module 2xIN_2xOUT	DM10- Digital Module 2xInputs & 2xOutputs	2CCG000247R0001
	DM11 Digital Module 4xIN	DM11 - Digital Module 4 x Inputs	2CCG000245R0001
5m	INS105 Flatcable - 4C*28AWG	INS105 - 5m Flat Bus Cable	2CCG000243R0001
	INS135 Connector set	INS135- Connector Set (35pcs)	2CCG000244R0001

2

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SECTION 3

Circuit Breakers**Moulded Case Circuit Breakers & Air Circuit Breakers****ABB Ability**

Ekip Up Products	3.1
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Tmax XT Moulded Case Circuit Breakers for Power Distribution

Summary Power Distribution Tmax XT: XT1-XT7	3.2
Power Distribution Tmax XT: XT1-XT7	3.3
Tmax XT: XT1-XT7 Accessories	3.4

Tmax XT Moulded Case Circuit Breakers for Motor Protection

Summary Motor Protection Tmax XT: XT1-XT7	3.5
Motor Protection Tmax XT: XT1-XT6	3.6

Tmax T Moulded Case Circuit Breakers for Power Distribution

Summary Power Distribution Tmax T: T4-T7	3.7
Power Distribution Tmax T: T4-T7	3.8
Tmax T: T4-T7 Accessories	3.9

Tmax T Moulded Case Circuit Breakers for Motor Protection

Summary Motor Protection Tmax T4-T7	3.10
Motor Protection Tmax T4-T7	3.11

Tmax T Moulded Case Circuit Breakers for Power Distribution- 1000V

Summary Power Distribution Tmax T T4-T6 -1000V	3.12
Power Distribution Tmax T T4-T6 - 1000V	3.13

Automatic Circuit Breakers

SACE Emax2 Summary	3.14
SACE Emax2 Fixed Version	3.15
SACE Emax2 Withdrawable Version	3.16
SACE Emax2 Accessories	3.17

Overview

New outlines for Energy and Asset management

Through a compelling web app interface, ABB Ability™ Electrical Distribution Control System assists anytime and anywhere via smartphone, tablet or personal computer so the user can:

Monitor

Discover plant performance, supervise the electrical system and allocate costs.

Optimize

Schedule and analyze automatic reports, improve the use of assets and take the right business decision.

Predict

Supervise the system health conditions and predict next maintenance actions.

Control

Set up alerts and notify key personnel, and remotely implement an effective power management strategy to achieve energy savings in a simple way.

ABB Ability™ Electrical Distribution Control System also provides access on a multi-site level - monitoring and comparing the performances of different facilities at the same time.

In addition, it allows profiling of the users' experience according to the level of access they require.

According to the customer needs and application, the user can choose between two configurations to connect the system to ABB Ability™ Electrical Distribution Control System: embedded or external.

The first, just a cartridge-type module, the innovative Ekip Com Hub, has to be provided to Emax 2 circuit breaker, Ekip UP and TruONE™.

The second, the Ekip E-Hub module has to be mounted on DIN-rail.



Architecture

Truly plug & play

3

Embedded solution with Ekip Com Hub

Emax 2, Ekip UP and TruONE equipped with the new Ekip Com Hub establishes the cloud connection for the whole switchboard.

This dedicated cartridge-type communication module just needs to be inserted into the terminal box and connected to the internet.

External solution with Ekip E-Hub

The Ekip E-Hub module can be mounted on DIN rail to collect data throughout the system. Moreover, it is possible to connect sensors for

environmental parameters (temperature, water, gas) via both analog and digital I/O. Modules for Wi-Fi or GPRS connection are provided as optional features.

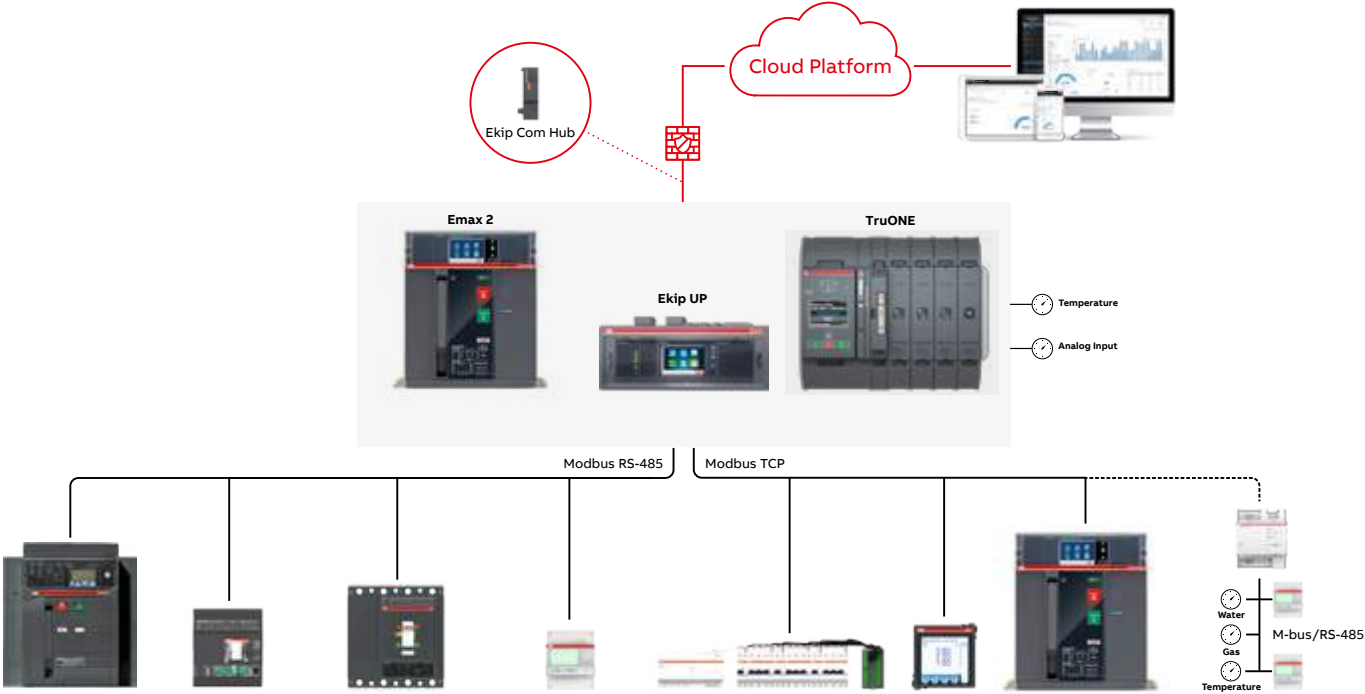
—

ABB showcases a further evolution in the low-voltage distribution business, setting a new benchmark in terms of simplicity and performance.

ABB Ability™ Electrical Distribution Control System enables the collection of relevant information from the ABB devices installed in the low-voltage power distribution system.

These devices can be connected, plug & play, to the cloud-computing platform by sharing data either with Emax 2 (equipped with Ekip Com Hub) or with Ekip E-Hub via Modbus RS-485, Modbus TCP and Ekip Link.

Family	Device	
Low voltage MCCB	Tmax XT	
	Tmax T	
Low voltage ACB	New Emax	
	Emax 2	
Digital units	Ekip UP	
Low voltage switches and fusegear	TruONE ATS	
	Slimline XR ITS 2.1	
Digital inputs interface	Ekip Signalling MODBUS TCP	
Sub-Metering	EQ Meters	
Power meters	M2M	
Branch monitoring	CMS700	
Medium voltage relays	REF 542 Plus	
And many others to come...		



INFORMATION											COMMUNICATION
	State	Current	Voltages	Power	Energy	Power factor	Power quality	Maintenance & Diagnostics	Load management	Analog or pulse/ digital inputs	Protocol
	•	•	•	•	•	•	•	•	•	•	Modbus RS485, Modbus TCP, Ekip Com Hub
	•	•	•	•	•	•		•			Modbus RS485
	•	•	•	•	•	•	•	•			Modbus RS485
	•	•	•	•	•	•	•	•	•	•	Modbus RS485, Modbus TCP, Ekip Com Hub
	•	•	•	•	•	•	•		•	•	Modbus RS485, Modbus TCP, Ekip Com Hub
	•	•	•	•	•	•	•	•		•	Modbus RS485, Modbus TCP, Ekip Com Hub
	•	•	•	•	•	•		•			Modbus RS485
	•									•	Modbus TCP
		•	•	•	•	•					Modbus RS485
		•	•	•	•	•	•				Modbus RS485, Modbus TCP
		•	•	•	•	•					Modbus TCP
		•	•	•	•	•					Modbus TCP
* Provided the product with dedicated accessories for communication and metering functions ** only with Ekip E-Hub module											

ABB Ability

3.1 Ekip UP Products

3



	Ekip UP Monitor	Ekip UP Protect	Ekip UP Protect +	Ekip UP Control	Ekip UP Control +
Control				●	●
Protection		●	●		●
Metering	●	●	●	●	●

● = standard functions
● = advanced functions



Ekip Up Versions

Type	Order Code
Ekip UP Monitor*	1SDA083359R1
Ekip UP Protect*	1SDA083360R1
Ekip UP Protect +*	1SDA083361R1
Ekip UP Control*	1SDA083362R1
Ekip UP Control +*	1SDA083363R1

Current Sensor- Mandatory

Type	Order Code
CS 100-400A 3P type B*	1SDA083364R1
CS 100-400A 4P type B*	1SDA083365R1
CS 400-1600A 3P type B*	1SDA083366R1
CS 400-1600A 4P type B*	1SDA083367R1
CS 100-2000A 3P + COPPER type A*	1SDA083368R1
CS 100-2000A 4P + COPPER type A*	1SDA083369R1
CS 2000-4000A 3P + COPPER type A*	1SDA083370R1
CS 2000-4000A 4P + COPPER type A*	1SDA083371R1
Open CS 4000 A 3P type C 120*	1SDA083372R1
Open CS 4000 A 4P type C 120*	1SDA083373R1

ABB Ability

3.1 Ekip UP Products



Rating Plug Installed- Mandatory (Free Issue)

Type	Order Code
Rating Plug 100A*	1SDA074258R1
Rating Plug 200A*	1SDA074259R1
Rating Plug 250A*	1SDA074260R1
Rating Plug 400A*	1SDA074261R1
Rating Plug 630A*	1SDA074262R1
Rating Plug 800A*	1SDA074263R1
Rating Plug 1000A*	1SDA074264R1
Rating Plug 1250A*	1SDA074265R1
Rating Plug 1600A*	1SDA074266R1
Rating Plug 2000A*	1SDA074267R1
Rating Plug 2500A*	1SDA074268R1
Rating Plug 3200A*	1SDA074269R1
Rating Plug 4000A*	1SDA074270R1
Rating Plug RC 100A*	1SDA074288R1
Rating Plug RC 200A*	1SDA074289R1
Rating Plug RC 250A*	1SDA074290R1
Rating Plug RC 400A*	1SDA074291R1
Rating Plug RC 630A*	1SDA074292R1
Rating Plug RC 800A*	1SDA074293R1
Rating Plug RC 1250A*	1SDA074294R1
Rating Plug RC 2000A*	1SDA074295R1
Rating Plug RC 3200A*	1SDA074296R1
Rating Plug RC 4000A*	1SDA074297R1

Note: Code is required to complete Ekip Up Unit

Power Supply- Mandatory (Only 24V on Ekip Up)

Type	Order Code
Ekip Supply 24-48V DC*	1SDA074173R1

Ekip Com Hub- Mandatory (Cloud Connectivity Device for Ekip Up)

Type	Order Code
Ekip Com Hub*	1SDA082894R1



Commissioning Units- Optional

Type	Order Code
Ekip TT - Trip Test unit*	1SDA066988R1
Ekip T&P - Programming and Test unit*	1SDA066989R1

Cartridge Connectivity modules- Optional

Type	Order Code
Ekip Com Modbus RS-485*	1SDA074150R1
Ekip Com Modbus TCP	1SDA074151R1
Ekip Com Profibus	1SDA074152R1
Ekip Com Profinet*	1SDA074153R1
Ekip Com DeviceNet™*	1SDA074154R1
Ekip Com EtherNet/IP™*	1SDA074155R1
Ekip Com IEC61850*	1SDA074156R1
Ekip Com R Modbus RS-485*	1SDA074157R1
Ekip Com R Modbus TCP*	1SDA074158R1
Ekip Com R Profibus*	1SDA074159R1
Ekip Com R Profinet*	1SDA074160R1
Ekip Com R DeviceNet™*	1SDA074161R1
Ekip Com R EtherNet/IP™*	1SDA074162R1

Note: Ekip Com Hub and other supporting modules can be used on a standard ACB as per the Ekip UP communication architecture.

Moulded Case Circuit Breakers for Power Distribution

3.2 Summary Power Distribution Tmax XT: XT1-XT7

3



Size	XT1					
Rated uninterrupted current	[A]	160				
Poles	[No.]	3, 4				
Rated service voltage, Ue	(AC) 50-60Hz [V]	690				
Rated insulation voltage, Ui	[V]	800				
Rated impulse withstand voltage, Uimp	[kV]	8				
Versions	Fixed, Plug-in ⁽¹⁾					
Max supply voltage on bottom side (F, P, W)	[V]	690				
Breaking capacities according to IEC 60947-2		B	C	N	S	H
Rated ultimate short-circuit breaking capacity, Icu						
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
Rated service short-circuit breaking capacity, Ics						
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%
Rated short-circuit making capacity, Icm						
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	110	154
Icm @ 415V 50-60Hz (AC)	[kA]	36	52.5	75.6	110	154
Icm @ 440V 50-60Hz (AC)	[kA]	30	52.5	75.6	110	143
Icm @ 500V 50-60Hz (AC)	[kA]	13.6	36	63	75.6	110
Icm @ 525V 50-60Hz (AC)	[kA]	9	13.6	46.2	73.5	73.5
Icm @ 690V 50-60Hz (AC)	[kA]	4.26	5.88	9	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
Utilization Category (IEC 60947-2)	A					
Icw	[kA]	-				
Reference Standard	IEC 60947-2					
Insulation behaviour	✓					
Mounted on DIN rail	DIN EN 50022					
Mechanical life	[No. Operations]	25,000				
	[No. Hourly operations]	240				
Electrical life @ 415 V (AC)	[No. Operations]	8,000				
	[No. Hourly operations]	120				

(1) XT1 plug-in In max=125A (2) In<32A Icu=25kA/Ics=20kA, with magnetic trip unit only and In≤52A/Icu=Ics=5kA

(3) Ics=100% Icu up to 250 A with EF, ES, Rear and external FC CuAl (2x...) terminal. When any other terminals are used and load >200A Icu=25%



XT2					XT3			XT4					
160					250			160 / 250					
3, 4					3, 4			3, 4					
690					690			690					
1000					800			1000					
8					8			8					
Fixed, Withdrawable, Plug-in					Fixed, Plug-in			Fixed, Withdrawable, Plug-in					
≤ 480					690			≤ 600					
N	S	H	L	V	N	S	N	S	H	L	V	X	
65	85	100	150	200	50	85	65	85	100	150	200	200	
36	50	70	120	150	36	50	36	50	70	120	150	200	
36	50	70	120	150	36	50	36	50	70	120	150	200	
36	50	65	100	150	25	40	36	50	65	100	150	200	
30	36	50	60	70	20	30	30	36	50	60	85	100	
20	25	30	36	50	13	20	20	25	45	50	70	100	
10	12	15	18	20	5	6	10	12	15	20	50 ⁽²⁾	100	
100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%	100%	
100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%	100%	
100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%	100%	
100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%	100%	
100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%	100%	
100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%	100%	
100%	100%	100%	75% (15)	75%	50% (3)	50%	100%	100%	100%	100%	100% ⁽³⁾	100% ⁽³⁾	
143	187	220	330	440	110	187	143	187	220	330	440	440	
75.6	110	154	264	330	75.6	110	75.6	110	154	264	330	440	
75.6	110	154	264	330	75.6	110	75.6	110	154	264	330	440	
75.6	110	143	220	330	52.5	84	75.6	110	143	220	330	440	
63	75.6	110	132	154	40	63	63	75.6	110	132	187	220	
40	52.5	63	75.6	110	26	40	40	52.5	94.5	110	154	220	
17	24	30	36	40	7.5	9	17	24	30	40	110	220	
65	85	100	150	200	50	85	65	85	100	150	200	200	
30	36	65	100	150	25	35	30	36	65	100	150	100	
A					A			A					
-					-			-					
IEC 60947-2					IEC 60947-2			IEC 60947-2					
✓					✓			✓					
DIN EN 50022					DIN EN 50022			DIN EN 50022					
25,000					25,000			25,000					
240					240			240					
8,000					8,000			8,000		10,000			
120					120			120					

Moulded Case Circuit Breakers for Power Distribution

3.2 Summary Power Distribution Tmax XT: XT1-XT7

3



Size		XT5					
Rated uninterrupted current		[A]	400 / 630				
Poles		[No.]	3. 4				
Rated service voltage. Ue		(AC) 50-60Hz [V]	690				
Rated insulation voltage. Ui		[V]	1000				
Rated impulse withstand voltage. Uimp		[kV]	8				
Versions			Fixed. Withdrawable. Plug-in ⁽⁵⁾				
Max supply voltage on bottom side (F. P. W)		[V]	690				
Breaking capacities according to IEC 60947-2			N	S	H	L	V X
Rated ultimate short-circuit breaking capacity. Icu							
Icu @ 220-230-240V 50-60Hz (AC)	[kA]	70	85	100	150	200	200
Icu @ 380V 50-60Hz (AC)	[kA]	36	50	70	120	200	200
Icu @ 415V 50-60Hz (AC)	[kA]	36	50	70	120	200	200
Icu @ 440V 50-60Hz (AC)	[kA]	36	50	65	100	180	200
Icu @ 500V 50-60Hz (AC)	[kA]	25	30	50	85	150	150
Icu @ 525V 50-60Hz (AC)	[kA]	25	30	50	85	100	120
Icu @ 690V 50-60Hz (AC)	[kA]	20	25	40	70	80	100
Rated service short-circuit breaking capacity. Ics							
Ics @ 220-230-240V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 380V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 415V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 440V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 500V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 525V 50-60Hz (AC)	[kA]	100%	100%	100%	100%	100%	100%
Ics @ 690V 50-60Hz (AC)	[kA]	100%	100%	100% ⁽²⁾	100% ⁽³⁾	100% ⁽³⁾	100% ⁽³⁾
Rated short-circuit making capacity. Icm							
Icm @ 220-230-240V 50-60Hz (AC)	[kA]	154	187	220	330	440	440
Icm @ 380V 50-60Hz (AC)	[kA]	75.6	110	154	264	440	440
Icm @ 415V 50-60Hz (AC)	[kA]	75.6	110	154	264	440	440
Icm @ 440V 50-60Hz (AC)	[kA]	75.6	110	143	220	396	440
Icm @ 500V 50-60Hz (AC)	[kA]	52.5	63	110	187	330	330
Icm @ 525V 50-60Hz (AC)	[kA]	52.5	63	110	187	220	264
Icm @ 690V 50-60Hz (AC)	[kA]	40	52.5	84	154	176	220
Breaking capacities according to NEMA-AB1							
@ 240V 50-60Hz (AC)	[kA]						
@ 480V 50-60Hz (AC)	[kA]						
Utilization Category (IEC 60947-2)		A (up to 630A). B (up to 500A) ⁽⁴⁾					
Icw (1 sec)	[kA]	6					
Reference Standard		IEC 60947-2					
Insulation behaviour		✓					
Mounted on DIN rail		-					
Mechanical life	[No. operations]	20,000					
	[No. hourly operations]	120					
Electrical life @ 415 V (AC)	[No. operations]	7,000 (400A) - 5,000 (630A)					
	[No. hourly operations]	60					

(1) Not suitable for IT distribution systems > 440Vac (2) Ics = 75% In > 500A (3) Ics = 50% In > 500A (4) Category B: only when equipped with an electronic trip unit



3

XT6 ⁽¹⁾			XT7			XT7 M		
800 / 1000 ⁽⁶⁾			800 / 1000 / 1250 / 1600			800 / 1000 / 1250 / 1600		
3. 4			3. 4			3. 4		
690			690			690		
1000			1000			1000		
8			8			8		
Fixed. Withdrawable			Fixed. Withdrawable			Fixed. Withdrawable		
690			690			690		
N	S	H	S	H	L	S	H	L
70	85	100	85	100	200	85	100	200
36	50	70	50	70	120	50	70	120
36	50	70	50	70	120	50	70	120
30	45	50	50	65	100	50	65	100
25	35	50	45	50	85	45	50	85
25	35	50	45	50	65	45	50	65
20	22	25	30	42	50	30	42	50
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%	100%
154	187	220	187	220	440	187	220	440
75.6	110	154	110	154	264	110	154	264
75.6	110	154	110	154	264	110	154	264
63	94.5	110	110	143	220	110	143	220
52.5	73.5	110	94.5	110	187	94.5	110	187
52.5	73.5	110	94.5	110	143	94.5	110	143
40	46.2	52.5	63	88.2	110	63	88.2	110
A (up to 1000A) - B (800A) ⁽⁴⁾			B			B		
10			20			20		
IEC 60947-2			IEC 60947-2			IEC 60947-2		
✓			✓			✓		
-			-			-		
20,000			10,000			20,000		
120			60			60		
5,000			3,000			3,000		
60			60			60		

(5) Plug-in/Withdrawable: max In 40°C=600A (6) 1000A only for fixed execution with EF. ES. R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

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	C	N
		Icu @ 415Vac = 18kA	Icu @ 415Vac = 25kA	Icu @ 415Vac = 36kA
In				
TMD	12-16A	1SDA066799R1	1SDA080825R1	1SDA080827R1
TMD	14-20A	1SDA066800R1	1SDA080826R1	1SDA080828R1
TMD	18-25A	1SDA066801R1	1SDA067391R1	1SDA080829R1
TMD	22-32A	1SDA066802R1	1SDA067392R1	1SDA067411R1
TMD	28-40A	1SDA066803R1	1SDA067393R1	1SDA067412R1
TMD	35-50A	1SDA066804R1	1SDA067394R1	1SDA067413R1
TMD	44-63A	1SDA066805R1	1SDA067395R1	1SDA067414R1
TMD	56-80A	1SDA066806R1	1SDA067396R1	1SDA067415R1
TMD	70-100A	1SDA066807R1	1SDA067397R1	1SDA067416R1
TMD	88-125A	1SDA066808R1	1SDA067398R1	1SDA067417R1
TMD	112-160A	1SDA066809R1	1SDA067399R1	1SDA067418R1

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

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

XT1D – Switch-disconnector

Type	Iu	3 Poles	4 Poles
XT1D 160	160A	1SDA068208R1	1SDA068209R1

Note: The above disconnector rating is based on AC22 conditions

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

Thermomagnetic trip unit – TMD		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMD	12-16A	1SDA067010R1	1SDA067550R1	1SDA067594R1
TMD*	14-20A	1SDA067011R1	1SDA067551R1	1SDA067595R1
TMD	18-25A	1SDA067012R1	1SDA067552R1	1SDA067596R1
TMD	22-32A	1SDA067013R1	1SDA067553R1	1SDA067597R1
TMA	28-40A	1SDA067014R1	1SDA067554R1	1SDA067598R1
TMA	35-50A	1SDA067015R1	1SDA067555R1	1SDA067599R1
TMA	44-63A	1SDA067016R1	1SDA067556R1	1SDA067600R1
TMA	56-80A	1SDA067017R1	1SDA067557R1	1SDA067601R1
TMA	70-100A	1SDA067018R1	1SDA067558R1	1SDA067602R1
TMA	88-125A	1SDA067019R1	1SDA067559R1	1SDA067603R1
TMA	112-160A	1SDA067020R1	1SDA067560R1	1SDA067604R1

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7



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

Thermomagnetic trip unit -TMD		N		S		H	
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA	
In							
TMD*	12-16A	1SDA067031R1		1SDA067571R1		1SDA067615R1	
TMD*	14-20A	1SDA067032R1		1SDA067572R1		1SDA067616R1	
TMD*	18-25A	1SDA067033R1		1SDA067573R1		1SDA067617R1	
TMD*	22-32A	1SDA067034R1		1SDA067574R1		1SDA067618R1	
TMA	28-40A	1SDA067035R1		1SDA067575R1		1SDA067619R1	
TMA*	35-50A	1SDA067036R1		1SDA067576R1		1SDA067620R1	
TMA*	44-63A	1SDA067037R1		1SDA067577R1		1SDA067621R1	
TMA*	56-80A	1SDA067038R1		1SDA067578R1		1SDA067622R1	
TMA*	70-100A	1SDA067039R1		1SDA067579R1		1SDA067623R1	
TMA In N=50%*	88-125A	1SDA067040R1		1SDA067580R1		1SDA067624R1	
TMA In N=50%*	112-160A	1SDA067041R1		1SDA067581R1		1SDA067625R1	
TMA In N=100%*	88-125A	1SDA067042R1		1SDA067582R1		1SDA067626R1	
TMA In N=100%*	112-160A	1SDA067043R1		1SDA067583R1		1SDA067627R1	



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

Electronic trip unit - Ekip LS/I		N		S		H		V	
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
In									
Ekip LS/I*	4-10A	1SDA067054R1		1SDA067800R1		1SDA067857R1		1SDA067971R1	
Ekip LS/I*	10-25A	1SDA067055R1		1SDA067801R1		1SDA067858R1		1SDA067972R1	
Ekip LS/I	25-63A	1SDA067056R1		1SDA067802R1		1SDA067859R1		1SDA067973R1	
Ekip LS/I	40-100A	1SDA067057R1		1SDA067803R1		1SDA067860R1		1SDA067974R1	
Ekip LS/I	64-160A	1SDA067058R1		1SDA067804R1		1SDA067861R1		1SDA067975R1	



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

Electronic trip unit - Ekip LS/I		N		S		H		V	
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA		Icu @ 415Vac = 70kA		Icu @ 415Vac = 150kA	
In									
Ekip LS/I*	4-10A	1SDA067090R1		1SDA067833R1		1SDA067890R1		1SDA068004R1	
Ekip LS/I*	10-25A	1SDA067091R1		1SDA067834R1		1SDA067891R1		1SDA068005R1	
Ekip LS/I*	25-63A	1SDA067092R1		1SDA067835R1		1SDA067892R1		1SDA068006R1	
Ekip LS/I*	40-100A	1SDA067093R1		1SDA067836R1		1SDA067893R1		1SDA068007R1	
Ekip LS/I	64-160A	1SDA067095R1		1SDA067838R1		1SDA067895R1		1SDA068009R1	



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

Thermomagnetic trip unit - TMD		N		S	
		Icu @ 415Vac = 36kA		Icu @ 415Vac = 50kA	
In					
TMD	44-63A	1SDA068053R1		1SDA068215R1	
TMD*	56-80A	1SDA068054R1		1SDA068216R1	
TMD	70-100A	1SDA068055R1		1SDA068217R1	
TMD	88-125A	1SDA068056R1		1SDA068218R1	
TMD	112-160A	1SDA068057R1		1SDA068219R1	
TMD	140-200A	1SDA068058R1		1SDA068220R1	
TMD	175-250A	1SDA068059R1		1SDA068221R1	



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

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

XT3D – Switch-disconnector

Type	Iu	3 Poles	4 Poles
XT3D 250	250A	1SDA068210R1	1SDA068211R1

Note: The above disconnector rating is based on AC22 conditions

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

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

Thermomagnetic trip unit - TMD/TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMD*	12-16A	1SDA068076R1	1SDA068299R1	1SDA068332R1
TMD*	14-20A	1SDA068080R1	1SDA068300R1	1SDA068333R1
TMD*	18-25A	1SDA068081R1	1SDA068301R1	1SDA068334R1
TMD*	22-32A	1SDA068082R1	1SDA068302R1	1SDA068335R1
TMA*	28-40A	1SDA068083R1	1SDA068303R1	1SDA068336R1
TMA*	35-50A	1SDA068084R1	1SDA068304R1	1SDA068337R1
TMA*	44-63A	1SDA068085R1	1SDA068305R1	1SDA068338R1
TMA*	56-80A	1SDA068086R1	1SDA068306R1	1SDA068339R1
TMA	70-100A	1SDA068087R1	1SDA068307R1	1SDA068340R1
TMA	88-125A	1SDA068088R1	1SDA068308R1	1SDA068341R1
TMA	112-160A	1SDA068089R1	1SDA068309R1	1SDA068342R1



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

Thermomagnetic trip unit - TMD/TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMD*	12-16A	1SDA068093R1	1SDA068313R1	1SDA068346R1
TMD*	14-20A	1SDA068094R1	1SDA068314R1	1SDA068347R1
TMD*	18-25A	1SDA068095R1	1SDA068315R1	1SDA068348R1
TMD*	22-32A	1SDA068096R1	1SDA068316R1	1SDA068349R1
TMA*	28-40A	1SDA068097R1	1SDA068317R1	1SDA068350R1
TMA*	35-50A	1SDA068098R1	1SDA068318R1	1SDA068351R1
TMA*	44-63A	1SDA068099R1	1SDA068319R1	1SDA068352R1
TMA*	56-80A	1SDA068100R1	1SDA068320R1	1SDA068353R1
TMA*	70-100A	1SDA068101R1	1SDA068321R1	1SDA068354R1
TMA In N=50%*	88-125A	1SDA068102R1	1SDA068322R1	1SDA068355R1
TMA In N=50%*	112-160A	1SDA068103R1	1SDA068323R1	1SDA068356R1
TMA In N=100%	88-125A	1SDA068107R1	1SDA068327R1	1SDA068360R1
TMA In N=100%	112-160A	1SDA068108R1	1SDA068328R1	1SDA068361R1



XT4V 160A - Breaking Part - Fault Level 150kA

	Iu	Icu (415 V)	Type	3 Poles	4 Poles
Mandatory Part 1 for XT4V				Code	Code
XT4 Breaking Part*	160A	150kA		1SDA100261R1	1SDA100263R1



XT4V - Trip Unit Part (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT4V		3 Poles	4 Poles
		Code	Code
TMD*	12-16A	1SDA067377R1	1SDA067465R1
TMD*	14-20A	1SDA067378R1	1SDA067468R1
TMD*	18-25A	1SDA067379R1	1SDA067469R1
TMD*	22-32A	1SDA067380R1	1SDA067470R1
TMA*	28-40A	1SDA067381R1	1SDA067471R1
TMA*	35-50A	1SDA067382R1	1SDA067472R1
TMA*	44-63A	1SDA067383R1	1SDA067473R1
TMA*	56-80A	1SDA067384R1	1SDA067474R1
TMA*	70-100A	1SDA067385R1	1SDA067475R1
TMA*	88-125A	1SDA067386R1	
TMA In N=50%*	88-125A		1SDA067476R1
TMA In N=100%*	88-125A		1SDA067481R1
TMA*	112-160A	1SDA067387R1	
TMA In N=50%*	112-160A		1SDA067477R1
TMA In N=100%*	112-160A		1SDA067482R1

Note: For XT4V breakers, Part 1 and Part 2 with applicable trip units need to be ordered

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7



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

Electronic trip unit – Ekip LS/I		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I*	16-40A	1SDA068122R1	1SDA068471R1	1SDA068511R1
Ekip LS/I*	25-63A	1SDA068123R1	1SDA068472R1	1SDA068512R1
Ekip LS/I	40-100A	1SDA068124R1	1SDA068473R1	1SDA068513R1
Ekip LS/I*	64-160A	1SDA068125R1	1SDA068474R1	1SDA068514R1



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

Electronic trip unit – Ekip LS/I		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I*	16-40A	1SDA068142R1	1SDA068491R1	1SDA068531R1
Ekip LS/I*	25-63A	1SDA068144R1	1SDA068492R1	1SDA068532R1
Ekip LS/I	40-100A	1SDA068145R1	1SDA068493R1	1SDA068533R1
Ekip LS/I	64-160A	1SDA068146R1	1SDA068494R1	1SDA068534R1



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

Thermomagnetic trip unit - TMD/TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMA	140-200A	1SDA068090R1	1SDA068310R1	1SDA068343R1
TMA	158-225A	1SDA068091R1	1SDA068311R1	1SDA068344R1
TMA	175-250A	1SDA068092R1	1SDA068312R1	1SDA068345R1



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

Thermomagnetic trip unit - TMD/TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMA In	140-200A	1SDA068104R1	1SDA068324R1	1SDA068357R1
N=50%*				
TMA In	158-225A	1SDA068105R1	1SDA068325R1	1SDA068358R1
N=50%*				
TMA In	175-250A	1SDA068106R1	1SDA068326R1	1SDA068359R1
N=50%*				
TMA In	140-200A	1SDA068109R1	1SDA068329R1	1SDA068362R1
N=100%*				
TMA In	158-225A	1SDA068110R1	1SDA068330R1	1SDA068363R1
N=100%*				
TMA In	175-250A	1SDA068111R1	1SDA068331R1	1SDA068364R1
N=100%*				



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

Electronic trip unit – Ekip LS/I		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I	100-250A	1SDA068126R1	1SDA068475R1	1SDA068515R1



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

Electronic trip unit – Ekip LS/I		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I*	100-250A	1SDA068147R1	1SDA068495R1	1SDA068535R1

*The above disconnector rating is based on AC22 conditions

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

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XT4V 160A - Breaking Part - Fault Level 150kA

	Iu	Icu (415 V)	Type	3 Poles	4 Poles
Mandatory Part 1 for XT4V				Code	Code
XT4 Breaking Part*	160A	150kA		1SDA100261R1	1SDA100263R1

XT4V - Trip Unit Part (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT4V			3 Poles	4 Poles
			Code	Code
Ekip LS/I*	16-40A		1SDA067498R1	1SDA067518R1
Ekip LS/I*	25-63A		1SDA067499R1	1SDA067519R1
Ekip LS/I*	40-100A		1SDA067500R1	1SDA067520R1
Ekip LS/I*	64-160A		1SDA067501R1	1SDA067521R1

Note: For XT4V breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT4V 250A - Breaking Part - Fault Level 150kA

	Iu	Icu (415 V)	Type	3 Poles	4 Poles
Mandatory Part 1 for XT4V				Code	Code
XT4 Breaking Part*	250A	150kA		1SDA100262R1	1SDA100264R1

XT4V - Trip Unit Part (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT4V			3 Poles	4 Poles
			Code	Code
TMA*	140-200A			
TMA In N=50%*	140-200A			1SDA067478R1
TMA In N=100%*	140-200A			1SDA067483R1
TMA*	158-225A			
TMA In N=50%*	158-225A			1SDA067479R1
TMA In N=100%*	158-225A			1SDA067484R1
TMA*	175-250A		1SDA067388R1	
TMA In N=50%*	175-250A			1SDA067480R1
TMA In N=100%*	175-250A			1SDA067485R1

Note: For XT4V breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT4V 250A - Breaking Part - Fault Level 150kA

	Iu	Icu (415 V)	Type	3 Poles	4 Poles
Mandatory Part 1 for XT4V				Code	Code
XT4 Breaking Part*	250A	150kA		1SDA100262R1	1SDA100264R1

XT4V - Trip Unit Part (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT4V			3 Poles	4 Poles
			Code	Code
Ekip LS/I*	100-250A		1SDA067502R1	1SDA067522R1

Note: For XT4V breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT4 D – Switch-disconnector

Type	Iu	3 Poles	4 Poles
XT4D 250	250A	1SDA068212R1	1SDA068213R1

Note: The above disconnector rating is based on AC22 conditions

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7



XT5- Fixed (F) - 3 poles - Front terminals (F)

Thermomagnetic trip unit - TMD		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
TMA	224-320A	1SDA100344R1	1SDA100414R1	1SDA100484R1
TMA	280-400A	1SDA100345R1	1SDA100415R1	1SDA100485R1
TMA	350-500A	1SDA100346R1	1SDA100416R1	1SDA100486R1
TMA	440-630A	1SDA100347R1	1SDA100417R1	1SDA100487R1
Electronic trip unit - Ekip DIP		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I	128-320A	1SDA100353R1	1SDA100423R1	1SDA100489R1
Ekip LS/I	160-400A	1SDA100354R1	1SDA100424R1	1SDA100490R1
Ekip LS/I	252-630A	1SDA100355R1	1SDA100425R1	1SDA100491R1
Ekip LSI	128-320A	1SDA100357R1	1SDA100427R1	1SDA100493R1
Ekip LSI	160-400A	1SDA100358R1	1SDA100428R1	1SDA100494R1
Ekip LSI	252-630A	1SDA100359R1	1SDA100429R1	1SDA100495R1

XT5 - Fixed (F) - 4 poles - Front terminals (F)

Thermomagnetic trip unit - TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
In N=100%	224-320A	1SDA100383R1	1SDA100453R1	1SDA100519R1
In N=100%	280-400A	1SDA100385R1	1SDA100455R1	1SDA100521R1
In N=100%	350-500A	1SDA100387R1	1SDA100457R1	1SDA100523R1
In N=100%	440-630A	1SDA100389R1	1SDA100459R1	1SDA100525R1
Electronic trip unit - Ekip DIP		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I	128-320A	1SDA100395R1	1SDA100465R1	1SDA100527R1
Ekip LS/I	160-400A	1SDA100396R1	1SDA100466R1	1SDA100528R1
Ekip LS/I	252-630A	1SDA100397R1	1SDA100467R1	1SDA100529R1
Ekip LSI	128-320A	1SDA100399R1	1SDA100469R1	1SDA100531R1
Ekip LSI	160-400A	1SDA100400R1	1SDA100470R1	1SDA100532R1
Ekip LSI	252-630A	1SDA100401R1	1SDA100471R1	1SDA100533R1

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

XT5N Ekip Touch -Front terminals (F)

XT5N 3P & 4P- Breaking Part - Fault Level 36kA

Mandatory Part 2 for XT5N	Iu	Icu	3 Poles	4 Poles
		415V	Code	Code
XT5N 400 BREAKING PART 3p F F	400A	36kA	1SDA100550R1	1SDA100552R1
XT5N 630 BREAKING PART 3p F F	630A	36kA	1SDA100551R1	1SDA100553R1

XT5 400/630 Touch Trip Unit (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT5N	Iu	3 Poles	4 Poles
		Code	Code
Ekip Touch LSI In=320 XT5	128-320A	1SDA100591R1	1SDA100672R1
Ekip Touch LSI In=400 XT5	160-400A	1SDA100592R1	1SDA100673R1
Ekip Touch LSI In=630 XT5	252-630A	1SDA100593R1	1SDA100674R1

XT5D – Switch-disconnector - Fixed (F)

Type	Ie	3 Poles	4 Poles
XT5D 400	400A	1SDA100546R1	1SDA100548R1
XT5D 630	630A	1SDA100547R1	1SDA100549R1

* The above disconnector rating is based on AC22 conditions

XT6 Fixed - 3 poles - Front terminals (F)

Thermomagnetic trip unit -TMA	In	N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
TMA	252-630A	1SDA107561R1	1SDA107574R1	1SDA107587R1
TMA	560-800A	1SDA100718R1	1SDA100740R1	1SDA100762R1
Electronic trip unit -Ekip DIP	In	N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
Ekip LS/I	252-630A	1SDA107562R1	1SDA107575R1	1SDA107588R1
Ekip LS/I	320-800A	1SDA100719R1	1SDA100741R1	1SDA100763R1
Ekip LS/I	400-1000A	1SDA100720R1	1SDA100742R1	1SDA100764R1
Ekip LSI	252-630A	1SDA107563R1	1SDA107576R1	1SDA107589R1
Ekip LSI	320-800A	1SDA100721R1	1SDA100743R1	1SDA100765R1
Ekip LSI	400-1000A	1SDA100722R1	1SDA100744R1	1SDA100766R1

Note: 1000A only with EF, ES, R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7



XT6 Fixed - 4 poles - Front terminals (F)

Thermomagnetic trip unit -TMA		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
InN=100%	252-630A	1SDA107569R1	1SDA107582R1	1SDA107595R1
InN=100%	560-800A	1SDA100731R1	1SDA100753R1	1SDA100775R1
Electronic trip unit -Ekip DIP		N	S	H
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In				
Ekip LS/I	252-630A	1SDA107570R1	1SDA107583R1	1SDA107596R1
Ekip LS/I	320-800A	1SDA100732R1	1SDA100754R1	1SDA100776R1
Ekip LS/I	400-1000A	1SDA100733R1	1SDA100755R1	1SDA100777R1
Ekip LSI	252-630A	1SDA107571R1	1SDA107584R1	1SDA107597R1
Ekip LSI	320-800A	1SDA100734R1	1SDA100756R1	1SDA100778R1
Ekip LSI	400-1000A	1SDA100735R1	1SDA100757R1	1SDA100779R1

Note: 1000A only with EF, ES, R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered



XT6D – Switch-disconnector - Fixed (F)

Type	Ie	3 Poles	4 Poles
XT6D 630	630A	1SDA107600R1	1SDA107601R1
XT6D 800	800A	1SDA100784R1	1SDA100786R1
XT6D 1000	1000A	1SDA100785R1	1SDA100787R1

* The above disconnector rating is based on AC22 conditions

Note: 1000A only with EF, ES, R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered



XT7 1600 – Fixed (F) – 3 Poles - Front terminals (F)

Electronic trip unit -Ekip DIP		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip LS/I	320-800A	1SDA100826R1	1SDA100890R1
Ekip LS/I	400-1000A	1SDA100827R1	1SDA100891R1
Ekip LS/I	500-1250A	1SDA100828R1	1SDA100892R1
Ekip LS/I	640-1600A	1SDA100829R1	1SDA100893R1
Ekip LSI	320-800A	1SDA100830R1	1SDA100894R1
Ekip LSI	400-1000A	1SDA100831R1	1SDA100895R1
Ekip LSI	500-1250A	1SDA100832R1	1SDA100896R1
Ekip LSI	640-1600A	1SDA100833R1	1SDA100897R1

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

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XT7 1600 – Fixed (F) – 3 Poles - Front terminals (F)

Electronic Touch trip unit		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip Touch LSI	320-800A	1SDA100838R1	1SDA100902R1
Ekip Touch LSI	400-1000A	1SDA100839R1	1SDA100903R1
Ekip Touch LSI	500-1250A	1SDA100840R1	1SDA100904R1
Ekip Touch LSI	640-1600A	1SDA100841R1	1SDA100905R1



XT7 1600 – Fixed (F) – 4 Poles - Front terminals (F)

Electronic trip unit -Ekip DIP		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip LS/I	320-800A	1SDA101114R1	1SDA101170R1
Ekip LS/I	400-1000A	1SDA101115R1	1SDA101171R1
Ekip LS/I	500-1250A	1SDA101116R1	1SDA101172R1
Ekip LS/I	640-1600A	1SDA101117R1	1SDA101173R1
Ekip LSI	320-800A	1SDA101118R1	1SDA101174R1
Ekip LSI	400-1000A	1SDA101119R1	1SDA101175R1
Ekip LSI	500-1250A	1SDA101120R1	1SDA101176R1
Ekip LSI	640-1600A	1SDA101121R1	1SDA101177R1



XT7 1600 – Fixed (F) – 4 Poles - Front terminals (F)

Electronic Touch trip unit		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip Touch LSI	320-800A	1SDA101126R1	1SDA101182R1
Ekip Touch LSI	400-1000A	1SDA101127R1	1SDA101183R1
Ekip Touch LSI	500-1250A	1SDA101128R1	1SDA101184R1
Ekip Touch LSI	640-1600A	1SDA101129R1	1SDA101185R1



XT7 – Switch-disconnector - Fixed (F)

Type	Ie	3 Poles	4 Poles
XT7D 1000	1000A	1SDA101906R1	1SDA101909R1
XT7D 1250	1250A	1SDA101907R1	1SDA101910R1
XT7D 1600	1600A	1SDA101908R1	1SDA101911R1

* The above disconnector rating is based on AC22 conditions



XT7M 1600 – Fixed (F) – 3 Poles - Front terminals (F)

Electronic trip unit -Ekip DIP		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip LS/I	320-800A	1SDA101366R1	1SDA101430R1
Ekip LS/I	400-1000A	1SDA101367R1	1SDA101431R1
Ekip LS/I	500-1250A	1SDA101368R1	1SDA101432R1
Ekip LS/I	640-1600A	1SDA101369R1	1SDA101433R1
Ekip LSI	320-800A	1SDA101370R1	1SDA101434R1
Ekip LSI	400-1000A	1SDA101371R1	1SDA101435R1
Ekip LSI	500-1250A	1SDA101372R1	1SDA101436R1
Ekip LSI	640-1600A	1SDA101373R1	1SDA101437R1

Moulded Case Circuit Breakers for Power Distribution

3.3 Power Distribution Tmax XT: XT1-XT7

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XT7M 1600 – Fixed (F) – 3 Poles - Front terminals (F)

Electronic trip unit		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip Touch LSI	320-800A	1SDA101378R1	1SDA101442R1
Ekip Touch LSI	400-1000A	1SDA101379R1	1SDA101443R1
Ekip Touch LSI	500-1250A	1SDA101380R1	1SDA101444R1
Ekip Touch LSI	640-1600A	1SDA101381R1	1SDA101445R1



XT7M 1600 – Fixed (F) – 4 Poles - Front terminals (F)

Electronic trip unit		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip LS/I	320-800A	1SDA101654R1	1SDA101710R1
Ekip LS/I	400-1000A	1SDA101655R1	1SDA101711R1
Ekip LS/I	500-1250A	1SDA101656R1	1SDA101712R1
Ekip LS/I	640-1600A	1SDA101657R1	1SDA101713R1
Ekip LSI	320-800A	1SDA101658R1	1SDA101714R1
Ekip LSI	400-1000A	1SDA101659R1	1SDA101715R1
Ekip LSI	500-1250A	1SDA101660R1	1SDA101716R1
Ekip LSI	640-1600A	1SDA101661R1	1SDA101717R1



XT7M 1600 – Fixed (F) – 4 Poles - Front terminals (F)

Electronic trip unit		S	H
		Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA
In			
Ekip Touch LSI	320-800A	1SDA101666R1	1SDA101722R1
Ekip Touch LSI	400-1000A	1SDA101667R1	1SDA101723R1
Ekip Touch LSI	500-1250A	1SDA101668R1	1SDA101724R1
Ekip Touch LSI	640-1600A	1SDA101669R1	1SDA101725R1



XT7M – Switch-disconnector - Fixed (F)

Type	Ie	3 Poles	4 Poles
XT7D 1000	1000A	1SDA101912R1	1SDA101915R1
XT7D 1250	1250A	1SDA101913R1	1SDA101916R1
XT7D 1600	1600A	1SDA101914R1	1SDA101917R1

* The above disconnector rating is based on AC22 conditions

Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories

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Fixed Parts, Conversion Kit and Accessories for Fixed Parts

Type	Order Code	Number of Poles	Item Description	For use with
Kit P PF EF	1SDA068183R1	3	Fixed Plug-in base	XT1
P MP KIT	1SDA066276R1	3	Conversion kit for MCCB to plug-in	XT1
EF – Front Extended terminals*	1SDA066260R1	3	Terminals for conversion kit	XT1
Kit P PF EF	1SDA068192R1	3	Fixed Plug-in base	XT3
P MP KIT	1SDA066280R1	3	Conversion kit for MCCB to plug-in	XT3
EF – Front Extended terminals*	1SDA066264R1	3	Terminals for conversion kit	XT3
PS – Rear phase separators 90mm*	1SDA068953R1	3	Rear phase separators 90mm	XT3
Socket-plug panel connector*	1SDA066412R1	3	15 Pin for Rear	XT1/XT3
Kit P PF EF	1SDA068187R1	3	XT2 P FP 3p EF	XT2
P MP KIT	1SDA066278R1	3	KIT P MP XT2 3p	XT2
EF - Front Extended terminals	1SDA066262R1	3	KIT EF FP XT2 3pcs	XT2
Kit P PF EF	1SDA068196R1	3	XT4 P FP 3p EF	XT4
P MP KIT	1SDA066282R1	3	KIT P MP XT4 3p	XT4
EF - Front Extended terminals	1SDA066266R1	3	KIT EF FP XT4 3pcs	XT4
Socket-plug panel connector	1SDA066413R1	3 or 4	For moving part	XT2/XT4
Socket-plug panel connector	1SDA066414R1	3 or 4	For fixed part	XT2/XT4

Shunt Opening release – SOR

Type	Order Code	For use with
SOR-C 12V DC	1SDA066321R1	XT1-XT4 F/P
SOR-C 24-30V AC/DC	1SDA066322R1	XT1-XT4 F/P
SOR-C 110-127V AC / 110-125V DC	1SDA066324R1	XT1-XT4 F/P
SOR-C 220-240V AC / 220-250V DC	1SDA066325R1	XT1-XT4 F/P
SOR-C 380-440V AC	1SDA066326R1	XT1-XT4 F/P
SOR-C 480-525V AC	1SDA066327R1	XT1-XT4 F/P

Shunt Opening release – YO

Type	Order Code	For use with
YO-C XT5-XT6 F/P 24...60 Vac/dc	1SDA104933R1	XT5/XT6
YO-C XT6 W 110...240 Vac - 110...250 Vdc	1SDA104938R1	XT5/XT6
YO-C XT5-XT6 F/P 110...240Vac-110...250Vdc	1SDA104934R1	XT5/XT6
YO-C XT5-XT6 F/P 380...440 Vac	1SDA104935R1	XT5/XT6
YO E1.2..E6.2-XT7-XT7M 24 VAC/DC	1SDA073668R1	XT7/XT7M
YO E1.2..E6.2-XT7-XT7M 110-120 VAC/DC	1SDA073672R1	XT7/XT7M
YO E1.2..E6.2-XT7-XT7M 220-240 VAC/DC	1SDA073674R1	XT7/XT7M
YO E1.2..E6.2-XT7-XT7M 380-400 VAC	1SDA073677R1	XT7/XT7M

Shunt Closing release – YC

Type	Order Code	For use with
YC E1.2..E6.2-XT7M 24 V AC/DC	1SDA073681R1	XT7/XT7M
YC E1.2..E6.2-XT7M 110-120 V AC/DC	1SDA073685R1	XT7/XT7M
YC E1.2..E6.2-XT7M 220-240 V AC/DC	1SDA073687R1	XT7/XT7M
YC E1.2..E6.2-XT7M 380-400 V AC	1SDA073690R1	XT7/XT7M

Under voltage release-YU

Type	Order Code	For use with
YU-C XT5-XT6 F/P 24...30 Vac/dc	1SDA104955R1	XT5/XT6 F/P
YU-C XT5-XT6 F/P 110...127Vac-110...125Vdc	1SDA104957R1	XT5/XT6 F/P
YU-C XT5-XT6 F/P 220...240Vac-220...250Vdc	1SDA104958R1	XT5/XT6 F/P
YU-C XT5-XT6 F/P 380...440 Vac	1SDA104959R1	XT5/XT6 F/P
YU-C XT5-XT6 F/P 480...525 Vac	1SDA104960R1	XT5/XT6 F/P
YU E1.2..E6.2-XT7-XT7M 24 VAC/DC	1SDA073694R1	XT7/XT7M
YU E1.2..E6.2-XT7-XT7M 110-120 VAC/DC	1SDA073698R1	XT7/XT7M
YU E1.2..E6.2-XT7-XT7M 220-240 VAC/DC	1SDA073700R1	XT7/XT7M
YU E1.2..E6.2-XT7-XT7M 380-400 VAC	1SDA073703R1	XT7/XT7M

Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories

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Under Voltage Release – UVR

Type	Order Code	For Use with
UVR-C 24 – 30V AC / DC	1SDA066396R1	XT1-XT4 F/P
UVR-C 110 – 127V AC / 110 – 125V DC	1SDA066398R1	XT1-XT4 F/P
UVR-C 220 – 240V AC / 220 – 250V DC	1SDA066399R1	XT1-XT4 F/P
UVR-C 380 – 440V AC	1SDA066400R1	XT1-XT4 F/P
UVR-C 480 – 525V AC	1SDA066401R1	XT1-XT4 F/P

Delay Device for Under Voltage Release – UVD

Type	Order Code	For Use with
UVD 24 – 30V AC / DC*	1SDA051357R1	XT1-XT4
UVD 110 – 125V AC / DC	1SDA051360R1	XT1-XT4
UVD T1..T6 - XT1..XT4 220..250Va.c./d.c.	1SDA051361R1	XT1-XT4
UVD XT5-XT6 220..250Va.c./d.c.	1SDA101982R1	XT5/XT6
UVD 220/250VE1/6-T7-X1-T8-E1.2/6.2-XT7/M	1SDA038320R1	XT7M

Auxiliary Contacts – AUX

Type	Order Code	For Use with
AUX-C 3Q L 250Vac/dc XT1	1SDA066426R1	XT1
AUX-C 3Q L 250Vac/dc XT2-XT4 F/P	1SDA066427R1	XT2/XT4 F/P
AUX-C 3Q L 250Vac/dc XT3	1SDA066428R1	XT3
AUX-C 1Q+1SY 250Vac/dc XT1...XT6 F/P	1SDA066431R1	XT1...XT6 F/P
AUX-C 2Q+1SY 250Vac/dc XT1...XT6 F/P	1SDA066433R1	XT1...XT6 F/P
AUX-C 3Q+2SY 250Vac/dc XT2-XT4 F/P	1SDA066436R1	XT2/XT4
AUX-C 3Q+1SY 250Vac/dc XT2...XT6 F/P	1SDA066434R1	XT2...XT6 F/P
AUX-C 1Q + 1SY 400V AC/DC XT5 F/P	1SDA104784R1	XT5 F/P
AUX-C 2Q 400V AC/DC XT5 F/P	1SDA104795R1	XT5 F/P
AUX 4Q 400V E1.2-XT7-XT7M	1SDA073750R1	XT7/XT7M
AUX 4Q 24VDC E1.2-XT7-XT7M	1SDA073751R1	XT7/XT7M
AUX-SC S33 M/2 250V AC/DC XT7M	1SDA104825R1	XT7M

Motor Operators - MOD

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

Motor Operators - MOE

Type	Order Code	For Use with
MOE 24V DC	1SDA066463R1	XT2/XT4
MOE 110 – 125V AC / DC	1SDA066465R1	XT2/XT4
MOE 220 – 250V AC / DC	1SDA066466R1	XT2/XT4
MOE 380 – 440V AC	1SDA066467R1	XT2/XT4
MOE XT5 24V DC	1SDA104879R1	XT5
MOE XT6 24V DC	1SDA104889R1	XT6
MOE XT5 110...125V AC/DC	1SDA104883R1	XT5
MOE XT6 110...125V AC/DC	1SDA104893R1	XT6
MOE XT5 220...250V AC/DC	1SDA104885R1	XT5
MOE XT6 220...250V AC/DC	1SDA104895R1	XT6
MOE XT5 380V AC	1SDA104887R1	XT5
MOE XT6 380V AC	1SDA104897R1	XT6
M XT7M 24-30 V AC/DC	1SDA104919R1	XT7M
M XT7M 100-130 V AC/DC	1SDA104921R1	XT7M
M XT7M 220-250 V AC/DC	1SDA104922R1	XT7M

Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories

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Rotary Handle Operating Mechanisms

Type	Order Code	For Use with
RHE_B XT1-XT3 F/P BASE R.DIST.ADJ.ROT.HA	1SDA066483R1	XT1/XT3
RHE_S XT1...XT4 500MM ROD R.D.ADJ.ROT.HAN	1SDA066576R1	XT1-XT4
RHE_H XT1...XT4 HANDLE R.D.ADJ.ROT.HAN	1SDA066577R1	XT1-XT4
RHE_H XT1...XT4 HAND.EME.R.D.ADJ.ROT.HAN	1SDA066578R1	XT1-XT4
RHE_H EM LH XT1...XT4 EMER. RETURNED	1SDA066585R1	XT1-XT4
RHE_B XT2-XT4 F/P BASE R.DIST.ADJ.ROT.HA	1SDA069057R1	XT2/XT4
RHD XT1-XT3 F/P STAND. DIRECT	1SDA066475R1	XT1/XT3
RHD XT2-XT4 F/P STAND. DIRECT	1SDA069053R1	XT2/XT4
RHD XT5 F/P STAND. DIRECT	1SDA104826R1	XT5 F/P
RHD XT6 F/P STAND. DIRECT	1SDA104832R1	XT6 F/P
RHD XT7 F/W STAND. DIRECT	1SDA104838R1	XT7 F/W
RHE XT1-XT3 F/P STAND. RETURNED	1SDA066479R1	XT1/XT3
RHE XT2-XT4 F/P STAND. RETURNED	1SDA069055R1	XT2/XT4
RHE XT5 F/P STAND. RETURNED	1SDA104843R1	XT5 F/P
RHE XT6 F/P STAND. RETURNED	1SDA104853R1	XT6 F/P
RHE XT7 F/W STAND. RETURNED	1SDA104863R1	XT7 F/W

Padlock on the Circuit Breaker

Type	Order Code	Item Description	For use with
PLL XT1-XT3 REMOV.PADL.DEVICE OPEN PLUG.	1SDA066588R1	Removable lock with padlocks in open position	XT1/XT3
PLL XT1-XT3 PADLOCKS DEVICE OPEN	1SDA066589R1	Fixed lock with padlocks in open position	XT1/XT3
PLL XT2-XT4 PADLOCKS DEVICE OPEN	1SDA066590R1	Fixed lock with padlocks in open position	XT2/XT4
PLL XT2-XT4 PADLOCKS DEVICE OP/CL	1SDA066592R1	Fixed lock with padlocks in open/close position	XT2/XT4
PLL XT5 PADLOCKS DEVICE OP/CL	1SDA105098R1	Fixed lock with padlocks in open/close position	XT5
PLL XT5 PADLOCKS DEVICE OPEN	1SDA105099R1	Fixed lock with padlocks in open position	XT5
PLL XT5 REM.PADLOCKS DEVICE OPEN	1SDA105100R1	Removable lock with padlocks in open position	XT5
PLL XT6 PADLOCKS DEVICE OP/CL	1SDA105101R1	Fixed lock with padlocks in open/close position	XT6
PLL XT6 PADLOCKS DEVICE OPEN	1SDA105102R1	Fixed lock with padlocks in open position	XT6
PLL XT6 REM.PADLOCKS DEVICE OPEN	1SDA105103R1	Removable lock with padlocks in open position	XT6
PLL XT7 PADLOCKS DEVICE OPEN	1SDA105104R1	Fixed lock with padlocks in open position	XT7

Insulating terminal covers

Type	Order Code	Number of Poles	For use with
LTC Low terminal covers	1SDA066655R1	3	XT1
LTC Low terminal covers	1SDA066656R1	4	XT1
HTC High terminal covers	1SDA066664R1	3	XT1
HTC High terminal covers	1SDA066665R1	4	XT1
LTC Low terminal covers	1SDA066657R1	3	XT2
LTC Low terminal covers	1SDA066659R1	4	XT2
HTC High terminal covers	1SDA066666R1	3	XT2
HTC High terminal covers	1SDA066667R1	4	XT2
LTC Low terminal covers	1SDA066660R1	3	XT3
LTC Low terminal covers	1SDA066661R1	4	XT3
HTC High terminal covers	1SDA066668R1	3	XT3
HTC High terminal covers	1SDA066669R1	4	XT3
LTC Low terminal covers	1SDA066662R1	3	XT4
LTC Low terminal covers	1SDA066663R1	4	XT4
HTC High terminal covers	1SDA066670R1	3	XT4
HTC High terminal covers	1SDA066671R1	4	XT4
LTC Low terminal covers	1SDA105018R1	3	XT5
LTC Low terminal covers	1SDA105019R1	4	XT5
HTC High terminal covers	1SDA105025R1	3	XT5
HTC High terminal covers	1SDA105026R1	4	XT5
LTC Low terminal covers	1SDA105020R1	3	XT6
LTC Low terminal covers	1SDA105021R1	4	XT6
HTC High terminal covers	1SDA105027R1	3	XT6
HTC High terminal covers	1SDA105028R1	4	XT6
HTC High terminal covers for Extended Spread terminals	1SDA105031R1	3	XT5
HTC High terminal covers for Extended Spread terminals	1SDA105032R1	4	XT5
HTC High terminal covers for Extended Spread terminals	1SDA105033R1	3	XT6
HTC High terminal covers for Extended Spread terminals	1SDA105034R1	4	XT6

Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories



Mechanical Interlock XT1-XT6

Type	Order Code	For use with
Mechanical Interlocking Chassis-Horizontal XT1-XT4	1SDA066637R1	XT1-XT4
Mechanical Interlocking Chassis-Vertical XT1-XT4	1SDA066638R1	XT1-XT4
Plate x XT1 F (one per breaker)	1SDA066639R1	XT1 Fixed
Plate x XT1 P (one per breaker)	1SDA066640R1	XT1 Plug-in
Plate x XT2 F (one per breaker)	1SDA066641R1	XT2 Fixed
Plate x XT2 P/W (one per breaker)	1SDA066642R1	XT2 Plug-in/Withdrawable
Plate x XT3 F (one per breaker)	1SDA066643R1	XT3 Fixed
Plate x XT3 P (one per breaker)	1SDA066644R1	XT3 Plug-in
Plate x XT4 F (one per breaker)	1SDA066645R1	XT4 Fixed
Plate x XT4 P/W (one per breaker)	1SDA066646R1	XT4 Plug-in/Withdrawable
Mechanical Interlocking Chassis-Horizontal XT5 2 C.BREAKER	1SDA105117R1	XT5
Mechanical Interlocking Chassis-Vertical XT5 2 C.BREAKER	1SDA105119R1	XT5
Plate XT5 Fixed (one per breaker)	1SDA105122R1	XT5 Fixed
Plate XT5 P/W 400A (one per breaker)	1SDA105123R1	XT5 Plug-in/Withdrawable
Plate XT5 P/W 630A (one per breaker)	1SDA105124R1	XT5 Plug-in/Withdrawable
Plate for XT4 F with XT5 MIR	1SDA105121R1	XT4 Fixed
Mechanical Interlocking Chassis-Horizontal XT6 2 C.BREAKER	1SDA105118R1	XT6
Mechanical Interlocking Chassis-Vertical XT6 2 C.BREAKER	1SDA105120R1	XT6
Plate XT6 Fixed (one per breaker)	1SDA105126R1	XT6 Fixed
Plate XT6 Withdrawable (one per breaker)	1SDA105127R1	XT6 Withdrawable
Plate for XT5 Fixed with XT6 (one per breaker)	1SDA101988R1	XT5 Fixed
Plate for XT5 P/W 400A with XT6 (one per breaker)	1SDA101989R1	XT5 Plug-in/Withdrawable
Plate for XT5 P/W 630A with XT6 (one per breaker)	1SDA101990R1	XT5 Plug-in/Withdrawable

Note: If the CB is interlocked & has a stored energy motor operator (MOE/MOE-E) a key lock type MOL-M is mandatory

Mechanical Interlock with cables between two circuit breakers

Type	Order Code	For use with
Cable interlock A - HR E1.2...E6.2-XT7/M	1SDA073881R1	XT7/XT7M
Sup. fixed Type A E1.2-XT7/M wall mount (one per breaker)	1SDA073894R1	XT7/XT7M
Sup. fixed Type A E1.2-XT7/M floor mount (one per breaker)	1SDA073893R1	XT7/XT7M
Support for fixed part Type A E1.2-XT7/M (one per breaker)	1SDA073896R1	XT7/XT7M

Key lock for front / Rotary Handle

Type	Order Code	For use with
RHL Ronis key lock open/closed, different keys – RHD/FLD	1SDA105080R1	XT5
RHL Ronis key lock open/closed, different keys – FLD	1SDA105090R1	XT6/XT7
RHL Ronis key lock open, same Type A keys – RHx/FLD	1SDA105082R1	XT5
RHL Ronis key lock open, same Type A keys – FLD	1SDA105086R1	XT6/XT7
RHL Ronis key lock open, same Type B keys - RHx/FLD	1SDA105083R1	XT5
RHL Ronis key lock open, same Type B keys - FLD	1SDA105087R1	XT6/XT7
RHL Ronis key lock open, same Type C keys - RHx/FLD	1SDA105084R1	XT5
RHL Ronis key lock open, same Type D keys - FLD	1SDA105089R1	XT6/XT7
RHL Ronis key lock open, same Type D keys - RHx/FLD	1SDA105085R1	XT5



Residual current devices

Type	Order Code	For use with
RC Inst HV 85...690Vac XT1 3p F	1SDA067122R1	XT1 3P
RC Sel HV 85...690Vac XT1 3p F	1SDA067123R1	XT1 3P
RC Inst HV 85...690Vac XT1 4p F	1SDA067124R1	XT1 4P
RC Sel HV 85...690Vac XT1 4p F	1SDA067125R1	XT1 4P
RC Sel x XT2 4p	1SDA067126R1	XT2 4P
RC Inst HV 85...690Vac XT3 3p F	1SDA067127R1	XT3 3P
RC Sel HV 85...690Vac XT3 3p F	1SDA067128R1	XT3 3P
RC Inst HV 85...690Vac XT3 4p F	1SDA067129R1	XT3 4P
RC Sel HV 85...690Vac XT3 4p F	1SDA067130R1	XT3 4P
RC Sel x XT4 4p	1SDA067131R1	XT4 4P
RC Sel x XT5 4p	1SDA105131R1	XT5 4P



Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories

3



Terminals, Phase Barriers & Front Level mechanism

Type	Order Code	Number of Poles	For Use with
KIT EF XT1 3pcs	1SDA066865R1	3	XT1
KIT EF XT1 4pcs	1SDA066866R1	4	XT1
KIT EF XT2 3pcs	1SDA066869R1	3	XT2
KIT EF XT2 4pcs	1SDA066870R1	4	XT2
KIT EF XT3 3pcs	1SDA066873R1	3	XT3
KIT EF XT3 4pcs	1SDA066874R1	4	XT3
KIT EF XT4 3pcs	1SDA066877R1	3	XT4
KIT EF XT4 4pcs	1SDA066878R1	4	XT4
KIT ES XT1 3pcs	1SDA066889R1	3	XT1
KIT ES XT1 4pcs	1SDA066890R1	4	XT1
KIT ES XT2 3pcs	1SDA066893R1	3	XT2
KIT ES XT2 4pcs	1SDA066894R1	4	XT2
KIT ES XT3 3pcs	1SDA066897R1	3	XT3
KIT ES XT3 4pcs	1SDA066898R1	4	XT3
KIT ES XT4 3pcs	1SDA066901R1	3	XT4
KIT ES XT4 4pcs	1SDA066902R1	4	XT4
KIT EF XT5 3pcs	1SDA104734R1	3	XT5
KIT EF XT5 4pcs	1SDA104735R1	4	XT5
KIT EF E1.2-XT7-XT7M F 3PCS	1SDA073967R1	3	XT7/XT7M
KIT EF E1.2-XT7-XT7M F 4PCS	1SDA073968R1	4	XT7/XT7M
KIT ES XT5 3pcs	1SDA104738R1	3	XT5
KIT ES XT5 4pcs	1SDA104739R1	4	XT5
Kit ES E1.2-XT7-XT7M F 3pcs	1SDA073979R1	3	XT7/XT7M
Kit ES E1.2-XT7/XT7M F 4pcs	1SDA073980R1	4	XT7/XT7M
PB 100mm 4pcs XT5 3p KIT PA.DI.PH.HI	1SDA105002R1	3	XT5
PB 100mm 6pcs XT6 4p KIT PA.DI.PH.HI	1SDA105011R1	4	XT6
PB 200mm 4pcs XT5 3p KIT PA.DI.PH.HI	1SDA105004R1	3	XT5
PB 200mm 6pcs XT5 4p KIT PA.DI.PH.HI	1SDA105005R1	4	XT6
PB 100mm 4pcs XT6 3p KIT PA.DI.PH.HI	1SDA105010R1	3	XT5
PB 200mm 4pcs XT6 3p KIT PA.DI.PH.HI	1SDA105012R1	4	XT6
FLD - XT5 F/P	1SDA104871R1		XT5 Fixed/Plug-in
FLD - XT6 F/P	1SDA104873R1		XT6 Fixed/Plug-in

Key Lock on the Circuit Breaker

Type	Order Code	For Use with
KLC Ronis key lock open, different keys, removable in open position	1SDA066593R1	XT1
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066594R1	XT1
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066595R1	XT1
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066596R1	XT1
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066597R1	XT1
KLC Ronis key lock open, different keys, removable in open position	1SDA066599R1	XT2/XT4
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066600R1	XT2/XT4
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066601R1	XT2/XT4
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066602R1	XT2/XT4
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066603R1	XT2/XT4
KLC Ronis key lock open, different keys, removable in open position	1SDA066605R1	XT3
KLC Ronis key lock open, same type A keys, removable in open position	1SDA066606R1	XT3
KLC Ronis key lock open, same type B keys, removable in open position	1SDA066607R1	XT3
KLC Ronis key lock open, same type C keys, removable in open position	1SDA066608R1	XT3
KLC Ronis key lock open, same type D keys, removable in open position	1SDA066609R1	XT3
KLC XT5-XT6 KE.LO. RONIS Different Keys	1SDA105066R1	XT5
KLC XT5-XT6 KE.LO. RONIS Type A Keys	1SDA105062R1	XT5
KLC XT5-XT6 KE.LO. RONIS Type B Keys	1SDA105063R1	XT5
KLC XT7 KE.LO. RONIS Type A keys	1SDA105071R1	XT7
KLC XT7 KE.LO. RONIS Type B keys	1SDA105072R1	XT7
KLC XT7 KE.LO. RONIS Type C keys	1SDA105073R1	XT7
KLC XT7 KE.LO. RONIS Type D keys	1SDA105074R1	XT7
KLC-Different Key lock open XT7M	1SDA107494R1	XT7M
KLC-S Key lock open N.20005 XT7M	1SDA107495R1	XT7M
KLC-S Key lock open N.20006 XT7M	1SDA107496R1	XT7M
KLC-S Key lock open N.20007 XT7M	1SDA107497R1	XT7M
KLC-S Key lock open N.20008 XT7M	1SDA107498R1	XT7M



Moulded Case Circuit Breakers for Power Distribution

3.4 TMAX XT: XT1-XT7 Accessories



Ekip Cartridge & Power Supply Modules

Type	Order Code	For Use with
Ekip Cartridge 2 slots XT2-XT4-XT5	1SDA105203R1	XT2/XT4/XT5
Ekip Cartridge 4 slots XT2-XT4-XT5	1SDA105204R1	XT2/XT4/XT5
EKIP SUPPLY 110-240VAC/DC E1.2..E6.2-XT	1SDA074172R1	XT2/XT4/XT5/XT7/XT7M
EKIP SUPPLY 24-48VDC E1.2..E6.2-Tmax XT	1SDA074173R1	XT2/XT4/XT5/XT7/XT7M

Note: An Ekip Supply is required to power the cartridge module



Connectivity Modules- Internal Only

Type	Order Code	For Use with
EKIP COM ETHERNET/IP XT2-XT4 INT	1SDA105173R1	XT2/XT4
EKIP COM IEC61850 XT2-XT4 INT	1SDA105174R1	XT2/XT4
SLIM EKIP COM MODBUSRS-485 XT2-4 INT F/P	1SDA105175R1	XT2/XT4
EKIP COM MODBUS TCP XT2-XT4 INT	1SDA105177R1	XT2/XT4
EKIP COM PROFINET XT2-XT4 INT	1SDA105180R1	XT2/XT4
EKIP COM STA MODB.RS-485 XT2-XT4 INT F/P	1SDA105181R1	XT2/XT4
EKIP COM STA MODBUS TCP XT2-XT4 INT F/P	1SDA105183R1	XT2/XT4
EKIP COM ETHERNET/IP XT5 INT	1SDA105185R1	XT2/XT4
EKIP COM IEC61850 XT5 INT	1SDA105186R1	XT5
EKIP COM MODBUS RS-485 XT5 INT F/P	1SDA105187R1	XT5
EKIP COM MODBUS TCP XT5 INT	1SDA105189R1	XT5
EKIP COM PROFINET XT5 INT	1SDA105192R1	XT5
EKIP COM STA MODBUS RS-485 XT5 INT F/P	1SDA105193R1	XT5
EKIP COM STA MODBUS TCP XT5 INT F/P	1SDA105195R1	XT5

Note: Ekip Com STA internal modules are also available for theromag Units



Connectivity modules -Cartridge and XT7 (External only)

Type	Order Code	For Use with
EKIP COM DEVICENET Tmax XT	1SDA105162R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM ETHERNET/IP Tmax XT	1SDA105163R1	XT2/XT4/XT5/XT7-XT7M
Ekip Com Hub Tmax XT	1SDA105164R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM IEC61850 Tmax XT	1SDA105165R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM MODBUS RS-485 Tmax XT	1SDA105166R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM MODBUS TCP Tmax XT	1SDA105167R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM PROFIBUS Tmax XT	1SDA105170R1	XT2/XT4/XT5/XT7-XT7M
EKIP COM PROFINET Tmax XT	1SDA105171R1	XT2/XT4/XT5/XT7-XT7M

Software Packages

Type	Order Code	For Use with
SW Measuring for XT2-XT4	1SDA105208R1	XT2/XT4
SW Measuring for XT5-XT7	1SDA105209R1	XT5/XT7
SW Voltages Protection for XT2-XT4	1SDA105211R1	XT2/XT4
SW Voltages Protection for XT5-XT7	1SDA105212R1	XT5/XT7
SW Frequency Protection for XT2-XT4	1SDA105215R1	XT2/XT4
SW Frequency Protection for XT5-XT7	1SDA105216R1	XT5/XT7
SW Power Protection for XT2-XT4	1SDA105217R1	XT2/XT4
SW Power Protection for XT5-XT7	1SDA105218R1	XT5/XT7
SW ROCOF Protection for XT2-XT4	1SDA105219R1	XT2/XT4
SW ROCOF Protection for XT5-XT7	1SDA105220R1	XT5/XT7

Note: Only available on Ekip-Touch Trip units and some Hi-Touch. Contact ABB representative for more information

Metering functionality

Type	Order Code	For Use with
Class 1 Power & Energy Metering XT2-XT4	1SDA107492R1	XT2/XT4 Touch
Class 1 Power & Energy Metering XT5-XT7	1SDA107493R1	XT5/XT7 Touch

Note: To be ordered upfront with the Touch MCCB. Not available afterwards

Moulded Case Circuit Breakers for Power Distribution

3.5 Tmax XT2/XT4 - Coordination Tables

3

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		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	
		30		36	30	36	30	50	30	40	30	60	40	40	30	40	30			
		13..25																		
		32..63	15	18	25	30	36	25	36	30	50	25	40	30	60	40	40	30	40	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*			
				0.5...6	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
S200	C, D, K, Z	10	8	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			10	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			13	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			20	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			25		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
			32			16	16	16	16	16	16	16	16	16	16	16	16	16	16
			40				16	16	16	16	16	16	16	16	16	16	16	16	16
			50					16	16	16	16	16	16	16	16	16	16	16	16
			63						16	16	16	16	16	16	16	16	16	16	16

Moulded Case Circuit Breakers for Motor Protection

3.5 Summary Motor Protection Tmax XT: XT1-XT7

The Tmax XT trip units represent the ideal solution for any application up to 1600A.

The Tmax XT molded case circuit-breaker family complies with numerous installation requirements. Circuit-breakers are available with trip units dedicated to three different application groups. The table below shows the trip units for each circuit-breaker frame and the related rated interrupted current ranges.

The power distribution and generator protection application trip units are available in both 3 and 4-pole versions. With the XT2, XT4, XT5, XT6, XT7 and XT7 M versions the trip units are interchangeable, in order to make a performance upgrade of the system easier.



