ABB ENGINEERED TO OUTRUN

ELECTRIFICATION PRICE LIST 2026



CENTRAL ASIA AND CAUCASUS

TABLE OF CONTENTS

006 ABB Ability™
008 e-Configure
009 Formula
016 DIN rail products
058 Electronic energy meters
060 Energy analyzers
064 InSite enerji yönetim Systemi
072 CMS energy sensors
080 Low voltage product solutions for PV systems
086 Switch-disconnectors
100 Automatic transfer switches
111 Moulded-case circuit-breakers
146 Software and applications
150 Air circuit-breakers
170 Circuit breaker retrofit solutions
174 Circuit breaker solutions for solar applications
176 Ekip UP+ Digital
178 Low voltage grid quality products
186 PQF active filter series
188 Contactors and thermal relays
210 Motor protection switches
213 Soft starters
221 Enclosed starters for three-phase motors
223 Universal motor protection and control system
227 Primary switch mode power supplies
228 CR-S series plug-in PLC interface relays
229 R600 series fixed PLC interface relays and optocouplers

229 Plug-in relays
231 Industrial electronic control relays
238 Arc Guard System™ TVOC-2
240 Limit switches
241 Safety limit switches
242 Machine safety products
244 Universal safety relays
245 EDEN Non-contact safety sensors
246 Safety PLCs with communication bus or standard safety PLCs
247 Emergency stop buttons
248 Pilot devices
255 Control boxes
258 Cable protection systems
267 LV primary distribution switchgear
268 Industrial and automation switchgear
281 Uninterruptible power supplies - UPS
294 ABB Portfolio for medium voltage applications
305 Outdoor medium voltage equipment
307 Indoor medium voltage equipment
312 Distribution automation products
318 Unigear ZS1 & Unigear ZS2
320 Relion® protection and control
322 Distribution automation products
324 Gas-insulated secondary RMUs
328 ABB office addresses

Our goal is to ensure safe, smart and sustainable electrification from substaiton to socket.

ABB is helping achieve the desired future with more than a century of experience in electrification. Today, we are building the future of business and industries that enable manufacturers and companies to focus on smart energy. We are writing the future of life by making the places where we live and work not only smarter, but also safer and more sustainable.

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





... in the most famous
stadiums



.....in the longest
railroad tunnel



...in the most efficient
ships



.....at the fastest
vehicle charging stations



... at home

... and even
on Mars

ABB Ability™
A collaborative technology platform

Through smart connected products

- **Cloud**
- **End device / Edge**
- **Embedded software**
- **Hardware (Installed assets)**



Secure

It takes an innovative and multi-layered approach to security without compromising safety, value and control.

Durable

It is a digital platform that allows you to increase or decrease the number of monitored assets at any time.

Scalable

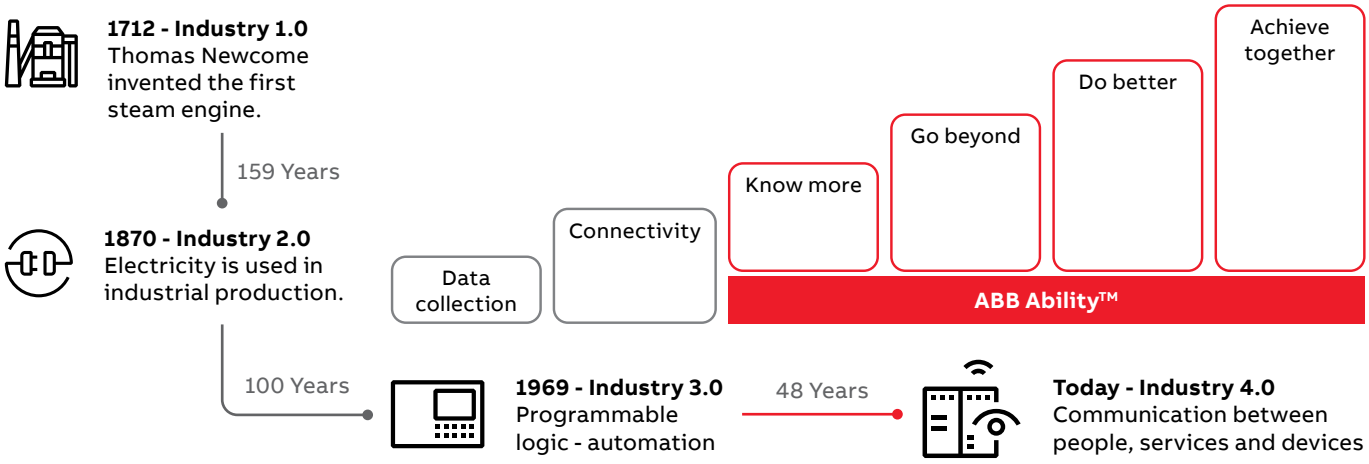
It identifies, categorizes and prioritizes security process improvements in accordance with industry standards.

Compatible

Leverages cloud infrastructure to ensure seamless data exchange across all your installed assets.



ABB Ability™
A collaborative technology platform



Our Customers

Our customers' needs always come first

A world-class experience where we are the best company to do business with

Innovation

Shaping future trends in electrification

Imagining the solutions of the future that transform new ideas into real value

Digital

Creating connected products and solutions that transform the way we work and live

We offer best-in-class digital technology that makes our customers' energy infrastructure smarter



E-CONFIGURE
Easy and fast web-based product selection tool

With ABB e-Configure, product selection is as easy as ordering a pizza online! If you are having a hard time choosing accessories from hundreds of pages of catalogs or if you are not sure if you have chosen the right accessory, e-Configure will make your life easier!

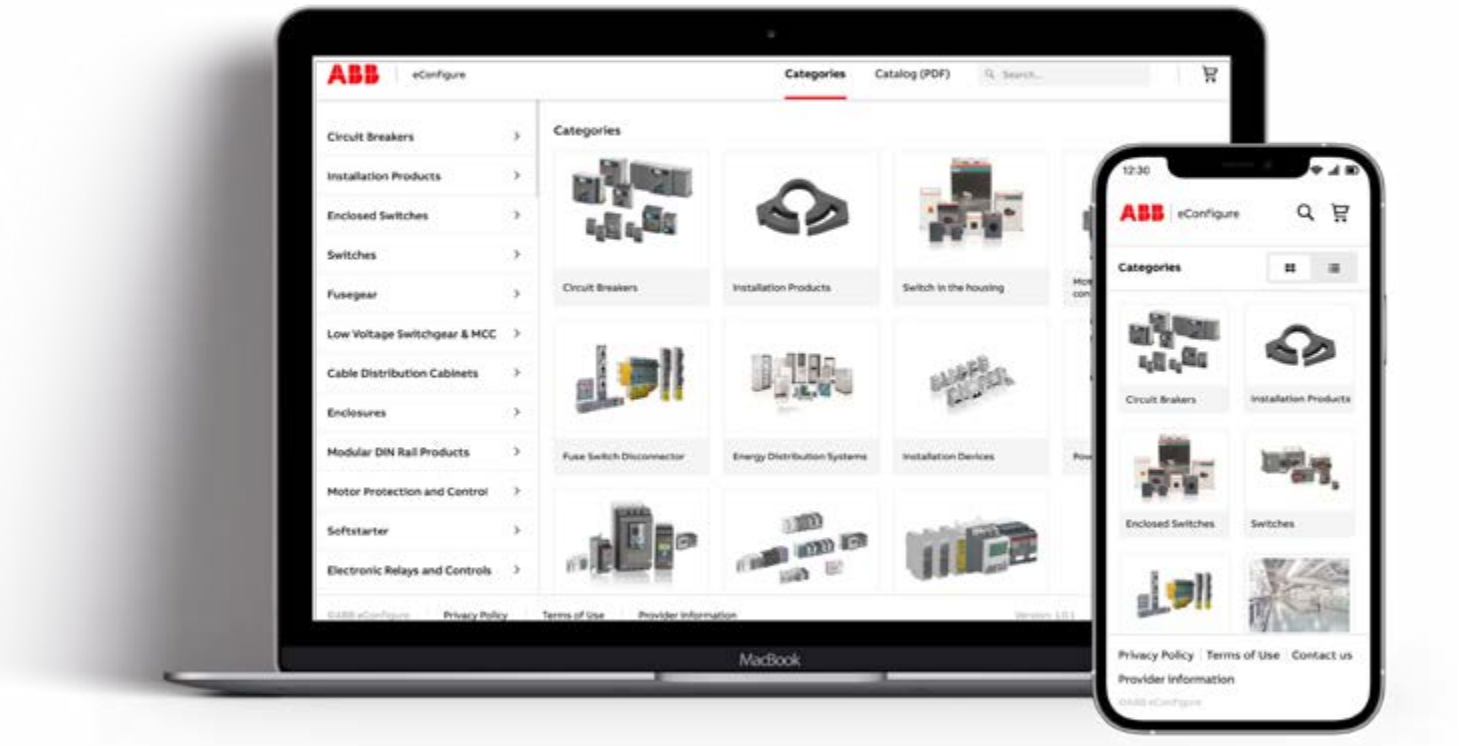
How to use:

- Open the website by scanning the QR code or by typing ABB e-configure in your internet browser.
- Click on the product group you want to select.
- On the page displayed, select the features of the product you want to choose and access the relevant product code.
- Complete the configuration by clicking the settings icon next to the product code and adding the desired accessories to the product.

Faster

Easier

More reliable



FORMULA MINIATURE CIRCUIT BREAKERS AND RESIDUAL CURRENT DEVICES SERIES
Safety you can trust

NEW PRODUCT

The ABB Formula DIN rail series, consisting of miniature circuit breakers (MCBs) and residual current devices (RCDs), is a comprehensive solution for residential applications.

Our ABB Formula DIN rail range delivers a complete system solution for residential applications, featuring Miniature Circuit Breakers (MCBs) and Residual Current Devices (RCDs). Engineered for safe and reliable protection, the system combines performance, compliance, and sustainability – all in one.



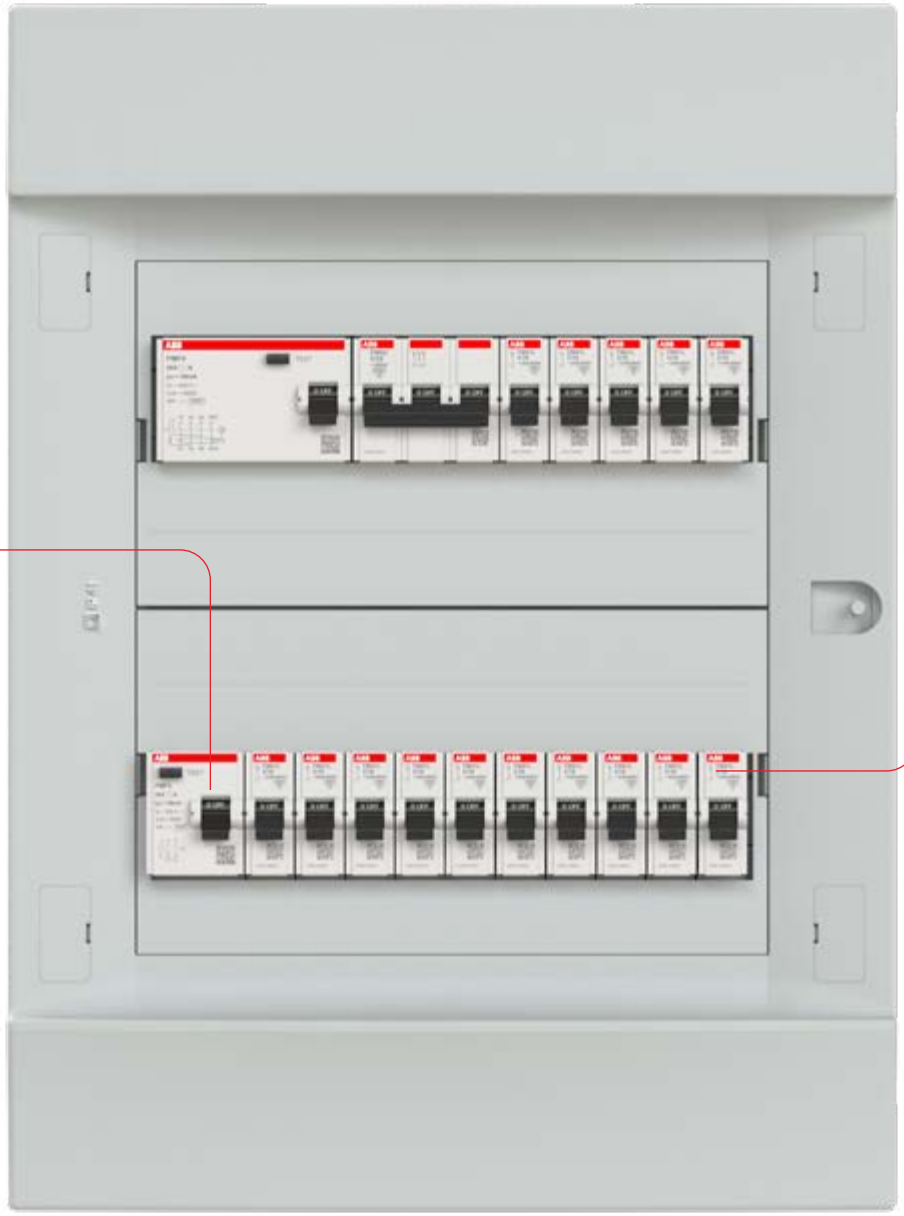




FORMULA MINIATURE CIRCUIT BREAKERS AND RESIDUAL CURRENT DEVICES SERIES
Portfolio overview

NEW PRODUCT

RCCB's:
- Rated current (In): 25 – 63 A
- 2P and 4P (neutral on right-hand side)
- A, AC types
- Sensitivity: 30, 300mA
- Comply with IEC/EN 61008-1



MCB's:
- Rated current In = 2 to 63A
- 1P, 2P, 3P, 4P B, C curve
- Breaking capacity: 4500A, 6000A at 230V/400V AC
- Comply with IEC/EN 60898-1

Busbars:
- 1, 2,3, 4 Phase busbars pin
- 12 or 60 pins
- End caps included for the models
- Feed in terminal up to 25 mmq capacity with IP20 feature.