Rated uninterrupted current ranges [A]	XT1	XT2	XT3
Power Distribution Protection			
Thermal-magnetic			
TMD	16...160 ⁽¹⁾	1,6...32	63...250
TMA		40...160	
Ekip Dip			
Ekip Dip LS/I		10...160	
Ekip Dip LIG		10...160	
Ekip Dip LSI		10...160	
Ekip Dip LSIG		10...160	
Ekip Touch			
Ekip Touch LSI		40...160	
Ekip Touch LSIG		40...160	
Ekip Touch Measuring LSI		40...160	
Ekip Touch Measuring LSIG		40...160	
Ekip Hi-Touch LSI		40...160	
Ekip Hi-Touch LSIG		40...160	
Motor Protection			
Magnetic			
MF/MA		1...160	100...200
Ekip Dip			
Ekip M Dip I		10...160	
Ekip M Dip LIU		25...160	
Ekip Touch			
Ekip M Touch LRIU		40...100	
Generator Protection			
Thermal-magnetic			
TMG		16...160	63...250
Ekip Dip			
Ekip G Dip LS/I		25...160	
Ekip Touch			
Ekip G Touch LSIG			
Ekip G Hi-Touch LSIG			

1) 16A and 20A for N, S, H have the TMF trip unit



Moulded Case Circuit Breakers for Motor Protection

3.5 Summary Motor Protection Tmax XT: XT1-XT7

3

Maximum flexibility is guaranteed for customers: on the XT5, XT7 and XT7 M, with Ekip Touch trip units, the interchangeable rating plug enables the rated current to be changed according to system requirements.



XT4	XT5	XT6	XT7	XT7 M
16...32				
40...250	320...630	630...800		
40...250	250...630	630...1000	630...1600	630...1600
40...250	250...630	630...1000	630...1600	630...1600
40...250	250...630	630...1000	630...1600	630...1600
40...250	250...630	630...1000	630...1600	630...1600
100...250	250...630		630...1600	630...1600
100...250	250...630		630...1600	630...1600
100...250	250...630		630...1600	630...1600
100...250	250...630		630...1600	630...1600
100...250	250...630		630...1600	630...1600
100...250	250...630		630...1600	630...1600
10...200	320...500			
40...250	250...630	630...1000	630...1600	630...1600
40...160	250...500	630...800		
100...200	250...500		630...1600	630...1600
	320...630			
40...250	250...630	630...1000	630...1600	630...1600
	250...630		630...1600	630...1600
	250...630		630...1600	630...1600

Moulded Case Circuit Breakers for Motor Protection

3.6 Motor Protection Tmax XT: XT1-XT6

3



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

Magnetic trip unit - MF/MA		In	N	S	H	V
			Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA	Icu @ 415Vac = 150kA
Short circuit current						
MF	14A	1	1SDA067044R1	1SDA067760R1	1SDA067770R1	1SDA067790R1
MF	28A	2	1SDA067045R1	1SDA067761R1	1SDA067771R1	1SDA067791R1
MF	56A	4	1SDA067046R1	1SDA067762R1	1SDA067772R1	1SDA067792R1
MF	120A	8,5	1SDA067047R1	1SDA067763R1	1SDA067773R1	1SDA067793R1
MF	175A	12,5	1SDA067048R1	1SDA067764R1	1SDA067774R1	1SDA067794R1
MA	120-280A	20	1SDA067049R1	1SDA067765R1	1SDA067775R1	1SDA067795R1
MA	192-448A	32	1SDA067050R1	1SDA067766R1	1SDA067776R1	1SDA067796R1
MA	314-728A	52	1SDA067051R1	1SDA067767R1	1SDA067777R1	1SDA067797R1
MA	480-1120A	80	1SDA067052R1	1SDA067768R1	1SDA067778R1	1SDA067798R1
MA	600-1400A	100	1SDA067053R1	1SDA067769R1	1SDA067779R1	1SDA067799R1
MA	960-2240A	160	1SDA076529R1	1SDA076530R1	1SDA076535R1	



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

Magnetic trip unit - MA		In	N	S
			Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA
Short circuit current				
MA*	600-1200A	100	1SDA068071R1	1SDA068279R1
MA*	750-1500A	125	1SDA068072R1	1SDA068280R1
MA*	960-1920A	160	1SDA068073R1	1SDA068281R1
MA*	1200-2400A	200	1SDA068074R1	1SDA068282R1



XT4 160/200 MA – Fixed (F) – 3 poles – Front terminals (F)

Magnetic trip unit - MA		In	N	S	H	V
			Icu @ 415Vac = 36kA	Icu @ 415Vac = 50kA	Icu @ 415Vac = 70kA	Icu @ 415Vac = 150kA
Short Circuit Current						
MA	50-100A	10	1SDA068112R1	1SDA068431R1	1SDA068441R1	
MA	62.5-125A	12.5	1SDA068113R1	1SDA068432R1	1SDA068442R1	
MA	100-200A	20	1SDA068114R1	1SDA068433R1	1SDA068443R1	1SDA107704R1
MA	160-320A	32	1SDA068115R1	1SDA068434R1	1SDA068444R1	1SDA107705R1
MA	260-520A	52	1SDA068116R1	1SDA068435R1	1SDA068445R1	1SDA107706R1
MA	400-800A	80	1SDA068117R1	1SDA068436R1	1SDA068446R1	
MA	500-1000A	100	1SDA068118R1	1SDA068437R1	1SDA068447R1	
MA	625-1250A	125	1SDA068119R1	1SDA068438R1	1SDA068448R1	
MA	800-1600A	160	1SDA068120R1	1SDA068439R1	1SDA068449R1	
MA	1000-2000A	200	1SDA068121R1	1SDA068440R1	1SDA068450R1	

XT4V 160A - Breaking Part - Fault Level 150kA

	Iu	Icu (415 V)	Type	3 Poles
Mandatory Part 1 for XT4V				Code
XT4 Breaking Part*	160A	150kA		1SDA100261R1

XT4V - Trip Unit Part (To be ordered with Breaking Part Above)

Mandatory Part 2 for XT4V		In	Short Circuit Current	3 Poles
				Code
MA*		80	400-800A	1SDA067493R1
MA*		100	500-1000A	1SDA067494R1
MA*		125	625-1250A	1SDA067495R1
MA*		160	800-1600A	1SDA067496R1

Note: For XT4V breakers, Part 1 and Part 2 with applicable trip units need to be ordered

Moulded Case Circuit Breakers for Motor Protection

3.6 Motor Protection Tmax XT: XT1-XT6

XT4L 250A - Breaking Part - Fault Level 120kA

	Iu	Icu (415 V)	3 Poles
Mandatory Part 1 for XT4L			Code
XT4L 250 Breaking Part 3p	250A	120kA	1SDA068176R1

XT4 250A - Trip Unit Part (To be ordered with Breaking Part Above)

	In	Short Circuit Current	3 Poles
Mandatory Part 2 for XT4L			Code
MA	80	400-800A	1SDA067493R1
MA	100	600-1000A	1SDA067494R1
MA	125	625-1250A	1SDA067495R1
MA	160	800-1600A	1SDA067496R1
MA	200	1000-2000A	1SDA067497R1

Note: For XT4L breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT5 -400/500A MA - Fixed (F) - 3 poles - Front terminals (F)

Magnetic trip unit -MA		In	N Icu @ 415Vac = 36kA	S Icu @ 415Vac = 50kA	H Icu @ 415Vac = 70kA
Short Circuit Current					
MA	2240-4160A	320A	1SDA100364R1	1SDA100434R1	1SDA100500R1
MA	2800-5200A	400A	1SDA100365R1	1SDA100435R1	1SDA100501R1
MA	3500-6500A	500A	1SDA100366R1	1SDA100436R1	1SDA100502R1

XT5 400/630A -Ekip M Dip I - Fixed (F) - 3 poles - Front terminals (F)

Electronic Trip Unit Ekip M Dip I		In	N Icu @ 415Vac = 36kA	S Icu @ 415Vac = 50kA	H Icu @ 415Vac = 70kA
Short Circuit Current					
Ekip M Dip I	320-3200A	320A	1SDA100367R1	1SDA100437R1	1SDA100503R1
Ekip M Dip I	400-4000A	400A	1SDA100368R1	1SDA100438R1	1SDA100504R1
Ekip M Dip I	630-6300A	630A	1SDA100369R1	1SDA100439R1	1SDA100505R1

Note: For XT5 breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT5V 630A - Breaking Part - Fault Level 200kA

	Iu	Icu (415 V)	3 Poles
Mandatory Part 1 for XT5V			Code
XT5V 630 Breaking Part 3p F F	630A	200kA	1SDA100567R1

XT5 630A Trip Unit (To be ordered with Breaking Part Above)

	In	Short Circuit Current	3 Poles
Mandatory Part 2 for XT5V			Code
Ekip M Dip I	630A	630-6300A	1SDA100619R1

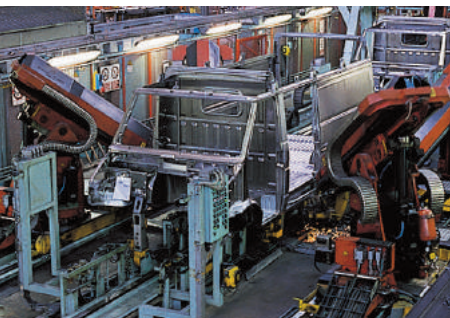
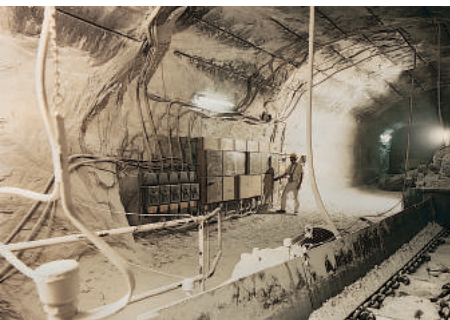
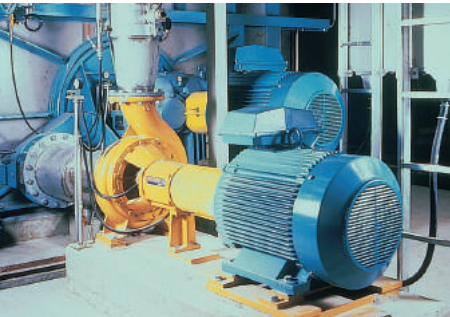
Note: For XT5 breakers, Part 1 and Part 2 with applicable trip units need to be ordered

XT6 630/800/1000A -Ekip M Dip I - Fixed (F) - 3 poles - Front terminals (F)

Electronic Trip Unit Ekip M Dip I		In	N Icu @ 415Vac = 36kA	S Icu @ 415Vac = 50kA	H Icu @ 415Vac = 70kA
Short Circuit Current					
Ekip M Dip I	630-6300A	630A	1SDA107565R1	1SDA107578R1	1SDA107591R1
Ekip M Dip I	800-8000A	800A	1SDA100725R1	1SDA100747R1	1SDA100769R1
Ekip M Dip I	1000-10000A	1000A	1SDA100726R1	1SDA100748R1	1SDA100770R1

Moulded Case Circuit Breakers for Power Distribution

3.7 Summary Power Distribution T4/T5/T6/T7



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").

E & O.E. Terms & Conditions apply.



Moulded Case Circuit Breakers for Power Distribution

3.7 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.

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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

3.8 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)

Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I	128-320A	1SDA054117R1	1SDA054125R1	1SDA054133R1	1SDA054149R1
PR222DS/P-LSI*	128-320A	1SDA054119R1	1SDA054127R1	1SDA054135R1	1SDA054151R1



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

Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I*	128-320A	1SDA054121R1	1SDA054129R1	1SDA054137R1	1SDA054153R1
PR222DS/P-LSI*	128-320A	1SDA054123R1	1SDA054131R1	1SDA054139R1	1SDA054155R1

T4D 320 – Switch-disconnector – Fixed (F)

Type	Iu	3 Poles	4 Poles
T4D 320	320A	1SDA054597R1	1SDA054598R1

* The above disconnector rating is based on AC22 conditions



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

Thermomagnetic trip unit -TMA	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
TMA	224-320A	1SDA054436R1	1SDA054440R1	1SDA054444R1	1SDA054452R1
TMA	280-400A	1SDA054437R1	1SDA054441R1	1SDA054445R1	1SDA054453R1

Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I	128-320A	1SDA054316R1	1SDA054332R1	1SDA054348R1	1SDA054380R1
PR221DS-LS/I	160-400A	1SDA054317R1	1SDA054333R1	1SDA054349R1	1SDA054381R1
PR222DS/P-LSI*	128-320A	1SDA054320R1	1SDA054336R1	1SDA054352R1	1SDA054384R1
PR222DS/P-LSI*	160-400A	1SDA054321R1	1SDA054337R1	1SDA054353R1	1SDA054385R1

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

Thermomagnetic trip unit -TMA	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
N=50%*	224-320A	1SDA054438R1	1SDA054442R1	1SDA054446R1	1SDA054454R1
N=50%	280-400A	1SDA054439R1	1SDA054443R1	1SDA054447R1	1SDA054455R1
N=100%*	224-320A	1SDA054477R1	1SDA054479R1	1SDA054481R1	1SDA054485R1
N=100%	280-400A	1SDA054478R1	1SDA054480R1	1SDA054482R1	1SDA054486R1



Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I*	128-320A	1SDA054324R1	1SDA054340R1	1SDA054356R1	1SDA054388R1
PR221DS-LS/I	160-400A	1SDA054325R1	1SDA054341R1	1SDA054357R1	1SDA054389R1
PR222DS/P-LSI*	128-320A	1SDA054328R1	1SDA054344R1	1SDA054360R1	1SDA054392R1
PR222DS/P-LSI*	160-400A	1SDA054329R1	1SDA054345R1	1SDA054361R1	1SDA054393R1

Moulded Case Circuit Breakers for Power Distribution

3.8 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.

3



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

Thermomagnetic trip unit – TMA	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
TMA	350-500A	1SDA054456R1	1SDA054461R1	1SDA054465R1	1SDA054473R1

Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I	252-630A	1SDA054396R1	1SDA054404R1	1SDA054412R1	1SDA054428R1
PR222DS/P-LSI*	252-630A	1SDA054398R1	1SDA054406R1	1SDA054414R1	1SDA054430R1



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

Thermomagnetic trip unit – TMA	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
N=50%*	350-500A	1SDA054459R1	1SDA054463R1	1SDA054467R1	1SDA054475R1
N=100%*	350-500A	1SDA054487R1	1SDA054489R1	1SDA054491R1	1SDA054495R1

Electronic trip unit	In	N	S	H	V
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 200 kA
PR221DS-LS/I	252-630A	1SDA054400R1	1SDA054408R1	1SDA054416R1	1SDA054432R1
PR222DS/P-LSI*	252-630A	1SDA054402R1	1SDA054410R1	1SDA054418R1	1SDA054434R1

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

Type	Iu	3 Poles	4 Poles
T5D 400	400A	1SDA054599R1	1SDA054600R1
T5D 630	630A	1SDA054601R1	1SDA054602R1

* The above disconnector rating is based on AC22 conditions



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

Thermomagnetic trip unit -TMA	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
TMA	440-630A	1SDA060202R1	1SDA060204R1	1SDA060206R1	1SDA060208R1

Electronic trip unit	In	N	S	H	L
		36kA	50 kA	70 kA	100 kA
PR221DS-LS/I	252-630A	1SDA060226R1	1SDA060236R1	1SDA060246R1	1SDA060256R1
PR222DS/P-LSI*	252-630A	1SDA060228R1	1SDA060238R1	1SDA060248R1	1SDA060258R1



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

Thermomagnetic trip unit -TMD and TMA	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
N=50%	441-630A	1SDA060203R1	1SDA060205R1	1SDA060207R1	1SDA060209R1
N=100%	441-630A	1SDA060210R1	1SDA060211R1	1SDA060212R1	1SDA060213R1

Electronic trip unit	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
PR221DS-LS/I	252-630A	1SDA060231R1	1SDA060241R1	1SDA060251R1	1SDA060262R1
PR222DS/P-LSI*	252-630A	1SDA060233R1	1SDA060243R1	1SDA060253R1	1SDA060264R1

Moulded Case Circuit Breakers for Power Distribution

3.8 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	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
TMA	560-800A	1SDA060214R1	1SDA060216R1	1SDA060218R1	1SDA060220R1

Electronic trip unit	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
PR221DS-LS/I	320-800A	1SDA060268R1	1SDA060278R1	1SDA060289R1	1SDA060299R1
PR222DS/P-LSI*	320-800A	1SDA060270R1	1SDA060280R1	1SDA060291R1	1SDA060301R1

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

Thermomagnetic trip unit – TMD and TMA	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
N=50%*	560-800A	1SDA060215R1	1SDA060217R1	1SDA060219R1	1SDA060221R1
N=100%	560-800A	1SDA060222R1	1SDA060223R1	1SDA060224R1	1SDA060225R1

Electronic trip unit	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
PR221DS-LS/I	320-800A	1SDA060273R1	1SDA060283R1	1SDA060294R1	1SDA060305R1
PR222DS/P-LSI*	320-800A	1SDA060275R1	1SDA060285R1	1SDA060296R1	1SDA060307R1

T6 1000 – Fixed (F) – 3 Poles

Electronic trip unit	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
PR221DS-LS/I	400-1000A	1SDA060537R1	1SDA060547R1	1SDA060561R1	1SDA060574R1
PR222DS/P-LSI	400-1000A	1SDA060539R1	1SDA060552R1	1SDA060563R1	1SDA060576R1

T6 1000 – Fixed (F) – 4 Poles

Electronic trip unit	In	N	S	H	L
		Icu @ 415Vac = 36kA	Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 100 kA
PR221DS-LS/I	400-1000A	1SDA060542R1	1SDA060556R1	1SDA060566R1	1SDA060580R1
PR222DS/P-LSI*	400-1000A	1SDA060544R1	1SDA060558R1	1SDA060568R1	1SDA060582R1

T6D – Switch-disconnector – Fixed (F)

Type	Iu	3 Poles	4 Poles
T6D 630	630	1SDA060343R1	1SDA060344R1
T6D 800	800	1SDA060345R1	1SDA060346R1
T6D 1000	1000	1SDA060594R1	1SDA060595R1

* The above disconnector rating is based on AC22 conditions

Moulded Case Circuit Breakers for Power Distribution

3.8 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.

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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	320-800A	1SDA061963R1	1SDA062642R1	1SDA062674R1
PR232/P LSI*	320-800A	1SDA061964R1	1SDA062643R1	1SDA062675R1
PR332/P LI*	320-800A	1SDA061966R1	1SDA062645R1	1SDA062677R1
PR332/P LSI*	320-800A	1SDA061967R1	1SDA062646R1	1SDA062678R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I*	320-800A	1SDA061973R1	1SDA062650R1	1SDA062682R1
PR232/P LSI*	320-800A	1SDA061974R1	1SDA062651R1	1SDA062683R1
PR332/P LI*	320-800A	1SDA061976R1	1SDA062653R1	1SDA062685R1
PR332/P LSI*	320-800A	1SDA061977R1	1SDA062654R1	1SDA062686R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	400-1000A	1SDA062738R1	1SDA062770R1	1SDA062802R1
PR232/P LSI*	400-1000A	1SDA062739R1	1SDA062771R1	1SDA062803R1
PR332/P LI*	400-1000A	1SDA062741R1	1SDA062773R1	1SDA062805R1
PR332/P LSI*	400-1000A	1SDA062742R1	1SDA062774R1	1SDA062806R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I*	400-1000A	1SDA062746R1	1SDA062778R1	1SDA062810R1
PR232/P LSI*	400-1000A	1SDA062747R1	1SDA062779R1	1SDA062811R1
PR332/P LI*	400-1000A	1SDA062749R1	1SDA062781R1	1SDA062813R1
PR332/P LSI*	400-1000A	1SDA062750R1	1SDA062782R1	1SDA062814R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	500-1250A	1SDA062866R1	1SDA062898R1	1SDA062930R1
PR232/P LSI*	500-1250A	1SDA062867R1	1SDA062899R1	1SDA062931R1
PR332/P LI*	500-1250A	1SDA062869R1	1SDA062901R1	1SDA062933R1
PR332/P LSI*	500-1250A	1SDA062870R1	1SDA062902R1	1SDA062934R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	500-1250A	1SDA062874R1	1SDA062906R1	1SDA062938R1
PR232/P LSI*	500-1250A	1SDA062875R1	1SDA062907R1	1SDA062939R1
PR332/P LI*	500-1250A	1SDA062877R1	1SDA062909R1	1SDA062941R1
PR332/P LSI*	500-1250A	1SDA062878R1	1SDA062910R1	1SDA062942R1

Moulded Case Circuit Breakers for Power Distribution

3.8 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	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	640-1600A	1SDA062994R1	1SDA063026R1	1SDA063058R1
PR232/P LSI*	640-1600A	1SDA062995R1	1SDA063027R1	1SDA063059R1
PR332/P LI*	640-1600A	1SDA062997R1	1SDA063029R1	1SDA063061R1
PR332/P LSI*	640-1600A	1SDA062998R1	1SDA063030R1	1SDA063062R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	640-1600A	1SDA063002R1	1SDA063034R1	1SDA063066R1
PR232/P LSI*	640-1600A	1SDA063003R1	1SDA063035R1	1SDA063067R1
PR332/P LI*	640-1600A	1SDA063005R1	1SDA063037R1	1SDA063069R1
PR332/P LSI*	640-1600A	1SDA063006R1	1SDA063038R1	1SDA063070R1

T7D – Switch-disconnector – Fixed (F)

Type	Iu	3 Poles	4 Poles
T7D 1000	1000	1SDA062032R1	1SDA062033R1
T7D 1250	1250	1SDA062036R1	1SDA062037R1
T7D 1600	1600	1SDA062040R1	1SDA062041R1

* The above disconnector rating is based on AC22 conditions



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I	320-800A	1SDA061981R1	1SDA062658R1	1SDA062690R1
PR231/P LS/I	400-1000A	1SDA062754R1	1SDA062786R1	1SDA062818R1
PR231/P LS/I	500-1250A	1SDA062882R1	1SDA062914R1	1SDA062946R1
PR231/P LS/I	640-1600A	1SDA063010R1	1SDA063042R1	1SDA063074R1



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

Electronic trip unit	In	S	H	L
		Icu @ 415Vac = 50 kA	Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA
PR231/P LS/I*	320-800A	1SDA061989R1	1SDA062666R1	1SDA062698R1
PR231/P LS/I*	400-1000A	1SDA062762R1	1SDA062794R1	1SDA062826R1
PR231/P LS/I	500-1250A	1SDA062890R1	1SDA062922R1	1SDA062954R1
PR231/P LS/I	640-1600A	1SDA063018R1	1SDA063050R1	1SDA063082R1

T7M – Switch-disconnector – Fixed (F)

Type	Iu	3 Poles	4 Poles
T7D 1000 M	1000	1SDA062034R1	1SDA062035R1
T7D 1250 M	1250	1SDA062038R1	1SDA062039R1
T7D 1600 M	1600	1SDA062042R1	1SDA062043R1

* The above disconnector rating is based on AC22 conditions

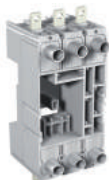
Moulded Case Circuit Breakers for Power Distribution

3.9 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.

3



Fixed Parts, Conversion Kit and Accessories for Fixed Parts

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



Shunt Opening release

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

Shunt Closing release

Description	Order Code	For use with
SOR-C 24-30V AD/DC	1SDA062076R1	T7M
SOR-C 110-120V AC / DC	1SDA062080R1	T7M
SOR-C 240-250V AC /DC*	1SDA062081R1	T7M
SOR-C 380-440V AC*	1SDA062082R1	T7M



Under voltage release

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



Delay Device Under voltage release

Description	Order Code	For use with
UVD 24-30V AC/DC*	1SDA051357R1	T4/ T5 T6
UVD 110-125V AC/DC	1SDA051360R1	T4/ T5 T6
UVD 220-250V AC/DC	1SDA051361R1	T4/ T5 T6
UVD 24-30V AC/DC*	1SDA038316R1	T7/ T7M
UVD 110-125V AC/DC	1SDA038319R1	T7/ T7M
UVD 220-250V AC/DC	1SDA038320R1	T7/ T7M

Auxiliary contacts – AUX

Description	Order Code	For use with
AUX-C 1Q+1SY 250V	1SDA054910R1	T4/T5/T6
AUX-C 3Q+1SY 250V	1SDA054911R1	T4/T5/T6
AUX-C 1Q+1SY 400V*	1SDA054912R1	T4/T5/T6
AUX-C 2Q 400V	1SDA054913R1	T4/T5/T6
AUX 2Q 400 V AC	1SDA062102R1	T7/T7M
AUX 2Q 24 V AC	1SDA062101R1	T7/T7M
AUX-SA 1 S51 T7-T7M 250 V	1SDA063553R1	T7M



Moulded Case Circuit Breakers for Power Distribution

3.9 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
MOE 24V DC	1SDA054894R1	T4/T5
MOE 24V DC	1SDA060395R1	T6
MOE 110 - 125V AC / DC*	1SDA054896R1	T4/T5
MOE 110 - 125V AC / DC	1SDA060397R1	T6
MOE 220 - 250V AC / DC	1SDA054897R1	T4/T5
MOE 220 - 250V AC / DC	1SDA060398R1	T6
MOE 380V AC*	1SDA054898R1	T4/T5
MOE 380V AC*	1SDA060399R1	T6
Spring charging motor 24...30 V AC/DC	1SDA062113R1	T7M
Spring charging motor 100...130 V AC/DC*	1SDA062115R1	T7M
Spring charging motor 220...250 V AC/DC	1SDA062116R1	T7M

Rotary Handle Operating Mechanisms

Description	Order Code	For use with
RHD Normal direct handle	1SDA054926R1	T4/T5
RHD Normal direct handle	1SDA060405R1	T6
RHD Normal direct handle	1SDA062120R1	T7
RHE Normal transmitted handle	1SDA054929R1	T4/T5
RHE Normal transmitted handle	1SDA060409R1	T6
RHE Normal transmitted handle	1SDA062122R1	T7

Key Lock in open position on the circuit breaker - KLC

Description	Order Code	For use with
KLC-D - different key*	1SDA062134R1	T7
KLC-S - same key for different groups of circuit-breakers (N. 20005)	1SDA062135R1	T7
KLC-S - same key for different groups of circuit-breakers (N. 20006)*	1SDA062136R1	T7
KLC-S - same key for different groups of circuit-breakers (N. 20007)*	1SDA062137R1	T7
KLC-S - same key for different groups of circuit-breakers (N. 20008)*	1SDA062138R1	T7
KLC-R - arrangement for Ronis key lock*	1SDA062139R1	T7
KLC-P - arrangement for Profalux key lock*	1SDA062140R1	T7
KLC-D - different key*	1SDA062141R1	T7M
KLC-S - same key for different groups of circuit-breakers (N. 20005)*	1SDA062142R1	T7M
KLC-S - same key for different groups of circuit-breakers (N. 20006)	1SDA062143R1	T7M
KLC-S - same key for different groups of circuit-breakers (N. 20007)*	1SDA062144R1	T7M
KLC-S - same key for different groups of circuit-breakers (N. 20008)*	1SDA062145R1	T7M
KLC- arrangement for Ronis key lock & Profalux Lock*	1SDA062146R1	T7M

Key lock for front / Rotary Handle

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

Moulded Case Circuit Breakers for Power Distribution

3.9 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.



Key lock on the motor

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

Padlock on the Circuit Breaker

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



Mechanical Interlock

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

Mechanical Interlock with cables between two circuit breakers

Description	Order Code	For use with
Cable kit for interlock	1SDA062127R1	T7 / T7M
Plate for fixed unit	1SDA062129R1	T7 / T7M



Terminals & Phase Barriers

Description	Order Code	For use with
EF Extended front terminals (3 pieces,Includes phase barriers)	1SDA055000R1	T4
EF Extended front terminals (3 pieces,Includes phase barriers)	1SDA055036R1	T5
EF Extended front terminals (3 pieces,Includes phase barriers)*	1SDA063103R1	T7
ES Extended front terminals (3 pieces,Includes phase barriers)*	1SDA055004R1	T4
ES Extended front terminals (3 pieces,Includes phase barriers)	1SDA055040R1	T5
ES Extended front terminals (6 pieces)	1SDA063110R1	T7
PB100 low (H=100 mm) - 4 pieces - 3p	1SDA054970R1	T4-T5
PB100 low (H=100 mm) - 6 pieces - 4p*	1SDA054971R1	T4-T5
PB200 high (H=200 mm) - 4 pieces - 3p	1SDA054972R1	T4-T5
PB200 high (H=200 mm) - 6 pieces - 4p*	1SDA054973R1	T4-T5
PB100 low (H=100 mm) - 4 pieces - 3p*	1SDA050696R1	T6
PB100 low (H=100 mm) - 6 pieces - 4p*	1SDA050697R1	T6
PB100 low (H=100 mm) - 4 pieces - 3p	1SDA054970R1	T7-T7M
PB100 low (H=100 mm) - 6 pieces - 4p*	1SDA054971R1	T7-T7M
PB200 high (H=200 mm) - 4 pieces - 3p	1SDA054972R1	T7-T7M
PB200 high (H=200 mm) - 6 pieces - 4p*	1SDA054973R1	T7-T7M

Automatic Transfer Devices

Description	Order Code	For use with
ATS021*	1SDA065523R1	T4-T7
ATS022	1SDA065524R1	T4-T7

Moulded Case Circuit Breakers for Motor Protection

3.10 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		MA							
		MA							
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					

Moulded Case Circuit Breakers for Motor Protection

3.10 Summary Motor Protection T4/T5/T6/T7

3

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

3.11 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	Short Circuit Current	L
			Icu @ 415Vac = 120 kA
MA*	10	60-140A	1SDA055074R1
MA*	25	150-350A	1SDA055075R1
MA*	52	312-728A	1SDA055076R1
MA*	80	480-1120A	1SDA054308R1
MA*	100	600-1400A	1SDA054309R1
MA*	125	750-1750A	1SDA054310R1
MA*	160	960-2240A	1SDA054311R1
MA*	200	1200-2800A	1SDA054312R1

Electronic trip unit	In	Short Circuit Current	L	V
			Icu @ 415Vac = 120 kA	Icu @ 415Vac = 200 kA
PR221DS-I*	100	100-1000A	1SDA054072R1	1SDA054096R1
PR221DS-I*	160	160-1600A	1SDA054073R1	1SDA054097R1
PR221DS-I*	250	250-2500A	1SDA054074R1	1SDA054098R1

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

Electronic trip unit	In	Short Circuit Current	L	V
			Icu @ 415Vac = 120 kA	Icu @ 415Vac = 200 kA
PR221DS-I*	320	320-3200A	1SDA054366R1	1SDA54382R1
PR221DS-I*	400	400-4000A	1SDA054367R1	1SDA54383R1

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

Electronic trip unit	In	Short Circuit Current	H	L	V
			Icu @ 415Vac = 70 kA	Icu @ 415Vac = 120 kA	Icu @ 415Vac = 200 kA
PR221DS-I*	630	630-6300A	1SDA054413R1	1SDA054421R1	1SDA054429R1

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

3.12 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
	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 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 terminal covers
* Ordering extracodes
** Ordering standard 1SDA0 codes

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

3.13 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
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMD	22-32A	1SDA063410R1
TMD	36-52A	1SDA063411R1
TMA	56-80A	1SDA063412R1
TMA	70-100A	1SDA063413R1
TMA	87-125A	1SDA063414R1
TMA	112-160A	1SDA063415R1
TMA	140-200A	1SDA063416R1
TMA	175-250A	1SDA063417R1

T4 250 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu) - DC Breaker

Thermomagnetic trip unit - TMD and TMA	In	V
		Icu@1000V DC=40kA Icu@1000V AC=20kA Icu@1150V AC=12kA
TMD*	22-32A	1SDA054497R1
TMD*	35-50A	1SDA054498R1
TMD*	56-80A	1SDA054499R1
TMD*	70-100A	1SDA054500R1
TMD*	87-125A	1SDA054501R1
TMD*	112-160A	1SDA054502R1
TMD*	140-200A	1SDA054503R1
TMD*	175-250A	1SDA054504R1

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	V
		Icu@1000V AC = 12kA	Icu@1000V AC = 20kA Icu@1150V AC=12kA
PR221DS-LS/I	40-100A	1SDA054505R1	1SDA054513R1
PR221DS-LS/I	100-250A	1SDA054509R1	1SDA054517R1

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

Electronic trip unit	In	L	V
		Icu@1000V AC = 12kA	Icu@1000V AC = 20kA Icu@1150V AC=12kA
PR221DS-LS/I*	224-320A	1SDA063477R1	1SDA063485R1
PR221DS-LS/I	280-400A	1SDA054535R1	1SDA054539R1

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
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMA*	224-320A	1SDA063437R1
TMA*	280-400A	1SDA063438R1

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

3.13 Tmax T4-T6

3

T5 400 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)

Thermomagnetic trip unit -TMA	In	V
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMA*	224-320A	1SDA054531R1
TMA*	280-400A	1SDA054532R1

Note: For DC applications only TMA releases are available



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

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

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	V
		Icu@1000V AC = 12kA	Icu@1000V AC = 20kA Icu@1150V AC=12kA
PR221DS-LS/I	252-630A	1SDA054543R1	1SDA054547R1

Note: For DC applications only TMA releases are available

T5 630 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)

Thermomagnetic trip unit -TMA	In	V
		Icu@1000V AC=20kA Icu@1150V AC=12kA Icu@1000V DC=40kA
TMA*	350-500A	1SDA054533R1



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

Electronic trip unit	In	L
		Icu@1000V AC = 12kA
PR221DS-LS/I*	252-630A	1SDA060319R1
PR221DS-LS/I	320-800A	1SDA060323R1

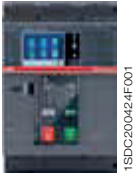
Note: For DC applications only TMA releases are available

Automatic Circuit Breakers for Emax2

3.14 SACE Emax2 Summary

Common data

Rated Service Voltage Ue	[V]	690
Rated insulation voltage U	[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



1SDC200424F001

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	v
	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

Automatic Circuit Breakers for Emax2

3.14 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							
	2000	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 ⁽¹⁾	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

3.15 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	Code
E1.2B	630	42	42	E1.2B 630 Ekip Touch LI	1SDA070704R1	1SDA071334R1
				E1.2B 630 Ekip Touch LSI*	1SDA070705R1	1SDA071335R1
				E1.2B 630 Ekip Touch LSIG*	1SDA070706R1	1SDA071336R1
	800	42	42	E1.2B 800 Ekip Touch LI	1SDA070744R1	1SDA071374R1
				E1.2B 800 Ekip Touch LSI*	1SDA070745R1	1SDA071375R1
				E1.2B 800 Ekip Touch LSIG*	1SDA070746R1	1SDA071376R1
	1000	42	42	E1.2B 1000 Ekip Touch LI	1SDA070784R1	1SDA071414R1
				E1.2B 1000 Ekip Touch LSI*	1SDA070785R1	1SDA071415R1
				E1.2B 1000 Ekip Touch LSIG*	1SDA070786R1	1SDA071416R1
	1250	42	42	E1.2B 1250 Ekip Touch LI	1SDA070824R1	1SDA071454R1
				E1.2B 1250 Ekip Touch LSI*	1SDA070825R1	1SDA071455R1
				E1.2B 1250 Ekip Touch LSIG*	1SDA070826R1	1SDA071456R1
	1600	42	42	E1.2B 1600 Ekip Touch LI	1SDA070864R1	1SDA071494R1
				E1.2B 1600 Ekip Touch LSI*	1SDA070865R1	1SDA071495R1
				E1.2B 1600 Ekip Touch LSIG*	1SDA070866R1	1SDA071496R1
E1.2C	630	50	42	E1.2C 630 Ekip Touch LI*	1SDA070714R1	1SDA071344R1
				E1.2C 630 Ekip Touch LSI*	1SDA070715R1	1SDA071345R1
				E1.2C 630 Ekip Touch LSIG*	1SDA070716R1	1SDA071346R1
	800	50	42	E1.2C 800 Ekip Touch LI*	1SDA070754R1	1SDA071384R1
				E1.2C 800 Ekip Touch LSI*	1SDA070755R1	1SDA071385R1
				E1.2C 800 Ekip Touch LSIG*	1SDA070756R1	1SDA071386R1
	1000	50	42	E1.2C 1000 Ekip Touch LI*	1SDA070794R1	1SDA071424R1
				E1.2C 1000 Ekip Touch LSI*	1SDA070795R1	1SDA071425R1
				E1.2C 1000 Ekip Touch LSIG*	1SDA070796R1	1SDA071426R1
	1250	50	42	E1.2C 1250 Ekip Touch LI	1SDA070834R1	1SDA071464R1
				E1.2C 1250 Ekip Touch LSI*	1SDA070835R1	1SDA071465R1
				E1.2C 1250 Ekip Touch LSIG*	1SDA070836R1	1SDA071466R1
	1600	50	42	E1.2C 1600 Ekip Touch LI	1SDA070874R1	1SDA071504R1
				E1.2C 1600 Ekip Touch LSI*	1SDA070875R1	1SDA071505R1
				E1.2C 1600 Ekip Touch LSIG*	1SDA070876R1	1SDA071506R1

SACE Emax2 E1.2N Front terminals (F)

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E1.2N	250	66	50	E1.2N 250 Ekip Touch LI*	1SDA070694R1	1SDA071324R1
				E1.2N 250 Ekip Touch LSI*	1SDA070695R1	1SDA071325R1
				E1.2N 250 Ekip Touch LSIG*	1SDA070696R1	1SDA071326R1
	630	66	50	E1.2N 630 Ekip Touch LI	1SDA070724R1	1SDA071354R1
				E1.2N 630 Ekip Touch LSI*	1SDA070725R1	1SDA071355R1
				E1.2N 630 Ekip Touch LSIG*	1SDA070726R1	1SDA071356R1
	800	66	50	E1.2N 800 Ekip Touch LI*	1SDA070764R1	1SDA071394R1
				E1.2N 800 Ekip Touch LSI*	1SDA070765R1	1SDA071395R1
				E1.2N 800 Ekip Touch LSIG*	1SDA070766R1	1SDA071396R1
	1000	66	50	E1.2N 1000 Ekip Touch LI*	1SDA070804R1	1SDA071434R1
				E1.2N 1000 Ekip Touch LSI*	1SDA070805R1	1SDA071435R1
				E1.2N 1000 Ekip Touch LSIG*	1SDA070806R1	1SDA071436R1
	1250	66	50	E2.2N 2000 Ekip Touch LI	1SDA070844R1	1SDA071474R1
				E2.2N 2000 Ekip Touch LSI*	1SDA070845R1	1SDA071475R1
				E2.2N 2000 Ekip Touch LSIG*	1SDA070846R1	1SDA071476R1
	1600	66	50	E1.2N 1600 Ekip Touch LI	1SDA070884R1	1SDA071514R1
				E1.2N 1600 Ekip Touch LSI*	1SDA070885R1	1SDA071515R1
				E1.2N 1600 Ekip Touch LSIG*	1SDA070886R1	1SDA071516R1

Automatic Circuit Breakers for Emax2

3.15 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	Code
E1.2B/MS	630	42	E1.2B/MS 630	1SDA073392R1	1SDA073431R1
	800		E1.2B/MS 800	1SDA073394R1	1SDA073433R1
	1000		E1.2B/MS 1000*	1SDA073396R1	1SDA073435R1
	1250		E1.2B/MS 1250	1SDA073398R1	1SDA073437R1
	1600		E1.2B/MS 1600	1SDA073400R1	1SDA073439R1
E1.2N/MS	250	50	E1.2N/MS 250*	1SDA073391R1	1SDA073430R1
	630		E1.2N/MS 630*	1SDA073393R1	1SDA073432R1
	800		E1.2N/MS 800*	1SDA073395R1	1SDA073434R1
	1000		E1.2N/MS 1000	1SDA073397R1	1SDA073436R1
	1250		E1.2N/MS 1250	1SDA073399R1	1SDA073438R1
	1600		E1.2N/MS 1600	1SDA073401R1	1SDA073440R1



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

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E2.2B	1600	42	42	E2.2B 1600 Ekip Touch LI	1SDA070984R1	1SDA071614R1
				E2.2B 1600 Ekip Touch LSI*	1SDA070985R1	1SDA071615R1
				E2.2B 1600 Ekip Touch LSI*	1SDA070986R1	1SDA071616R1
	2000	42	42	E2.2B 2000 Ekip Touch LI	1SDA071024R1	1SDA071654R1
				E2.2B 2000 Ekip Touch LSI*	1SDA071025R1	1SDA071655R1
				E2.2B 2000 Ekip Touch LSI*	1SDA071026R1	1SDA071656R1
E2.2N	800	66	66	E2.2N 800 Ekip Touch LI*	1SDA070894R1	1SDA071524R1
				E2.2N 800 Ekip Touch LSI*	1SDA070895R1	1SDA071525R1
				E2.2N 800 Ekip Touch LSI*	1SDA070896R1	1SDA071526R1
	1000	66	66	E2.2N 1000 Ekip Touch LI*	1SDA070924R1	1SDA071554R1
				E2.2N 1000 Ekip Touch LSI*	1SDA070925R1	1SDA071555R1
				E2.2N 1000 Ekip Touch LSI*	1SDA070926R1	1SDA071556R1
	1250	66	66	E2.2N 1250 Ekip Touch LI	1SDA070954R1	1SDA071584R1
				E2.2N 1250 Ekip Touch LSI*	1SDA070955R1	1SDA071585R1
				E2.2N 1250 Ekip Touch LSI*	1SDA070956R1	1SDA071586R1
	1600	66	66	E2.2N 1600 Ekip Touch LI	1SDA070994R1	1SDA071624R1
				E2.2N 1600 Ekip Touch LSI*	1SDA070995R1	1SDA071625R1
				E2.2N 1600 Ekip Touch LSI*	1SDA070996R1	1SDA071626R1
	2000	66	66	E2.2N 2000 Ekip Touch LI	1SDA071034R1	1SDA071664R1
				E2.2N 2000 Ekip Touch LSI*	1SDA071035R1	1SDA071665R1
				E2.2N 2000 Ekip Touch LSI*	1SDA071036R1	1SDA071666R1
	2500	66	66	E2.2N 2500 Ekip Touch LI	1SDA071064R1	1SDA071694R1
				E2.2N 2500 Ekip Touch LSI*	1SDA071065R1	1SDA071695R1
				E2.2N 2500 Ekip Touch LSI*	1SDA071066R1	1SDA071696R1

Automatic Circuit Breakers for Emax2

3.15 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 Emax E2.2B-N-H/MS Orientable rear terminals (HR)

Size	Iu	Icw (1s)	Type	3 Poles	4 Poles
				Code	Code
E2.2B/MS	1600	42	E2.2B/MS 1600	1SDA073408R1	1SDA073447R1
	2000		E2.2B/MS 2000	1SDA073411R1	1SDA073450R1
E2.2N/MS	800	66	E2.2N/MS 800*	1SDA073402R1	1SDA073441R1
	1000		E2.2N/MS 1000*	1SDA073404R1	1SDA073443R1
	1250		E2.2N/MS 1250*	1SDA073406R1	1SDA073445R1
	1600		E2.2N/MS 1600*	1SDA073409R1	1SDA073448R1
	2000		E2.2N/MS 2000	1SDA073412R1	1SDA073451R1
	2500		E2.2N/MS 2500	1SDA073414R1	1SDA073453R1
E2.2H/MS	800	85	E2.2H/MS 800*	1SDA073403R1	1SDA073442R1
	1000		E2.2H/MS 1000*	1SDA073405R1	1SDA073444R1
	1250		E2.2H/MS 1250*	1SDA073407R1	1SDA073446R1
	1600		E2.2H/MS 1600*	1SDA073410R1	1SDA073449R1
	2000		E2.2H/MS 2000*	1SDA073413R1	1SDA073452R1
	2500		E2.2H/MS 2500*	1SDA073415R1	1SDA073454R1



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

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E4.2N	3200	66	66	E4.2N 3200 Ekip Touch LI	1SDA071144R1	1SDA071774R1
				E4.2N 3200 Ekip Touch LSI*	1SDA071145R1	1SDA071775R1
				E4.2N 3200 Ekip Touch LSIG*	1SDA071146R1	1SDA071776R1
	4000	66	66	E4.2N 4000 Ekip Touch LI	1SDA071194R1	1SDA071824R1
				E4.2N 4000 Ekip Touch LSI*	1SDA071195R1	1SDA071825R1
				E4.2N 4000 Ekip Touch LSIG*	1SDA071196R1	1SDA071826R1
E4.2S	3200	85	66	E4.2S 3200 Ekip Touch LI*	1SDA071154R1	1SDA071784R1
				E4.2S 3200 Ekip Touch LSI*	1SDA071155R1	1SDA071785R1
				E4.2S 3200 Ekip Touch LSIG*	1SDA071156R1	1SDA071786R1
	4000	85	66	E4.2S 4000 Ekip Touch LI*	1SDA071204R1	1SDA071834R1
				E4.2S 4000 Ekip Touch LSI*	1SDA071205R1	1SDA071835R1
				E4.2S 4000 Ekip Touch LSIG*	1SDA071206R1	1SDA071836R1



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

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E4.2H	3200	100	85	E4.2S 3200 Ekip Touch LI*	1SDA071164R1	1SDA071794R1
				E4.2S 3200 Ekip Touch LSI*	1SDA071165R1	1SDA071795R1
				E4.2S 3200 Ekip Touch LSIG*	1SDA071166R1	1SDA071796R1
	4000	100	85	E4.2S 4000 Ekip Touch LI*	1SDA071214R1	1SDA071844R1
				E4.2S 4000 Ekip Touch LSI*	1SDA071215R1	1SDA071845R1
				E4.2S 4000 Ekip Touch LSIG*	1SDA071216R1	1SDA071846R1
E4.2V	2000	150	100	E4.2V 2000 Ekip Touch LI*	1SDA071104R1	1SDA071734R1
				E4.2V 2000 Ekip Touch LSI*	1SDA071105R1	1SDA071735R1
				E4.2V 2000 Ekip Touch LSIG*	1SDA071106R1	1SDA071736R1
	2500	150	100	E4.2V 2500 Ekip Touch LI*	1SDA071124R1	1SDA071754R1
				E4.2V 2500 Ekip Touch LSI*	1SDA071125R1	1SDA071755R1
				E4.2V 2500 Ekip Touch LSIG*	1SDA071126R1	1SDA071756R1
	3200	150	100	E4.2V 3200 Ekip Touch LI*	1SDA071174R1	1SDA071804R1
				E4.2V 3200 Ekip Touch LSI*	1SDA071175R1	1SDA071805R1
				E4.2V 3200 Ekip Touch LSIG*	1SDA071176R1	1SDA071806R1
	4000	150	100	E4.2V 4000 Ekip Touch LI*	1SDA071224R1	1SDA071854R1
				E4.2V 4000 Ekip Touch LSI*	1SDA071225R1	1SDA071855R1
				E4.2V 4000 Ekip Touch LSIG*	1SDA071226R1	1SDA071856R1



Automatic Circuit Breakers for Emax2

3.15 SACE Emax2 – Fixed Version for Power Distribution



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

Size	Iu	Icw (1s)	Type	3 Poles	4 Poles
				Code	Code
E4.2N/MS	3200	66	E4.2N/MS 3200	1SDA073418R1	1SDA073457R1
	4000		E4.2N/MS 4000*	1SDA073421R1	1SDA073460R1
E4.2H/MS	3200	85	E4.2H/MS 3200*	1SDA073419R1	1SDA073458R1
	4000		E4.2H/MS 4000*	1SDA073422R1	1SDA073461R1
E4.2V/MS	2000	100	E4.2V/MS 2000*	1SDA073416R1	1SDA073455R1
	2500		E4.2V/MS 2500*	1SDA073417R1	1SDA073456R1
	3200		E4.2V/MS 3200*	1SDA073420R1	1SDA073459R1
	4000		E4.2V/MS 4000*	1SDA073423R1	1SDA073462R1



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

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E6.2H	4000	100	100	E6.2H 4000 Ekip Touch LI*	1SDA071234R1	1SDA071864R1
				E6.2H 4000 Ekip Touch LSI*	1SDA071235R1	1SDA071865R1
				E6.2H 4000 Ekip Touch LSIg*	1SDA071236R1	1SDA071866R1
	5000	100	100	E6.2H 5000 Ekip Touch LI*	1SDA071264R1	1SDA071894R1
				E6.2H 5000 Ekip Touch LSI*	1SDA071265R1	1SDA071895R1
				E6.2H 5000 Ekip Touch LSIg*	1SDA071266R1	1SDA071896R1
E6.2H	6300	100	100	E6.2H 6300 Ekip Touch LI*	1SDA071294R1	1SDA071924R1
				E6.2H 6300 Ekip Touch LSI*	1SDA071295R1	1SDA071925R1
				E6.2H 6300 Ekip Touch LSIg*	1SDA071296R1	1SDA071926R1
	E6.2V	4000	150	E6.2V 4000 Ekip Touch LI*	1SDA071244R1	1SDA071874R1
				E6.2V 4000 Ekip Touch LSI*	1SDA071245R1	1SDA071875R1
				E6.2V 4000 Ekip Touch LSIg*	1SDA071246R1	1SDA071876R1
E6.2V	5000	150	100	E6.2V 5000 Ekip Touch LI*	1SDA071274R1	1SDA071904R1
				E6.2V 5000 Ekip Touch LSI*	1SDA071275R1	1SDA071905R1
				E6.2V 5000 Ekip Touch LSIg*	1SDA071276R1	1SDA071906R1
	6300	150	100	E6.2V 6300 Ekip Touch LI*	1SDA071304R1	1SDA071934R1
				E6.2V 6300 Ekip Touch LSI*	1SDA071305R1	1SDA071935R1
				E6.2V 6300 Ekip Touch LSIg*	1SDA071306R1	1SDA071936R1



SACE Emax2 E6.2H-V/f Full size Neutral Orientable rear terminals (HR)

Size	Iu	Icu (440 V)	Icw (1s)	Type	4 Poles
					Code
E6.2H/f	4000	100	100	E6.2H/f 4000 Ekip Touch LI*	1SDA071954R1
				E6.2H/f 4000 Ekip Touch LSI*	1SDA071955R1
				E6.2H/f 4000 Ekip Touch LSIg*	1SDA071956R1
	5000	100	100	E6.2H/f 5000 Ekip Touch LI*	1SDA071984R1
				E6.2H/f 5000 Ekip Touch LSI*	1SDA071985R1
				E6.2H/f 5000 Ekip Touch LSIg*	1SDA071986R1
E6.2H/f	6300	100	100	E6.2H/f 6300 Ekip Touch LI*	1SDA072014R1
				E6.2H/f 6300 Ekip Touch LSI*	1SDA072015R1
				E6.2H/f 6300 Ekip Touch LSIg*	1SDA072016R1
	E6.2V/f	4000	150	E6.2V/f 4000 Ekip Touch LI*	1SDA071964R1
				E6.2V/f 4000 Ekip Touch LSI*	1SDA071965R1
				E6.2V/f 4000 Ekip Touch LSIg*	1SDA071966R1
E6.2V/f	5000	150	100	E6.2V/f 5000 Ekip Touch LI*	1SDA071994R1
				E6.2V/f 5000 Ekip Touch LSI*	1SDA071995R1
				E6.2V/f 5000 Ekip Touch LSIg*	1SDA071996R1
	6300	150	100	E6.2V/f 6300 Ekip Touch LI*	1SDA072024R1
				E6.2V/f 6300 Ekip Touch LSI*	1SDA072025R1
				E6.2V/f 6300 Ekip Touch LSIg*	1SDA072026R1

Automatic Circuit Breakers for Emax2

3.15 SACE Emax2 – Fixed Version for Power Distribution

3



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	Code
E6.2H/MS	4000	100		E6.2H/MS 4000*	1SDA073424R1	1SDA073463R1
	5000	100		E6.2H/MS 5000*	1SDA073426R1	1SDA073465R1
	6300	100		E6.2H/MS 6300*	1SDA073428R1	1SDA073467R1
E6.2X/MS	4000	120		E6.2X/MS 4000*	1SDA073425R1	1SDA073464R1
	5000	120		E6.2X/MS 5000*	1SDA073427R1	1SDA073466R1
	6300	120		E6.2X/MS 6300*	1SDA073429R1	1SDA073468R1

SACE Emax E6.2H-X /MS/f Full Neutral Orientable rear terminals (HR)

Size	Iu	Icw	(1s)	Type	4 Poles
					Code
E6.2H/ MS/f	4000	100		E6.2H/MS/f 4000*	1SDA073469R1
	5000	100		E6.2H/MS/f 5000*	1SDA073471R1
	6300	100		E6.2H/MS/f 6300*	1SDA073473R1
E6.2X/ MS/f	4000	120		E6.2X/MS/f 4000*	1SDA073470R1
	5000	120		E6.2X/MS/f 5000*	1SDA073472R1
	6300	120		E6.2X/MS/f 6300*	1SDA073474R1

Automatic Circuit Breakers for Emax2

3.16 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	Code
E1.2B	630	42	42	E1.2B 630 Ekip Touch LI	1SDA072054R1	1SDA072684R1
				E1.2B 630 Ekip Touch LSI*	1SDA072055R1	1SDA072685R1
				E1.2B 630 Ekip Touch LSIG*	1SDA072056R1	1SDA072686R1
	800	42	42	E1.2B 800 Ekip Touch LI	1SDA072094R1	1SDA072724R1
				E1.2B 800 Ekip Touch LSI*	1SDA072095R1	1SDA072725R1
				E1.2B 800 Ekip Touch LSIG*	1SDA072096R1	1SDA072726R1
	1000	42	42	E1.2B 1000 Ekip Touch LI	1SDA072134R1	1SDA072764R1
				E1.2B 1000 Ekip Touch LSI*	1SDA072135R1	1SDA072765R1
				E1.2B 1000 Ekip Touch LSIG*	1SDA072136R1	1SDA072766R1
	1250	42	42	E1.2B 1250 Ekip Touch LI	1SDA072174R1	1SDA072804R1
				E1.2B 1250 Ekip Touch LSI*	1SDA072175R1	1SDA072805R1
				E1.2B 1250 Ekip Touch LSIG*	1SDA072176R1	1SDA072806R1
	1600	42	42	E1.2B 1600 Ekip Touch LI	1SDA072214R1	1SDA072844R1
				E1.2B 1600 Ekip Touch LSI*	1SDA072215R1	1SDA072845R1
				E1.2B 1600 Ekip Touch LSIG*	1SDA072216R1	1SDA072846R1
	E1.2C	50	42	E1.2C 630 Ekip Touch LI*	1SDA072064R1	1SDA072694R1
				E1.2C 630 Ekip Touch LSI*	1SDA072065R1	1SDA072695R1
				E1.2C 630 Ekip Touch LSIG*	1SDA072066R1	1SDA072696R1
	800	50	42	E1.2C 800 Ekip Touch LI	1SDA072104R1	1SDA072734R1
				E1.2C 800 Ekip Touch LSI*	1SDA072105R1	1SDA072735R1
				E1.2C 800 Ekip Touch LSIG*	1SDA072106R1	1SDA072736R1
	1000	50	42	E1.2C 1000 Ekip Touch LI*	1SDA072144R1	1SDA072774R1
				E1.2C 1000 Ekip Touch LSI*	1SDA072145R1	1SDA072775R1
				E1.2C 1000 Ekip Touch LSIG*	1SDA072146R1	1SDA072776R1
	1250	50	42	E1.2C 1250 Ekip Touch LI*	1SDA072184R1	1SDA072814R1
				E1.2C 1250 Ekip Touch LSI*	1SDA072185R1	1SDA072815R1
				E1.2C 1250 Ekip Touch LSIG*	1SDA072186R1	1SDA072816R1
	1600	50	42	E1.2C 1600 Ekip Touch LI	1SDA072224R1	1SDA072854R1
				E1.2C 1600 Ekip Touch LSI*	1SDA072225R1	1SDA072855R1
				E1.2C 1600 Ekip Touch LSIG*	1SDA072226R1	1SDA072856R1



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

Size	Iu	Icu (440 V)	Icw (1s)	Type	3 Poles	4 Poles
					Code	Code
E1.2N	250	66	50	E1.2N 250 Ekip Touch LI*	1SDA072044R1	1SDA072674R1
				E1.2N 250 Ekip Touch LSI*	1SDA072045R1	1SDA072675R1
				E1.2N 250 Ekip Touch LSIG*	1SDA072046R1	1SDA072676R1
	630	66	50	E1.2N 630 Ekip Touch LI	1SDA072074R1	1SDA072704R1
				E1.2N 630 Ekip Touch LSI*	1SDA072075R1	1SDA072705R1
				E1.2N 630 Ekip Touch LSIG*	1SDA072076R1	1SDA072706R1
	800	66	50	E1.2N 800 Ekip Touch LI*	1SDA072114R1	1SDA072744R1
				E1.2N 800 Ekip Touch LSI*	1SDA072115R1	1SDA072745R1
				E1.2N 800 Ekip Touch LSIG*	1SDA072116R1	1SDA072746R1
	1000	66	50	E1.2N 1000 Ekip Touch LI*	1SDA072154R1	1SDA072784R1
				E1.2N 1000 Ekip Touch LSI*	1SDA072155R1	1SDA072785R1
				E1.2N 1000 Ekip Touch LSIG*	1SDA072156R1	1SDA072786R1
	1250	66	50	E2.2N 1250 Ekip Touch LI	1SDA072194R1	1SDA072824R1
				E2.2N 1250 Ekip Touch LSI*	1SDA072195R1	1SDA072825R1
				E2.2N 1250 Ekip Touch LSIG*	1SDA072196R1	1SDA072826R1
	1600	66	50	E1.2N 1600 Ekip Touch LI	1SDA072234R1	1SDA072864R1
				E1.2N 1600 Ekip Touch LSI*	1SDA072235R1	1SDA072865R1
				E1.2N 1600 Ekip Touch LSIG*	1SDA072236R1	1SDA072866R1



Automatic Circuit Breakers for Emax2

3.16 SACE Emax2 Withdrawable version for power distribution

3



Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors

Fixed Part for E1.2

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

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	Icu (1s)	Type	3 Poles	4 Poles
				Code	Code
E1.2B/MS	630	42	E1.2B/MS 630*	1SDA073476R1	1SDA073515R1
	800		E1.2B/MS 800*	1SDA073478R1	1SDA073517R1
	1000		E1.2B/MS 1000*	1SDA073480R1	1SDA073519R1
	1250		E1.2B/MS 1250	1SDA073482R1	1SDA073521R1
	1600		E1.2B/MS 1600	1SDA073484R1	1SDA073523R1
E1.2N/MS	250	50	E1.2N/MS 250*	1SDA073475R1	1SDA073514R1
	630		E1.2N/MS 630*	1SDA073477R1	1SDA073516R1
	800		E1.2N/MS 800*	1SDA073479R1	1SDA073518R1
	1000		E1.2N/MS 1000*	1SDA073481R1	1SDA073520R1
	1250		E1.2N/MS 1250*	1SDA073483R1	1SDA073522R1
	1600		E1.2N/MS 1600*	1SDA073485R1	1SDA073524R1



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	Code
E2.2B	1600	42	42	E2.2B 1600 Ekip Touch LI	1SDA072334R1	1SDA072964R1
				E2.2B 1600 Ekip Touch LSI*	1SDA072335R1	1SDA072965R1
				E2.2B 1600 Ekip Touch LSIG*	1SDA072336R1	1SDA072966R1
	2000	42	42	E2.2B 2000 Ekip Touch LI	1SDA072374R1	1SDA073004R1
				E2.2B 2000 Ekip Touch LSI*	1SDA072375R1	1SDA073005R1
				E2.2B 2000 Ekip Touch LSIG*	1SDA072376R1	1SDA073006R1
E2.2N	800	66	66	E2.2N 800 Ekip Touch LI*	1SDA072244R1	1SDA072874R1
				E2.2N 800 Ekip Touch LSI*	1SDA072245R1	1SDA072875R1
				E2.2N 800 Ekip Touch LSIG*	1SDA072246R1	1SDA072876R1
	1000	66	66	E2.2N 1000 Ekip Touch LI*	1SDA072274R1	1SDA072904R1
				E2.2N 1000 Ekip Touch LSI*	1SDA072275R1	1SDA072905R1
				E2.2N 1000 Ekip Touch LSIG*	1SDA072276R1	1SDA072906R1
	1250	66	66	E2.2N 1250 Ekip Touch LI*	1SDA072304R1	1SDA072934R1
				E2.2N 1250 Ekip Touch LSI*	1SDA072305R1	1SDA072935R1
				E2.2N 1250 Ekip Touch LSIG*	1SDA072306R1	1SDA072936R1
	1600	66	66	E2.2N 1600 Ekip Touch LI	1SDA072344R1	1SDA072974R1
				E2.2N 1600 Ekip Touch LSI*	1SDA072345R1	1SDA072975R1
				E2.2N 1600 Ekip Touch LSIG*	1SDA072346R1	1SDA072976R1
	2000	66	66	E2.2N 2000 Ekip Touch LI	1SDA072384R1	1SDA073014R1
				E2.2N 2000 Ekip Touch LSI*	1SDA072385R1	1SDA073015R1
				E2.2N 2000 Ekip Touch LSIG*	1SDA072386R1	1SDA073016R1
	2500	66	66	E2.2N 2500 Ekip Touch LI	1SDA072414R1	1SDA073044R1
				E2.2N 2500 Ekip Touch LSI*	1SDA072415R1	1SDA073045R1
				E2.2N 2500 Ekip Touch LSIG*	1SDA072416R1	1SDA073046R1

Automatic Circuit Breakers for Emax2

3.16 SACE Emax2 Withdrawable version for power distribution



Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors

Fixed Part for E2.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles	4 Poles
					Code	Code
E2.2	B, N, S, H	250 – 2000	HR – HR	E2.2 W FP Iu=2000 HR HR	1SDA073909R1	1SDA073910R1
	N, S, H	2500	HR – HR	E2.2 W FP Iu=2500 HR HR	1SDA073911R1	1SDA073912R1

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	Code
E2.2B/MS	1600	42	E2.2B/MS 1600	1SDA073492R1	1SDA073531R1
	2000		E2.2B/MS 2000	1SDA073495R1	1SDA073534R1
E2.2N/MS	800	66	E2.2N/MS 800*	1SDA073486R1	1SDA073525R1
	1000		E2.2N/MS 1000*	1SDA073488R1	1SDA073527R1
	1250		E2.2N/MS 1250*	1SDA073490R1	1SDA073529R1
	1600		E2.2N/MS 1600*	1SDA073493R1	1SDA073532R1
	2000		E2.2N/MS 2000*	1SDA073496R1	1SDA073535R1
	2500		E2.2N/MS 2500	1SDA073498R1	1SDA073537R1



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	Code
E4.2N	3200	66	66	E4.2N 3200 Ekip Touch LI	1SDA072494R1	1SDA073124R1
				E4.2N 3200 Ekip Touch LSI*	1SDA072495R1	1SDA073125R1
				E4.2N 3200 Ekip Touch LSIG*	1SDA072496R1	1SDA073126R1
	4000	66	66	E4.2N 4000 Ekip Touch LI	1SDA072544R1	1SDA073174R1
				E4.2N 4000 Ekip Touch LSI*	1SDA072545R1	1SDA073175R1
				E4.2N 4000 Ekip Touch LSIG*	1SDA072546R1	1SDA073176R1
E4.2S	3200	85	66	E4.2S 3200 Ekip Touch LI*	1SDA072504R1	1SDA073134R1
				E4.2S 3200 Ekip Touch LSI*	1SDA072505R1	1SDA073135R1
				E4.2S 3200 Ekip Touch LSIG*	1SDA072506R1	1SDA073136R1
	4000	85	66	E4.2S 4000 Ekip Touch LI*	1SDA072554R1	1SDA073184R1
				E4.2S 4000 Ekip Touch LSI*	1SDA072555R1	1SDA073185R1
				E4.2S 4000 Ekip Touch LSIG*	1SDA072556R1	1SDA073186R1

Automatic Circuit Breakers for Emax2

3.16 SACE Emax2 Withdrawable version for power distribution

3



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	Code
E4.2H	3200	100	85	E4.2S 3200 Ekip Touch LI*	1SDA072514R1	1SDA073144R1
				E4.2S 3200 Ekip Touch LSI*	1SDA072515R1	1SDA073145R1
				E4.2S 3200 Ekip Touch LSIg*	1SDA072516R1	1SDA073146R1
	4000	100	85	E4.2S 4000 Ekip Touch LI*	1SDA072564R1	1SDA073194R1
				E4.2S 4000 Ekip Touch LSI*	1SDA072565R1	1SDA073195R1
				E4.2S 4000 Ekip Touch LSIg*	1SDA072566R1	1SDA073196R1
E4.2V	2000	150	100	E4.2V 2000 Ekip Touch LI*	1SDA072454R1	1SDA073084R1
				E4.2V 2000 Ekip Touch LSI*	1SDA072455R1	1SDA073085R1
				E4.2V 2000 Ekip Touch LSIg*	1SDA072456R1	1SDA073086R1
		150	100	E4.2V 2500 Ekip Touch LI*	1SDA072474R1	1SDA073104R1
				E4.2V 2500 Ekip Touch LSI*	1SDA072475R1	1SDA073105R1
				E4.2V 2500 Ekip Touch LSIg*	1SDA072476R1	1SDA073106R1
	3200	150	100	E4.2V 3200 Ekip Touch LI*	1SDA072524R1	1SDA073154R1
				E4.2V 3200 Ekip Touch LSI*	1SDA072525R1	1SDA073155R1
				E4.2V 3200 Ekip Touch LSIg*	1SDA072526R1	1SDA073156R1
	4000	150	100	E4.2V 4000 Ekip Touch LI*	1SDA072574R1	1SDA073204R1
				E4.2V 4000 Ekip Touch LSI*	1SDA072575R1	1SDA073205R1
				E4.2V 4000 Ekip Touch LSIg*	1SDA072576R1	1SDA073206R1



Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors

Fixed Part for E4.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles	4 Poles
					Code	Code
E4.2	N, S, H	3200	HR – HR	E4.2 W FP Iu=3200 HR HR	1SDA073913R1	1SDA073914R1
	N, S, H	4000	HR – HR	E4.2 W FP Iu=4000 or V version HR HR	1SDA073915R1	1SDA073916R1
	V	2000 – 4000	HR – HR	E4.2 W FP Iu=4000 or V version HR HR	1SDA073915R1	1SDA073916R1

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	Code
E4.2N/MS	3200	66	E4.2N/MS 3200	1SDA073502R1	1SDA073541R1
	4000		E4.2N/MS 4000*	1SDA073505R1	1SDA073544R1
E4.2H/MS	3200	85	E4.2H/MS 3200*	1SDA073503R1	1SDA073542R1
	4000		E4.2H/MS 4000*	1SDA073506R1	1SDA073545R1
E4.2V/MS	2000	100	E4.2V/MS 2000*	1SDA073500R1	1SDA073539R1
	2500		E4.2V/MS 2500*	1SDA073501R1	1SDA073540R1
	3200		E4.2V/MS 3200*	1SDA073504R1	1SDA073543R1
	4000		E4.2V/MS 4000*	1SDA073507R1	1SDA073546R1

Automatic Circuit Breakers for Emax2

3.16 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	Code
E6.2H	4000	100	100		E6.2H 4000 Ekip Touch LI		1SDA072584R1	1SDA073214R1
					E6.2H 4000 Ekip Touch LSI*		1SDA072585R1	1SDA073215R1
					E6.2H 4000 Ekip Touch LSIG*		1SDA072586R1	1SDA073216R1
	5000	100	100		E6.2H 5000 Ekip Touch LI		1SDA072614R1	1SDA073244R1
					E6.2H 5000 Ekip Touch LSI*		1SDA072615R1	1SDA073245R1
					E6.2H 5000 Ekip Touch LSIG*		1SDA072616R1	1SDA073246R1
	6300	100	100		E6.2H 6300 Ekip Touch LI		1SDA072644R1	1SDA073274R1
					E6.2H 6300 Ekip Touch LSI*		1SDA072645R1	1SDA073275R1
					E6.2H 6300 Ekip Touch LSIG*		1SDA072646R1	1SDA073276R1
E6.2V	4000	150	100		E6.2V 4000 Ekip Touch LI*		1SDA072594R1	1SDA073224R1
					E6.2V 4000 Ekip Touch LSI*		1SDA072595R1	1SDA073225R1
					E6.2V 4000 Ekip Touch LSIG*		1SDA072596R1	1SDA073226R1
	5000	150	100		E6.2V 5000 Ekip Touch LI*		1SDA072624R1	1SDA073254R1
					E6.2V 5000 Ekip Touch LSI*		1SDA072625R1	1SDA073255R1
					E6.2V 5000 Ekip Touch LSIG*		1SDA072626R1	1SDA073256R1
	6300	150	100		E6.2V 6300 Ekip Touch LI*		1SDA072654R1	1SDA073284R1
					E6.2V 6300 Ekip Touch LSI*		1SDA072655R1	1SDA073285R1
					E6.2V 6300 Ekip Touch LSIG*		1SDA072656R1	1SDA073286R1

SACE Emax E6.2H-V/F Full size Neutral Mobile part of withdrawable circuit-breaker (MP)						
Size	Iu	Icu (440 V)	Icw	(1s)	Type	4 Poles
						Code
E6.2H/f	4000	100	100		E6.2H/f 4000 Ekip Touch LI*	1SDA073304R1
					E6.2H/f 4000 Ekip Touch LSI*	1SDA073305R1
					E6.2H/f 4000 Ekip Touch LSIG*	1SDA073306R1
	5000	100	100		E6.2H/f 5000 Ekip Touch LI*	1SDA073334R1
					E6.2H/f 5000 Ekip Touch LSI*	1SDA073335R1
					E6.2H/f 5000 Ekip Touch LSIG*	1SDA073336R1
	6300	100	100		E6.2H/f 6300 Ekip Touch LI*	1SDA073364R1
					E6.2H/f 6300 Ekip Touch LSI*	1SDA073365R1
					E6.2H/f 6300 Ekip Touch LSIG*	1SDA073366R1
E6.2V/f	4000	150	100		E6.2V/f 4000 Ekip Touch LI*	1SDA073314R1
					E6.2V/f 4000 Ekip Touch LSI*	1SDA073315R1
					E6.2V/f 4000 Ekip Touch LSIG*	1SDA073316R1
	5000	150	100		E6.2V/f 5000 Ekip Touch LI*	1SDA073344R1
					E6.2V/f 5000 Ekip Touch LSI*	1SDA073345R1
					E6.2V/f 5000 Ekip Touch LSIG*	1SDA073346R1
	6300	150	100		E6.2V/f 6300 Ekip Touch LI*	1SDA073374R1
					E6.2V/f 6300 Ekip Touch LSI*	1SDA073375R1
					E6.2V/f 6300 Ekip Touch LSIG*	1SDA073376R1

Automatic Circuit Breakers for Emax2

3.16 SACE Emax2 Withdrawable version for power distribution

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Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors

Fixed Part for E6.2

Size	Performance	Iu Range	Type of terminal	Type	3 Poles	4 Poles
					Code	Code
E6.2	H, V	4000 - 5000	HR - HR	E6.2 W FP Iu=5000 HR HR	1SDA073917R1	1SDA073918R1
	H, V, X	4000 - 6300	HR - HR	E6.2 W FP Iu=6300 or X version HR HR*	1SDA073920R1	1SDA073921R1
	H, V/f	4000 - 5000	HR - HR	E6.2 W FP Iu=5000 HR HR *		1SDA073919R1
	H, V, X/f	4000 - 6300	HR - HR	E6.2 W FP Iu=6300 or X version HR HR*		1SDA073922R1

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	Code
E6.2H/MS	4000	100	E6.2H/MS 4000*	1SDA073508R1	1SDA073547R1
	5000	100	E6.2H/MS 5000*	1SDA073510R1	1SDA073549R1
	6300	100	E6.2H/MS 6300*	1SDA073512R1	1SDA073551R1
E6.2X/MS	4000	120	E6.2X/MS 4000*	1SDA073509R1	1SDA073548R1
	5000	120	E6.2X/MS 5000*	1SDA073511R1	1SDA073550R1
	6300	120	E6.2X/MS 6300*	1SDA073513R1	1SDA073552R1

SACE Emax E6.2H-X /MS/f Full Neutral Mobile part of withdrawable circuit-breaker (MP)

Size	Iu	Icw (1s)	Type	4 Poles
				Code
E6.2H/MS/f	4000	100	E6.2H/MS/f 4000*	1SDA073553R1
	5000	100	E6.2H/MS/f 5000*	1SDA073555R1
	6300	100	E6.2H/MS/f 6300*	1SDA073557R1
E6.2X/MS/f	4000	120	E6.2X/MS/f 4000*	1SDA073554R1
	5000	120	E6.2X/MS/f 5000*	1SDA073556R1
	6300	120	E6.2X/MS/f 6300*	1SDA073558R1

Automatic Circuit Breakers

3.17 SACE Emax2 – Accessories



Shunt Opening Releases (SOR)

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

Shunt Closing Releases (SCR)

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

Under Voltage Release -YU

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

Motor Operators (MOE)

Description	Order Code	For Use with
M E1.2 24-30V AC/DC	1SDA073708R1	E1.2
M E1.2 100-130V AC/DC*	1SDA073710R1	E1.2
M E1.2 220-250V AC/DC	1SDA073711R1	E1.2
M E1.2 380-415V AC*	1SDA073713R1	E1.2
M E2.2...E6.2 24-30V AC/DC	1SDA073722R1	E2.2...E6.2
M E2.2...E6.2 100-130V AC/DC	1SDA073724R1	E2.2...E6.2
M E2.2...E6.2 220-250V AC/DC*	1SDA073725R1	E2.2...E6.2
M E2.2...E6.2 380-415V AC*	1SDA073727R1	E2.2...E6.2

Open/Closed Auxiliary Contacts – AUX

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

Auxiliary Position Contacts – AUP

Description	Order Code	For Use With
AUP 6 contacts 400V E1.2	1SDA073762R1	E1.2
AUP 6 contacts 24V E1.2*	1SDA073763R1	E1.2
AUP 5 contacts 400V E2.2...E6.2 - left set	1SDA073764R1	E2.2...E6.2
AUP 5 contacts 24V E2.2...E6.2 - left set*	1SDA073765R1	E2.2...E6.2
AUP 5 suppl. contacts 400V E2.2...E6.2 - right set*	1SDA073766R1	E2.2...E6.2
AUP 5 suppl. contacts 24V E2.2...E6.2 - right set*	1SDA073767R1	E2.2...E6.2



Automatic Circuit Breakers

3.17 SACE Emax2 – Accessories

3



Key Lock in Open Position – KLC

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

Padlocks in Open Position – PLC

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



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

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

Protection Device for Opening and Closing Pushbuttons – PBC

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

Circuit-breaker Flange

Description	Order Code	For Use With
IP30 Flange E1.2 F	1SDA073862R1	E1.2
IP30 Flange E1.2 W*	1SDA073863R1	E1.2
IP30 Flange E2.2...E6.2 F	1SDA073864R1	E2.2..E6.2
IP30 Flange E2.2...E6.2 W*	1SDA073865R1	E2.2..E6.2





Automatic Circuit Breakers

3.17 SACE Emax2 – Accessory Ordering Table

Mechanical Interlocking Selection Guide

- 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.

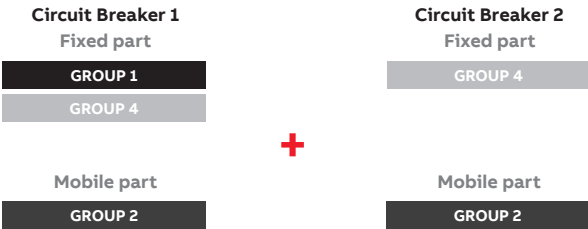
Type A

Type A Interlock between two fixed circuit breakers



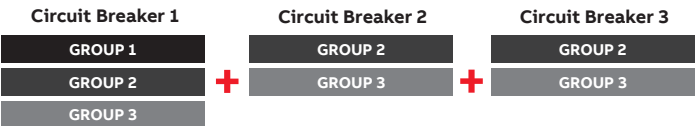
Type A

Interlock between two withdrawable circuit breakers



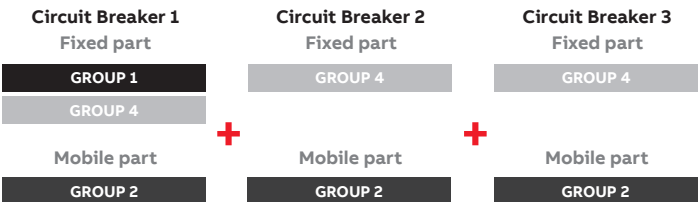
Type C

Type C Interlock with bus tie between three fixed circuit breakers:
Available for E2.2-E6.2 only



Type C

Type C Interlock with bus tie between three withdrawable circuit breakers: Available for E2.2-E6.2 only



Automatic Circuit Breakers

3.17 SACE Emax2 – Accessories

Cables for mechanical interlock (1 set per interlock type)

Description	Order Code	For Use With
Type A horizontal*	1SDA073881R1	E1.2..E6.2
Type B,C,D horizontal	1SDA073882R1	E2.2..E6.2
Type A Vertical*	1SDA073885R1	E1.2..E6.2
Type B,C,D Vertical*	1SDA073886R1	E2.2..E6.2

Level for mechanical interlock of fixed circuit breaker or mobile part (1 per breaker)

Description	Order Code	For Use With
Level for E1.2 mechanical interlock not required		N/A
Lever for mechanical interlock	1SDA073889R1	E2.2
Lever for mechanical interlock	1SDA073890R1	E4.2
Lever for mechanical interlock	1SDA073891R1	E6.2

Support for mechanical interlock of fixed circuit breaker (1 per breaker)

Description	Order Code	For Use With
Type A horizontal	1SDA073893R1	E1.2
Type A- Installed on bottom plate	1SDA073894R1	E1.2
Type A / B / D	1SDA073895R1	E2.2..E6.2
Type C	1SDA073897R1	E2.2..E6.2

Support for mechanical interlock of fixed part (1 per cradle)

Description	Order Code	For Use With
Type A	1SDA073896R1	E1.2
Type A / B / D	1SDA073895R1	E2.2..E6.2
Type C	1SDA073897R1	E2.2..E6.2

Power Supply modules

Description	Order Code	For Use With
Ekip Supply 110 -240V AC/DC	1SDA074172R1	E1.2...E6.2
Ekip Supply 24 -48V DC	1SDA074173R1	E1.2...E6.2

Displaying and supervision systems

Description	Order Code	For Use With
Ekip T&P – Programming and Test unit*	1SDA066989R1	E1.2..E6.2
Ekip TT – Trip Test unit*	1SDA066988R1	E1.2..E6.2
Ekip Programming*	1SDA076154R1	E1.2..E6.2
Ekip Multimeter Display on front of switchgear*	1SDA074192R1	E1.2..E6.2

Connectivity modules

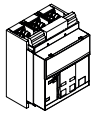
Description	Order Code	For Use With
Ekip Com Modbus RS-485*	1SDA074150R1	E1.2..E6.2
Ekip Com Modbus TCP	1SDA074151R1	E1.2..E6.2
Ekip Com Profibus	1SDA074152R1	E1.2..E6.2
Ekip Com Profinet*	1SDA074153R1	E1.2..E6.2
Ekip Com DeviceNet*	1SDA074154R1	E1.2..E6.2
Ekip Com EtherNet/IP*	1SDA074155R1	E1.2..E6.2
Ekip Com IEC61850*	1SDA074156R1	E1.2..E6.2
Ekip Com R Modbus RS-485*	1SDA074157R1	E1.2..E6.2
Ekip Com R Profibus*	1SDA074159R1	E1.2..E6.2
Ekip Bluetooth	1SDA074164R1	E1.2..E6.2
Ekip Com Hub	1SDA082894R1	E1.2..E6.2
Ekip ComActuator*	1SDA074166R1	E1.2..E6.2

Note: Ekip Com Hub and other supporting modules can be used on a standard ACB as per the Ekip UP communication architecture.

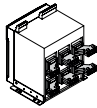


Automatic Circuit Breakers

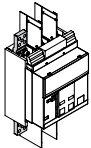
3.17 SACE Emax2 – Accessories



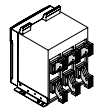
Front terminal – F



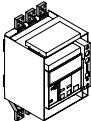
Horizontal rear spread terminal – SHR



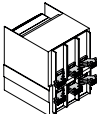
Extended front terminal – EF



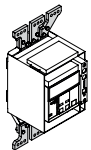
Vertical rear spread terminal – SVR



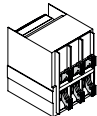
Extended front terminal – EF



Horizontal rear terminal – SHR



Front spread terminal – ES



Vertical rear spread terminal – SVR

Kit for terminals – loose supply for fixed circuit-breaker

Size	Version	Iu Max	Type	3 Pieces	4 Pieces
				Code	Code
E1.2	F	1600	Kit EF*	1SDA073967R1	1SDA073968R1
E1.2	F	1600	Kit F*	1SDA073973R1	1SDA073974R1
E1.2	F	1600	Kit ES*	1SDA073979R1	1SDA073980R1
E1.2	F	1600	Kit Adjustable HR/VR	1SDA073989R1	1SDA073990R1
E2.2	F	2000	Kit SHR*	1SDA074049R1	1SDA074050R1
E2.2	F	2500	Kit SHR*	1SDA074055R1	1SDA074056R1
E2.2	F	2000	Kit SVR*	1SDA074061R1	1SDA074062R1
E2.2	F	2500	Kit SVR*	1SDA074067R1	1SDA074068R1
E4.2	F	4000	Kit F Upper*	1SDA074130R1	1SDA074131R1
E4.2	F	4000	Kit F Lower*	1SDA074132R1	1SDA074133R1

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

Size	Version	Iu Max	Type	3 Poles	4 Poles
				Code	Code
E1.2	W	1600	Kit EF	1SDA073943R1	1SDA073944R1
E1.2	W	1600	Kit Adjustable HR/VR	1SDA073949R1	1SDA073950R1
E1.2	W	1600	Kit ES	1SDA073955R1	1SDA073956R1
E1.2	W	1600	Kit SHR	1SDA073961R1	1SDA073962R1
E2.2	W	2000	Kit SHR	1SDA074049R1	1SDA074050R1
E2.2	W	2500	Kit SHR	1SDA074055R1	1SDA074056R1
E2.2	W	2000	Kit SVR	1SDA074061R1	1SDA074062R1
E2.2	W	2500	Kit SVR	1SDA074067R1	1SDA074068R1
E2.2	W	2500	Kit F Upper	1SDA074090R1	1SDA074091R1
E2.2	W	2500	Kit F Lower	1SDA074092R1	1SDA074093R1
E4.2	W	3200	Kit Adjustable HR/VR	1SDA074019R1	1SDA074020R1
E4.2	W	4000	Kit Adjustable HR/VR	1SDA074025R1	1SDA074026R1

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.

SECTION 4

Switches

Switch-disconnectors

Switch-disconnectors OT

Switch-disconnectors	4.1
Accessories	4.2

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

Manual change-over switches	4.3
Bypass switches	4.4
Motorized change-over switches	4.5
Accessories	4.6

Automatic transfer switches

Compact ATS	4.7
TruONE® ATS OXB200...1600	4.8

Switch-disconnectors OTDC and OTDCP

Front operated switch-disconnectors	4.9
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Enclosed switches

Plastic enclosed switch-disconnectors	4.10
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Switch fuses OS

Din-type	4.11
BS-type	4.12
Accessories	4.13

Fuse switch XLP	4.14
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Fuse switch ZLBM	4.15
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Fuse switch OFAZ / OFAX	4.16
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Switch-disconnectors

4.1 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 [mm ²]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number
Shaft and handle need to be ordered separately					
3	25	0.75...10	16/16	OT16F3	1SCA104811R1001
3	32	0.75...10	25/20	OT25F3	1SCA104857R1001
3	40	0.75...10	40/23	OT40F3	1SCA104902R1001
3	63	1.5...35	63/45	OT63F3	1SCA105332R1001
3	80	1.5...35	80/75	OT80F3	1SCA105798R1001
3	115	10...70	100/80	OT100F3	1SCA105004R1001
3	125	10...70	125/90	OT125F3	1SCA105033R1001
3	160	70	160/160	OT160G03P	1SCA135139R1001
3	160	70	160/160	OT160G03K	1SCA138208R1001

Switch-disconnectors, door mounting, IEC

Include protected terminal clamps, IP20.

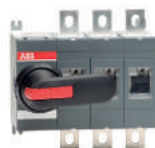


OT100...125FT3

No. of poles	I_{th} (open) [A]	Cable cross section [mm ²]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number
Shaft and handle need to be ordered separately					
3	25	0.75...10	16/16	OT16FT3	1SCA104838R1001
3	32	0.75...10	25/20	OT25FT3	1SCA104884R1001
3	40	0.75...10	40/23	OT40FT3	1SCA104940R1001
3	63	1.5...35	63/45	OT63FT3	1SCA105382R1001
3	80	1.5...35	80/75	OT80FT3	1SCA105431R1001
3	115	10...70	100/80	OT100FT3	1SCA105023R1001
3	125	10...70	125/90	OT125FT3	1SCA105060R1001

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

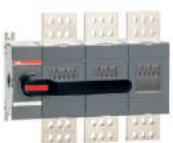
No. of poles	I_{th} (open) [A]	Rated operat. currents AC22A/ AC23A 400V [A/A]	Type	Order number
3	200	200/160	OT160EV03P	1SCA120514R1001
3	200	200/200	OT200E03P	1SCA022712R0800
3	250	250/250	OT250E03P	1SCA022710R0100
3	315	315/315	OT315E03P	1SCA022718R8510
3	400	400/400	OT400E03P	1SCA022718R8780
3	630	630/630	OT630E03P	1SCA022718R8940
3	800	800/800	OT800E03P	1SCA022718R9410

Switch-disconnectors

4.1 Front operated switch-disconnectors, IEC



OT1000...1250E03P



OT2000...2500E03P



OT3200...4000E03P

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
3	1000	1000/1000	OT1000E03P	1SCA022860R5930
3	1250	1250/1250	OT1250E03P	1SCA022860R6230
3	1600	1600/1250	OT1600E03P	1SCA022860R6580
3	2000	2000/-	OT2000E03P	1SCA108036R1001
3	2500	2500/-	OT2500E03P	1SCA104972R1001
3	3200	3200/3200	OT3200E03P	1SCA128481R1001
3	3800	3800/3800	OT4000E03P	1SCA124848R1001

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
3	200	200/160	OT160EV03K	1SCA120513R1001
3	200	200/200	OT200E03K	1SCA022763R4820
3	250	250/250	OT250E03K	1SCA022763R5040
3	315	315/315	OT315E03K	1SCA022763R5630
3	400	400/400	OT400E03K	1SCA022763R5390
3	630	630/630	OT630E03K	1SCA022779R4940
3	800	800/800	OT800E03K	1SCA022779R5160
3	1000	1000/1000	OT1000E03K	1SCA108353R1001
3	1250	1250/1250	OT1250E03K	1SCA108356R1001
3	1600	1600/1250	OT1600E03K	1SCA108352R1001
3	2000	2000/-	OT2000E03K	1SCA108359R1001
3	2500	2500/-	OT2500E03K	1SCA108361R1001

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

4.2 Accessories – Handles

Handle knobs, for base and DIN-rail mounted switches

Mounting directly to the switch, no shaft needed.



OHRS2



OHBS3



OHRS9

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

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.



OHBS2AJ



OHYS2AJ



OHBS2AJ_EH

Colour	Suitable for switches	Type	Order number
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
Red-yellow	OT16...125F	OHYS2AJ	1SCA105296R1001
Padlockable with max. 3 padlocks with bail diameter 5...8 mm, door interlock in ON-position			
Black	OT16...125F	OHBS2AJ1	1SCA105215R1001
Red-yellow	OT16...125F	OHYS2AJ1	1SCA105297R1001

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
Padlockable with max. 3 padlocks, door interlock in the ON-position, non-defeatable			
Black	OT16...125F	OHBS2AJ1EH	1SCA105217R1001



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
Padlockable with max. 3 padlocks, IP65, hole distance 36/48 mm, NEMA 1, 3R, 12			
Black	OT16...125FT	OHBS2RJ	1SCA105232R1001
Red-yellow	OT16...125FT	OHYS2RJ	1SCA105323R1001

Switch-disconnectors

4.2 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
One hole mounting handle, IP65, NEMA 4X outdoor, size 66x66			
Black	OT16...125F_	OZ331SPB	1SCA112983R1001
Red-yellow	OT16...125F_	OZ331SPRY	1SCA113097R1001

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
Suitable for switches OT16...125F, for shaft diameter 6 mm			
Indication in types OHB and OHY: I-O, ON-OFF			
Black	45	OHB45J6	1SCA022380R8770
Red-yellow	45	OHY45J6	1SCA022380R8930
Suitable for switches OT160EV...250, for shaft diameter 6 mm			
Indication in types OHB and OHY: I-O, ON-OFF			
Black	65	OHB65J6	1SCA022380R9660
Red-yellow	65	OHY65J6	1SCA022380R9820
Black	80	OHB80J6	1SCA022381R0240
Red-yellow	80	OHY80J6	1SCA022381R0410
Suitable for switches OT315...400, for shaft diameter 12 mm			
Indication OHB and OHY: I-O, ON-OFF			
Black	95	OHB95J12	1SCA022381R0830
Red-yellow	95	OHY95J12	1SCA022381R1050
Suitable for switches OT630...800, for shaft diameter 12 mm			
Indication OHB and OHY: I-O, ON-OFF			
Black	125	OHB125J12	1SCA022381R1560
Red-yellow	125	OHY125J12	1SCA022381R1720

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
Black	65	OT160EV...250	OTV250EK	1SCA022763R2700
Red-yellow	65	OT160EV...250	OTVY250EK	1SCA022772R7910
Black	95	OT315...400	OTV400EK	1SCA022763R2960
Red-yellow	95	OT315...400	OTVY400EK	1SCA022772R7830
Black	125	OT630...800	OTV800EK	1SCA022804R6340
Red-yellow	125	OT630...800	OTVY800EK	1SCA022810R2780
Black	274	OT1000...4000	OTV1000EK	1SCA106608R1001
Black	2x200	OT1000...2500	OTV1000EPK	1SCA121085R1001

Switch-disconnectors

4.2 Accessories – Handles

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.



OHB150/200J12P



OHB274/330J12

Colour	Handle length [mm]	Type	Order number
Suitable for switches OT1000...2500, for shaft diameter 12 mm, IP65			
Indication OHB and OHY: I-O, ON-OFF			
Black	2x150	OHB150J12P	1SCA022865R9430
Red-yellow	2x150	OHY150J12P	1SCA101586R1001
Black	2x200	OHB200J12P	1SCA022865R9510
Red-yellow	2x200	OHY200J12P	1SCA101587R1001
Suitable for switches OT1000...4000, for shaft diameter 12 mm, IP65			
Indication OHB and OHY: I-O, ON-OFF			
Black	274	OHB274J12	1SCA115920R1001
Red-yellow	274	OHY274J12	1SCA115919R1001
Black	330	OHB330J12	1SCA115922R1001

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



OHM65L6



OHM65J6E00S

Colour	Handle length [mm]	Type	Order number
For shaft diameter 6 mm			
Grey	65	OHM65L6	1SCA022739R1070
For shaft diameter 12 mm			
Grey	175	OHM175L12	1SCA022739R1230
Grey	275	OHM275L12	1SCA022832R4840
Grey	2x200	OHM200L12P	1SCA104439R1001

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°.



OHY65J6E00S

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

Switch-disconnectors

4.2 Accessories – Shafts



OXS6X_



OX6X_



OXP6X_



OXP12_

Shafts

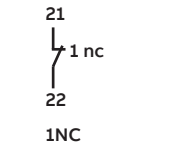
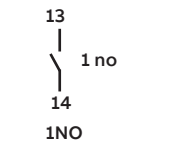
Shaft length [mm]	H [mm]	Type	Order number
Shaft diameter 6 mm			
For selector type handles, suitable for OT16...125F			
85		OXS6X85	1SCA101647R1001
130		OXS6X130	1SCA101655R1001
180		OXS6X180	1SCA101659R1001
250		OXS6X250	1SCA101660R1001
330		OXS6X330	1SCA101661R1001
For round padlockable type handles, suitable for OT16...125F			
85		OX6X85	1SCA111274R1001
130		OX6X130	1SCA111460R1001
200		OX6X200	1SCA111932R1001
300		OX6X300	1SCA111933R1001
For pistol type handles, suitable for OT16...125F			
150		EXP6X150	1SCA022295R5600
265		EXP6X265	1SCA108225R1001
400		EXP6X400	1SCA108226R1001
For pistol type handles, suitable for OT160EV...250			
130	109...174	EXP6X130	1SCA022057R0570
150	129...194	EXP6X150	1SCA022295R5600
210	189...254	EXP6X210	1SCA022295R6080
290	269...334	EXP6X290	1SCA022042R6370
Shaft diameter 12 mm			
For pistol type handles, suitable for OT315...400			
185	165...245	EXP12X185	1SCA022325R6710
250	230...310	EXP12X250	1SCA022325R6980
280	260...340	EXP12X280	1SCA022137R5140
325	305...385	EXP12X325	1SCA022042R5810
395	375...455	EXP12X395	1SCA022042R5990
465	445...525	EXP12X465	1SCA022042R6020
535	515...595	EXP12X535	1SCA022042R6110
For pistol type handles, suitable for OT630...800			
250	230...345	EXP12X250	1SCA022325R6980
280	260...375	EXP12X280	1SCA022137R5140
325	305...420	EXP12X325	1SCA022042R5810
395	375...490	EXP12X395	1SCA022042R5990
465	445...560	EXP12X465	1SCA022042R6020
535	515...630	EXP12X535	1SCA022042R6110
For pistol type handles, suitable for OT1000...25001)			
250	221...350	EXP12X250	1SCA022325R6980
280	251...380	EXP12X280	1SCA022137R5140
325	296...425	EXP12X325	1SCA022042R5810
395	366...495	EXP12X395	1SCA022042R5990
465	436...565	EXP12X465	1SCA022042R6020
535	506...635	EXP12X535	1SCA022042R6110
For pistol type handles, suitable for OT3200...4000			
280	251...380	EXP12X280	1SCA022137R5140
325	296...425	EXP12X325	1SCA022042R5810
395	366...495	EXP12X395	1SCA022042R5990
465	436...565	EXP12X465	1SCA022042R6020
535	506...635	EXP12X535	1SCA022042R6110

Switch-disconnectors

4.2 Accessories – Auxiliary contacts

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 mm². Early-break type OA1G10.



Suitable for switches	Function	Type	Order number
Mountable on left side, max. 2 pcs			
OT16...125F_, FT_	1NC	OA1G01	1SCA022353R4890
Mountable on the right side, max. 2 pcs			
OT16...125F_, FT_	1NO	OA1G10	1SCA022353R4970
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

- 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
Suitable for switches OT160EV...4000		
1NO	OA1G10	1SCA022353R4970
1NC	OA3G01	1SCA022456R7410
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
OT160EV...4000	OEA28	1SCA022714R8810

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



Switch-disconnectors

4.2 Accessories – Fourth poles

4

Fourth poles, simultaneous function with the main contacts
Mountable on the side of the switch.



OTZ400E



OTZ800E



OTZ1250E



OTZ1600E



OTZ1500E

Suitable for switches	Type	Order number
For OT switch-disconnectors		
OT16...40F3	OTPS40FPN1*	1SCA105001R1001
OT16...40F3	OTPS40FPN2*	1SCA105000R1001
OT63...80F3	OTPS80FP	1SCA105461R1001
OT100F3, OT125F3	OTPS125FP	1SCA105099R1001
OT16...40FT3	OTPS40FDN1*	1SCA104999R1001
OT16...40FT3	OTPS40FDN2*	1SCA104998R1001
OT63...80FT3	OTPS80FD	1SCA105458R1001
OT100...125FT3	OTPS125FD	1SCA105096R1001
OT160EV...250	OTZ250E	1SCA022735R9420
OT315...400	OTZ400E	1SCA022749R1960
OT630...800	OTZ800E	1SCA022807R5100
OT1000...1250	OTZ1250E	1SCA103765R1001
OT1600	OTZ1600E	1SCA100431R1001
OT2000...2500	OTZ2500E	1SCA107931R1001

Fourth poles, late-break and early-make
Mountable on the side of the switch.

Suitable for switches	Type	Order number
For OT switch-disconnectors		
OT16...40F3	OTPL40FP	1SCA105717R1001
OT63...80F3	OTPL80FP	1SCA105452R1001
OT100...125F3	OTPL125FP	1SCA105090R1001
OT16...40FT3	OTPL40FD	1SCA105716R1001
OT63...80FT3	OTPL80FD	1SCA105451R1001
OT100...125FT3	OTPL125FD	1SCA105088R1001

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

Switch-disconnectors

4.2 Accessories – Terminal shrouds

4



OTS40T3



OTS125T3



OTS125T1P

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

Suitable for switches	Type	Order number
For 3-pole OT switches		
OT16...40F3, -FT3	OTS40T3	1SCA105317R1001
OT63...80F3, -FT3	OTS63T3	1SCA022353R6750
OT100...125F3, FT3	OTS125T3	1SCA022379R9680
For 3-pole OT switches with terminal clamps OZXL1 or OZXT1		
OT100...125F3	OTS125T3P	1SCA022491R9890
For 1 to 4-pole OT switches, shroud for single pole and for fourth pole		
OTP_40F_	OTS40T1	1SCA105314R1001
OTP_80F_	OTS63T1	1SCA022353R6910
OTP_125F_	OTS125T1	1SCA022379R9760



OTS1600G1L



OTS2500G1L

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

Suitable for switches	Description	Type	Order number
For 3-pole OT			
OT160EV...250	Long type	OTS250G1L/3	1SCA022731R8150
OT315...400	Long type	OTS400G1L/3	1SCA022736R8840
OT630...800	Long type	OTS800G1L/3	1SCA022776R7890
OT1000...1600	Long type	OTS1600G1L/3	1SCA022871R9510
OT2000...2500	Long type	OTS2500G1L/3	1SCA107261R1001
OT3200...4000	Long type	OTS4000G1L/3	1SCA129042R1001

Switch-disconnectors

4.2 Accessories – Conversion kits for front operated switch combinations



OWP6D40



OWP6D80



OWP6D125



OTZW8



OWC6D40



OWC6D125



OTZW26



OTZW25

OTZW17



OTZW24

6 and 8-pole switch mechanism

Suitable for switches	Shaft distance [mm]	Type	Order number
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
OT63...80		OWP6D80	1SCA022865R5010
OT100...125		OWP6D125	1SCA022865R5100
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
OT63...80	60+(0...11)x15	OTZW8	1SCA022421R7600
OT100...125	75+(0...10)x15	OTZW8	1SCA022421R7600

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	OX56_, OXP6_	OWC6D40	1SCA022865R4550
OT63...80	OX56_, OXP6_	OWC6D80	1SCA022865R4630
OT100...125	OX56_, OXP6_	OWC6D125	1SCA104494R1001

Attachment levers

OT160EV...250	210+(0...18)x20	OTZW25	1SCA022778R6920
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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
OT16...125	Between 1 and 2: 90+(0...6)x15	OTZW17	1SCA022387R1620
	Between 1 and 3: 90+(0...10)x15		
OT160EV...250	Between 1 and 2: 210+(0...9)x20	OTZW26	1SCA022778R7060
	Between 1 and 3: 250+(0...9)x20		

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
OT160...250	190	OTZW10	1SCA022431R5280

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

Change-over, bypass and transfer switches

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

Manual change-over switches, I-O-II -operation
Including terminal clamps, IP20. Handle and shaft have to be ordered separately.



OT63...80F3C

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

Manual change-over switches, I-O-II -operation
Including a black plastic IP65 I-O-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..



OT160...250E03CP



OT160...250E04CP

No. of poles	Rated current and power			Type	Order number
	AC-21A/AC-22A		AC-23A		
	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]		
3	160	110	160/90	OT160E03CP	1SCA022772R6510
4	160	110	160/90	OT160E04CP	1SCA022775R9440
3	200	135	200/110	OT200E03CP	1SCA022771R7520
4	200	135	200/110	OT200E04CP	1SCA022771R7280
3	250	170	250/140	OT250E03CP	1SCA022771R3450
4	250	170	250/140	OT250E04CP	1SCA022775R4640

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT160...250_C	OX P6x161	OH B65J6E011	M8x25



OT315...400E03CP



OT630...800E03CP

No. of poles	Rated current and power			Type	Order number
	AC-21A/AC-22A		AC-23A		
	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]		
3	315	215	315/160	OT315E03CP	1SCA022772R6780
4	315	215	315/160	OT315E04CP	1SCA022775R7150
3	400	275	400/220	OT400E03CP	1SCA022771R8500
4	400	275	400/220	OT400E04CP	1SCA022771R8680
3	630	435	630/355	OT630E03CP	1SCA022785R6050
4	630	435	630/355	OT630E04CP	1SCA022785R6130
3	800	550	800/450	OT800E03CP	1SCA022785R6300
4	800	550	800/450	OT800E04CP	1SCA022785R6210

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT315...400_C	OX P12x166	OH B95J12E011	M10x30
OT630...800_C	OX P12x185	OH B125J12E011	M12x40



Change-over, bypass and transfer switches

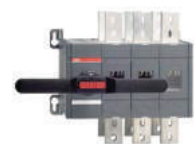
4.3 Manual change-over switches OT16...125_C, and OT315...800_CP

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

Including a black plastic IP65 I-O-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..



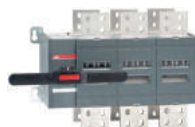
OT1250E03CP



OT1600E03CP

No. of poles	Rated current ¹⁾ and power			Type	Order number
	AC-21A/AC-22A		AC-23A		
	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]		
3	1000	680	1000/560	OT1000E03CP	1SCA022872R1680
4	1000	680	1000/560	OT1000E04CP	1SCA022872R1500
3	1250	850	1250/710	OT1250E03CP	1SCA022872R0790
4	1250	850	1250/710	OT1250E04CP	1SCA022872R1250
3	1600	1000	1250/710	OT1600E03CP	1SCA022872R1840
4	1600	1000	1250/710	OT1600E04CP	1SCA022872R2310
3	2000	1350		OT2000E03CP	1SCA103908R1001
4	2000	1350		OT2000E04CP	1SCA103912R1001
3	2500	1700		OT2500E03CP	1SCA105615R1001
4	2500	1700		OT2500E04CP	1SCA103906R1001
3	3200	2170		OT3200E03CP	1SCA129156R1001
4	3200	2170		OT3200E04CP	1SCA129158R1001

1) OT2000...3200: Category AC-21B



OT3200E03CP

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

4.4 Bypass switches OT160...800E_YP

Manual bypass switches, I-O-II -operation

Including a black plastic IP65 I-O-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.



OT160...250E03_YP



OT315...400E03_YP



OT630...800E03_YP

No. of poles	Rated current and power			Type	Order number
	AC-21A/AC-22A		AC-23A		
	≤ 415V I[A]	400V S[kVA]	400...415V I[A]/P[kW]		
3	160	110	160/90	OT160E03YP	1SCA123551R1001
4	160	110	160/90	OT160E04YP	1SCA123556R1001
3	200	135	200/110	OT200E03YP	1SCA123552R1001
4	200	135	200/110	OT200E04YP	1SCA123557R1001
3	250	170	250/140	OT250E03YP	1SCA123553R1001
4	250	170	250/140	OT250E04YP	1SCA123558R1001
3	315	215	315/160	OT315E03YP	1SCA123581R1001
4	315	215	315/160	OT315E04YP	1SCA123583R1001
3	400	275	400/220	OT400E03YP	1SCA123582R1001
4	400	275	400/220	OT400E04YP	1SCA124026R1001
3	630	435	630/355	OT630E03YP	1SCA123590R1001
4	630	435	630/355	OT630E04YP	1SCA123592R1001
3	800	550	800/450	OT800E03YP	1SCA123591R1001
4	800	550	800/450	OT800E04YP	1SCA123593R1001

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Handle extension	Bolt kit
OT160...250_Y	EXP6/12x161C	OHB65J12E011	OHBZX200	M8x25
OT315...400_Y	EXP12x166	OHB95J12E011	OHBZX200	M10x30
OT630...800_Y	EXP12x185	OHB125J12E011	OHBZX275	M12x40

Change-over, bypass and transfer switches

4.5 Motorized change over switches

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

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



OTM40...125F3C_



OTM40...125F4C_

No. of poles	Rated current and power			Type	Order number
	AC-21A/AC-22A		AC-31B/ AC-33B		
	≤ 415V I[A]	400V S[kVA]	415V I[A]		
3	40	27	40/40	OTM40F3CMA230V	1SCA120096R1001
3	63	43	63/63	OTM63F3CMA230V	1SCA120095R1001
3	80	55	80/80	OTM80F3CMA230V	1SCA120093R1001
3	100	70	100/80	OTM100F3CMA230V	1SCA120071R1001
3	125	86	125/80	OTM125F3CMA230V	1SCA120070R1001
Motor voltage U _e 24 V DC					
3	40	27	40/40	OTM40F3CMA24D	1SCA124061R1001
3	63	43	63/63	OTM63F3CMA24D	1SCA124060R1001
3	80	55	80/80	OTM80F3CMA24D	1SCA124059R1001
3	100	70	100/80	OTM100F3CMA24D	1SCA124058R1001
3	125	86	125/80	OTM125F3CMA24D	1SCA124057R1001

Handles included as standard, cable cross section

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

Change-over switches, motor operation, I-O-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.



OTM160...250E3C_



OTM315...400E3C_

No. of poles	Rated current and power			Type	Order number
	AC-21A/AC-22A		AC-31B/ AC-33B		
	≤ 415V I[A]	400V S[kVA]	415V I[A]		
Motor voltage U _e 220...240 V AC					
3	160	110	160/160	OTM160E3CM230C	1SCA022845R8610
4	160	110	160/160	OTM160E4CM230C	1SCA022848R1510
3	200	135	200/200	OTM200E3CM230C	1SCA022845R8960
4	200	135	200/200	OTM200E4CM230C	1SCA022846R1590
3	250	170	250/250	OTM250E3CM230C	1SCA022845R9260
4	250	170	250/250	OTM250E4CM230C	1SCA022846R1910
3	315	215	315/315	OTM315E3CM230C	1SCA022847R1210
4	315	215	315/315	OTM315E4CM230C	1SCA022847R2870
3	400	275	400/400	OTM400E3CM230C	1SCA022847R1630
4	400	275	400/400	OTM400E4CM230C	1SCA022847R3250

Handles and bolt kits included as standard

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



OTM315...400E4C_

Change-over, bypass and transfer switches

4.5 Motorized change-over switches

Change-over switches, motor operation, I-O-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.

4



OTM630...800E3C_



OTM1000...1250E3C_

No. of poles	Rated current ¹⁾ and power			Type	Order number
	AC-21A/AC-22A		AC-31B/ AC-33B		
	≤ 415V I[A]	400V S[kVA]	415V I[A]		
Motor voltage U _e 220...240 V AC ²⁾					
3	630	435	650/650	OTM630E3CM230C	1SCA103567R1001
4	630	435	650/650	OTM630E4CM230C	1SCA022873R1990
3	800	550	720/650	OTM800E3CM230C	1SCA103570R1001
4	800	550	720/650	OTM800E4CM230C	1SCA022872R8340
3	1000	680	1000/1000	OTM1000E3CM230C	1SCA112677R1001
4	1000	680	1000/1000	OTM1000E4CM230C	1SCA112703R1001
3	1250	850	1250/1000	OTM1250E3CM230C	1SCA112676R1001
4	1250	850	1250/1000	OTM1250E4CM230C	1SCA112702R1001
3	1600	1000	1600/1000	OTM1600E3CM230C	1SCA112678R1001
4	1600	1000	1600/1000	OTM1600E4CM230C	1SCA112704R1001
3	2000	1350		OTM2000E3CM230C	1SCA112709R1001
4	2000	1350		OTM2000E4CM230C	1SCA112712R1001
3	2500	1700		OTM2500E3CM230C	1SCA112710R1001
4	2500	1700		OTM2500E4CM230C	1SCA112713R1001

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



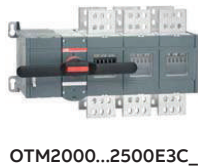
OTM2000...2500E3C_

Change-over, bypass and transfer switches

4.5 Motorized change-over switches

Change-over switches, motor operation, I-O-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			Type	Order number
	AC-21A/AC-22A		AC-31B/ AC-33B		
	≤ 415V I[A]	400V S[kVA]	415V I[A]		
Motor voltage U _e 24 V DC					
3	160	110	160/160	OTM160E3CM24D	1SCA022845R8110
4	160	110	160/160	OTM160E4CM24D	1SCA022846R0860
3	200	135	200/200	OTM200E3CM24D	1SCA022845R8290
4	200	135	200/200	OTM200E4CM24D	1SCA022846R1240
3	250	170	250/250	OTM250E3CM24D	1SCA022845R8370
4	250	170	250/250	OTM250E4CM24D	1SCA022846R1670
3	315	215	315/315	OTM315E3CM24D	1SCA022847R0910
4	315	215	315/315	OTM315E4CM24D	1SCA022847R2520
3	400	275	400/400	OTM400E3CM24D	1SCA022847R1390
4	400	275	400/400	OTM400E4CM24D	1SCA022847R2950
3	630	435	650/650	OTM630E3CM24D	1SCA022873R1210
4	630	435	650/650	OTM630E4CM24D	1SCA022873R2020
3	800	550	720/650	OTM800E3CM24D	1SCA022872R5910
4	800	550	720/650	OTM800E4CM24D	1SCA022872R8420
3	1000	680	1000/1000	OTM1000E3CM24D	1SCA113672R1001
4	1000	680	1000/1000	OTM1000E4CM24D	1SCA113675R1001
3	1250	850	1250/1000	OTM1250E3CM24D	1SCA113671R1001
4	1250	850	1250/1000	OTM1250E4CM24D	1SCA113674R1001
3	1600	1000	1600/1000	OTM1600E3CM24D	1SCA113673R1001
4	1600	1000	1600/1000	OTM1600E4CM24D	1SCA113676R1001
3	2000	1350		OTM2000E3CM24D	1SCA113695R1001
4	2000	1350		OTM2000E4CM24D	1SCA113697R1001
3	2500	1700		OTM2500E3CM24D	1SCA113696R1001
4	2500	1700		OTM2500E4CM24D	1SCA113698R1001

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

4.6 Accessories - Handle knobs and External handles

Handle knobs

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

Suitable for switches	Colour	Type	Order number
Padlockable in 0-position			
OT16...80F_C	Black	OHBS2	1SCA109089R1001
OT16...80F_C	Red	OHR52	1SCA108598R1001
OT100...125F_C	Black	OHBS11	1SCA109092R1001
Non-padlockable			
OT16...80F_C	Black	OHBS3	1SCA108320R1001
OT16...80F_C	Red	OHR53	1SCA108667R1001
OT100...125F_C	Black	OHBS9	1SCA108665R1001
OT100...125F_C	Red	OHR59	1SCA108666R1001

Selector handle, indication I-O-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
Padlockable in 0-position				
OT16...125F_C	Black	6	OHBS2AJE011	1SCA105220R1001
OT16...125F_C	Red-yellow	6	OHYS2AJE011	1SCA105301R1001

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

Suitable for switches	Colour	Shaft diameter [MM]	Type	Order number
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
OT160...250_C	Black	6	OHB65J6E011	1SCA022383R2480
OT315...400_C	Black	12	OHB95J12E011	1SCA022621R0760
OT630...800_C	Black	12	OHB125J12E011	1SCA022589R3340
OT1000...3200_C	Black	12	OHB274J12E011	1SCA122306R1001
OT1000...3200_C	Black	12	OHB200J12PE011	1SCA022873R4230
OT160...250E_Y	Black	12	OHB65J12E011	1SCA123656R1001
OT315...400E_Y	Black	12	OHB95J12E011	1SCA022621R0760
OT630...800E_Y	Black	12	OHB125J12E011	1SCA022589R3340



Change-over, bypass and transfer switches

4.6 Accessories – Handles and shafts

Plastic handle, direct mounting, indication I-O-II
Includes a shaft and a mechanism cover.



OTV_



OTV1000ECK



OHB65D6CM



OTVS0



OTVS1



OXS6X_



OXP6X_

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

Shafts for selector type handles

Suitable for switches	Length [mm]	Type	Order number
Shaft diameter 6 mm			
OT16...125F_C	85	OXS6X85	1SCA101647R1001
OT16...125F_C	130	OXS6X130	1SCA101655R1001

Shafts for pistol type handles

Suitable for switches	Length [mm]	Type	Order number
Shaft diameter 6 mm			
OT16...125F_C	150	EXP6X150	1SCA022295R5600
OT16...125F_C	265	EXP6X265	1SCA108225R1001
OT16...125F_C	400	EXP6X400	1SCA108226R1001
Shaft diameter 6 mm			
OT160...250_C	130	EXP6X130	1SCA022057R0570
OT160...250_C	210	EXP6X210	1SCA022295R6080
OT160...250_C	290	EXP6X290	1SCA022042R6370
OT160...250_C	360	EXP6X360	1SCA022042R6530
Shaft diameter 12 mm			
OT315...400_C	185	EXP12X185	1SCA022325R6710
OT315...400_C	250	EXP12X250	1SCA022325R6980
OT315...400_C	280	EXP12X280	1SCA022137R5140
OT315...400_C	395	EXP12X395	1SCA022042R5990
OT315...400_C	465	EXP12X465	1SCA022042R6020
OT630...800_Y	185	EXP12X185	1SCA022325R6710
OT630...800_Y	250	EXP12X250	1SCA022325R6980
OT630...800_Y	395	EXP12X395	1SCA022042R5990
OT630...800_Y	465	EXP12X465	1SCA022042R6020
OT1000...2500_C	250	EXP12X250	1SCA022325R6980
OT1000...2500_C	325	EXP12X325	1SCA022042R5810
OT1000...2500_C	395	EXP12X395	1SCA022042R5990
OT1000...2500_C	465	EXP12X465	1SCA022042R6020

Change-over, bypass and transfer switches

4.6 Accessories – Auxiliary contacts and fourth poles

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

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



OA1G01



OA1G10



OA2G11

Suitable for switches	Contact functions	Installation side	Type	Order number
Padlockable with three padlocks in 0-position				
OT_16...125F_C	1NO	Right	OA1G10	1SCA022353R4970
OT_16...125F_C	1NC	Right	OA8G01	1SCA022744R2240
OT_16...125F_C	1NO	Left	OA7G10	1SCA022673R1140
OT_16...125F_C	1NC	Left	OA1G01	1SCA022353R4890
OT63...125F3C	1NO+1NC	Either	OA2G11 ¹⁾	1SCA022379R8100
OTM40...125F3C	1NO+1NC	Either	OA2G11 ¹⁾	1SCA022379R8100

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

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.



OTPS40F_

Suitable for switches	Contact functions	Installation side	Type	Order number
Padlockable with three padlocks in 0-position				
OT_160...3200_	1NO	Right	OA1G10	1SCA022353R4970
OT_160...3200_	1NC	Right	OA3G01	1SCA022456R7410



OTPS80F_

Fourth poles for OT16...125F

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



OTPS125F_

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

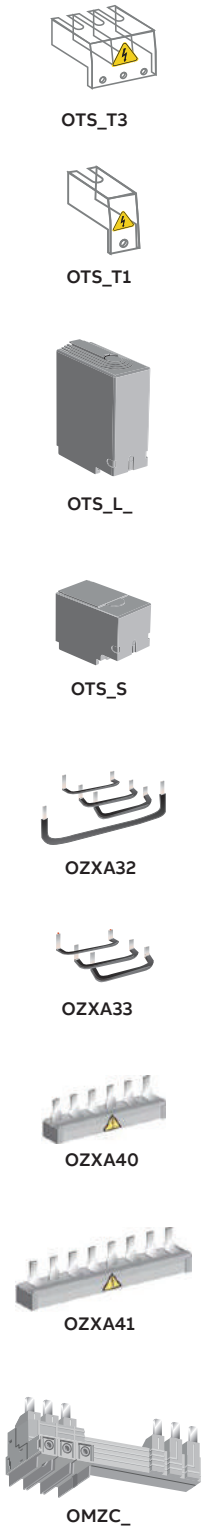
1) Installation to the left side

2) Installation to the right side



Change-over, bypass and transfer switches

4.6 Accessories – Terminal shrouds and parallel connection kits



OTS_T3

OTS_T1

OTS_L_

OTS_S

OZXA32

OZXA33

OZXA40

OZXA41

OMZC_

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
For three pole switches		
OT16...40F_C	OTS40T3	1SCA105317R1001
OT63...80F_C	OTS63T3	1SCA022353R6750
OT100...125F_C, OTM40...125F_	OTS125T3	1SCA022379R9680
For fourth pole		
OTPS40FPN1	OTS40T1	1SCA105314R1001
OTPS40FPN2	OTS40T1	1SCA105314R1001
OTPS80FP	OTS63T1	1SCA022353R6910
OTPS60FP, OTPS125FP	OTS125T1	1SCA022379R9760

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
OT_160...250_C, _Y	3	Long type	OTS250G1L/3	1SCA022731R8150
OT_315...400_C, _Y	3	Long type	OTS400G1L/3	1SCA022736R8840
OT_600...800_C, _Y	3	Long type	OTS800G1L/3	1SCA022776R7890
OT_1000...1600_C	3	Long type	OTS1600G1L/3	1SCA022871R9510
OT_2000...2500_C	3	Long type	OTS2500G1L/3	1SCA107261R1001
OT3200_C	3	Long type	OTS4000G1L/3	1SCA129042R1001

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
OT16...40F3C	6 (fine stranded), 10 (stranded)	OZXA33	1SCA022685R0310
OT16...40F4C	6 (fine stranded), 10 (stranded)	OZXA32	1SCA022683R4110
OT63...80F3C	25	OZXA38	1SCA022785R2140
OT63...80F4C	25	OZXA39	1SCA022790R3820
OT100...125F3C	50	OZXA40	1SCA022790R3910
OT100...125F4C	50	OZXA41	1SCA022790R4040
OTM40...125F3C_	10...70	OMZC03	1SCA117037R1001
OTM40...125F4C_	10...70	OMZC04	1SCA117038R1001

Change-over, bypass and transfer switches

4.6 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 outgoing side of the switch.

Suitable for switches	No. of poles	Type	Order number
OT_160...250_C, _Y	3	OTZC13	1SCA022767R6910
OT_160...250_C, _Y	4	OTZC14	1SCA022767R7040
OT_315...400_C, _Y	3	OTZC23	1SCA022767R7120
OT_315...400_C, _Y	4	OTZC24	1SCA022767R7210
OT_600_C...800E_C, _Y	3	OTZC33	1SCA022785R7020
OT_600_C...800E_C, _Y	4	OTZC34	1SCA022785R7110
OT_1000...1250E_C	3	OTZC43	1SCA022868R0710
OT_1000...1250E_C	4	OTZC44	1SCA022868R0800
OT800U_ OT_1600E_C	3	OTZC53	1SCA022868R0980
OT800U_ OT_1600E_C	4	OTZC54	1SCA022868R1010
OT_2000...2500E_C	3	OTZC63	1SCA022868R1100
OT_2000...2500E_C	4	OTZC64	1SCA022868R1360



Automatic transfer switches

4.7 Compact ATS

OTM_C21D

For Network/Network and Network/Genset application.
Adjustable version with configurable transfer and back-switching delays. Adjustable over and under-voltage thresholds.



OTM_C21D

Number of poles	Rated current [A]	Rated voltage [V]	Voltage sensing	Type	Ordering code
2	63	230:220-240	Top in	OTM63F2C21D230C	1SCA151422R1001
2	125	230:220-240	Top in	OTM125F2C21D230C	1SCA151418R1001
3	63	400:380-415	Top in	OTM63F3C21D400C	1SCA151424R1001
3	125	400:380-415	Top in	OTM125F3C21D400C	1SCA151420R1001
4	63	400:380-415	Top in	OTM63F4C21D400C	1SCA151255R1001
4	125	400:380-415	Top in	OTM125F4C21D400C	1SCA151251R1001

Handles, direct mounting

Plastic I - O - II handle.



OTVS0

Suitable for switches	Colour	Installation side	Units /type [pcs]	Type	Order code
OTM40...125F_CM	Black	Shaft incl.	1	OHB65D6CM	1SCA022807R9430

Auxiliary contacts

Snap-on mounting to the switch, IP 20, max. 2 blocks/side. I_{th} = 16 A, suitable for cable cross sections max. 2 x 2.5mm². Simultaneous action with the main contacts. The type and ordering number is for one piece.



OA1G01
OA7G10 OA1G10
OA8G01

Suitable for switches	Contact function	Installation side	Units /type [pcs]	Type	Order code
OTM40...125F_CM	1NO	Right	1	OA1G10	1SCA022353R4970
OTM40...125F_CM	1NC	Right	1	OA8G01	1SCA022744R2240
OTM40...125F_CM	1NO	Left	1	OA7G10	1SCA022673R1140
OTM40...125F_CM	1NC	Left	1	OA1G01	1SCA022353R4890

Terminal Shrouds

Transparent plastic, snap-on mounting to the switches, IP 20. The full shrouding of a 3-pole change--over switch is achieved with four 3-pole shrouds*.



OTS_T3



OTS_T1

Suitable for switches	Units /type [pcs]	Type	Order code
For 3-pole switches			
OTM40...125F_CM	1	OTS125T3	1SCA022379R9680
For 4-pole switches			
OTPS60FP, OTPS125FP	1	OTS125T1	1SCA022379R9760

* Terminal shrouds can also be mounted on parallel connection kits.

Automatic transfer switches

4.7 Compact ATS

4



OZXT1



OZXT2...3



OMZC_

Terminal clamp sets

Suitable for switches	Contact function	Units /type [pcs]	Type	Order code
Terminal clamp sets for Al- and Cu-cables insulated versions				
OTM40...125F_CM	16...50Al / 2.5...50 Cu	3	OZXT1	1SCA022469R6310
OTM63...125F_CM	16...120 Al/Cu	3	OZXT2	1SCA022620R7200
OTM63...125F_CM	2x (16...50) Al/Cu	3	OZXT3	1SCA022639R0720
Terminal clamp sets for Al- and Cucables				
OTM40...125F_CM	10...70 Al/Cu	3	OZXL1	1SCA022639R0720

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 crossection [mm²]	Units /type [pcs]	Type	Order code
OTM40...125F3CM_	10...70	1	OMZC03	1SCA117037R1001
OTM40...125F4CM_	10...70	1	OMZC04	1SCA117038R1001



Automatic transfer switches

4.8 TruONE® ATS OXB200...1600

Delayed transition - Open style, Level 2 DIP controls
I - O - II - operation with stable OFF position between positions I and II. Delivery includes handle for manual operation, 2m RJ45 connection cable between detachable HMI and ATS frame.
Terminal connection kits (bolts, nuts and washers) available as accessory.



Top entry - Source 1 and Source 2 connections on top, load connections on bottom			
No. of poles	Rated current [A]	Type	Order code
3	200	OXB200E3X2QT	1SCA153434R1001
3	250	OXB250E3X2QT	1SCA153460R1001
3	315	OXB315E3X2QT	1SCA153507R1001
3	400	OXB400E3X2QT	1SCA153520R1001
3	500	OXB500E3X2QT	1SCA151028R1001
3	630	OXB630E3X2QT	1SCA149957R1001
3	800	OXB800E3X2QT	1SCA150940R1001
3	1000	OXB1000E3X2QT	1SCA153582R1001
3	1250	OXB1250E3X2QT	1SCA153617R1001
3	1600	OXB1600E3X2QT	1SCA153626R1001
4	200	OXB200E3S2QT	1SCA153428R1001
4	250	OXB250E3S2QT	1SCA153457R1001
4	315	OXB315E3S2QT	1SCA153502R1001
4	400	OXB400E3S2QT	1SCA153516R1001
4	500	OXB500E3S2QT	1SCA151026R1001
4	630	OXB630E3S2QT	1SCA151055R1001
4	800	OXB800E3S2QT	1SCA150935R1001
4	1000	OXB1000E3S2QT	1SCA153578R1001
4	1250	OXB1250E3S2QT	1SCA153611R1001
4	1600	OXB1600E3S2QT	1SCA153623R1001

*Contact ABB for pricing

Switch-disconnectors OTDC and OTDCP

4.9 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 separately.

Single circuit use - up to 660 VDC

No. of poles	Rated operat. current [A] DC 21B / 660 V	Type	Order number
2	16	OTDC16F2	1SCA121454R1001
2	25	OTDC25F2	1SCA121455R1001
2	32	OTDC32F2	1SCA121456R1001



OTDC16...32F2

Up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number
2	10	OTDC16F2	1SCA121454R1001
2	16	OTDC25F2	1SCA121455R1001
2	20	OTDC32F2	1SCA121456R1001
3	16	OTDC16F3	1SCA121457R1001
3	25	OTDC25F3	1SCA121458R1001
3	32	OTDC32F3	1SCA121459R1001



OTDC16...32F3

Double circuit use - up to 1000 VDC

No. of poles	Rated operat. current [A]		Type	Order number
	DC21B / 660 V	DC21B / 1000 V		
2x2	16	10	OTDC16F4	1SCA121461R1001
2x2	25	16	OTDC25F4	1SCA121462R1001
2x2	32	20	OTDC32F4	1SCA121463R1001



OTDC16...32F4

Switch-disconnectors OTDC_, door mounting, IEC

Types OTDC16...32 include IP20 protected terminal clamps. Shafts and handles need to be ordered separately. Jumpers included in the package.

Single circuit use - up to 660 VDC

No. of poles	Rated operat. current [A] DC 21B / 660 V	Type	Order number
2	16	OTDC16FT2	1SCA123839R1001
2	25	OTDC25FT2	1SCA123842R1001
2	32	OTDC32FT2	1SCA123845R1001



OTDC16...32FT2

Up to 1000 VDC

No. of poles	Rated operat. current		Type	Order number
	[A]			
	DC 21B / 1000 V			
2	10		OTDC16FT2	1SCA123839R1001
2	16		OTDC25FT2	1SCA123842R1001
2	20		OTDC25FT2	1SCA123845R1001
3	16		OTDC16FT3	1SCA123840R1001
3	25		OTDC25FT3	1SCA123843R1001
3	32		OTDC32FT3	1SCA123846R1001



OTDC16...32FT3

Double circuit use - up to 1000 VDC

No. of poles	Rated operat. current [A]		Type	Order number
	DC 21B / 660 V	DC 21B / 1000 V		
2x2	16	10	OTDC16FT4	1SCA123841R1001
2x2	25	16	OTDC25FT4	1SCA123844R1001
2x2	32	20	OTDC32FT4	1SCA123847R1001



OTDC16...32FT4



Switch-disconnectors OTDC and OTDCP

4.9 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
Suitable for switches OTDC16...32F, OTDC16...32U_			
Black	40	OHBS2*	1SCA109089R1001
Red	40	OHR2	1SCA108598R1001
Black	39	OHBS3	1SCA108320R1001
Red	39	OHR3	1SCA108667R1001

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OHBS2PJ



OHYS2RJ

Selector handles, for door mounted switches

Indication I-O and ON-OFF. No separate shaft needed.

Colour	Type	Order number
Screw mounting, hole distance 36 mm, for OTDC16...32		
Padlockable with max. 3 padlocks, IP65, hole distance 36/48 mm, NEMA 1, 3R, 12		
Black	OHBS2RJ	1SCA105232R1001
Red-yellow	OHYS2RJ	1SCA105323R1001

Extended shafts for selector handles

Shaft length [mm]	H [mm]	Type	Order number
Suitable for switches OTDC16...32F, shaft diameter 6 mm			
85		OX6X85	1SCA101647R1001
180		OX6X180	1SCA101659R1001
250		OX6X250	1SCA101660R1001



OX6X_



OTDCP_SA_



OTDCP_S_M20



OTDCP_S_M25

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
Includes red-yellow selector handle (I-O and ON-OFF indication)			
2	16	OTDCP16SA11M	1SCA125126R1001
2	25	OTDCP25SA11M	1SCA125127R1001
2	32	OTDCP32SA11M	1SCA125128R1001

Up to 1000 VDC

No. of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number
Includes red-yellow selector handle (I-O and ON-OFF indication)			
3	16	OTDCP16SA12M	1SCA125150R1001
3	25	OTDCP25SA12M	1SCA125151R1001
3	32	OTDCP32SA12M	1SCA125152R1001

Switch-disconnectors OTDC and OTDCP

4.9 Front operated switch-disconnectors, IEC



OTDC100...250E11

Single circuit, 1000 VDC, IEC - 100...250 A

No. of poles	Rated operat. current [A] DC 21 / 1000 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	100	OTDC100E11	1SCA125821R1001
2	160	OTDC160E11	1SCA123745R1001
2	200	OTDC200E11	1SCA125626R1001
2	250	OTDC250E11	1SCA125865R1001



OTDC315...800F11

Single circuit, 1000 VDC, IEC - 315...800 A

No. of poles	Rated operat. current [A] PV2 / 1000 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	315	OTDC315F11	1SCA158172R1001
2	400	OTDC400F11	1SCA158196R1001
2	500	OTDC500F11	1SCA158220R1001
2	630	OTDC630F11	1SCA158244R1001
2	800	OTDC800F11	1SCA158853R1001



OTDC315...800FV11

Single circuit, 1500 VDC, IEC - 315...800 A

No. of poles	Rated operat. current [A] PV2 / 1500 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	315	OTDC315FV11	1SCA158178R1001
2	400	OTDC400FV11	1SCA158202R1001
2	500	OTDC500FV11	1SCA158226R1001
2	630	OTDC630FV11	1SCA158250R1001
2	800	OTDC800FV11	1SCA158856R1001



OXP6X210



OHB95J12

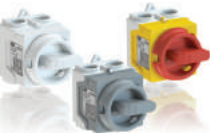
Recommended handles and shafts

Suitable for switches	Mounting	Type	Order number
OTDC100...250	Direct mount handle	OTDV250EK	1SCA127390R1001
OTDC315...800	Direct mount handle	OTDV400EK	1SCA130579R1001
OTDC100...250	Door mount handle	OHB65J6	1SCA022380R9660
OTDC100...250	Shaft	OXP6X210	1SCA022295R6080
OTDC315...800	Door mount handle	OHB95J12	1SCA022381R0830
OTDC315...800	Shaft	OXP12X185	1SCA022325R6710



Enclosed switches

4.10 Plastic enclosed switch-disconnectors



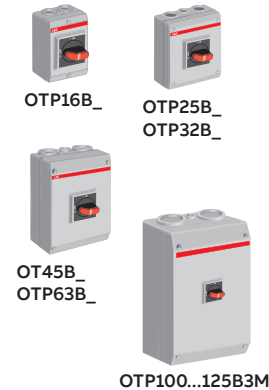
ONE front operated switch-disconnectors
Plastic enclosed, IP67

Rated operational current [A]			No. of poles	Enclosure size [mm]			Type	Order number
AC22A	AC23A							
230V	400V			H	W	D		
Cover color: white. Handle color: white.								
20		9.8	2	92	65	84	ONE20M2W	1SCA138456R1001
20	20	9.8	3	92	65	84	ONE20M3W	1SCA138457R1001
20	20	9.8	4	92	65	84	ONE20M4W	1SCA138459R1001
Cover color: yellow. Handle color: red.								
20		9.8	2	92	65	84	ONE20M2Y	1SCA135533R1001
20	20	9.8	3	92	65	84	ONE20M3Y	1SCA135536R1001
20	20	9.8	4	92	65	84	ONE20M4Y	1SCA135540R1001



Enclosed switches

4.10 Plastic enclosed switch-disconnectors

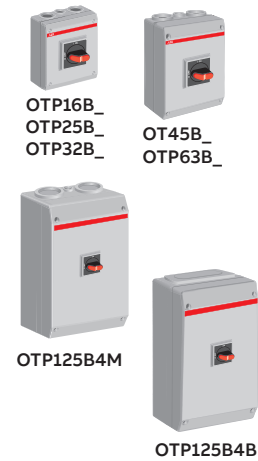


3-pole front operated switch-disconnectors
Plastic enclosed, IP65

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number
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
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
40	23	2xM25+M16	150	130	60	OTP32B3M	1SCA022389R8400
63	45	2xM32+M16	200	145	90	OTP45B3M	1SCA022383R3020
80	75	2xM32+M16	200	145	90	OTP63B3M	1SCA022383R3450
100	80	2xM50+M16	400	200	140	OTP100B3M	1SCA126054R1001
125	90	2xM50+M16	400	200	140	OTP125B3M	1SCA022812R7180

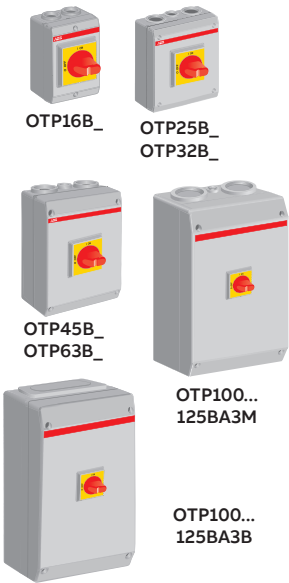
Enclosed switches

4.10 Plastic enclosed switch-disconnectors



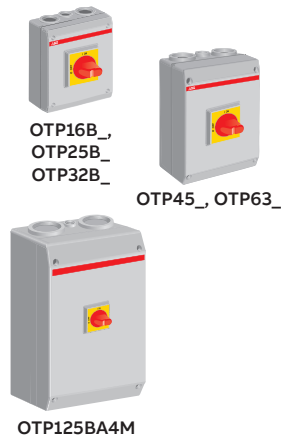
4-pole front operated switch-disconnectors
Plastic enclosed, IP65

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number
AC22A	AC23A						
≤690V	≤415V		H	W	D		
Includes selector-type black handle (I-O 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
25	20	2xM25+M16	150	130	60	OTP25B4M	1SCA022401R4320
40	23	2xM25+M16	150	130	60	OTP32B4M	1SCA022401R4590
63	45	2xM32+M16	200	145	90	OTP45B4M	1SCA022401R4750
80	75	2xM32+M16	200	145	90	OTP63B4M	1SCA022401R4910
125	90	2xM50+M16	400	200	140	OTP125B4M	1SCA022812R7260



3-pole front operated switch-disconnectors
Plastic enclosed, IP65, red-yellow

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number
AC22A	AC23A						
≤690V	≤415V		H	W	D		
Includes selector-type red-yellow handle (I-O and ON-OFF indication), N- and PE-terminals, two membrane cable glands and two pull stoppers.							
16	16	2xM20	120	85	60	OTP16BA3M	1SCA022401R3350
Includes selector-type red-yellow handle (I-O 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
40	23	2xM25+M16	150	130	60	OTP32BA3M	1SCA022401R3510
63	45	2xM32+M16	200	145	90	OTP45BA3M	1SCA022401R3600
80	75	2xM32+M16	200	145	90	OTP63BA3M	1SCA022401R3780
100	80	2xM50+M16	400	200	140	OTP100BA3M	1SCA126069R1001
125	90	2xM50+M16	400	200	140	OTP125BA3M	1SCA022812R7420



4-pole front operated switch-disconnectors
Plastic enclosed, IP65, red-yellow

Rated operational current [A]		Cable outlets/ side	Enclosure size [mm]			Type	Order number
AC22A	AC23A						
≤690V	≤415V		H	W	D		
Includes selector-type red-yellow handle (I-O 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
25	20	2xM25+M16	150	130	60	OTP25BA4M	1SCA022459R6600
40	23	2xM25+M16	150	130	60	OTP32BA4M	1SCA022459R6780
63	45	2xM32+M16	200	145	90	OTP45BA4M	1SCA022459R6860
80	75	2xM32+M16	200	145	90	OTP63BA4M	1SCA022459R6940
125	90	2xM50+M16	400	200	140	OTP125BA4M	1SCA022812R7510

Switch fuses OS

4.11 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
Mechanism at the end of the switch fuse				
Protected tunnel terminals, IP20				
32	000	3	OS32GD12P	1SCA114581R1001
63	000	3	OS63GD12P	1SCA115227R1001
Including terminal bolt set				
125	000, 00	3	OS125GD12P	1SCA115641R1001
160	000, 00	3	OS160GD12P	1SCA115643R1001

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

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
Mechanism at the end of the switch fuse				
200	0	3	OS200D03P	1SCA022709R9500
250	0-1	3	OS250D03P	1SCA022719R0090
400	0-2	3	OS400D03P	1SCA022719R0250

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



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. 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
Mechanism at the end of the switch fuse				
630	3	3	OS630D03P	1SCA022825R2830
800	3	3	OS800D03P	1SCA022825R4880
1250 ¹⁾	4	3	OS1250D03P	1SCA105475R1001
1250 ¹⁾	4a	3	OS1250DA03P	1SCA105238R1001

1) 1250A / AC-21...22A, 1000A / AC-23A



OS1250D03P



OS1250D04P

Switch fuses OS

4.11 Din-type

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS630...800_P	OXPI2X280	OHB145J12	M12X40
OS1250_P	OXPI2X395	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.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
Mechanism at the end of the switch fuse				
Protected tunnel terminals, IP20				
32	000	3	OS32GD03K	1SCA116733R1001
63	000	3	OS63GD03K	1SCA116738R1001
Including terminal bolt set				
125	000, 00	3	OS125GD03K	1SCA116878R1001
160	000, 00	3	OS160GD03K	1SCA116742R1001

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.

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
Mechanism at the end of the switch fuse				
Including terminal bolt set				
200	0	3	OS200D03K	1SCA022764R7130
250	0-1	3	OS250D03K	1SCA022763R6360
400	0-2	3	OS400D03K	1SCA022779R5410
630	3	3	OS630D03K	1SCA108704R1001
800	3	3	OS800D03K	1SCA108725R1001
1250 ¹⁾	4	3	OS1250D03K	1SCA108718R1001
1250 ¹⁾	4a	3	OS1250DA03K	1SCA108720R1001

1) 1250A / AC-20...22A, 1000A / AC-23A

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



OS32...63GD03K



OS125...160GD03K



OS200...250D03K



OS400D03K



OS630...800D03K

Switch fuses OS

4.12 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
Protected tunnel terminals IP20, mechanism at the end of the switch				
32	A2, A3	3	OS32GB03P	1SCA115259R1001
63	A2, A3	3	OS63GB03P	1SCA115235R1001
Including terminal bolt set, mechanism at the end of the switch				
100	A2-A4 ¹⁾	3	OS100GB03P	1SCA114613R1001
125	A2-A4 ¹⁾	3	OS125GB03P	1SCA115634R1001
160	A2-A4 ¹⁾	3	OS160GB03P	1SCA115413R1001

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	OXF6X161	OHB45J6	-
OS100G...160G_P	OXF6X161	OHB65J6	M8X25

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
Mechanism at the end of the switch fuse				
200	B1-B2	3	OS200B03P	1SCA022709R9330
250	B1-B3	3	OS250B03P	1SCA022750R6660
315	B1-B4	3	OS315B03P	1SCA022719R0680
400	B1-B4	3	OS400B03P	1SCA022719R0840

Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Incl. terminal bolts
OS200_GB_P	OXF6X161	OHB65J6	M8X25
OS200_P	OXF6X210	OHB65J6	M8X25
OS250_P	OXF6X210	OHB65J6	M10X30
OS315...400_P	OXF12X250	OHB95J12	M10X30

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
Mechanism at the end of the switch fuse				
630	C1-C2	3	OS630B03P	1SCA022825R5850
800	C1-C3	3	OS800B03P	1SCA022825R7550
1250 ¹⁾	D1	3	OS1250B03P	1SCA105250R1001

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	OXF12X280	OHB145J12	M12X40
OS1250_P	OXF12X395	OHB274J12	M12X50



OS1250D03P

Switch fuses OS

4.13 Accessories - Handles



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
For shaft diameter 6 mm (for OSMini and OS32...250)			
Black and red-yellow: I-O/ON-OFF.			
Black	45	OHB45J6	1SCA022380R8770
Red-yellow	45	OHY45J6	1SCA022380R8930
Black	65	OHB65J6	1SCA022380R9660
Red-yellow	65	OHY65J6	1SCA022380R9820
Black	80	OHB80J6	1SCA022381R0240
For shaft diameter 12 mm (for OS315...400)			
Black and red-yellow: I-O/ON-OFF.			
Black	95	OHB95J12	1SCA022381R0830
Red-yellow	95	OHY95J12	1SCA022381R1050
For shaft diameter 12 mm (for OS630...800)			
Black and red-yellow: I-O/ON-OFF.			
Black	125	OHB125J12	1SCA022381R1560
Red-yellow	125	OHY125J12	1SCA022381R1720
Black	145	OHB145J12	1SCA022381R2110
Red-yellow	145	OHY145J12	1SCA022381R2370
Black	175	OHB175J12	1SCA022381R2450
Grey	175	OHG175J12	1SCA022381R2610

- 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



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
For shaft diameter 12 mm (for OS1200...1250)			
Black and red-yellow: I-O/ON-OFF.			
Black	274	OHB274J12	1SCA115920R1001
Red-yellow	274	OHY274J12	1SCA115919R1001
Black	330	OHB330J12	1SCA115922R1001
Black	2x200	OHB200J12P	1SCA022865R9510
Red-yellow	2x200	OHY200J12P	1SCA101587R1001

- 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



Switch fuses OS

4.13 Accessories - Shafts



OX P6X_



OX P_X_-45



OHP12X_

Shafts		
Shaft length [mm]	Type	Order number
For OS 32G...63G , shaft diameter 6 mm		
130	OX P6X130	1SCA022057R0570
161	OX P6X161	1SCA022067R1760
210	OX P6X210	1SCA022295R6080
290	OX P6X290	1SCA022042R6370
360	OX P6X360	1SCA022042R6530
430	OX P6X430	1SCA022056R6030
For OS100G...25, shaft diameter 6 mm		
130	OX P6X130	1SCA022057R0570
210	OX P6X210	1SCA022295R6080
290	OX P6X290	1SCA022042R6370
360	OX P6X360	1SCA022042R6530
430	OX P6X430	1SCA022056R6030
For OS 315...400, shaft diameter 12 mm		
250	OX P12X250	1SCA022325R6980
280	OX P12X280	1SCA022137R5140
325	OX P12X325	1SCA022042R5810
395	OX P12X395	1SCA022042R5990
465	OX P12X465	1SCA022042R6020
535	OX P12X535	1SCA022042R6110

Switch fuses OS

4.13 Accessories - Auxiliary contacts



OA3G01



OEA28

Auxiliary contacts for OS32G...1250

Suitable for switches	Description	Protection degree	Type	Order number
OS32G...1250	1NO	IP20	OA1G10	1SCA022353R4970
OS32G...1250	1NC	IP20	OA3G01	1SCA022456R7410

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.

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						
Pole version	OS/OSM32G...250		OS/OSM315...800		OS/OSM1200...1250	
	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

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
Screw mounting to the left side of the switch	OEA28	1SCA022714R8810

Fourth poles

Snap-on mounting to the side of the switch.