FORMULA MINIATURE CIRCUIT BREAKERS AND RESIDUAL CURRENT DEVICES SERIES
Range features

NEW PRODUCT

MCBs, RCCBs features

Up to 35 mm² cage terminals*

* More technical details starting from page 15

Finger-safe IP20 terminals for enhanced protection

Compliance with IEC/EN standards, CE directives, and local regulations for global conformity

Simplified **ordering codes**

Test push button for periodic performance check of RCCB



Laser printed EAN code quick identification of devices

Wiring diagrams and technical specifications for **easy reference**

Third-party verified **PEP Eco Passport® EPDs**

Quick and easy access to technical documentation using a **QR code**

Seamless compatibility with pin busbars for effortless integration and installation

Clear contact status indication on the toggle I-ON / O-OFF

Safe & reliable protection, all in one system
Enhanced protection is ensured through finger-safe IP20 terminals and clear contact status indicators on the toggle. The system also offers seamless compatibility with pin busbars, enabling effortless integration.

Global product conformity
Fully compliant with international IEC/EN standards, CE European directives, and relevant local regulations.

Quick and easy access to product information
Wiring diagrams, technical features printed directly on the devices and on box label. Simply scan the QR code to access product details and documentation on our ABB product webpage.

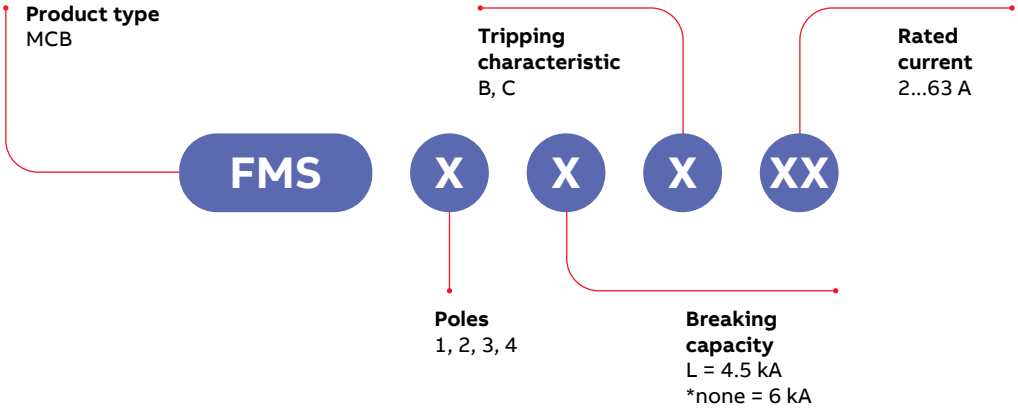
Part of ABB's EcoSolutions™ portfolio
The ABB Formula DIN rail products are third-party verified with the PEP ecopassport® Environmental Product Declarations (EPDs), providing transparency on environmental impact. In addition, they are delivered in packaging made from recycled and sustainably sourced materials.

FORMULA
Miniature circuit breakers

NEW PRODUCT

ABB Formula DIN rail – simplified ordering code for easy reference





—

Order details

B 4,5kA


4,5kA, 1P, B-Trip curve


4,5kA, 2P, B-Trip curve


4,5kA, 3P, B-Trip curve


4,5kA, 4P, B-Trip curve

Description	Icn (kA)	Trip curve	Poles	In (A)	Minimum order quantity	Type	Code	Price (EUR)
4.5 kA, 1P, B-Trip curve, 2 A	4,5	B	1	2	12	FMS1LB2	2TAZ151100R0025	4.75
4.5 kA, 1P, B-Trip curve, 4 A				4	12	FMS1LB4	2TAZ151100R0045	4.50
4.5 kA, 1P, B-Trip curve, 6 A				6	12	FMS1LB6	2TAZ151100R0065	3.20
4.5 kA, 1P, B-Trip curve, 10 A				10	12	FMS1LB10	2TAZ151100R0105	3.20
4.5 kA, 1P, B-Trip curve, 16 A				16	12	FMS1LB16	2TAZ151100R0165	3.20
4.5 kA, 1P, B-Trip curve, 20 A				20	12	FMS1LB20	2TAZ151100R0205	3.20
4.5 kA, 1P, B-Trip curve, 25 A				25	12	FMS1LB25	2TAZ151100R0255	3.20
4.5 kA, 1P, B-Trip curve, 32 A				32	12	FMS1LB32	2TAZ151100R0325	3.75
4.5 kA, 1P, B-Trip curve, 40 A				40	12	FMS1LB40	2TAZ151100R0405	3.90
4.5 kA, 1P, B-Trip curve, 50 A				50	12	FMS1LB50	2TAZ151100R0505	5.35
4.5 kA, 1P, B-Trip curve, 63 A				63	12	FMS1LB63	2TAZ151100R0635	5.35
4.5 kA, 2P, B-Trip curve, 2 A	4,5	B	2	2	6	FMS2LB2	2TAZ151200R0025	15.15
4.5 kA, 2P, B-Trip curve, 4 A				4	6	FMS2LB4	2TAZ151200R0045	14.15
4.5 kA, 2P, B-Trip curve, 6 A				6	6	FMS2LB6	2TAZ151200R0065	10.25
4.5 kA, 2P, B-Trip curve, 10 A				10	6	FMS2LB10	2TAZ151200R0105	10.25
4.5 kA, 2P, B-Trip curve, 16 A				16	6	FMS2LB16	2TAZ151200R0165	10.25
4.5 kA, 2P, B-Trip curve, 20 A				20	6	FMS2LB20	2TAZ151200R0205	10.25
4.5 kA, 2P, B-Trip curve, 25 A				25	6	FMS2LB25	2TAZ151200R0255	10.25
4.5 kA, 2P, B-Trip curve, 32 A				32	6	FMS2LB32	2TAZ151200R0325	12.30
4.5 kA, 2P, B-Trip curve, 40 A				40	6	FMS2LB40	2TAZ151200R0405	12.45
4.5 kA, 2P, B-Trip curve, 50 A				50	6	FMS2LB50	2TAZ151200R0505	16.75
4.5 kA, 2P, B-Trip curve, 63 A				63	6	FMS2LB63	2TAZ151200R0635	16.75
4.5 kA, 3P, B-Trip curve, 2 A	4,5	B	3	2	4	FMS3LB2	2TAZ151300R0025	22.40
4.5 kA, 3P, B-Trip curve, 4 A				4	4	FMS3LB4	2TAZ151300R0045	20.95
4.5 kA, 3P, B-Trip curve, 6 A				6	4	FMS3LB6	2TAZ151300R0065	14.85
4.5 kA, 3P, B-Trip curve, 10 A				10	4	FMS3LB10	2TAZ151300R0105	14.85
4.5 kA, 3P, B-Trip curve, 16 A				16	4	FMS3LB16	2TAZ151300R0165	14.85
4.5 kA, 3P, B-Trip curve, 20 A				20	4	FMS3LB20	2TAZ151300R0205	14.85
4.5 kA, 3P, B-Trip curve, 25 A				25	4	FMS3LB25	2TAZ151300R0255	14.85
4.5 kA, 3P, B-Trip curve, 32 A				32	4	FMS3LB32	2TAZ151300R0325	17.90
4.5 kA, 3P, B-Trip curve, 40 A				40	4	FMS3LB40	2TAZ151300R0405	18.05
4.5 kA, 3P, B-Trip curve, 50 A				50	4	FMS3LB50	2TAZ151300R0505	24.70
4.5 kA, 3P, B-Trip curve, 63 A				63	4	FMS3LB63	2TAZ151300R0635	24.70
4.5 kA, 4P, B-Trip curve, 2 A	4,5	B	4	2	4	FMS4LB2	2TAZ151400R0025	30.35
4.5 kA, 4P, B-Trip curve, 4 A				4	4	FMS4LB4	2TAZ151400R0045	28.45
4.5 kA, 4P, B-Trip curve, 6 A				6	4	FMS4LB6	2TAZ151400R0065	20.20
4.5 kA, 4P, B-Trip curve, 10 A				10	4	FMS4LB10	2TAZ151400R0105	20.20
4.5 kA, 4P, B-Trip curve, 16 A				16	4	FMS4LB16	2TAZ151400R0165	20.20
4.5 kA, 4P, B-Trip curve, 20 A				20	4	FMS4LB20	2TAZ151400R0205	20.20
4.5 kA, 4P, B-Trip curve, 25 A				25	4	FMS4LB25	2TAZ151400R0255	20.20
4.5 kA, 4P, B-Trip curve, 32 A				32	4	FMS4LB32	2TAZ151400R0325	24.40
4.5 kA, 4P, B-Trip curve, 40 A				40	4	FMS4LB40	2TAZ151400R0405	24.55
4.5 kA, 4P, B-Trip curve, 50 A				50	4	FMS4LB50	2TAZ151400R0505	33.50
4.5 kA, 4P, B-Trip curve, 63 A				63	4	FMS4LB63	2TAZ151400R0635	33.50

The product is now available for pre-order, and deliveries will begin in March.

FORMULA
Miniature circuit breakers

NEW PRODUCT

—
Order details

C 4,5kA


4,5kA, 1P, C-Trip curve


4,5kA, 2P, C-Trip curve


4,5kA, 3P, C-Trip curve


4,5kA, 4P, C-Trip curve

Description	Icn (kA)	Trip curve	Poles	In (A)	Minimum order quantity	Type	Code	Price (EUR)
4,5 kA, 1P, C-Trip curve, 2 A	4,5	C	1	2	12	FMS1LC2	2TAZ151100R0024	4.75
4,5 kA, 1P, C-Trip curve, 4 A				4	12	FMS1LC4	2TAZ151100R0044	4.50
4,5 kA, 1P, C-Trip curve, 6 A				6	12	FMS1LC6	2TAZ151100R0064	3.20
4,5 kA, 1P, C-Trip curve, 10 A				10	12	FMS1LC10	2TAZ151100R0104	3.20
4,5 kA, 1P, C-Trip curve, 16 A				16	12	FMS1LC16	2TAZ151100R0164	3.20
4,5 kA, 1P, C-Trip curve, 20 A				20	12	FMS1LC20	2TAZ151100R0204	3.20
4,5 kA, 1P, C-Trip curve, 25 A				25	12	FMS1LC25	2TAZ151100R0254	3.20
4,5 kA, 1P, C-Trip curve, 32 A				32	12	FMS1LC32	2TAZ151100R0324	3.75
4,5 kA, 1P, C-Trip curve, 40 A				40	12	FMS1LC40	2TAZ151100R0404	3.90
4,5 kA, 1P, C-Trip curve, 50 A				50	12	FMS1LC50	2TAZ151100R0504	5.35
4,5 kA, 1P, C-Trip curve, 63 A				63	12	FMS1LC63	2TAZ151100R0634	5.35
4,5 kA, 2P, C-Trip curve, 2 A	4,5	C	2	2	6	FMS2LC2	2TAZ151200R0024	15.15
4,5 kA, 2P, C-Trip curve, 4 A				4	6	FMS2LC4	2TAZ151200R0044	14.15
4,5 kA, 2P, C-Trip curve, 6 A				6	6	FMS2LC6	2TAZ151200R0064	10.25
4,5 kA, 2P, C-Trip curve, 10 A				10	6	FMS2LC10	2TAZ151200R0104	10.25
4,5 kA, 2P, C-Trip curve, 16 A				16	6	FMS2LC16	2TAZ151200R0164	10.25
4,5 kA, 2P, C-Trip curve, 20 A				20	6	FMS2LC20	2TAZ151200R0204	10.25
4,5 kA, 2P, C-Trip curve, 25 A				25	6	FMS2LC25	2TAZ151200R0254	10.25
4,5 kA, 2P, C-Trip curve, 32 A				32	6	FMS2LC32	2TAZ151200R0324	12.30
4,5 kA, 2P, C-Trip curve, 40 A				40	6	FMS2LC40	2TAZ151200R0404	12.45
4,5 kA, 2P, C-Trip curve, 50 A				50	6	FMS2LC50	2TAZ151200R0504	16.75
4,5 kA, 2P, C-Trip curve, 63 A				63	6	FMS2LC63	2TAZ151200R0634	16.75
4,5 kA, 3P, C-Trip curve, 2 A	4,5	C	3	2	4	FMS3LC2	2TAZ151300R0024	22.40
4,5 kA, 3P, C-Trip curve, 4 A				4	4	FMS3LC4	2TAZ151300R0044	20.95
4,5 kA, 3P, C-Trip curve, 6 A				6	4	FMS3LC6	2TAZ151300R0064	14.85
4,5 kA, 3P, C-Trip curve, 10 A				10	4	FMS3LC10	2TAZ151300R0104	14.85
4,5 kA, 3P, C-Trip curve, 16 A				16	4	FMS3LC16	2TAZ151300R0164	14.85
4,5 kA, 3P, C-Trip curve, 20 A				20	4	FMS3LC20	2TAZ151300R0204	14.85
4,5 kA, 3P, C-Trip curve, 25 A				25	4	FMS3LC25	2TAZ151300R0254	14.85
4,5 kA, 3P, C-Trip curve, 32 A				32	4	FMS3LC32	2TAZ151300R0324	17.90
4,5 kA, 3P, C-Trip curve, 40 A				40	4	FMS3LC40	2TAZ151300R0404	18.05
4,5 kA, 3P, C-Trip curve, 50 A				50	4	FMS3LC50	2TAZ151300R0504	24.70
4,5 kA, 3P, C-Trip curve, 63 A				63	4	FMS3LC63	2TAZ151300R0634	24.70
4,5 kA, 4P, C-Trip curve, 2 A	4,5	C	4	2	4	FMS4LC2	2TAZ151400R0024	30.35
4,5 kA, 4P, C-Trip curve, 4 A				4	4	FMS4LC4	2TAZ151400R0044	28.45
4,5 kA, 4P, C-Trip curve, 6 A				6	4	FMS4LC6	2TAZ151400R0064	20.20
4,5 kA, 4P, C-Trip curve, 10 A				10	4	FMS4LC10	2TAZ151400R0104	20.20
4,5 kA, 4P, C-Trip curve, 16 A				16	4	FMS4LC16	2TAZ151400R0164	20.20
4,5 kA, 4P, C-Trip curve, 20 A				20	4	FMS4LC20	2TAZ151400R0204	20.20
4,5 kA, 4P, C-Trip curve, 25 A				25	4	FMS4LC25	2TAZ151400R0254	20.20
4,5 kA, 4P, C-Trip curve, 32 A				32	4	FMS4LC32	2TAZ151400R0324	24.40
4,5 kA, 4P, C-Trip curve, 40 A				40	4	FMS4LC40	2TAZ151400R0404	24.55
4,5 kA, 4P, C-Trip curve, 50 A				50	4	FMS4LC50	2TAZ151400R0504	33.50
4,5 kA, 4P, C-Trip curve, 63 A				63	4	FMS4LC63	2TAZ151400R0634	33.50

The product is now available for pre-order, and deliveries will begin in March.

FORMULA
Miniature circuit breakers

NEW PRODUCT

Order details

B 6kA



6kA, 1P, B-Trip curve



6kA, 2P, B-Trip curve



6kA, 3P, B-Trip curve



6kA, 4P, B-Trip curve

Description	Icn (kA)	Trip curve	Poles	In (A)	Minimum order quantity	Type	Code	Price (EUR)
6 kA, 1P, B-Trip curve, 2 A	6	B	1	2	12	FMS1B2	2TAZ152100R0025	6.50
6 kA, 1P, B-Trip curve, 4 A				4	12	FMS1B4	2TAZ152100R0045	6.10
6 kA, 1P, B-Trip curve, 6 A				6	12	FMS1B6	2TAZ152100R0065	4.05
6 kA, 1P, B-Trip curve, 10 A				10	12	FMS1B10	2TAZ152100R0105	4.05
6 kA, 1P, B-Trip curve, 16 A				16	12	FMS1B16	2TAZ152100R0165	4.05
6 kA, 1P, B-Trip curve, 20 A				20	12	FMS1B20	2TAZ152100R0205	4.05
6 kA, 1P, B-Trip curve, 25 A				25	12	FMS1B25	2TAZ152100R0255	4.05
6 kA, 1P, B-Trip curve, 32 A				32	12	FMS1B32	2TAZ152100R0325	4.75
6 kA, 1P, B-Trip curve, 40 A				40	12	FMS1B40	2TAZ152100R0405	4.90
6 kA, 1P, B-Trip curve, 50 A				50	12	FMS1B50	2TAZ152100R0505	7.05
6 kA, 1P, B-Trip curve, 63 A				63	12	FMS1B63	2TAZ152100R0635	7.05
6 kA, 2P, B-Trip curve, 2 A	6	B	2	2	6	FMS2B2	2TAZ152200R0025	20.50
6 kA, 2P, B-Trip curve, 4 A				4	6	FMS2B4	2TAZ152200R0045	19.25
6 kA, 2P, B-Trip curve, 6 A				6	6	FMS2B6	2TAZ152200R0065	13.75
6 kA, 2P, B-Trip curve, 10 A				10	6	FMS2B10	2TAZ152200R0105	13.75
6 kA, 2P, B-Trip curve, 16 A				16	6	FMS2B16	2TAZ152200R0165	13.75
6 kA, 2P, B-Trip curve, 20 A				20	6	FMS2B20	2TAZ152200R0205	13.75
6 kA, 2P, B-Trip curve, 25 A				25	6	FMS2B25	2TAZ152200R0255	13.75
6 kA, 2P, B-Trip curve, 32 A				32	6	FMS2B32	2TAZ152200R0325	16.45
6 kA, 2P, B-Trip curve, 40 A				40	6	FMS2B40	2TAZ152200R0405	16.60
6 kA, 2P, B-Trip curve, 50 A				50	6	FMS2B50	2TAZ152200R0505	23.40
6 kA, 2P, B-Trip curve, 63 A				63	6	FMS2B63	2TAZ152200R0635	23.40
6 kA, 3P, B-Trip curve, 2 A	6	B	3	2	4	FMS3B2	2TAZ152300R0025	30.35
6 kA, 3P, B-Trip curve, 4 A				4	4	FMS3B4	2TAZ152300R0045	28.30
6 kA, 3P, B-Trip curve, 6 A				6	4	FMS3B6	2TAZ152300R0065	20.25
6 kA, 3P, B-Trip curve, 10 A				10	4	FMS3B10	2TAZ152300R0105	20.25
6 kA, 3P, B-Trip curve, 16 A				16	4	FMS3B16	2TAZ152300R0165	20.25
6 kA, 3P, B-Trip curve, 20 A				20	4	FMS3B20	2TAZ152300R0205	20.25
6 kA, 3P, B-Trip curve, 25 A				25	4	FMS3B25	2TAZ152300R0255	20.25
6 kA, 3P, B-Trip curve, 32 A				32	4	FMS3B32	2TAZ152300R0325	22.25
6 kA, 3P, B-Trip curve, 40 A				40	4	FMS3B40	2TAZ152300R0405	22.40
6 kA, 3P, B-Trip curve, 50 A				50	4	FMS3B50	2TAZ152300R0505	33.25
6 kA, 3P, B-Trip curve, 63 A				63	4	FMS3B63	2TAZ152300R0635	33.25
6 kA, 4P, B-Trip curve, 2 A	6	B	4	2	4	FMS4B2	2TAZ152400R0025	41.20
6 kA, 4P, B-Trip curve, 4 A				4	4	FMS4B4	2TAZ152400R0045	38.30
6 kA, 4P, B-Trip curve, 6 A				6	4	FMS4B6	2TAZ152400R0065	27.45
6 kA, 4P, B-Trip curve, 10 A				10	4	FMS4B10	2TAZ152400R0105	27.45
6 kA, 4P, B-Trip curve, 16 A				16	4	FMS4B16	2TAZ152400R0165	27.45
6 kA, 4P, B-Trip curve, 20 A				20	4	FMS4B20	2TAZ152400R0205	27.45
6 kA, 4P, B-Trip curve, 25 A				25	4	FMS4B25	2TAZ152400R0255	27.45
6 kA, 4P, B-Trip curve, 32 A				32	4	FMS4B32	2TAZ152400R0325	32.90
6 kA, 4P, B-Trip curve, 40 A				40	4	FMS4B40	2TAZ152400R0405	33.05
6 kA, 4P, B-Trip curve, 50 A				50	4	FMS4B50	2TAZ152400R0505	45.20
6 kA, 4P, B-Trip curve, 63 A				63	4	FMS4B63	2TAZ152400R0635	45.20

The product is now available for pre-order, and deliveries will begin in March.

FORMULA
Miniature circuit breakers

NEW PRODUCT

—
Order details

C 6kA



6 kA, 1P, C-Trip curve



6 kA, 2P, C-Trip curve



6 kA, 3P, C-Trip curve



6 kA, 4P, C-Trip curve

Description	Icn (kA)	Trip curve	Poles	In (A)	Minimum order quantity	Type	Code	Price (EUR)
6 kA, 1P, C-Trip curve, 2 A	6	C	1	2	12	FMS1C2	2TAZ152100R0024	6.50
6 kA, 1P, C-Trip curve, 4 A				4	12	FMS1C4	2TAZ152100R0044	6.10
6 kA, 1P, C-Trip curve, 6 A				6	12	FMS1C6	2TAZ152100R0064	4.05
6 kA, 1P, C-Trip curve, 10 A				10	12	FMS1C10	2TAZ152100R0104	4.05
6 kA, 1P, C-Trip curve, 16 A				16	12	FMS1C16	2TAZ152100R0164	4.05
6 kA, 1P, C-Trip curve, 20 A				20	12	FMS1C20	2TAZ152100R0204	4.05
6 kA, 1P, C-Trip curve, 25 A				25	12	FMS1C25	2TAZ152100R0254	4.05
6 kA, 1P, C-Trip curve, 32 A				32	12	FMS1C32	2TAZ152100R0324	4.75
6 kA, 1P, C-Trip curve, 40 A				40	12	FMS1C40	2TAZ152100R0404	4.90
6 kA, 1P, C-Trip curve, 50 A				50	12	FMS1C50	2TAZ152100R0504	7.05
6 kA, 1P, C-Trip curve, 63 A				63	12	FMS1C63	2TAZ152100R0634	7.05
6 kA, 2P, C-Trip curve, 2 A	6	C	2	2	6	FMS2C2	2TAZ152200R0024	20.50
6 kA, 2P, C-Trip curve, 4 A				4	6	FMS2C4	2TAZ152200R0044	19.25
6 kA, 2P, C-Trip curve, 6 A				6	6	FMS2C6	2TAZ152200R0064	13.75
6 kA, 2P, C-Trip curve, 10 A				10	6	FMS2C10	2TAZ152200R0104	13.75
6 kA, 2P, C-Trip curve, 16 A				16	6	FMS2C16	2TAZ152200R0164	13.75
6 kA, 2P, C-Trip curve, 20 A				20	6	FMS2C20	2TAZ152200R0204	13.75
6 kA, 2P, C-Trip curve, 25 A				25	6	FMS2C25	2TAZ152200R0254	13.75
6 kA, 2P, C-Trip curve, 32 A				32	6	FMS2C32	2TAZ152200R0324	16.45
6 kA, 2P, C-Trip curve, 40 A				40	6	FMS2C40	2TAZ152200R0404	16.60
6 kA, 2P, C-Trip curve, 50 A				50	6	FMS2C50	2TAZ152200R0504	23.40
6 kA, 2P, C-Trip curve, 63 A				63	6	FMS2C63	2TAZ152200R0634	23.40
6 kA, 3P, C-Trip curve, 2 A	6	C	3	2	4	FMS3C2	2TAZ152300R0024	30.35
6 kA, 3P, C-Trip curve, 4 A				4	4	FMS3C4	2TAZ152300R0044	28.30
6 kA, 3P, C-Trip curve, 6 A				6	4	FMS3C6	2TAZ152300R0064	20.25
6 kA, 3P, C-Trip curve, 10 A				10	4	FMS3C10	2TAZ152300R0104	20.25
6 kA, 3P, C-Trip curve, 16 A				16	4	FMS3C16	2TAZ152300R0164	20.25
6 kA, 3P, C-Trip curve, 20 A				20	4	FMS3C20	2TAZ152300R0204	20.25
6 kA, 3P, C-Trip curve, 25 A				25	4	FMS3C25	2TAZ152300R0254	20.25
6 kA, 3P, C-Trip curve, 32 A				32	4	FMS3C32	2TAZ152300R0324	22.25
6 kA, 3P, C-Trip curve, 40 A				40	4	FMS3C40	2TAZ152300R0404	22.40
6 kA, 3P, C-Trip curve, 50 A				50	4	FMS3C50	2TAZ152300R0504	33.25
6 kA, 3P, C-Trip curve, 63 A				63	4	FMS3C63	2TAZ152300R0634	33.25
6 kA, 4P, C-Trip curve, 2 A	6	C	4	2	4	FMS4C2	2TAZ152400R0024	41.20
6 kA, 4P, C-Trip curve, 4 A				4	4	FMS4C4	2TAZ152400R0044	38.30
6 kA, 4P, C-Trip curve, 6 A				6	4	FMS4C6	2TAZ152400R0064	27.45
6 kA, 4P, C-Trip curve, 10 A				10	4	FMS4C10	2TAZ152400R0104	27.45
6 kA, 4P, C-Trip curve, 16 A				16	4	FMS4C16	2TAZ152400R0164	27.45
6 kA, 4P, C-Trip curve, 20 A				20	4	FMS4C20	2TAZ152400R0204	27.45
6 kA, 4P, C-Trip curve, 25 A				25	4	FMS4C25	2TAZ152400R0254	27.45
6 kA, 4P, C-Trip curve, 32 A				32	4	FMS4C32	2TAZ152400R0324	32.90
6 kA, 4P, C-Trip curve, 40 A				40	4	FMS4C40	2TAZ152400R0404	33.05
6 kA, 4P, C-Trip curve, 50 A				50	4	FMS4C50	2TAZ152400R0504	45.20
6 kA, 4P, C-Trip curve, 63 A				63	4	FMS4C63	2TAZ152400R0634	45.20

The product is now available for pre-order, and deliveries will begin in March.