Suitable for 3-pole switches	Mounting side	Type	Order number
Switched 4. poles			
OS100G...160G	Left/right	OSP160GN	1SCA114770R1001
OS200_	Left/right	OSP200N	1SCA022735R8700
OS250_	Left/right	OSP250N	1SCA022735R9260
OS400_	Left/right	OSP400N	1SCA022770R3490
OS630...800	Left/right	OSP800N	1SCA100432R1001
OS1200...1250	Left/right	OSP1250N	1SCA107943R1001



Switch fuses OS

4.13 Accessories - Terminal shrouds and Fuse monitors

4



OSS200G1L



OSS250G1L



OSS800G1L



OFS260



OFD500EA

Terminal shrouds

Suitable for switches	Description	Type	Order number
Pack of single pole terminal shrouds			
Snap-on mounting, grey plastic, IP 3X from front.			
OS100G...160G	Long type	OSS160GG1L/3	1SCA114764R1001
OS200	Long type	OSS200G1L/3	1SCA022731R8910
OS250	Long type	OSS250G1L/3	1SCA022731R9390
OS315...400	Long type	OSS400G1L/3	1SCA022776R6650
OS630...800	Long type	OSS800G1L/3	1SCA022776R7200
OS1250	Long type	OSS1250G1L/3	1SCA107938R1001

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
100...260/AC	OFS260	1SCA022716R0180
380...690/AC	OFS690	1SCA022715R9920
48...110/DC	OFD110EA	1SCA121775R1001
110...500/DC	OFD500EA	1SCA121776R1001

Fuse Switch XLP

4.14 Fuse switch horizontal



Fuse Switch XLP - 1 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	1	XLP00-1P-2M8	1SEP600113R0003
250	1	1	XLP1-1P-M10	1SEP600116R0003
400	2	1	XLP2-1P	1SEP600122R0001
630	3	1	XLP3-1P	1SEP600126R0001



Fuse Switch XLP - 2 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	2	XLP00-2P-4M8	1SEP600114R0003
250	1	2	XLP1-2P-4M8	1SEP600117R0003
400	2	2	XLP2-2P	1SEP600123R0001
630	3	2	XLP3-2P	1SEP600127R0001



Fuse Switch XLP - 3 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	3	XLP00-6M8	1SEP101890R0004
250	1	3	XLP1-6M10	1SEP101891R0004
400	2	3	XLP2	1SEP101892R0001
630	3	3	XLP3	1SEP101975R0001



Fuse Switch XLP - 4 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	4	XLP00-4P-8M8	1SEP600115R0003
250	1	4	XLP1-4P-8M8	1SEP600119R0003
400	2	4	XLP2-4P	1SEP600124R0001
630	3	4	XLP3-4P	1SEP600128R0001



Fuse Switch ZLBM

4.15 Fuse switch vertical



Fuse Switch ZLBM - 3 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	3	ZLBM00-3P-M8	1SEP620010R3000
250	1	3	ZLBM1-3P-M12	1SEP620011R3000
400	2	3	ZLBM2-3P-M12	1SEP620012R3000
630	3	3	ZLBM3-3P-M12	1SEP620013R3000
800	2	3	ZLBM800A-3P-M12	1SEP620014R3000
1250	3	3	ZLBM1250A-3P-M12	1SEP620015R3000

4

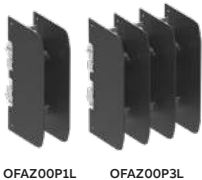


InLine II in proE power switchboard

Fuse Switch OFAZ and OFAX

4.16 Fuse base horizontal

4



OFAZ00P1L OFAZ00P3L



OFAZ00S1LA OFAZ00S2L



OFAZ1P1; OFAZ2P1 OFAZ3P3



OFAZ1S1; OFAZ2S1 OFAZ1S3; OFAZ2S3



OFAE506

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
Fuse bases for fuses size 000,00				
Open with phase barriers IP00				
160	000,00	1	OFAZ00P1L	1SCA151155R1001
160	000,00	3	OFAZ00P3L	1SCA151156R1001
Full protection IP20				
160	000,00	1	OFAZ00S1L	1SCA151157R1001
160	000,00	2	OFAZ00S2L	1SCA151158R1001
160	000,00	3	OFAZ00S3L	1SCA151159R1001
Fuse bases for fuses size 0,1				
Open with phase barriers IP00				
250	0,1	1	OFAZ1P1	1SCA151160R1001
250	0,1	3	OFAZ1P3	1SCA151161R1001
Full protection IP20				
250	0,1	1	OFAZ1S1	1SCA151162R1001
250	0,1	2	OFAZ1S2	1SCA151163R1001
250	0,1	3	OFAZ1S3	1SCA151164R1001
Fuse bases for fuses size 1,2				
Open with phase barriers IP00				
400	1,2	1	OFAZ2P1	1SCA151165R1001
400	1,2	3	OFAZ2P3	1SCA151166R1001
Full protection IP20				
400	1,2	1	OFAZ2S1	1SCA151167R1001
400	1,2	2	OFAZ2S2	1SCA151168R1001
400	1,2	3	OFAZ2S3	1SCA151169R1001
Fuse bases for fuses size 2,3				
Open with phase barriers IP00				
630	2,3	1	OFAZ3P1	1SCA151172R1001
630	2,3	3	OFAZ3P3	1SCA151173R1001
Full protection IP20				
630	2,3	1	OFAZ3S1	1SCA151174R1001
630	2,3	2	OFAZ3S2	1SCA151175R1001
630	2,3	3	OFAZ3S3	1SCA151177R1001
Fuse bases for fuses size 4A				
Full protection IP20				
1250	4A	1	OFA4AS1	1SCA022631R2410
1250	4A	2	OFA4AS31	1SCA022631R2500
1250	4A	3	OFA4AS33	1SCA022631R2680
Fuse handle				
For fuse sizes				
000,00,0,1,2,3,4			OFAE506	1SCA128175R1001



SECTION 5

Enclosures

Mistral 65	5.1
SR 2	5.2
SRX	5.3
Gemini	5.4

Enclosures

5.1 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 eye-holes 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

5.1 Mistral 65



Surface Mount Transparent Distribution Board Including Neutral and Earth Terminals

Dimensions			No. of ways	Order Code
H	W	D		
202	152	117	4 Way	1SL1200A00
250	232	154	8 Way	1SLM006501A1201
250	320	155	12 Way	1SLM006501A1202
250	430	155	18 Way	1SLM006501A1203
435	320	155	24 Way - (2 X 12 Way)	1SLM006501A1204
435	430	155	36 Way - (2 X 18 Way)	1SLM006501A1205
600	320	155	36 Way - (3 X 12 Way)	1SLM006501A1206
735	320	155	48 Way - (4 X 12 Way)	1SLM006501A1207
600	430	155	54 Way - (3 X 18 Way)	1SLM006501A1208
735	430	155	72 Way - (4 X 18 Way)	1SLM006501A1209

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
H	W	D		
			Wall fixing brackets (4 pcs) MISTRAL65*	1SLM006500A1927
			Lock with key MISTRAL65*	1SLM006500A1931
			Central blank panel 12M MISTRAL 65* *	1SL1945A00
			Blank panel 12M MISTRAL 65*	1SL1946A00
			Central blank panel 18M MISTRAL 65**	1SL1947A00
			Blank panel 18M MISTRAL 65*	1SL1948A00

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

5.2 SR 2



5

Enclosure with Solid door, Mounting plate included -RAL2000 Orange

Dimensions			Description	Order Code
H	W	D		
300	200	150	Solid door Sheet Metal Enclosure (Orange)	SRN3215SPEC
400	300	200		SRN4320SPEC
500	400	250		SRN5425SPEC
600	400	250		SRN6425SPEC
700	500	250		SRN7525SPEC
800	600	300		SRN8630SPEC
1000	800	300		SRN10830SPEC
1200	800	300		SRN12830SPEC

Enclosure with Solid door, Mounting plate included -RAL7035 Grey

Dimensions			Description	Order Code
H	W	D		
300	300	150	Solid door Sheet Metal Enclosure (Grey)	SRN3315K
400	300	150		SRN4315K
400	300	200		SRN4320K
500	300	200		SRN5320K
500	400	250		SRN5425K
600	400	250		SRN6425K
600	600	250		SRN6625K
700	500	250		SRN7525K
800	600	300		SRN8630K
1000	800	300		SRN10830K
1200	800	300		SRN12830K

Enclosure with Glass door, Mounting plate to order separately -RAL7035 Grey

Dimensions			Description	Order Code
H	W	D		
500	400	250	Glass Door Sheet Metal Enclosure (Grey)	SRN5425VK
600	400	250		SRN6425VK
700	500	250		SRN7525VK
800	600	300		SRN8630VK
1000	800	300		SRN10830VK

Mounting Plate

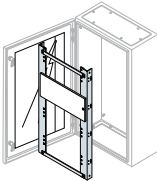
Dimensions			Description	Order Code
H	W	D		
300	200		Metal Mounting Plate	PF3020
300	300			PF3030
400	300			PF4030
500	300			PF5030
500	400			PF5040
600	400			PF6040
600	600			PF6060
700	500			PF7050
800	600			PF8060
1000	800			PF1080
1200	800			PF1280

Inner DoorRAL7035 Grey

Dimensions			Description	Order Code
H	W	D		
500	400		Inner Door (Grey)	KC5040K
600	400			KC6040K
700	500			KC7050K
800	600			KC8060K
1000	800			KC1080K
1200	800			KC1280K

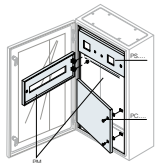
Enclosures

5.2 SR 2



Support Frame for Distribution Kits

Dimensions			Description	Order Code
H	W	D		
500	400		Support Frame For Distribution Kit	KD5040K
600	400			KD6040K
800	600			KD8060K
1000	800			KD1080K
1200	800			KD1280K



Distribution kit - Din cut out Panel including Din Rail

Dimensions			Description	Order Code
H	W	D		
185	400		14 way Distribution Kit	PM1414K
185	600		25 way Distribution Kit	PM1625K
185	800		36 way Distribution Kit	PM1836K

Blank hinged Panel

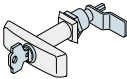
Dimensions			Description	Order Code
H	W	D		
185	400		Blanking cover	PC1406K
185	600			PC1606K
185	800			PC1806K
370	600			PC2606K
370	800			PC2806K



AA8001



AA8002



AA8003



EV1008

Accessories

Description	Order Code
Wall Mount brackets (Set of 4)	AA1206
Butterfly lock with zama key for SR	AA8001
Closure with handle and YALE SR type key	AA8003
YALE type closure and SR key	AA8002
Triang. Insertion for SR	AA5200
Triang.keyRAL7012 for insert. AA5200	AA5190
Door closure box	EV1008
Double tongue insert	EV1039
Ronis 455 insert	EV1037
Spare Hinges No.10	AA1204
Yale insert	EV1036

Spray protection roofs -RAL2000 Orange

Dimensions			Description	Order Code
H	W	D		
	400	250	Spray protection roof - RAL2000 Orange	TT4025/1
	500	250		TT5025/1
	600	300		TT6030/1
	800	300		TT8030/1

Spray protection roofs - RAL7035 Grey

Dimensions			Description	Order Code
H	W	D		
	400	250	Spray protection roof - RAL7035 Grey	TT4025K
	500	250		TT5025K
	600	300		TT6030K
	800	300		TT8030K

Enclosures

5.3 SRX



5

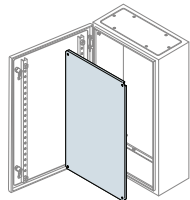
Enclosure with Solid door, Mounting plate included -AISI 304 Stainless Steel

Dimensions			Description	Order Code
H	W	D		
300	200	150	Solid door Stainless Steel Enclosure	SRN3215X
400	300	200		SRN4320X
500	400	200		SRN5420X
600	400	200		SRN6420X
700	500	250		SRN6630X
800	600	300		SRN7525X
1000	800	300		SRN8630X
1200	800	300		SRN10830X
1200	800	300		SRN12830X



Enclosure with Glass door, Mounting plate to order seperately -AISI 304 Stainless Steel

Dimensions			Description	Order Code
H	W	D		
500	400	200	Solid door Stainless Steel Enclosure	SRN5420VX
600	400	200		SRN6420VX
700	500	250		SRN7525VX
800	600	250		SRN8625VX
1000	800	300		SRN10830VX



Mounting Plate - Galvanised Sheet Metal

Dimensions			Description	Order Code
H	W	D		
500	400		Galvanised Sheet Steel Mounting Plate	PF5040
600	400			PF6040
700	500			PF7050
800	600			PF8060
1000	800			PF1080



Inner Door - AISI 304 Stainless Steel

Dimensions			Description	Order Code
H	W	D		
500	400		Inner Door - AISI 304 Stainless Steel	KC5040X
600	400			KC6040X
700	500			KC7050X
800	600			KC8060X
1000	800			KC1080X

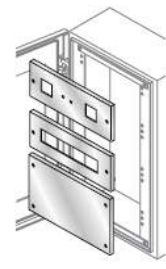
Enclosures

5.3 SRX



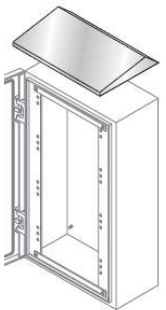
Support frame for Distribution Kits - AISI 304 Stainless Steel

Dimensions			Description	Order Code
H	W	D		
500	400		Support Frame For Distribution Kit	KD5040X
600	400			KD6040X
800	600			KD8060X
1000	800			KD1080X



Distribution Kit - Din cut out Panel including Din Rail

Dimensions			Description	Order Code
H	W	D		
185	400		14 way Distribution Kit	PM1414X
185	600		25 way Distribution Kit	PM1625X
185	800		36 way Distribution Kit	PM1836X



Blank Screwed Panel

Dimensions			Description	Order Code
H	W	D		
185	400		Blanking cover	PC1406X
185	600			PC1606X
185	800			PC1806X
370	600			PC2606X
370	800			PC2806X

Spray Protection Roof

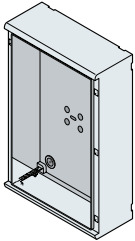
Dimensions			Description	Order Code
H	W	D		
	200	150	Spray Protection Roof	TT2015X
	300	200		TT3020X
	400	200		TT4020X
	600	300		TT6030X
	800	300		TT8030X

Accessories

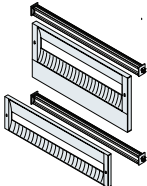
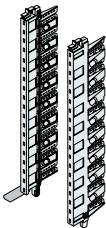
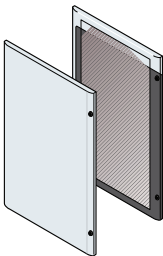
Description	Order Code
Wall Mount brackets (Set of 4)	AA1206X
Spare Hinges No.10	AA1204
Butterfly lock with zama key for SR	AA8001
Closure with handle and YALE SR type key	AA8003
YALE type closure and SR key	AA8002
Triang. Insertion for SR	AA5200
Triang.keyRAL7012 for insert. AA5200	AA5190
Door closure box	EV1008
Double tongue insert	EV1039
Ronis 455 insert	EV1037
Yale insert	EV1036

Enclosures

5.4 Gemini



5



Enclosure Box without door

Dimensions			Description	Order Code
H	W	D		
400	335	210	BOX-SIZE 1	1SL0221A00
550	460	260	BOX-SIZE 2	1SL0222A00
700	460	260	BOX-SIZE 3	1SL0223A00
700	580	260	BOX-SIZE 4	1SL0224A00
885	585	360	BOX-SIZE 5	1SL0225A00
1005	840	360	BOX-SIZE 6	1SL0226A00

Transparent Door

Dimensions	Description	Order Code
Suitable For Box Size 1	TRANSPARENT DOOR-SIZE	1SL0241A00
Suitable For Box Size 2		1SL0242A00
Suitable For Box Size 3		1SL0243A00
Suitable For Box Size 4		1SL0244A00
Suitable For Box Size 5		1SL0245A00
Suitable For Box Size 6		1SL0246A00

Solid Door

Dimensions	Description	Order Code
Suitable For Box Size 1	OPAQUE DOOR-SIZE	1SL0231A00
Suitable For Box Size 2		1SL0232A00
Suitable For Box Size 3		1SL0233A00
Suitable For Box Size 4		1SL0234A00
Suitable For Box Size 5		1SL0235A00
Suitable For Box Size 6		1SL0236A00

Uprights for Din Kit

Dimensions	Description	Order Code
Suitable For Box Size 1	UPRIGHTS-SIZE 1	1SL0283A00
Suitable For Box Size 2	UPRIGHTS-SIZE 2	1SL0284A00
Suitable For Box Size 3 and 4	UPRIGHTS-SIZE 3-4	1SL0285A00
Suitable For Box Size 5	UPRIGHTS-SIZE 5	1SL0286A00
Suitable For Box Size 6	UPRIGHTS-SIZE 6	1SL0287A00

Din Rail Kit, Din cutout and Din Rail

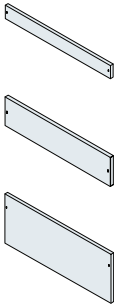
Dimensions	Description	Order Code
Suitable For Box Size 1	Din Rail Kit H150 mm	1SL0307A00
Suitable For Box Size 2 and 3	Din Rail Kit H150 mm	1SL0308A00
Suitable For Box Size 4 and 5	Din Rail Kit H150 mm	1SL0309A00
Suitable For Box Size 6	Din Rail Kit H150 mm	1SL0310A00

Blank hinged Panel

Dimensions	Description	Order Code
Suitable For Box Size 1	Blank Panel H=75mm	1SL0318A00
Suitable For Box Size 2 and 3		1SL0319A00
Suitable For Box Size 4 and 5		1SL0320A00
Suitable For Box Size 6		1SL0321A00

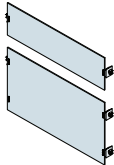
Enclosures

5.4 Gemini



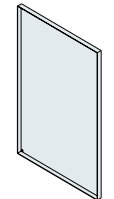
Blank hinged Panel (continued)

Dimensions	Description	Order Code
Suitable For Box Size 1	Blank Panel H=150mm	1SL0324A00
Suitable For Box Size 2 and 3		1SL0325A00
Suitable For Box Size 4 and 5		1SL0326A00
Suitable For Box Size 6		1SL0327A00
Suitable For Box Size 1	Blank Panel H=300mm	1SL0330A00
Suitable For Box Size 2 and 3		1SL0331A00
Suitable For Box Size 4 and 5		1SL0332A00
Suitable For Box Size 6		1SL0333A00



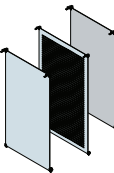
Mounting Plate

Dimensions	Description	Order Code
Suitable For Box Size 1	Mounting plate H=150mm	1SL0296A00
Suitable For Box Size 2 and 3		1SL0297A00
Suitable For Box Size 4 and 5		1SL0298A00
Suitable For Box Size 6		1SL0299A00
Suitable For Box Size 2 and 3	Mounting plate H=300mm	1SL0302A00
Suitable For Box Size 4 and 5		1SL0303A00
Suitable For Box Size 6		1SL0304A00



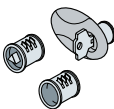
Inner Door

Dimensions	Description	Order Code
Suitable For Box Size 1	INNER DOOR SIZE 1	1SL0251A00
Suitable For Box Size 2	INNER DOOR-SIZE 2	1SL0252A00
Suitable For Box Size 3	INNER DOOR-SIZE 3	1SL0253A00
Suitable For Box Size 4	INNER DOOR-SIZE 4	1SL0254A00
Suitable For Box Size 5	INNER DOOR-SIZE 5	1SL0255A00
Suitable For Box Size 6	INNER DOOR-SIZE 6	1SL0256A00



Metal Base Plate

Dimensions	Description	Order Code
Suitable For Box Size 1	BLANK METAL BASE PLATE-SIZE 1	1SL0259A00
Suitable For Box Size 2	BLANK METAL BASE PLATE-SIZE 2	1SL0260A00
Suitable For Box Size 3	BLANK METAL BASE PLATE-SIZE 3	1SL0261A00
Suitable For Box Size 4	BLANK METAL BASE PLATE-SIZE 4	1SL0262A00
Suitable For Box Size 5	BLANK METAL BASE PLATE-SIZE 5	1SL0263A00
Suitable For Box Size 6	BLANK METAL BASE PLATE-SIZE 6	1SL0264A00



Accessories

Description	Order Code
SQUARE LOCK	1SL0339A00
LOCK AND HANDLE	1SL0340A00
TRIANGLE LOCK	1SL0341A00
FIXING BRACKETS	1SL0342A00
ANTI-CONDENSATION KIT	1SL0351A00
GEMINI SCREW & INSERT	1SL0397A00
GEMINI KEY	1SL0457A00
KIT FOR PADLOCK	1SL0458A00

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or other markings.

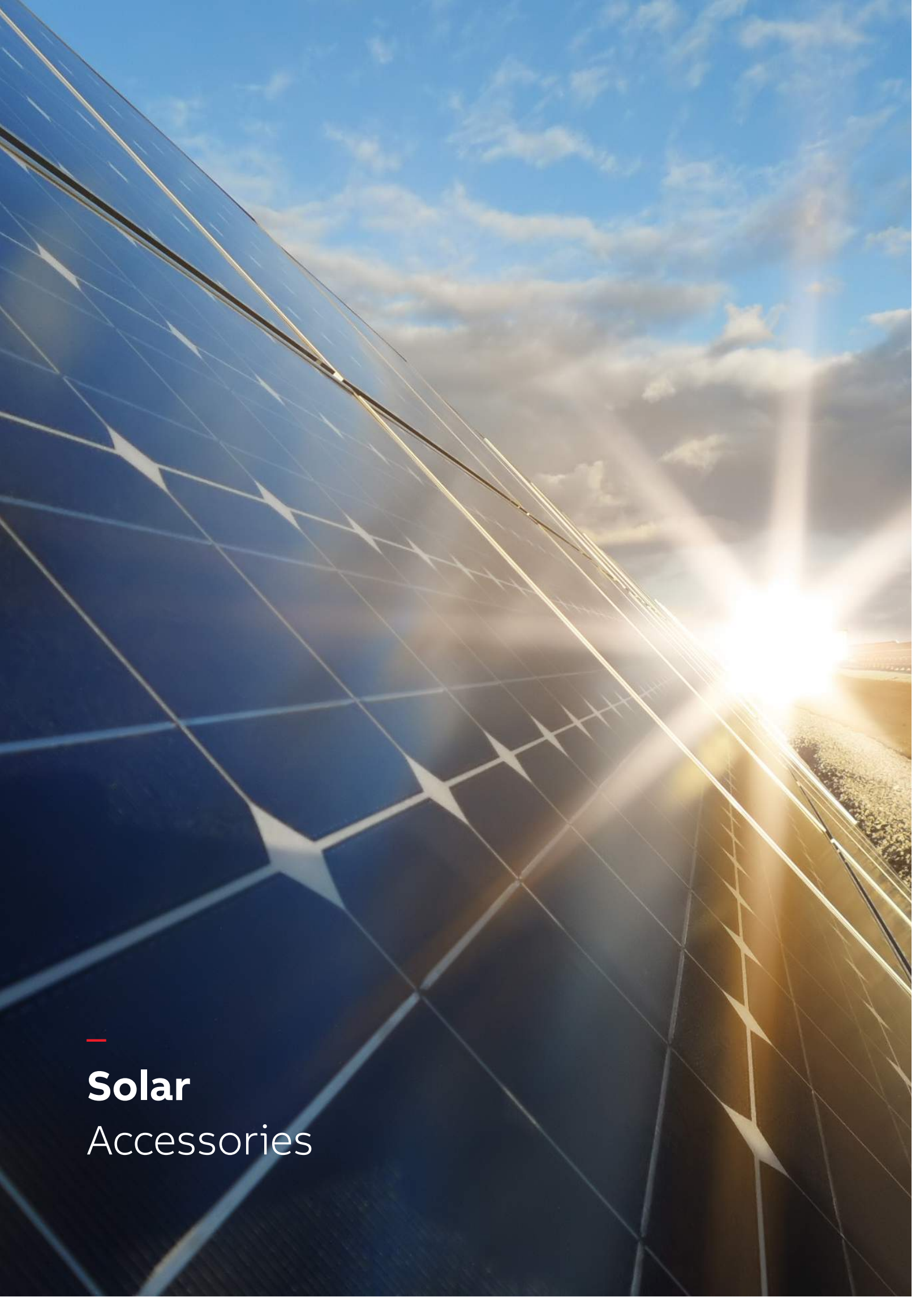


SECTION 6

Solar Accessories

Solar Accessories	
GF contactors for DC switching	6.1
Din Rail Products for Photovoltaic Applications	6.2
Summary Moulded case circuit breakers - 1000V T4-T6	6.3
Moulded case circuit breakers - 1000V T4-T6	6.4
Moulded case circuit breakers - Tmax T4-T5 800VAC	6.5
Automatic Circuit Breakers - Fixed version for power distribution	6.6
Automatic Circuit Breakers - Withdrawable version for power distribution	6.7
Grid feeding monitoring relays	6.8
Switch-disconnectors OTDC and OTDCP	6.9
Fuse switch horizontal	6.10
Fuse switch vertical	6.11
Gemini Enclosure	6.12





Solar
Accessories

Solar Accessories

6.1 GF contactors for DC switching



The renewable energy industry is continuously striving towards increasing its efficiency in order to compete with traditional power sources. Photovoltaic (PV) solar power is one of the sources leading the way. In moving from 1000V DC to 1500 V DC, costs of utility-scale power plants are greatly reduced.

The GF range of contactors expands ABB's current AF and GAF PV solar product offering by adding contactor switching capabilities for 1500 V DC.



Energy Efficiency

GF contactors offer tailored solutions to enable remote, automatic and energy efficient switching of 1500 V DC circuits in central PV inverter optimization. The GF contactors are built with ABB's standard low energy electronic coils for safe and controlled operation.



Continuous operation

The GF contactor features AF technology with continuous voltage and current control during the contactors operation. This ensures distinct, safe and energy efficient operations even in unstable networks. Voltage sags, dips or surges pose no threat. The GF contactor secures application uptime.



Speed up your projects

ABB's GF contactor complies with all major international standards. It features AC/DC controlled wide voltage range coils together with easily accessible coil terminals to make easier and quicker product selection and installation.

Solar Accessories

6.2 Din Rail Products for Photovoltaic Applications



Type	Order Code	Protected lines	Impulse current	Max. discharge current	Nominal current In	Voltage protection	Max. cont. operating voltage (Ucpv)
OVR T1-T2 12.5-275s P QS	2CTB815710R1200	1	12.5	80		1.4	230
Type T1-T2 PV							
OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	1+1	5	30	20	5/5	1500
OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500	1+1	5	30	20	5/6	1500
Type T2 PV - Uc 1000 V DC							
OVR PV T2 40-1000 P	2CTB802400R1000	1+1		40	20	4	1000
OVR PV T2 40-1000 P TS	2CTB802401R1000	1+1		40	20	4	1000
Type T2 PV - Uc 1500 V DC							
OVR PV T2 40-1500 P	2CTB802400R1500	1+1		40	15	5	1500
OVR PV T2 40-1500 P TS	2CTB802401R1500	1+1		40	10	5	1500

Fuse Holders for Photovoltaic Networks (1000V)

Type	Order Code	No. of	Rated	Rated	Fuse	Blown
E 91/32 PV	2CSM204713R1801	1	32	1000VDC	10 x 38	No
E 91/32 PVs	2CSM204693R1801	1	32	1000VDC	10 x 38	Yes
E 92/32 PV	2CSM204703R1801	2	32	1000VDC	10 x 38	No
E 92/32 PVs	2CSM256913R1801	2	32	1000VDC	10 x 38	Yes

E9F PV 1500 V DC 10x85 mm fuses - Photovoltaic Networks

Type	Order Code	No. of	Rated	Rated	Weight 1 pc/kg	Units Per Package
E91/32 PV1500	2CSM205245R1801	1	30	1500VDC	0,09	5

Type	Order Code	Protected lines	Impulse current	Max. discharge current	Nominal current In	Voltage protection	Max. cont. operating voltage (Ucpv)
OVR T1-T2 12.5-275s P QS	2CTB815710R1200	1	12.5	80		1.4	230
Type T1-T2 PV							
OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000	1+1	5	40	20	3.8/3.8	1100
OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	1+1	5	30	20	5/5	1500
OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500	1+1	5	30	20	5/6	1500
Type T2 PV - Uc 1000 V DC							
OVR PV T2 40-1000 P	2CTB802400R1000	1+1		40	20	4	1000
OVR PV T2 40-1000 P TS	2CTB802401R1000	1+1		40	20	4	1000
Type T2 PV - Uc 1500 V DC							
OVR PV T2 40-1500 P	2CTB802400R1500	1+1		40	15	5	1500
OVR PV T2 40-1500 P TS	2CTB802401R1500	1+1		40	10	5	1500

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

Type	Order Code	No. of Poles	Total Width mm	Max discharge current I _{max} 8/20 kA	Impulse current I _{imp} 10/350 kA	Voltage protection level Up kV	Max. continuous operating voltage Ucpv V
ESP DC550/12.5/PV	7TCA085460R0147	2	72	20	12.5	1.7	550
ESP DC1000/12.5/PV	7TCA085460R0146	2	72	20	12.5	2.4	1000



Solar Accessories

6.2 Din Rail Products for Photovoltaic Applications



S800PV-M-H Two Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S802PV-M32-H	2CCP247204R0001	2	32	1
S802PV-M63-H	2CCP247205R0001	2	63	1
S802PV-M100-H	2CCP247212R0001	2	100	1



S800PV-SD Two Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S803PV-SD32	2CCF019635R0001	2	32	1
S803PV-SD63	2CCF019634R0001	2	63	1
S803PV-SD125	2CCF019636R0001	2	125	1



S800PV-SD Three Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S803PV-SD32	2CCF019637R0001	3	32	1
S803PV-SD63	2CCF019638R0001	3	63	1
S803PV-SD125	2CCF019639R0001	3	125	1



S800PV-SD Four Pole photovoltaic switch disconnectors

Type	Order Code	No. of poles	Rated current	Units Per Package
S804PV-SD32	2CCF019640R0001	4	32	1
S804PV-SD63	2CCF019641R0001	4	63	1
S804PV-SD125	2CCF019642R0001	4	125	1

Solar Accessories

6.2 Din Rail Products for Photovoltaic Applications

S800PV series with cage terminal, B characteristic

Function: protection and control of photovoltaic strings against overloads, short-circuits



S800PV-SP Two Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S802PV-SP5*	2CCF019596R0001	2	5	1
S802PV-SP6*	2CCF019643R0001	2	6	1
S802PV-SP8*	2CCF019644R0001	2	8	1
S802PV-SP10*	2CCF019597R0001	2	10	1
S802PV-SP13*	2CCF019598R0001	2	13	1
S802PV-SP16*	2CCF019599R0001	2	16	1
S802PV-SP20*	2CCF019600R0001	2	20	1
S802PV-SP25*	2CCF019601R0001	2	25	1
S802PV-SP32*	2CCF019602R0001	2	32	1
S802PV-SP40*	2CCF019603R0001	2	40	1
S802PV-SP50*	2CCF019604R0001	2	50	1
S802PV-SP63*	2CCF019605R0001	2	63	1
S802PV-SP80*	2CCF019606R0001	2	80	1
S802PV-SP100*	2CCF019607R0001	2	100	1
S802PV-SP125*	2CCF019608R0001	2	125	1



S800PV-SP Three Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S803PV-SP5*	2CCF019609R0001	3	5	1
S803PV-SP6*	2CCF019645R0001	3	6	1
S803PV-SP8*	2CCF019646R0001	3	8	1
S803PV-SP10*	2CCF019610R0001	3	10	1
S803PV-SP13*	2CCF019611R0001	3	13	1
S803PV-SP16*	2CCF019612R0001	3	16	1
S803PV-SP20*	2CCF019613R0001	3	20	1
S803PV-SP25*	2CCF019614R0001	3	25	1
S803PV-SP32*	2CCF019615R0001	3	32	1
S803PV-SP40*	2CCF019616R0001	3	40	1
S803PV-SP50*	2CCF019617R0001	3	50	1
S803PV-SP63*	2CCF019618R0001	3	63	1
S803PV-SP80*	2CCF019619R0001	3	80	1
S803PV-SP100*	2CCF019620R0001	3	100	1
S803PV-SP125*	2CCF019621R0001	3	125	1



S800PV-SP Four Pole MCB Din Rail Mount

Type	Order Code	No. of Poles	Rated Current	Units Per Pack
S804PV-SP5	2CCF019586R0001	4	5	1
S804PV-SP6	2CCF019647R0001	4	6	1
S804PV-SP8	2CCF019648R0001	4	8	1
S804PV-SP10	2CCF019622R0001	4	10	1
S804PV-SP13	2CCF019623R0001	4	13	1
S804PV-SP16	2CCF019624R0001	4	16	1
S804PV-SP20	2CCF019625R0001	4	20	1
S804PV-SP25	2CCF019626R0001	4	25	1
S804PV-SP32	2CCF019627R0001	4	32	1
S804PV-SP40	2CCF019628R0001	4	40	1
S804PV-SP50	2CCF019629R0001	4	50	1
S804PV-SP63	2CCF019630R0001	4	63	1
S804PV-SP80	2CCF019631R0001	4	80	1
S804PV-SP100	2CCF019632R0001	4	100	1
S804PV-SP125	2CCF019633R0001	4	125	1

* Contact ABB for availability

Solar Accessories

6.3 Summary Moulded case circuit breakers - 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
	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 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 terminal
covers
* Ordering extracodes
** Ordering standard
1SDA0 codes

Solar Accessories

6.4 Moulded case circuit breakers - 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.



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
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMD	22-32A	1SDA063410R1
TMD	36-52A	1SDA063411R1
TMA	56-80A	1SDA063412R1
TMA	70-100A	1SDA063413R1
TMA	87-125A	1SDA063414R1
TMA	112-160A	1SDA063415R1
TMA	140-200A	1SDA063416R1
TMA	175-250A	1SDA063417R1

T4 250 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu) - DC Breaker

Thermomagnetic trip unit - TMD and TMA	In	V
		Icu@1000V DC=40kA
TMD*	22-32A	1SDA054497R1
TMD*	35-50A	1SDA054498R1
TMD*	56-80A	1SDA054499R1
TMD*	70-100A	1SDA054500R1
TMD*	87-125A	1SDA054501R1
TMD*	112-160A	1SDA054502R1
TMD*	140-200A	1SDA054503R1
TMD*	175-250A	1SDA054504R1

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
		Icu@1000V AC = 12kA		Icu@1000V AC = 20kA Icu@1150V AC=12kA
PR221DS-LS/I	40-100A	1SDA054505R1	R 13 707,58	1SDA054513R1
PR221DS-LS/I	100-250A	1SDA054509R1	R 15 192,43	1SDA054517R1

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

Electronic trip unit	In	L	Price	V
		Icu@1000V AC = 12kA	Icu@1000V AC = 20kA Icu@1150V AC=12kA	
PR221DS-LS/I*	224-320A	1SDA063477R1	R 18 803,26	1SDA063485R1
PR221DS-LS/I	280-400A	1SDA054535R1	R 20 370,47	1SDA054539R1

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
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMA*	224-320A	1SDA063437R1
TMA*	280-400A	1SDA063438R1





Solar Accessories

6.4 Moulded case circuit breakers - 1000V T4-T6

T5 400 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)		
Thermomagnetic trip unit -TMA	In	V
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMA*	224-320A	1SDA054531R1
TMA*	280-400A	1SDA054532R1
Note: For DC applications only TMA releases are available		

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.

6



T5 630 – Fixed (F) – 3 Poles – Front terminals for copper cables (FC Cu)		
Thermomagnetic trip unit -TMA	In	V
		Icu@1000V AC = 20kA Icu@1150V AC=12kA
TMA	350-500A	1SDA063439R1
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
		Icu@1000V AC = 12kA		Icu@1000V AC = 20kA Icu@1150V AC=12kA
PR221DS-LS/I	252-630A	1SDA054543R1	R 37 402,82	1SDA054547R1
Note: For DC applications only TMA releases are available				

T5 630 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)- DC Breaker		
Thermomagnetic trip unit -TMA	In	V
		Icu@1000V DC=40kA
TMA*	350-500A	1SDA054533R1



T6 630/800 – Fixed (F) – 3 Poles – Front terminals (F)		
Electronic trip unit	In	L
		Icu@1000V AC = 12kA
PR221DS-LS/I*	252-630A	1SDA060319R1
PR221DS-LS/I	320-800A	1SDA060323R1
Note: For DC applications only TMA releases are available		

Solar Accessories

6.5 Moulded case circuit breakers - Tmax T4-T5 800VAC

Circuit-breakers for use up to 800V AC

T4- Fixed (F) - 3 poles - Front terminals (F)

Thermomagnetic trip unit - TMA	In	V
		Icu@800Vac = 25kA
TMA	56-80A	1SDA083658R1
TMA	70-100A	1SDA083659R1
TMA	88-125A	1SDA083660R1
TMA	112-160A	1SDA083661R1
TMA	140-200A	1SDA083662R1
TMA	175-250A	1SDA083663R1

T5- Fixed (F) - 3 poles - Front terminals (F)

Thermomagnetic trip unit - TMA	In	V
		Icu@800Vac = 32kA
TMA	224-320A	1SDA083664R1
TMA	280-400A	1SDA083665R1
TMA	350-500A	1SDA083666R1

T4- Fixed (F) - 4 poles - Front terminals (F)

Thermomagnetic trip unit - TMA	In	V
		Icu@800Vac = 25kA
TMA	56-80A	1SDA083647R1
TMA	70-100A	1SDA083648R1
TMA	88-125A	1SDA083649R1
TMA	112-160A	1SDA083650R1
TMA	140-200A	1SDA083651R1
TMA	175-250A	1SDA083652R1

T5- Fixed (F) - 4 poles - Front terminals (F)

Thermomagnetic trip unit - TMA	In	V
		Icu@800Vac = 32kA
TMA	224-320A	1SDA083653R1
TMA	280-400A	1SDA083654R1
TMA	350-500A	1SDA083655R1

Solar Accessories: Automatic Circuit Breakers

6.6 Fixed version for power distribution

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

Size	Iu	Icu (900 V)	Type	3 Poles	4 Poles
				Code	Code
E2.2S	1250	50	E2.2S/E9 1250 Ekip Touch LSI FHR 900V	1SDA104321R1	1SDA104336R1
			E2.2S/E9 1250 Ekip Tch LSIG FHR 900V	1SDA104319R1	1SDA104334R1
	2000	50	E2.2S/E9 2000 Ekip Touch LSI FHR 900V	1SDA104326R1	1SDA104341R1
			E2.2S/E9 2000 Ekip Tch LSIG FHR 900V	1SDA104324R1	1SDA104339R1
	2500	50	E2.2S/E9 2500 Ekip Touch LSI FHR 900V	1SDA104331R1	1SDA104346R1
			E2.2S/E9 2500 Ekip Tch LSIG FHR 900V	1SDA104329R1	1SDA104344R1
E2.2H	1250	65	E2.2H/E9 1250 Ekip Touch LSI FHR 900V	1SDA104351R1	1SDA104366R1
			E2.2H/E9 1250 Ekip Tch LSIG FHR 900V	1SDA104349R1	1SDA104364R1
	2000	65	E2.2H/E9 2000 Ekip Touch LSI FHR 900V	1SDA104356R1	1SDA104371R1
			E2.2H/E9 2000 Ekip Tch LSIG FHR 900V	1SDA104354R1	1SDA104369R1
	2500	65	E2.2H/E9 2500 Ekip Touch LSI FHR 900V	1SDA104361R1	1SDA104376R1
			E2.2H/E9 2500 Ekip Tch LSIG FHR 900V	1SDA104359R1	1SDA104374R1

Solar Accessories: Automatic Circuit Breakers

6.6 Fixed version for power distribution



SACE Emax E1.2N Orientable rear terminals (HR)					
Size	Iu	Icu (800 V)	Type	3 Poles	4 Poles
				Code	Code
E1.2N	1250	35	E1.2N/E9 1250 Ekip Touch LSI FHR 800V	1SDA104278R1	1SDA104288R1
			E1.2N/E9 1250 Ekip Touch LSIg FHR 800V	1SDA104276R1	1SDA104286R1

Solar Accessories: Automatic Circuit Breakers

6.7 Withdrawable version for power distribution



SACE Emax E1.2N Mobile part of withdrawable circuit-breaker (MP)					
Size	Iu	Icu (800 V)	Type	3 Poles	4 Poles
				Code	Code
E1.2N	1250	35	E1.2N/E9 1250 Ekip Touch LSI 800V	1SDA104298R1	1SDA104308R1
			E1.2N/E9 1250 Ekip Touch LSIg 800V	1SDA104296R1	1SDA104306R1



SACE Emax E2.2S-H Mobile part of withdrawable circuit-breaker (MP)					
Size	Iu	Icu (900 V)	Type	3 Poles	4 Poles
				Code	Code
E2.2S	1250	50	E2.2S/E9 1250 Ekip Touch LSI 900V	1SDA104441R1	1SDA104456R1
			E2.2S/E9 1250 Ekip Tch LSIg 900V	1SDA104439R1	1SDA104454R1
	2000	50	E2.2S/E9 2000 Ekip Touch LSI 900V	1SDA104446R1	1SDA104461R1
			E2.2S/E9 2000 Ekip Tch LSIg 900V	1SDA104444R1	1SDA104459R1
	2500	50	E2.2S/E9 2500 Ekip Touch LSI 900V	1SDA104451R1	1SDA104466R1
E2.2S/E9 2500 Ekip Tch LSIg 900V			1SDA104449R1	1SDA104464R1	
E2.2H	1250	65	E2.2H/E9 1250 Ekip Touch LSI 900V	1SDA104471R1	1SDA104486R1
			E2.2H/E9 1250 Ekip Tch LSIg 900V	1SDA104469R1	1SDA104484R1
	2000	65	E2.2H/E9 2000 Ekip Touch LSI 900V	1SDA104476R1	1SDA104491R1
			E2.2H/E9 2000 Ekip Tch LSIg 900V	1SDA104474R1	1SDA104489R1
	2500	65	E2.2H/E9 2500 Ekip Touch LSI 900V	1SDA104481R1	1SDA104496R1
E2.2H/E9 2500 Ekip Tch LSIg 900V			1SDA104479R1	1SDA104494R1	



Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors					
Fixed Part for E1.2					
Size	Performance	Iu Range	Type of terminal	Type	3 Poles
					Code
E1.2	B, C, N, L	250 – 1600	HR – HR	E1.2 W FP Iu=1600 HR HR	1SDA073907R1



Cradles for Withdrawable Air Circuit Breakers and Switch-disconnectors					
Fixed Part for E2.2					
Size	Performance	Iu Range	Type of terminal	Type	3 Poles
					Code
E2.2	B, N, S, H	250 – 2000	HR – HR	E2.2 W FP Iu=2000 HR HR	1SDA073909R1
	N, S, H	2500	HR – HR	E2.2 W FP Iu=2500 HR HR	1SDA073911R1

Note: Phase separators are mandatory with Emax 2/E9 circuit breakers. For withdrawable version, phase separators have to be ordered as loose part. For fixed version, they are provided as standard.



Solar Accessories

6.8 Grid feeding monitoring relays



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

Characteristics of CM-UFD.M34M

- Rate of change of frequency monitoring (ROCOF)
- Vector shift detection
- Default settings in accordance with the DRRG standard of DEWA
- Modbus RTU communication interface

Ordering details

Rated control supply voltage = measuring voltage	Standard	Type	Order code
24-240 V AC/DC	CEI 0-21: 2014-09 + CEI 0-21, V1: 2014-1	CM-UFD.M22	1SVR560730R3400
24-240 V AC/DC	VDE-AR-N 4105 and BDEW	CM-UFD.M31	1SVR560730R3401
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33	1SVR560730R3402
24-240 V AC/DC	CEI 0-21	CM-UFD.M22M with Modbus RTU	1SVR560731R3700
24-240 V AC/DC	VDE-AR-N 4105	CM-UFD.M31M with Modbus RTU	1SVR560731R3701
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33M with Modbus RTU	1SVR560731R3702
24-240 V AC/DC	DRRG standard of DEWA	CM-UFD.M34M with Modbus RTU	1SVR560731R3703

■ Prices on request (POR). Please contact ABB.

Switch-disconnectors OTDC and OTDCP

6.9 Front operated switch-disconnectors, IEC



OTDC100...250E11

Single circuit, 1000 VDC, IEC - 100...250 A

No. of poles	Rated operat. current [A] DC 21 / 1000 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	100	OTDC100E11	1SCA125821R1001
2	160	OTDC160E11	1SCA123745R1001
2	200	OTDC200E11	1SCA125626R1001
2	250	OTDC250E11	1SCA125865R1001



OTDC315...800F11

Single circuit, 1000 VDC, IEC - 315...800 A

No. of poles	Rated operat. current [A] PV2 / 1000 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	315	OTDC315F11	1SCA158172R1001
2	400	OTDC400F11	1SCA158196R1001
2	500	OTDC500F11	1SCA158220R1001
2	630	OTDC630F11	1SCA158244R1001
2	800	OTDC800F11	1SCA158853R1001



OTDC315...800FV11

Single circuit, 1500 VDC, IEC - 315...800 A

No. of poles	Rated operat. current [A] PV2 / 1500 V	Type	Order number
Front operated, mechanism between the poles. OTDC_EPP types include pre-mounted connection bars.			
2	315	OTDC315FV11	1SCA158178R1001
2	400	OTDC400FV11	1SCA158202R1001
2	500	OTDC500FV11	1SCA158226R1001
2	630	OTDC630FV11	1SCA158250R1001
2	800	OTDC800FV11	1SCA158856R1001

Recommended handles and shafts

Suitable for switches	Mounting	Type	Order number
OTDC100...250	Direct mount handle	OTDV250EK	1SCA127390R1001
OTDC315...800	Direct mount handle	OTDV400EK	1SCA130579R1001
OTDC100...250	Door mount handle	OHB65J6*	1SCA022380R9660
OTDC100...250	Shaft	EXP6X210*	1SCA022295R6080
OTDC315...800	Door mount handle	OHB95J12*	1SCA022381R0830
OTDC315...800	Shaft	EXP12X185*	1SCA022325R6710

Fuse Switch XLP

6.10 Fuse switch horizontal



Fuse Switch XLP - 1 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	1	XLP00-1P-2M8	1SEP600113R0003
250	1	1	XLP1-1P-M10	1SEP600116R0003
400	2	1	XLP2-1P	1SEP600122R0001
630	3	1	XLP3-1P	1SEP600126R0001



Fuse Switch XLP - 2 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	2	XLP00-2P-4M8	1SEP600114R0003
250	1	2	XLP1-2P-4M8	1SEP600117R0003
400	2	2	XLP2-2P	1SEP600123R0001
630	3	2	XLP3-2P	1SEP600127R0001



Fuse Switch XLP - 3 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	3	XLP00-6M8	1SEP101890R0004
250	1	3	XLP1-6M10	1SEP101891R0004
400	2	3	XLP2	1SEP101892R0001
630	3	3	XLP3	1SEP101975R0001



Fuse Switch XLP - 4 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	4	XLP00-4P-8M8	1SEP600115R0003
250	1	4	XLP1-4P-8M8	1SEP600119R0003
400	2	4	XLP2-4P	1SEP600124R0001
630	3	4	XLP3-4P	1SEP600128R0001



Fuse Switch ZLBM

6.11 Fuse switch vertical



Fuse Switch ZLBM - 3 Pole

Rated op. current AC-20...23A ≤ 690V [A]	Fuse size	No. of poles	Type	Order number
160	00	3	ZLBM00-3P-M8	1SEP620010R3000
250	1	3	ZLBM1-3P-M12	1SEP620011R3000
400	2	3	ZLBM2-3P-M12	1SEP620012R3000
630	3	3	ZLBM3-3P-M12	1SEP620013R3000
800	2	3	ZLBM800A-3P-M12	1SEP620014R3000
1250	3	3	ZLBM1250A-3P-M12	1SEP620015R3000

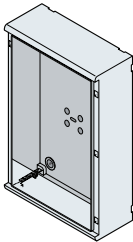
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InLine II in proE power switchboard

Solar Accessories

6.12 Gemini Enclosure



Enclosure Box without door

Dimensions			Description	Order Code
H	W	D		
400	335	210	BOX-SIZE 1	1SL0221A00
550	460	260	BOX-SIZE 2	1SL0222A00
700	460	260	BOX-SIZE 3	1SL0223A00
700	580	260	BOX-SIZE 4	1SL0224A00
885	585	360	BOX-SIZE 5	1SL0225A00
1005	840	360	BOX-SIZE 6	1SL0226A00

Transparent Door

Dimensions	Description	Order Code
Suitable For Box Size 1	TRANSPARENT DOOR-SIZE	1SL0241A00
Suitable For Box Size 2		1SL0242A00
Suitable For Box Size 3		1SL0243A00
Suitable For Box Size 4		1SL0244A00
Suitable For Box Size 5		1SL0245A00
Suitable For Box Size 6		1SL0246A00

Solid Door

Dimensions	Description	Order Code
Suitable For Box Size 1	OPAQUE DOOR-SIZE	1SL0231A00
Suitable For Box Size 2		1SL0232A00
Suitable For Box Size 3		1SL0233A00
Suitable For Box Size 4		1SL0234A00
Suitable For Box Size 5		1SL0235A00
Suitable For Box Size 6		1SL0236A00

Uprights for Din Kit

Dimensions	Description	Order Code
Suitable For Box Size 1	UPRIGHTS-SIZE 1	1SL0283A00
Suitable For Box Size 2	UPRIGHTS-SIZE 2	1SL0284A00
Suitable For Box Size 3 and 4	UPRIGHTS-SIZE 3-4	1SL0285A00
Suitable For Box Size 5	UPRIGHTS-SIZE 5	1SL0286A00
Suitable For Box Size 6	UPRIGHTS-SIZE 6	1SL0287A00

Din Rail Kit, Din cutout and Din Rail

Dimensions	Description	Order Code
Suitable For Box Size 1	Din Rail Kit H150 mm	1SL0307A00
Suitable For Box Size 2 and 3	Din Rail Kit H150 mm	1SL0308A00
Suitable For Box Size 4 and 5	Din Rail Kit H150 mm	1SL0309A00
Suitable For Box Size 6	Din Rail Kit H150 mm	1SL0310A00

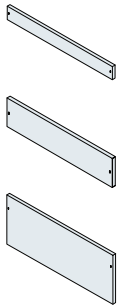
Blank hinged Panel

Dimensions	Description	Order Code
Suitable For Box Size 1	Blank Panel H=75mm	1SL0318A00
Suitable For Box Size 2 and 3		1SL0319A00
Suitable For Box Size 4 and 5		1SL0320A00
Suitable For Box Size 6		1SL0321A00



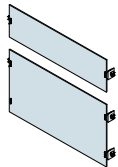
Solar Accessories

6.12 Gemini Enclosure



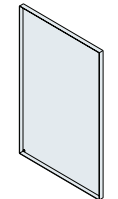
Blank hinged Panel (continued)

Dimensions	Description	Order Code
Suitable For Box Size 1	Blank Panel H=150mm	1SL0324A00
Suitable For Box Size 2 and 3		1SL0325A00
Suitable For Box Size 4 and 5		1SL0326A00
Suitable For Box Size 6		1SL0327A00
Suitable For Box Size 1	Blank Panel H=300mm	1SL0330A00
Suitable For Box Size 2 and 3		1SL0331A00
Suitable For Box Size 4 and 5		1SL0332A00
Suitable For Box Size 6		1SL0333A00



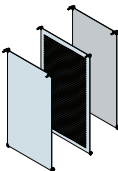
Mounting Plate

Dimensions	Description	Order Code
Suitable For Box Size 1	Mounting plate H=150mm	1SL0296A00
Suitable For Box Size 2 and 3		1SL0297A00
Suitable For Box Size 4 and 5		1SL0298A00
Suitable For Box Size 6		1SL0299A00
Suitable For Box Size 2 and 3	Mounting plate H=300mm	1SL0302A00
Suitable For Box Size 4 and 5		1SL0303A00
Suitable For Box Size 6		1SL0304A00



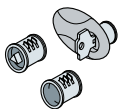
Inner Door

Dimensions	Description	Order Code
Suitable For Box Size 1	INNER DOOR SIZE 1	1SL0251A00
Suitable For Box Size 2	INNER DOOR-SIZE 2	1SL0252A00
Suitable For Box Size 3	INNER DOOR-SIZE 3	1SL0253A00
Suitable For Box Size 4	INNER DOOR-SIZE 4	1SL0254A00
Suitable For Box Size 5	INNER DOOR-SIZE 5	1SL0255A00
Suitable For Box Size 6	INNER DOOR-SIZE 6	1SL0256A00



Metal Base Plate

Dimensions	Description	Order Code
Suitable For Box Size 1	BLANK METAL BASE PLATE-SIZE 1	1SL0259A00
Suitable For Box Size 2	BLANK METAL BASE PLATE-SIZE 2	1SL0260A00
Suitable For Box Size 3	BLANK METAL BASE PLATE-SIZE 3	1SL0261A00
Suitable For Box Size 4	BLANK METAL BASE PLATE-SIZE 4	1SL0262A00
Suitable For Box Size 5	BLANK METAL BASE PLATE-SIZE 5	1SL0263A00
Suitable For Box Size 6	BLANK METAL BASE PLATE-SIZE 6	1SL0264A00



Accessories

Description	Order Code
SQUARE LOCK	1SL0339A00
LOCK AND HANDLE	1SL0340A00
TRIANGLE LOCK	1SL0341A00
FIXING BRACKETS	1SL0342A00
ANTI-CONDENSATION KIT	1SL0351A00
GEMINI SCREW & INSERT	1SL0397A00
GEMINI KEY	1SL0457A00
KIT FOR PADLOCK	1SL0458A00

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are 20 columns and 20 rows of squares, creating a total area of 400 small squares. The background is white, and the grid lines are light gray. There are no margins, text, or other markings on the page.



SECTION 7

Uninterruptible Power Supplies
and Low Voltage Power Conditioning

Commercial UPS Systems

Standalone Systems

PowerValue 11T G2 1-10 kVA	7.1
PowerValue 11 RT	7.2
PowerValue 11 / 31 T	7.3
PowerScale 33 10-50 kVA	7.4
PowerWave 33	7.5

Modular Systems

DPA UPScale RI 10–80 kW	7.6
DPA UPScale ST 10 – 200 kW	7.7
DPA 250 S4	7.8
Conceptpower DPA 500	7.9

Industrial UPS Systems

PowerLine DPA	7.10
HiPerGuard MV	7.11
PCS100 UPS-I	7.12

Active Voltage Conditioners

PCS100 AVC-20	7.13
PCS100 AVC-40	7.14

Static Frequency Converters

PCS100 SFC	7.15
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UPS Systems - Stand-alone

7.1 PowerValue 11T G2 1-10 kVA



The PowerValue 11T G2 with its cost-effective ABB UPS technology makes a high-performance and is now available to market sectors with lower power requirements: Small server rooms, critical lab or industrial equipment, security installations and applications of a similar power class can now profit from one of 12 PowerValue 11T G2 models.

With the most compact online UPS footprint available, the PowerValue 11T G2 features true on-line double conversion. This provides a flexible output frequency and isolates the UPS from upstream disturbances so that the critical load sees only stable, well-regulated, transient-free, pure sine wave AC power.

A rated output power factor up to 1.0 (kVA = kW) means the PowerValue 11T G2 delivers 11 percent more active power than a UPS with a power factor of 0.9. The UPS is optimized for modern IT loads and helps users reduce their energy budget

with its double conversion efficiency of up to 95 percent (up to 98% in ECO mode).

- Low input line disturbances: input PF $\geq$ 0.995 @ 100 percent linear load – THDi < 3 percent
- Flexible configuration for scalable runtime: UPS and EBMs with and without batteries (long backup)
- Adjustable DC voltage and battery charger current
- Digital charger technology provides accurate charger current setting and reduces charger ripple current
- The UPS is delivered with an inbuilt parallel board and paralleling cables. No additional hardware is required for this installation.

All this with the same guaranteed high availability and quality standards as ABB's higher-power premium UPS models - and at the most attractive entry level price around.

Battery runtime at full nominal load

Model	Internal batteries	EBM	UPS	UPS + 1 EBM	UPS + 2 EBM	UPS + 3 EBM	UPS + 4 EBM
G2 1 kVA B	1 x 2 x 9.4 Ah	3 x 2 x 9 Ah	5	23	52	85	120
G2 1 kVA S	No	3 x 2 x 9 Ah	-	17	48	70	100
G2 2 kVA B	1 x 4 x 9.4 Ah	3 x 4 x 9 Ah	5.5	25	55	90	125
G2 2 kVA S	No	3 x 4 x 9 Ah	-	18	50	80	110
G2 3 kVA B	1 x 6 x 9.4 Ah	2 x 6 x 9 Ah	5.5	16.5	35	55	80
G2 3 kVA S	No	2 x 6 x 9 Ah	-	10.5	28	50	70
G2 6 kVA B	1 x 16 x 7.2 Ah	2 x 16 x 9 Ah	4	18	41	68	99
G2 6 kVA B2	1 x 20 x 7.2 Ah	2 x 20 x 9 Ah	5.5	25	55.5	92.5	134
G2 6 kVA S	No	2 x 20 x 9 Ah	-	18	49	88	133
G2 10 kVA B	1 x 16 x 9 Ah	2 x 16 x 9 Ah	3	12	25	39	55.5
G2 10 kVA B2	1 x 20 x 9 Ah	2 x 20 x 9 Ah	4	17	34	53	75
G2 10 kVA S	No	2 x 20 x 9 Ah	-	9	24	42.5	64

in minutes at full load

UPS Systems - Stand-alone

7.1 PowerValue 11T G2 1-10 kVA

GENERAL DATA	G2 1kVA B/ S	G2 2kVA B/ S	G2 3kVA B/ S	G2 6kVA B/ B2 / S	G2 10kVA B/ B2 / S
Output rated power	900 W	1'800W	2'400W	6'000W	10'000W
Output power factor	0.9	0.9	0.9	1.0	1.0
Topology	Online double conversion				
Parallel configuration	No	No	No	Yes, up to 3 UPS	Yes, up to 3 UPS
Inbuilt batteries	Yes/No	Yes/No	Yes/No	Yes/Yes/No	Yes/Yes/No
INPUT					
Nominal input voltage	220/230/240 VAC			208/220/230/240 VAC	
Input voltage tolerance	100-300 VAC (load dependent)			100-276 (load dependent)	
Input current THDi	5% with full resistive load			<3% with full resistive load	
Frequency range	45-55 Hz / 54-66 Hz			45-55Hz / 54-66Hz (extendable to 40~70HZ at load < 60%)	
Power factor	≥0.99			≥0.995	
OUTPUT					
Rated output voltage	220/230/240 VAC			208/220/230/240 VAC	
Voltage tolerance	±1% (referred to 230V)				
Voltage distortion	<2% linear load, <6% non linear load			<1% linear load, <5% non linear load	
Overload capacity (linear load) on inverter	60s: 106-130% load 10s: 131-150% load 300ms: ≥ 150% load			10m: 102-125% load 30s: 126 to 150% load 500 ms: ≥ 150% load	
Nominal frequency	50 or 60 Hz				
Crest factor	3:1 (load supported)				
EFFICIENCY					
Overall system efficiency	Up to 89%	Up to 91%	Up to 91%	Up to 95%	
In eco-mode	Up to 97.5%	Up to 98%	Up to 98%	Up to 98%	
ENVIRONMENT					
Protection rating	IP20				
Storage temperature	UPS: -25°C to 60°C; Batteries: 0°C to 35°C				
Operating temperature	0°C to 40°C			0°-40°C (up to 50°C at 50% load)	
Relative humidity	0% to 95%				
Altitude (above sea level)	1000m without derating				
BATTERIES					
Type	VRLA (valve regulated lead-acid)				
Inbuilt batteries	2x9.4 Ah (B)	4x9.4Ah(B)	6x9.4Ah(B)	16x9Ah(B) 20x9Ah (B2)	16x9Ah(B) 20x9Ah (B2)
Charging current	1.5A/3-6A adjustable	1.5A/1.5-6A adjustable	1.5A/1.5-6A adjustable	0-4A adjustable (B,B2) 0-12 adjustable (S)	
Recharge time (inbuilt batteries)	4h to 90%				
COMMUNICATIONS					
User interface	LCD display				
Optional communication cards	SNMP;ModBus;AS400;Environmental monitoring sensor probe				
STANDARDS					
Safety	IEC/EN 62040-1				
EMC	IEC/EN 62040-2				
Performance	IEC/EN 62040-3				
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS 18001				
WEIGHT, DIMENSIONS					
Weight	9.2/3.9 Kg	17.4/6.4 Kg	22.7/6.4 Kg	53/63/13 Kg	55.2/65.2/15.2 Kg
Dimensions w x h x d	144x228x356 mm 102x228x346mm	190x327x399 mm 102x327x390 mm	190x327x399 mm 102x327x390 mm	B / B2: 225 x 589x 452 mm S: 225x 348 x 452 mm	B / B2: 225 x 589x 452 mm S: 225x 348 x 452 mm

UPS Systems - Stand-alone

7.2 PowerValue 11 RT



High reliability

- Reliable double conversion topology protects load from all input disturbances
- Batteries can be added or replaced easily
- Reduced recovery time from discharge
- Redundant parallel operation available (6 and 10kVA units)

Low cost of ownership

- Scalable runtime
- High operating efficiency, regardless of loading
- Reduced installation and upgrading costs
- Compact design

Flexible design

- Configurable in tower or rack-mount format
- Rotatable display
- UPS can be connected with up to four parallel battery modules for extended runtime
- Long backup models available
- Full set of accessories and connectivity options

Efficient service concept

- Manually operated maintenance bypass switch (optional)
- Easy set up and maintenance (plug and play)
- User-friendly display
- Hot swap user-replaceable batteries

Battery runtime at full / half nominal load

	1kVA B		1kVA S		2kVA B		2kVA S		3kVA B		3kVA S		G2 6kVA		G2 10kVA	
	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%
UPS	<4	8	n.a.	n.a.	4	11	n.a.	n.a.	4	11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
UPS+1EBM	16	40	6	22	12	29	<5	11	13	31	<5	10	7	18	3	9
UPS+2EBM	32	76	22	62	22	54	11	34	23	56	10	34	18	49	9	24
UPS+3EBM	52	119	40	112	32	78	22	62	35	82	21	61	33	88	16	42,5
UPS+4EBM	68	166	62	160	45	105	34	99	49	111	33	98	49	133	24	64

UPS Systems - Stand-alone

7.2 PowerValue 11 RT

GENERAL DATA	1kVA B/ S	2kVA B/ S	3kVA B/ S	G2 6kVA	G2 10kVA
Output rated power	900 W	1'800W	2'400W	6'000W	10'000W
Output power factor	0.9	0.9	0.9	1.0	1.0
Topology	Online double conversion				
Parallel configuration	No	No	No	Yes, up to 3 UPS	Yes, up to 3 UPS
Inbuilt batteries	Yes/No	Yes/No	Yes/No	No	No
INPUT					
Nominal input voltage	208/220/230/240 VAC				
Input voltage tolerance	120-276 VAC (load dependent)			100-276 (load dependent)	
Input current THDi	<5% with full resistive load			<3% with full resistive load	
Frequency range	45-55 Hz / 54-66 Hz			45-55Hz / 54-66Hz (extendable to 40~70HZ at load < 60%)	
Power factor	≥0.99			≥0.995	
OUTPUT					
Rated output voltage	208/220/230/240 VAC				
Voltage tolerance	±1% (referred to 230V)				
Voltage distortion	≤2% linear load, ≤5% non linear load			<1% linear load, <5% non linear load	
Overload capacity (linear load) on inverter	12s: 102-129% load 1.5s: 130-150% load 100ms: ≥ 150% load			10m: 102-125% load 30s: 126 to 150% load 500 ms: ≥ 150% load	
Nominal frequency	50 or 60 Hz				
Crest factor	3:1 (load supported)				
EFFICIENCY					
Overall system efficiency	Up to 93%			Up to 95%	
In eco-mode	Up to 95%			Up to 98%	
ENVIRONMENT					
Protection rating	IP20				
Storage temperature	UPS: -25°C to 60°C; Batteries: 0°C to 35°C				
Operating temperature	0°C to 40°C				
Relative humidity	0% to 95%				
Altitude (above sea level)	1000m without derating				
BATTERIES					
Type	VRLA (valve regulated lead-acid)				
Inbuilt batteries	3x7.2 Ah (B)	4x9Ah(B)	6x9Ah(B)	-	-
Charging current	1.5A/6A	1.5A/6A	1.5A/6A	0-12 A adjustable	
Recharge time (inbuilt batteries)	3h to 90%				
COMMUNICATIONS					
User interface	LCD display				
Optional communication cards	SNMP;ModBus;AS400;Environmental monitoring sensor probe				
STANDARDS					
Safety	IEC/EN 62040-1				
EMC	IEC/EN 62040-2				
Performance	IEC/EN 62040-3				
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS 18001				
WEIGHT, DIMENSIONS					
Weight	16.2/8.4 Kg	19.7/9.3 Kg	28.6/13 Kg	13.6 Kg	15.5 Kg
Dimensions w x h x d	438x86.5(2U) x436mm	438x86.5(2U) x436mm	438x86.5(2U) x608mm	438x86(2U) x573 mm	438x86(2U) x573 mm

UPS Systems - Stand-alone

7.3 PowerValue 11 / 31 T



High reliability

- Online double conversion topology
- Parallelable up to four units to provide system redundancy
- Programmed and automated battery tests ensure optimized battery management

Low cost of ownership

- Simple power increase by paralleling up to four units
- High operating efficiency, regardless of loading
- Reduced installation costs
- Compact design

Flexible design

- Different autonomy variations with inbuilt batteries or additional battery cabinets
- Long backup models available
- Single- or three-phase input – adaptable to installation requirements (field configurable)
- Single- or dual-input power source compatible (field configurable)

Efficient service concept

- Integrated manual bypass switch
- Easy to install and maintain
- User-friendly display
- User-replaceable batteries
- Remote monitoring and connectivity options

Battery runtime at full /half nominal load

	10kVA		10kVA S		10kVA B		10kVA B2		20kVA		20kVA S		20kVA B	
	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%	50%
UPS internal battery	–	–	–	–	4	12	12	30	–	–	–	–	4	12
UPS + 1xEBM	30	69	30	69	39	87	49	109	12	29	12	29	21	49
UPS + 2xEBM	69	151	69	151	79	176	87	208	29	69	29	69	39	97

in minutes at full /half load

Battery cabinet	Batteries
EBM 11/31T	4 × 24 × 9 Ah

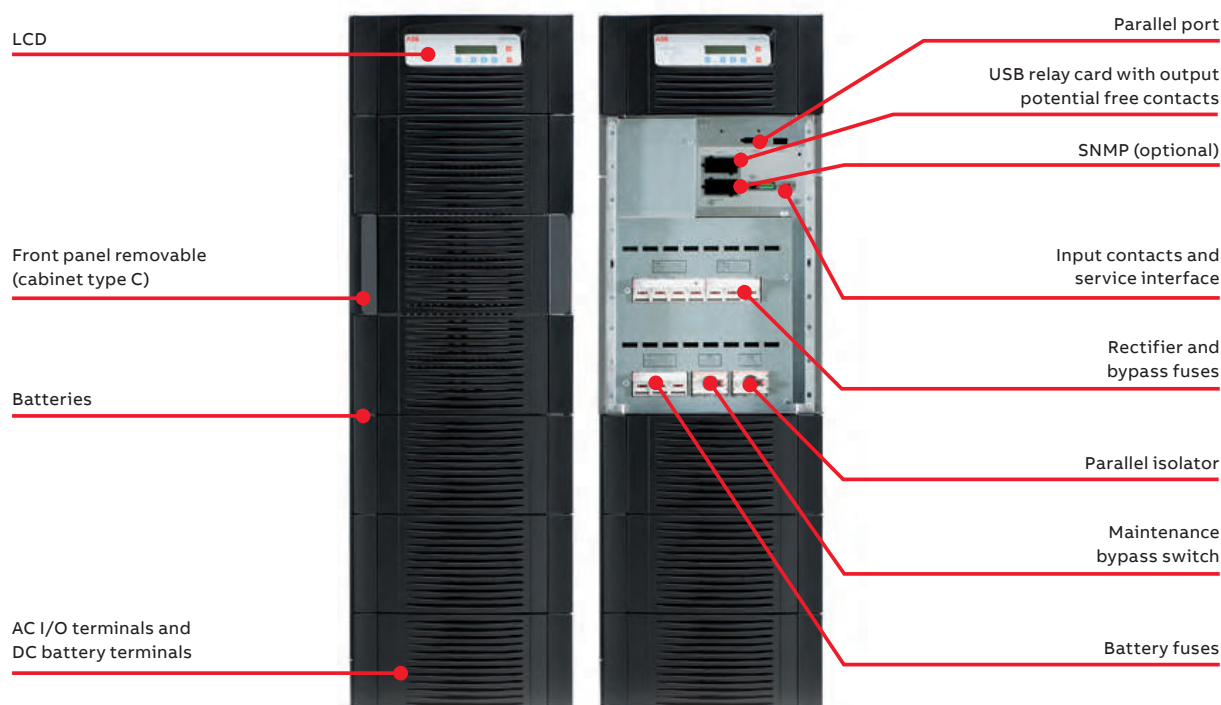
UPS Systems - Stand-alone

7.3 PowerValue 11 / 31 T

General data	10kVA	10kVA S	10kVA B	10kVA B2	20kVA	20kVA S	20kVA B
Output rated power				9kW			18kW
Output power factor				0.9			
Topology				Online double conversion			
Parallel configuration				Up to 4 units			
Inbuilt batteries	No	No	Yes	Yes	No	No	Yes
Input							
Nominal input voltage						1 ph + N: 220 / 230 / 240VAC 3 ph + N: 380 / 400 / 415VAC	
Input voltage tolerance						1 ph + N: 110–276VAC 3 ph + N: 190–486VAC	
Input current THDi						<5% linear load, <7% non linear load	
Frequency range					45–55 Hz for 50 Hz systems / 55–65 Hz for 60 Hz system		
Power factor							≥0.99
Output							
Rated output voltage						220 / 230 / 240VAC	
Voltage tolerance							±2%
Voltage distortion						≤2% linear load, ≤5% non linear load	
Overload capability (linear load)						1 min: 110–130% / 5 min: 105–110% 100ms: >150% / 10s: 130–150%	
Nominal frequency							50Hz or 60Hz
Crest factor							3:1 (load supported)
Efficiency							
Overall efficiency				Up to 93.1%			Up to 93.9%
In eco-mode							≥97%
Environment							
Protection rating							IP20
Storage temperature					–15 °C to +60 °C for UPS, 0 °C to approx. +35 °C for battery		
Operating temperature							0 °C to +40 °C
Relative humidity						0% to 95% (Non-condensing)	
Altitude (above sea level)						1000m without derating	
Battery							
Type						VRLA (vented lead-acid)	
Inbuilt batteries	–	–	1× 24	2× 24	–	–	2× 24
Battery capacity	–	–	9Ah	9Ah	–	–	9Ah
Charging current	4A	8A	4A	4A	4A	8A	4A
Recharge time	–	–	3h to 90%	8h to 90%	–	–	8h to 90%
Communications							
User interface							LCD
Communication cards (option)					Network interface (SNMP card), dry-contact card (AS400)		
Standards							
Safety							IEC / EN 62040-1
EMC							IEC / EN 62040-2
Performance							IEC / EN 62040-3
Manufacturing					ISO 9001:2015, ISO 14001:2015, OHSAS18001		
Weight, dimensions							
Weight	56kg	65kg	116kg	178kg	67kg	68kg	190kg
Dimensions w × h × d	350 × 890 × 715mm	350 × 890 × 715mm	350 × 890 × 715mm	350 × 890 × 715mm	350 × 890 × 715mm	350 × 890 × 715mm	350 × 890 × 715mm

UPS Systems - Stand-alone

7.4 PowerScale 33 10-50 kVA



PowerScale is an online, double-conversion, VFI (voltage frequency independent) UPS that provides enhanced power protection in a compact format. Its outstanding price / performance delivers the best value for money in its category with

uncompromised system reliability and power availability. PowerScale is available in three cabinet sizes, enabling you to choose the ideal capacity and required autonomy for your critical load.

High reliability

- Online double conversion technology
- Parallelable systems for increased redundancy

Low cost of ownership

- Scalable power and autonomy time
- Small footprint / high power density
- High efficiency at partial and rated loads (up to 95.5%)
- Reduced installation costs
- Ripple-free and temperature controlled battery chargers extend battery life time performance
- Low input harmonic distortion (THDi <3%)

Flexible design

- Available in seven power ratings and three cabinet sizes
- Parallel capacity up to 20 units
- External battery cabinets for extended autonomy

Efficient service concept

- Manually operated maintenance bypass switch
- User-friendly LCD
- Ergonomic design for easy serviceability
- Remote monitoring and connectivity options

UPS Systems - Stand-alone

7.4 PowerScale 33 10-50 kVA

General data	10kVA	15kVA	20kVA	25kVA	30kVA	40kVA	50kVA
Output power max.	9kW	13.5kW	18kW	22.5kW	27kW	36kW	45kW
Output power factor	0.9						
Topology	Online double conversion						
Parallel configuration	Up to 20 units in parallel configuration						
UPS type	Standalone						
Inbuilt batteries	Yes (model dependent)						
Input							
Nominal input voltage	3×380V/220V+N, 3×400V/230V+N, 3×415V/240V+N						
Voltage tolerance (referred to ×400V/230V)	For loads <100% (-10%, +15%), <80% (-20%, +15%), <60% (-30%, +15%)						
Input distortion THDi	≤3 at 100% (sine wave)						
Frequency	35–70Hz						
Power factor	0.99 at 100% load						
Output							
Rated output voltage	3×380V/220V+N, 3×400V/230V+N, 3×415V/240V+N						
Voltage tolerance (referred to ×400V/230V)	1% (static), 4% (dynamic)						
Voltage distortion	<2% linear load, <4% non linear load (IEC/EN62040-3)						
Frequency	50Hz or 60Hz						
Overload capability	5 min.:110 % or 20 sec.: 125 % (10 kVA - 25 kVA); 10 min.: 110 % or 1 min.: 125 % (30 kVA - 50 kVA)						
Unbalanced load	100% (all three phases regulated independently)						
Crest factor	3:1 (load supported)						
Efficiency							
Overall efficiency	Up to 95.5%						
In eco-mode configuration	98%						
Environment							
Storage temperature	–25°C to +70°C						
Operating temperature	0°C to +40°C						
Altitude	1000m without derating						
Battery							
Battery type	7 Ah/8Ah, sealed, lead-acid, maintenance-free, 6-9 years design lifetime						
Battery replacement	Field-replaceable						
Battery voltage	Flexible voltage for longer backup times						
Max battery capacity	48 or 96×7/8Ah	48 or 96×7/8Ah	48 or 96×7/8Ah	96 or 144×7/8Ah	144×7/8Ah	144×7/8Ah	144×7/8Ah
Communications							
LCD	Yes (per module)						
LEDs	LED for notification and alarm						
Communication ports	RS-232, SNMP slot, USB and potential-free contacts						
Standards							
Safety	IEC/EN 62040-1						
Electromagnetic compatibility (EMC)	IEC/EN 62040-2						
Performance	IEC/EN 62040-3						
Product certification	CE						
Protection rating	IP 20						
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001						
Weight, dimensions							
Cabinet type	A or B	A or B	A or B	B or C	C	C	C
Weight	48 (cab A) - 68 (cab B)	48 (cab A) - 68 (cab B)	48 (cab A) - 68 (cab B)	68 (cab B) - 177 (cab C)	177 kg	177 kg	177 kg
Dimensions w×h×d (mm)	345×720×710 or 345×1045×710	345×720×710 or 345×1045×710	345×720×710 or 345×1045×710	345×1045×710 or 440×1400×910	440×1400×910	440×1400×910	440×1400×910

UPS Systems - Stand-alone

7.5 PowerWave 33



96 %
AC-AC efficiency

1.0
Output power factor

Fully scalable
up to 5 MW

ABB has always set global standards in uninterruptible-power-supply solutions. The latest generation of PowerWave 33 is the continuation of ABB's renowned tradition of developing state-of-the-art UPS systems, focusing on delivering the best combination of energy-efficiency and overall power performance in the industry.

Offering maximum power protection, the PowerWave 33 helps you to use less energy and takes up less space, resulting in significant cost savings.

The PowerWave 33's exceptional design meets all modern requirements of building and operating energy-efficient and environmentally friendly data centers. The PowerWave 33 employs transformerless double conversion UPS topology and is available from 60 to 500 kVA.

The PowerWave 33 boasts features and options that cater to customers' needs, including the flexibility to accommodate an increase in power requirements and to provide n+1 parallel redundancy. Easy installation and maintenance form the basis of the core design for this standalone UPS system with front access to electrical connections and fully serviceable components.

Further highlights

- Up to 96 % efficiency in double conversion mode minimizes running costs
- Maximized output active power (kVA = kW)
- Excellent input performance minimizes installation costs
- Power density up to 363 kW / m2 minimizes space requirements
- Full front access maximizes system serviceability

UPS Systems - Stand-alone

7.5 PowerWave 33

GENERAL DATA	60 kW	80 kW	100 kW	120 kW	160 kW	200 kW	250 kW	300 kW	400 kW	500 kW
Output power max.	60 kW	80 kW	100 kW	120 kW	160 kW	200 kW	250 kW	300 kW	400 kW	500 kW
Output power factor	1.0									
Topology	True online double conversion									
Parallel configuration	Up to 10 units									
UPS type	Standalone									
Cable entry	Bottom front							Bottom front or top		
Inbuilt batteries	Optional									
INPUT										
Nominal input voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N									
Voltage tolerance (Ref. to 3 x 400 / 230 V)	For loads <100 % (-23 %, + 15 %), <80 %)-30 %, + 15%), <60 % (-40 %, + 15 %)									
Input distortion THDI	≤ 3.5% at 100%									
Frequency	35–70 Hz									
Power factor	0.99 at 100% load									
OUTPUT										
Rated output voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N									
Voltage distortion	< 2%									
Frequency	50 or 60 Hz									
Overload capability	10 min.: up to 125 % or 1 min.: up to 150 %									
Unbalanced load	100 % possible									
Crest factor	3 : 1									
EFFICIENCY										
Overall efficiency	Up to 96 %									
In eco-mode configuration	98 %									
Environment										
Storage temperature	–25–70 °C									
Operating temperature	0–40 °C									
Altitude configuration	100 m without derating									
BATTERY										
Battery type	Sealed, lead-acid, maintenance-free or NiCd									
COMMUNICATIONS										
LCD display	Yes									
LEDs	LED for notification and alarm									
Communication ports	USB, RS-232, SNMP slot, potential-free contacts									
STANDARDS										
Safety	IEC / EN 62040-1-1, IEC / EN 60950-1									
Electromagnetic	IEC / EN 62040-2, IEC / EN 61000-3-2									
compatibility (EMC)	IEC / EN 61000-3-3, IEC / EN 61000-6-2									
Performance	IEC / EN 62040-3									
Product certification	CE									
Protection rating	IP 20									
Manufacturing	ISO 9001:2008, ISO 14001:2004									
WEIGHT DIMENSIONS										
Weight (without batteries)	230 Kg	240 Kg	245 Kg	280 Kg	290 Kg	310 Kg	390 Kg	410 Kg	950 Kg	1000 Kg
Dimensions W x H x D (mm)	550 x 1820 x 750			850 x 1820 x 750			1100 x 1920 x 750		1650 x 1994 x 850	
Dimensions with battery	970 (or 1180) x 1820 x 750			-			-		-	
Enclosures W x H x D (mm)										

7

UPS Systems - Modular

7.6 DPA UPScale RI 10–80 kW



Product types with batteries	RI 11	RI 12	RI 22	RI 24	RI 10	RI 20	RI 40
Output power max.	20 kW	20 kW	40 kW	40 kW	20 kW	40 kW	80 kW
Number of batteries	40	80	80	160	–	–	–
Dimensions W×H×D (mm)	488×487×735 (11 HU)	488×665×735 (15 HU)	488×798×735 (18 HU)	488×1153×735 (26 HU)	488×310×565 (7 HU)	488×440×565 (10 HU)	488×798×735 (18 HU)
Weight sub-rack (without modules / without batteries)	40 kg	56 kg	66 kg	93 kg	20 kg	25 kg	50 kg

The core elements consist of best-in-class hardware and software that respond to diverse customer applications and changing business needs. All DPA UPScale RI components can be mounted directly in any 482.6 mm (19") cabinet of 800 or 600 mm (RI 10, RI 20) depth. Depending on the requirements, mixed equipment population is also possible. DPA UPScale RI is available in seven configurations – with or without inbuilt battery blocks.

Highlights for system integrators

- Rack-independence
- Efficient manufacture of individual solutions with standard products
- High local added value

DPA UPScale RI – safe-swap modularity

The ability to safe-swap modules significantly reduces the system’s mean time to repair (MTTR) and simplifies system upgrades. Thanks to the unique, compact design and low weight (10 kW = 18.6 kg, 20 kW = 21.5 kg) of the DPA UPScale RI modules, inserting additional modules or replacing existing ones during operation is easy and can be performed by a single technician.



MODULES	M 10 or M 20
Maximum output power	10 or 20 kW
Weight	18.6 or 21.5 kg
Dimensions W × H × D (mm)	488 × 132 × 540 (3 HU)

UPS Systems - Modular

7.6 DPA UPScale RI 10–80 kW

GENERAL DATA	RI 10	RI 11	RI 12	RI 20	RI 22	RI 24	RI 40
UPS modules	1	1	1	2	2	2	4
Maximum number of inbuilt batteries	–	40	80	–	80	160	–
Output power max.	20kW	20kW	20kW	40kW	40kW	40kW	80kW
Output power factor	1.0						
Topology	True online double conversion						
UPS type	Modular (Decentralized Parallel Architecture)						
Cable entry	Rear access						
INPUT							
Nominal input voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N						
Voltage tolerance (Ref. to 3 × 400 / 230V)	For loads < 100 % (–20 %, +15 %), < 80 % (–26 %, +15 %), < 60 % (–35 %, +15 %)						
Input distortion THDi	≤ 3 % at 100 %						
Frequency	35–70Hz						
Power factor	0.99 at 100 % load						
OUTPUT							
Rated output voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N						
Voltage distortion	< 1.5 %						
Frequency	50 or 60Hz						
Overload capability	10 min.: 125 % or 1 min.: 150 %						
Unbalanced load	100 % possible						
Crest factor	3 : 1						
EFFICIENCY							
Overall efficiency	Up to 96 %						
In eco-mode configuration	98 %						
COMMUNICATIONS							
LCD display	Yes (per module)						
LEDs	LED for notification and alarm						
Communication ports	USB, RS-232, SNMP slot, potential-free contacts						
STANDARDS							
Safety	IEC / EN 62040-1						
Electromagnetic compatibility (EMC)	IEC / EN 62040-2						
Performance	IEC / EN 62040-3						
Product certification	CE						
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001						
WEIGHT, DIMENSIONS							
Weight (with modules / without batteries)	Up to 39kg	Up to 62kg	Up to 78kg	Up to 68kg	Up to 109kg	Up to 136kg	Up to 136kg
Dimensions W × H × D (mm)	488 × 310 × 565 (7 HU)	488 × 487 × 735 (11 HU)	488 × 665 × 735 (15 HU)	488 × 440 × 565 (10 HU)	488 × 798 × 735 (18 HU)	488 × 1153 × 735 (26 HU)	488 × 798 × 735 (18 HU)

UPS Systems - Modular

7.7 DPA UPScale ST 10 – 200 kW



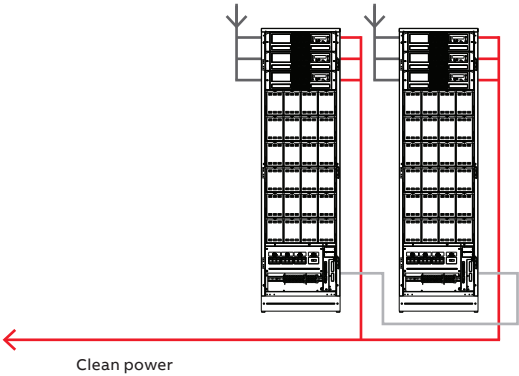
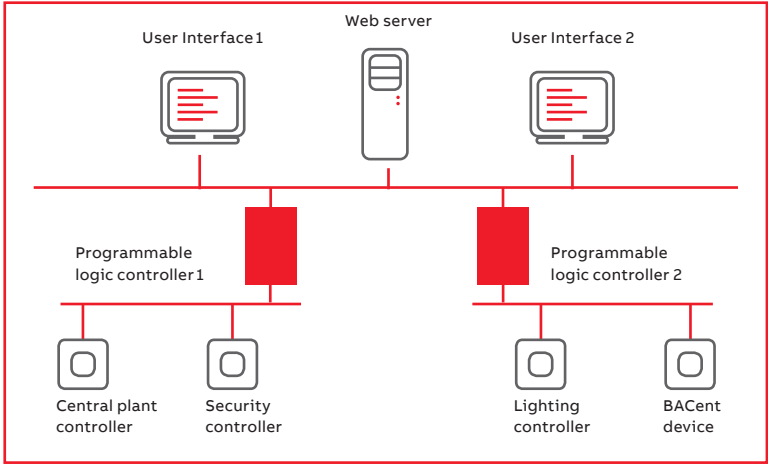
Cabinet type	ST 40	ST 60	ST 80	ST 120	ST 200
Number of modules per cabinet	1 to 2	1 to 3	1 to 4	1 to 6	1 to 10
Parallel frames per system	4	4	4	3	2
Max. number of modules per system	8	12	16	18	20
Max. total system capacity w/o redundancy	160kW	240kW	320kW	360kW	400kW

The ideal solution for small- to medium-sized critical power IT applications

The DPA UPScale ST can be deployed in a variety of small- to medium-sized system architectures. In addition to traditional server load applications, the DPA UPScale ST is ideal to protect critical applications such as building management systems (BMS). Large facilities are often provided with BMS to control and monitor the building's mechanical and electrical systems such as ventilation, lighting, fire alarms and security. The BMS is designed to create and maintain a safe,

productive and comfortable environment, thus increasing operational efficiency, decreasing the energy consumption and ensuring the safety of personnel and equipment.

The DPA UPScale ST offers clean backup power for sensitive electronic devices (controllers, I/O devices and user interfaces) designed to monitor and control the infrastructure thus avoiding loss of data or damage to equipment.



UPS Systems - Modular

7.7 DPA UPScale ST 10 – 200 kW

General data	ST 40	ST 60	ST 80	ST 120	ST 200
System power range	10–400kW				
Nominal power per module	10kW / 20kW				
Nominal power / frame	40kW	60kW	80kW	120kW	200kW
Number of UPS modules	1 to 2	1 to 3	1 to 4	1 to 6	1 to 10
Max. number of inbuilt batteries (7 / 9Ah)	80	240	–	–	–
Output power factor	1.0				
Topology	Online double conversion				
Parallel configuration	Up to 20 modules (up to 4 frames)				
UPS type	Modular (Decentralized Parallel Architecture)				
Input					
Nominal input voltage	3 × 380 / 220V + N, 3 × 400 / 230V + N, 3 × 415 / 240V + N				
Voltage tolerance (referred to 3 × 400 / 230V)	For loads <100% (–20%, +15%), <80% (–25%, +15%), <60% (–35%, +15%)				
Input distortion THDi	≤3%				
Frequency	35–70Hz				
Power factor	0.99				
Output					
Rated output voltage	3 × 380 / 220V + N, 3 × 400 / 230V + N, 3 × 415 / 240V + N				
Voltage distortion (referred to 3 × 400 / 230V)	<1.5%				
Frequency	50 Hz or 60 Hz				
Overload capability	1 min.: up to 150% / 10 min.: up to 125%				
Unbalanced load	100% (all three phases regulated independently)				
Crest factor	3:1 (load supported)				
Efficiency					
Overall efficiency	Up to 96%				
In eco-mode configuration	98%				
Environment					
Storage temperature	–25 °C to +70 °C				
Operating temperature	0 °C to +40 °C				
Altitude configuration	1000m without derating				
Communications					
LCD	Yes (per module); system display optional (graphical touch screen display)				
LEDs	LED for notification and alarm				
Communication ports	USB, RS-232, SNMP slot, potential-free contacts				
Standards					
Safety	IEC / EN 62040-1				
Electromagnetic compatibility (EMC)	IEC / EN 62040-2				
Performance	IEC / EN 62040-3				
Product certification	CE				
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001				
Weight, dimensions					
Weight (with modules / without batteries)	Up to 135kg	Up to 238kg	Up to 168kg	Up to 262kg	Up to 389kg
Dimensions w × h × d (mm)	550 × 1135 × 775	550 × 1975 × 775	550 × 1135 × 775	550 × 1975 × 775	550 × 1975 × 775

UPS Systems - Modular

7.8 DPA 250 S4

The DPA 250 S4 online double conversion modular uninterruptible power supply (UPS) represents the latest technological innovation.

The DPA 250 S4 has a high-efficiency, modular architecture that offers best reliability for environmentally conscious organizations that also need zero downtime and low cost of ownership. The DPA 250 S4 is specially designed for critical, high-density computing environments such as small- to medium-sized data centers.

The DPA 250 S4 sets the standard for the next decade of UPS progress with advanced features such as its transformer-free IGBT converters that feature three-level topology with interleaving controls to enable market-leading efficiency of 97.6 percent for the UPS module. This high efficiency reduces operational costs and minimizes environmental impact.

This modular UPS is based on **decentralized parallel architecture (DPA™)**, where every UPS module is practically its own UPS, having all the essential functional units needed for independent operation. DPA increases system reliability and availability compared to other modular UPS solutions in the market, as there is inherent redundancy between the UPS modules on all functional levels.

The DPA 250 S4 is specially designed for critical, high-density computing environments such as:

- Small- to medium-sized data centers
- Commercial buildings and general IT applications
- Healthcare facilities
- Railway signaling applications and airports



50 kW power in one UPS module. Truly scalable power - featuring DPA.



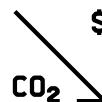
250 kW N+1 redundant power. In one UPS frame cabinet.



1,500 kW power in one system. By paralleling up to six frames.



97.6% module efficiency. Top-of-the-market performance.



> 30% reduced power losses. Compared to similar products in the market.



< 10min service time. All it takes to exchange one UPS module.

UPS Systems - Modular

7.8 DPA 250 S4

GENERAL DATA	
System power range	50 - 1,500 kW
Nominal power per module	50 kW
Nominal power / frame	250 kW (N+1)
Number of UPS modules	5 + 1
Topology	Online double conversion
Parallel configuration	Up to 30 modules
Cable entry	Top or bottom
Output power factor	1.0
Serviceability	Only frontal access needed
Back-feed protection	Built-in as standard
INPUT	
Nominal input voltage	380 / 400 / 415 VAC
Voltage tolerance (referred to 400 V)	- 30% at partial loads
Current distortion THDi	<2.8%
Frequency range	35 – 70 Hz
Power factor	0.99
Walk in / soft start	Yes
OUTPUT	
Rated output voltage	380 / 400 / 415 VAC
Voltage tolerance (referred to 400 V)	± 1%
Voltage distortion THDU	<2.0%
Frequency	50 or 60 Hz (selectable)
Rater power factor	1.0
EFFICIENCY	
Module efficiency	Up to 97.6%
Overall system efficiency	Up to 97.4%
In eco-mode	Up to 99%
ENVIRONMENT	
Protection rating	IP 20 (IP 21 optional)
Storage temperature	-25 °C to +70 °C
Operating temperature	0°C to +40°C
Altitude (above sea level)	1,000 m w/o derating
BATTERIES	
Types	VRLA, open cells, NiCd and Li-Ion
Battery charger	Decentralized charger per module
COMMUNICATIONS	
User interface	Graphical touch screen (one per frame as standard) Decentralized LCD and mimic diagram (one per module as standard)
Communication ports	Communication ports USB, RS-232, potential-free contacts, SNMP (optional)
Customer interface	Remote shutdown, gen-set interface, external bypass contact
COMPLIANCY	
Safety	IEC / EN 62040-1
EMC	IEC / EN 62040-2
Performance	IEC / EN 62040-3
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001
DIMENSIONS	
Weight (without modules / without batteries)	270 kg
Weight module	68 kg
Dimensions w x h x d	795 x 1 978 x 943 mm

UPS Systems - Modular

7.9 Conceptpower DPA 500

The Conceptpower DPA 500 boasts the lowest cost of ownership of any UPS system by offering energy efficiency, scalability and ergonomic design to enable easy serviceability.

It can be sized to align closely with prevailing IT requirements, but can be added to incrementally as IT needs grow. This means that you only power and cool what you need. The resulting savings in power usage over the service life of the UPS are substantial.

7 Rack-mounted configurations can be right-sized by inserting or removing 'online-swappable' modules while the systems remain online, enabling power to be added as requirements grow without any footprint penalty. This makes servicing simple as modules can be replaced without powering down.

Together with the excellent efficiency rating (up to 96 %) of the product, all these factors gives the Conceptpower DPA 500 the lowest total cost of ownership of any similar UPS system.

Six frames in parallel can be scaled to provide 3 MW of clean and reliable power.

Sized to fit your needs

Designers often over-specify UPS systems to take account of future demand growth. With the Conceptpower DPA 500, modules can simply be added in parallel to increase the system's total capacity. The Conceptpower DPA delivers power protection from 100 to 500 kW (one to five modules) in a single cabinet. Cabinets can operate in a parallel configuration to build a system of up to 3 MW.

The Conceptpower DPA 500's horizontal and vertical scalability allows:

- Flexible power upgrades and downgrades
- Easy maintenance
- Pay as you grow

Scalable up to 3 MW

Vertical scalability: one to five modules in one single cabinet



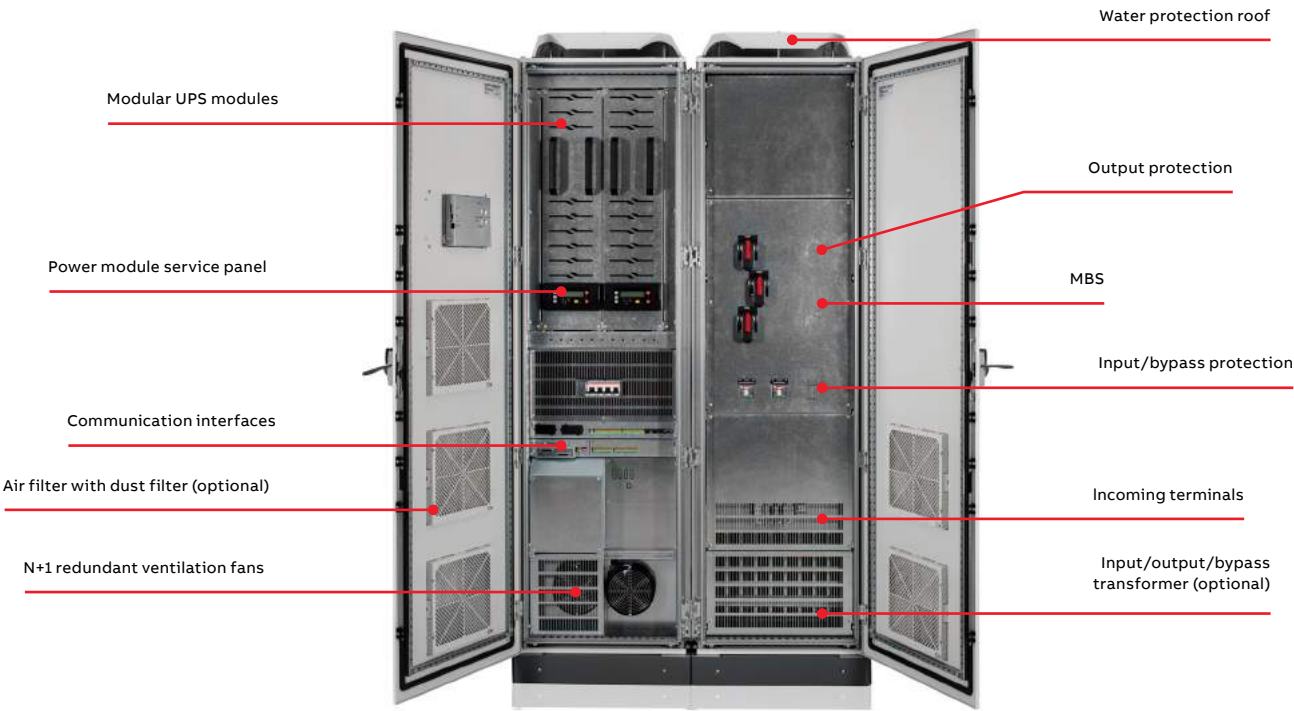
UPS Systems - Modular

7.9 Conceptpower DPA 500

GENERAL DATA	
System power range	100 kW - 3 MW
Nominal power / module	100 kW
Nominal power / frame	500 kW
Output power factor	1.0
Topology	Double conversion, transformer-free, modular, Decentralized Parallel Architecture
Parallel configuration	Up to 5 modules in one frame (500 kW) / up to 6 frames in parallel (3 MW)
Cable entry	Bottom or top as standard
Serviceability	Fully front serviceable
Back-feed protection	Built-in as standard
INPUT	
Nominal input voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N
Voltage tolerance (referred to 400 / 230 V)	308 - 460 V (-23- +15 %) <100 % load, 280 - 460 V (-300 +15 %) <80 % load, 240 - 460 V (-40- +15 %) <60 % load
Input distortion THDi	≤3 % at 100%
Frequency range	35 - 70 Hz
Power factor	0.99 @ 100 % load
Walk in / Soft start	Yes
OUTPUT	
Rated output voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N
Voltage tolerance (referred to 400 / 230 V)	< ±1 % with static load / < ±4 % with step load
Voltage distortion	<2 % with linear load / <4 % with non-linear load
Frequency	50 or 60 Hz (selectable)
EFFICIENCY	
AC-AC	Up to 96.5
In eco-mode	≥ 99 %
ENVIRONMENT	
Protection rating	IP 20
Storage temperature	-25° - +70°
Operating temperature	0° - +40°C
Altitude (above sea level)	1000 m without de-rating
BATTERIES	
Number of 12V blocks / string	Flexible number from 40 - 50 blocks
Types	VRLA, vented lead-acid, NiCd, super capacitors
Battery charger	Decentralized charger per module
COMMUNICATIONS	
User interface	Graphical touch screen (one per frame as standard) Decentralized LCD + mimic diagram (one per module as standard)
Communication ports	USB, RS-232, voltage-free contacts, SNMP (optional)
Customer interface	Remote shutdown, gen-set interface, external bypass contact
COMPLIANCE	
Safety	EC / EN 62040-1
EMC	EC / EN 62040-2
Performance	EC / EN 62040-3
Manufacturing	ISO 9001:2008, ISO 14001:2004
WEIGHT, DIMENSIONS	
Weight	approx. 975 Kg (500 kW system without batteries)
Dimensions W x H x D	1580 x 1975 x 945

Industrial UPS Systems

7.10 PowerLine DPA



Available models

Cabinet type	PowerLine DPA 20–40	PowerLine DPA 80	PowerLine DPA 120
Number of modules	1	2	3
Dimension w × h × d	800 × 2200 × 800mm	1200 × 2200 × 800mm	1600 × 2200 × 800mm
Weight in kg (without transformers)	Up to 550 kg	Up to 650 kg	Up to 850 kg

UPS cabinet configuration

- 3ph online double conversion UPS
- Decentralized Parallel Architecture
- Housed in an industrial metal enclosure, IP31, RAL 7035, bottom cable entry
- Halogen free cable
- Forced ventilation with monitored fans
- Input, bypass and battery protection
- Manual bypass switch
- Integrated back-feed protection
- HMI interface with graphical display, control push keys, UPS operating status indication and programmable alarm section
- Communication interfaces: Relay board with 9 programmable outputs and 8 inputs, RS-232 and USB ports

Options

- Input, output, bypass aluminum transformer
- Customized input & output voltages
- Ingress protection IP42
- Top cable entry
- Ventilation frame fans
- Tropicalization and anti-corrosion protection for electrical boards
- Anti-condensator heater
- Lifting eyes
- Control and monitoring (ModBus RS-485, ModBus TCP/IP, SNMP)
- Battery temperature sensor
- Cold start
- Redundant configuration

Industrial UPS Systems

7.10 PowerLine DPA

General data				
System power range	20–120 kW			
Nominal power / frame	20 kW	40 kW	80 kW	120 kW
Number of UPS modules	1	2	3	
Output power factor	1.0			
Topology	Online double conversion			
UPS configuration	Single, parallel-redundant, dual			
UPS type	Modular (Decentralized Parallel Architecture)			
Input				
Nominal input voltage	3 × 380/220 V + N, 3 × 400/230 V + N, 3 × 415/240 V + N (others on request)			
Voltage tolerance (referred to 3 × 400 / 230 V)	For loads <100% (–15%, +10%), <80% (–20%, +10%), <60% (–30%, +10%)			
Input distortion THDi	≤4%			
Frequency	50 or 60 (selectable)			
Power factor	0.99			
Output				
Rated output voltage	3 × 380/220 V, 3 × 400/230 V, 3 × 415/240 V (others on request)			
Voltage distortion (referred to 3 × 400/230 V)	<2.5%			
Frequency	50 Hz or 60 Hz			
Overload capability	150% 1 min, 125% 10 min			
Output short capability	2.7 × Inom			
Unbalanced load	100% (all three phases regulated independently)			
Crest factor	3:1 (load supported)			
Efficiency				
Overall efficiency / transformerless	Up to 96%			
In eco-mode configuration	98%			
Environment				
Storage temperature	–25 °C to +70 °C			
Operating temperature	–5 °C to +45 °C			
Humidity	5% to 95% without condensation			
Altitude configuration	1000 m without derating			
Communications				
HMI	Graphical display for control and metering, 8 programmable alarm indications			
Relay contactors	8 in / 9 out programmable relays			
LCD	On system level HMI with graphical display and alarm indications; on module level service control interface			
LEDs	LED for notification and alarm			
Communication ports	USB, RS-232, SNMP slot, potential-free contacts			
Electrical / Mechanical				
Degree of protection	IP31, IP42 (optional)			
Color	RAL 7035			
Cable entry	Bottom, Top (optional)			
Wiring	Halogen free cable			
Operating and maintenance access	Front access			
Ventilation	Forced ventilation with monitored fans			
Battery				
Battery type	VLRA / NiCd			
Autonomy	According to customer's requirement			
Standards				
Safety	IEC / EN 62040-1			
Electromagnetic compatibility (EMC)	IEC / EN 62040-2			
Performance	IEC / EN 62040-3			
Product certification	CE			
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001			
Weight, dimensions				
Weight (with modules / without transformers)	Up to 550 kg	Up to 650 kg	Up to 850 kg	
Dimensions w × h × d (mm)	800 × 2200 × 800 mm	1200 × 2200 × 800 mm	1600 × 2200 × 800 mm	

HiPerGuard

Medium Voltage UPS 6.6 kV - 24 kV



- Continuous clean power
- Efficiency of 98 %
- Scalable power from 2.25 MW up to 22.5 MW
- System energy reserve available for grid support services
- Design life of fifteen years

Industrial UPS Systems

7.11 HiPerGuard

The space and electrical power needed to run a large critical power facility have increased over the past decade. Facilities are now faced with the need for energy efficient and reliable power as it is essential to have clean, continuous power to avoid any major losses



01

ABB's HiPerGuard MV UPS is the next generation of medium voltage UPS intended for multi megawatt power protection. Based on the ZISC architecture, the HiPerGuard MV UPS introduces a flexible solution for higher reliability and efficiency in critical power installations.

7

01. HiPerGuard MV UPS

Medium voltage

The transition from low voltage (LV) to medium voltage (MV) level is a natural progression of power protection for large critical power installations. The approach offers two main benefits. It increases reliability and reduces costs of the critical power facility build and operation.

Increased reliability is derived from the MV design approach with larger protected load blocks, lower switchgear count and the operating culture of medium voltage systems.

Installing the power protection at the MV level provides the most energy efficient configuration as the lower currents at this voltage result in smaller cables and lower losses, leading to less cooling requirements.

HiPerGuard

HiPerGuard is the next generation of medium voltage UPS intended for multi megawatt power protection. Based on the impedance isolated static converter (ZISC) architecture, the HiPerGuard MV UPS introduces a flexible solution with high reliability and high efficiency for critical power installations.

The HiPerGuard is the most recent addition to ABB's Power Protection product portfolio, creating a complete power protection solution. This increased flexibility removes the need for complex power distribution architectures.

Industrial UPS Systems

7.11 HiPerGuard MV

The HiPerGuard MV UPS's key benefits and advantages create a robust and extremely reliable power protection device for critical facilities.

High Efficiency

- Leading efficiency UPS - 98% at 50% to 100% loading.
- Substantial energy savings during the product lifespan when compared to rotary systems.

Performance

- Performance in line with IEC62040-3 Class 1.
- High fault clearing capability.
- Higher availability due to modular design.

Flexibility

- Scalable power from 2.25MW up to 22.5MW in parallel allows load growth with less stranded capacity, minimizing CAPEX.

Sustainability

- CO₂ emissions reduced thanks to the high efficiency.

Connectivity and monitoring

- Event analysis and waveform capture.
- Remote monitoring and diagnostics.
- ABB Ability™ to increase productivity and safety at lower costs.

Serviceability

- Plug and play power converters.
- Power converters and energy storage at low voltage.
- MTTR typically less than fifteen minutes.
- Comprehensive service log.
- Up to ten years between intrusive maintenance activities.

Demand Response

- System energy storage reserve available for grid support services or peak shaving.



02. Graphical Display Module (GDM)



03. Power Electronics Building Block (PEBB)

Industrial UPS Systems

7.11 HiPerGuard MV - Technical Data

Product Class	7.2 kV IEC	12 kV IEC	15 kV ANSI	24 kV IEC
Rated Voltage ¹	6-6.6 kV	10 – 11 kV	12.47 – 13.8 kV	20 – 22 kV
Rated apparent power	2250 kVA			Single unit
Rated active power	2250 kW			Load power factor 1.0
Hard parallel configuration	Up to 10 units			
Performance				
Efficiency	98% for 50% to 100% loading			Under nominal conditions
Dynamic output performance	In line with IEC62040-3 VI SS 111			
Architecture	ZISC enabled line interactive			
Input				
Voltage tolerance	±10 %			From nominal voltage
Rated frequency	50 Hz/60 Hz			
Power Distribution system ¹	IT, 3-Wire Input			
Output				
Rated frequency	50 Hz or 60 Hz			
Load power factor range	0.9 leading to 0.8 lagging			
Energy Storage				
Energy storage type	Li-Ion batteries			
Energy storage supplier	ABB qualified			
Energy storage autonomy range ¹	15 sec to 15 min			
Interface				
System display	10" touchscreen display			
Display advanced functionality	Waveform capturing			
	Event analysis			
Communication	Trending			
	Comprehensive service log			
	Ethernet			
	Modbus TCP™			

Note:: For other voltages, distribution systems, and autonomy options, please contact ABB.

Industrial UPS Systems

7.12 PCS100 UPS-I



Semiconductor fabrication, test and assembly lines

Flat panel and LCD production lines need to be in operation 24/7 in order to meet today's demands. ABB have installed many UPS-I's, that amount to hundreds of MVA at leading companies like, Samsung and many other LCD manufacturing plants worldwide.

High-speed packaging lines

Voltage variations in high-speed packaging lines cause major disruptions. The PCS100 UPS-I is protecting many high speed packaging lines, including a dairy operation in Washington DC, that produces several million "one time use" plastic coffee creamers per day.

Medical

To ensure that production at multi-billion dollar companies is not brought to a standstill by power failures, voltage sags and other electrical disruptions, power protection is needed. ABB's PCS100 UPS-I is protecting major medical suppliers like B.Braun from such events.

Cable manufacture

Contact manufactures such as NKT's specialist cable factory at Karlskrona, Sweden know the impact of an unplanned shutdown on their operation and invested in two high capacity UPS-I. The UPS-I secure the factory's operations against seasonal weather related utility disturbances along with less predictable voltage events caused by accidents.

Data centers HVAC and servers

PCS100 UPS-I's protects data centers and servers from voltage sags and surges. For example, the PCS100 UPS-I is supporting one of the Swiss government data centers with emergency power supply and a major data center based in Memphis, USA.

Aerospace application

Carbon fiber is extensively used in the aerospace industry. The PCS100 UPS-I protects the production of the carbon fibers, ensuring quality and yield requirements are met. Carbon fiber is the base fiber for all carbon composites.

Industrial UPS Systems

7.12 PCS100 UPS-I

01 PCS100 UPS-I
Single line diagram

The PCS100 UPS-I is a high performance, high efficiency UPS system that ensures protection from power quality events, such as deep sags or short-term outages, enabling continuous power supply to modern industrial processes.

The PCS100 UPS-I uses a modular energy storage and inverter system to supply continuous power during utility events. The PCS100 UPS-I provides flexibility in the choice of energy storage, ultracapacitors or VRLA batteries to suit the required autonomy. Battery systems can deliver autonomy up to 5 minutes. Ultracapacitors provide seconds of protection for short power quality events, which are the most common power quality problems around the world. Ultracapacitors have extremely high power density and long lifetime resulting in a very compact and low maintenance solution.

Harsh electrical environments are often found in modern industry. The PCS100 UPS-I uses a robust high-speed power electronic disconnect switch to connect the load to the utility. The modular inverter construction and fail-safe electromechanical bypass provides the highest system availability. Coupled with the small footprint and easy serviceability, this low maintenance, high efficiency industrial UPS is the solution for all power protection applications.

How it works

When the utility voltage is within a user defined range, the load is supplied directly by the utility. When a sag, surge or outage occurs, the PCS100 UPS-I immediately transfers the load onto its inverter and energy storage.

When the utility voltage returns to within specification the PCS100 UPS-I will seamlessly transfer the load from the inverter back to the utility.

Key benefits

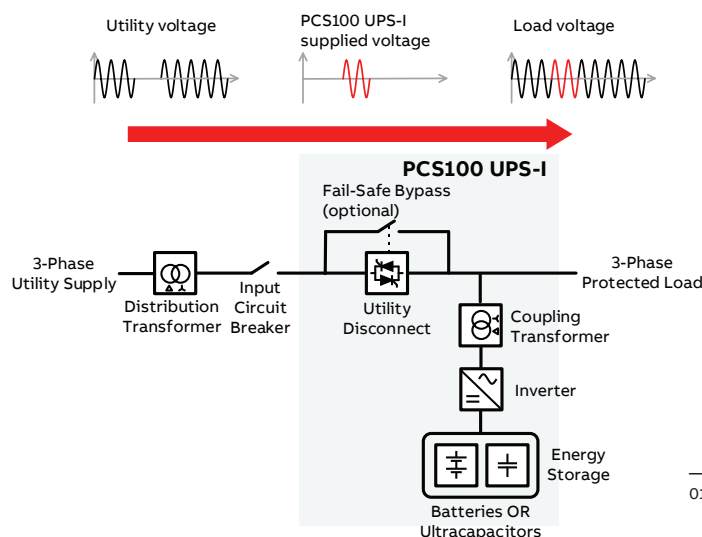
- Robust fail-safe modular industrial design
- Long lifetime energy storage
- Small footprint
- Highest efficiency and availability
- Low maintenance requirements
- Easy serviceability

Key features

- Very high efficiency (99% typical)
- Designed specifically for industrial loads (motors, drives, transformers, production tools)
- Modular design providing high reliability and typically 30 minutes MTTR (mean time to repair)
- Very high fault current capacity
- Advanced ultracapacitor or high discharge rate battery storage
- Generator walk-in algorithm for a controlled transfer of the load to backup generators
- Ratings from 150 kVA to 3000 kVA and voltages
- 208 Vac to 480 Vac

PCS100 UPS-I advantages compared to alternative solutions

- Robust with high availability
- Designed for harsh industrial electrical environments
- Modular design
- Lowest cost of ownership
- Highest efficiency
- Long lifetime energy storage
- Small footprint
- Flexible energy storage options (ultracapacitors or VRLA batteries)



01

Active Voltage Conditioners

7.13 PCS100 AVC-20

The PCS100 AVC-20 ensures a continual, regulated supply of utility voltage where the electric infrastructure is stressed, unstable or unreliable.



Typical applications

- **Commercial**
 - Hotels and resorts
 - Embassies
 - Sports stadiums
 - Office buildings
 - Entertainment
 - Remote locations
 - Medical equipment
- **Industrial**
 - Manufacturing
 - Assembly
 - Chemical
 - Petrochemical
 - Food and beverage
 - Oil and Gas
 - Printing
 - Pulp and Paper

For further technical information, please refer to the PCS100 AVC-20 Technical Catalogue.

Technical specifications

Utility – Input	
Power range	250 – 3000 kVA
Rated voltage	380 V - 415 V, 3 phase
Performance	
Efficiency	Typically >98%
Voltage variation detection time	250 µs
Voltage regulation time	<20 ms for any voltage deviation within the specification
Continuous regulation	
Undervoltage	-15% (load power factor 1.0) -20% (load power factor 0.75)
Overvoltage	+20%

Active Voltage Conditioners

7.13 PCS100 AVC-20

Designed for use in industrial and large commercial operations in environments where an unstable network or utility voltage affects productivity.

01 PCS100 AVC-20
Single line diagram

Benefits to your business

Increase your operational reliability

- Achieve consistent processes
- Increase the lifetime of your equipment
- Experience fewer equipment malfunctions
- Improve the quality of your products and services
- Reduce your usage of expensive critical back-up systems

A fluctuating voltage supply affects your productivity and the consistency of your operations, leading to a reduction in the quality of your products and services. Fluctuating voltage also leads to increased wear on machinery components, resulting in a greater number of malfunctions and a reduced life expectancy of your equipment. The PCS100 AVC-20's fast, accurate voltage regulation secures your productivity by improving consistency in your operations and reducing the impact of fluctuating voltage on your equipment and production.

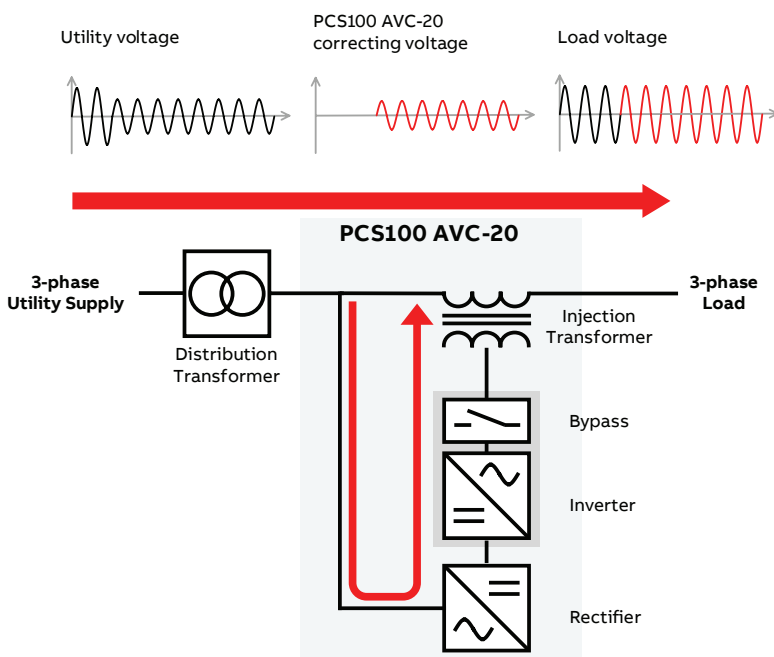
Reduce your costs

- Optimize your energy usage
- Improves motor efficiency
- Better use of your resources
- Increase your usage of cheaper utility power

Brownouts, over-voltages and an unbalanced voltage supply cause motors in your equipment and machinery to function inefficiently and can result in poor use of resource, in terms of staff, materials and energy consumption. It can also cause reliance on costly back-up systems, such as diesel generators. The PCS100 AVC-20 ensures a regulated supply of voltage, helping you to streamline your operations and optimize your resource to reduce wasted capacity and improve the return on your operational investment. At the same time, the PCS100 AVC-20 allows you to use utility power, resulting in a cost saving on power generation from captive power plants.

Key product features

- Proven and dependable converter platform with sophisticated control software
- Full range voltage correction completed in 20 milliseconds
- Rugged electrical overload capability
- Modular design providing high reliability and scalability
- Low mean time to repair
- Internal bypass mechanism providing fail-safe operation
- Small footprint with industry leading power density (power per unit volume)
- Touch screen control panel supporting over 15 languages
- Industry-leading efficiency of over 98 percent
- Low cost of ownership due to few moving parts



Active Voltage Conditioners

7.14 PCS100 AVC-40

The PCS100 AVC-40 ensures that equipment receives a clean, continuous flow of power, even during grid disturbances.



- **Electronics industry**
 - Sensitive machinery
 - Clean room control
- **Food and beverage**
 - High speed bottling
 - Packaging lines
 - Dairy processing
- **Automotive**
 - Welding process
 - Coating process
 - Painting process
- **Continuous process**
 - Fibre production lines
 - Film production lines
 - Extrusion process
- **Pharmaceutical**
 - Batch process
 - Climate control
- **Medical**
 - Sensitive medical
 - Imaging equipment

For further technical information, please refer to the PCS100 AVC-40 Technical Catalogue.

Technical specifications

Utility – Input	
Power range	150 – 3600 kVA
Voltage (model specific)	220 V – 480 V, 3-phase
Performance	
Efficiency	Typically >98%
Sag correction response	Initial < 250 µs, complete < ½ cycle
Sag correction	
Three phase sags	60% to 100% for 30 s, 50% to 90% for 10 s
Single phase	45% to 100% for 30 s
Continuous regulation range	±10%

Active Voltage Conditioners

7.14 PCS100 AVC-40

01 PCS100 AVC-40
Single line diagram

The PCS100 AVC-40 is an active voltage conditioner. It is a high performance power electronic system designed for industrial and large commercial applications. It responds instantly to power quality events, providing continuous regulation of voltage.

With high power capacity, the PCS100 AVC-40 is the perfect solution for industrial loads using significant power as well as large commercial buildings where continuity of service is paramount. The PCS100 AVC-40 is designed to target voltage sag events while also providing protection against swells. Sag events are the major cause of lost production.

Key benefits

Reduce the cost of sag events

The PCS100 AVC-40 closes the electrical compatibility gap between the supply and plant by protecting the load from utility induced voltage sag events. The PCS100 AVC-40 minimizes the undue stress to the expensive equipment, thus increasing the equipment lifetime.

Improve plant operation

The PCS100 AVC-40 regulates the voltage, removing long term undervoltage, overvoltage and voltage imbalance to reduce waste and damage to the expensive equipment. It also removes voltage fluctuations, which can cause process variation, improving the quality of operation of the plant or the facility.

Faster return on investment

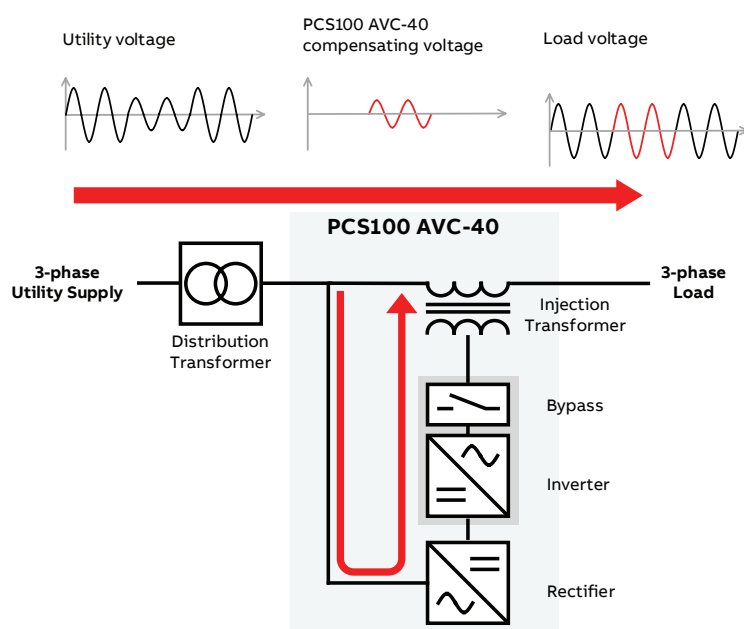
With industry leading efficiency exceeding 98 percent the PCS100 AVC-40 requires minimal costs for electricity and cooling. With no energy storage the ongoing maintenance cost is minimized, resulting in low total cost of ownership.

Reduce damage to equipment

The PCS100 AVC-40 protects expensive equipment by regulating the voltage to remove long term undervoltage, overvoltage and voltage imbalances.

Key features

- No energy storage
 - Increased system reliability with minimized maintenance
- Very high efficiency
- Continuous online regulation
- Industrial design
- Small footprint
 - Industry leading power density
- Regenerative load support
- Internal bypass
 - Redundant internal bypass design
- Connectivity
 - Ethernet
 - Modbus TCP
 - Integrated web server
 - E-mail notifications
- Multilingual graphical touch screen interface



Static Frequency Converter

7.15 PCS100 SFC - 125 kVA to 10 MVA

PCS100 Static Frequency Converters are commonly used to interconnect 50 Hz and 60 Hz systems.

01 PCS100 SFC diagram

ABB's PCS100 Static Frequency Converter allows the interconnection of grid systems with varying frequencies, offering the ideal solution for shore to ship, plant relocation and testing facility applications.

User benefits

- Minimize operating and maintenance costs
- High reliability provides maximum power availability
- Keeps equipment running through utility voltage sags and frequency variation
- N+1 modular redundancy for mission critical applications
- Lowest total cost of ownership
- Minimal spares required
- Easy paralleling to other voltage sources using droop

Key product features

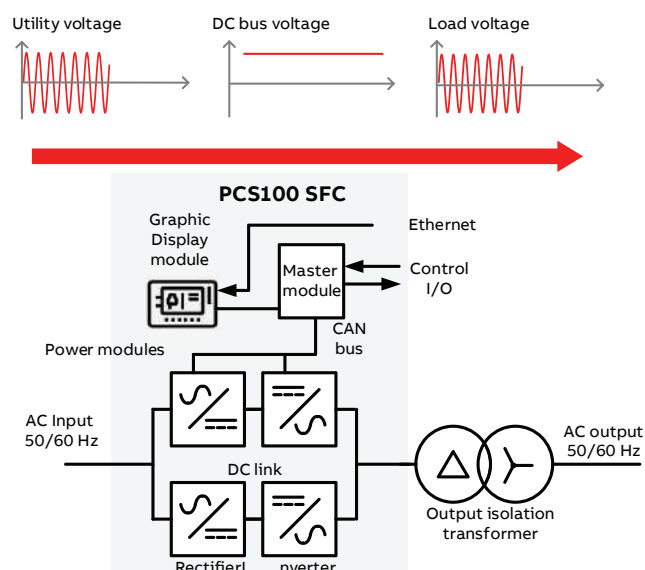
- High efficiency power conversion
- Clean sinewave output voltage
- Unity power factor, sinewave, active rectifier design
- Built-in module redundancy without interruption of operation
- Fully isolated AC connection using an output transformer
- Wide range of voltages available; 50 Hz and 60 Hz
- Small footprint design
- Touch screen colour graphic display (GDM)
- Internal web server and Modbus TCP allows remote monitoring
- Output cable voltage drop compensation
- Seamless generator change over standard (synchronization)
- Generator emulation and load sharing
- Power flow control
- Extensive remote control with extend I/O card

How it works

The system is constructed of multiple power electronic modules and functions by converting the input AC power through a sine-wave rectifier to a DC link, and then through an AC sine-wave inverter to produce a clean, full sine-wave output at the new frequency and voltage.

The PCS100 SFC is extremely flexible in terms of paralleling with other voltage sources, either generators or multiple SFC units. Parallel load sharing is achieved using frequency and voltage droop profiles programmed into the converter. This allows the converters to share power with other systems without the need for any additional communication signals.

Starting the SFC into the live bus is greatly simplified due to the automatic output synchronization feature. This enables a full seamless transfer from generator supply to SFC supply on the output bus. If the output bus is dead when the SFC is given a start command it will ramp up the voltage over one second, providing a soft energizing of the output.





SECTION 8

Pilot Devices

Compact Pilot Devices

Non-illuminated & illuminated pushbuttons	8.1
Heavy duty pushbuttons	8.1
Non-illuminated emergency stop pushbuttons	8.1
Pilot lights & Buzzers Illuminated	8.1
Non-illuminated selector switches	8.1
Accessories	8.1

Modular Pilot Devices

Introduction	8.2
Non-illuminated & Illuminated pushbuttons	8.2
Non-illuminated double & Heavy duty pushbuttons	8.2
Pilot lights	8.2
Non-illuminated & illuminated selector switches	8.2
Key-operated selector switches	8.2
Complete potentiometers	8.2
Assemblies	8.2

Pilot Devices

8.1 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
Momentary flush pushbutton				
Red	1 NO	Black plastic	CP1-10R-10	1SFA619100R1011
Red	1 NC	Black plastic	CP1-10R-01	1SFA619100R1041
Red	1 NC	Chrome metal	CP1-30R-01	1SFA619100R3041
Red	1 NO + 1 NC	Black plastic	CP1-10R-11	1SFA619100R1071
Green	1 NO	Black plastic	CP1-10G-10	1SFA619100R1012
Green	1 NO	Chrome metal	CP1-30G-10	1SFA619100R3012
Green	2 NO	Black plastic	CP1-10G-20	1SFA619100R1022
Green	1 NO + 1 NC	Black plastic	CP1-10G-11	1SFA619100R1072
Yellow	1 NO	Black plastic	CP1-10Y-10	1SFA619100R1013
Yellow	1 NO + 1 NC	Black plastic	CP1-10Y-11	1SFA619100R1073
Blue	1 NO	Black plastic	CP1-10L-10	1SFA619100R1014
White	1 NO	Black plastic	CP1-10W-10	1SFA619100R1015
Black	1 NO	Black plastic	CP1-10B-10	1SFA619100R1016
Black	2 NO	Black plastic	CP1-10B-20	1SFA619100R1026
Black	1 NO + 1 NC	Black plastic	CP1-10B-11	1SFA619100R1076

Illuminated pushbuttons

Color	Contacts	Bezel	Type	Order code
Flush momentary pushbutton				
Rated voltage 24 V AC/DC				
Red	1 NO	Black plastic	CP1-11R-10	1SFA619100R1111
Red	1 NC	Black plastic	CP1-11R-01	1SFA619100R1141
Green	1 NO	Black plastic	CP1-11G-10	1SFA619100R1112
Rated voltage 110-130 V AC/DC				
Red	1 NO	Black plastic	CP1-12R-10	1SFA619100R1211
Red	1 NC	Black plastic	CP1-12R-01	1SFA619100R1241
Green	1 NO	Black plastic	CP1-12G-10	1SFA619100R1212
Rated voltage 220 V AC/DC				
Red	1 NO	Black plastic	CP1-13R-10	1SFA619100R1311
Red	1 NC	Black plastic	CP1-13R-01	1SFA619100R1341
Green	1 NO	Black plastic	CP1-13G-10	1SFA619100R1312

For more pilot devices products, please contact your ABB local sales organization.



CP1-11R-10



CP1-11G-10



Pilot Devices

8.1 Compact Range



CP6-10R-11



CP6-10G-11

Heavy duty pushbuttons

Color	Contacts	Bezel	Type	Order code
Heavy duty pushbuttons				
Red	1NO + 1NC		CP6-10R-11	1SFA619105R1071
Green	1NO + 1NC		CP6-10G-11	1SFA619105R1072
Black	1NO + 1NC		CP6-10B-11	1SFA619105R1076

Non-illuminated emergency stop pushbuttons

Description	Type	Order code
Twist release - Ø 30 mm		
1 NC	CE3T-10R-01	1SFA619500R1041
2 NC	CE3T-10R-02	1SFA619500R1051
1 NO + 1 NC	CE3T-10R-11	1SFA619500R1071
Twist release - Ø 40 mm		
1 NC	CE4T-10R-01	1SFA619550R1041
2 NC	CE4T-10R-02	1SFA619550R1051
1 NO + 1 NC	CE4T-10R-11	1SFA619550R1071
Pull release		
2 NC	CE4P-10R-02	1SFA619551R1051
1 NO + 1 NC	CE4P-10R-11	1SFA619551R1071
Key release, ronis 455, key code 71		
2 NC	CE4K1-10R-02	1SFA619552R1051
1 NO + 1 NC	CE4K1-10R-11	1SFA619552R1071
For more pilot devices products, please contact your ABB local sales organization.		



CE3T-10R-01



CE4T-10R-01



CE4P-10R-02



CE4K1-10R-02

Pilot Devices

8.1 Compact Range



CL2-502R



CL2-502G



CL2-502Y



CL2-502L



CL2-502C

Pilot lights			
Color	Rated current mA	Type	Order code
Rated voltage 24 V AC/DC			
Red	16	CL2-502R	1SFA619403R5021
Green	16	CL2-502G	1SFA619403R5022
Yellow	16	CL2-502Y	1SFA619403R5023
Blue	16	CL2-502L	1SFA619403R5024
Clear	16	CL2-502C	1SFA619403R5028
Rated voltage 110-130 V AC			
Red	15-17	CL2-513R	1SFA619403R5131
Green	15-17	CL2-513G	1SFA619403R5132
Yellow	15-17	CL2-513Y	1SFA619403R5133
Rated voltage 110-130 V DC			
Red	8-9	CL2-515R	1SFA619403R5151
Green	8-9	CL2-515G	1SFA619403R5152
Yellow	8-9	CL2-515Y	1SFA619403R5153
Rated voltage 230 V AC			
Red	17	CL2-523R	1SFA619403R5231
Green	17	CL2-523G	1SFA619403R5232
Yellow	17	CL2-523Y	1SFA619403R5233
Blue	17	CL2-523L	1SFA619403R5234
Clear	17	CL2-523C	1SFA619403R5238
Rated voltage 380-415 V AC			
Red	15-17	CL2-524R	1SFA619403R5421
Green	15-17	CL2-524G	1SFA619403R5422
Rated voltage 230 V AC with 60V anti-inductive voltage			
Red	17	CL2-623R	1SFA619403R6231
Green	17	CL2-623G	1SFA619403R6232
Yellow	17	CL2-623Y	1SFA619403R6233



CB1-610R



CB1-620B

Buzzers Illuminated				
Color	Rated voltage	Rated current mA	Type	Order code
Lights and sound output - Pulsation				
Red	24 V AC/DC	53	CB1-610R	1SFA619600R6101
Red	110-130 V AC	70	CB1-611R	1SFA619600R6111
Red	110-130 V DC	15	CB1-612R	1SFA619600R6121
Red	230 V AC	70	CB1-613R	1SFA619600R6131
Black	24 V AC/DC	48	CB1-630B	1SFA619600R6306
Black	110-130 V AC	48	CB1-631B	1SFA619600R6316
Black	110-130 V DC	15	CB1-632B	1SFA619600R6326
Black	230 V AC	40	CB1-633B	1SFA619600R6336
Lights and sound output - Continuous				
Black	24 V AC/DC	40	CB1-620B	1SFA619600R6206
Black	110-130 V AC	40	CB1-621B	1SFA619600R6216
Black	110-130 V DC	40	CB1-622B	1SFA619600R6226
Black	230 V AC	40	CB1-623B	1SFA619600R6236

For more pilot devices products, please contact your ABB local sales organization.

Pilot Devices

8.1 Compact Range



C2SS1-10B-10



C3SS1-30B-20



KA1-8010



Bezel



MA1-81...



KA1-8029
KA1-8030



CEPY1-0

Non-illuminated selector switches

Color	Contacts	Bezel	Type	Order code
2-position, short handle				
 Maintained	1 NO	Black plastic	C2SS1-10B-10	1SFA619200R1016
	2 NO	Black plastic	C2SS1-10B-20	1SFA619200R1026
	1 NO +1 NC	Black plastic	C2SS1-10B-11	1SFA619200R1076
 Maintained	1 NO	Black plastic	C2SS2-10B-10	1SFA619201R1016
	2 NO	Black plastic	C2SS2-10B-20	1SFA619201R1026
	1 NO +1 NC	Black plastic	C2SS2-10B-11	1SFA619201R1076

3-position, short handle

 Maintained	2 NO	Black plastic	C3SS1-10B-20	1SFA619210R1026
	2 NO	Chrome metal	C3SS1-30B-20	1SFA619210R3026
	1 NO +1 NC	Black plastic	C3SS1-10B-11	1SFA619210R1076
 Momentary	2 NO	Black plastic	C3SS2-10B-20	1SFA619211R1026

Compact range - Accessories

Description	Type	Order code
Protective cover		
Protective cover	KA1-8010	1SFA616920R8010
Note: For flush pushbutton to prevent accidental operation. Cannot be used together with Legend plate holder.		
Bezel - for pushbuttons		
Chrome metal	KA1-8021	1SFA616920R8021
Bezel - for selector switches		
Chrome metal	KA1-8024	1SFA616920R8024
Blanking plug		
Black	MA1-8130	1SFA611920R8130
Adaptors 30 mm		
Black plastic	KA1-8029	1SFA616920R8029
Metal	KA1-8030	1SFA616920R8030
"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
Black legend plate holder	KA1-8120	1SFA616920R8120
Legend plate without text or symbol	KA1-8121	1SFA616920R8121
Legend plate for emergency stops for compact enclosures	CA6-1026	1SFA619930R1026
Enclosures		
Yellow compact enclosure for emergency stop pushbuttons	CEPY1-0	1SFA619821R1000
Yellow shroud	CA1-8053	1SFA619920R8053
Distance washer		SK615516-1
For more pilot devices products, please contact your ABB local sales organization.		

Pilot Devices

8.2 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
Momentary flush pushbutton			
Red	Black plastic	MP1-10R	1SFA611100R1001
Red	Chrome plastic	MP1-20R	1SFA611100R2001
Red	Chrome metal	MP1-30R	1SFA611100R3001
Green	Black plastic	MP1-10G	1SFA611100R1002
Green	Chrome plastic	MP1-20G	1SFA611100R2002
Green	Chrome metal	MP1-30G	1SFA611100R3002
Yellow	Black plastic	MP1-10Y	1SFA611100R1003
Blue	Black plastic	MP1-10L	1SFA611100R1004
White	Black plastic	MP1-10W	1SFA611100R1005
Black	Black plastic	MP1-10B	1SFA611100R1006
Black	Chrome plastic	MP1-20B	1SFA611100R2006
Black	Chrome metal	MP1-30B	1SFA611100R3006
Clear	Black plastic	MP1-10C	1SFA611100R1008

Maintained flush pushbutton

Red	Black plastic	MP2-10R	1SFA611101R1001
-----	---------------	---------	-----------------

Momentary extended pushbutton

Red	Black plastic	MP3-10R	1SFA611102R1001
Green	Black plastic	MP3-10G	1SFA611102R1002
Black	Black plastic	MP3-10B	1SFA611102R1006
Clear	Black plastic	MP3-10C	1SFA611102R1008

Illuminated pushbuttons

Color	Bezel	Type	Order code
Momentary flush pushbutton			
Red	Black plastic	MP1-11R	1SFA611100R1101
Red	Chrome plastic	MP1-21R	1SFA611100R2101
Red	Chrome metal	MP1-31R	1SFA611100R3101
Green	Black plastic	MP1-11G	1SFA611100R1102
Green	Chrome plastic	MP1-21G	1SFA611100R2102
Green	Chrome metal	MP1-31G	1SFA611100R3102
Yellow	Black plastic	MP1-11Y	1SFA611100R1103
Blue	Black plastic	MP1-11L	1SFA611100R1104
White	Black plastic	MP1-11W	1SFA611100R1105
Clear	Black plastic	MP1-11C	1SFA611100R1108

Maintained flush pushbutton

Red	Black plastic	MP2-11R	1SFA611101R1101
Green	Black plastic	MP2-11G	1SFA611101R1102

Momentary flush pushbutton

Red	Black plastic	MP3-11R	1SFA611102R1101
Green	Black plastic	MP3-11G	1SFA611102R1102
White	Black plastic	MP3-11W	1SFA611102R1105

Pilot Devices

8.2 Modular Range



Non-illuminated double pushbuttons

Upper button	Lower button	Type	Order code
Flush pushbutton			
Green	Red		
No text	No text	MPD1-11B	1SFA611130R1106
I	O	MPD2-11B	1SFA611131R1106

Extended lower pushbutton

Green	Red		
I	O	MPD13-11B	1SFA611142R1106
START	STOP	MPD15-11B	1SFA611144R1106

Illuminated double pushbuttons

Upper button	Lower button	Indicator light	Type	Order code
Flush lower pushbutton				
Green	Red			
No text	No text	Red	MPD1-11R	1SFA611130R1101
I	O	Green	MPD2-11G	1SFA611131R1102
I	O	Yellow	MPD2-11Y	1SFA611131R1103
No text	No text	Clear	MPD1-11C	1SFA611130R1108
I	O	Clear	MPD2-11C	1SFA611131R1108

Extended lower pushbutton

Green	Red			
I	O	Green	MPD13-11G	1SFA611142R1102
START	STOP	Clear	MPD15-11C	1SFA611144R1108

Heavy duty pushbuttons for 30 mm mounting hole

Color	Type	Order code
Heavy duty pushbutton		
Red	KP6-40R	1SFA616105R4001
Green	KP6-40G	1SFA616105R4002
Black	KP6-40B	1SFA616105R4006

Non-illuminated emergency stop pushbuttons

Description	Release method	Type	Order code
Ø 30 mm			
Red	Twist release	MPET3-10R	1SFA611520R1001
Ø 40 mm			
Red	Twist release	MPET4-10R	1SFA611523R1001
Red	Pull release	MPEP4-10R	1SFA611524R1001
Red	Key release code 71/ronis 455	MPEK4-11R	1SFA611525R1101
Ø 60 mm			
Red	Twist release	MPMT4-10R	1SFA611513R1001

Illuminated emergency stop pushbuttons

Description	Release method	Type	Order code
Ø 40 mm			
Red	Twist release	MPMT3-11R	1SFA611510R1101
Ø 60 mm			
Red	Twist release	MPMT4-11R	1SFA611513R1101

Pilot Devices

8.2 Modular Range



ML1-100R



ML1-100G



M2SS1-10B



M2SS4-10B



M2SS1-11G

Pilot lights

Description	Type	Order code
Red	ML1-100R	1SFA611400R1001
Green	ML1-100G	1SFA611400R1002
Yellow	ML1-100Y	1SFA611400R1003
Blue	ML1-100L	1SFA611400R1004
White	ML1-100W	1SFA611400R1005
Clear	ML1-100C	1SFA611400R1008

Non-illuminated selector switches

Description	Color	Bezel	Type	Order code
2-position, short handle				
 Maintained	Black	Black plastic	M2SS1-10B	1SFA611200R1006
 Maintained	Black	Black plastic	M2SS2-10B	1SFA611201R1006
	Black	Chrome plastic	M2SS2-20B	1SFA611201R2006
	Black	Chrome plastic	M2SS2-30B	1SFA611201R3006
3-position, short handle				
 Maintained	Black	Black plastic	M3SS1-10B	1SFA611210R1006
	Black	Chrome plastic	M3SS1-20B	1SFA611210R2006
	Black	Chrome metal	M3SS1-30B	1SFA611210R3006
 Momentary, spring return from A to B and from C to B	Black	Black plastic	M3SS2-10B	1SFA611211R1006
 Momentary, spring return from C to B	Black	Black plastic	M3SS2-10B	1SFA611212R1006
 Momentary, spring return from A to B	Black	Black plastic	M3SS7-10B	1SFA611216R1006
4-position, short handle				
 Maintained	Black	Black plastic	M4SS1-10B	1SFA611290R4006
2-position, long handle				
 Maintained	Black	Black plastic	M2SS4-10B	1SFA611203R1006
 Maintained	Black	Black plastic	M2SS5-10B	1SFA611204R1006
3-position, long handle				
 Maintained	Black	Black plastic	M3SS4-10B	1SFA611213R1006
Illuminated selector switches				
2-position, long handle				
 Maintained	Green	Black plastic	M2SS1-11G	1SFA611200R1102
 Maintained	Green	Black plastic	M2SS2-11G	1SFA611201R1102
3-position, long handle				
 Maintained	Green	Black plastic	M3SS1-11G	1SFA611210R1102

Pilot Devices

8.2 Modular Range



M2SSK1-101

Key-operated selector switches			
Description	Bezel	Type	Order code
2-positions			
Maintained (The key can be removed in both positions)			
 Key release code 71 /ronis 455	Black plastic	M2SSK1-101	1SFA611280R1001
Maintained (The key can be removed in position B only)			
 Key release code 71 /ronis 455	Black plastic	M2SSK2-101	1SFA611281R1001
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
3-positions			
Maintained (The key can be removed in all positions)			
 Key release code 71 /ronis 455	Black plastic	M3SSK1-101	1SFA611283R1001
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



MT-105B

Potentiometers			
Description	Bezel	Type	Order code
Complete potentiometers			
Black knob with integrated position indication and marking in white			
With resistor 5 kohm	Black plastic	MT-105B	1SFA611410R1056
With resistor 5 kohm	Chrome metal	MT-305B	1SFA611410R3056
With resistor 10 kohm	Black plastic	MT-110B	1SFA611410R1106

Pilot Devices

8.2 Modular Range



MCBH-00

Assemblies

Description	Type	Order code
Holders		
3-positions	MCBH-00	1SFA611605R1100
5-positions*	MCBH5-00	1SFA611601R1100

* Note: Double contact blocks are required on side positions

Contact blocks

Description	Type	Order code
Single contact blocks for front mounting		
1 NO	MCB-10	1SFA611610R1001
1 NC	MCB-01	1SFA611610R1010
1 NO with gold plated contacts	MCB-10G	1SFA611610R1101
1 NC with gold plated contacts	MCB-01G	1SFA611610R1110
Double contact blocks for front mounting		
2 NO	MCB-20	1SFA611610R1002
2 NC	MCB-02	1SFA611610R1020
Single contact blocks for back mounting in enclosures		
1 NO	MCB-10B	1SFA611610R2001
1 NC	MCB-01B	1SFA611610R2010



MCB-01

MCB-10



MCB-20



MCBH-11

Contact blocks with holder

Description	Type	Order code
Contact blocks with holder for front mounting, for non-illuminated operators		
1 NO	MCBH-10	1SFA611605R1101
2 NO	MCBH-20	1SFA611605R1102
1 NC	MCBH-01	1SFA611605R1110
2 NC	MCBH-02	1SFA611605R1120
1 NO + 1 NC	MCBH-11	1SFA611605R1111

LED blocks

Description	Rated current mA	Type	Order code
Rated voltage 24 V AC/DC			
Red	10	MLBL-01R	1SFA611621R1011
Green	10	MLBL-01G	1SFA611621R1012
Yellow	10	MLBL-01Y	1SFA611621R1013
Blue	10	MLBL-01L	1SFA611621R1014
White	10	MLBL-01W	1SFA611621R1015
Rated voltage 110-130 V AC			
Red	10	MLBL-04R	1SFA611621R1041
Green	10	MLBL-04G	1SFA611621R1042
Yellow	10	MLBL-04Y	1SFA611621R1043
White	10	MLBL-04W	1SFA611621R1045
Rated voltage 110-130 V DC			
Red	10	MLBL-05R	1SFA611621R1051
Green	10	MLBL-05G	1SFA611621R1052
Yellow	10	MLBL-05Y	1SFA611621R1053
White	10	MLBL-05W	1SFA611621R1055
Rated voltage 230 V AC			
Red	10	MLBL-07R	1SFA611621R1071
Green	10	MLBL-07G	1SFA611621R1072
Yellow	10	MLBL-07Y	1SFA611621R1073
Blue	10	MLBL-07L	1SFA611621R1074
White	10	MLBL-07W	1SFA611621R1075

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

Pilot Devices

8.2 Modular Range



KA1



MA1-8015



KA1-8010



MA1-8053



MEP2-0



MEPY1-0

Accessories		
Description	Type	Order code
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
Chrome metal	KA1-8030	1SFA616920R8030
Mounting tool for operator		
Mounting tool for tightening the locking nut	MA1-8015	1SFA611920R8015
Protective cover		
Protective cover	KA1-8010	1SFA616920R8010
Note: For flush pushbutton to prevent accidental operation. Cannot be used together with Legend plate holder.		
Shroud for emergency stop		
Yellow	MA1-8053	1SFA611920R8053
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
1 seat - dark grey / light grey	MEP1-0	1SFA611811R1000
2 seats - dark grey / light grey	MEP2-0	1SFA611812R1000
3 seats - dark grey / light grey	MEP3-0	1SFA611813R1000
4 seats - dark grey / light grey	MEP4-0	1SFA611814R1000
6 seats - dark grey / light grey	MEP6-0	1SFA611816R1000
1 seat - yellow / light grey	MEPY1-0	1SFA611821R1000

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SECTION 9

Electronic Products and Relays**Timers**

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CT-C Range	9.2
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Measuring and Monitoring Relays

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Electronic Timers

9.1 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
Multifunctional ¹⁾	24-240 VAC 24-48 VDC	7 (0.05 s – 100 h)	■	1 c/o	CT-MFD.12	1SVR500020R0000
Multifunctional ¹⁾	12-240 VAC/DC	7 (0.05 s – 100 h)	■	2 c/o	CT-MFD.21	1SVR500020R1100
ON-delay	24-240 VAC 24-48 VDC	7 (0.05 s – 100 h)	□	1 c/o	CT-ERD.12	1SVR500100R0000
			□	2 c/o	CT-ERD.22	1SVR500100R0100
OFF-delay			■	1 c/o	CT-AHD.12	1SVR500110R0000
			■	2 c/o	CT-AHD.22	1SVR500110R0100
Impulse- ON			□		CT-VWD.12	1SVR500130R0000
Flasher starting with ON			□	1 c/o	CT-EBD.12	1SVR500150R0000
Pulse generator		2 x 7 (0.05s – 100 h)	■		CT-TGD.122)	1SVR500160R0000
			■	2 c/o	CT-TGD.222)	1SVR500160R0100
Star-delta change- over		4 (0.05 s - 10 min)	□	2 c/o	CT-SDD.223)	1SVR500211R0100
			□		CT-SAD.224)	1SVR500210R0100

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

Electronic Timers

9.2 CT-C Range



Description

The CT-C range combines lower cost with higher value and performance in a slim 17.5 mm-wide housing. All relays have a wide time setting range from 0.05 seconds up to 100 hours. Combined with a wide voltage range they are the perfect choice for applications worldwide.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code
Multi ¹⁾	12-240 V AC/DC	7 (0.05 s - 100h)	■	Solid state	CT-MKC.31	1SVR508010R1300
Multi ¹⁾	24-240 V AC 24-48 V DC		■	1 c/o	CT-MFC.12	1SVR508020R0000
Multi ¹⁾	12-240 V AC DC		■	2 c/o	CT-MFC.21	1SVR508020R1100
Dual ²⁾	24-240 V AC 24-48 V DC	4 (0.05 s - 100h)	-	1 c/o	CT-ARC.12	1SVR508120R0000
ON-delay	24-240 V AC 24-48 V DC	7 (0.05 s - 100h)	-	1 c/o	CT-ERC.12	1SVR508100R0000
			-	2 c/o	CT-ERC.22	1SVR508100R0100
■			1 c/o	CT-AHC.12	1SVR508110R0000	
■			2 c/o	CT-AHC.22	1SVR508110R0100	
-			CT-VWC.12	1SVR508130R0000		
-			1 c/o	CT-EBC.12	1SVR508150R0000	
Pulse generator			2x 7 (0.05 s - 100h)	■	CT-TGC.12 ⁴⁾	1SVR508160R0000
			■	2 c/o	CT-TGC.22 ⁴⁾	1SVR508160R0100
Star-delta change-over		4 (0.05 s - 100h)	-	CT-SDC.22 ⁵⁾	1SVR508211R0100	
			-	CT-SAC.22 ⁶⁾	1SVR508210R0100	
Alternating without time delay	24-240 V AC 24-48 V DC	-	-	2 n/o	CT-PAC.22	1SVR508180R0100

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) OFF-delay without aux. voltage (True OFF-delay), True Impulse-OFF

3) Flasher starting with ON, Flasher starting with OFF

4) ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h

5) Transition time 50 ms fixed

6) Transition time adjustable

■ Control input with voltage-related triggering
- No triggering

Electronic Timers

9.3 CT-S Range



CT-MVS.21P

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.

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order Code
Multifunctional ⁵⁾	24- 240 V AC/DC	10 (0.05 - 300 h)	■	2 c/o	CT-MVS.21S 1) 2) 3)	1SVR730020R0200
					CT-MVS.21P 1) 2) 3)	1SVR740020R0200
	24-48 V DC, 24-240 V AC				CT-MVS.22S	1SVR730020R3300
					CT-MVS.22P	1SVR740020R3300
	380-440 V AC				CT-MVS.23S	1SVR730021R2300
					CT-MVS.23P	1SVR740021R2300
Multifunctional ⁶⁾	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	■	1 c/o	CT-MVS.12S	1SVR730020R3100
					CT-MVS.12P	1SVR740020R3100
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
					CT-MXS.22P ⁴⁾	1SVR740030R3300
Multifunctional ⁸⁾	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-MFS.21S 1) 2) 3)	1SVR730010R0200
					CT-MFS.21P 1) 2) 3)	1SVR740010R0200
	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	□ / □	2 c/o	CT-MBS.22S 2) 3)	1SVR730010R3200
					CT-MBS.22P 2) 3)	1SVR740010R3200
Multifunctional ⁹⁾	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	□	2 c/o	CT-WBS.22S	1SVR730040R3300
					CT-WBS.22P	1SVR740040R3300

S: screw connection **P:** push-in / easy connect

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

9.3 CT-S Range



Timing Function	Rated Control Supply Voltage	Time Ranges	Control Input	Output	Type	Order Code
ON-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	□	2 c/o	CT-ERS.21S ¹⁾	1SVR730100R0300
	CT-ERS.21P ¹⁾				1SVR740100R0300	
	24-48 V DC, 24-240 V AC				CT-ERS.22S	1SVR730100R3300
	CT-ERS.22P				1SVR740100R3300	
	24-48 V DC, 24-240 V AC	□	1 c/o	CT-ERS.12S	1SVR730100R3100	
	CT-ERS.12P			1SVR740100R3100		
OFF-delay	24-240 V AC/DC	10 (0.05 s - 300 h)	■	2 c/o	CT-APS.21S ¹⁾	1SVR730180R0300
	CT-APS.21P ¹⁾				1SVR740180R0300	
	24-48 V DC, 24-240 V AC				CT-APS.22S	1SVR730180R3300
					CT-APS.22P	1SVR740180R3300
	24-48 V DC, 24-240 V AC	■	1 c/o	CT-APS.12S	1SVR730180R3100	
				CT-APS.12P	1SVR740180R3100	
	24-48 V DC, 24-240 V AC	10 (0.05 s - 300 h)	■	2 c/o	CT-AHS.22S	1SVR730110R3300
					CT-AHS.22P	1SVR740110R3300
OFF-delay ⁵⁾	24-240 V AC/DC	7 (0.05 s - 10 min)	□	1 c/o	CT-ARS.11S	1SVR730120R3100
					CT-ARS.11P	1SVR740120R3100
		□	2 c/o	CT-ARS.21S	1SVR730120R3300	
				CT-ARS.21P	1SVR740120R3300	
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
	CT-SDS.22P				1SVR740210R3300	
	380-440 V AC				CT-SDS.23S	1SVR730211R2300
					CT-SDS.23P	1SVR740211R2300

S: screw connection P: push-in / easy connect

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

■ Control input with voltage-related triggering
□ no triggering

Electronic Timers

9.4 Alternating Relay CT-PAC.22



Description

The alternating relay CT-PAC.22 is designed to evenly use the electromechanical resource of a twin pump, dual compressors and generators. The alternating relay has two normally open contacts. When the control supply voltage is applied to A1-A2 terminals, one of the normally open contacts remains open, whereas the other closes and maintains its respective positions until the control supply voltage is disconnected. Once connected again, the position of the relay contacts alternates and continues to do so for every power cycle.

Rated Control Supply Voltage	Type	Order Code
24-240 V AC	CT-PAC.22	1SVR508180R0100
24-48 V DC		

Measuring and Monitoring Relays

9.5 Single-phase 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
24-240 V AC/DC					1SVR730840R0200
110-130 V AC				CM-SRS.11S	1SVR730841R0200
220-240 V AC	3-30 mA		without		1SVR730841R1200
24-240 V AC/DC	10-100 mA				1SVR740840R0200
110-130 V AC	0.1-1 A			CM-SRS.11P	1SVR740841R0200
220-240 V AC					1SVR740841R1200
24-240 V AC/DC					1SVR730840R0300
110-130 V AC	0.3-1.5 A		without	CM-SRS.12S	1SVR730841R0300
220-240 V AC	1-5 A				1SVR730841R1300
	3-15 A				
24-240 V AC/DC					1SVR730840R0400
110-130 V AC				CM-SRS.21S	1SVR730841R0400
220-240 V AC	3-30 mA		adjustable		1SVR730841R1400
24-240 V AC/DC	10-100 mA		0 or 0.1-30 s		1SVR740840R0400
110-130 V AC	0.1-1 A			CM-SRS.21P	1SVR740841R0400
220-240 V AC					1SVR740841R1400
24-240 V AC/DC					1SVR730840R0500
110-130 V AC	0.3-1.5 A		adjustable	CM-SRS.22S	1SVR730841R0500
220-240 V AC	1-5 A		0 or 0.1-30 s		1SVR730841R1500
	3-15 A				
24-240 V AC/DC	3-30 mA		adjustable	CM-SRS.M1S	1SVR730840R0600
	10-100 mA		0 or 0.1-30 s	CM-SRS.M1P	1SVR740840R0600
	0.1-1 A				
24-240 V AC/DC	0.3-1.5 A		adjustable	CM-SRS.M2S	1SVR730840R0700
	1-5 A		0 or 0.1-30 s		
	3-15 A				
24-240 V AC/DC	3-30 mA		adjustable	CM-SFS.21S	1SVR730760R0400
	10-100 mA		0 or 0.1-30 s	CM-SFS.21P	1SVR740760R0400
	0.1-1 A				
24-240 V AC/DC	0.3-1.5 A		adjustable	CM-SFS.22S	1SVR730760R0500
	1-5 A		0 or 0.1-30 s		
	3-15 A				

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

9.5 Single-phase 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
24-240 V AC/DC					1SVR730830R0300
110-130 V AC				CM-ESS.1S	1SVR730831R0300
220-240 V AC	3-30 V		without		1SVR730831R1300
24-240 V AC/DC	6-60 V				1SVR740830R0300
	30-300 V			CM-ESS.1P	1SVR740831R0300
110-130 V AC	60-600 V				1SVR740831R1300
220-240 V AC					1SVR740831R1300
24-240 V AC/DC					1SVR730830R0400
110-130 V AC				CM-ESS.2S	1SVR730831R0400
220-240 V AC	3-30 V		adjustable		1SVR730831R1400
	6-60 V		0 or 0.1-30 s		1SVR740830R0400
24-240 V AC/DC	30-300 V			CM-ESS.2P	1SVR740831R0400
110-130 V AC	60-600 V				1SVR740831R1400
220-240 V AC					1SVR740831R1400
24-240 V AC/DC	3-30 V		adjustable	CM-ESS.MS	1SVR730830R0500
	6-60 V		0 or 0.1-30 s		1SVR740830R0500
	30-300 V			CM-ESS.MP	1SVR740830R0500
	60-600 V				
24-240 V AC/DC	3-30 V		adjustable	CM-EFS.2S	1SVR730750R0400
	6-60 V		0 or 0.1-30 s		
	30-300 V			CM-EFS.2P	1SVR740750R0400
	60-600 V				

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

9.6 Three-phase monitoring relays



CM-PBE

Description

- Phase failure detection
- Phase sequence monitoring
- Phase unbalance monitoring
- Overvoltage and undervoltage monitoring

Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Neutral Monitoring	Type	Order Code
3x380-440 V AC, 220-240 V AC	Phase failure detection (Single- and three-phase)	■	CM-PBE ¹⁾	1SVR550881R9400
3x380-440 V AC			CM-PBE	1SVR550882R9500
3x320-460 V AC, 185-265 V AC	Over- / under-voltage and phase failure detection (Single- and three-phase)	■	CM-PVE ¹⁾	1SVR550870R9400
3x320-460 V AC			CM-PVE	1SVR550871R9500
3x208-440 V AC	Phase sequence monitoring and phase failure detection (Three-phase)		CM-PFE ²⁾	1SVR550824R9100



CM-PAS.31P

Single Function

Rated Control Supply Voltage = Measuring Voltage	Monitoring Function	Type	Order Code
3x200-500 V AC	Phase sequence monitoring and phase failure detection (Three-phase)	CM-PFS.S	1SVR730824R9300
		CM-PFS.P	1SVR740824R9300
3x380 V AC	Over- / undervoltage with fixed threshold values ± 10 %	CM-PSS.31S	1SVR730784R2300
		CM-PSS.31P	1SVR740784R2300
3x400 V AC		CM-PSS.41S	1SVR740784R3300
		CM-PSS.41P	1SVR730784R3300
3x160-300 V AC	Over- and undervoltage with adjustable threshold values (Three-phase)	CM-PVS.31S	1SVR730794R1300
		CM-PVS.31P	1SVR740794R1300
3x300-500 V AC		CM-PVS.41S	1SVR730794R3300
		CM-PVS.41P	1SVR740794R3300
3x200-400 V AC		CM-PVS.81S	1SVR730794R2300
		CM-PVS.81P	1SVR740794R2300
3x160-300 V AC	Phase unbalance (Three-phase)	CM-PAS.31S	1SVR730774R1300
		CM-PAS.31P	1SVR740774R1300
3x300-500 V AC		CM-PAS.41S	1SVR730774R3300
		CM-PAS.41P	1SVR740774R3300

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

9.6 Three-phase monitoring relays



Multifunctional					
Rated Control Supply Voltage = Measuring Voltage	DIP Switch	Monitoring Function	Neutral Monitoring	Type	Order Code
90-170 V AC		Multifunctional (Three-phase phase failure detection, Phase sequence monitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.11S	1SVR730885R1300
				CM-MPS.11P	1SVR740885R1300
				CM-MPS.21S	1SVR730885R3300
				CM-MPS.21P	1SVR740885R3300
180-280 V AC	☒			CM-MPS.31S	1SVR730884R1300
	■			CM-MPS.31P	1SVR740884R1300
	☐			CM-MPS.41S	1SVR730884R3300
	☐			CM-MPS.41P	1SVR740884R3300
3x160-300 V AC	☐	Multifunctional(Three-phase phase failure detection, Phasesequencemonitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPS.23S	1SVR730885R4300
	☐			CM-MPS.23P	1SVR740885R4300
	☐			CM-MPS.43S	1SVR730884R4300
	☐			CM-MPS.43P	1SVR740884R4300
3x300-500 V AC	☐			CM-MPN.52S	1SVR750487R8300
	☐			CM-MPN.52P	1SVR760487R8300
	☐			CM-MPN.62S	1SVR750488R8300
	☐			CM-MPN.62P	1SVR760488R8300
180-280 V AC	☐	Multifunctional(Three-phase phase failure detection, Phasesequencemonitoring, overvoltage, undervoltage, Phase unbalance)	■	CM-MPN.72S	1SVR750489R8300
	☐			CM-MPN.72P	1SVR760489R8300
	☐				
	☐				
3x300-500 V AC	☐				
	☐				
	☐				
	☐				
3x350-580 V AC	☐	Multifunctional(Three-phase phase failure detection, Phasesequencemonitoring, overvoltage, undervoltage, Phase unbalance)	■		
	☐				
	☐				
	☐				
3x450-720 V AC	☐				
	☐				
	☐				
	☐				
3x530-820 V AC	☐				

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 (SPDT) contacts
- ☐ 1x2 c/o (SPDT) contacts

Grid feeding monitoring relays

9.7 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

Characteristics of CM-UFD.M34M

- Rate of change of frequency monitoring (ROCOF)
- Vector shift detection
- Default settings in accordance with the DRRG standard of DEWA
- Modbus RTU communication interface

Ordering details

Rated control supply voltage = measuring voltage	Standard	Type	Order code
24-240 V AC/DC	CEI 0-21: 2014-09 + CEI 0-21, V1: 2014-1	CM-UFD.M22	1SVR560730R3400
24-240 V AC/DC	VDE-AR-N 4105 and BDEW	CM-UFD.M31	1SVR560730R3401
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33	1SVR560730R3402
24-240 V AC/DC	CEI 0-21	CM-UFD.M22M with Modbus RTU	1SVR560731R3700
24-240 V AC/DC	VDE-AR-N 4105	CM-UFD.M31M with Modbus RTU	1SVR560731R3701
24-240 V AC/DC	G59/3; G83/2	CM-UFD.M33M with Modbus RTU	1SVR560731R3702
24-240 V AC/DC	DRRG standard of DEWA	CM-UFD.M34M with Modbus RTU	1SVR560731R3703

■ Prices on request (POR). Please contact ABB.