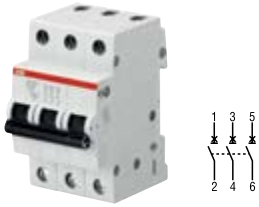
COMPACT HOME PRODUCTS
Miniature circuit breakers

SH 200-B curve standard: IEC/EN 60898 Icn=6kA

B 6kA



SH201-B



SH203-B

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
U_{Bmax} AC: 253 V ~	1	6	10	SH 201-B 6	2CDS211001R0065	6.26
		10	10	SH 201-B 10	2CDS211001R0105	5.24
		16	10	SH 201-B 16	2CDS211001R0165	5.24
		20	10	SH 201-B 20	2CDS211001R0205	5.24
		25	10	SH 201-B 25	2CDS211001R0255	5.24
		32	10	SH 201-B 32	2CDS211001R0325	6.53
		40	10	SH 201-B 40	2CDS211001R0405	6.80
		50	10	SH 201-B 50	2CDS211001R0505	7.83
		63	10	SH 201-B 63	2CDS211001R0635	8.91
U_{Bmax} AC: 440 V ~	3	6	1	SH 203-B 6	2CDS213001R0065	28.24
		10	1	SH 203-B 10	2CDS213001R0105	23.54
		16	1	SH 203-B 16	2CDS213001R0165	23.54
		20	1	SH 203-B 20	2CDS213001R0205	23.54
		25	1	SH 203-B 25	2CDS213001R0255	23.54
		32	1	SH 203-B 32	2CDS213001R0325	29.43
		40	1	SH 203-B 40	2CDS213001R0405	30.56
		50	1	SH 203-B 50	2CDS213001R0505	35.26
		63	1	SH 203-B 63	2CDS213001R0635	39.96

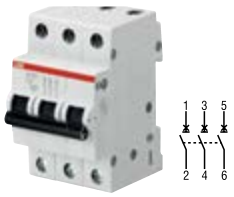
COMPACT HOME PRODUCTS
Miniature circuit breakers

SH 200-C curve standard: IEC/EN 60898 Icn=6kA

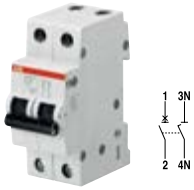
C 6kA



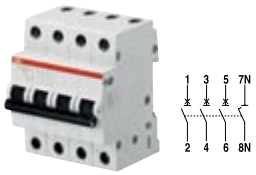
SH201-C



SH203-C



SH201-C NA



SH203-C NA

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
	1	6	10	SH 201-C 6	2CDS211001R0064	6.91
		10	10	SH 201-C 10	2CDS211001R0104	5.72
		16	10	SH 201-C 16	2CDS211001R0164	5.72
		20	10	SH 201-C 20	2CDS211001R0204	5.72
		25	10	SH 201-C 25	2CDS211001R0254	5.72
		32	10	SH 201-C 32	2CDS211001R0324	7.18
		40	10	SH 201-C 40	2CDS211001R0404	7.45
	U_{Bmax}	50	10	SH 201-C 50	2CDS211001R0504	8.64
	AC: 253 V ~	63	10	SH 201-C 63	2CDS211001R0634	9.77
	3	6	1	SH 203-C 6	2CDS213001R0064	31.05
		10	1	SH 203-C 10	2CDS213001R0104	25.87
		16	1	SH 203-C 16	2CDS213001R0164	25.87
		20	1	SH 203-C 20	2CDS213001R0204	25.87
		25	1	SH 203-C 25	2CDS213001R0254	25.87
		32	1	SH 203-C 32	2CDS213001R0324	32.35
		40	1	SH 203-C 40	2CDS213001R0404	33.64
	U_{Bmax}	50	1	SH 203-C 50	2CDS213001R0504	38.83
	AC: 440 V ~	63	1	SH 203-C 63	2CDS213001R0634	44.01
With neutral cutout	1+N	6	5	SH 201-C 6 NA	2CDS211103R0064	21.71
		10	5	SH 201-C 10 NA	2CDS211103R0104	18.09
		16	5	SH 201-C 16 NA	2CDS211103R0164	18.09
		20	5	SH 201-C 20 NA	2CDS211103R0204	18.09
		25	5	SH 201-C 25 NA	2CDS211103R0254	18.09
		32	5	SH 201-C 32 NA	2CDS211103R0324	22.63
		40	5	SH 201-C 40 NA	2CDS211103R0404	23.54
	U_{Bmax}	50	5	SH 201-C 50 NA	2CDS211103R0504	27.16
	AC: 253 V ~	63	5	SH 201-C 63 NA	2CDS211103R0634	30.78
With neutral cutout	3+N	6	1	SH 203-C 6 NA	2CDS213103R0064	37.26
		10	1	SH 203-C 10 NA	2CDS213103R0104	31.05
		16	1	SH 203-C 16 NA	2CDS213103R0164	31.05
		20	1	SH 203-C 20 NA	2CDS213103R0204	31.05
		25	1	SH 203-C 25 NA	2CDS213103R0254	31.05
		32	1	SH 203-C 32 NA	2CDS213103R0324	38.83
		40	1	SH 203-C 40 NA	2CDS213103R0404	40.39
	U_{Bmax}	50	1	SH 203-C 50 NA	2CDS213103R0504	46.60
	AC: 440 V ~	63	1	SH 203-C 63 NA	2CDS213103R0634	52.81

COMPACT HOME PRODUCTS
Miniature circuit breakers

NEW PRODUCT

SH200M-C curve standard: IEC/EN 60898, Icn=10kA

C 10kA

Area of use

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	6	10	SH201M-C 6	2CDS271011R0064	9.84
	10	10	SH201M-C 10	2CDS271011R0104	8.21
	16	10	SH201M-C 16	2CDS271011R0164	8.21
	20	10	SH201M-C 20	2CDS271011R0204	8.21
	25	10	SH201M-C 25	2CDS271011R0254	8.21
	32	10	SH201M-C 32	2CDS271011R0324	10.25
	40	10	SH201M-C 40	2CDS271011R0404	10.67
U_{Bmax}	50	10	SH201M-C 50	2CDS271011R0504	12.30
AC: 253 V ~	63	10	SH201M-C 63	2CDS271011R0634	13.95
2	6	5	SH202M-C 6	2CDS272011R0064	34.49
	10	5	SH202M-C 10	2CDS272011R0104	28.75
	16	5	SH202M-C 16	2CDS272011R0164	28.75
	20	5	SH202M-C 20	2CDS272011R0204	28.75
	25	5	SH202M-C 25	2CDS272011R0254	28.75
	32	5	SH202M-C 32	2CDS272011R0324	35.93
	40	5	SH202M-C 40	2CDS272011R0404	37.36
U_{Bmax}	50	5	SH202M-C 50	2CDS272011R0504	43.10
AC: 440 V ~	63	5	SH202M-C 63	2CDS272011R0634	48.83
3	6	1	SH203M-C 6	2CDS273011R0064	44.33
	10	1	SH203M-C 10	2CDS273011R0104	36.96
	16	1	SH203M-C 16	2CDS273011R0164	36.96
	20	1	SH203M-C 20	2CDS273011R0204	36.96
	25	1	SH203M-C 25	2CDS273011R0254	36.96
	32	1	SH203M-C 32	2CDS273011R0324	46.16
	40	1	SH203M-C 40	2CDS273011R0404	48.01
U_{Bmax}	50	1	SH203M-C 50	2CDS273011R0504	55.39
AC: 440 V ~	63	1	SH203M-C 63	2CDS273011R0634	62.75
4	6	1	SH204M-C 6	2CDS274011R0064	59.09
	10	1	SH204M-C 10	2CDS274011R0104	49.25
	16	1	SH204M-C 16	2CDS274011R0164	49.25
	20	1	SH204M-C 20	2CDS274011R0204	49.25
	25	1	SH204M-C 25	2CDS274011R0254	49.25
	32	1	SH204M-C 32	2CDS274011R0324	61.57
	40	1	SH204M-C 40	2CDS274011R0404	63.99
U_{Bmax}	50	1	SH204M-C 50	2CDS274011R0504	73.86
AC: 440 V ~	63	1	SH204M-C 63	2CDS274011R0634	83.70


SH201M-C16


SH202M-C16


SH203M-C16


SH204M-C16

SH800-C curve standard: IEC/EN 60947-2, Icu= 10kA(240/415VAC)

NEW PRODUCT

C 10kA

Area of use

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	80	10	SH801-C80	2TAZ190100R0804	40.95
	100	10	SH801-C100	2TAZ190100R0824	43.29
	125	10	SH801-C125	2TAZ190100R0844	48.36
2	80	10	SH802-C80	2TAZ190200R0804	93.60
	100	10	SH802-C100	2TAZ190200R0824	99.45
	125	10	SH802-C125	2TAZ190200R0844	110.80
3	80	10	SH803-C80	2TAZ190300R0804	142.70
	100	10	SH803-C100	2TAZ190300R0824	151.30
	125	10	SH803-C125	2TAZ190300R0844	167.70
4	80	10	SH804-C80	2TAZ190400R0804	204.40
	100	10	SH804-C100	2TAZ190400R0824	216.80
	125	10	SH804-C125	2TAZ190400R0844	241.80


SH801-C80


SH803-C125

System Pro M PRODUCTS
Miniature circuit breakers

S 200-B curve standard: IEC/EN 60898, IEC/EN 60947-2 Icn=6kA

B 6kA



S201-B10



S203-B40

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
U_{Bmax} AC: 253 V ~ DC: 72 V ⎓	1	6	10	S 201-B 6	2CDS251001R0065	7.52
		10	10	S 201-B 10	2CDS251001R0105	6.27
		16	10	S 201-B 16	2CDS251001R1165	6.27
		20	10	S 201-B 20	2CDS251001R0205	6.27
		25	10	S 201-B 25	2CDS251001R0255	6.27
		32	10	S 201-B 32	2CDS251001R0325	7.85
		40	10	S 201-B 40	2CDS251001R0405	8.18
		50	10	S 201-B 50	2CDS251001R0505	9.43
		63	10	S 201-B 63	2CDS251001R0635	10.68
		80	10	S 201-B 80	2CDS251001R0805	28.07
		100	10	S 201-B 100	2CDS251001R0825	35.10
U_{Bmax} AC: 440 V ~	3	6	1	S 203-B 6	2CDS253001R0065	33.84
		10	1	S 203-B 10	2CDS253001R0105	28.23
		16	1	S 203-B 16	2CDS253001R0165	28.23
		20	1	S 203-B 20	2CDS253001R0205	28.23
		25	1	S 203-B 25	2CDS253001R0255	28.23
		32	1	S 203-B 32	2CDS253001R0325	35.26
		40	1	S 203-B 40	2CDS253001R0405	36.68
		50	1	S 203-B 50	2CDS253001R0505	42.35
		63	1	S 203-B 63	2CDS253001R0635	47.96
		80	1	S 203-B 80	2CDS253001R0805	126.30
		100	1	S 203-B 100	2CDS253001R0825	157.90

80 and 100A products are suitable for AC operating voltage only.

System Pro M PRODUCTS
Miniature circuit breakers

S 200-C curve standard: IEC/EN 60898, IEC/EN 60947-2 Icn=6kA

C 6kA

Area of use

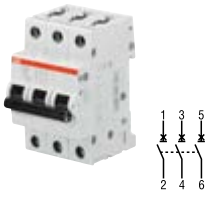
Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	1	10	S 201-C 1	2CDS251001R0014	9.32
	2	10	S 201-C 2	2CDS251001R0024	9.32
	3	10	S 201-C 3	2CDS251001R0034	9.32
	4	10	S 201-C 4	2CDS251001R0044	8.28
	6	10	S 201-C 6	2CDS251001R0064	8.28
	10	10	S 201-C 10	2CDS251001R0104	6.92
	16	10	S 201-C 16	2CDS251001R0164	6.92
	20	10	S 201-C 20	2CDS251001R0204	6.92
	25	10	S 201-C 25	2CDS251001R0254	6.92
	32	10	S 201-C 32	2CDS251001R0324	8.61
	40	10	S 201-C 40	2CDS251001R0404	8.99
	50	10	S 201-C 50	2CDS251001R0504	10.36
U_{Bmax}	63	10	S 201-C 63	2CDS251001R0634	11.72
AC: 253 V ~	80	10	S 201-C 80	2CDS251001R0804	30.90
DC: 72 V ⎓	100	10	S 201-C 100	2CDS251001R0824	38.59
2	1	5	S 202-C 1	2CDS252001R0014	32.65
	2	5	S 202-C 2	2CDS252001R0024	32.65
	3	5	S 202-C 3	2CDS252001R0034	32.65
	4	5	S 202-C 4	2CDS252001R0044	28.99
	6	5	S 202-C 6	2CDS252001R0064	28.99
	10	5	S 202-C 10	2CDS252001R0104	24.14
	16	5	S 202-C 16	2CDS252001R0164	24.14
	20	5	S 202-C 20	2CDS252001R0204	24.14
	25	5	S 202-C 25	2CDS252001R0254	24.14
	32	5	S 202-C 32	2CDS252001R0324	30.19
	40	5	S 202-C 40	2CDS252001R0404	31.39
	50	5	S 202-C 50	2CDS252001R0504	36.24
U_{Bmax}	63	5	S 202-C 63	2CDS252001R0634	41.09
AC: 440 V ~	80	5	S 202-C 80	2CDS252001R0804	108.10
DC: 125 V ⎓	100	5	S 202-C 100	2CDS252001R0824	135.20
3	1	1	S 203-C 1	2CDS253001R0014	41.91
	2	1	S 203-C 2	2CDS253001R0024	41.91
	3	1	S 203-C 3	2CDS253001R0034	41.91
	4	1	S 203-C 4	2CDS253001R0044	37.28
	6	1	S 203-C 6	2CDS253001R0064	37.28
	10	1	S 203-C 10	2CDS253001R0104	31.07
	16	1	S 203-C 16	2CDS253001R0164	31.07
	20	1	S 203-C 20	2CDS253001R0204	31.07
	25	1	S 203-C 25	2CDS253001R0254	31.07
	32	1	S 203-C 32	2CDS253001R0324	38.80
	40	1	S 203-C 40	2CDS253001R0404	40.38
	50	1	S 203-C 50	2CDS253001R0504	46.60
	63	1	S 203-C 63	2CDS253001R0634	52.76
U_{Bmax}	80	1	S 203-C 80	2CDS253001R0804	139.00
AC: 440 V ~	100	1	S 203-C 100	2CDS253001R0824	173.70
4	1	1	S 204-C 1	2CDS254001R0014	55.86
	2	1	S 204-C 2	2CDS254001R0024	55.86
	3	1	S 204-C 3	2CDS254001R0034	55.86
	4	1	S 204-C 4	2CDS254001R0044	49.70
	6	1	S 204-C 6	2CDS254001R0064	49.70
	10	1	S 204-C 10	2CDS254001R0104	41.37
	16	1	S 204-C 16	2CDS254001R0164	41.37
	20	1	S 204-C 20	2CDS254001R0204	41.37
	25	1	S 204-C 25	2CDS254001R0254	41.37
	32	1	S 204-C 32	2CDS254001R0324	51.72
	40	1	S 204-C 40	2CDS254001R0404	53.85
	50	1	S 204-C 50	2CDS254001R0504	62.08
U_{Bmax}	63	1	S 204-C 63	2CDS254001R0634	70.36
AC: 440 V ~	80	1	S 204-C 80	2CDS254001R0804	185.30
DC: 125 V ⎓	100	1	S 204-C 100	2CDS254001R0824	231.60



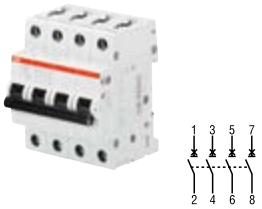
S201-C16



S202-C16



S203-C16



S204-C16

U_{Bmax} 125 V ⎓ 2 Poles are connected in series.
80 and 100A products are suitable for AC operating voltage only.

System Pro M PRODUCTS
Miniature circuit breakers

SN201-B curve standard: IEC/EN 60898-1, Icn=6kA

B



SN201-B16

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
U_{Bmax} AC: 253 V ~	1+N	6	1	SN201B6	2CSS255101R0065	17.12
		10	1	SN201B10	2CSS255101R0105	15.82
		16	1	SN201B16	2CSS255101R0165	15.82
		20	1	SN201B20	2CSS255101R0205	19.04
		25	1	SN201B25	2CSS255101R0255	19.72
		32	1	SN201B32	2CSS255101R0325	20.62
		40	1	SN201B40	2CSS255101R0405	22.15

SN201-C curve standard: IEC/EN 60898-1, Icn=6kA

C



SN201-C16

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
U_{Bmax} AC: 253 V ~	1+N	2	1	SN201C2	2CSS255101R0024	28.76
		4	1	SN201C4	2CSS255101R0044	28.76
		6	1	SN201C6	2CSS255101R0064	22.66
		10	1	SN201C10	2CSS255101R0104	20.68
		16	1	SN201C16	2CSS255101R0164	20.68
		20	1	SN201C20	2CSS255101R0204	24.92
		25	1	SN201C25	2CSS255101R0254	25.88
		32	1	SN201C32	2CSS255101R0324	26.84
		40	1	SN201C40	2CSS255101R0404	28.76

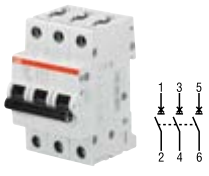
S 200 M-B curve standard: IEC/EN 60898, IEC/EN 60947-2 Icn=10kA

B 10kA



S201M-B16

Area of use	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
U_{Bmax} AC: 253 V ~ DC: 72 V ⎓	1	6	10	S 201 M-B 6	2CDS271001R0065	9.76
		10	10	S 201 M-B 10	2CDS271001R0105	8.18
		16	10	S 201 M-B 16	2CDS271001R0165	8.18
		20	10	S 201 M-B 20	2CDS271001R0205	8.18
		25	10	S 201 M-B 25	2CDS271001R0255	8.18
		32	10	S 201 M-B 32	2CDS271001R0325	10.19
		40	10	S 201 M-B 40	2CDS271001R0405	10.57
		50	10	S 201 M-B 50	2CDS271001R0505	12.21
		63	10	S 201 M-B 63	2CDS271001R0635	13.84
U_{Bmax} AC: 440 V ~	3	6	1	S 203 M-B 6	2CDS273001R0065	44.04
		10	1	S 203 M-B 10	2CDS273001R0105	36.68
		16	1	S 203 M-B 16	2CDS273001R0165	36.68
		20	1	S 203 M-B 20	2CDS273001R0205	36.68
		25	1	S 203 M-B 25	2CDS273001R0255	36.68
		32	1	S 203 M-B 32	2CDS273001R0325	45.89
		40	1	S 203 M-B 40	2CDS273001R0405	47.69
		50	1	S 203 M-B 50	2CDS273001R0505	55.05
		63	1	S 203 M-B 63	2CDS273001R0635	62.40



S203M-B16

System Pro M PRODUCTS
Miniature circuit breakers

S 200 M-C curve standard: IEC/EN 60898, IEC/EN 60947-2 Icn=10kA

C 10kA

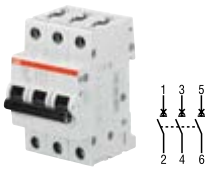
Area of use



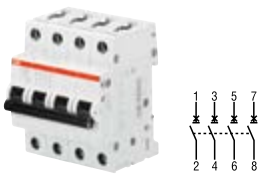
S201M-C16



S202M-C16



S203M-C16



S204M-C16

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	1	10	S 201 M-C 1	2CDS271001R0014	12.10
	2	10	S 201 M-C 2	2CDS271001R0024	12.10
	3	10	S 201 M-C 3	2CDS271001R0034	12.10
	4	10	S 201 M-C 4	2CDS271001R0044	10.74
	6	10	S 201 M-C 6	2CDS271001R0064	10.74
	10	10	S 201 M-C 10	2CDS271001R0104	8.99
	16	10	S 201 M-C 16	2CDS271001R0164	8.99
	20	10	S 201 M-C 20	2CDS271001R0204	8.99
	25	10	S 201 M-C 25	2CDS271001R0254	8.99
	32	10	S 201 M-C 32	2CDS271001R0324	11.23
U_{Bmax}	40	10	S 201 M-C 40	2CDS271001R0404	11.66
AC: 253 V ~	50	10	S 201 M-C 50	2CDS271001R0504	13.46
DC: 72 V ⎓	63	10	S 201 M-C 63	2CDS271001R0634	15.26
2	1	5	S 202 M-C 1	2CDS272001R0014	42.40
	2	5	S 202 M-C 2	2CDS272001R0024	42.40
	3	5	S 202 M-C 3	2CDS272001R0034	42.40
	4	5	S 202 M-C 4	2CDS272001R0044	37.66
	6	5	S 202 M-C 6	2CDS272001R0064	37.66
	10	5	S 202 M-C 10	2CDS272001R0104	31.39
	16	5	S 202 M-C 16	2CDS272001R0164	31.39
	20	5	S 202 M-C 20	2CDS272001R0204	31.39
	25	5	S 202 M-C 25	2CDS272001R0254	31.39
	32	5	S 202 M-C 32	2CDS272001R0324	39.24
U_{Bmax}	40	5	S 202 M-C 40	2CDS272001R0404	40.82
AC: 440 V ~	50	5	S 202 M-C 50	2CDS272001R0504	47.09
DC: 125 V ⎓	63	5	S 202 M-C 63	2CDS272001R0634	53.36
3	1	1	S 203 M-C 1	2CDS273001R0014	54.50
	2	1	S 203 M-C 2	2CDS273001R0024	54.50
	3	1	S 203 M-C 3	2CDS273001R0034	54.50
	4	1	S 203 M-C 4	2CDS273001R0044	48.45
	6	1	S 203 M-C 6	2CDS273001R0064	48.45
	10	1	S 203 M-C 10	2CDS273001R0104	40.38
	16	1	S 203 M-C 16	2CDS273001R0164	40.38
	20	1	S 203 M-C 20	2CDS273001R0204	40.38
	25	1	S 203 M-C 25	2CDS273001R0254	40.38
	32	1	S 203 M-C 32	2CDS273001R0324	50.41
	40	1	S 203 M-C 40	2CDS273001R0404	52.48
U_{Bmax}	50	1	S 203 M-C 50	2CDS273001R0504	60.55
AC: 440 V ~	63	1	S 203 M-C 63	2CDS273001R0634	68.62
4	1	1	S 204 M-C 1	2CDS274001R0014	72.65
	2	1	S 204 M-C 2	2CDS274001R0024	72.65
	3	1	S 204 M-C 3	2CDS274001R0034	72.65
	4	1	S 204 M-C 4	2CDS274001R0044	64.58
	6	1	S 204 M-C 6	2CDS274001R0064	64.58
	10	1	S 204 M-C 10	2CDS274001R0104	53.85
	16	1	S 204 M-C 16	2CDS274001R0164	53.85
	20	1	S 204 M-C 20	2CDS274001R0204	53.85
	25	1	S 204 M-C 25	2CDS274001R0254	53.85
	32	1	S 204 M-C 32	2CDS274001R0324	67.25
U_{Bmax}	40	1	S 204 M-C 40	2CDS274001R0404	69.98
AC: 440 V ~	50	1	S 204 M-C 50	2CDS274001R0504	80.71
DC: 125 V ⎓	63	1	S 204 M-C 63	2CDS274001R0634	91.45

U_{Bmax} 125 V ⎓ 2 Poles are connected in series.

System Pro M PRODUCTS
Miniature circuit breakers

S 200 M UC-B curve universal current AC/DC miniature circuit breaker standard: IEC/EN 60898, IEC/EN 60947-2 Icn=10kA

B 10kA


S201M UC -C16


S202M UC-C16


S203M-C40UC


S204M-C63UC

Area of use

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	0,5	10	S 201 M-C 0,5UC	2CDS271061R0984	44.36
	1	10	S 201 M-C 1UC	2CDS271061R0014	44.36
	1,6	10	S 201 M-C 1,6UC	2CDS271061R0974	44.36
	2	10	S 201 M-C 2UC	2CDS271061R0024	44.36
	3	10	S 201 M-C 3UC	2CDS271061R0034	44.36
	4	10	S 201 M-C 4UC	2CDS271061R0044	39.40
	6	10	S 201 M-C 6UC	2CDS271061R0064	39.40
	8	10	S 201 M-C 8UC	2CDS271061R0084	39.40
	10	10	S 201 M-C 10UC	2CDS271061R0104	32.86
	13	10	S 201 M-C 13UC	2CDS271061R0134	39.40
	16	10	S 201 M-C 16UC	2CDS271061R0164	32.86
	20	10	S 201 M-C 20UC	2CDS271061R0204	32.86
	25	10	S 201 M-C 25UC	2CDS271061R0254	32.86
	32	10	S 201 M-C 32UC	2CDS271061R0324	41.09
U_{Bmax}	40	10	S 201 M-C 40UC	2CDS271061R0404	42.73
AC: 253 V ~	50	10	S 201 M-C 50UC	2CDS271061R0504	49.27
DC: 220 V ⎓	63	10	S 201 M-C 63UC	2CDS271061R0634	55.86
2	0,5	1	S 202 M-C 0,5UC	2CDS272061R0984	115.80
	1	1	S 202 M-C 1UC	2CDS272061R0014	115.80
	1,6	1	S 202 M-C 1,6UC	2CDS272061R0974	115.80
	2	1	S 202 M-C 2UC	2CDS272061R0024	115.80
	3	1	S 202 M-C 3UC	2CDS272061R0034	115.80
	4	1	S 202 M-C 4UC	2CDS272061R0044	103.00
	6	1	S 202 M-C 6UC	2CDS272061R0064	103.00
	8	1	S 202 M-C 8UC	2CDS272061R0084	103.00
	10	1	S 202 M-C 10UC	2CDS272061R0104	85.78
	13	1	S 202 M-C 13UC	2CDS272061R0134	103.00
	16	1	S 202 M-C 16UC	2CDS272061R0164	85.78
	20	1	S 202 M-C 20UC	2CDS272061R0204	85.78
	25	1	S 202 M-C 25UC	2CDS272061R0254	85.78
	32	1	S 202 M-C 32UC	2CDS272061R0324	107.30
U_{Bmax}	40	1	S 202 M-C 40UC	2CDS272061R0404	111.50
AC: 400 V ~ ⎓	50	1	S 202 M-C 50UC	2CDS272061R0504	128.70
DC: 440 V ⎓	63	1	S 202 M-C 63UC	2CDS272061R0634	145.80
3	0,5	10	S203M-C0.5UC	2CDS273061R0984	156.40
	1	10	S203M-C1UC	2CDS273061R0014	156.40
	1,6	10	S203M-C1.6UC	2CDS273061R0974	156.40
	2	10	S203M-C2UC	2CDS273061R0024	156.40
	3	10	S203M-C3UC	2CDS273061R0034	156.40
	4	10	S203M-C4UC	2CDS273061R0044	139.00
	6	10	S203M-C6UC	2CDS273061R0064	139.00
	8	10	S203M-C8UC	2CDS273061R0084	139.00
	10	10	S203M-C10UC	2CDS273061R0104	115.80
	13	10	S203M-C13UC	2CDS273061R0134	139.00
	16	10	S203M-C16UC	2CDS273061R0164	115.80
	20	10	S203M-C20UC	2CDS273061R0204	115.80
	25	10	S203M-C25UC	2CDS273061R0254	115.80
	32	10	S203M-C32UC	2CDS273061R0324	144.80
U_{Bmax}	40	10	S203M-C40UC	2CDS273061R0404	150.50
AC: 253 V ~	50	10	S203M-C50UC	2CDS273061R0504	173.70
DC: 220 V ⎓	63	10	S203M-C63UC	2CDS273061R0634	196.90
4	0,5	1	S204M-C0.5UC	2CDS274061R0984	208.50
	1	1	S204M-C1UC	2CDS274061R0014	208.50
	1,6	1	S204M-C1.6UC	2CDS274061R0974	208.50
	2	1	S204M-C2UC	2CDS274061R0024	208.50
	3	1	S204M-C3UC	2CDS274061R0034	208.50
	4	1	S204M-C4UC	2CDS274061R0044	185.30
	6	1	S204M-C6UC	2CDS274061R0064	185.30
	8	1	S204M-C8UC	2CDS274061R0084	185.30
	10	1	S204M-C10UC	2CDS274061R0104	154.40
	13	1	S204M-C13UC	2CDS274061R0134	185.30
	16	1	S204M-C16UC	2CDS274061R0164	154.40
	20	1	S204M-C20UC	2CDS274061R0204	154.40
	25	1	S204M-C25UC	2CDS274061R0254	154.40
	32	1	S204M-C32UC	2CDS274061R0324	193.00
U_{Bmax}	40	1	S204M-C40UC	2CDS274061R0404	200.70
AC: 400 V ~	50	1	S204M-C50UC	2CDS274061R0504	231.60
DC: 440 V ⎓	63	1	S204M-C63UC	2CDS274061R0634	262.50

Note: The standard S200 series single-pole miniature circuit breaker can be used up to 72V DC. For voltages above this, up to 220V DC, it is advisable to use the S200M UC series.