Measuring and Monitoring Relays

9.8 Insulation monitoring relays



CM-IWS.1

- 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

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
24-240 V AC/DC	0-250 V AC / 0-300 V DC	10 µF	1-100 kΩ	CM-IWS.1S	1SVR730660R0100
				CM-IWS.1P	1SVR740660R0100
	0-400 V AC	10 µF	1-100 kΩ	CM-IWS.2S	1SVR730670R0200
				CM-IWS.2P	1SVR740670R0200
	0-400 V AC / 0-600 V DC	20 µF	1-100 kΩ	CM-IWN.1S	1SVR750660R0200
				CM-IWN.1P	1SVR760660R0200

Thermistor motor protection relays

9.9 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.

Ordering details CM-MSx

Characteristics	Type	Order code
	CM-MSE	1SVR550805R9300
	CM-MSE	1SVR550800R9300
	CM-MSE	1SVR550801R9300
	CM-MSS.11P	1SVR740720R1400
	CM-MSS.11S	1SVR730720R1400
	CM-MSS.12P	1SVR740700R0100
	CM-MSS.12S	1SVR730700R0100
	CM-MSS.13P	1SVR740700R2100
	CM-MSS.13S	1SVR730700R2100
	CM-MSS.21P	1SVR740722R1400
	CM-MSS.21S	1SVR730722R1400
	CM-MSS.22P	1SVR740700R0200
	CM-MSS.22S	1SVR730700R0200
	CM-MSS.23P	1SVR740700R2200
	CM-MSS.23S	1SVR730700R2200
	CM-MSS.31P	1SVR740712R1400
	CM-MSS.31S	1SVR730712R1400
	CM-MSS.32P	1SVR740712R0200
	CM-MSS.32S	1SVR730712R0200
	CM-MSS.33P	1SVR740712R2200
	CM-MSS.33S	1SVR730712R2200
	CM-MSS.41P	1SVR740712R1200
	CM-MSS.41S	1SVR730712R1200
	CM-MSS.51P	1SVR740712R1300
	CM-MSS.51S	1SVR730712R1300

See "Selection table CM-MSx range" on page 14

S: screw connection P: push-in connection



Ordering details CM-MSS accessories

Rated response temperature T _{NF}	Color coding	Type	Order code
70 °C	white-brown	C011-70 ¹⁾	GHC0110003R0001
80 °C	white-white	C011-80 ¹⁾	GHC0110003R0002
90 °C	green-green	C011-90 ¹⁾	GHC0110003R0003
100 °C	red-red	C011-100 ¹⁾	GHC0110003R0004
110 °C	brown-brown	C011-110 ¹⁾	GHC0110003R0005
120 °C	gray-gray	C011-120 ¹⁾	GHC0110003R0006
130 °C	blue-blue	C011-130 ¹⁾	GHC0110003R0007
140 °C	white-blue	C011-140 ¹⁾	GHC0110003R0011
150 °C	black-black	C011-150 ¹⁾	GHC0110003R0008
160 °C	blue-red	C011-160 ¹⁾	GHC0110003R0009
170 °C	white-green	C011-170 ¹⁾	GHC0110003R0010
150 °C	black-black	C011-3-150 ²⁾	GHC0110033R0008

¹⁾ Temperature sensor C011, standard version acc. to DIN 44081
²⁾ Triple temperature sensor C011-3

Temperature monitoring relays

9.10 Ordering details



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
24-240 V AC/DC	-50...+50 °C	PT100	CM-TCS.11S	1SVR730740R0100
			CM-TCS.11P	1SVR740740R0100
	0...+100 °C		CM-TCS.12S	1SVR730740R0200
			CM-TCS.12P	1SVR740740R0200
	0...+200 °C		CM-TCS.13S	1SVR730740R0300
			CM-TCS.13P	1SVR740740R0300
24 V AC/DC	-50...+50 °C		CM-TCS.21S	1SVR730740R9100
			CM-TCS.21P	1SVR740740R9100
	0...+100 °C		CM-TCS.22S	1SVR730740R9200
			CM-TCS.22P	1SVR740740R9200
	0...+200 °C		CM-TCS.23S	1SVR730740R9300
			CM-TCS.23P	1SVR740740R9300

S: screw connection P: push-in connection



Description

The temperature monitoring relays CM-TCN are able to measure temperatures of solids, liquids and gaseous media within up to three sensor circuits using different types of sensors, such as PT100, PT1000, PTC or NTC within the same time. Different types of sensors, e.g. PT100 and PTC sensors, can be monitored simultaneously. The temperature is obtained by the sensors in the medium, evaluated by the device and monitored to determine whether it is within an operating range (range monitoring function) or has exceeded or fallen below a threshold. Depending on the parametrization, up to three output relays signalize the changes in the measuring circuits.

Ordering details - Smart temperature monitoring relays CM-TCN

Rated control supply voltage	Display & NFC	Temperature sensors	Type	Order code
24-240 V AC/DC	Yes	PT100, PTC, PT1000, NTC	CM-TCN.011S	1SVR750740R0110
			CM-TCN.011P	1SVR740740R0100

S: screw connection P: push-in connection

Liquid level monitors and controls

9.11 Ordering details



CM-ENE MIN

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



CM-ENS.11S

Ordering details

Characteristics	Type	Order code
See "Selection" on page 18	CM-ENE MIN	1SVR550855R9500
		1SVR550850R9500
		1SVR550851R9500
	CM-ENE MAX	1SVR550855R9400
		1SVR550850R9400
		1SVR550851R9400

Ordering details

Characteristics	Type	Order code
See "Selection" on page 18	CM-ENS.11S	1SVR730850R0100
	CM-ENS.11P	1SVR730850R2100
	CM-ENS.13S	1SVR740850R0100
	CM-ENS.13P	1SVR740850R2100
	CM-ENS.21S	1SVR730850R0200
	CM-ENS.21P	1SVR740850R0200
	CM-ENS.23S	1SVR730850R2200
	CM-ENS.23P	1SVR740850R2200
	CM-ENS.31S	1SVR730850R0300
	CM-ENS.31P	1SVR740850R0300

S: screw connection P: push-in connection

Ordering details - Bar electrodes

Description	Material no.	Type	Order code
Compact support for 3 bar electrodes	-	CM-KH-3	1SVR450056R6000
Distance plate for 3 bar electrodes		CM-AH-3	1SVR450056R7000
Counter nut for 1" thread		CM-GM-1	1SVR450056R8000
Length: 300 mm	1.4301	CM-SE-300	1SVR450056R0000
Length: 600 mm	1.4301	CM-SE-600	1SVR450056R0100
Length: 1000 mm	1.4301	CM-SE-1000	1SVR450056R0200

Ordering details - Suspension electrodes

Description	Material no.	Type	Order code
CM-HE suspension electrode	1.4104	CM-HE	1SVR402902R0000
CM-HC suspension electrode	1.4104	CM-HC	1SVR402902R1000
CM-HCT suspension electrode suitable for drink water	1.4301	CM-HCT	1SVR402902R2000

Monitoring Relays

9.12 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
50 A	1 A	1 VA / 1	CM-CT 50/1	1SVR450116R1000
75 A		1.5 VA / 1	CM-CT 75/1	1SVR450116R1100
100 A		2.5 VA / 1	CM-CT 100/1	1SVR450116R1200
150 A		2.5 VA / 1	CM-CT 150/1	1SVR450116R1300
200 A		2.5 VA / 1	CM-CT 200/1	1SVR450116R1400
300 A		5 VA / 1	CM-CT 300/1	1SVR450117R1100
400 A		5 VA / 1	CM-CT 400/1	1SVR450117R1200
500 A		5 VA / 1	CM-CT 500/1	1SVR450117R1300
600 A		5 VA / 1	CM-CT 600/1	1SVR450117R1400
50 A	5 A	1 VA / 1	CM-CT 50/5	1SVR450116R5000
75 A		1.5 VA / 1	CM-CT 75/5	1SVR450116R5100
100 A		2.5 VA / 1	CM-CT 100/5	1SVR450116R5200
150 A		2.5 VA / 1	CM-CT 150/5	1SVR450116R5300
200 A		5 VA / 1	CM-CT 200/5	1SVR450116R5400
300 A		5 VA / 1	CM-CT 300/5	1SVR450117R5100
400 A		5 VA / 1	CM-CT 400/5	1SVR450117R5200
500 A		5 VA / 1	CM-CT 500/5	1SVR450117R5300
600 A		5 VA / 1	CM-CT 600/5	1SVR450117R5400

Primary Switch Mode Power Supplies

9.13 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
AC	DC	Voltage	Current		
90-264	120-375	12VDC	0.83A	CP-D 12/0.83	1SVR427041R1000
90-264	120-375	12VDC	2.1A	CP-D 12/2.1	1SVR427043R1200
90-264	120-375	24VDC	0.42A	CP-D 24/0.42	1SVR427041R0000
90-264	120-375	24VDC	1.3A	CP-D 24/1.3	1SVR427043R0100
90-264	120-375	24VDC	2.5A	CP-D 24/2.5	1SVR427044R0200
90-264	120-375	24VDC	4.2A	CP-D 24/4.2	1SVR427045R0400

Primary Switch Mode Power Supplies

9.14 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
AC	DC	Voltage	Current		
90-264	120-375	5VDC	3A	CP-E 5/3.0	1SVR427033R3000
85-264	90-375	12VDC	2.5A	CP-E 12/2.5	1SVR427032R1000
90-132 ; 180-264	210-375	12VDC	10A	CP-E 12/10.0	1SVR427035R1000
90-264	120-375	24VDC	0.75A	CP-E 24/0.75	1SVR427030R0000
85-264	90-375	24VDC	1.25A	CP-E 24/1.25	1SVR427031R0000
85-264	90-375	24VDC	2.5A	CP-E 24/2.5	1SVR427032R0000



Primary Switch Mode Power Supplies

9.14 CP-E > 100W



CP-E 48.10.0

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
90-132 ; 180-264	210-375	24VDC	5A	CP-E 24/5.0	1SVR427034R0000
90-132 ; 180-264	210-375	24VDC	10A	CP-E 24/10.0	1SVR427035R0000
90-264	120-375	24VDC	20A	CP-E 24/20.0	1SVR427036R0000
85-264	90-375	48VDC	0.625A	CP-E 48/0.62	1SVR427030R2000
85-264	90-375	48VDC	1.25A	CP-E 48/1.25	1SVR427031R2000
90-132 ; 180-264	210-375	48VDC	5A	CP-E 48/5.0	1SVR427034R2000
90-264	120-375	48VDC	10A	CP-E 48/10.0	1SVR427035R2000



Primary Switch Mode Power Supplies

9.15 CP-T Range



CP-T 24/10.0,
CP-T 48/5.0

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%.

Input voltage (V)		Rated output		Type	Order code
AC	DC	Voltage	Current		
340-575	480-820	24VDC	5A	CP-T 24/5.0	1SVR427054R0000
340-575	480-820	24VDC	10A	CP-T 24/10.0	1SVR427055R0000
340-575	480-820	24VDC	20A	CP-T 24/20.0	1SVR427056R0000
340-575	480-820	24VDC	40A	CP-T 24/40.0	1SVR427057R0000
340-575	480-820	48VDC	5A	CP-T 48/5.0	1SVR427054R2000
340-575	480-820	48VDC	10A	CP-T 48/10.0	1SVR427055R2000
340-575	480-820	48VDC	20A	CP-T 48/20.0	1SVR427056R2000

Primary Switch Mode Power Supplies

9.16 CP-C.1 Range



CP-C.1 24/5.0



CP-C.1 24/5.0-L

Description

High-performance CP-C.1 power supplies are ABB's most advanced range. With excellent efficiency, high reliability, and innovative functionality, it is ready to take on 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. Combined with a broad AC and DC input range and extensive worldwide approvals, the CP-C.1 power supplies are the DC application preferred choice for professional

Input voltage (V)		Rated output		Colour	Type	Order code
AC	DC	Voltage	Current			
85-264 V	90-300 V	24 V DC	5 A	dark grey	CP-C.1 24/5.0	1SVR360563R1001
85-264 V	90-300 V	24 V DC	10 A	dark grey	CP-C.1 24/10.0	1SVR360663R1001
85-264 V	90-300 V	24 V DC	20 A	dark grey	CP-C.1 24/20.0	1SVR360763R1001
85-264 V	90-300 V	24 V DC	5 A	light grey	CP-C.1 24/5.0-L	1SVR361563R1001
85-264 V	90-300 V	24 V DC	10 A	light grey	CP-C.1 24/10.0-L	1SVR361663R1001
85-264 V	90-300 V	24 V DC	20 A	light grey	CP-C.1 24/20.0-L	1SVR361763R1001

Primary Switch Mode Power Supplies

9.17 CP-S.1 Range



CP-S.1 24/5.0



CP-S.1 24/20.0

Description

CP-S.1 power supplies deliver high efficiency and reliability in a compact footprint. Designed for a huge variety of applications, including machine building segments, this advanced range boosts an integrated 150 % power reserve for five seconds and operates at an efficiency of up to 94 %. With overheat protection, active power factor correction, a broad certified AC and DC input range and extensive worldwide approvals including marine, the all-new CP-S.1 power supplies are a preferred choice for multiple industrial applications.

Input voltage (V)		Rated output		Output Power	Type	Order code
AC	DC	Voltage	Current			
100-240 V	100-250 V	24 V DC	3.0 A	72 W	CP-S.1 24/3.0	1SVR320361R1000
100-240 V	100-250 V	24 V DC	5.0 A	120 W	CP-S.1 24/5.0	1SVR320561R1000
100-240 V	100-250 V	24 V DC	10.0 A	240 W	CP-S.1 24/10.0	1SVR320661R1000
100-240 V	100-250 V	24 V DC	20.0 A	480 W	CP-S.1 24/20.0	1SVR320761R1000
110-240 V	110-250 V	24 V DC	40.0 A	960 W	CP-S.1 24/40.0	1SVR320861R1000
	10 - 56 V	12 - 48 V DC	2 x 20 A or 1 x 40 A	-	CP-C.1-A-RU	1SVR360060R1001

Pluggable interface relays

9.18 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
5 V DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S005VDC1R	1SVR405501R1010
12 V DC			CR-S012VDC1R	1SVR405501R2010
24 V DC			CR-S024VDC1R	1SVR405501R3010
48 V DC			CR-S048VDC1R	1SVR405501R4010
60 V DC			CR-S060VDC1R	1SVR405501R5010
5 V DC	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W) ¹⁾	CR-S005VDC1RG	1SVR405501R1020
12 V DC			CR-S012VDC1RG	1SVR405501R2020
24 V DC			CR-S024VDC1RG	1SVR405501R3020
48 V DC			CR-S048VDC1RG	1SVR405501R4020
60 V DC			CR-S060VDC1RG	1SVR405501R5020

Ordering details - CR-S range pluggable optocoupler

Rated control supply voltage	Outputs	Type	Order code
24 V DC	Transistor, 100 mA - 48 V DC	CR-S024VDC1TRA	1SVR405510R3050
	MOS-FET, 2 A - 24 V DC	CR-S024VDC1MOS	1SVR405510R3060
	Triac, 2 A - 240 V AC	CR-S024VDC1TRI	1SVR405510R3070

S = screw connection type **Z** = spring connection type



CR-S060VDC1RG

Ordering details - CR-S range complete interface relays (relay + socket)

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V AC/DC	1 c/o (SPDT) standard contacts	250 V, 6 A	CR-S024VADC1CRS	1SVR405541R3110
			CR-S024VADC1CRZ	1SVR405541R3210
110 V AC/DC			CR-S110VADC1CRS	1SVR405541R6110
			CR-S110VADC1CRZ	1SVR405541R6210
230 V AC/DC			CR-S230VADC1CRS	1SVR405541R7110
	1 c/o (SPDT) gold plated contacts	12 V, 250 mA (3W) ¹⁾	CR-S230VADC1CRZ	1SVR405541R7210
24 V AC/DC			CR-S024VADC1CRGS	1SVR405541R3120
			CR-S024VADC1CRGZ	1SVR405541R3220
110 V AC/DC			CR-S110VADC1CRGS	1SVR405541R6120
			CR-S110VADC1CRGZ	1SVR405541R6220
230 V AC/DC			CR-S230VADC1CRGS	1SVR405541R7120
			CR-S230VADC1CRGZ	1SVR405541R7220

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
6-24 V DC	Screw	CR-S006/024VDC1SS	1SVR405521R1100
	Spring	CR-S006/024VDC1SZ	1SVR405521R1200
12-24 V AC/DC	Screw	CR-S012/024VADC1SS	1SVR405521R3100
	Spring	CR-S012/024VADC1SZ	1SVR405521R3200
48-60 V AC/DC	Screw	CR-S048/060VADC1SS	1SVR405521R5100
	Spring	CR-S048/060VADC1SZ	1SVR405521R5200
110-125 V AC/DC	Screw	CR-S110/125VADC1SS	1SVR405521R6100
	Spring	CR-S110/125VADC1SZ	1SVR405521R6200
220-240 V AC/DC	Screw	CR-S220/240VADC1SS	1SVR405521R7100
	Spring	CR-S220/240VADC1SZ	1SVR405521R7200

Ordering details - CR-S range accessories

Version	Type	Order code
Jumper bar 20 pole, blue color	CR-SJB20-BLUE	1SVR405598R0700
Jumper bar 20 pole, red color	CR-SJB20-RED	1SVR405598R0800
Jumper bar 20 pole, black color	CR-SJB20-BLACK	1SVR405598R0900
Separator	CR-SSEP	1SVR405599R0000

Pluggable interface relays

9.19 Ordering details - CR-P range



CR-P

Ordering details - CR-P range

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	1 c/o (SPDT)	250 V, 16 A	CR-P012DC1	1SVR405600R4000
24 V DC			CR-P024DC1	1SVR405600R1000
48 V DC			CR-P048DC1	1SVR405600R6000
110 V DC			CR-P110DC1	1SVR405600R8000
24 V AC			CR-P024AC1	1SVR405600R0000
48 V AC			CR-P048AC1	1SVR405600R5000
110 V AC			CR-P110AC1	1SVR405600R7000
120 V AC			CR-P120AC1	1SVR405600R2000
230 V AC	2 c/o (SPDT)	250 V, 8 A	CR-P230AC1	1SVR405600R3000
12 V DC			CR-P012DC2	1SVR405601R4000
24 V DC			CR-P024DC2	1SVR405601R1000
48 V DC			CR-P048DC2	1SVR405601R6000
110 V DC			CR-P110DC2	1SVR405601R8000
24 V AC			CR-P024AC2	1SVR405601R0000
48 V AC			CR-P048AC2	1SVR405601R5000
110 V AC			CR-P110AC2	1SVR405601R7000
120 V AC			CR-P120AC2	1SVR405601R2000
230 V AC			CR-P230AC2	1SVR405601R3000



CR-P024DC2

Ordering details - CR-P range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	2 c/o (SPDT) gold contact	250 V, 8 A	CR-P024DC2	1SVR405606R1000
24 V AC			CR-P024AC2G	1SVR405606R0000
110 V AC			CR-P110AC2G	1SVR405606R7000
230 V AC			CR-P230AC2G	1SVR405606R3000



CR-PLS

Ordering details - Accessories

Version	Connection terminal	Type	Order code
Logical socket with protective separation	screw	CR-PLS	1SVR405650R0000
	spring	CR-PLSx	1SVR405650R0100
Logical socket	screw	CR-PLC	1SVR405650R0200
	spring	CR-PLC	1SVR405650R0200
Standard socket	screw	CR-PSS	1SVR405650R1000
Plastic holder for socket		CR-PH	1SVR405659R0000
Jumper bar for sockets with screw connection		CR-PJ	1SVR405658R5000
Marker		CR-PM	1SVR405658R0000

Pluggable interface relays

9.19 Ordering details - CR-P range



Ordering details - CR-P range complete version						
Rated control supply voltage	Outputs	Description	Socket Type	Connection terminal	Type	Order code
12 V DC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P012DC2SS42V*	1SVR405601R4010
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P024DC2SS42V*	1SVR405601R1010
		Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	screw	CR-P024DC2LS42*	1SVR405601R1013
		Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	screw	CR-P024DC2LS42V*	1SVR405601R1011
		Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	spring	CR-P024DC2LC42*	1SVR405601R1012
24 V DC	2 c/o gold plated	Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	spring	CR-P024DC2GLC42V*	1SVR405606R1010
		Varistor, LED green, Holder	logical	spring	CR-P024DC2GLC62C*	1SVR405606R1013
		Varistor, LED green, Holder	logical	spring	CR-P024DC2GLC62CV*	1SVR405606R1011
110 V DC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P110DC2SS42CV*	1SVR405601R8010
24 V AC	2 c/o	Varistor, LED green, Holder	standard	screw	CR-P024AC2SS62CV*	1SVR405601R0010
120 V AC	2 c/o	Varistor, LED green, Holder	standard	screw	CR-P120AC2SS92CV*	1SVR405601R2010
230 V AC	2 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-P230AC2SS92CV*	1SVR405601R3110
		Varistor, LED green, Holder	logical	screw	CR-P230AC2LS92CV*	1SVR405601R3011
		Varistor, LED red, Holder	logical	spring	CR-P230AC2LC92*	1SVR405601R3012
230 V AC	2 c/o gold plated	Varistor, LED red, Holder	logical	spring	CR-P230AC2GLC92*	1SVR405606R3013
		Varistor, LED red, Holder	logical	spring	CR-P230AC2GLC92C*	1SVR405606R3012
		Varistor, LED green, Holder	logical	spring	CR-P230AC2GLC92CV*	1SVR405606R3010

*Contact ABB for availability. Prices on Request (POR).

Pluggable interface relays

9.20 Ordering details - CR-M range



CR-M024DC2

Ordering details - CR-M range without LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2	1SVR405611R4000
24 V DC			CR-M024DC2	1SVR405611R1000
48 V DC			CR-M048DC2	1SVR405611R6000
60 V DC			CR-M060DC2	1SVR405611R4200
110 V DC			CR-M110DC2	1SVR405611R8000
125 V DC			CR-M125DC2	1SVR405611R8200
220 V DC			CR-M220DC2	1SVR405611R9000
24 V AC			CR-M024AC2	1SVR405611R0000
48 V AC			CR-M048AC2	1SVR405611R5000
110 V AC			CR-M110AC2	1SVR405611R7000
120 V AC			CR-M120AC2	1SVR405611R2000
230 V AC			CR-M230AC2	1SVR405611R3000
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3	1SVR405612R4000
24 V DC			CR-M024DC3	1SVR405612R1000
48 V DC			CR-M048DC3	1SVR405612R6000
60 V DC			CR-M060DC3	1SVR405612R4200
110 V DC			CR-M110DC3	1SVR405612R8000
125 V DC			CR-M125DC3	1SVR405612R8200
220 V DC			CR-M220DC3	1SVR405612R9000
24 V AC			CR-M024AC3	1SVR405612R0000
48 V AC			CR-M048AC3	1SVR405612R5000
60 V AC			CR-M060AC3	1SVR405612R5200
110 V AC			CR-M110AC3	1SVR405612R7000
120 V AC			CR-M120AC3	1SVR405612R2000
230 V AC			CR-M230AC3	1SVR405612R3000
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4	1SVR405613R4000
24 V DC			CR-M024DC4	1SVR405613R1000
48 V DC			CR-M048DC4	1SVR405613R6000
60 V DC			CR-M060DC4	1SVR405613R4200
110 V DC			CR-M110DC4	1SVR405613R8000
125 V DC			CR-M125DC4	1SVR405613R8200
220 V DC			CR-M220DC4	1SVR405613R9000
24 V AC			CR-M024AC4	1SVR405613R0000
48 V AC			CR-M048AC4	1SVR405613R5000
110 V AC			CR-M110AC4	1SVR405613R7000
120 V AC			CR-M120AC4	1SVR405613R2000
230 V AC			CR-M230AC4	1SVR405613R3000

Pluggable interface relays

9.20 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
12 V DC	2 c/o (SPDT)	250 V, 12 A	CR-M012DC2L	1SVR405611R4100
24 V DC			CR-M024DC2L	1SVR405611R1100
48 V DC			CR-M048DC2L	1SVR405611R6100
60 V DC			CR-M060DC2L	1SVR405611R4300
110 V DC			CR-M110DC2L	1SVR405611R8100
125 V DC			CR-M125DC2L	1SVR405611R8300
220 V DC			CR-M220DC2L	1SVR405611R9100
24 V AC			CR-M024AC2L	1SVR405611R0100
48 V AC			CR-M048AC2L	1SVR405611R5100
110 V AC			CR-M110AC2L	1SVR405611R7100
120 V AC			CR-M120AC2L	1SVR405611R2100
230 V AC			CR-M230AC2L	1SVR405611R3100
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3L	1SVR405612R4100
24 V DC			CR-M024DC3L	1SVR405612R1100
48 V DC			CR-M048DC3L	1SVR405612R6100
60 V DC			CR-M060DC3L	1SVR405612R4300
110 V DC			CR-M110DC3L	1SVR405612R8100
125 V DC			CR-M125DC3L	1SVR405612R8300
220 V DC			CR-M220DC3L	1SVR405612R9100
24 V AC			CR-M024AC3L	1SVR405612R0100
48 V AC			CR-M048AC3L	1SVR405612R5100
110 V AC			CR-M110AC3L	1SVR405612R7100
120 V AC			CR-M120AC3L	1SVR405612R2100
230 V AC			CR-M230AC3L	1SVR405612R3100
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4L	1SVR405613R4100
24 V DC			CR-M024DC4L	1SVR405613R1100
48 V DC			CR-M048DC4L	1SVR405613R6100
60 V DC			CR-M060DC4L	1SVR405613R4300
110 V DC			CR-M110DC4L	1SVR405613R8100
125 V DC			CR-M125DC4L	1SVR405613R8300
220 V DC			CR-M220DC4L	1SVR405613R9100
24 V AC			CR-M024AC4L	1SVR405613R0100
48 V AC			CR-M048AC4L	1SVR405613R5100
110 V AC			CR-M110AC4L	1SVR405613R7100
120 V AC			CR-M120AC4L	1SVR405613R2100
230 V AC			CR-M230AC4L	1SVR405613R3100

Ordering details - CR-M range with LED and free-wheeling diode

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4LD	1SVR405614R1100

Ordering details - CR-M range with gold contacts

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4G	1SVR405618R1000
24 V AC			CR-M024AC4G	1SVR405618R0000
110 V AC			CR-M110AC4G	1SVR405618R7000
230 V AC			CR-M230AC4G	1SVR405618R3000

Pluggable interface relays

9.20 Ordering details - CR-M range



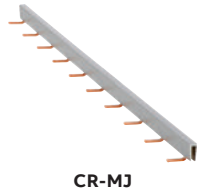
Ordering details – CR-M range with gold contacts and LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	4 c/o (SPDT)	250 V / 6 A	CR-M012DC4LG	1SVR405618R4100
24 V DC			CR-M024DC4LG	1SVR405618R1100
48 V DC			CR-M048DC4LG	1SVR405618R6100
60 V DC			CR-M060DC4LG	1SVR405618R4300
110 V DC			CR-M110DC4LG	1SVR405618R8100
125 V DC			CR-M125DC4LG	1SVR405618R8300
220 V DC			CR-M220DC4LG	1SVR405618R9100
24 V AC			CR-M024AC4LG	1SVR405618R0100
48 V AC			CR-M048AC4LG	1SVR405618R5100
110 V AC			CR-M110AC4LG	1SVR405618R7100
120 V AC			CR-M120AC4LG	1SVR405618R2100
230 V AC			CR-M230AC4LG	1SVR405618R3100



Ordering details - Accessories

Version	Connection terminal	Type	Order code
Logical socket for 2 c/o	screw	CR-M2LS	1SVR405651R1100
Logical socket for 3 c/o		CR-M3LS	1SVR405651R2100
Logical socket for 2/4 c/o		CR-M4LS	1SVR405651R3100
Logical socket for 2 c/o	spring	CR-M2LC	1SVR405651R1200
Logical socket for 2/4 c/o		CR-M4LC	1SVR405651R3200
Standard socket for 2 c/o	screw	CR-M2SS	1SVR405651R1000
Standard socket for 3 c/o		CR-M3SS	1SVR405651R2000
Standard socket for 2/4 c/o		CR-M4SS	1SVR405651R3000
Standard socket for 2 c/o	fork type	CR-M2SF	1SVR405651R1300
Standard socket for 2/4 c/o		CR-M4SF	1SVR405651R3300
Plastic holder		CR-MH	1SVR405659R1000
Metal holder		CR-MH1	1SVR405659R1100
Jumper bar for sockets with screw connection		CR-MJ	1SVR405658R6000
Marker		CR-MM	1SVR405658R1000



Pluggable interface relays

9.20 Ordering details CR-P/M functional modules



Ordering details - CR-P/M range				
Rated control supply voltage	Description	Version	Type	Order code
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-P/M 22	1SVR405651R0000
6-24 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-P/M 42	1SVR405652R0000
		green, A1+, A2-	CR-P/M 42V	1SVR405652R1000
red, A1+, A2-		CR-P/M 42B	1SVR405652R4000	
green, A1+, A2-		CR-P/M 42BV	1SVR405652R4100	
red, A1+, A2-		CR-P/M 42C	1SVR405652R9000	
green, A1+, A2-		CR-P/M 42CV	1SVR405652R9100	
6-24 V AC/DC		Spark quenching	CR-P/M 52B	1SVR405653R0000
24-60 V AC/DC			CR-P/M 52D	1SVR405653R4000
110 V AC/DC	CR-P/M 52C		1SVR405653R1000	
6-24 V AC/DC	Diode, LED and reverse polarity protection	red, for DC A1+, A2-	CR-P/M 62	1SVR405654R0000
		green, for DC A1+, A2-	CR-P/M 62V	1SVR405654R1000
red, for DC A1+, A2-		CR-P/M 62E	1SVR405654R4000	
green, for DC A1+, A2-		CR-P/M 62EV	1SVR405654R4100	
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92	1SVR405654R0100
		green, for DC A1+, A2-	CR-P/M 92V	1SVR405654R1100
6-24 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-P/M 62C	1SVR405655R0000
		green, for DC A1+, A2-	CR-P/M 62CV	1SVR405655R1000
red, for DC A1+, A2-		CR-P/M 62D	1SVR405655R4000	
green, for DC A1+, A2-		CR-P/M 62DV	1SVR405655R4100	
110 V DC 110-230 V AC		red, for DC A1+, A2-	CR-P/M 92C	1SVR405655R0100
		green, for DC A1+, A2-	CR-P/M 92CV	1SVR405655R1100
24 V AC	Overvoltage protection	CR-P/M 72	1SVR405656R0000	
115 V AC		CR-P/M 72A	1SVR405656R1000	
230 V AC		CR-P/M 82	1SVR405656R2000	

Pluggable interface relays

9.20 Ordering details CR-M range

Ordering details - CR-M range with LED and free-wheeling diode				
Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 6 A	CR-M012DC2LD*	1SVR405611R4400
24 V DC			CR-M024DC2LD*	1SVR405611R1400
48 V DC			CR-M048DC2LD*	1SVR405611R6400
110 V DC			CR-M110DC2LD*	1SVR405611R8400
125 V DC			CR-M125DC2LD*	1SVR405611R8500
220 V DC			CR-M220DC2LD*	1SVR405611R9400
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-M012DC3LD*	1SVR405612R4400
24 V DC			CR-M024DC3LD*	1SVR405612R1400
48 V DC			CR-M048DC3LD*	1SVR405612R6400
110 V DC			CR-M110DC3LD*	1SVR405612R8400
125 V DC			CR-M125DC3LD*	1SVR405612R8500
220 V DC			CR-M220DC3LD*	1SVR405612R9400
12 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M012DC4LD*	1SVR405613R4400
24 V DC			CR-M024DC4LD*	1SVR405614R1100
48 V DC			CR-M048DC4LD*	1SVR405613R6400
110 V DC			CR-M110DC4LD*	1SVR405613R8400
125 V DC			CR-M125DC4LD*	1SVR405613R8500
220 V DC			CR-M220DC4LD*	1SVR405613R9400

Ordering details - CR-M range with gold contacts				
Rated control supply voltage	Outputs	Contact ratings	Type	Order code
24 V DC	4 c/o (SPDT)	250 V, 6 A	CR-M024DC4G*	1SVR405618R1000
24 V AC			CR-M024AC4G*	1SVR405618R0000
110 V AC			CR-M110AC4G*	1SVR405618R7000
230 V AC			CR-M230AC4G*	1SVR405618R3000

*Contact ABB for availability. Prices on Request (POR).

Pluggable interface relays

9.20 Ordering details CR-M range



Ordering details - CR-M range complete version						
Rated control supply voltage	Outputs	Description	Socket Type	Connection terminal	Type	Order code
12 V DC	4 c/o gold plated	LED red, Holder	standard	screw	CR-M012DC4LDGSS*	1SVR405618R4410
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M024DC4SS42V*	1SVR405613R1010
24 V DC	4 c/o	Reverse polarity protection and free-wheeling diode, LED green, Holder	logical	screw	CR-M024DC4LS42V*	1SVR405613R1011
		Reverse polarity protection and free-wheeling diode, LED red, Holder	logical	spring	CR-M024DC4LC42*	1SVR405613R1012
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M024DC4GSS42V*	1SVR405618R1011
24 V DC	4 c/o gold plated	Varistor, LED green, Holder	logical	spring	CR-M024DC4GLC62CV*	1SVR405618R1010
		LED, free-wheeling diode, Holder	logical	spring	CR-M024DC4LGLC22*	1SVR405618R1110
		LED red, free-wheeling diode, Holder	standard	screw	CR-M024DC4LDGSS*	1SVR405618R1410
		Varistor, LED green, Holder	logical	screw	CR-M024AC4LS62CV*	1SVR405613R0010
24 V AC	4 c/o	Varistor, LED green, Holder	standard	screw	CR-M230AC4SS92CV*	1SVR405613R3110
		Varistor, LED green, Holder	logical	screw	CR-M230AC4LS92CV*	1SVR405613R3011
		Diode, LED red, Holder	logical	spring	CR-M230AC4LC92*	1SVR405613R3012
		Reverse polarity protection and free-wheeling diode, LED green, Holder	standard	screw	CR-M230AC4GSS42CV*	1SVR405618R3112
230 V AC	4 c/o gold plated	LED red, Holder	logical	screw	CR-M230AC4LGLC*	1SVR405618R3110
		LED red, Holder	standard	screw	CR-M230AC4LGSS*	1SVR405618R3111

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Pluggable interface relays

9.21 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
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2	1SVR405621R4000
24 V DC			CR-U024DC2	1SVR405621R1000
48 V DC			CR-U048DC2	1SVR405621R6000
110 V DC			CR-U110DC2	1SVR405621R8000
220 V DC			CR-U220DC2	1SVR405621R9000
24 V AC			CR-U024AC2	1SVR405621R0000
48 V AC			CR-U048AC2	1SVR405621R5000
110 V AC			CR-U110AC2	1SVR405621R7000
120 V AC			CR-U120AC2	1SVR405621R2000
230 V AC			CR-U230AC2	1SVR405621R3000
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3	1SVR405622R4000
24 V DC			CR-U024DC3	1SVR405622R1000
48 V DC			CR-U048DC3	1SVR405622R6000
110 V DC			CR-U110DC3	1SVR405622R8000
125 V DC			CR-U125DC3	1SVR405622R8200
220 V DC			CR-U220DC3	1SVR405622R9000
24 V AC			CR-U024AC3	1SVR405622R0000
48 V AC			CR-U048AC3	1SVR405622R5000
60 V AC			CR-U060AC3	1SVR405622R5200
110 V AC			CR-U110AC3	1SVR405622R7000
120 V AC			CR-U120AC3	1SVR405622R2000
230 V AC			CR-U230AC3	1SVR405622R3000

Ordering details - CR-U range with LED

Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 10 A	CR-U012DC2L	1SVR405621R4100
24 V DC			CR-U024DC2L	1SVR405621R1100
48 V DC			CR-U048DC2L	1SVR405621R6100
110 V DC			CR-U110DC2L	1SVR405621R8100
220 V DC			CR-U220DC2L	1SVR405621R9100
24 V AC			CR-U024AC2L	1SVR405621R0100
48 V AC			CR-U048AC2L	1SVR405621R5100
110 V AC			CR-U110AC2L	1SVR405621R7100
120 V AC			CR-U120AC2L	1SVR405621R2100
230 V AC			CR-U230AC2L	1SVR405621R3100
12 V DC	3 c/o (SPDT)	250 V, 10 A	CR-U012DC3L	1SVR405622R4100
24 V DC			CR-U024DC3L	1SVR405622R1100
48 V DC			CR-U048DC3L	1SVR405622R6100
110 V DC			CR-U110DC3L	1SVR405622R8100
220 V DC			CR-U220DC3L	1SVR405622R9100
24 V AC			CR-U024AC3L	1SVR405622R0100
48 V AC			CR-U048AC3L	1SVR405622R5100
110 V AC			CR-U110AC3L	1SVR405622R7100
120 V AC			CR-U120AC3L	1SVR405622R2100
230 V AC			CR-U230AC3L	1SVR405622R3100

Ordering details - Accessories

Version	Type	Order code
Socket for 2 c/o and module	CR-U2S	1SVR405670R0000
Socket for 3 c/o and module	CR-U3S	1SVR405660R0000
Socket small for 2 c/o	CR-U2SM	1SVR405670R1100
Socket small for 3 c/o	CR-U3SM	1SVR405660R1100
Holder for CR-U socket	CR-UH	1SVR405669R0000

Pluggable interface relays

9.21 Ordering details - CR-U range

Ordering details - CR-U range with LED and free-wheeling diode				
Rated control supply voltage	Outputs	Contact ratings	Type	Order code
12 V DC	2 c/o (SPDT)	250 V, 10A	CR-U012DC2LD*	1SVR405621R4400
24 V DC			CR-U024DC2LD*	1SVR405621R1400
48 V DC			CR-U048DC2LD*	1SVR405621R6400
110 V DC			CR-U110DC2LD*	1SVR405621R8400
12 V DC	3 c/o (SPDT)		CR-U012DC3LD*	1SVR405622R4400
24 V DC			CR-U024DC3LD*	1SVR405623R1100
48 V DC			CR-U048DC3LD*	1SVR405622R6400
110 V DC			CR-U110DC3LD*	1SVR405622R8400
Ordering details - Accessories				
Version			Type	Order code
Socket for 2 c/o and module			CR-U2S*	1SVR405670R0000
Socket for 3 c/o and module			CR-U3S*	1SVR405660R0000
Socket small for 2 c/o			CR-U2SM*	1SVR405670R1100
Socket small for 3 c/o			CR-U3SM*	1SVR405660R1100
Holder for CR-U socket			CR-UH*	1SVR405669R0000

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Pluggable interface relays

9.21 Ordering details - CR-U accessories



CR-U...



CR-U T

Ordering details - CR-U range				
Rated control supply voltage	Description	Version	Type	Order code
6-220 V DC	Diode - Reverse polarity protection/free wheeling diode	A1+, A2-	CR-U 21	1SVR405661R0000
6-24 V DC	Diode and LED - Reverse polarity protection/free wheeling diode	red, A1+, A2-	CR-U 41	1SVR405662R0000
24-60 V DC		green, A1+, A2-	CR-U 41V	1SVR405662R1000
		red, A1+, A2-	CR-U 41B	1SVR405662R4000
		green, A1+, A2-	CR-U 41BV	1SVR405662R4100
		red, A1+, A2-	CR-U 41C	1SVR405662R9000
110 V DC		green, A1+, A2-	CR-U 41CV	1SVR405662R9100
6-24 V AC/DC	Spark quenching		CR-U 51B	1SVR405663R0000
24-60 V AC/DC			CR-U 51D	1SVR405663R4000
110 V AC/DC			CR-U 51C	1SVR405663R1000
6-24 V AC/DC	Diode and LED	red, for DC A1+, A2-	CR-U 61	1SVR405664R0000
24-60 V AC/DC		green, for DC A1+, A2-	CR-U 61V	1SVR405664R1000
		red, for DC A1+, A2-	CR-U 61E	1SVR405664R4000
		green, for DC A1+, A2-	CR-U 61EV	1SVR405664R4100
		110 V DC 110-230 V AC	red, for DC A1+, A2-	CR-U 91
green, for DC A1+, A2-			CR-U 91V	1SVR405664R1100
6-24 V AC/DC	Varistor and LED Overvoltage protection	red, for DC A1+, A2-	CR-U 61C	1SVR405665R0000
24-60 V AC/DC		green, for DC A1+, A2-	CR-U 61CV	1SVR405665R1000
		red, for DC A1+, A2-	CR-U 61D	1SVR405665R4000
		green, for DC A1+, A2-	CR-U 61DV	1SVR405665R4100
		110 V DC 110-230 V AC	red, for DC A1+, A2-	CR-U 91C
green, for DC A1+, A2-			CR-U 91CV	1SVR405665R1100
24 V AC	Overvoltage protection, varistor		CR-U 71	1SVR405666R0000
115 V AC			CR-U 71A	1SVR405666R1000
230 V AC			CR-U 81	1SVR405666R2000
24-240 V AC/DC	Multifunction time module	pluggable onto CR-U2S and CR-U3S	CR-U T	1SVR405667R0000

All CR-U modules can be plugged onto sockets CR-U2S and CR-U3S.



Interface relays and optocouplers - R600 range

9.22 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

9.22 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
24 V AC/DC	Screw	RC circuit parallel to output contact	RB101R-24VUC	1SNA645019R0400
	Spring		RBR101R-24VUC	1SNA645519R0600
1 n/o contact: 250 V, 10 mA - 6 A, width 6 mm				
Rated control supply voltage	Connection type	Particularities	Type	Order code
24 V AC/DC	Screw		RB111-24VUC	1SNA645014R2700
115 V AC/DC	Screw		RB111-115VUC	1SNA645016R2100
230 V AC/DC	Screw		RB111-230VUC	1SNA645017R2200
24 V AC/DC	Spring		RBR111-24VUC	1SNA645514R2100
1 n/o contact: 250 V, 10 mA - 6 A, width 12 mm				
Rated control supply voltage	Connection type	Particularities	Type	Order code
24 V AC/DC	Screw	RC circuit parallel to output contact	RB111R-24VUC	1SNA645018R0300
	Spring		RBR111R-24VUC	1SNA645518R0500

Boxed Interface relays - R600 range

9.22 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
5 V DC	Screw	A1-A2 polarized	RB121P-5VDC	1SNA645034R2300
12 V DC	Screw	A1-A2 polarized	RB121P-12VDC	1SNA645035R2400
12 V DC	Screw		RB121-12VDC	1SNA645073R0000
24 V DC	Screw		RB121-24VDC	1SNA645071R0000
24 V AC/DC	Screw		RB121-24VUC	1SNA645001R0300
48-60 V AC/DC	Screw		RB121-48-60VUC	1SNA645002R0400
115 V AC/DC	Screw		RB121-115VUC	1SNA645003R0500
230 V AC/DC	Screw		RB121-230VUC	1SNA645004R0400
5 V DC	Spring	A1-A2 polarized	RBR121P-5VDC	1SNA645534R2500
12 V DC	Spring	A1-A2 polarized	RBR121P-12VDC	1SNA645535R2600
24 V DC	Spring		RBR121-24VDC	1SNA645571R0000
24 V AC/DC	Spring		RBR121-24VUC	1SNA645501R0500
48-60 V AC/DC	Spring		RBR121-48-60VUC	1SNA645502R0600
115 V AC/DC	Spring		RBR121-115VUC	1SNA645503R0700
230 V AC/DC	Spring		RBR121-230VUC	1SNA645504R0000

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
5 V DC	Screw	A1-A2 polarized	RB121PG-5VDC	1SNA645036R2500
12 V DC	Screw		RB121G-12VDC	1SNA645075R0000
24 V DC	Screw		RB121G-24VDC	1SNA645072R0000
24 V AC/DC	Screw		RB121G-24VUC	1SNA645005R0700
48-60 V AC/DC	Screw		RB121G-48-60VUC	1SNA645006R0000
115 V AC/DC	Screw		RB121G-115VUC	1SNA645007R0100
230 V AC/DC	Screw		RB121G-230VUC	1SNA645008R1200
24 V DC	Spring		RBR121G-24VDC	1SNA645572R0000
24 V AC/DC	Spring		RBR121G-24VUC	1SNA645505R0100
48-60 V AC/DC	Spring		RBR121G-48-60VUC	1SNA645506R0200
115 V AC/DC	Spring		RBR121G-115VUC	1SNA645507R0300
230 V AC/DC	Spring		RBR121G-230VUC	1SNA645508R1400

Boxed interface relays R600 range

9.22 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
60-230 V AC/DC	Screw	Leakage current protection, RC circuit parallel to input	RB121-60-230VUC	1SNA645020R0100
115 V AC/DC	Screw		RB121R-115VUC	1SNA645046R0700
230 V AC/DC	Screw		RB121R-230VUC	1SNA645011R2400
60-230 V AC/DC	Spring	Leakage current protection, RC circuit parallel to input	RBR121-60-230VUC	1SNA645520R0300
230 V AC/DC	Spring		RBR121R-230VUC	1SNA645511R2600

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
24 V AC/DC	Screw	RB122G-24VUC	1SNA645012R2500
48-60 V AC/DC	Screw	RB122G-48-60VUC	1SNA645040R1500
115 V AC/DC	Screw	RB122G-115VUC	1SNA645041R0200
230 V AC/DC	Screw	RB122G-230VUC	1SNA645013R2600
24 V AC/DC	Spring	RBR122G-24VUC	1SNA645512R2700
48-60 V AC/DC	Spring	RBR122G-48-60VUC	1SNA645540R1700
115 V AC/DC	Spring	RBR122G-115VUC	1SNA645541R0400
230 V AC/DC	Spring	RBR122G-230VUC	1SNA645513R2000

Ordering details - Accessories

Description	Type	Order code
Jumper bar, 10 poles	BJ612-10	1SNA290488R0100
Jumper bar, 20 poles	BJ612-20	1SNA206754R0000
Separator end section	SC612	1SNA290474R0200

Boxed Interface optocouplers - R600 range

9.22 Ordering details



R600 - 6 mm

Transistor output, 58 V DC, 100 mA, width 6 mm

Rated control supply voltage	Connection type	Type	Order code
5 - 12 V DC	Screw	OBIC0100-5-12VDC	1SNA645047R0000
24 V DC	Screw	OBIC0100-24VDC	1SNA645021R2600
48 - 60 V AC/DC	Screw	OBIC0100-48-60VUC	1SNA645049R1200
115 - 230 V AC/DC	Screw	OBIC0100-115-230	1SNA645022R2700
5 - 12 V DC	Spring	OBRIC0100-5-12VDC	1SNA645547R0200
24 V DC	Spring	OBRIC0100-24VDC	1SNA645521R2000
48 - 60 V AC/DC	Spring	OBRIC0100-48-60VUC	1SNA645549R1400
115 - 230 V AC/DC	Spring	OBRIC0100-115-230	1SNA645522R2100

MOS-FET output, 58 V DC, 2 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code
5 - 12 V DC	Screw	OBOC2000-5-12VDC	1SNA645050R1700
24 V DC	Screw	OBOC2000-24VDC	1SNA645051R0400
24 V AC/DC	Screw	OBOC2000-24VUC	1SNA645025R2200
48 - 60 V AC/DC	Screw	OBOC2000-48-60VUC	1SNA645053R0600
115 V AC/DC	Screw	OBOC2000-115VUC	1SNA645054R0700
230 V AC/DC	Screw	OBOC2000-230VUC	1SNA645026R2300
5 - 12 V DC	Spring	OBROC2000-5-12VDC	1SNA645550R1100
24 V DC	Spring	OBROC2000-24VDC	1SNA645551R0600
24 V AC/DC	Spring	OBROC2000-24VUC	1SNA645525R2400
48 - 60 V AC/DC	Spring	OBROC2000-48-60VUC	1SNA645553R0000
230 V AC/DC	Spring	OBROC2000-230VUC	1SNA645526R2500

MOS-FET output, 58 V DC, 5 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code
24 V DC	Screw	OBOC5000-24VDC	1SNA645024R2100
115 V AC/DC	Screw	OBOC5000-115VUC	1SNA645058R1300
24 V DC	Spring	OBROC5000-24VDC	1SNA645524R2300
230 V AC/DC	Spring	OBROC5000-230VUC	1SNA645559R1600

Triac output, 400 V AC, 1 A, width 6 mm

Rated control supply voltage	Connection type	Type	Order code
24 V DC	Screw	OBOA1000-24VDC	1SNA645027R2400
115 V AC/DC	Screw	OBOA1000-115VUC	1SNA645062R0700
230 V AC/DC	Screw	OBOA1000-230VUC	1SNA645028R0500
24 V DC	Spring	OBROA1000-24VDC	1SNA645527R2600

Triac output, 230 V AC, 2 A, width 12 mm

Rated control supply voltage	Connection type	Type	Order code
24 V DC	Screw	OBOA2000-24VDC	1SNA645029R0600
24 V DC	Spring	OBROA2000-24VDC	1SNA645529R0000

Ordering details - Accessories

Description	Type	Order code
Jumper bar, 10 poles	BJ612-10	1SNA290488R0100
Jumper bar, 20 poles	BJ612-20	1SNA206754R0000
Separator end section	SC612	1SNA290474R0200



R600 - 12 mm

SECTION 10

Motor protection and control

Contactors, overload relays and manual motor starters

DOL and reversing starters

Protected by manual motor starters	10.1
Protected by overload relays	10.2

Star-delta starters

Protected by overload relays with AF contactors	10.3
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Coordination tables for Motor protection

DOL Normal Start Type 2 Coordination	10.4
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3-pole contactors

Motor control and power switching overview	10.5
AF range 3-pole contactors	10.6
AF..Z range 3-pole contactors – Low Consumption	10.7
AF09 ... AF96 3-pole contactors – Main accessories	10.8
AF range 3-pole contactors	10.9
AF116 ... AF370 3-pole contactors – Main accessories	10.10
AF range 3-pole contactors	10.11
AF400 ... AF2650 3-pole – Main accessories	10.12
Push-in Spring Contactors and Contactor Relays	10.13
Overview - 4-pole contactors	10.14
AF range- 4-pole contactors	10.15
EK range- 4-pole contactors	10.16
Contactors for Capacitor Switching 3 Pole	10.17
Contactor Relays NFZ Range 4 Pole	10.18
Contactors AS Range 3 Pole	10.19
AS Range Main Accessories	10.20
Thermal Overload Relays	10.21
Electronic Overload Relays	10.22
Mini Contactors	10.23
Manual Motor Starters	10.24
Manual Motor Starters & Accessories	10.25

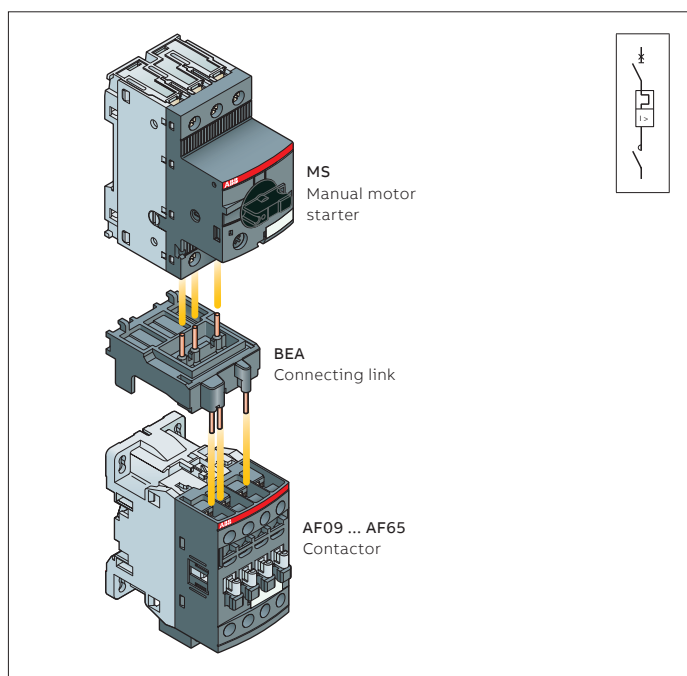
Contactors for PV solar

GF875...GF1050 contactors	10.26
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DOL and reversing starters

10.1 Protected by manual motor starters with AF contactors

- Open Type Version in Kit Form



Direct-on-line starters

Description

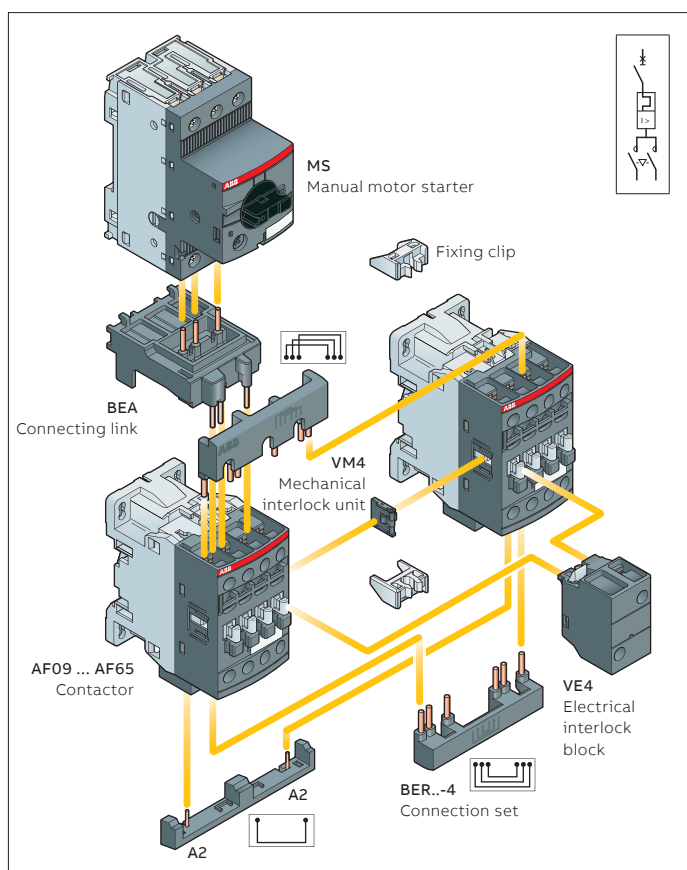
You can easily assemble a direct-on-line starter by using the BEA...-4 connecting link 3-pole insulated. It is used to electrically and mechanically connect MS116, MS132 or MS165 manual motor starter and AF09 ... AF65 contactor, AC or DC operated.

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.



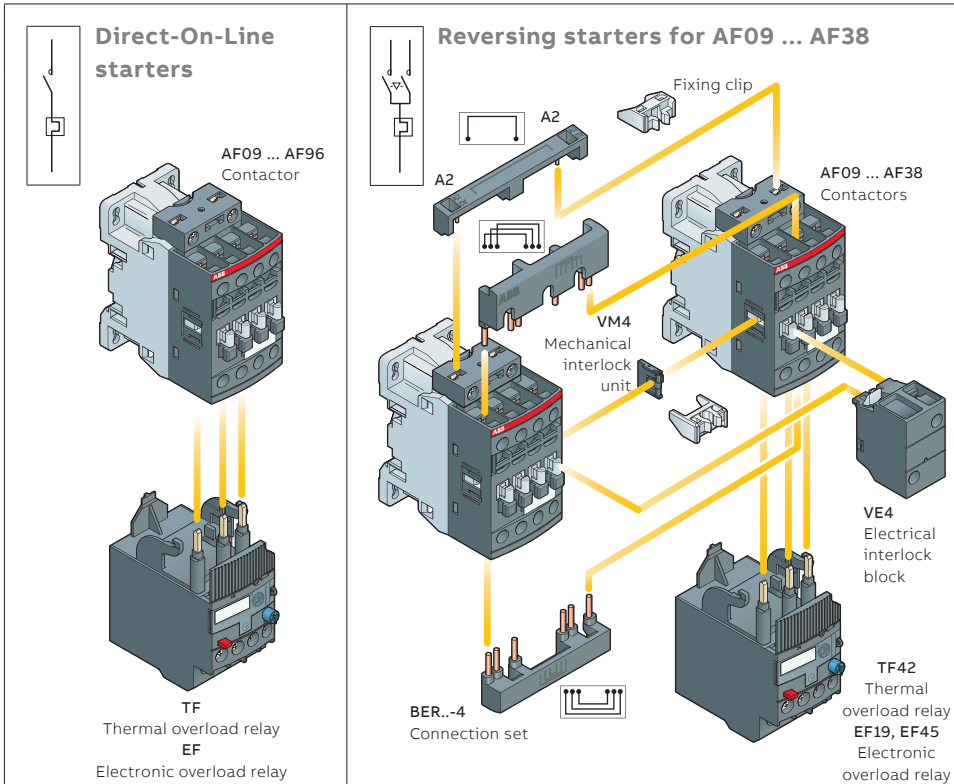
Select now easily and quickly your starter in the following pages for coordination type 1 or 2 at 400 V, 50/60 Hz, I_q = 16 kA up to 18.5 kW and I_q = 50 kA up to 45 kW.

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"

DOL and reversing starters

10.2 with AF contactors - Open Type Version in Kit Form



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:

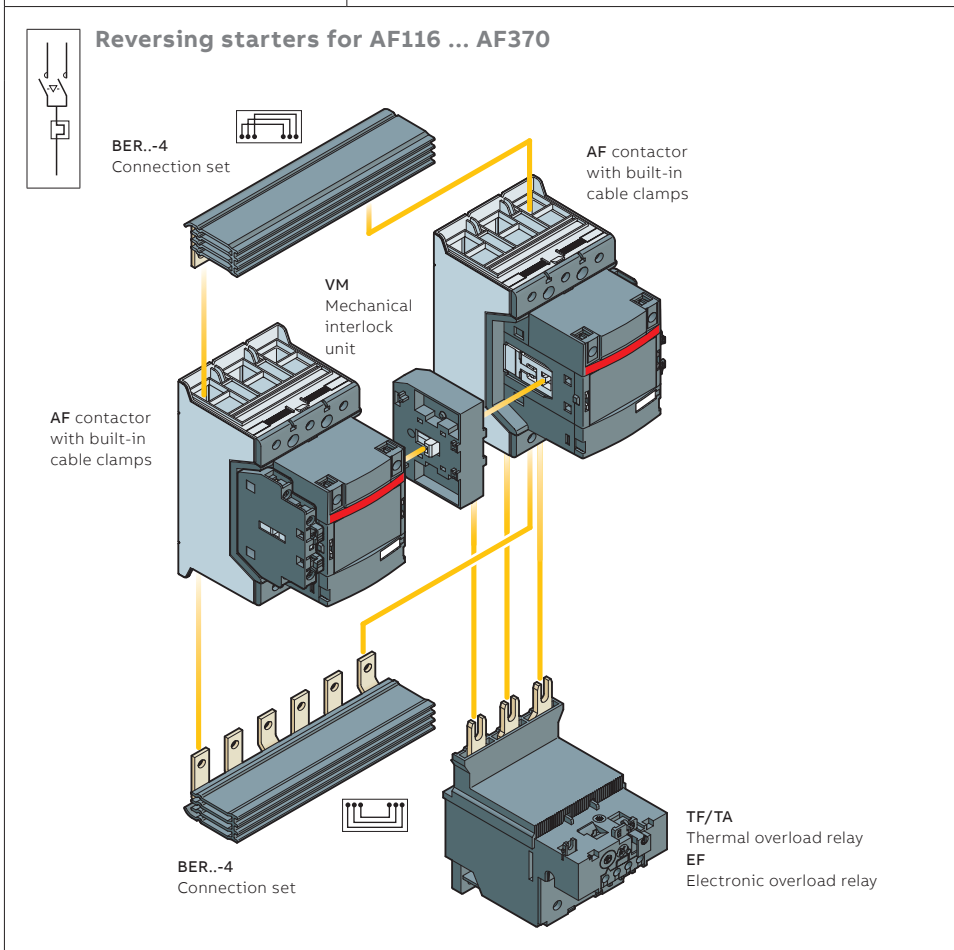
- For AF09 ... AF38, use VEM4 mechanical and electrical interlock set for reversing starter in 90 mm width.

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"



Star-delta starters

10.3 Star-delta Selection Table

IEC					Line contactor KM1		Delta contactor KM3		Star contactor KM2		
AC-3 Rated Power		Rated current	Control Voltage Uc min. ... Uc max. ⁽¹⁾		Type	Product code	Type	Product code	Type	Product code	
400V	500V	400V									
kW	kW	A	V 50/60 Hz	V DC							
7,5	9	15,5	100...250	100...250	AF09-30-10-13	1SBL137001R1310	AF09-30-10-13	1SBL137001R1310	AF09-30-10-13	1SBL137001R1310	
11	11	22	100...250	100...250	AF12-30-10-13	1SBL157001R1310	AF12-30-10-13	1SBL157001R1310	AF09-30-10-13	1SBL137001R1310	
15	15	29	100...250	100...250	AF16-30-10-13	1SBL177001R1310	AF16-30-10-13	1SBL177001R1310	AF09-30-10-13	1SBL137001R1310	
18,5	25	35	100...250	100...250	AF26-30-00-13	1SBL237001R1300	AF26-30-00-13	1SBL237001R1300	AF26-30-00-13	1SBL237001R1300	
22	25	41	100...250	100...250	AF26-30-00-13	1SBL237001R1300	AF26-30-00-13	1SBL237001R1300	AF26-30-00-13	1SBL237001R1300	
25	30	47	100...250	100...250	AF30-30-00-13	1SBL277001R1300	AF30-30-00-13	1SBL277001R1300	AF26-30-00-13	1SBL237001R1300	
37	37	66	100...250	100...250	AF40-30-00-13	1SBL347001R1300	AF40-30-00-13	1SBL347001R1300	AF40-30-00-13	1SBL347001R1300	
45	45	80	100...250	100...250	AF52-30-00-13	1SBL367001R1300	AF52-30-00-13	1SBL367001R1300	AF40-30-00-13	1SBL347001R1300	
55	55	97	100...250	100...250	AF65-30-00-13	1SBL387001R1300	AF65-30-00-13	1SBL387001R1300	AF40-30-00-13	1SBL347001R1300	
75	75	132	100...250	100...250	AF80-30-00-13	1SBL397001R1300	AF80-30-00-13	1SBL397001R1300	AF52-30-00-13	1SBL367001R1300	
90	90	160	100...250	100...250	AF96-30-00-13	1SBL407001R1300	AF96-30-00-13	1SBL407001R1300	AF65-30-00-13	1SBL387001R1300	
110	132	195	100...250	100...250	AF116-30-11-13	1SFL427001R1311	AF116-30-11-13	1SFL427001R1311	AF116-30-11-13 ⁽⁴⁾	1SFL427001R1311	
132	160	230	100...250	100...250	AF140-30-11-13	1SFL447001R1311	AF140-30-11-13	1SFL447001R1311	AF116-30-11-13	1SFL427001R1311	
160	200	280	100...250	100...250	AF190-30-11-13	1SFL487002R1311	AF190-30-11-13	1SFL487002R1311	AF140-30-11-13	1SFL447001R1311	
200	250	350	100...250	100...250	AF205-30-11-13	1SFL527002R1311	AF205-30-11-13	1SFL527002R1311	AF190-30-11-13	1SFL487002R1311	
250	315	430	100...250	100...250	AF265-30-11-13	1SFL547002R1311	AF265-30-11-13	1SFL547002R1311	AF205-30-11-13	1SFL527002R1311	
315	400	540	100...250	100...250	AF370-30-11-13	1SFL607002R1311	AF370-30-11-13	1SFL607002R1311	AF265-30-11-13	1SFL547002R1311	
355	400	610	100...250	100...250	AF370-30-11-13	1SFL607002R1311	AF370-30-11-13	1SFL607002R1311	AF305-30-11-13	1SFL587002R1311	

⁽¹⁾ AF09 ... AF370: ambient temperature ≤ 60 °C.
⁽²⁾ The setting current value is: nominal motor current x 0.58. Overload relay type given for 400 V - AC-3.
For other voltage, select overload relay type according to required nominal motor current x 0.58.
⁽³⁾ On-delay timer without dwelling-time (e.g.: side-mounted CT-ERS.21S or front-mounted TEF4-ON) is enough to countdown the programmed starting time during "Star connection". In case of use of front-mounted TEF4-ON on-delay timer, mount on KM1 contactor AF26 ... AF96 a side-mounted CAL4-11 auxiliary contact block instead of CA4-10 auxiliary contact block.
⁽⁴⁾ AF80 can also be used, but no connection set and mechanical interlock is available for this combination.

NOTE: This table is for information purposes only. Additional information and options can also be accessible on the URL provided. Kindly access the said URL for verification.
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"

Star-delta starters

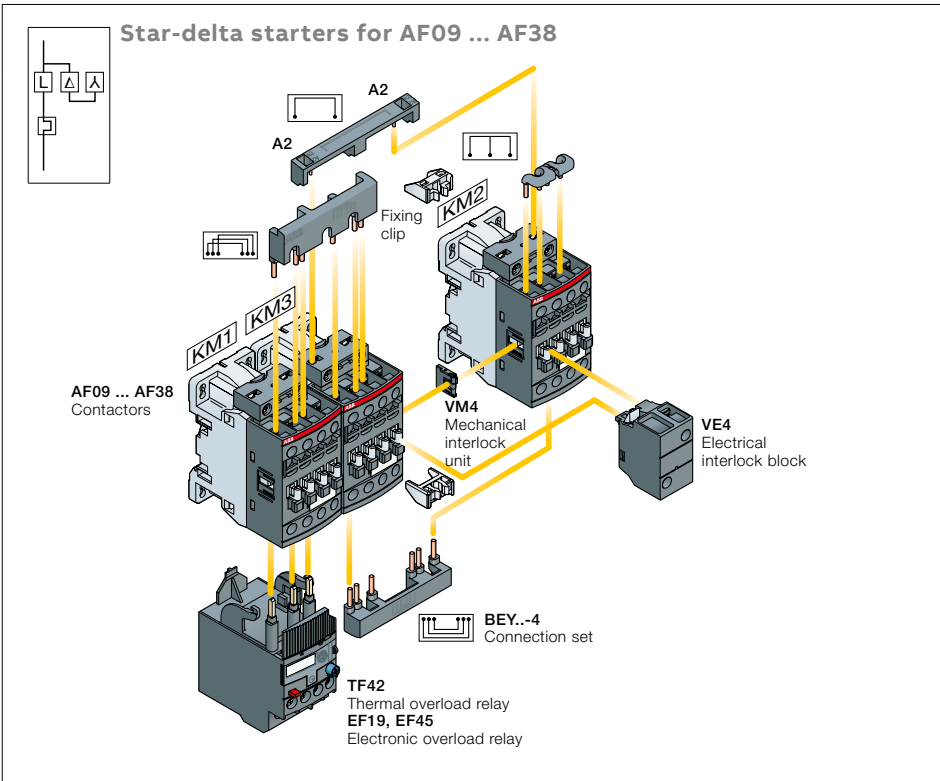
10.3 Star-delta Selection Table

Electronic overload relays ⁽²⁾			Electronic timers ⁽³⁾		Accessories		Auxiliary contact blocks	
Type	Setting range	Product code	Type	Product code	Type	Product code	Type	Product code
EF19-18.9	5.70...18.9	1SAX121001R1105	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY16-4 + VEM4	1SBN081313R2000 1SBN030111R1000		
EF19-18.9	5.70...18.9	1SAX121001R1105	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY16-4 + VEM4	1SBN081313R2000 1SBN030111R1000		
EF19-18.9	5.70...18.9	1SAX121001R1105	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY16-4 + VEM4	1SBN081313R2000 1SBN030111R1000		
EF45-30	9.00...30.0	1SAX221001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY38-4 + VEM4	1SBN082713R2000 1SBN030111R1000	KM1 : 1 x CA4-10 KM2 : 1 x CA4-10	1SBN010110R1010 1SBN010110R1010
EF45-30	9.00...30.0	1SAX221001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY38-4 + VEM4	1SBN082713R2000 1SBN030111R1000	KM1 : 1 x CA4-10 KM2 : 1 x CA4-10	1SBN010110R1010 1SBN010110R1010
EF45-30	9.00...30.0	1SAX221001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY38-4 + VEM4	1SBN082713R2000 1SBN030111R1000	KM1 : 1 x CA4-10 KM2 : 1 x CA4-10	1SBN010110R1010 1SBN010110R1010
EF65-70	25...70	1SAX331001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY65-4 + VM96-4	1SBN083413R2000 1SBN033405T1000	KM1 : 1 x CA4-10 ⁽³⁾ KM2 : 1 x CA4-10 1 x CA4-01 KM3 : 1 x CA4-01	1SBN010110R1010 1SBN010110R1010 1SBN010110R1001 1SBN010110R1001
EF65-70	25...70	1SAX331001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY65-4 + VM96-4	1SBN083413R2000 1SBN033405T1000	KM1 : 1 x CA4-10 ⁽³⁾ KM2 : 1 x CA4-10 1 x CA4-01 KM3 : 1 x CA4-01	1SBN010110R1010 1SBN010110R1010 1SBN010110R1001 1SBN010110R1001
EF65-70	25...70	1SAX331001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY65-4 + VM96-4	1SBN083413R2000 1SBN033405T1000	KM1 : 1 x CA4-10 ⁽³⁾ KM2 : 1 x CA4-10 1 x CA4-01 KM3 : 1 x CA4-01	1SBN010110R1010 1SBN010110R1010 1SBN010110R1001 1SBN010110R1001
EF96-100	36...100	1SAX341001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY96-4 + VM96-4	1SBN083913R2000 1SBN033405T1000	KM1 : 1 x CA4-10 ⁽³⁾ KM2 : 1 x CA4-10 1 x CA4-01 KM3 : 1 x CA4-01	1SBN010110R1010 1SBN010110R1010 1SBN010110R1001 1SBN010110R1001
EF96-100	36...100	1SAX341001R1101	CT-ERS.21S or TEF4-ON	1SVR730100R0300 1SBN020112R1000	BEY96-4 + VM96-4	1SBN083913R2000 1SBN033405T1000	KM1 : 1 x CA4-10 ⁽³⁾ KM2 : 1 x CA4-10 1 x CA4-01 KM3 : 1 x CA4-01	1SBN010110R1010 1SBN010110R1010 1SBN010110R1001 1SBN010110R1001
EF146-150	54...150	1SAX351001R1101	CT-ERS.21S	1SVR730100R0300	BEY140-4 + VM19	1SFN084413R1000 1SFN030300R1000		
EF146-150	54...150	1SAX351001R1101	CT-ERS.21S	1SVR730100R0300	BEY140-4 + VM19	1SFN084413R1000 1SFN030300R1000		
EF205-210	63...210	1SAX531001R1101	CT-ERS.21S	1SVR730100R0300	BEY190-4 + VM140/190	1SFN084813R1000 1SFN034403R1000		
EF205-210	63...210	1SAX531001R1101	CT-ERS.21S	1SVR730100R0300	BEY205-4 + VM19	1SFN085213R1000 1SFN030300R1000		
EF370-380	115...380	1SAX611001R1101	CT-ERS.21S	1SVR730100R0300	BEY265-4 + VM205/265	1SFN085413R1000 1SFN035203R1000		
EF370-380	115...380	1SAX611001R1101	CT-ERS.21S	1SVR730100R0300	BEY370-4 + VM19	1SFN085813R1000 1SFN030300R1000		
EF370-380	115...380	1SAX611001R1101	CT-ERS.21S	1SVR730100R0300	BEY370-4 + VM19	1SFN085813R1000 1SFN030300R1000		

Star-delta starters

10.3 Protected by overload relays with AF contactors

- Open Type Version in Kit Form



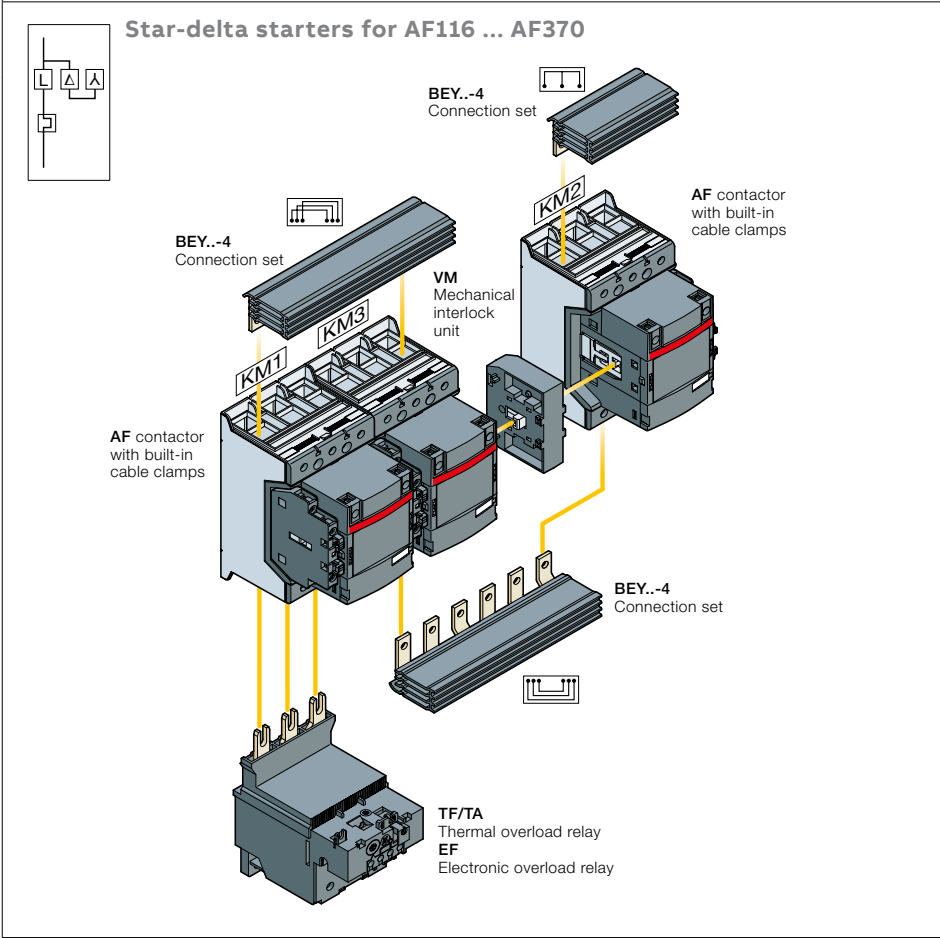
Description

You can easily assemble star-delta starter thanks to our complete range of acces-sories:

- For AF09 ... AF38, use VEM4 mechanical and electrical interlock set without increasing starter width. It includes: - VM4 mechanical interlock unit and 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.
- BEY...-4 connection set: it assures a safe and simple connection between both contactor main terminals.