System Pro M PRODUCTS
Miniature circuit breakers

S300P-C curve standard: IEC/EN 60898-1, IEC/EN 60947-2 Icn=25 kA (≤25 A); 20 kA (32-40 A); 15 kA (>40 A)

C









Area of use	Number of poles	Icn (kA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
	1	25	1	10	S301P-C1	2CDS381001R0014	35.06
		25	2	10	S301P-C2	2CDS381001R0024	33.06
		25	3	10	S301P-C3	2CDS381001R0034	33.06
		25	4	10	S301P-C4	2CDS381001R0044	33.06
		25	6	10	S301P-C6	2CDS381001R0064	33.06
		25	10	10	S301P-C10	2CDS381001R0104	28.13
		25	16	10	S301P-C16	2CDS381001R0164	28.13
		25	20	10	S301P-C20	2CDS381001R0204	28.13
		25	25	10	S301P-C25	2CDS381001R0254	28.13
		20	32	10	S301P-C32	2CDS381001R0324	31.63
		20	40	10	S301P-C40	2CDS381001R0404	36.13
		15	50	10	S301P-C50	2CDS381001R0504	47.94
		15	63	10	S301P-C63	2CDS381001R0634	51.81
	2	25	1	5	S302P-C1	2CDS382001R0014	71.50
		25	2	5	S302P-C2	2CDS382001R0024	67.19
		25	3	5	S302P-C3	2CDS382001R0034	67.19
		25	4	5	S302P-C4	2CDS382001R0044	67.19
		25	6	5	S302P-C6	2CDS382001R0064	67.19
		25	10	5	S302P-C10	2CDS382001R0104	57.31
		25	16	5	S302P-C16	2CDS382001R0164	57.31
		25	20	5	S302P-C20	2CDS382001R0204	57.31
		25	25	5	S302P-C25	2CDS382001R0254	57.31
		20	32	5	S302P-C32	2CDS382001R0324	63.88
		20	40	5	S302P-C40	2CDS382001R0404	72.94
		15	50	5	S302P-C50	2CDS382001R0504	96.69
		15	63	5	S302P-C63	2CDS382001R0634	105.40
	3	25	1	1	S303P-C1	2CDS383001R0014	107.30
		25	2	1	S303P-C2	2CDS383001R0024	101.40
		25	3	1	S303P-C3	2CDS383001R0034	101.40
		25	4	1	S303P-C4	2CDS383001R0044	101.40
		25	6	1	S303P-C6	2CDS383001R0064	101.40
		25	10	1	S303P-C10	2CDS383001R0104	85.38
		25	16	1	S303P-C16	2CDS383001R0164	85.38
		25	20	1	S303P-C20	2CDS383001R0204	85.38
		25	25	1	S303P-C25	2CDS383001R0254	85.38
		20	32	1	S303P-C32	2CDS383001R0324	96.06
		20	40	1	S303P-C40	2CDS383001R0404	109.70
		15	50	1	S303P-C50	2CDS383001R0504	145.50
		15	63	1	S303P-C63	2CDS383001R0634	158.60
	4	25	1	1	S304P-C1	2CDS384001R0014	154.90
		25	2	1	S304P-C2	2CDS384001R0024	146.40
		25	3	1	S304P-C3	2CDS384001R0034	146.40
		25	4	1	S304P-C4	2CDS384001R0044	146.40
		25	6	1	S304P-C6	2CDS384001R0064	146.40
		25	10	1	S304P-C10	2CDS384001R0104	124.30
		25	16	1	S304P-C16	2CDS384001R0164	124.30
		25	20	1	S304P-C20	2CDS384001R0204	124.30
		25	25	1	S304P-C25	2CDS384001R0254	124.30
		20	32	1	S304P-C32	2CDS384001R0324	138.80
		20	40	1	S304P-C40	2CDS384001R0404	158.80
		15	50	1	S304P-C50	2CDS384001R0504	210.70
		15	63	1	S304P-C63	2CDS384001R0634	229.40

System Pro M PRODUCTS
Miniature circuit breakers

S800P-C curve standard: IEC/EN 60947-2, Icu= 50kA(240/415VAC)

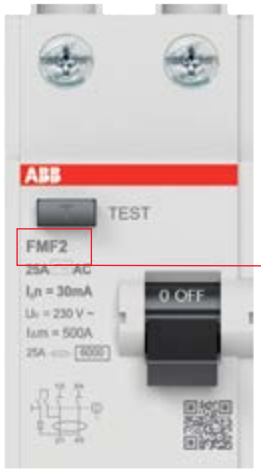
C

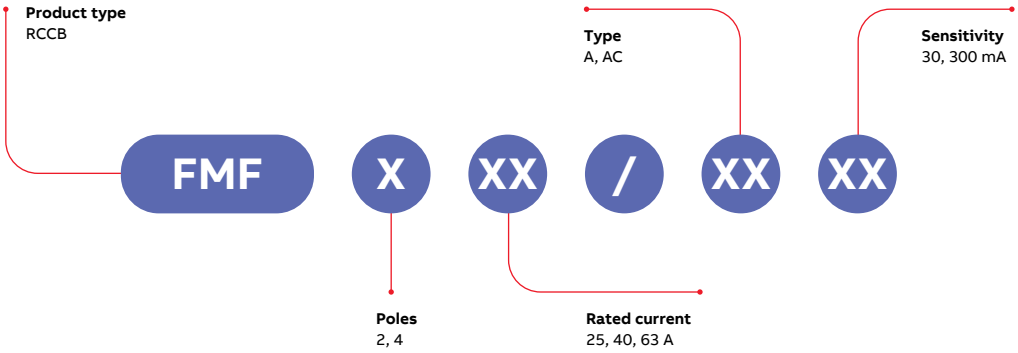
	Area of use	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
	1	80	1	S801P-C80	2CCG001226R0001	80.06
		100	1	S801P-C100	2CCG001227R0001	80.06
		125	1	S801P-C125	2CCG001228R0001	100.50
	2	80	1	S802P-C80	2CCG001229R0001	160.00
		100	1	S802P-C100	2CCG001230R0001	160.00
		125	1	S802P-C125	2CCG001231R0001	200.90
	3	80	1	S803P-C80	2CCG001232R0001	240.00
		100	1	S803P-C100	2CCG001233R0001	240.00
		125	1	S803P-C125	2CCG001234R0001	301.40
	4	80	1	S804P-C80	2CCG001235R0001	320.00
		100	1	S804P-C100	2CCG001236R0001	320.00
		125	1	S804P-C125	2CCG001237R0001	401.90

FORMULA
Residual current circuit breakers

NEW PRODUCT

ABB Formula DIN rail – simplified ordering code for easy reference





—

FMF AC type standard: IEC/EN 61008, Inc: 6kA (Protection against AC residual currents)

AC 6kA

Area of use						
Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
2	30	25	6	FMF225/AC30	2CSF602088R1250	35.05
		40	6	FMF240/AC30	2CSF602088R1400	36.90
		63	6	FMF263/AC30	2CSF602088R1630	43.35
	300	25	6	FMF225/AC300	2CSF602088R3250	35.05
		40	6	FMF240/AC300	2CSF602088R3400	36.90
		63	6	FMF263/AC300	2CSF602088R3630	43.35
4	30	25	3	FMF425/AC30	2CSF604088R1250	47.65
		40	3	FMF440/AC30	2CSF604088R1400	49.45
		63	3	FMF463/AC30	2CSF604088R1630	54.75
	300	25	3	FMF425/AC300	2CSF604088R3250	47.65
		40	3	FMF440/AC300	2CSF604088R3400	49.45
		63	3	FMF463/AC300	2CSF604088R3630	54.75


FMF240/AC30


FMF440/AC300

—

FMF A type standard: IEC/EN 61008, Inc: 6kA (Protection against AC and DC pulse residual currents)

A 6kA

Area of use						
Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
2	30	25	6	FMF225/A30	2CSF602188R1250	38.45
		40	6	FMF240/A30	2CSF602188R1400	39.65
		63	6	FMF263/A30	2CSF602188R1630	45.80
	300	25	6	FMF225/A300	2CSF602188R3250	38.45
		40	6	FMF240/A300	2CSF602188R3400	39.65
		63	6	FMF263/A300	2CSF602188R3630	45.80
4	30	25	3	FMF425/A30	2CSF604188R1250	53.20
		40	3	FMF440/A30	2CSF604188R1400	55.35
		63	3	FMF463/A30	2CSF604188R1630	63.90
	300	25	3	FMF425/A300	2CSF604188R3250	53.20
		40	3	FMF440/A300	2CSF604188R3400	55.35
		63	3	FMF463/A300	2CSF604188R3630	63.90


FMF225/A30


FMF440/A300

The product is now available for pre-order, and deliveries will begin in March.

COMPACT HOME PRODUCTS
RCCB - Earth residual current circuit breakers

FH 200 AC type standard: IEC/EN 61008, Inc: 6kA (Protection against AC residual currents)

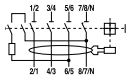
AC 6kA

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
2	30	25	6	FH202 AC-25/0.03	2CSF202004R1250	39.49
		40	6	FH202 AC-40/0.03	2CSF202004R1400	41.41
		63	6	FH202 AC-63/0.03	2CSF202004R1630	51.30
	300	25	6	FH202 AC-25/0.3	2CSF202003R3250	35.54
		40	6	FH202 AC-40/0.3	2CSF202003R3400	37.29
		63	6	FH202 AC-63/0.3	2CSF202003R3630	46.16
4	30	25	3	FH204 AC-25/0.03	2CSF204004R1250	51.30
		40	3	FH204 AC-40/0.03	2CSF204004R1400	53.84
		63	3	FH204 AC-63/0.03	2CSF204004R1630	66.73
	300	25	3	FH204 AC-25/0.3	2CSF204003R3250	46.16
		40	3	FH204 AC-40/0.3	2CSF204003R3400	48.48
		63	3	FH204 AC-63/0.3	2CSF204003R3630	60.00



FH202 AC



FH204 AC

FH 200 A type standard: IEC/EN 61008, Inc: 6kA (Protection against AC and DC pulse residual currents)

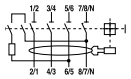
A 6kA

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
2	30	25	6	FH202 A-25/0.03	2CSF202102R1250	39.49
		40	6	FH202 A-40/0.03	2CSF202102R1400	41.41
		63	6	FH202 A-63/0.03	2CSF202102R1630	51.30
4	30	25	3	FH204 A-25/0.03	2CSF204102R1250	51.30
		40	3	FH204 A-40/0.03	2CSF204102R1400	53.84
		63	3	FH204 A-63/0.03	2CSF204102R1630	66.73

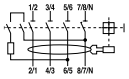


FH202 A

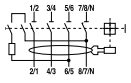


FH204 A

System Pro M PRODUCTS
RCCB - Earth residual current circuit breakers

F 200 AC type standard: IEC/EN 61008, Inc: 10kA (Protection against AC residual currents)

AC 10kA	Area of use	Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
  F202 AC		2	30	25	6	F202AC-25/0.03	2CSF202001R1250	62.15
				40	6	F202AC-40/0.03	2CSF202001R1400	80.78
				63	6	F202AC-63/0.03	2CSF202001R1630	93.20
				80	6	F202 AC-80/0.03	2CSF202001R1800	106.60
				100	6	F202 AC-100/0.03	2CSF202001R1900	179.30
			300	25	6	F202AC-25/0.3	2CSF202001R3250	55.94
				40	6	F202AC-40/0.3	2CSF202001R3400	72.68
				63	6	F202AC-63/0.3	2CSF202001R3630	83.86
				80	6	F202 AC-80/0.3	2CSF202001R3800	95.92
				100	6	F202 AC-100/0.3	2CSF202001R3900	161.40
  F204 AC		4	30	25	3	F204AC-25/0.03	2CSF204001R1250	80.78
				40	3	F204AC-40/0.03	2CSF204001R1400	105.00
				63	3	F204AC-63/0.03	2CSF204001R1630	121.10
				80	3	F204 AC-80/0.03	2CSF204001R1800	138.50
				100	3	F204 AC-100/0.03	2CSF204001R1900	233.20
				125	3	F204 AC-125/0.03	2CSF204001R1950	733.60
			300	25	3	F204AC-25/0.3	2CSF204001R3250	72.68
				40	3	F204AC-40/0.3	2CSF204001R3400	94.50
				63	3	F204AC-63/0.3	2CSF204001R3630	109.00
				80	3	F204 AC-80/0.3	2CSF204001R3800	124.80
				100	3	F204 AC-100/0.3	2CSF204001R3900	209.80
				125	3	F204 AC-125/0.3	2CSF204001R3950	660.20

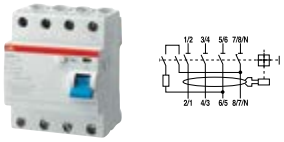
F 200 A selective type standard: IEC/EN 61008 (Protection and selectivity against AC and DC pulse residual currents)

A 10kA	Area of use	Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
  F202 A S		2	300	40	6	F202 A S-40/0.3	2CSF202201R3400	121.00
				63	6	F202 A S-63/0.3	2CSF202201R3630	139.70
				100	6	F202 A S-100/0.3	2CSF202201R3900	260.70
  F204 A S		4	300	40	3	F204 A S-40/0.3	2CSF204201R3400	157.30
				63	3	F204 A S-63/0.3	2CSF204201R3630	181.60
				100	3	F204 A S-100/0.3	2CSF204201R3900	338.90

System Pro M PRODUCTS
RCCB - Earth residual current circuit breakers

—

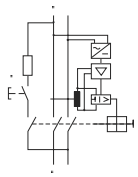
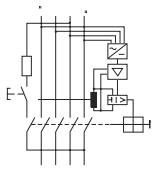
F200 A-APR type standard: IEC/EN 61008 (Special type resistant to unwanted tripping in case of lightning strikes and electrical disturbances, protection against AC and DC pulse leakage currents)

A 10kA	Area of use	Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
 F202 A APR		2	30	25	6	F202 A-25/0.03 AP-R	2CSF202401R1250	82.79
				40	6	F202 A-40/0.03 AP-R	2CSF202401R1400	107.60
				63	6	F202 A-63/0.03 AP-R	2CSF202401R1630	124.20
				80	6	F202 A-80/0.03 AP-R	2CSF202401R1800	179.10
				100	6	F202 A-100/0.03 AP-R	2CSF202401R1900	231.70
 F204 A APR		4	30	25	3	F204 A-25/0.03 AP-R	2CSF204401R1250	107.60
				40	3	F204 A-40/0.03 AP-R	2CSF204401R1400	139.90
				63	3	F204 A-63/0.03 AP-R	2CSF204401R1630	161.40
				80	3	F204 A-80/0.03 AP-R	2CSF204401R1800	232.80
				100	3	F204 A-100/0.03 AP-R	2CSF204401R1900	301.30

Type suitable for use in elevators.

—

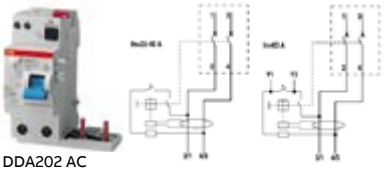
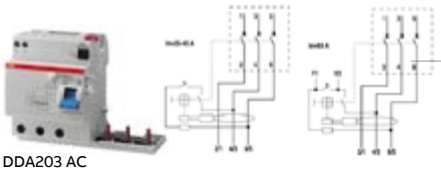
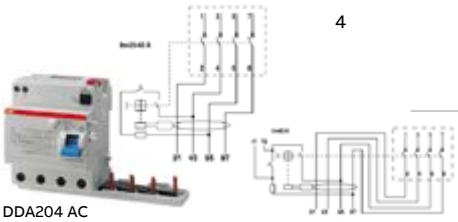
F 200 type B standard: IEC/EN 61008, IEC 62423
(Protection against stationary DC residual currents in 3-phase frequency converters, photovoltaic inverters, UPS systems and electromedical devices)

B 10kA	Area of use	Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
  F 202 B		2	30	16	1	F202 B-16/0.03	2CSF202568R1160	324.30
				25	1	F202 B-25/0.03	2CSF202568R1250	324.30
				40	1	F202 B-40/0.03	2CSF202568R1400	421.50
				63	1	F202 B-63/0.03	2CSF202568R1630	486.40
			300	16	1	F202 B-16/0.3	2CSF202568R3160	291.80
				25	1	F202 B-25/0.3	2CSF202568R3250	291.80
				40	1	F202 B-40/0.3	2CSF202568R3400	379.40
				63	1	F202 B-63/0.3	2CSF202568R3630	437.70
  F 204 B		4	30	25	1	F204 B-25/0.03	2CSF204568R1250	421.50
				40	1	F204 B-40/0.03	2CSF204568R1400	548.00
				63	1	F204 B-63/0.03	2CSF204568R1630	632.30
			300	25	1	F204 B-25/0.3	2CSF204568R3250	379.40
				40	1	F204 B-40/0.3	2CSF204568R3400	493.20
				63	1	F204 B-63/0.3	2CSF204568R3630	569.10

System Pro M PRODUCTS
RCD - Earth residual current devices

—

DDA 200 AC type standard: IEC/EN 61009 Ann. G

AC	Area of use	Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
 DDA202 AC		2	30	25	1	DDA202 AC-25/0.03	2CSB202001R1250	86.33
				40	1	DDA202 AC-40/0.03	2CSB202001R1400	86.33
				63	1	DDA202 AC-63/0.03	2CSB202001R1630	86.33
			300	25	1	DDA202 AC-25/0.3	2CSB202001R3250	77.39
				40	1	DDA202 AC-40/0.3	2CSB202001R3400	77.39
				63	1	DDA202 AC-63/0.3	2CSB202001R3630	77.39
 DDA203 AC		3	30	25	1	DDA203 AC-25/0.03	2CSB203001R1250	93.69
				40	1	DDA203 AC-40/0.03	2CSB203001R1400	93.69
				63	1	DDA203 AC-63/0.03	2CSB203001R1630	93.69
			300	25	1	DDA203 AC-25/0.3	2CSB203001R3250	89.54
				40	1	DDA203 AC-40/0.3	2CSB203001R3400	89.54
				63	1	DDA203 AC-63/0.3	2CSB203001R3630	89.54
 DDA204 AC		4	30	25	1	DDA204 AC-25/0.03	2CSB204001R1250	106.90
				40	1	DDA204 AC-40/0.03	2CSB204001R1400	106.90
				63	1	DDA204 AC-63/0.03	2CSB204001R1630	106.90
			300	25	1	DDA204 AC-25/0.3	2CSB204001R3250	105.50
				40	1	DDA204 AC-40/0.3	2CSB204001R3400	105.50
				63	1	DDA204 AC-63/0.3	2CSB204001R3630	105.50

System Pro M PRODUCTS
RCBO - Residual current device with overcurrent protection

DS201 AC type B curve standard IEC/EN 61009 Icn=6kA

AC





DS201 AC

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	30	6	5	2CSR255080R1064	DS201 C6 AC30	63.88
		10	5	2CSR255080R1104	DS201 C10 AC30	63.88
		16	5	2CSR255080R1164	DS201 C16 AC30	59.72
		20	5	2CSR255080R1204	DS201 C20 AC30	59.72
		25	5	2CSR255080R1254	DS201 C25 AC30	59.72
		32	5	2CSR255080R1324	DS201 C32 AC30	65.88
		40	5	2CSR255080R1404	DS201 C40 AC30	65.88
	300	6	5	2CSR255080R3064	DS201 C6 AC300	70.43
		10	5	2CSR255080R3104	DS201 C10 AC300	70.43
		16	5	2CSR255080R3164	DS201 C16 AC300	65.16
		20	5	2CSR255080R3204	DS201 C20 AC300	65.16
		25	5	2CSR255080R3254	DS201 C25 AC300	65.16
		32	5	2CSR255080R3324	DS201 C32 AC300	70.76
		40	5	2CSR255080R3404	DS201 C40 AC300	70.76

*For type A products, please contact our sales offices.

RCBO - Residual current device with overcurrent protection

AC



DS301C B16 AC30

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	30	6	1	DS301C B6 AC30	2CSR255063R1065	111.30
		10	1	DS301C B10 AC30	2CSR255063R1105	104.10
		13	1	DS301C B13 AC30	2CSR255063R1135	104.10
		16	1	DS301C B16 AC30	2CSR255063R1165	104.10
		20	1	DS301C B20 AC30	2CSR255063R1205	104.10

*For type A products, please contact our sales offices.

RCBO - Residual current device with overcurrent protection

AC



DS301C C16 AC30

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	30	6	1	DS301C C6 AC30	2CSR255063R1064	128.00
		10	1	DS301C C10 AC30	2CSR255063R1104	119.70
		13	1	DS301C C13 AC30	2CSR255063R1134	119.70
		16	1	DS301C C16 AC30	2CSR255063R1164	119.70
		20	1	DS301C C20 AC30	2CSR255063R1204	119.70

*For type A products, please contact our sales offices.

DS203NC AC type C curve standard IEC/EN 61009 Icn=6kA

AC



DS203NC

Area of use

Number of poles	Sensitivity (mA)	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
3P+N	30	6	1	DS203NC C6 AC30	2CSR256040R1064	190.50
		10	1	DS203NC C10 AC30	2CSR256040R1104	190.50
		16	1	DS203NC C16 AC30	2CSR256040R1164	190.50
		20	1	DS203NC C20 AC30	2CSR256040R1204	190.50
		25	1	DS203NC C25 AC30	2CSR256040R1254	190.50
		32	1	DS203NC C32 AC30	2CSR256040R1324	190.50
	300	6	1	DS203NC C6 AC300	2CSR256040R3064	188.40
		10	1	DS203NC C10 AC300	2CSR256040R3104	188.40
		16	1	DS203NC C16 AC300	2CSR256040R3164	188.40
		20	1	DS203NC C20 AC300	2CSR256040R3204	188.40
		25	1	DS203NC C25 AC300	2CSR256040R3254	188.40
		32	1	DS203NC C32 AC300	2CSR256040R3324	188.40

*For type A products, please contact our sales offices.

System Pro M PRODUCTS
AFDD - Arc fault detection devices

—
S-ARC1 IEC/EN 62606; IEC/EN 60898-1, Icn=6 kA



Number of poles	Trip curve	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	B	6	1	S-ARC1 B6	2CSA255901R9065	196.80
		10	1	S-ARC1 B10	2CSA255901R9105	189.20
		13	1	S-ARC1 B13	2CSA255901R9135	189.20
		16	1	S-ARC1 B16	2CSA255901R9165	189.20
		20	1	S-ARC1 B20	2CSA255901R9205	189.20
		25	**1**	S-ARC1 B25	2CSA255901R9255	189.20
		32	**1**	S-ARC1 B32	2CSA255901R9325	189.20
		40	**1**	S-ARC1 B40	2CSA255901R9405	189.20
1P+N	C	6	1	S-ARC1 C6	2CSA255901R9064	187.30
		10	1	S-ARC1 C10	2CSA255901R9104	180.00
		13	1	S-ARC1 C13	2CSA255901R9134	180.00
		16	1	S-ARC1 C16	2CSA255901R9164	180.00
		20	1	S-ARC1 C20	2CSA255901R9204	180.00
		25	1	S-ARC1 C25	2CSA255901R9254	180.00
		32	1	S-ARC1 C32	2CSA255901R9324	180.00
		40	1	S-ARC1 C40	2CSA255901R9404	180.00

—
S-ARC1M IEC/EN 62606; IEC/EN 60898-1, Icn=10 kA



Number of poles	Trip curve	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	B	6	1	S-ARC1MB6	2CSA275901R9065	228.40
		10	1	S-ARC1MB10	2CSA275901R9105	219.60
		13	1	S-ARC1MB13	2CSA275901R9135	219.60
		16	1	S-ARC1MB16	2CSA275901R9165	219.60
		20	1	S-ARC1MB20	2CSA275901R9205	219.60
1P+N	C	6	1	S-ARC1MC6	2CSA275901R9064	217.50
		10	1	S-ARC1MC10	2CSA275901R9104	209.00
		13	1	S-ARC1MC13	2CSA275901R9134	209.00
		16	1	S-ARC1MC16	2CSA275901R9164	209.00
		20	1	S-ARC1MC20	2CSA275901R9204	209.00

System Pro M PRODUCTS
AFDD - Arc fault detection devices

—

DS-ARC1 A type IEC/EN 62606; IEC/EN 61009-1; IEC/EN 61009-2-1, Icn=6 kA



Number of poles	Sensitivity (mA)	Trip curve	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	30	B	6	1	DS-ARC1 B6 A30	2CSA255103R1065	291.30
			10	1	DS-ARC1 B10 A30	2CSA255103R1105	280.00
			13	1	DS-ARC1 B13 A30	2CSA255103R1135	280.00
			16	1	DS-ARC1 B16 A30	2CSA255103R1165	280.00
			20	1	DS-ARC1 B20 A30	2CSA255103R1205	280.00
1P+N	30	C	6	1	DS-ARC1 C6 A30	2CSA255103R1064	277.60
			10	1	DS-ARC1 C10 A30	2CSA255103R1104	267.00
			13	1	DS-ARC1 C13 A30	2CSA255103R1134	267.00
			16	1	DS-ARC1 C16 A30	2CSA255103R1164	267.00
			20	1	DS-ARC1 C20 A30	2CSA255103R1204	267.00

—

DS-ARC1M A type IEC/EN 62606; IEC/EN 61009-1; IEC/EN 61009-2-1, Icn=10 kA



Number of poles	Sensitivity (mA)	Trip curve	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1P+N	30	B	6	1	DS-ARC1 M B6 A30	2CSA275103R1065	301.50
			10	1	DS-ARC1 M B10 A30	2CSA275103R1105	289.80
			13	1	DS-ARC1 M B13 A30	2CSA275103R1135	289.80
			16	1	DS-ARC1 M B16 A30	2CSA275103R1165	289.80
			20	1	DS-ARC1 M B20 A30	2CSA275103R1205	289.80
1P+N	30	C	6	1	DS-ARC1 M C6 A30	2CSA275103R1064	287.10
			10	1	DS-ARC1 M C10 A30	2CSA275103R1104	275.80
			13	1	DS-ARC1 M C13 A30	2CSA275103R1134	275.80
			16	1	DS-ARC1 M C16 A30	2CSA275103R1164	275.80
			20	1	DS-ARC1 M C20 A30	2CSA275103R1204	275.80

System Pro M PRODUCTS
Accessories for miniature circuit breakers and residual current devices