Select now easily and quickly your starter in the following pages at 400 V, up to 200 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"



Coordination tables fo Motor protection

10.4 DOL Normal Start Type 2 Coordination

MCCB - 525Vac - 50kA - DOL-NS - IEC Type 2 - Tmax XT + AF + TF

SCPD:	MCCB	Rated voltage:	525 Vac	Short-Circuit Current:	50kA
Staring type:	DOL-NS	Coordination type:	IEC Type 2	Overload relay:	TOL
Disconnecting Mean present:	No	Backup / limiter present:	No	Current transformer present:	No
Edited on date:	1/7/2014	Motor Efficiency Class:	IE1 + IE2		

Motor		MCCB		Contactor	Overload relays		Max allowed load current
Rated Power kW	Rated current [A]	Type	Inst.Trip. Current [A]	Type	Type	Current range	[A]
0.37	0.84	XT2V 160 MF In 1	14.00	AF09	TF42-1.0	0.74 - 1.00	1.00
0.55	1.10	XT2V 160 MF In 2	28.00	AF09	TF42-1.3	1.00 - 1.30	1.30
0.55	1.40	XT2V 160 MF In 2	28.00	AF09	TF42-1.7	1.30 - 1.70	1.70
1.1	2.10	XT2V 160 MF In 4	56.00	AF26	EF19-6.3*	1.90 - 6.30	4.00
1.5	2.70	XT2V 160 MF In 4	56.00	AF26	EF19-6.3*	1.90 - 6.30	4.00
2.2	3.80	XT2V 160 MF In 4	56.00	AF26	EF19-6.3*	1.90 - 6.30	4.00
3	5.00	XT2V 160 MF In 8.5	120.00	AF40	EF19-18.9**	5.70 - 18.90	8.50
4	6.60	XT2V 160 MF In 8.5	120.00	AF40	EF19-18.9**	5.70 - 18.90	8.50
5.5	8.70	XT2V 160 MF In 12.5	175.00	AF40	EF19-18.9**	5.70 - 18.90	12.50
7.5	11.60	XT2V 160 MF In 20	200.00	AF40	EF19-18.9**	5.70 - 18.90	18.90
11	16.70	XT2V 160 MF In 20	280.00	AF40	EF19-18.9**	5.70 - 18.90	18.90
15	22.00	XT2V 160 MF In 32	384.00	AF40	EF65-56	20.00 - 56.00	28.00
18.5	28.00	XT2V 160 MF In 52	520.00	AF52	TF65-33	25.00 - 33.00	33.00
22	32.00	XT2V 160 MF In 52	520.00	AF52	TF65-40	30.00 - 40.00	40.00
30	43.00	XT2V 160 MF In 52	728.00	AF80	TF96-51	40.00 55.00	51.00
37	53.00	XT2V 160 MF In 80	960.00	AF96	TF96-60	48.00 - 60.00	60.00
45	64.00	T4L 250 PR221DS-I In 160	1200.00	AF140	TF140DU-90	66.00 - 90.00	80.00
55	78.00	T4L 250 PR221DS-I In 160	1440.00	AF146	TF140DU-110	80.00 - 110.00	93.00
75	105.00	T4L 250 PR221DS-I In 250	1750.00	AF190	TA200DU-135	100.00 - 135.00	135.00
90	126.00	T4L 250 PR221DS-I In 250	2000.00	AF190	TA200DU-150	110.00 - 150.00	135.00
110	150.00	T4L 250 PR221DS-I In 250	2500.00	AF205	TA200DU-175	130.00 - 175.00	165.00

* Type 1 with TF.

** DB19EF mounting kit is needed. Type 1 with TA.

Valid also for 550V

NOTE:

This table is for information purposes only. Additional information and options can also be accessible on the URL provided. Kindly access the said URL for verification.

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



AC / DC Control supply				Type	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
IEC	AC-3	Rated operational power $\theta \leq 60\text{ }^{\circ}\text{C}$ for AF09 ... AF370 $\theta \leq 55\text{ }^{\circ}\text{C}$ for AF400 ... AF2650	220 - 230 - 240 V	kW	2.2	3	4	6.5	9	11	11	15	18.5	22	25
			380 - 400 V	kW	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45
			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	$\theta \leq 40\text{ }^{\circ}\text{C}$, 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	60	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	—

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	
	Mechanical	VM4	VM96-4
Interlocking units	Mechanical / Electrical	VEM4	
	For reversing contactors	BER16-4	BER38-4
Connection sets			BER65-4
Surge suppressors		Built-in surge protection	BER96-4

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	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) lcs up to 50 kA for class 10 A		MS165 (10...80 A) lcs up to 100 kA (1)	
		MS132 (0.10...32 A) lcs up to 100 kA			
	Magnetic only types	MO132 (0.16...32 A) lcs up to 100 kA		MO165 (16...80 A) lcs up to 100 kA (1)	
	Accessories	For contactor mounting	BEA16-4	BEA38-4	

(1) MS165/MO165 are suitable for use with AF09 ... AF30 for North american applications.
(2) BEA65-4 suitable for MS165 and MO165 only.



	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650	AF2850
	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	160	185	200	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	2850

	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	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	2850
	—	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) $\theta \leq 55^{\circ}\text{C}$		TA200DU (66...200 A) $\theta \leq 55^{\circ}\text{C}$															
	EF146 (54...150 A)		EF205 (63...210 A)		EF370 (115...380 A)		EF460 (150...500 A)		EF750 (250...800 A)		EF1250DU (350...1250 A)							

Contactors and Contactor Relays

10.6 AF Range 3-pole Contactors, Ordering Details

AF09 ... AF38 3-pole contactors

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type ⁽¹⁾	Order code				
Rated operational power	current u ≤ 40 °C	3-phase motor rating hp	General use rating 600 V AC	Uc min. ... Uc max									
400 V AC-3 kW	AC-1 A			V 50/60 Hz	V DC								
4	25	5	25	24...60	20...60			1	0	AF09-30-10-11	1SBL137001R1110		
						0	1	AF09-30-01-11	1SBL137001R1101				
				48...130	48...130	1	0	AF09-30-10-12	1SBL137001R1210				
						0	1	AF09-30-01-12	1SBL137001R1201				
				100...250	100...250	1	0	AF09-30-10-13	1SBL137001R1310				
						0	1	AF09-30-01-13	1SBL137001R1301				
				250...500	250...500	1	0	AF09-30-10-14	1SBL137001R1410				
						0	1	AF09-30-01-14	1SBL137001R1401				
				5.5	28	7.5	28	24...60	20...60	1	0	AF12-30-10-11	1SBL157001R1110
										0	1	AF12-30-01-11	1SBL157001R1101
48...130	48...130	1	0					AF12-30-10-12	1SBL157001R1210				
		0	1					AF12-30-01-12	1SBL157001R1201				
100...250	100...250	1	0					AF12-30-10-13	1SBL157001R1310				
		0	1					AF12-30-01-13	1SBL157001R1301				
250...500	250...500	1	0					AF12-30-10-14	1SBL157001R1410				
		0	1					AF12-30-01-14	1SBL157001R1401				
7.5	30	10	30					24...60	20...60	1	0	AF16-30-10-11	1SBL177001R1110
										0	1	AF16-30-01-11	1SBL177001R1101
				48...130	48...130	1	0	AF16-30-10-12	1SBL177001R1210				
						0	1	AF16-30-01-12	1SBL177001R1201				
				100...250	100...250	1	0	AF16-30-10-13	1SBL177001R1310				
						0	1	AF16-30-01-13	1SBL177001R1301				
				250...500	250...500	1	0	AF16-30-10-14	1SBL177001R1410				
						0	1	AF16-30-01-14	1SBL177001R1401				
				11	45	15	45	24...60	20...60	0	0	AF26-30-00-11	1SBL237001R1100
								48...130	48...130	0	0	AF26-30-00-12	1SBL237001R1200
100...250	100...250	0	0					AF26-30-00-13	1SBL237001R1300				
250...500	250...500	0	0					AF26-30-00-14	1SBL237001R1400				
24...60	20...60	0	0					AF30-30-00-11	1SBL277001R1100				
15	50	20	50	48...130	48...130	0	0	AF30-30-00-12	1SBL277001R1200				
				100...250	100...250	0	0	AF30-30-00-13	1SBL277001R1300				
				250...500	250...500	0	0	AF30-30-00-14	1SBL277001R1400				
				24...60	20...60	0	0	AF38-30-00-11	1SBL297001R1100				
18.5	50	25	50	48...130	48...130	0	0	AF38-30-00-12	1SBL297001R1200				
				100...250	100...250	0	0	AF38-30-00-13	1SBL297001R1300				
				250...500	250...500	0	0	AF38-30-00-14	1SBL297001R1400				

⁽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

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
Rated power 400 V AC-3 kW	operational current u ≤ 40 °C AC-1 A	3-phase motor rating hp	General use rating 600 V AC A	Uc min. ... Uc max					
				V 50/60 Hz	V DC				
18.5	70	30	60	24...60	20...60 ⁽²⁾	0	0	AF40-30-00-11	1SBL347001R1100
				48...130	48...130	0	0	AF40-30-00-12	1SBL347001R1200
				100...250	100...250	0	0	AF40-30-00-13	1SBL347001R1300
				250...500	250...500	0	0	AF40-30-00-14	1SBL347001R1400
22	100	40	80	24...60	20...60 ⁽²⁾	0	0	AF52-30-00-11	1SBL367001R1100
				48...130	48...130	0	0	AF52-30-00-12	1SBL367001R1200
				100...250	100...250	0	0	AF52-30-00-13	1SBL367001R1300
				250...500	250...500	0	0	AF52-30-00-14	1SBL367001R1400
30	105	50	90	24...60	20...60 ⁽²⁾	0	0	AF65-30-00-11	1SBL387001R1100
				48...130	48...130	0	0	AF65-30-00-12	1SBL387001R1200
				100...250	100...250	0	0	AF65-30-00-13	1SBL387001R1300
				250...500	250...500	0	0	AF65-30-00-14	1SBL387001R1400
37	125	60	105	24...60	20...60 ⁽²⁾	0	0	AF80-30-00-11	1SBL397001R1100
				48...130	48...130	0	0	AF80-30-00-12	1SBL397001R1200
				100...250	100...250	0	0	AF80-30-00-13	1SBL397001R1300
				250...500	250...500	0	0	AF80-30-00-14	1SBL397001R1400
45	130	60	115	24...60	20...60 ⁽²⁾	0	0	AF96-30-00-11	1SBL407001R1100
				48...130	48...130	0	0	AF96-30-00-12	1SBL407001R1200
				100...250	100...250	0	0	AF96-30-00-13	1SBL407001R1300
				250...500	250...500	0	0	AF96-30-00-14	1SBL407001R1400

⁽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.

Contactors and Contactor Relays

10.7 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		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
Rated operational power 400 V AC-3 kW	current u ≤ 40 °C AC-1 A	3-phase motor rating hp	General use rating 600 V AC A	Uc min. V 50/60 Hz	Uc max V DC				
4	25	5	25	-	12...20	1	0	AF09Z-30-10-20	1SBL136001R2010
						0	1	AF09Z-30-01-20	1SBL136001R2001
				24...60	20...60	1	0	AF09Z-30-10-21	1SBL136001R2110
						0	1	AF09Z-30-01-21	1SBL136001R2101
				48...130	48...130	1	0	AF09Z-30-10-22	1SBL136001R2210
						0	1	AF09Z-30-01-22	1SBL136001R2201
				100...250	100...250	1	0	AF09Z-30-10-23	1SBL136001R2310
						0	1	AF09Z-30-01-23	1SBL136001R2301
				-	12...20	1	0	AF12Z-30-10-20	1SBL156001R2010
						0	1	AF12Z-30-01-20	1SBL156001R2001
5.5	28	7.5	28	24...60	20...60	1	0	AF12Z-30-10-21	1SBL156001R2110
						0	1	AF12Z-30-01-21	1SBL156001R2101
				48...130	48...130	1	0	AF12Z-30-10-22	1SBL156001R2210
						0	1	AF12Z-30-01-22	1SBL156001R2201
				100...250	100...250	1	0	AF12Z-30-10-23	1SBL156001R2310
						0	1	AF12Z-30-01-23	1SBL156001R2301
				-	12...20	1	0	AF16Z-30-10-20	1SBL176001R2010
						0	1	AF16Z-30-01-20	1SBL176001R2001
				24...60	20...60	1	0	AF16Z-30-10-21	1SBL176001R2110
						0	1	AF16Z-30-01-21	1SBL176001R2101
7.5	30	10	30	48...130	48...130	1	0	AF16Z-30-10-22	1SBL176001R2210
						0	1	AF16Z-30-01-22	1SBL176001R2201
				100...250	100...250	1	0	AF16Z-30-10-23	1SBL176001R2310
						0	1	AF16Z-30-01-23	1SBL176001R2301
				-	12...20	0	0	AF26Z-30-00-20	1SBL236001R2000
						0	0	AF26Z-30-00-21	1SBL236001R2100
				24...60	20...60	0	0	AF26Z-30-00-22	1SBL236001R2200
						0	0	AF26Z-30-00-23	1SBL236001R2300
				100...250	100...250	0	0	AF30Z-30-00-20	1SBL276001R2000
						0	0	AF30Z-30-00-21	1SBL276001R2100
11	45	15	45	48...130	48...130	0	0	AF30Z-30-00-22	1SBL276001R2200
						0	0	AF30Z-30-00-23	1SBL276001R2300
				100...250	100...250	0	0	AF38Z-30-00-20	1SBL296001R2000
						0	0	AF38Z-30-00-21	1SBL296001R2100
				24...60	20...60	0	0	AF38Z-30-00-22	1SBL296001R2200
						0	0	AF38Z-30-00-23	1SBL296001R2300
				48...130	48...130	0	0	AF38Z-30-00-24	1SBL296001R2400
						0	0	AF38Z-30-00-25	1SBL296001R2500
				100...250	100...250	0	0	AF38Z-30-00-26	1SBL296001R2600
						0	0	AF38Z-30-00-27	1SBL296001R2700
15	50	20	50	-	12...20	0	0	AF38Z-30-00-28	1SBL296001R2800
						0	0	AF38Z-30-00-29	1SBL296001R2900
				24...60	20...60	0	0	AF38Z-30-00-30	1SBL296001R3000
						0	0	AF38Z-30-00-31	1SBL296001R3100
				48...130	48...130	0	0	AF38Z-30-00-32	1SBL296001R3200
						0	0	AF38Z-30-00-33	1SBL296001R3300
				100...250	100...250	0	0	AF38Z-30-00-34	1SBL296001R3400
						0	0	AF38Z-30-00-35	1SBL296001R3500
				-	12...20	0	0	AF38Z-30-00-36	1SBL296001R3600
						0	0	AF38Z-30-00-37	1SBL296001R3700
18.5	50	25	50	24...60	20...60	0	0	AF38Z-30-00-38	1SBL296001R3800
						0	0	AF38Z-30-00-39	1SBL296001R3900
				48...130	48...130	0	0	AF38Z-30-00-40	1SBL296001R4000
						0	0	AF38Z-30-00-41	1SBL296001R4100
				100...250	100...250	0	0	AF38Z-30-00-42	1SBL296001R4200
						0	0	AF38Z-30-00-43	1SBL296001R4300
				-	12...20	0	0	AF38Z-30-00-44	1SBL296001R4400
						0	0	AF38Z-30-00-45	1SBL296001R4500
				24...60	20...60	0	0	AF38Z-30-00-46	1SBL296001R4600
						0	0	AF38Z-30-00-47	1SBL296001R4700

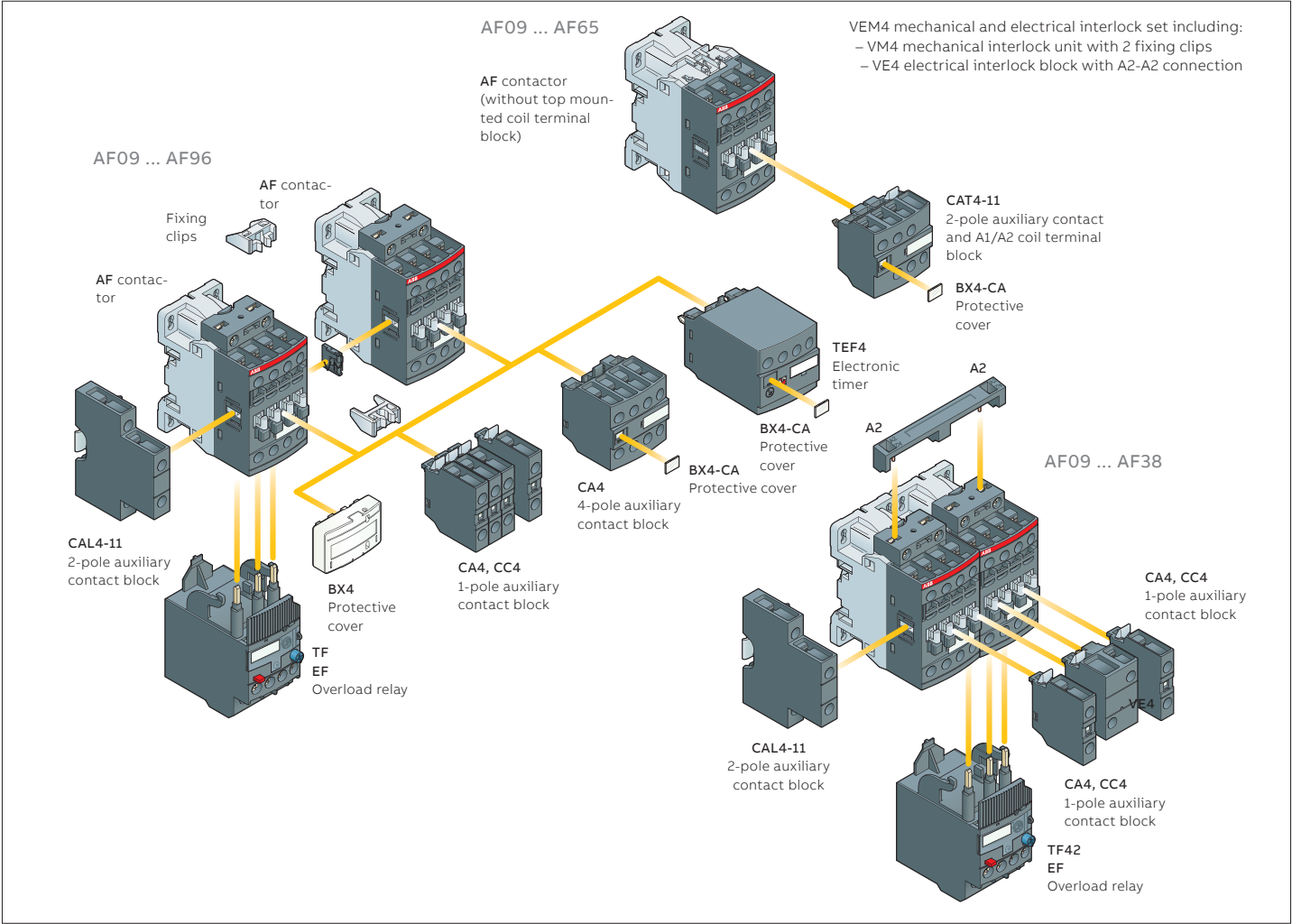
⁽¹⁾ For other auxiliary contacts arrangements, please contact your ABB local sales organization.

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

10.8 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		Auxiliary contact blocks					
									mechanical interlock set							
		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.

Contactors and Contactor Relays

10.8 AF09 ... AF96 3-pole Contactors Main Accessories



Front-mounted instantaneous auxiliary contact blocks

For contactors	Auxiliary contacts				Type	Order code	Pkg qty
AF09 ... AF96	1	0	–	–	CA4-10	1SBN010110R1010	1
	1	0	–	–	CA4-10-T	1SBN010110T1010	10
	0	1	–	–	CA4-01	1SBN010110R1001	1
	0	1	–	–	CA4-01-T	1SBN010110T1001	10
AF09 ... AF16...30-10	2	2	–	–	CA4-22M	1SBN010140R1122	1
AF26 ... AF96...30-00	2	2	–	–	CA4-22E	1SBN010140R1022	1
AF09 ... AF16...30-01	2	2	–	–	CA4-22U	1SBN010140R1322	1

Front-mounted Instantaneous Auxiliary Contact Blocks

AF09 ... AF96	–	–	1	0	CC4-10	1SBN010111R1010	1
	–	–	0	1	CC4-01	1SBN010111R1001	1

Side-mounted Instantaneous Auxiliary Contact Blocks

AF09 ... AF96	1	1	–	–	CAL4-11	1SBN010120R1011	1
	1	1	–	–	CAL4-11-T	1SBN010120T1011	10

Front-mounted Instantaneous Auxiliary Contact and A1/A2 Coil Terminal Blocks

AF09 ... AF16...30-10	1	1	–	–	CAT4-11M	1SBN010151R1111	1
AF26 ... AF65...30-00	1	1	–	–	CAT4-11E	1SBN010151R1011	1
AF09 ... AF16...30-01	1	1	–	–	CAT4-11U	1SBN010151R1311	1

Note: CAT4 not suitable for AF...Z contactors with DC control voltage 12...20 V DC.

Mechanical Interlock Unit

AF09 ... AF38	VM4	1SBN030105T1000	10
AF40 ... AF96	VM96-4	1SBN033405T1000	10

Note: VM4 and VM96-4 include 2 fixing clips (BB4) to maintain together both contactors.

Mechanical and Electrical Interlock set

AF09 ... AF16	0	2	–	–	VEM4	1SBN030111R1000	1
AF26 ... AF38							

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.

For Contactors	Time Delay Range Selected by Switch	Delay Type	Auxiliary Contacts		Type	Order Code	Pkg Qty
----------------	-------------------------------------	------------	--------------------	--	------	------------	---------

Electronic timers

AF09 ... AF96	0.1...1 s	ON-delay	1	1	TEF4-ON	1SBN020112R1000	1
	1...10 s	OFF-delay	1	1	TEF4-OFF	1SBN020114R1000	1
	10...100 s						

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.

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
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
	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

Connection Sets for Reversing Contactors

AF09 ... AF16	BER16-4	1SBN081311R1000	1
AF26 ... AF38	BER38-4	1SBN082311R1000	1
AF40 ... AF65	BER65-4	1SBN083411R1000	1
AF80 ... AF96	BER96-4	1SBN083911R1000	1

Connection Sets for Star-delta Starting

AF09 ... AF16	With or without VM4	BEY16-4	1SBN081313R2000	1
AF26 ... AF38	With or without VM4	BEY38-4	1SBN082713R2000	1
AF40 ... AF65	With or without VM96-4	BEY65-4	1SBN083413R2000	1
AF80 ... AF96	With or without VM96-4	BEY96-4	1SBN083913R2000	1

Contactors and Contactor Relays

10.9 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		Auxiliary contacts fitted		Type (1)	Order code
Rated operational		3-phase	General use	Uc min. ...	Uc max				
power 400 V AC-3 kW	current u ≤ 40 °C AC-1 A	motor rating hp	rating 600 V AC A	V 50/60 Hz	V DC				
55	160	75	160	24...60	20...60	0	0	AF116-30-00-11	1SFL427001R1100
				48...130	48...130	0	0	AF116-30-00-12	1SFL427001R1200
				100...250	100...250	0	0	AF116-30-00-13	1SFL427001R1300
				250...500	250...500	0	0	AF116-30-00-14	1SFL427001R1400
75	200	100	200	24...60	20...60	0	0	AF140-30-00-11	1SFL447001R1100
				48...130	48...130	0	0	AF140-30-00-12	1SFL447001R1200
				100...250	100...250	0	0	AF140-30-00-13	1SFL447001R1300
				250...500	250...500	0	0	AF140-30-00-14	1SFL447001R1400
75	225	100	200	24...60	20...60	0	0	AF146-30-00-11	1SFL467001R1100
				48...130	48...130	0	0	AF146-30-00-12	1SFL467001R1200
				100...250	100...250	0	0	AF146-30-00-13	1SFL467001R1300
				250...500	250...500	0	0	AF146-30-00-14	1SFL467001R1400

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF190 ... AF370 3-pole contactors

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
Rated operational		3-phase	General use rating 600 V AC A	Uc min. ... Uc max					
power 400 V AC-3 kW	current u ≤ 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
				48...130	48...130	0	0	AF190-30-00-12	1SFL487002R1200
				100...250	100...250	0	0	AF190-30-00-13	1SFL487002R1300
				250...500	250...500	0	0	AF190-30-00-14	1SFL487002R1400
110	350	150	300	24...60	20...60	0	0	AF205-30-00-11	1SFL527002R1100
				48...130	48...130	0	0	AF205-30-00-12	1SFL527002R1200
				100...250	100...250	0	0	AF205-30-00-13	1SFL527002R1300
				250...500	250...500	0	0	AF205-30-00-14	1SFL527002R1400
132	400	200	350	24...60	20...60	0	0	AF265-30-00-11	1SFL547002R1100
				48...130	48...130	0	0	AF265-30-00-12	1SFL547002R1200
				100...250	100...250	0	0	AF265-30-00-13	1SFL547002R1300
				250...500	250...500	0	0	AF265-30-00-14	1SFL547002R1400
160	500	250	400	24...60	20...60	0	0	AF305-30-00-11	1SFL587002R1100
				48...130	48...130	0	0	AF305-30-00-12	1SFL587002R1200
				100...250	100...250	0	0	AF305-30-00-13	1SFL587002R1300
				250...500	250...500	0	0	AF305-30-00-14	1SFL587002R1400
200	600	300	520	24...60	20...60	0	0	AF370-30-00-11	1SFL607002R1100
				48...130	48...130	0	0	AF370-30-00-12	1SFL607002R1200
				100...250	100...250	0	0	AF370-30-00-13	1SFL607002R1300
				250...500	250...500	0	0	AF370-30-00-14	1SFL607002R1400

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.



AF146-30-00



AF370-30-00

Contactors and Contactor Relays

10.9 AF Range 3-pole Contactors, Ordering Details



AF116-30-00



AF305-30-00



AF PLC: AF140-30-00



AF PLC AF370-30-00

AF116 ... AF370 3-pole contactors with faster operating time

IEC		UL/CSA		Rated control circuit		Auxiliary contacts		Type	Order code
Rated operational		3-phase	General use	voltage		fitted			
power 400 V AC-3 kW	current u ≤ 40 °C AC-1 A	motor rating 480 V hp	rating 600 V AC A	Uc	Uc				
55	160	75	160	110-120	110-120	0	0	AF116-30-00-42	1SFL427001R4200
				220-240	220-240	0	0	AF116-30-00-43	1SFL427001R4300
75	200	100	200	110-120	110-120	0	0	AF140-30-00-42	1SFL447001R4200
				220-240	220-240	0	0	AF140-30-00-43	1SFL447001R4300
75	225	100	200	110-120	110-120	0	0	AF146-30-00-42	1SFL467001R4200
				220-240	220-240	0	0	AF146-30-00-43	1SFL467001R4300
90	275	125	250	110-120	110-120	0	0	AF190-30-00-42	1SFL487002R4200
				220-240	220-240	0	0	AF190-30-00-43	1SFL487002R4300
110	350	150	300	110-120	110-120	0	0	AF205-30-00-42	1SFL527002R4200
				220-240	220-240	0	0	AF205-30-00-43	1SFL527002R4300
132	400	200	350	110-120	110-120	0	0	AF265-30-00-42	1SFL547002R4200
				220-240	220-240	0	0	AF265-30-00-43	1SFL547002R4300
160	500	250	400	110-120	110-120	0	0	AF305-30-00-42	1SFL587002R4200
				220-240	220-240	0	0	AF305-30-00-43	1SFL587002R4300
200	600	300	520	110-120	110-120	0	0	AF370-30-00-42	1SFL607002R4200
				220-240	220-240	0	0	AF370-30-00-43	1SFL607002R4300

AF116 ... AF370 3-pole contactors with built-in PLC interface

IEC		UL/CSA		Rated control circuit		Auxiliary contacts		Type	Order code
Rated operational		3-phase	General use rating	voltage		fitted			
power	current	motor rating		Uc					
400 V	u ≤ 40 °C								
AC-3	AC-1	480 V	600 V	AC	Hz	DC			
kW	A	hp	A						
55	160	75	160	24...60	20...60	0	0	AF116-30-00-31	1SFL427001R3100
				48...130	48...130	0	0	AF116-30-00-32	1SFL427001R3200
				100...250	100...250	0	0	AF116-30-00-33	1SFL427001R3300
				250...500	250...500	0	0	AF116-30-00-34	1SFL427001R3400
75	200	100	200	24...60	20...60	0	0	AF140-30-00-31	1SFL447001R3100
				48...130	48...130	0	0	AF140-30-00-32	1SFL447001R3200
				100...250	100...250	0	0	AF140-30-00-33	1SFL447001R3300
				250...500	250...500	0	0	AF140-30-00-34	1SFL447001R3400
75	225	100	200	24...60	20...60	0	0	AF146-30-00-31	1SFL467001R3100
				48...130	48...130	0	0	AF146-30-00-32	1SFL467001R3200
				100...250	100...250	0	0	AF146-30-00-33	1SFL467001R3300
				250...500	250...500	0	0	AF146-30-00-34	1SFL467001R3400
90	275	125	250	24...60	20...60	0	0	AF190-30-00-31	1SFL487002R3100
				48...130	48...130	0	0	AF190-30-00-32	1SFL487002R3200
				100...250	100...250	0	0	AF190-30-00-33	1SFL487002R3300
				250...500	250...500	0	0	AF190-30-00-34	1SFL487002R3400
110	350	150	300	24...60	20...60	0	0	AF205-30-00-31	1SFL527002R3100
				48...130	48...130	0	0	AF205-30-00-32	1SFL527002R3200
				100...250	100...250	0	0	AF205-30-00-33	1SFL527002R3300
				250...500	250...500	0	0	AF205-30-00-34	1SFL527002R3400
132	400	200	350	24...60	20...60	0	0	AF265-30-00-31	1SFL547002R3100
				48...130	48...130	0	0	AF265-30-00-32	1SFL547002R3200
				100...250	100...250	0	0	AF265-30-00-33	1SFL547002R3300
				250...500	250...500	0	0	AF265-30-00-34	1SFL547002R3400
160	500	250	400	24...60	20...60	0	0	AF305-30-00-31	1SFL587002R3100
				48...130	48...130	0	0	AF305-30-00-32	1SFL587002R3200
				100...250	100...250	0	0	AF305-30-00-33	1SFL587002R3300
				250...500	250...500	0	0	AF305-30-00-34	1SFL587002R3400
200	600	300	520	24...60	20...60	0	0	AF370-30-00-31	1SFL607002R3100
				48...130	48...130	0	0	AF370-30-00-32	1SFL607002R3200
				100...250	100...250	0	0	AF370-30-00-33	1SFL607002R3300
				250...500	250...500	0	0	AF370-30-00-34	1SFL607002R3400

Contactors and Contactor Relays

10.10 AF116...AF370 - 3-pole Contactors Main Accessories



AF116 ... AF370 - 3-pole contactors Main accessories

For Contactors	Auxiliary Contacts		Type	Order Code	Pkg Qty
					
Side-mounted Instantaneous Auxiliary Contact Blocks					
AF116 ... AF370	1	1	CAL19-11	1SFN010820R1011	2
	1	1	CAL19-11B	1SFN010820R3311	2



Mechanical Interlock Unit					
AF116 ... AF370			VM19	1SFN030300R1000	1
AF116 ... AF146 and AF190, AF205			VM140/190	1SFN034403R1000	1
AF190, AF205 and AF265 ... AF370			VM205/265	1SFN035203R1000	1

Terminal Shrouds

AF116 ... AF146, with compression lugs	LT140-30L	1SFN124203R1000	2
AF190, AF205, with cable clamps	LT205-30C	1SFN124801R1000	2
AF190, AF205, with compression lugs	LT205-30L	1SFN124803R1000	2
AF190, AF205, with shorting bar or between contactor and TOL/EOL in DOL-starters	LT205-30Y	1SFN124804R1000	1
AF265 ... AF370, with cable clamps	LT370-30C	1SFN125401R1000	2
AF265 ... AF370, with compression lugs	LT370-30L	1SFN125403R1000	2
AF265 ... AF370, with shorting bar or between contactor and TOL/EOL in DOL-starters	LT370-30Y	1SFN125404R1000	1
AF265 ... AF370, for use with extending cable clamps, ATK300/2 and OZXB4	LT370-30D	1SFN125406R1000	1

For Contactors	Dimensions		Type	Order Code	Pkg Qty
	hole Ø mm	bar mm			

Terminal Enlargements

AF116...AF146	6.5	13 x 3	LW140	1SFN074207R1000	1
AF190...AF205	10.5	17.5 x 5	LW205	1SFN074807R1000	1
AF265...AF370	10.5	20 x 5	LW370	1SFN075407R1000	1

Terminal Extension

AF116...AF146	6.5	13 x 3	LX140	1SFN074210R1000	1
AF190...AF250	8.5	17.5 x 5	LX205	1SFN074810R1000	1
AF265...AF370	10.5	20 x 5	LX370	1SFN075410R1000	1

⁽¹⁾ For more information, refer to main catalog "Accessories" section.

Contactors and Contactor Relays

10.11 AF range 3-pole Contactors, Ordering Details



AF460-30-11

AF400 ... AF750 - 3-pole contactors

Ordering Details

IEC		UL/CSA		Rated Control Circuit Voltage		Auxiliary Contacts Fitted		Type	Order Code
Rated Operational Power 400 V AC-3 kW	Current $u \leq 40^\circ\text{C}$ 690 V AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating 600 V AC A	Uc min. ... Uc max. V 50/60 Hz	V DC	1	2		
200	600	350	550	-	24...60	1	1	AF400-30-11	1SFL577001R6811 ⁽¹⁾
				48...130	48...130	1	1	AF400-30-11	1SFL577001R6911
				100...250	100...250	1	1	AF400-30-11	1SFL577001R7011
				250...500	250...500	1	1	AF400-30-11	1SFL577001R7111
250	700	400	650	-	24...60	1	1	AF460-30-11	1SFL597001R6811 ⁽¹⁾
				48...130	48...130	1	1	AF460-30-11	1SFL597001R6911
				100...250	100...250	1	1	AF460-30-11	1SFL597001R7011
				250...500	250...500	1	1	AF460-30-11	1SFL597001R7111
315	800	500	750	-	24...60	1	1	AF580-30-11	1SFL617001R6811 ⁽¹⁾
				48...130	48...130	1	1	AF580-30-11	1SFL617001R6911
				100...250	100...250	1	1	AF580-30-11	1SFL617001R7011
				250...500	250...500	1	1	AF580-30-11	1SFL617001R7111
400	1050	600	900	-	24...60	1	1	AF750-30-11	1SFL637001R6811 ⁽¹⁾
				48...130	48...130	1	1	AF750-30-11	1SFL637001R6911
				100...250	100...250	1	1	AF750-30-11	1SFL637001R7011
				250...500	250...500	1	1	AF750-30-11	1SFL637001R7111

⁽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.



AF2650-30-11

AF1250 ... AF2650 - 3-pole contactors

IEC		UL/CSA		Rated Control Circuit Voltage		Auxiliary Contacts Fitted		Type	Order Code
Rated Operational Power 400 V AC-3 kW	Current $u \leq 40^\circ\text{C}$ 690 V AC-1 A	3-phase Motor Rating 480 V hp	General Use Rating 600 V AC (2) A	Uc ⁽¹⁾ V 50/60 Hz	V DC	1	2		
-	1260	-	1210	-	24...60	1	1	AF1250-30-11	1SFL647001R6811 ⁽¹⁾
				48...130	48...130	1	1	AF1250-30-11	1SFL647001R6911
				100...250	100...250	1	1	AF1250-30-11	1SFL647001R7011
				250...500	250...500	1	1	AF1250-30-11	1SFL647001R7111
475	1350	800	1350	100...250	100...250	1	1	AF1350-30-11	1SFL657001R7011
560	1650	900	1650	100...250	100...250	1	1	AF1650-30-11	1SFL677001R7011
-	2050	-	2100	100...250	100...250	1	1	AF2050-30-11	1SFL707001R7011
-	2650	-	2700	100...250	100...250	1	1	AF2650-30-11	1SFL667001R7011

⁽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.

Contactors and Contactor Relays

10.12 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

Side-mounted Instantaneous Auxiliary Contact Blocks

AF400 ... AF2650	1	1	CAL18-11	1SFN010720R1011	2
	1	1	CAL18-11B	1SFN010720R3311	2

Mechanical Interlock Unit

AF400 ... AF1250			VM750H	1SFN035700R1000	1
AF1350 ... AF2650			VM1650H	1SFN036503R1000	1

Terminal Shrouds

AF400, AF460 with connectors			LT460-AC	1SFN125701R1000	2
AF400, AF460 with lugs			LT460-AL	1SFN125703R1000	2
AF580 ... AF750 with connectors			LT750-AC	1SFN126101R1000	2
AF580 ... AF750 with lugs			LT750-AL	1SFN126103R1000	2

For Contactors	Dimensions		Type	Order Code	Pkg Qty
	hole Ø mm	bar mm			

Terminal Enlargements

AF400, AF460	10.5	25 x 5	LW460	1SFN075707R1000	1
AF580, AF750	13	40 x 6	LW750	1SFN076107R1000	1
AF1250	13	50 x 10	LW1250	1SFN076407R1000	1

Terminal Extension

AF400, AF460	10.5	25 x 5	LX460	1SFN075710R1000	1
AF580, AF750	13	40 x 6	LX750	1SFN076110R1000	1

(1) For more information, refer to main catalog "Accessories" section.

Push-in Spring Motor Starting Solution

10.13 Complete range, complete efficiency

The Push-in Spring motor starting solution products provide you with a range of benefits.



2-in-1

Benefit from both Push-in mode and Spring mode and use ferruled cables or cables without ferrules in the same terminal.



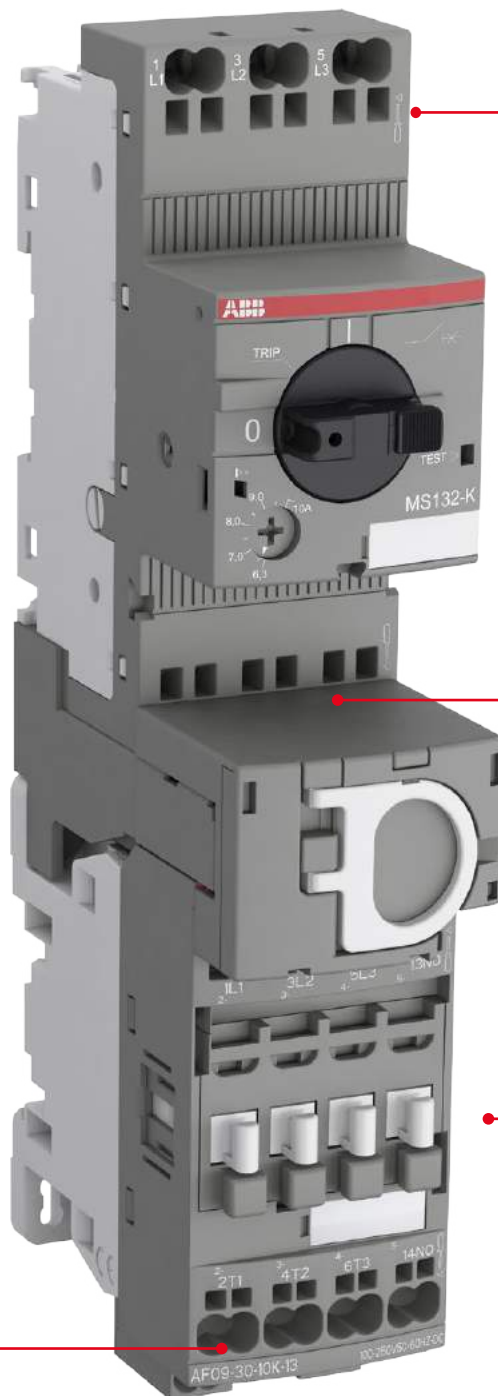
Compatible with screw range

Mount accessories for control circuits on the screw range up to 30 kW AC-3 400 V on manual motor starters and up to 45 kW AC-3 400 V, 130 A AC-1 on contactors.



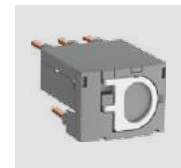
Robust by design

Contact robustness by design, independent from operator.



Just one tool for everything

You only need a 3 mm screwdriver in Spring mode as well as for de-wiring the complete solution.



Tool-less connecting links

100% tool-less mounting and dismantling connecting links.



Higher connecting capacity

The solution ranges up to 18.5 kW 400 V AC-3 and 50 A AC-1 (25 hp 480 V and 45 A 600 V general use).

Push-in Spring Motor Starting Solution

10.13 3-pole contactors and motor protection



AC / DC Control supply			Type	AF09..K	AF12..K	AF16..K	AF26..K	AF30..K	AF38..K
IEC	AC-3 Rated operational power	$\theta \leq 60\text{ }^{\circ}\text{C}$, 380 - 400 V	kW	4	5.5	7.5	11	15	18.5
	Rated operational current	380 - 400 V	A	9	12	18	26	32	38
	AC-1 Rated operational current	$\theta \leq 40\text{ }^{\circ}\text{C}$, 690 V	A	25	28	30	45	50	50
UL/CSA	3-phase Motor Rating	440 - 480 V	hp	5	7.5	10	15	20	25
	General Use Rating	600 V	A	25	28	30	42	45	45
NEMA	NEMA size			00	0	–	1	–	–

Main accessories for contactors

Auxiliary contact blocks		Front mounting	CA4-10K (1 N.O.) CA4-01K (1 N.C.)	
		Side mounting	CAL4-11K	
Interlocking units		Mechanical	VM4	
		Mechanical / Electrical	VEM4K*	
Connection set		For reversing contactors	BER16-4K*	BER38-4K*
		For star-delta starters	BEY16-4K*	BEY38-4K*
Surge protection			Built-in surge protection	

Accessories for manual motor starter

	Thermal / magnetic protection Class 10	MS132K (0.10...32 A) lcs up to 100 kA
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Accessories

Connecting link for contactor mounting		BEA16-4K*	BEA38-4K*
Auxiliary contact blocks	Front mounting	HKF1-..K (1 N.O. + 1N.C.) (2 N.O.)	
	Side mounting	HK1-..K (1 N.O. + 1N.C.) (2 N.O.) (2 N.C.)	
Signaling contact	For trip alarm	SK1-..K (1 N.O. + 1N.C.) (2 N.O.) (2 N.C.)	

(*) For more information, please contact your ABB local sales organization.

Push-in Spring Motor Starting Solution

10.13 MS132-K manual motor starters with Push-in Spring terminals



The MS132-K series is a compact and powerful range for motor protection up to 15 kW (400 V) / 32 A with a width of only 45 mm. The innovative Push-in Spring terminals enable tool-free wiring and eliminate the need for routine re-tightening. The manual motor starter is suitable for three- and single phase applications.

Rated operational power 400 V AC-3 Kw	Setting range A	Short-circuit breaking capacity Ics at 400 V AC kA	Rated instantaneous short-circuit current setting Ii A	Type	Order code
MS132-K					
0.03 ⁽¹⁾	0.10 ... 0.16	100	2.00	MS132-0.16K*	1SAM350010R1001
0.06	0.16 ... 0.25	100	3.10	MS132-0.25K*	1SAM350010R1002
0.09	0.25 ... 0.40	100	5.00	MS132-0.4K*	1SAM350010R1003
0.18	0.40 ... 0.63	100	7.90	MS132-0.63K*	1SAM350010R1004
0.25	0.63 ... 1.00	100	12.5	MS132-1.0K*	1SAM350010R1005
0.55	1.00 ... 1.60	100	20.0	MS132-1.6K*	1SAM350010R1006
0.75	1.60 ... 2.50	100	31.3	MS132-2.5K*	1SAM350010R1007
1.50	2.50 ... 4.00	100	50.0	MS132-4.0K*	1SAM350010R1008
2.20	4.00 ... 6.30	100	78.8	MS132-6.3K*	1SAM350010R1009
4.00	6.30 ... 10.0	100	150	MS132-10K*	1SAM350010R1010
5.50	8.00 ... 12.0	100	240	MS132-16K*	1SAM350010R1011
7.50	16.0 ... 20.0	100	300	MS132-20K*	1SAM350010R1013
11.0	20.0 ... 25.0	50	375	MS132-25K*	1SAM350010R1014
15.0	25.0 ... 32.0	25	480	MS132-32K*	1SAM350010R1015

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.
(1) 690 V
* Contact ABB office for availability

MS132-K
Main Accessories



HKF1-11K



HK1-11K



SK1-11K

MS116, MS132, MS165, MO132, MO165, MS132-T, MS132-K - Main accessories

Suitable for	Auxiliary contacts N.O.	Auxiliary contacts N.C.	Description	Type	Order code
Auxiliary contacts – mountable on the front					
MS116 MS132, MS165MO132, MO165MS132-T, MS132-K	1	1		HKF1-11K*	1SAM201901R1201
	2	0		HKF1-20K*	1SAM201901R1202
Auxiliary contacts – mountable on the right					
MS116 MS132, MS165MO132, MO165MS132-T, MS132-K	1	1		HK1-11K*	1SAM201902R1201
	2	0		HK1-20K*	1SAM201902R1202
	0	2		HK1-02K*	1SAM201902R1203
	2	0	with 2 lead contacts	HK1-20LK*	1SAM201902R1204
Signaling contacts – mountable on the right					
MS116, MS132, MS165	1	1		SK1-11K*	1SAM201903R1201
MO132, MO165	2	0		SK1-20K*	1SAM201903R1202
MS132-T, MS132-K	0	2		SK1-20K*	1SAM201903R1203

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.
(1) 690 V
* Contact ABB office for availability

Push-in Spring Contactors and Contactor Relays

10.13 3-Pole Contactors and 4 Pole Contactor Relays

AF09..K ... AF38..K 3-pole contactors - with Push-in Spring terminals

IEC		UL/CSA		Rated Control Circuit Voltage Uc		Auxiliary Contacts Fitted	Type	Order Code
Rated Operational Power 400 V AC-3	Current θ ≤ 40 °C AC-1	3-phase Motor Rating	General Use Rating 600 V AC	Uc min /max 50/60 Hz	Uc min /max			
kW	A	hp	A	V AC	V DC			
4	25	5	25	24...60	20...60	1 0	AF09-30-10K-11*	1SBL137005R1110
						0 1	AF09-30-01K-11*	1SBL137005R1101
				48...130	48...130	1 0	AF09-30-10K-12*	1SBL137005R1210
						0 1	AF09-30-01K-12*	1SBL137005R1201
				100...250	100...250	1 0	AF09-30-10K-13*	1SBL137005R1310
						0 1	AF09-30-01K-13*	1SBL137005R1301
				250...500	250...500	1 0	AF09-30-10K-14*	1SBL137005R1410
						0 1	AF09-30-01K-14*	1SBL137005R1401
				24...60	20...60	1 0	AF12-30-10K-11*	1SBL157005R1110
						0 1	AF12-30-01K-11*	1SBL157005R1101
5.5	28	7.5	28	48...130	48...130	1 0	AF12-30-10K-12*	1SBL157005R1210
						0 1	AF12-30-01K-12*	1SBL157005R1201
				100...250	100...250	1 0	AF12-30-10K-13*	1SBL157005R1310
						0 1	AF12-30-01K-13*	1SBL157005R1301
				250...500	250...500	1 0	AF12-30-10K-14*	1SBL157005R1410
						0 1	AF12-30-01K-14*	1SBL157005R1401
				24...60	20...60	1 0	AF16-30-10K-11*	1SBL177005R1110
						0 1	AF16-30-01K-11*	1SBL177005R1101
				48...130	48...130	1 0	AF16-30-10K-12*	1SBL177005R1210
						0 1	AF16-30-01K-12*	1SBL177005R1201
7.5	30	10	30	100...250	100...250	1 0	AF16-30-10K-13*	1SBL177005R1310
						0 1	AF16-30-01K-13*	1SBL177005R1301
				250...500	250...500	1 0	AF16-30-10K-14*	1SBL177005R1410
						0 1	AF16-30-01K-14*	1SBL177005R1401
				24...60	20...60	0 0	AF26-30-00K-11*	1SBL237005R1100
						0 0	AF26-30-00K-12*	1SBL237005R1200
				48...130	48...130	0 0	AF26-30-00K-13*	1SBL237005R1300
						0 0	AF26-30-00K-14*	1SBL237005R1400
				100...250	100...250	0 0	AF30-30-00K-11*	1SBL277005R1100
						0 0	AF30-30-00K-12*	1SBL277005R1200
11	45	15	45	48...130	48...130	0 0	AF30-30-00K-13*	1SBL277005R1300
						0 0	AF30-30-00K-14*	1SBL277005R1400
				250...500	250...500	0 0	AF38-30-00K-11*	1SBL297005R1100
						0 0	AF38-30-00K-12*	1SBL297005R1200
				100...250	100...250	0 0	AF38-30-00K-13*	1SBL297005R1300
						0 0	AF38-30-00K-14*	1SBL297005R1400
				24...60	20...60	0 0	AF38-30-00K-11*	1SBL297005R1100
						0 0	AF38-30-00K-12*	1SBL297005R1200
				48...130	48...130	0 0	AF38-30-00K-13*	1SBL297005R1300
						0 0	AF38-30-00K-14*	1SBL297005R1400

* Contact ABB office for availability

AF09..K ... AF38..K 3-pole contactors - with Push-in Spring terminals

Number of contacts	Rated control Cirtcut voltage		Contacts		Type	Order code
	V 50/60 Hz	V DC	NO	NC		
	24...60	20...60	2	2	NF22EK-11*	1SBH137005R1122
	100...250	100...250	2	2	NF22EK-13*	1SBH137005R1322
	24...60	20...60	3	1	NF31EK-11*	1SBH137005R1131
	100...250	100...250	3	1	NF31EK-13*	1SBH137005R1331
	24...60	20...60	4	0	NF40EK-11*	1SBH137005R1140
	100...250	100...250	4	0	NF40EK-13*	1SBH137005R1340

* Contact ABB office for availability



AF09-30-10K



AF26-30-00K



NF44EK

Push-in Spring Contactors and Contactor Relays

10.13 Main Accessories



CA4-10K



CA4-22EK



CAL4-11K



VM4



TEF4S-ON

AF09..K ... AF38..K, NF..K, AF09 ... AF96 Main Accessories

Order Code	Auxiliary Contacts 	Type	Order Code	Pkg Qty
AF09..K ... AF38..K, NF, NF..K, AF09 ... AF96	1 0	CA4-10K	1SBN010160R1010	1
	1 0	CA4-10K-T	1SBN010160T1010	10
	0 1	CA4-01K	1SBN010160R1001	1
	0 1	CA4-01K-T	1SBN010160T1001	10
AF09 ... AF16..-30-10K, AF09 ... AF16..-30-10,	2 2	CA4-22MK	1SBN010146R1122	1
AF26 ... AF38..-30-00K, AF26 ... AF96..-30-00	2 2	CA4-22EK	1SBN010146R1022	1
4-pole NF..K	4 0	CA4-40NK	1SBN010146R1240	1
	3 1	CA4-31NK	1SBN010146R1231	1
	2 2	CA4-22NK	1SBN010146R1222	1
	1 3	CA4-13NK	1SBN010146R1213	1
NF..40EK	0 4	CA4-04NK	1SBN010146R1204	1

Side-mounted instantaneous auxiliary contact blocks - 3 Pole

AF09..K ... AF38..K, NF, NF..K, AF09 ... AF96	1 1	CAL4-11K	1SBN010134R1011	
---	-----	----------	-----------------	--

Mechanical interlock and Electrical interlock units

AF09..K ... AF38..K, AF09 ... AF38	1 1	VM4	1SBN030105T1000	10
AF09..K ... AF16..K, AF26..K ... AF38..K	0 2	VEM4K	1SBN030113R1000	

Note: VM4 includes 2 fixing clips (BB4) to maintain together both contactors.

Electronic timers

For contactors	Time delay range selected by switch	Delay type	Auxiliary Contacts 	Type	Order Code	Pkg Qty
AF09..K ... AF38..K	0.1...1 s 1...10 s	ON-delay	1 1	TEF4S-ON	1SBN020113R1000	1
		OFF-delay	1 1	TEF4S-OFF	1SBN020115R1000	1

Note: Rated control circuit voltage Uc 24 ... 240 V 50/60 Hz or DC. Terminals with spring mode only.



Push-in Spring Contactors and Contactor Relays

10.13 Main Accessories



BEA16-4K1



BER16-4KF



BEY16-4KF

Connection links and sets	Type	Order Code
Connecting links with manual motor starters		
AF09..K ... AF16..K with MS132-0.16K... MS132-25K	BEA16-4K1	1SBN081324T1000
AF26..K ... AF38..K with MS132-0.16K... MS132-32K	BEA38-4K1	1SBN082324T1000
Connection Sets for reversing contactors		
AF09..K ... AF16..K	BER16-4KF	1SBN081322R1000
AF26..K ... AF38..K	BER38-4KF	1SBN082322R1000
Connection Sets for star-delta starting		
AF09..K ... AF16..K	BEY16-4KF	1SBN081323R2000
AF26..K ... AF38..K	BEY38-4KF	1SBN082323R2000

4-pole Block Contactors

10.14 Overview



IEC	AC-1 Rated operational current	$\theta \leq 40\text{ }^{\circ}\text{C}$, 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	$\theta \leq 40\text{ }^{\circ}\text{C}$	A	25	30	45	55	70	100	125
		$\theta \leq 60\text{ }^{\circ}\text{C}$ (1)	A	25	30	40	45	60	80	105
		$\theta \leq 70\text{ }^{\circ}\text{C}$	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⁾ $\theta \leq 55\text{ }^{\circ}\text{C}$ for EK550, EK1000 contactors

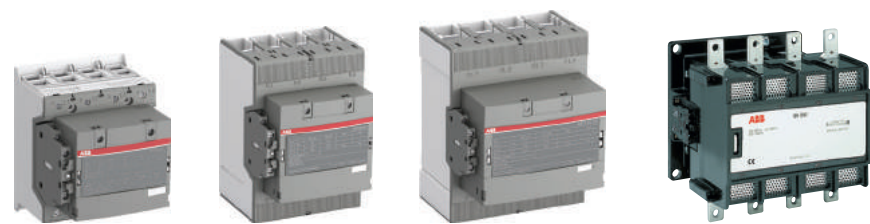
Main accessories

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	Mechanical	VM4	
	Mechanical / Electrical	VEM4	
Surge suppressors	Varistor + RC (AC / DC)	Built-in surge protection	



4-pole Block Contactors

10.14 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

10.15 AF Range 4-pole Contactor, Ordering Details

AF09...AF38 - 4-pole contactors

IEC	UL/CSA	Rated Control Circuit Voltage		Auxiliary Contacts Fitted		Type	Order Code
Rated Operational Current $I_n \leq 40^\circ\text{C}$ AC-1 A	General Use Rating 600 V AC A	Uc min. ... Uc max.					
		V 50/60 Hz	V DC				
4 N.O. Main Poles							
25	25	24...60	20...60	0	0	AF09-40-00-11	1SBL137201R1100
		48...130	48...130	0	0	AF09-40-00-12	1SBL137201R1200
		100...250	100...250	0	0	AF09-40-00-13	1SBL137201R1300
		250...500	250...500	0	0	AF09-40-00-14	1SBL137201R1400
30	30	24...60	20...60 ⁽¹⁾	0	0	AF16-40-00-11	1SBL177201R1100
		48...130	48...130	0	0	AF16-40-00-12	1SBL177201R1200
		100...250	100...250	0	0	AF16-40-00-13	1SBL177201R1300
		250...500	250...500	0	0	AF16-40-00-14	1SBL177201R1400
45	45	24...60	20...60 ⁽¹⁾	0	0	AF26-40-00-11	1SBL237201R1100
		48...130	48...130	0	0	AF26-40-00-12	1SBL237201R1200
		100...250	100...250	0	0	AF26-40-00-13	1SBL237201R1300
		250...500	250...500	0	0	AF26-40-00-14	1SBL237201R1400
55	55	24...60	20...60 ⁽¹⁾	0	0	AF38-40-00-11	1SBL297201R1100
		48...130	48...130	0	0	AF38-40-00-12	1SBL297201R1200
		100...250	100...250	0	0	AF38-40-00-13	1SBL297201R1300
		250...500	250...500	0	0	AF38-40-00-14	1SBL297201R1400

2 N.O. + 2 N.C. Main Poles

25	25	24...60	20...60	0	0	AF09-22-00-11	1SBL137501R1100
		48...130	48...130	0	0	AF09-22-00-12	1SBL137501R1200
		100...250	100...250	0	0	AF09-22-00-13	1SBL137501R1300
		250...500	250...500	0	0	AF09-22-00-14	1SBL137501R1400
30	30	24...60	20...60 ⁽¹⁾	0	0	AF16-22-00-11	1SBL177501R1100
		48...130	48...130	0	0	AF16-22-00-12	1SBL177501R1200
		100...250	100...250	0	0	AF16-22-00-13	1SBL177501R1300
		250...500	250...500	0	0	AF16-22-00-14	1SBL177501R1400
45	45	24...60	20...60 ⁽¹⁾	0	0	AF26-22-00-11	1SBL237501R1100
		48...130	48...130	0	0	AF26-22-00-12	1SBL237501R1200
		100...250	100...250	0	0	AF26-22-00-13	1SBL237501R1300
		250...500	250...500	0	0	AF26-22-00-14	1SBL237501R1400
55	55	24...60	20...60 ⁽¹⁾	0	0	AF38-22-00-11	1SBL297501R1100
		48...130	48...130	0	0	AF38-22-00-12	1SBL297501R1200
		100...250	100...250	0	0	AF38-22-00-13	1SBL297501R1300
		250...500	250...500	0	0	AF38-22-00-14	1SBL297501R1400

(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.

Contactors and Contactor Relays

10.15 AF Range 4-pole Contactor, Ordering Details

AF40 ... AF80 4-pole contactors

IEC Rated operational current $I_n \leq 40^\circ\text{C}$ AC-1 A	UL/CSA General use rating 600 V AC A	Rated control circuit voltage		Auxiliary contacts fitted 		Type (1)	Order code
		Uc min. ... Uc max					
		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
		48...130	48...130	0	0	AF40-40-00-12	1SBL347201R1200
		100...250	100...250	0	0	AF40-40-00-13	1SBL347201R1300
		250...500	250...500	0	0	AF40-40-00-14	1SBL347201R1400
100	80	24...60	20...60 ⁽¹⁾	0	0	AF52-40-00-11	1SBL367201R1100
		48...130	48...130	0	0	AF52-40-00-12	1SBL367201R1200
		100...250	100...250	0	0	AF52-40-00-13	1SBL367201R1300
		250...500	250...500	0	0	AF52-40-00-14	1SBL367201R1400
125	105	24...60	20...60 ⁽¹⁾	0	0	AF80-40-00-11	1SBL397201R1100
		48...130	48...130	0	0	AF80-40-00-12	1SBL397201R1200
		100...250	100...250	0	0	AF80-40-00-13	1SBL397201R1300
		250...500	250...500	0	0	AF80-40-00-14	1SBL397201R1400
2 N.O. + 2 N.C. main poles							
70	60	24...60	20...60 ⁽¹⁾	0	0	AF40-22-00-11	1SBL347501R1100
		48...130	48...130	0	0	AF40-22-00-12	1SBL347501R1200
		100...250	100...250	0	0	AF40-22-00-13	1SBL347501R1300
		250...500	250...500	0	0	AF40-22-00-14	1SBL347501R1400
125	105	24...60	20...60 ⁽¹⁾			AF80-22-00-11	1SBL397501R1100
		48...130	48...130	0	0	AF80-22-00-12	1SBL397501R1200
		100...250	100...250	0	0	AF80-22-00-13	1SBL397501R1300
		250...500	250...500	0	0	AF80-22-00-14	1SBL397501R1400

(1) AF...-...-11 not suitable for direct control by PLC-output.



AF40-40-00



AF80-40-00



Contactors and Contactor Relays

10.15 AF Range 4-pole Contactor, Ordering Details



AF140-40-00

AF116 ... AF140 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
Rated operational current u ≤ 40 °C AC-1 A	General use rating 600 V AC A	Uc min. ... Uc max					
		V 50/60 Hz	V DC				
4 N.O. main poles							
160	160	24...60	20...60	0	0	AF116-40-00-11	1SFL427101R1100
		48...130	48...130	0	0	AF116-40-00-12	1SFL427101R1200
		100...250	100...250	0	0	AF116-40-00-13	1SFL427101R1300
		250...500	250...500	0	0	AF116-40-00-14	1SFL427101R1400
200	175	24...60	20...60	0	0	AF140-40-00-11	1SFL447101R1100
		48...130	48...130	0	0	AF140-40-00-12	1SFL447101R1200
		100...250	100...250	0	0	AF140-40-00-13	1SFL447101R1300
		250...500	250...500	0	0	AF140-40-00-14	1SFL447101R1400

⁽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		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
Rated operational current u ≤ 40 °C AC-1 A	General use rating 600 V AC A	Uc min. ... Uc max					
		V 50/60 Hz	V DC				
4 N.O. main poles							
275	230	24...60	20...60	0	0	AF190-40-00-11	1SFL487102R1100
		48...130	48...130	0	0	AF190-40-00-12	1SFL487102R1200
		100...250	100...250	0	0	AF190-40-00-13	1SFL487102R1300
		250...500	250...500	0	0	AF190-40-00-14	1SFL487102R1400
350	250	24...60	20...60	0	0	AF205-40-00-11	1SFL527102R1100
		48...130	48...130	0	0	AF205-40-00-12	1SFL527102R1200
		100...250	100...250	0	0	AF205-40-00-13	1SFL527102R1300
		250...500	250...500	0	0	AF205-40-00-14	1SFL527102R1400
400	300	24...60	20...60	0	0	AF265-40-00-11	1SFL547102R1100
		48...130	48...130	0	0	AF265-40-00-12	1SFL547102R1200
		100...250	100...250	0	0	AF265-40-00-13	1SFL547102R1300
		250...500	250...500	0	0	AF265-40-00-14	1SFL547102R1400
500	350	24...60	20...60	0	0	AF305-40-00-11	1SFL587102R1100
		48...130	48...130	0	0	AF305-40-00-12	1SFL587102R1200
		100...250	100...250	0	0	AF305-40-00-13	1SFL587102R1300
		250...500	250...500	0	0	AF305-40-00-14	1SFL587102R1400
525	420	24...60	20...60	0	0	AF370-40-00-11	1SFL607102R1100
		48...130	48...130	0	0	AF370-40-00-12	1SFL607102R1200
		100...250	100...250	0	0	AF370-40-00-13	1SFL607102R1300
		250...500	250...500	0	0	AF370-40-00-14	1SFL607102R1400

⁽¹⁾ For other auxiliary contacts arrangements, please contact your ABB local organization.



AF370-40-00

Contactors and Contactor Relays

10.16 EK Range 4-pole Contactors

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



EK1000-40-11

EK550, EK1000 4-pole contactors

IEC	UL/CSA	Rated control circuit voltage U _C ⁽¹⁾		Auxiliary contacts fitted		Type ⁽¹⁾	Order code
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	220	220...240	1	1	EK550-40-11	SK827041-AF
		220...230	230...255	1	1	EK550-40-11	SK827041-EM
		400...415	-	1	1	EK550-40-11	SK827041-AR
1000	-	220	220...240	1	1	EK1000-40-11	SK827044-AF
		220...230	230...255	1	1	EK1000-40-11	SK827044-EM
		400...415	-	1	1	EK1000-40-11	SK827044-AP

⁽¹⁾ For other control voltages, please contact your ABB local sales organisation

EK Range 4-pole Contactors Main Accessories

For Contactors	Auxiliary contacts fitted		Type	Order code
Side-mounted auxiliary contact blocks				
EK	1	1	CAL16-11B	SK829002-B
	1	1	CAL16-11C	SK829002-C
	1	1	CAL16-11D	SK829002-D
Mechanical interlock unit for two horizontal mounted contactors				
EK550, EK1000			VH800	SK829070-F
Connecting sets				
EK550			BSS550	SK829090-E
EK1000			BSS1000	SK829090-H

CAL16-11C



VH800

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Contactors and Contactor Relays

10.17 Contactors for Capacitor Switching 3 Pole

Contactors for Capacitor Switching 3 Pole 12.5 to 30 kvar

UA16 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA16-30-10RA	24	24	1SBL181024R8110
UA16-30-10RA	48	48	1SBL181024R8310
UA16-30-10RA	110	110 ... 120	1SBL181024R8410
UA16-30-10RA	220 ... 230	230 ... 240	1SBL181024R8010
UA16-30-10RA	230 ... 240	240 ... 260	1SBL181024R8810
UA16-30-10RA	380 ... 400	400 ... 415	1SBL181024R8510
UA16-30-10RA	400 ... 415	415 ... 440	1SBL181024R8610

UA26 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA26-30-10RA	24	24	1SBL241024R8110
UA26-30-10RA	48	48	1SBL241024R8310
UA26-30-10RA	110	110 ... 120	1SBL241024R8410
UA26-30-10RA	220 ... 230	230 ... 240	1SBL241024R8010
UA26-30-10RA	230 ... 240	240 ... 260	1SBL241024R8810
UA26-30-10RA	380 ... 400	400 ... 415	1SBL241024R8510
UA26-30-10RA	400 ... 415	415 ... 440	1SBL241024R8610

UA30 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA30-30-10RA	24	24	1SBL281024R8110
UA30-30-10RA	48	48	1SBL281024R8310
UA30-30-10RA	110	110 ... 120	1SBL281024R8410
UA30-30-10RA	220 ... 230	230 ... 240	1SBL281024R8010
UA30-30-10RA	230 ... 240	240 ... 260	1SBL281024R8810
UA30-30-10RA	380 ... 400	400 ... 415	1SBL281024R8510
UA30-30-10RA	400 ... 415	415 ... 440	1SBL281024R8610

Contactors for Capacitor Switching 3 Pole 40 to 60 kvar

UA50 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA50-30-00RA	24	24	1SBL351024R8100
UA50-30-00RA	48	48	1SBL351024R8300
UA50-30-00RA	110	110 ... 120	1SBL351024R8400
UA50-30-00RA	220 ... 230	230 ... 240	1SBL351024R8000
UA50-30-00RA	230 ... 240	240 ... 260	1SBL351024R8800
UA50-30-00RA	380 ... 400	400 ... 415	1SBL351024R8500
UA50-30-00RA	400 ... 415	415 ... 440	1SBL351024R8600

UA63 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA63-30-00RA	24	24	1SBL371024R8100
UA63-30-00RA	48	48	1SBL371024R8300
UA63-30-00RA	110	110 ... 120	1SBL371024R8400
UA63-30-00RA	220 ... 230	230 ... 240	1SBL371024R8000
UA63-30-00RA	230 ... 240	240 ... 260	1SBL371024R8800
UA63-30-00RA	380 ... 400	400 ... 415	1SBL371024R8500
UA63-30-00RA	400 ... 415	415 ... 440	1SBL371024R8600

UA75 Unlimited Peak Current İ

Description	V - 50Hz	V - 60Hz	Order Code
UA75-30-00RA	24	24	1SBL411024R8100
UA75-30-00RA	48	48	1SBL411024R8300
UA75-30-00RA	110	110 ... 120	1SBL411024R8400
UA75-30-00RA	220 ... 230	230 ... 240	1SBL411024R8000
UA75-30-00RA	230 ... 240	240 ... 260	1SBL411024R8800
UA75-30-00RA	380 ... 400	400 ... 415	1SBL411024R8500
UA75-30-00RA	400 ... 415	415 ... 440	1SBL411024R8600



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Contactors and Contactor Relays

10.17 Contactors for Capacitor Switching 3 Pole

Contactors for Capacitor Switching 3 Pole 70 to 80 kvar

UA95 Unlimited Peak Current İ			
Description	V - 50Hz	V - 60Hz	Order Code
UA95-30-00RA	24	24	1SFL431024R8100
UA95-30-00RA	48	48	1SFL431024R8300
UA95-30-00RA	110	110 ... 120	1SFL431024R8400
UA95-30-00RA	220 ... 230	230 ... 240	1SFL431024R8000
UA95-30-00RA	230 ... 240	240 ... 260	1SFL431024R8800
UA95-30-00RA	380 ... 400	400 ... 415	1SFL431024R8500
UA95-30-00RA	400 ... 415	415 ... 440	1SFL431024R8600

UA110 Unlimited Peak Current İ			
Description	V - 50Hz	V - 60Hz	Order Code
UA110-30-00RA	24	24	1SFL451024R8100
UA110-30-00RA	48	48	1SFL451024R8300
UA110-30-00RA	110	110 ... 120	1SFL451024R8400
UA110-30-00RA	220 ... 230	230 ... 240	1SFL451024R8000
UA110-30-00RA	230 ... 240	240 ... 260	1SFL451024R8800
UA110-30-00RA	380 ... 400	400 ... 415	1SFL451024R8500
UA110-30-00RA	400 ... 415	415 ... 440	1SFL451024R8600

Contactors and Contactor Relays

10.18 Contactor Relays NFZ Range 4 Pole



NFZ22E



NFZ22E



CA4-10



CA4-22N



CAL4-11



TEF4-ON

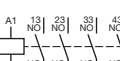


LDC4



BX4

NFZ22E Low Consumption

Rated Control Circuit				
Number of Contacts	Voltage		Type	Order Code
	Uc min. ... Uc max.			
	V 50/60 Hz	V DC		
	–	12...20	NFZ22E-20	1SBH136001R2022
	24...60	20...60	NFZ22E-21	1SBH136001R2122
	48...130	48...130	NFZ22E-22	1SBH136001R2222
	100...250	100...250	NFZ22E-23	1SBH136001R2322
	–	12...20	NFZ31E-20	1SBH136001R2031
	24...60	20...60	NFZ31E-21	1SBH136001R2131
	48...130	48...130	NFZ31E-22	1SBH136001R2231
	100...250	100...250	NFZ31E-23	1SBH136001R2331
	–	12...20	NFZ40E-20	1SBH136001R2040
	24...60	20...60	NFZ40E-21	1SBH136001R2140
	48...130	48...130	NFZ40E-22	1SBH136001R2240
	100...250	100...250	NFZ40E-23	1SBH136001R2340

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

Ordering Details (1)

For Contactor Relays	Auxiliary Contacts		Type	Order Code	Pkg Qty

Front-mounted Instantaneous Auxiliary Contact Blocks

4-pole NF	1	0	–	–	CA4-10	1SBN010110R1010	1
	1	0	–	–	CA4-10-T	1SBN010110T1010	10
	0	1	–	–	CA4-01	1SBN010110R1001	1
	0	1	–	–	CA4-01-T	1SBN010110T1001	10
	4	0	–	–	CA4-40N	1SBN010140R1240	1
	3	1	–	–	CA4-31N	1SBN010140R1231	1
	2	2	–	–	CA4-22N	1SBN010140R1222	1
	1	3	–	–	CA4-13N	1SBN010140R1213	1
NF..40E	0	4	–	–	CA4-04N	1SBN010140R1204	1

Front-mounted Auxiliary Contact Blocks with N.O. Leading Contact and N.C. Lagging Contact

4-pole NF	–	–	1	0	CC4-10	1SBN010111R1010	1
	–	–	0	1	CC4-01	1SBN010111R1001	1

Side-mounted Instantaneous Auxiliary Contact Blocks

NF	1	1	–	–	CAL4-11	1SBN010120R1011	1
	1	1	–	–	CAL4-11-T	1SBN010120T1011	10

For Contactors	Time Delay Range Selected by Switch	Delay Type	Auxiliary Contacts		Type	Order Code	Pkg Qty

Electronic Timers

NF	0.1...1 s	ON-delay	1	1	TEF4-ON	1SBN020112R1000	1
	1...10 s	OFF-delay	1	1	TEF4-OFF	1SBN020114R1000	1
	10...100 s	OFF-delay	1	1	TEF4-OFF	1SBN020114R1000	1

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.

Additional Coil Terminal Block

NF	LDC4	1SBN070156T1000	10
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Protective Covers

All 1-stack contactor relays	BX4	1SBN110108T1000	10
4-pole CA4 auxiliary contact blocks and TEF4 electronic timer	BX4-CA	1SBN110109W1000	50

Contactors and Contactor Relays

10.19 Contactors AS Range 3 Pole



AS09



AS12



AS16



ASL09

IEC	UL/CSA			Rated Control Circuit Voltage U _c ⁽¹⁾		Auxiliary		Type	Order Code
Rated Operational		3-phase Motor Rating 480 V	General Use Rating 600 V AC			Contacts Fitted			
Power 400 V AC-3	Current θ ≤ 40 °C AC-1					V 50 Hz	V DC		
kW	A	hp	A						
4	22	5	20	24	-	1	0	AS09-30-10-20	1SBL101001R2010
						0	1	AS09-30-01-20	1SBL101001R2001
				230	-	1	0	AS09-30-10-26	1SBL101001R2610
						0	1	AS09-30-01-26	1SBL101001R2601
				400	-	1	0	AS09-30-10-28	1SBL101001R2810
						0	1	AS09-30-01-28	1SBL101001R2801
5.5	24	7.5	20	24	-	1	0	AS12-30-10-20	1SBL111001R2010
						0	1	AS12-30-01-20	1SBL111001R2001
				230	-	1	0	AS12-30-10-26	1SBL111001R2610
						0	1	AS12-30-01-26	1SBL111001R2601
				400	-	1	0	AS12-30-10-28	1SBL111001R2810
						0	1	AS12-30-01-28	1SBL111001R2801
7.5	24	10	20	24	-	1	0	AS16-30-10-20	1SBL121001R2010
						0	1	AS16-30-01-20	1SBL121001R2001
				230	-	1	0	AS16-30-10-26	1SBL121001R2610
						0	1	AS16-30-01-26	1SBL121001R2601
				400	-	1	0	AS16-30-10-28	1SBL121001R2810
						0	1	AS16-30-01-28	1SBL121001R2801
4	22	5	20	-	24	1	0	ASL09-30-10-81	1SBL103001R8110
						0	1	ASL09-30-01-81	1SBL103001R8101
5.5	24	7.5	20	-	24	1	0	ASL12-30-10-81	1SBL113001R8110
						0	1	ASL12-30-01-81	1SBL113001R8101
7.5	24	10	20	-	24	1	0	ASL16-30-10-81	1SBL123001R8110
						0	1	ASL16-30-01-81	1SBL123001R8101

(1) Other control voltages see voltage code table.



Contactors and Contactor Relays

10.20 Contactors AS Range 3 Pole - Main Accessories



For contactors	Auxiliary Contacts Fitted		Type	Order Code
AS09 ... AS16	1	0	CA3-10	1SBN011010T1010
ASL09 ... ASL16	0	1	CA3-01	1SBN011010T1001



Front-mounted electronic timer

For contactors	Rated control circuit voltage - Uc V	Type	Order code
ON-delay			
AS09 ... AS16, ASL09 ... ASL16	24...240 V AC/DC	TEF3-ON	1SBN021012R1000
OFF-delay			
AS09 ... AS16, ASL09 ... ASL16	24...240 V AC/DC	TEF3-OFF	1SBN021014R1000



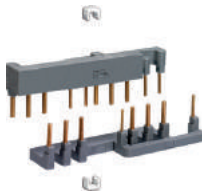
Mechanical interlock unit

For contactors	Type	Order code
AS09 ... AS16, ASL09 ... ASL16	VM3	1SBN031005T1000



Connecting links with manual motor starters

For contactors	Manual motor starter	Type	Order code
AS09 ... AS16	MS116-0.16 ... MS116-16	BEA16-3	1SBN081006T1000
ASL09 ... ASL16	MS132-0.16 ... MS132-16		



Connection sets for reversing contactors

For contactors	Mechanical interlock unit	Type	Order code
AS09 ... AS16, ASL09 ... ASL16	with or without VM3	BER16C-3	1SBN081012R1000

Note: BER16C-3 connection set includes two BB3 fixing clips, and an electrical interlocking when fitted on contactors with built-in N.C. auxiliary contacts. BER16C-3 can be used with or without VM3 mechanical interlock unit.



Connection sets for star-delta starting

For contactors	Mechanical interlock unit between Star & Delta contactors	Type	Order code
AS09 ... AS16, ASL09 ... ASL16	with or without VM3	BEY16C-3	1SBN081018R2000

Note: BEY16C-3 connection set includes two BB3 fixing clips, and an electrical interlocking when fitted on Star and Delta contactors with built-in N.C. auxiliary contacts. BEY16C-3 can be used with or without VM3 mechanical interlock unit.

Contactors and Contactor Relays

10.21 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
0.10 ... 0.13	0.5 A, fuse type T	10	T16-0.13	1SAZ711201R1005
0.13 ... 0.17	1.0 A, fuse type T	10	T16-0.17	1SAZ711201R1008
0.17 ... 0.23	1.0 A, fuse type T	10	T16-0.23	1SAZ711201R1009
0.23 ... 0.31	1.0 A, fuse type T	10	T16-0.31	1SAZ711201R1013
0.31 ... 0.41	2.0 A, fuse type gG	10	T16-0.41	1SAZ711201R1014
0.41 ... 0.55	2.0 A, fuse type gG	10	T16-0.55	1SAZ711201R1017
0.55 ... 0.74	4.0 A, fuse type gG	10	T16-0.74	1SAZ711201R1021
0.74 ... 1.00	6.0 A, fuse type gG	10	T16-1.0	1SAZ711201R1023
1.00 ... 1.30	6.0 A, fuse type gG	10	T16-1.3	1SAZ711201R1025
1.30 ... 1.70	10.0 A, fuse type gG	10	T16-1.7	1SAZ711201R1028
1.70 ... 2.30	10.0 A, fuse type gG	10	T16-2.3	1SAZ711201R1031
2.30 ... 3.10	10.0 A, fuse type gG	10	T16-3.1	1SAZ711201R1033
3.10 ... 4.20	20.0 A, fuse type gG	10	T16-4.2	1SAZ711201R1035
4.20 ... 5.70	20.0 A, fuse type gG	10	T16-5.7	1SAZ711201R1038
5.70 ... 7.60	35.0 A, fuse type gG	10	T16-7.6	1SAZ711201R1040
7.60 ... 10.0	35.0 A, fuse type gG	10	T16-10	1SAZ711201R1043
10.0 ... 13.0	40.0 A, fuse type gG	10	T16-13	1SAZ711201R1045
13.0 ... 16.0	40.0 A, fuse type gG	10	T16-16	1SAZ711201R1047

Single mounting kit T16

Suitable for	Description	Type	Order code
T16	Single mounting kit	DB16	1SAZ701901R0001

Thermal overload relays for AF09...AF38 range

TF42					
Setting range	A	Short-circuit protective device	Trip class	Type	Order code
0.10 ... 0.13		0.5 A, fuse type T	10	TF42-0.13	1SAZ721201R1005
0.13 ... 0.17		1.0 A, fuse type T	10	TF42-0.17	1SAZ721201R1008
0.17 ... 0.23		1.0 A, fuse type T	10	TF42-0.23	1SAZ721201R1009
0.23 ... 0.31		1.0 A, fuse type T	10	TF42-0.31	1SAZ721201R1013
0.31 ... 0.41		2.0 A, fuse type gG	10	TF42-0.41	1SAZ721201R1014
0.41 ... 0.55		2.0 A, fuse type gG	10	TF42-0.55	1SAZ721201R1017
0.55 ... 0.74		4.0 A, fuse type gG	10	TF42-0.74	1SAZ721201R1021
0.74 ... 1.00		6.0 A, fuse type gG	10	TF42-1.0	1SAZ721201R1023
1.00 ... 1.30		6.0 A, fuse type gG	10	TF42-1.3	1SAZ721201R1025
1.30 ... 1.70		10.0 A, fuse type gG	10	TF42-1.7	1SAZ721201R1028
1.70 ... 2.30		10.0 A, fuse type gG	10	TF42-2.3	1SAZ721201R1031
2.30 ... 3.10		10.0 A, fuse type gG	10	TF42-3.1	1SAZ721201R1033
3.10 ... 4.20		20.0 A, fuse type gG	10	TF42-4.2	1SAZ721201R1035
4.20 ... 5.70		20.0 A, fuse type gG	10	TF42-5.7	1SAZ721201R1038
5.70 ... 7.60		35.0 A, fuse type gG	10	TF42-7.6	1SAZ721201R1040
7.60 ... 10.0		35.0 A, fuse type gG	10	TF42-10	1SAZ721201R1043
10.0 ... 13.0		40.0 A, fuse type gG	10	TF42-13	1SAZ721201R1045
13.0 ... 16.0		40.0 A, fuse type gG	10	TF42-16	1SAZ721201R1047
16.0 ... 20.0		63.0 A, fuse type gG	10	TF42-20	1SAZ721201R1049
20.0 ... 24.0		63.0 A, fuse type gG	10	TF42-24	1SAZ721201R1051
24.0 ... 29.0		63.0 A, fuse type gG	10	TF42-29	1SAZ721201R1052
29.0 ... 35.0		80.0 A, fuse type gG	10	TF42-35	1SAZ721201R1053
35.0 ... 38.0/40.0		80.0 A, fuse type gG	10	TF42-38	1SAZ721201R1055

Single Mounting Kit TF42

Suitable for	Description	Type	Order code
TF42	Single mounting kit	DB42	1SAZ701902R0001

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Contactors and Contactor Relays

10.21 Thermal Overload Relays



TF65



DB65



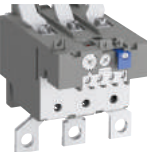
TF96



DB96



TF140DU



TA200DU

Thermal overload relays for AF40...AF65 range

TF65				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
22.0 ... 28.0	80 A, gG Type Fuses	10	TF65-28	1SAZ811201R1001
25.0 ... 33.0	80 A, gG Type Fuses	10	TF65-33	1SAZ811201R1002
30.0 ... 40.0	100 A, gG Type Fuses	10	TF65-40	1SAZ811201R1003
36.0 ... 47.0	125 A, gG Type Fuses	10	TF65-47	1SAZ811201R1004
44.0 ... 53.0	125 A, gG Type Fuses	10	TF65-53	1SAZ811201R1005
50.0 ... 60.0	125 A, gG Type Fuses	10	TF65-60	1SAZ811201R1006
57.0 ... 67.0	160 A, gG Type Fuses	10	TF65-67	1SAZ811201R1007

Single Mounting Kit for TF65

Suitable for	Description	Type	Order code
TF65	DB65 Single Mounting Kit	DB65	1SAZ801901R1001

Thermal overload relays for AF80...AF96 range

TF96				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
40.0 ... 51.0	125 A, gG Type Fuses	10	TF96-51	1SAZ911201R1001
48.0 ... 60.0	160 A, gG Type Fuses	10	TF96-60	1SAZ911201R1002
57.0 ... 68.0	160 A, gG Type Fuses	10	TF96-68	1SAZ911201R1003
65.0 ... 78.0	200 A, gG Type Fuses	10	TF96-78	1SAZ911201R1004
75.0 ... 87.0	200 A, gG Type Fuses	10	TF96-87	1SAZ911201R1005
84.0 ... 96.0	250 A, gG Type Fuses	10	TF96-96	1SAZ911201R1006

Single Mounting Kit for TF96

Suitable for	Description	Type	Order code
TF96	DB96 Single Mounting Kit	DB96	1SAZ901901R1001

Thermal overload relays for AF116...AF140 range

TF140				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
66 ... 90	200 A, fuse type gG	10A	TF140DU-90	1SAZ431201R1001
80 ... 110	224 A, fuse type gG	10A	TF140DU-110	1SAZ431201R1002
100 ... 135	224 A, fuse type gG	10A	TF140DU-135	1SAZ431201R1003
110 ... 142	250 A, fuse type gG	10A	TF140DU-142	1SAZ431201R1004

Thermal overload relays for AF190...AF205 range

TA200				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
66 ... 90	200 A, fuse type gG / 125 A aM	10A	TA200DU-90	1SAZ421201R1001
80 ... 110	224 A, fuse type gG / 160 A aM	10A	TA200DU-110	1SAZ421201R1002
100 ... 135	224 A, fuse type gG / 200 A aM	10A	TA200DU-135	1SAZ421201R1003
110 ... 150	250 A, fuse type gG / 200 A aM	10A	TA200DU-150	1SAZ421201R1004
130 ... 175	315 A, fuse type gG / 250 A aM	10A	TA200DU-175	1SAZ421201R1005
150 ... 200	315 A, fuse type gG / 250 A aM	10A	TA200DU-200	1SAZ421201R1006

Single Mounting Kit for TA200DU

Suitable for	Description	Type	Order code
TA200DU	DB200 Single Mounting Kit	DB200	1SAZ401110R0001

Contactors and Contactor Relays

10.22 Electronic Overload Relays



E16DU-1.0



EF19-18.9



EF45-30



DB19EF



DB45EF



EF65-70



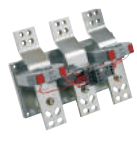
EF205-210



EF460-500



EF750-800



E1250DU-1250

Electronic overload relays for B range

E16DU electronic overload relays				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
0.10 ... 0.32	1 A, fuse type gG	10E, 20E, 30E	E16DU-0.32	1SAX111001R1101
0.30 ... 1.00	4 A, fuse type gG	10E, 20E, 30E	E16DU-1.0	1SAX111001R1102
0.80 ... 2.70	10 A, fuse type gG	10E, 20E, 30E	E16DU-2.7	1SAX111001R1103
2.00 ... 6.30	20 A, fuse type gG	10E, 20E, 30E	E16DU-6.3	1SAX111001R1104
5.70 ... 18.9	50 A, fuse type gG	10E, 20E, 30E	E16DU-18.9	1SAX111001R1105

Single Mounting Kit for E16DU

Suitable for	Description	Type	Order code
E16DU	Single mounting kit	DB16E	1SAX101110R0001

Electronic overload relays for AF09...AF38 range

EF19, EF45 electronic overload relays				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
EF19 electronic overload relays ¹⁾				
0.10 ... 0.32	1 A, fuse type gG	10E, 20E, 30E	EF19-0.32	1SAX121001R1101
0.30 ... 1.00	4 A, fuse type gG	10E, 20E, 30E	EF19-1.0	1SAX121001R1102
0.80 ... 2.70	10 A, fuse type gG	10E, 20E, 30E	EF19-2.7	1SAX121001R1103
1.90 ... 6.30	20 A, fuse type gG	10E, 20E, 30E	EF19-6.3	1SAX121001R1104
5.70 ... 18.9	50 A, fuse type gG	10E, 20E, 30E	EF19-18.9	1SAX121001R1105

EF45 electronic overload relays ¹⁾

9.00 ... 30.0	160 A, fuse type gG	10E, 20E, 30E	EF45-30	1SAX221001R1101
15.0 ... 45.0	160 A, fuse type gG	10E, 20E, 30E	EF45-45	1SAX221001R1102

Single mounting kit for E19, EF45

Suitable for	Description	Type	Order code
EF19	Single mounting kit	DB19EF	1SAX101910R1001
EF45	Single mounting kit	DB45EF	1SAX201910R0001

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
20 ... 56	160 A, fuse type gG	10E, 20E, 30E	EF65-56	1SAX331001R1102
25 ... 70	160 A, fuse type gG	10E, 20E, 30E	EF65-70	1SAX331001R1101
20 ... 56	160 A, fuse type gG	10E, 20E, 30E	EF96-56	1SAX341001R1102
36 ... 100	200 A, fuse type gG	10E, 20E, 30E	EF96-100	1SAX341001R1101
54 ... 150	315 A, fuse type gG	10E, 20E, 30E	EF146-150	1SAX351001R1101

Single mounting kit for EF96

Suitable for	Description	Type	Order code
EF96	DB96 Single Mounting Kit	DB96	1SAZ901901R1001

Electronic overload relays for AF190..AF370 range

EF205, EF370 electronic overload relays				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
63 ... 210	1250 A, fuse type gG	10E, 20E, 30E	EF205-210	1SAX531001R1101
115 ... 380	1600 A, fuse type gG	10E, 20E, 30E	EF370-380	1SAX611001R1101

Electronic overload relays for AF400..AF1650

EF460,EF750,EF1250DU electronic overload relay				
Setting range A	Short-circuit protective device	Trip class	Type	Order code
EF460 electronic overload relay				
150 ... 500	690 V: 630 A, Type gG	10E, 20E, 30E	EF460-500	1SAX721001R1101
	1000 V: 1600 A, Type gG			
EF750 electronic overload relay				
250 ... 800	690 V: 800 A, Type gG	10E, 20E, 30E	EF750-800	1SAX821001R1101
	1000 V: 1600 A, Type gG			

EF1250DU electronic overload relay				
375 ... 1250		10E, 20E, 30E	EF1250DU-1250	1SFA739001R1001

Contactors and Contactor Relays

10.23 Mini Contactors

IEC			UL/CSA		Rated Control Circuit Voltage U _c		Auxiliary Contacts Fitted		Type	Order Code	Pkg Qty
Rated Operational		3-phase Motor Rating 480 V	General Use Rating	50 Hz V AC	60 Hz V AC						
Power 400 V	Current θ ≤ 40 °C										
AC-3	AC-1										
kW	A	hp									



3 Pole AC Operated B6											
	4	20	3	300 V / 12 A	24	24	1 0	B6-30-10-01	GJL1211001R0101	10	
							0 1	B6-30-01-01	GJL1211001R0011	10	
					42	42	1 0	B6-30-10-02	GJL1211001R0102	10	
							0 1	B6-30-01-02	GJL1211001R0012	10	
					48	48	1 0	B6-30-10-03	GJL1211001R0103	10	
							0 1	B6-30-01-03	GJL1211001R0013	10	
					110...127	110...127	1 0	B6-30-10-84	GJL1211001R8104	10	
							0 1	B6-30-01-84	GJL1211001R8014	10	
					220...240	220...240	1 0	B6-30-10-80	GJL1211001R8100	10	
							0 1	B6-30-01-80	GJL1211001R8010	10	
					380...415	380...415	1 0	B6-30-10-85	GJL1211001R8105	10	
							0 1	B6-30-01-85	GJL1211001R8015	10	



3 Pole AC Operated B7											
	5.5	20	5	600 V / 16 A	24	24	1 0	B7-30-10-01	GJL1311001R0101	10	
							0 1	B7-30-01-01	GJL1311001R0011	10	
					42	42	1 0	B7-30-10-02	GJL1311001R0102	10	
							0 1	B7-30-01-02	GJL1311001R0012	10	
					48	48	1 0	B7-30-10-03	GJL1311001R0103	10	
							0 1	B7-30-01-03	GJL1311001R0013	10	
					110...127	110...127	1 0	B7-30-10-84	GJL1311001R8104	10	
							0 1	B7-30-01-84	GJL1311001R8014	10	
					220...240	220...240	1 0	B7-30-10-80	GJL1311001R8100	10	
							0 1	B7-30-01-80	GJL1311001R8010	10	
					380...415	380...415	1 0	B7-30-10-85	GJL1311001R8105	10	
							0 1	B7-30-01-85	GJL1311001R8015	10	



3 Pole DC Operated B6											
	4	20	3	300 V / 12 A	12	1 0	BC6-30-10-07	GJL1213001R0107	10		
						0 1	BC6-30-01-07	GJL1213001R0017	10		
					24	1 0	BC6-30-10-01	GJL1213001R0101	10		
						0 1	BC6-30-01-01	GJL1213001R0011	10		
					48	1 0	BC6-30-10-16	GJL1213001R1106	10		
						0 1	BC6-30-01-16	GJL1213001R1016	10		
					60	1 0	BC6-30-10-03	GJL1213001R0103	10		
						0 1	BC6-30-01-03	GJL1213001R0013	10		
					110...125	1 0	BC6-30-10-04	GJL1213001R0104	10		
						0 1	BC6-30-01-04	GJL1213001R0014	10		
					220...240	1 0	BC6-30-10-05	GJL1213001R0105	10		
						0 1	BC6-30-01-05	GJL1213001R0015	10		



3 Pole DC Operated B7											
	5.5	20	5	600 V / 16 A	12	1 0	BC7-30-10-07	GJL1313001R0107	10		
						0 1	BC7-30-01-07	GJL1313001R0017	10		
					24	1 0	BC7-30-10-01	GJL1313001R0101	10		
						0 1	BC7-30-01-01	GJL1313001R0011	10		
					48	1 0	BC7-30-10-16	GJL1313001R1106	10		
						0 1	BC7-30-01-16	GJL1313001R1016	10		
					60	1 0	BC7-30-10-03	GJL1313001R1103	10		
						0 1	BC7-30-01-03	GJL1313001R0013	10		
					110...125	1 0	BC7-30-10-04	GJL1313001R0104	10		
						0 1	BC7-30-01-04	GJL1313001R0014	10		
					220...240	1 0	BC7-30-10-05	GJL1313001R0105	10		
						0 1	BC7-30-01-05	GJL1313001R0015	10		

Contactors and Contactor Relays

10.23 Mini Contactors



IEC			UL/CSA	Rated Control Circuit Voltage U _c		Auxiliary Contacts Fitted	Type	Order Code	Pkg qty
Rated Operational Power	Current θ ≤ 40 °C	3-phase Motor Rating	General Use Rating	50 Hz V AC	60 Hz V AC				
400 V AC-3 kW	AC-1 A	480 V hp							

3-pole Mini Reversing Contactors VB6									
4	20	3	300 V / 12 A	24	24	1 0	VB6-30-10-01	GJL1211901R0101	5
						0 1	VB6-30-01-01	GJL1211901R0011	5
				42	42	1 0	VB6-30-10-02	GJL1211901R0102	5
						0 1	VB6-30-01-02	GJL1211901R0012	5
				48	48	1 0	VB6-30-10-03	GJL1211901R0103	5
						0 1	VB6-30-01-03	GJL1211901R0013	5
				110...127	110...127	1 0	VB6-30-10-84	GJL1211901R8104	5
						0 1	VB6-30-01-84	GJL1211901R8014	5
				220...240	220...240	1 0	VB6-30-10-80	GJL1211901R8100	5
						0 1	VB6-30-01-80	GJL1211901R8010	5
				380...415	380...415	1 0	VB6-30-10-85	GJL1211901R8105	5
						0 1	VB6-30-01-85	GJL1211901R8015	5

3-pole Mini Reversing Contactors VB7									
5.5	20	5	600 V / 16 A	24	24	1 0	VB7-30-10-01	GJL1311901R0101	5
						0 1	VB7-30-01-01	GJL1311901R0011	5
				42	42	1 0	VB7-30-10-02	GJL1311901R0102	5
						0 1	VB7-30-01-02	GJL1311901R0012	5
				48	48	1 0	VB7-30-10-03	GJL1311901R0103	5
						0 1	VB7-30-01-03	GJL1311901R0013	5
				110...127	110...127	1 0	VB7-30-10-84	GJL1311901R8104	5
						0 1	VB7-30-01-84	GJL1311901R8014	5
				220...240	220...240	1 0	VB7-30-10-80	GJL1311901R8100	5
						0 1	VB7-30-01-80	GJL1311901R8010	5
				380...415	380...415	1 0	VB7-30-10-85	GJL1311901R8105	5
						0 1	VB7-30-01-85	GJL1311901R8015	5

Other types on request.

Contactors and Contactor Relays

10.23 Mini Contactors



Accessories

For Contactors	Auxiliary Contacts		Type	Order Code	Pkg Qty
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
	2	0	CAF6-20E	GJL1201330R0006	10
	0	2	CAF6-02E	GJL1201330R0010	10
B6-, B7-30-10, BC6-, BC7-30-10 VB6, VB7, VBC6, VBC7, VB6A, VB7A VBC6A, VBC7A	1	1	CAF6-11M	GJL1201330R0003	10
	2	0	CAF6-20M	GJL1201330R0007	10
	0	2	CAF6-02M	GJL1201330R0011	10
B6-, B7-30-01, BC6-, BC7-30-01 VB6, VB7, VBC6, VBC7, VB6A, VB7A VBC6A, VBC7A	1	1	CAF6-11N	GJL1201330R0004	10
	2	0	CAF6-20N	GJL1201330R0008	10
	0	2	CAF6-02N	GJL1201330R0012	10

Side-mounted Instantaneous Auxiliary Contact Block ⁽¹⁾

B6-, B7-40-00, BC6-, BC7-40-00	1	1	CA6-11E	GJL1201317R0002	10
B6-, B7-30-10, BC6-, BC7-30-10	1	1	CA6-11M	GJL1201317R0003	10
B6-, B7-30-01, BC6-, BC7-30-01	1	1	CA6-11N	GJL1201317R0004	10

⁽¹⁾ CA6 and CAF6 must not be fitted simultaneously.

For Contactors	Rated Control Circuit Voltage U _c V DC	Connection Type	Type	Order Code	Pkg Qty
Surge Suppressors for Contactor Coils					
BC6, BC7	24...60	Cable lug	RV-BC6/60	GHV2501902R0002	10
		Flat pin, 2.8 mm	RV-BC6-F/60	GHV2501902R0003	10
	50...250	Cable lug	RV-BC6/250	GHV2501903R0002	10
		Flat pin, 2.8 mm	RV-BC6-F/250	GHV2501903R0003	10
	380	Cable lug	RV-BC6/380	GHV2501904R0002	10
		Flat pin, 2.8 mm	RV-BC6-F/380	GHV2501904R0003	10

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	15BN080906R1002	10
To connect B..VB.. mini contactors to MS325	BEA7/325	15BN080906R1001	10

Connection Sets for Reversing Contactors

VB6, VB7, VBC6, VBC7, VB6A, VB7A, VBC6A, VBC7A, cross-section 1.8 mm ²	BSM6-30	GJL1201908R0001	10
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Parallel Connecting Link

B6, B7, BC6, BC7	LP6	GJL1201907R0001	100
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Cover Cap, Transparent Fitting to DIN Rail Design, Sealable

B6, B7, BC6, BC7	LT6-B	GJL1201906R0001	10
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Automation Devices

10.24 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 instantaneous short-circuit current setting Ii A	Type	Order code
MS116					
0.03	0.10 ... 0.16	50	2.00 ¹⁾	MS116-0.16	1SAM250000R1001
0.06	0.16 ... 0.25	50	3.10 ¹⁾	MS116-0.25	1SAM250000R1002
0.09	0.25 ... 0.40	50	5.00 ¹⁾	MS116-0.4	1SAM250000R1003
0.12	0.40 ... 0.63	50	7.90 ¹⁾	MS116-0.63	1SAM250000R1004
0.25	0.63 ... 1.00	50	12.5 ¹⁾	MS116-1.0	1SAM250000R1005
0.55	1.00 ... 1.60	50	20.0 ¹⁾	MS116-1.6	1SAM250000R1006
0.75	1.60 ... 2.50	50	31.3 ¹⁾	MS116-2.5	1SAM250000R1007
1.5	2.50 ... 4.00	50	50.0	MS116-4.0	1SAM250000R1008
2.2	4.00 ... 6.30	50	78.8	MS116-6.3	1SAM250000R1009
4	6.30 ... 10.0	50	150	MS116-10	1SAM250000R1010
5.5	8.00 ... 12.0	25	180	MS116-12	1SAM250000R1012
7.5	10.0 ... 16.0	16	240	MS116-16	1SAM250000R1011
7.5	16.0 ... 20.0	10	300	MS116-20	1SAM250000R1013
11	20.0 ... 25.0	10	375	MS116-25	1SAM250000R1014
15	25.0 ... 32.0	10	480	MS116-32	1SAM250000R1015
MS132					
0.03	0.10 ... 0.16	100	2.00 ¹⁾	MS132-0.16	1SAM350000R1001
0.06	0.16 ... 0.25	100	3.10 ¹⁾	MS132-0.25	1SAM350000R1002
0.09	0.25 ... 0.40	100	5.00 ¹⁾	MS132-0.4	1SAM350000R1003
0.12	0.40 ... 0.63	100	7.90 ¹⁾	MS132-0.63	1SAM350000R1004
0.25	0.63 ... 1.00	100	12.5 ¹⁾	MS132-1.0	1SAM350000R1005
0.55	1.00 ... 1.60	100	20.0 ¹⁾	MS132-1.6	1SAM350000R1006
0.75	1.60 ... 2.50	100	31.3 ¹⁾	MS132-2.5	1SAM350000R1007
1.5	2.50 ... 4.00	100	50.0	MS132-4.0	1SAM350000R1008
2.2	4.00 ... 6.30	100	78.8	MS132-6.3	1SAM350000R1009
4	6.30 ... 10.0	100	150	MS132-10	1SAM350000R1010
5.5	8.00 ... 12.0	100	180	MS132-12	1SAM350000R1012
7.5	10.0 ... 16.0	100	240	MS132-16	1SAM350000R1011
7.5	16.0 ... 20.0	100	300	MS132-20	1SAM350000R1013
11	20.0 ... 25.0	50	375	MS132-25	1SAM350000R1014
15	25.0 ... 32.0	25	480	MS132-32	1SAM350000R1015
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					

Automation Devices

10.24 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
MS165					
7.5	10 ... 16	100	240	MS165-16	1SAM451000R1011
7.5	14 ... 20	100	300	MS165-20	1SAM451000R1012
11	18 ... 25	100	375	MS165-25	1SAM451000R1013
15	23 ... 32	100	480	MS165-32	1SAM451000R1014
22	30 ... 42	50	630	MS165-42	1SAM451000R1015
22	40 ... 54	30	810	MS165-54	1SAM451000R1016
30	52 ... 65	30	975	MS165-65	1SAM451000R1017
37	62 ... 73	30	1022	MS165-73	1SAM451000R1018
45	70 ... 80	30	1120	MS165-80	1SAM451000R1019

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



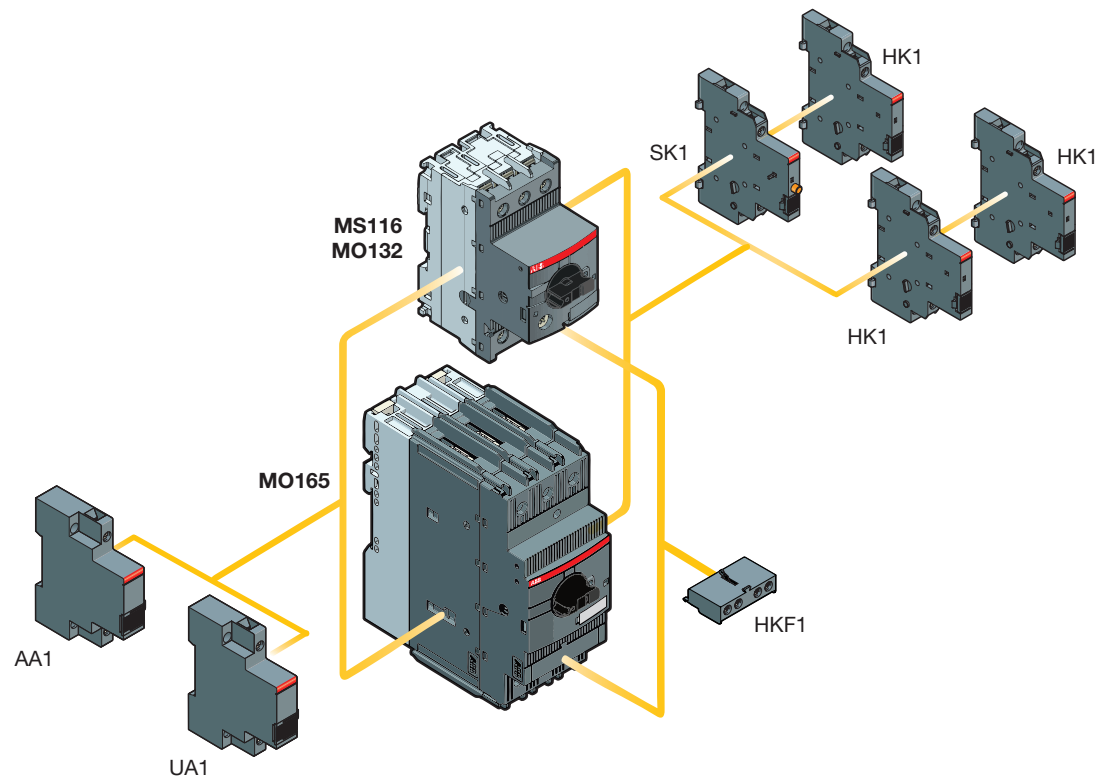
MS132-25T

Setting range	Short-circuit breaking capacity Ics at 400 V AC kA	Rated instan-taneous short-circuit current setting Ii A	Type	Order code
0.10 ... 0.16	100	3.2	MS132-0.16T	1SAM340000R1001
0.16 ... 0.25	100	5	MS132-0.25T	1SAM340000R1002
0.25 ... 0.40	100	8	MS132-0.4T	1SAM340000R1003
0.40 ... 0.63	100	12.6	MS132-0.63T	1SAM340000R1004
0.63 ... 1.00	100	20	MS132-1.0T	1SAM340000R1005
1.00 ... 1.60	100	32	MS132-1.6T	1SAM340000R1006
1.60 ... 2.50	100	50	MS132-2.5T	1SAM340000R1007
2.50 ... 4.00	100	80	MS132-4.0T	1SAM340000R1008
4.00 ... 6.30	100	126	MS132-6.3T	1SAM340000R1009
6.30 ... 10.0	100	200	MS132-10T	1SAM340000R1010
8.00 ... 12.0	100	240	MS132-12T	1SAM340000R1012
10.0 ... 16.0	100	320	MS132-16T	1SAM340000R1011
16.0 ... 20.0	100	400	MS132-20T	1SAM340000R1013
20.0 ... 25.0	50	500	MS132-25T	1SAM340000R1014

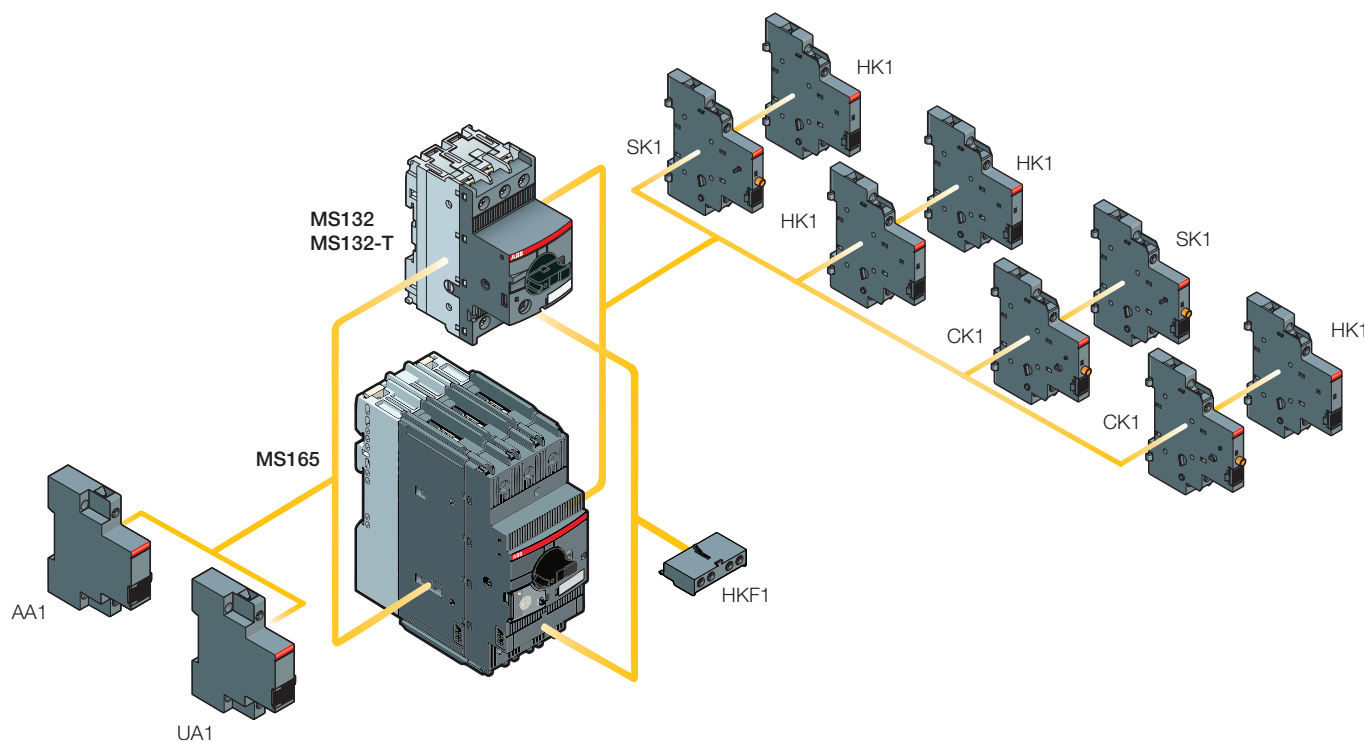
MS116, MS132, MS165, MO132, MO165, MS132-T

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)



Automation Devices

10.25 Manual Motor Starters - Main Accessories



HKF1-11



HK1-11



SK1-11



CK1-11

MS116, MS132, MS165, MO132, MO165, MS132-T - Main accessories

Suitable for	Auxiliary contacts N.O.	Auxiliary contacts N.C.	Description	Type	Order code
Auxiliary contacts – mountable on the front					
MS116,	1	1		HKF1-11	1SAM201901R1001
MS132, MS165	1	0		HKF1-10	1SAM201901R1003
MO132, MO165	0	1		HKF1-01	1SAM201901R1004
MS132-T	2	0		HKF1-20	1SAM201901R1002
Auxiliary contacts – mountable on the right					
MS116,	1	1	max. 2 pieces	HK1-11	1SAM201902R1001
MS132, MS165	2	0	max. 2 pieces	HK1-20	1SAM201902R1002
MO132, MO165	0	2	max. 2 pieces	HK1-02	1SAM201902R1003
MS132-T	2	0	with lead contacts	HK1-20L	1SAM201902R1004
Signaling contacts – mountable on the right					
MS116,	1	1	for tripped alarm, max. 2 pieces	SK1-11	1SAM201903R1001
MS132, MS165	2	0	for tripped alarm, max. 2 pieces	SK1-20	1SAM201903R1002
MO132, MO165					
MS132-T	0	2	for tripped alarm, max. 2 pieces	SK1-02	1SAM201903R1003
MS116,	1	1	for short-circuit alarm, max. 2 pieces	CK1-11	1SAM301901R1001
MS132, MS165	2	0	for short-circuit alarm, max. 2 pieces	CK1-20	1SAM301901R1002
MO132, MO165					
MS132-T	0	2	for short-circuit alarm, max. 2 pieces	CK1-02	1SAM301901R1003
Rated control supply voltage					
Suitable for	50 Hz V AC	60 Hz V AC	Type	Order code	
Shunt trips – mountable on the left					
MS116, MS132,	20 ... 24	20 ... 24	AA1-24	1SAM201910R1001	
MS165, MO132,	110	110	AA1-110	1SAM201910R1002	
MO165, MS132-T	200 ... 240	200 ... 240	AA1-230	1SAM201910R1003	
	350 ... 415	350 ... 415	AA1-400	1SAM201910R1004	
Undervoltage releases – mountable on the left					
	20	24	UA1-20	1SAM201904R1010	
	24	-	UA1-24	1SAM201904R1001	
	48	-	UA1-48	1SAM201904R1002	
	60	-	UA1-60	1SAM201904R1003	
MS116, MS132,	110	120	UA1-110	1SAM201904R1004	
MS165, MO132,	-	208	UA1-208	1SAM201904R1008	
MO165, MS132-T	230	240	UA1-230	1SAM201904R1005	
	400	-	UA1-400	1SAM201904R1006	
	415	480	UA1-415	1SAM201904R1007	
	-	575	UA1-575	1SAM201904R1009	

Automation Devices

10.25 Manual Motor Starters - Main Accessories



MS116, MS132, MO132, MS132-T - Main accessories

Suitable for	Rated operational current A	Number of MMS	Number of lateral aux.	Type	Order code
Three-phase busbars					
MS116, MS132, MO132	65	2	0	PS1-2-0-65	1SAM201906R1102
	65	3	0	PS1-3-0-65	1SAM201906R1103
	65	4	0	PS1-4-0-65	1SAM201906R1104
	65	5	0	PS1-5-0-65	1SAM201906R1105
	65	2	1	PS1-2-1-65	1SAM201906R1112
	65	3	1	PS1-3-1-65	1SAM201906R1113
	65	4	1	PS1-4-1-65	1SAM201906R1114
	65	5	1	PS1-5-1-65	1SAM201906R1115
	65	2	2	PS1-2-2-65	1SAM201906R1122
	65	3	2	PS1-3-2-65	1SAM201906R1123
	65	4	2	PS1-4-2-65	1SAM201906R1124
	65	5	2	PS1-5-2-65	1SAM201906R1125
MS116, MS132, MO132	100	3	0	PS1-3-0-100	1SAM201916R1103
	100	4	0	PS1-4-0-100	1SAM201916R1104
	100	5	0	PS1-5-0-100	1SAM201916R1105
	100	3	1	PS1-3-1-100	1SAM201916R1113
	100	4	1	PS1-4-1-100	1SAM201916R1114
	100	5	1	PS1-5-1-100	1SAM201916R1115
	100	3	2	PS1-3-2-100	1SAM201916R1123

Suitable for	Rated operational current A	Rated cross section mm ²	Mounting form	Type	Order code
Three-phase feeder terminals					
MS116, MS132, MO132	65	25	Flat	S1-M1-25	1SAM201907R1101
	65	25	High	S1-M2-25	1SAM201907R1102
	65	25	UL type E and IEC	S1-M3-25	1SAM201907R1103
	100	35	UL type E and IEC	S1-M3-35	1SAM201913R1103

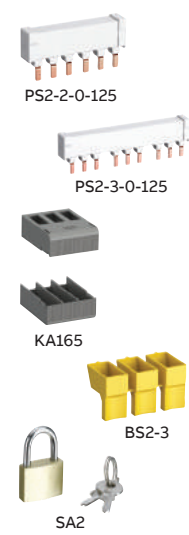
Suitable for	Description	Type	Order code
MS116, MS132, MO132	Protection cover for busbars	BS1-3	1SAM201908R1001
MS116	Lock handle	SA1	GJF1101903R0001
	Lock handle box SA1/SA2	SA3	GJF1101903R0003

Accessories for single-phase connection (IEC only)

MS116, MS132, MO132, MS132-T	Phase connecting link	PB1-1-32	1SAM201914R1001
	Phase power infeed block	S1-PB1-25	1SAM201914R1002

Automation Devices

10.25 Manual Motor Starters - Main Accessories



MS165, MO165 - Main accessories

Suitable for	Rated operational current A	Number of MMS	Number of lateral aux.	Type	Order code
Three-phase busbars					
MS165, MO165	125	2	0	PS2-2-0-125	1SAM401920R1002
	125	3	0	PS2-3-0-125	1SAM401920R1003
	125	4	0	PS2-4-0-125	1SAM401920R1004
	125	2	2	PS2-2-2-125	1SAM401920R1022
	125	3	2	PS2-3-2-125	1SAM401920R1023
	125	4	2	PS2-4-2-125	1SAM401920R1024
Suitable for	Description		Type	Order code	
MS165, MO165	Terminal shroud		KA165	1SAM401922R1001	
	Protection cover for busbars		BS2-3	1SAM401921R1001	
	Padlock + two keys		SA2	GJF1101903R0002	

General Accessories

10.25 MS1xx, MOxx, MS49x, MO49x



Suitable for	Description	Shaft length mm	Color	Type	Order code
Shafts					
MS116,	For MSHD handles. Shaft diameter 6 mm. Shaft extension for door coupling driver.	85		OX56X85	1SCA101647R1001
MS132,		105		OX56X105	1SCA108043R1001
MO132,		130		OX56X130	1SCA101655R1001
MS165,					
MO165,					
MS4xx,		180		OX56X180	1SCA101659R1001
MO4xx					
IP64 handles (UL/CSA Type 1, 3R, 12)					
MS116,	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
MS132,			Yellow	MSHD-LY	1SAM201920R1002
MO132,			Black	MSHD-LTB	1SAM201920R1011
MS165,					
MO165,			Yellow	MSHD-LTY	1SAM201920R1012
MS4xx,					
MO4xx					
Driver					
MS116,	Coupling driver for use with 6 mm OXS6... types up to 180 mm.			MSMN	1SAM101923R0002
MS132,					
MO132,					
MS165,				MSMNO	1SAM101923R0012
MO165,					
MS4xx,					
MO4xx					
Shaft alignment ring					
MS116,	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
MS132,					
MO132,					
MS165,					
MO165,					
MS4xx,					
MO4xx					
Shaft supporter					
MS116,	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
MS132,					
MO132,					

Contactors for PV solar

10.25 GF875 ... GF1050 contactors



The renewable energy industry is continuously striving towards increasing its efficiency in order to compete with traditional power sources. Photovoltaic (PV) solar power is one of the sources leading the way. In moving from 1000V DC to 1500 V DC, costs of utility-scale power plants are greatly reduced.

The GF range of contactors expands ABB's current AF and GAF PV solar product offering by adding contactor switching capabilities for 1500 V DC.



Energy Efficiency

GF contactors offer tailored solutions to enable remote, automatic and energy efficient switching of 1500 V DC circuits in central PV inverter optimization. The GF contactors are built with ABB's standard low energy electronic coils for safe and controlled operation.



Continuous operation

The GF contactor features AF technology with continuous voltage and current control during the contactors operation. This ensures distinct, safe and energy efficient operations even in unstable networks. Voltage sags, dips or surges pose no threat. The GF contactor secures application uptime.



Speed up your projects

ABB's GF contactor complies with all major international standards. It features AC/DC controlled wide voltage range coils together with easily accessible coil terminals to make easier and quicker product selection and installation.

SECTION 11

Advanced Control Products

Softstarters, Universal Motor Controller & Arc Guard System™

Softstarters

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PSR – The Compact Range

11.1 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_c , 100-240 V AC, 50/60 Hz

IEC				Type	Order code
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
1.5	3	4	6.8	PSR6-600-70	1SFA896104R7000
2.2	4	4	9	PSR9-600-70	1SFA896105R7000
3	5.5	5.5	12	PSR12-600-70	1SFA896106R7000
4	7.5	7.5	16	PSR16-600-70	1SFA896107R7000
5.5	11	15	25	PSR25-600-70	1SFA896108R7000
7.5	15	18.5	30	PSR30-600-70	1SFA896109R7000
7.5	18.5	22	37	PSR37-600-70	1SFA896110R7000
11	22	30	45	PSR45-600-70	1SFA896111R7000
15	30	37	60	PSR60-600-70	1SFA896112R7000
22	37	45	72	PSR72-600-70	1SFA896113R7000
22	45	55	85	PSR85-600-70	1SFA896114R7000
30	55	55	105	PSR105-600-70	1SFA896115R7000

Rated operational voltage U_e , 208-600 V

Rated control supply voltage U_c , 24 V AC/DC, 50/60 Hz

IEC				Type	Order code
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
1.5	3	4	6.8	PSR6-600-11	1SFA896104R1100
2.2	4	4	9	PSR9-600-11	1SFA896105R1100
3	5.5	5.5	12	PSR12-600-11	1SFA896106R1100
4	7.5	7.5	16	PSR16-600-11	1SFA896107R1100
5.5	11	15	25	PSR25-600-11	1SFA896108R1100
7.5	15	18.5	30	PSR30-600-11	1SFA896109R1100
7.5	18.5	22	37	PSR37-600-11	1SFA896110R1100
11	22	30	45	PSR45-600-11	1SFA896111R1100
15	30	37	60	PSR60-600-11	1SFA896112R1100
22	37	45	72	PSR72-600-11	1SFA896113R1100
22	45	55	85	PSR85-600-11	1SFA896114R1100
30	55	55	105	PSR105-600-11	1SFA896115R1100



PSR37 ... PSR45



PSR60 ... PSR105

PSR – The Compact Range

11.2 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
PSR3 ... PSR16 with MS116 or MS132	PSR16-MS116	1SFA896211R1001
PSR25 ... PSR30 with MS132-12 ... MS132-32	PSR30-MS132	1SFA896212R1001
PSR37 ... PSR45 with MS165	PSR45-MS165	1SFA896213R1001
PSR60 ... PSR72 with MS165	PSR60-MS165	1SFA896215R1001
PSR60 ... PSR105 with MS495	PSR105-MS495	1SAM501903R1001

Fan

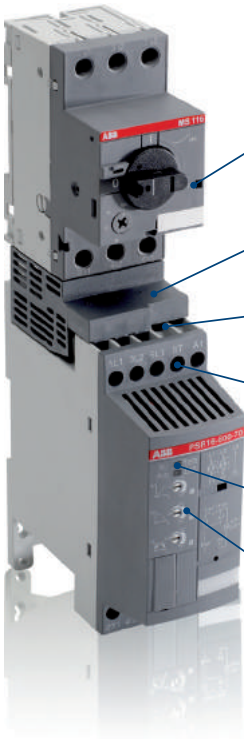
For softstarter type	Type	Order code
PSR3 ... PSR45	PSR-FAN3-45A	1SFA896311R1001
PSR60 ... PSR105	PSR-FAN60-105A	1SFA896313R1001

Terminal enlargements

For softstarter type	Type	Order code
PSR60 ... PSR105	PSLW-72	1SFA899002R1072
Wire range mm2 1 x 10...50 mm2, 2 x 10...25 mm²		

FieldBusPlug connection accessory

For softstarter type	Type	Order code
PSR3 ... PSR105	PS-FBPA	1SFA896312R1002



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.

PSE – The Efficient Range

11.3 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

Rated operational voltage U_e, 208-600 V

Rated control supply voltage U_c, 100-240 V AC, 50/60 Hz

IEC				Type	Order code
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
5,5	11	15	25	PSE25-600-70	1SFA897102R7000
7,5	15	18,5	30	PSE30-600-70	1SFA897103R7000
9	18,5	22	37	PSE37-600-70	1SFA897104R7000
11	22	30	45	PSE45-600-70	1SFA897105R7000
15	30	37	60	PSE60-600-70	1SFA897106R7000
18,5	37	45	72	PSE72-600-70	1SFA897107R7000
22	45	55	85	PSE85-600-70	1SFA897108R7000
30	55	75	106	PSE105-600-70	1SFA897109R7000
40	75	90	143	PSE142-600-70	1SFA897110R7000
45	90	110	171	PSE170-600-70	1SFA897111R7000
59	110	132	210	PSE210-600-70-1	1SFA897112R7001
75	132	160	250	PSE250-600-70-1	1SFA897113R7001
90	160	200	300	PSE300-600-70-1	1SFA897114R7001
110	200	250	370	PSE370-600-70-1	1SFA897115R7001



PSE18 ... PSE105



PSE142 ... PSE170

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 U_e, 208-600 V

Rated control supply voltage U_c, 100-250 V AC, 50/60 Hz

IEC				Type	Order code
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
4	7,5	11	18	PSE25-600-70	1SFA897102R7000
5,5	11	15	25	PSE30-600-70	1SFA897103R7000
7,5	15	18,5	30	PSE37-600-70	1SFA897104R7000
9	18,5	22	37	PSE45-600-70	1SFA897105R7000
11	22	30	45	PSE60-600-70	1SFA897106R7000
15	30	37	60	PSE72-600-70	1SFA897107R7000
18,5	37	45	72	PSE85-600-70	1SFA897108R7000
22	45	55	85	PSE105-600-70	1SFA897109R7000
30	55	75	106	PSE142-600-70	1SFA897110R7000
40	75	90	143	PSE170-600-70	1SFA897111R7000
45	90	110	171	PSE210-600-70-1	1SFA897112R7001
59	110	132	210	PSE250-600-70-1	1SFA897113R7001
75	132	160	250	PSE300-600-70-1	1SFA897114R7001
90	160	200	300	PSE370-600-70-1	1SFA897115R7001



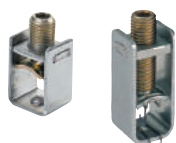
PSE18 ... PSE105



PSE142 ... PSE170

PSE – The Efficient Range

11.4 Accessories



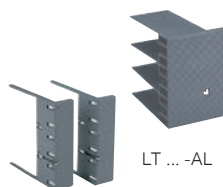
LZ...



LW...



LT ... -AL



LT ... -AC



PSEK



PSECA



PS-FBPA

Cable connec cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty
	mm ²	Nm			
PSE142 ... PSE170	6...120	14	–	1SDA066917R1	3
PSE142 ... PSE170	2 x (50...120)	16	LZ185-2C/120	1SFN074709R1000	3
PSE210 ... PSE370	16...300	25	–	1SDA055016R1	3

Cable connectors for Al and Cu cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty
	mm ²	Nm			
PSE142 ... PSE170	95...185	31	–	1SDA054988R1	3
PSE210 ... PSE370	185...240	43	–	1SDA055020R1	3

Terminal enlargements

For softstarter type	Dimensions		Type	Order code	Pkg qty
	hole ø	bar			
	mm ²	mm ²			
PSE18 ... PSE105	6.5	15 x 3	LW110	1SFN074307R1000	1
PSE142 ... PSE170	10.5	17.5 x 5	LW185	1SFN074707R1000	1
PSE210 ... PSE370	10.5	20 x 5	LW300	1SFN075107R1000	1

Terminal shrouds

For softstarter type	Req. qty	Type	Order code	Pkg qty
PSE142 ... PSE170, short for use with cable clamps	2	LT185-AC	1SFN124701R1000	2
PSE142 ... PSE170, long for use with compression lugs	2	LT185-AL	1SFN124703R1000	2
PSE210 ... PSE370, short for use with cable clamps	2	LT300-AC	1SFN125101R1000	2
PSE210 ... PSE370, long for use with compression lugs	2	LT300-AL	1SFN125103R1000	2

External keypad including a 3m cable

For softstarter type	Type	Order code	Pkg qty
PSE18 ... PSE370	PSEK	1SFA897100R1001	1

USB cable for Service Engineer Tool

For softstarter type	Type	Order code	Pkg qty
PSE18 ... PSE370	PSECA	1SFA897201R1001	1

FieldBusPlug connection accessory

For softstarter type	Type	Order code	Pkg qty
PSE18 ... PSE370	PS-FBPA	1SFA896312R1002	1

PSTX – The Advanced Range

11.5 Normal Starts, Class 10, In-line, Ordering Details

Description

- Selection table for normal start. Typical applications:
- Bow thruster
 - Elevator
 - Centrifugal pump
 - Conveyor belt (short)
 - Compressor

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 **U_e**, 208-600 V
Rated control supply voltage **U_c**, 100-250 V AC, 50/60 Hz



PSTX142 ... PSTX170

PSTX470 ... PSTX570

IEC				Type	Order code
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
18,5	22	-	37	PSTX37-600-70	1SFA898104R7000
22	25	-	45	PSTX45-600-70	1SFA898105R7000
30	37	-	60	PSTX60-600-70	1SFA898106R7000
37	45	-	72	PSTX72-600-70	1SFA898107R7000
45	55	-	85	PSTX85-600-70	1SFA898108R7000
55	75	-	106	PSTX105-600-70	1SFA898109R7000
75	90	-	143	PSTX142-600-70	1SFA898110R7000
90	110	-	171	PSTX170-600-70	1SFA898111R7000
110	132	-	210	PSTX210-600-70	1SFA898112R7000
132	160	-	250	PSTX250-600-70	1SFA898113R7000
160	200	-	300	PSTX300-600-70	1SFA898114R7000
200	257	-	370	PSTX370-600-70	1SFA898115R7000
250	315	-	470	PSTX470-600-70	1SFA898116R7000
315	400	-	570	PSTX570-600-70	1SFA898117R7000
400	500	-	720	PSTX720-600-70	1SFA898118R7000
450	600	-	840	PSTX840-600-70	1SFA898119R7000
560	730	-	1050	PSTX1050-600-70	1SFA898120R7000
710	880	-	1200	PSTX1250-600-70	1SFA898121R7000

Rated operational voltage **U_e**, 208-690 V
Rated control supply voltage **U_c**, 100-250 V AC, 50/60 Hz



PSTX210 ... PSTX370

PSTX1050 ... PSTX1250

IEC				Type	Order code
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
18,5	22	30	37	PSTX37-690-70	1SFA898204R7000
22	25	37	45	PSTX45-690-70	1SFA898205R7000
30	37	55	60	PSTX60-690-70	1SFA898206R7000
37	45	59	72	PSTX72-690-70	1SFA898207R7000
45	55	75	85	PSTX85-690-70	1SFA898208R7000
55	75	90	106	PSTX105-690-70	1SFA898209R7000
75	90	132	143	PSTX142-690-70	1SFA898210R7000
90	110	160	171	PSTX170-690-70	1SFA898211R7000
110	132	184	210	PSTX210-690-70	1SFA898212R7000
132	160	220	250	PSTX250-690-70	1SFA898213R7000
160	200	257	300	PSTX300-690-70	1SFA898214R7000
200	257	355	370	PSTX370-690-70	1SFA898215R7000
250	315	450	470	PSTX470-690-70	1SFA898216R7000
315	400	560	570	PSTX570-690-70	1SFA898217R7000
400	500	710	720	PSTX720-690-70	1SFA898218R7000
450	600	800	840	PSTX840-690-70	1SFA898219R7000
560	730	1000	1050	PSTX1050-690-70	1SFA898220R7000
710	880	1200	1250	PSTX1250-690-70	1SFA898221R7000

PSTX – The Advanced Range

11.6 Heavy-duty, Class 30, In-line, Ordering Details

Description

Selection table for heavy-duty start. Typical applications:

- Centrifugal fan
- Mill
- Conveyor belt (long)
- Mixer
- Crusher
- 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

Rated operational voltage U_e, 208-600 V

Rated control supply voltage U_c, 100-250 V AC, 50/60 Hz



PSTX142 ... PSTX170



PSTX470 ... PSTX570

IEC				Type	Order code
Rated operational power			current		
400 V P _e kW	500 V P _e kW	690 V P _e kW	I _e A		
11	15	-	22	PSTX30-600-70	1SFA898103R7000
15	18,5	-	30	PSTX37-600-70	1SFA898104R7000
18,5	22	-	37	PSTX45-600-70	1SFA898105R7000
22	25	-	45	PSTX60-600-70	1SFA898106R7000
30	37	-	60	PSTX72-600-70	1SFA898107R7000
37	45	-	72	PSTX85-600-70	1SFA898108R7000
45	55	-	85	PSTX105-600-70	1SFA898109R7000
55	75	-	106	PSTX142-600-70	1SFA898110R7000
75	90	-	143	PSTX170-600-70	1SFA898111R7000
90	110	-	171	PSTX210-600-70	1SFA898112R7000
110	132	-	210	PSTX250-600-70	1SFA898113R7000
132	160	-	250	PSTX300-600-70	1SFA898114R7000
160	200	-	300	PSTX370-600-70	1SFA898115R7000
200	257	-	370	PSTX470-600-70	1SFA898116R7000
250	315	-	470	PSTX570-600-70	1SFA898117R7000
315	400	-	570	PSTX720-600-70	1SFA898118R7000
400	500	-	720	PSTX840-600-70	1SFA898119R7000
450	600	-	840	PSTX1050-600-70	1SFA898120R7000
560	730	-	1050	PSTX1250-600-70	1SFA898121R7000

Rated operational voltage U_e, 208-600 V

Rated control supply voltage U_c, 100-250 V AC, 50/60 Hz



PSTX210 ... PSTX370



PSTX720 ... PSTX840

IEC				Type	Order code
Rated operational power			current		
400 V P _e kW	500 V P _e kW	690 V P _e kW	I _e A		
11	15	18,5	22	PSTX30-690-70	1SFA898203R7000
15	18,5	25	30	PSTX37-690-70	1SFA898204R7000
18,5	22	30	37	PSTX45-690-70	1SFA898205R7000
22	25	37	44	PSTX60-690-70	1SFA898206R7000
30	37	55	60	PSTX72-690-70	1SFA898207R7000
37	45	59	72	PSTX85-690-70	1SFA898208R7000
45	55	75	85	PSTX105-690-70	1SFA898209R7000
55	75	90	106	PSTX142-690-70	1SFA898210R7000
75	90	132	143	PSTX170-690-70	1SFA898211R7000
90	110	160	171	PSTX210-690-70	1SFA898212R7000
110	132	184	210	PSTX250-690-70	1SFA898213R7000
132	160	220	250	PSTX300-690-70	1SFA898214R7000
160	200	257	300	PSTX370-690-70	1SFA898215R7000
200	257	355	370	PSTX470-690-70	1SFA898216R7000
250	315	450	470	PSTX570-690-70	1SFA898217R7000
315	400	560	570	PSTX720-690-70	1SFA898218R7000
400	500	710	720	PSTX840-690-70	1SFA898219R7000
450	600	800	840	PSTX1050-690-70	1SFA898220R7000
560	730	1000	1050	PSTX1250-690-70	1SFA898221R7000

PSTX – The Advanced Range

11.7 Accessories



LZ...

Cable connectors for Cu cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty
	mm ²	Nm			
PSTX142 ... PSTX170	6...120	8	-	1SDA066917R1	3
PSTX142 ... PSTX170	2 x (50...95)	16	LZ185-2C/120	1SFN074709R1000	3
PSTX210 ... PSTX370	16...240	25	-	1SDA055016R1	3
PSTX210 ... PSTX370	2 x (70...185)	22	OZXB4	1SCA022194R0890	3
PSTX720 ... PSTX840	2 x (120...240)	35	-	1SDA013922R1	3
PSTX570 ... PSTX1050	3 x (70...185)	45	-	1SDA013956R1	3

Cable connectors for Al cables

For softstarter type	Wire range	Tightening torque max.	Type	Order code	Pkg qty
	mm ²	Nm			
PSTX142 ... PSTX170	95...185	31	-	1SDA054988R1	3
PSTX210 ... PSTX370	185...240	43	-	1SDA055020R1	3
PSTX470 ... PSTX570	2 x (120...240)	31	-	1SDA023380R1	3

Terminal extensions

For softstarter type	Dimensions		Type	Order code	Pkg qty
	hole ø	bar			
	mm ²	mm ²			
PSTX142 ... PSTX170	8,5	17.5 x 5	LX205	1SFN074810R1000	1
PSTX210 ... PSTX370	10,5	20 x 5	LX370	1SFN075410R1000	1
PSTX470 ... PSTX570	10,5	25 x 5	LX460	1SFN075710R1000	1
PSTX720 ... PSTX840	13	40 x 6	LX750	1SFN076110R1000	1

LX...

Terminal enlargements

For softstarter type	Dimensions		Type	Order code	Pkg qty
	hole ø	bar			
	mm ²	mm ²			
PSTX30 ... PSTX105	6,5	15 x 3	LW110	1SFN074307R1000	1
PSTX142 ... PSTX170	10,5	17.5 x 5	LW205	1SFN074807R1000	1
PSTX210 ... PSTX370	10,5	20 x 5	LW370	1SFN075407R1000	1
PSTX470 ... PSTX570	10,5	25 x 5	LW460	1SFN075707R1000	1
PSTX720 ... PSTX840	13	40 x 6	LW750	1SFN076107R1000	1

LW...

Terminal shrouds

For softstarter type	Req. qty	Type	Order code	Pkg qty
PSTX142 ... PSTX170, short for use with cable clamps	2	LT205-30C	1SFN124801R1000	2
PSTX142 ... PSTX170, long for use with compression lugs	2	LT205-30L	1SFN124803R1000	2
PSTX210 ... PSTX370, short for use with cable clamps	2	LT370-30C	1SFN125401R1000	2
PSTX210 ... PSTX370, long for use with compression lugs	2	LT370-30L	1SFN125403R1000	2
PSTX210 ... PSTX370, long and deep for use with extending cable clamps, ATK300/2 and OZXB4	2	LT370-30D	1SFN125406R1000	2
PSTX470 ... PSTX570, short for use with cable clamps	2	LT460-AC	1SFN125701R1000	2
PSTX470 ... PSTX570, long for use with compression lugs	2	LT460-AL	1SFN125703R1000	2
PSTX720 ... PSTX840, short for use with cable clamps	2	LT750-AC	1SFN126101R1000	2
PSTX720 ... PSTX840, long for use with compression lugs	2	LT750-AL	1SFN126103R1000	2

LT ... -AC
LT ... -C

FieldBusPlug connection accessory

For softstarter type	Type	Order code	Pkg qty
PSTX30 ... PSTX1250	PS-FBPA	1SFA896312R1002	1

I/O module, 24 V DC digital input

For softstarter type	Type	Order code	Pkg qty
PSTX30 ... PSTX1250	DX111-FBP.0	1SAJ611000R0101	1

LT ... -AL
LT ... -L

Fieldbus Communication

11.8 Ordering details



Anybus connection accessory for communication protocol suitable for PSTX30 ...PSTX1250

Article	Conection ports	Type	Order code
Profibus	1	AB-PROFIBUS-1	1SFA899300R1001
DeviceNet	1	AB-DEVICENET-1	1SFA899300R1002
Modbus-RTU ¹⁾	1	AB-MODBUS-RTU-1	1SFA899300R1003
BACnet IP	2	AB- BACNET-IP-2	1SFA899300R1004
EtherNet/IP	2	AB-ETHERNET-IP-2	1SFA899300R1006
Modbus/TCP	2	AB-MODBUS-TCP-2	1SFA899300R1008
Profinet	2	AB-PROFINET-IO-2	1SFA899300R1010
BACnet MS/TP	1	AB-BACNET-MSTP-1	1SFA899300R1011
EtherCAT	2	AB-ETHERCAT-IP-2	1SFA899300R1012
New CANopen	1	AB-CANopen-IO-1	1SFA899300R1013

¹⁾ only needed when Com 3-port is used with Extension I/O

Fieldbus Communication

11.8 Main softstarter tools



PSTX simulator

Software application for testing and learning more about PSTX softstarter. Simulate a motorstart in your computer an easy way to learn the menu and parameters.



SoftstarterCare™

Service engineer tool makes softstarter commissioning easy by plug-in your PSE or PSTX softstarter using a PC. Access all parameters, event logs and troubleshooting information.

Motor Management System – UMC100.3

11.9 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 mm^2 (max. Ø with Insulation 11 mm). Higher currents with additional external current transformer. Thermal overload protection according to EN/IEC 60947-4-1, selectable trip classes 5E, 10E, 20E, 30E, 40E.

Universal Motor Controller UMC100.3

Type	Description	Order code
UMC100.3 DC	Universal Motor Controller, 24 V DC	1SAJ530000R0100
UMC100.3 UC	Universal Motor Controller, 110-240 V AC/DC	1SAJ530000R1100
UMC100.3 DC EX	Universal Motor Controller, ATEX, 24 V DC	1SAJ530000R0200
UMC100.3 UC EX	Universal Motor Controller, ATEX, 110-240 V AC/DC	1SAJ530000R1200



UMC100.3 DC

Operating panel UMC100-PAN and Accessories

Type	Description	Order code
UMC100-PAN	Operating panel	1SAJ590000R0103
UMCPAN-CAB.070	0.7 m ext. cable with door mounting set	1SAJ510003R0002
UMCPAN-CAB.150	1.5 m ext. cable with door mounting set	1SAJ510004R0002
UMCPAN-CAB.300	3 m ext. cable with door mounting set	1SAJ510002R0002



UMC100-PAN

Expansion modules and Accessories

Type	Description	Order code
DX111	I/O module for UMC100, 24 V DC digital input	1SAJ611000R0101
DX122	I/O module for UMC100, 110 – 230 V AC digital input	1SAJ622000R0101
VI150	3 phase voltage module for grounded networks	1SAJ650000R0100
VI155	3 phase voltage module for all networks	1SAJ655000R0100
AI111	Analog/temperature module 3 analogue inputs	1SAJ613000R0101
UMCIO-CAB.030	Connection cable UMC100 - I/O module, length	1SAJ691000R0001
IOIO-CAB.030	Connection cable IO-module - IO-module, length 0,30 m	1SAJ692000R0001
UMCTB	Terminal set for UMC100.3 DC (spare parts)	1SAJ929160R0001
UMCTB	Terminal set for UMC100.3 UC (spare parts)	1SAJ929160R0002



DX111-FBP



VI150-FBP

Configuration software

Type	Description	Order code
UTP22-FBP	USB interface for PROFIBUS networks	1SAJ924013R0001
PBDTM-FBP.0	FIM device window edition	*FREE - see web link below
	FIM UMC edition, single user licence	1SAJ925000R0001

*The FIM device window edition can be downloaded from <https://new.abb.com/control-systems/fieldbus-solutions/fim>

Earth fault monitors CEM11-FBP for use with Universal Motor Controller

Type	Earth fault currents [mA]	Through-hole diameter	Order code
CEM11-FBP.20	80 ¹⁾ , 300, 550, 750, 1000, 1200, 1500, 1700	20 mm	1SAJ929200R0020
CEM11-FBP.35	100 ¹⁾ , 500, 1000, 1400, 2000, 2400, 3000, 3400	35 mm	1SAJ929200R0035
CEM11-FBP.60	120 ¹⁾ , 1000, 2000, 2800, 4000, 4800, 6000, 6800	60 mm	1SAJ929200R0060
CEM11-FBP.120	300 ¹⁾ , 2000, 4000, 5600, 8000, 9600, 12000, 13600	120 mm	1SAJ929200R0120

¹⁾ lower values have higher inaccuracy

Current transformers for use with Universal Motor Controller

Type	Current range	Order code
CT4L185R/4	60...185 A AC	1SAJ929500R0185
CT4L310R/4	180...310 A AC	1SAJ929500R0310
CT5L500R/4	300...500 A AC	1SAJ929501R0500
CT5L850R/4	500...850 A AC	1SAJ929501R0850



CEM11-FBP



CT5L500R/4,
CT5L850R/4



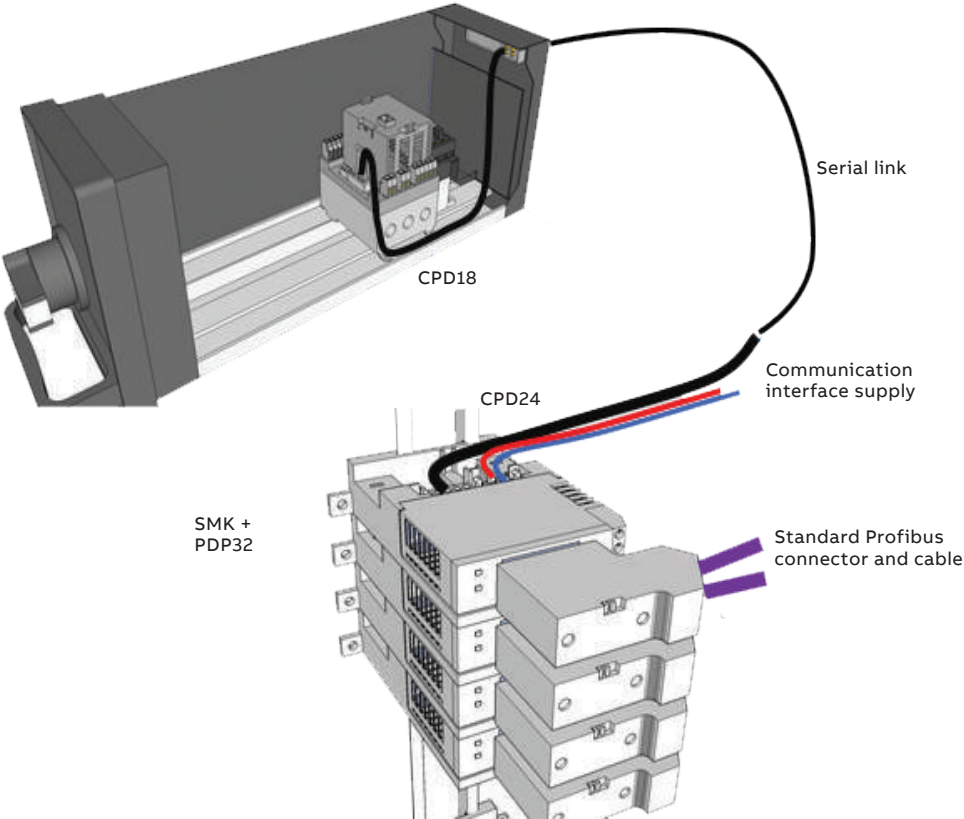
Motor Management System – UMC100.3

11.10 Fieldbus Communication Interfaces, Ordering Details



Fieldbus communication interfaces		
	Description	Order code
PDP32.0	Profibus DP communication interface	1SAJ242000R0001
MRP31.0	Modbus RTU communication interface; terminal block for fieldbus connection included	1SAJ251000R0001
DNP31.0	DeviceNet communication interface; terminal block for fieldbus connection included	1SAJ231000R0001
PDR31.0	Profibus DP active bus termination	1SAJ243000R0001

Fieldbus communication interfaces		
	Description	Order code
SMK3.0	Adapter for separate mounting of a communication interface; terminal block for 24 V DC supply included	1SAJ929600R0001
CDP18.150	Cable for drawer inside, length 1.5 m	1SAJ929180R0015
CDP24.150	Cable from SMK3.0 to drawer outside, length	1SAJ929240R0015
SMK3-X2.10	Terminal block 2-pol for SMK3.0 supply / 10 pcs per pck. (spare parts)	1SAJ929610R0001
SMK3-X1.10	Terminal block 5-pol for SMK3.0 comm. / 10 pcs per pck. (spare parts)	1SAJ929620R0001



Motor Management System – UMC100.3

11.11 Ethernet Communication Interfaces, Ordering Details



PNU32



MTQ22

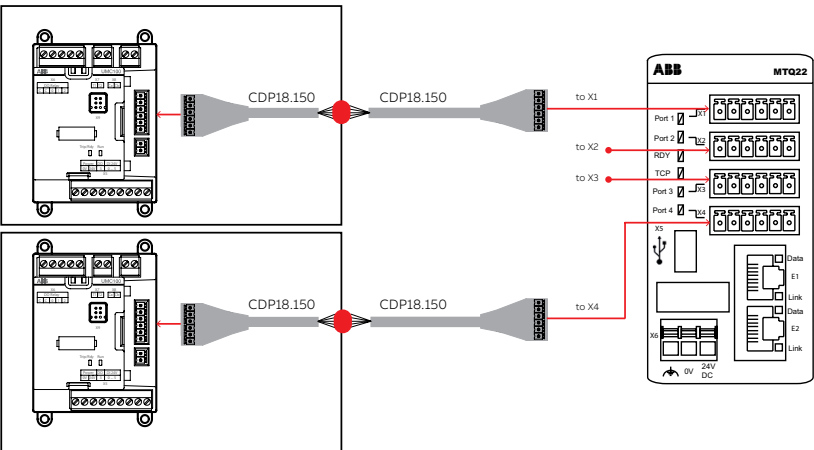
Ethernet communication interfaces

Description		Order code
MTQ22.0	Ethernet Modbus TCP interface	1SAJ260000R0100
PNQ22.0	Ethernet Profinet IO interface	1SAJ261000R0100
EIU32.0	EIU32.0 EtherNet/IP Interface	1SAJ262000R0100
PNU32.0	Ethernet Profinet IO interface	1SAJ263000R0100

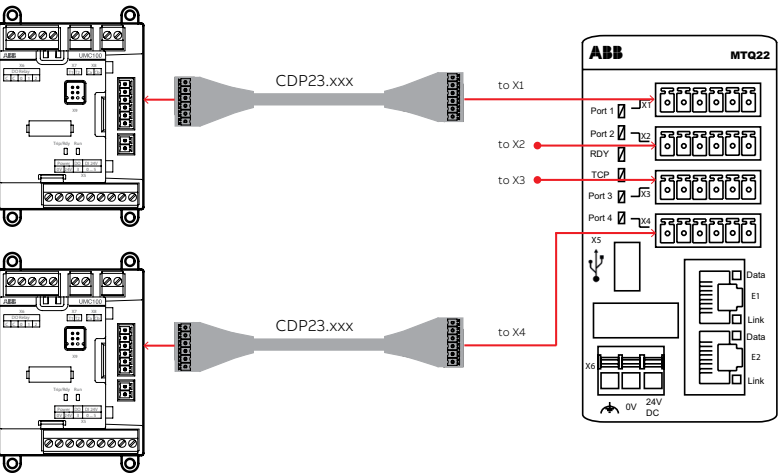
*Price on Request (POR). Please contact ABB.

Ethernet communication interfaces - Accessories

Description		Order code
CDP18.150	Cable for drawer in- and outside, length 1.5 m	1SAJ929180R0015
CDP23.150	Cable ethernet interface - UMC100.3, length 1.5 m	1SAJ929230R0015
CDP23.300	Cable ethernet interface – UMC100.3, length 3 mgth	1SAJ929230R0030
ETHTB-FBP.4	Terminal bloc for MTQ22/PNQ22 X1...X4, 4 pcs	1SAJ929200R0001
ETHTB-FBP.50	Terminal bloc for MTQ22/PNQ22 X1...X4, 50 pcs	1SAJ929200R0002



UMC100.3, withdrawable application with MTQ22 -FBP.0/PNQ22-FBP.0



UMC100.3, fix mounted application with solution MTQ22-FBP.0/PNQ22-FBP.0

Universal Motor Controller

11.12 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
UMC100-FBP.0 Universal Motor Controller, 0.24 – 63 A	1SAJ520000R0101

Operating panel UMC100-PAN and Accessories

Description	Order code
UMC100-PAN Operating panel - Replaced all former UMC100 operator panels, fully compatible USB port for use with UMC100.3 only	1SAJ590000R0103
UMCPAN-CAB.300 3 m ext. cable with door mounting set	1SAJ510002R0002
UMCPAN-CAB.070 0.7 m ext. cable with door mounting set	1SAJ510003R0002
UMCPAN-CAB.150 1.5 m ext. cable with door mounting set	1SAJ510004R0002

Miscellaneous accessories

Description	Order code
CAL11-FBP.0 Addressing labels for FieldBusPlugs / 40 pcs	1SAJ929005R0001
CCC11-FBP.0 M12 covering caps for FieldBusPlugs / 10 pcs	1SAJ929006R0001

FieldBusPlug power supply unit

Description	Order code
CP-E 24/2.5 Power supply unit 24 V / 2.5 A	1SVR427032R0000
CP-S 24/5.0 Power supply unit 24 V / 5 A	1SVR427014R0000

Accessories for installation in control cabinet drawer systems

Description	Current range	Order code
CDP11-FBP.4 Passive plug fixing bracket for drawer systems / 4 pcs		1SAJ929100R0004
CDP12-FBP.100 Passive cable for drawer sys- tems (outside), 1m		1SAJ929120R0001
CDP13-FBP.100 Passive cable for drawer sys- tems (inside), 1m		1SAJ929110R0001

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.

This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin gray lines. There are 20 columns and 20 rows of squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or other markings.

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form a uniform pattern of small squares across the entire surface. There are no margins, text, or other markings present.

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