—
Accessories


S2C-S/H6R


S3C-A2


S3C-UA


S2C-H10


S2C-EST


SA1

Description		Compatible series	Minimum order quantity	Type	Code	Price (EUR)
Trip signal/auxiliary contact	1A/K (right mounted)	S200, SN201*, F200, DS201**, DS203NC*	1	S2C-S/H6R	2CDS200922R0001	23.22
Auxiliary contact	1A/K (right mounted)		1	S2C-H6R	2CDS200912R0001	16.84
Auxiliary contact	1NA+1NK (right mounted)		1	S2C-H6-11R	2CDS200946R0001	19.89
Auxiliary contact	1NA+1NK (left mounted)		1	S2C-H11L	2CDS200936R0001	19.95
Auxiliary contact	2NA (right mounted)		1	S2C-H6-20R	2CDS200946R0002	19.89
Auxiliary contact	2NK (right mounted)		1	S2C-H6-02R	2CDS200946R0003	19.89
Auxiliary contact	2NA (left mounted)		1	S2C-H20L	2CDS200936R0002	19.95
Auxiliary contact	2NK (left mounted)		1	S2C-H02L	2CDS200936R0003	19.95
Auxiliary contact	1NK (with bottom terminal connection)	SN201*, DS203NC*	1	SCC-IH6R	2CDS200933R0002	47.14
Auxiliary contact	1NK (with bottom terminal connection)	S200, S200M, S200P	1	S2C-H01	2CDS200970R0031	9.97
Auxiliary contact	1NA (with bottom terminal connection)		1	S2C-H10	2CDS200970R0032	9.97
Shunt opening release	AC/DC 12...110V	S200, DS200, F200, DS201, DS301C	1	S3C-A1	2CDS200982R0001	50.03
	AC 110...415V		1	S3C-A2	2CDS200982R0002	50.03
	DC 110...250V					
Undervoltage release	AC 24V	S200, SN201, F200, DS200	1	S3C-UA 24 DC/AC	2CDS200985R0042	123.80
	AC 110V		1	S3C-UA 110 DC/AC	2CDS200985R0044	123.80
	AC 230V		1	S3C-UA 230 DC/AC	2CDS200985R0045	134.30
Manually operated neutral		S200 Series (maks. 40A)	1	S2C-NT	2CDS200918R0001	12.26
Socket base	(1 per pole, max. 63A.)	S200, SN201, F200, DS200	1	S2C-EST	2CSS200999R0001	41.58
Padlock adapter		F200, DS201, S200, S280, SH200 Series	1	SA 1	GJF1101903R0001	5.45
Padlock	(with 2 keys)		1	SA 2	GJF1101903R0002	13.57
Trip signal/auxiliary contact	1A/K	S800	1	S800-AUX/ALT	2CCS800900R0021	44.04
Auxiliary contact	2A/K		1	S800-AUX	2CCS800900R0011	41.15
Shunt opening release	100...250 VAC/DC		1	S800-SOR250	2CCS800900R0211	71.94
	24 VAC/DC		1	S800-SOR24	2CCS800900R0191	71.94
Undervoltage release	24...36 VAC/DC		1	S800-UVR36	2CCS800900R0241	140.90
	110.130 VAC/DC		1	S800-UVR130	2CCS800900R0261	140.90
	220.250 VAC/DC		1	S800-UVR250	2CCS800900R0271	140.90
Miniature circuit breaker motor control module		S200, F200, DS201	1	S3C-MOD24	2CSS201998R0033	389.10
			1	S3C-MOD230	2CSS202998R0033	460.70

*In order to be able to mount to the DS203NC series, it must be used together with the SN201-IH interface module / auxiliary contact.
**A right-hand mounted auxiliary contact can be fitted to the DS201 series.

AUTO-RECLOSING UNITS FOR RESIDUAL CURRENT RELAYS

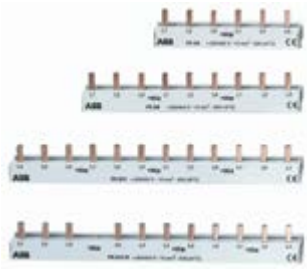

F3C-AR230


F3C-AR230 C 4/30

Description	Minimum order quantity	Type	Code	Price (EUR)
For F200 (up to 100A) and F200B (up to 63A)	1	F3C-AR24	2CSF201998R0034	382.10
	1	F3C-AR230	2CSF202998R0034	424.50
	1	F3C-AR230 D	2CSF203998R0034	557.50
	1	F3C-AR230 C 2/30	2CSF201998R0035	500.50
	1	F3C-AR230 C 2/300	2CSF202998R0035	500.50
	1	F3C-AR230 C 4/30	2CSF203998R0035	525.50
	1	F3C-AR230 C 4/300	2CSF204998R0035	525.50

System Pro M PRODUCTS
Accessories for miniature circuit breakers and residual current devices

Busbars



Description	Minimum order quantity	Type	Code	Price (EUR)
Busbars (only available in compact series) **1, 2, 3 and 4 pole busbars** (cuttable)				
10 mm²- 60 modules-1 phase	20	PS 1/60	2CDL210001R1060	25.99
16 mm²- 60 modules-1 phase	20	PS 1/60/16	2CDL210001R1660	24.78
10 mm²- 12 modules-2 phase	50	PS 2/12	2CDL220001R1012	17.37
10 mm²- 58 modules-2 phase	10	PS 2/58	2CDL220001R1058	38.53
16 mm²- 58 modules-2 phase	10	PS 2/58/16	2CDL220001R1658	46.98
10 mm²- 12 modules-3 phase	50	PS 3/12	2CDL230001R1012	20.01
16 mm²- 12 modules-3 phase	50	PS 3/12/16	2CDL230001R1612	22.31
10 mm²- 12 modules-3 phase	50	PS 3/12 FI	2CDL230002R1012	24.90
10 mm²- 12 modules-4 phase	30	PS 4/12	2CDL240101R1012	24.90
16 mm²- 12 modules-4 phase	30	PS 4/12/16	2CDL240101R1612	29.61
10 mm²- 12 modules-4 phase	30	PS 4/12 NA	2CDL240213R1012	29.61
10 mm²- 58 modules-4 phase	10	PS 4/58 N	2CDL240101R1058	104.10
10 mm²- 60 modules-4 phase	10	PS 4/60	2CDL240101R1060	74.58
16 mm²- 60 modules-4 phase	10	PS 4/60/16	2CDL240101R1660	90.56
Busbar accessories				
End cap	50	PS-END	2CDL200001R0001	1.50
Terminal cover (5 way)	10	SZ-BSK	2CDL200001R0011	2.53

Note: PS 1/60 and PS 1/60/16 busbars do not require end caps.
PS END end cap is used for PS 2/.. and PS 3/..

System pro *E* comfort MISTRAL®
Distribution boxes

—
System pro *E* comfort MISTRAL41F IP41 flush-mounted series

Halogen Free

		Description	Module No. [18 mm]	Dimensions WxHxD [mm]	Minimum order quantity	Code	Price (EUR)
		1 Row					
		MISTRAL41F flush-mounted opaque door 4M	4	152x202x105	24	1SLM004100A1100	11.21
		MISTRAL41F flush-mounted transparent door 4M	4	152x202x105	24	1SLM004100A1200	11.21
		MISTRAL41F flush-mounted opaque door 6M	6	192x202x105	18	1SLM004100A1101	13.63
		MISTRAL41F flush-mounted transparent door 6M	6	192x202x105	18	1SLM004100A1201	13.63
		MISTRAL41F flush-mounted opaque door 8M	8	232x250x108	12	1SLM004100A1102	15.30
 1SLM004100A1103	 1SLM004100A1203	MISTRAL41F flush-mounted transparent door 8M	8	232x250x108	12	1SLM004100A1202	15.30
		MISTRAL41F flush-mounted opaque door 12M	12	320x250x108	9	1SLM004100A1103	24.21
		MISTRAL41F flush-mounted transparent door 12M	12	320x250x108	9	1SLM004100A1203	24.21
		MISTRAL41F flush-mounted opaque door 18M	18	430x250x108	6	1SLM004100A1104	32.20
		MISTRAL41F flush-mounted transparent door 18M	18	430x250x108	6	1SLM004100A1204	32.20
		2 Row					
		MISTRAL41F flush-mounted opaque door 24M	24	320x435x108	5	1SLM004100A1105	33.01
		MISTRAL41F flush-mounted transparent door 24M	24	320x435x108	5	1SLM004100A1205	33.01
		MISTRAL41F flush-mounted opaque door 36M 2F	36	430x435x108	3	1SLM004100A1106	48.88
 1SLM004100A1105	 1SLM004100A1205	MISTRAL41F flush-mounted transparent door 36M 2F	36	430x435x108	3	1SLM004100A1206	48.88
		3 Row					
		MISTRAL41F flush-mounted opaque door 36M 3F	36	320x600x108	4	1SLM004100A1107	48.88
		MISTRAL41F flush-mounted transparent door 36M 3F	36	320x600x108	4	1SLM004100A1207	48.88
		MISTRAL41F flush-mounted opaque door 54M	54	430x600x128	1	1SLM004100A1109	82.23
 1SLM004100A11067	 1SLM004100A1207	MISTRAL41F flush-mounted transparent door 54M	54	430x600x128	1	1SLM004100A1209	82.23
		4 Row					
		MISTRAL41F flush-mounted opaque door 48M	48	320x735x108	1	1SLM004100A1108	74.18
		MISTRAL41F flush-mounted transparent door 48M	48	320x735x108	1	1SLM004100A1208	74.18
		MISTRAL41F flush-mounted opaque door 72M	72	430x735x128	1	1SLM004100A1110	115.00
 1SLM004100A1109	 1SLM004100A1209	MISTRAL41F flush-mounted transparent door 72M	72	430x735x128	1	1SLM004100A1210	115.00

System pro *E* comfort MISTRAL®
Distribution boxes

System pro *E* comfort MISTRAL41F IP41 flush-mounted series

Accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
 1SLM004100A1900	**Opaque door**				
	Opaque door 4M MISTRAL41F	4	20	1SLM004100A1900	10.29
	Opaque door 6M MISTRAL41F	6	20	1SLM004100A1916	12.54
	Opaque door 8M MISTRAL41F	8	10	1SLM004100A1902	13.97
	Opaque door 12M MISTRAL41F	12	20	1SLM004100A1904	19.09
	Opaque door 18M MISTRAL41F	18	20	1SLM004100A1906	25.99
	Opaque door 24M / 48M MISTRAL41F	24	15	1SLM004100A1908	32.60
	Opaque door 36M MISTRAL41F - 3F	36	10	1SLM004100A1910	47.90
	Opaque door 36M / 72M MISTRAL41F - 2F	36	10	1SLM004100A1912	47.90
	Opaque door 54M MISTRAL41F	54	5	1SLM004100A1914	71.13
 1SLM004100A1901	**Transparent door**				
	Transparent door 4M MISTRAL41F	4	20	1SLM004100A1901	10.29
	Transparent door 6M MISTRAL41F	6	20	1SLM004100A1917	12.54
	Transparent door 8M MISTRAL41F	8	10	1SLM004100A1903	13.97
	Transparent door 12M MISTRAL41F	12	20	1SLM004100A1905	19.09
	Transparent door 18M MISTRAL41F	18	20	1SLM004100A1907	25.99
	Transparent door 24M / 48M MISTRAL41F	24	15	1SLM004100A1909	32.60
	Transparent door 36M MISTRAL41F - 3F	36	10	1SLM004100A1911	47.90
	Transparent door 36M / 72M MISTRAL41F - 2F	36	10	1SLM004100A1913	47.90
	Transparent door 54M MISTRAL41F	54	5	1SLM004100A1915	62.62

Other accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
Horizontal partitioning 1SLM004100A1920	Horizontal partitioning 12M MISTRAL41F	12	1	1SLM004100A1920	26.51
	Horizontal partitioning 18M MISTRAL41F	18	1	1SLM004100A1921	29.90
 Vertical coupling / tubes holder 1SLM004100A1922	Vertical coupling / tubes holder 12M	12	1	1SLM004100A1922	14.26
	Vertical coupling / tubes holder 18M	18	1	1SLM004100A1923	17.88
 Key lock 11SLM004100A1931	Keylock MISTRAL41F		20	1SLM004100A1931	34.39
	Central blind panel 12M MISTRAL41F	12	1	1SLM004100A1945	3.45
 Central blind panel 1SLM004100A1945	Blind panel 12M MISTRAL41F	12	1	1SLM004100A1946	3.45
	Central blind panel 18M MISTRAL41F	18	1	1SLM004100A1947	3.80
 Wire holder comb 1SLM004100A1942	Blind panel 18M MISTRAL41F	18	1	1SLM004100A1948	3.80
	Cable fastening rail		1	1SLM004100A1942	4.37

System pro *E* comfort MISTRAL®
Distribution boxes

System pro *E* comfort MISTRAL41W IP41 surface-mounted series

Halogen Free

		Description	Module No. [18 mm]	Dimensions WxHxD [mm]	Minimum order quantity	Code	Price (EUR)
		1 Row					
		MISTRAL41W surface mounted without door 2M	2	68x210x93	36	1SPE007717F0100	7.42
		MISTRAL41W surface mounted opaque door 4M	4	96x210x93	24	1SPE007717F0210	11.21
		MISTRAL41W surface mounted transparent door 4M	4	96x210x93	24	1SPE007717F0220	11.21
 1SPE007717F0310	 1SPE007717F0320	MISTRAL41W surface mounted opaque door 8M	8	202x257x120	7	1SPE007717F0310	19.55
		MISTRAL41W surface mounted transparent door 8M	8	202x257x120	7	1SPE007717F0320	19.55
		MISTRAL41W surface mounted opaque door 12M	12	292x257x120	3	1SPE007717F0410	24.21
		MISTRAL41W surface mounted transparent door 12M	12	292x257x120	3	1SPE007717F0420	24.21
		MISTRAL41W surface mounted opaque door 18M	18	382x257x120	3	1SPE007717F0810	32.20
		MISTRAL41W surface mounted transparent door 18M	18	382x257x120	3	1SPE007717F0820	32.20
		2 Row					
		MISTRAL41W surface mounted opaque door 24M	24	292x382x120	2	1SPE007717F0510	33.01
		MISTRAL41W surface mounted transparent door 24M	24	292x382x120	2	1SPE007717F0520	33.01
 1SPE007717F0510	 1SPE007717F0520	MISTRAL41W surface mounted opaque door 36M 2F	36	382x382x120	2	1SPE007717F0910	48.88
		MISTRAL41W surface mounted transparent door 36M 2F	36	382x382x120	2	1SPE007717F0920	48.88
		3 Row					
		MISTRAL41W surface mounted opaque door 36M 3F	36	292x507x120	2	1SPE007717F0610	48.88
		MISTRAL41W surface mounted transparent door 36M 3F	36	292x507x120	2	1SPE007717F0620	48.88
 1SPE007717F0610	 1SPE007717F0620	MISTRAL41W surface mounted opaque door 54M	54	382x507x120	2	1SPE007717F1010	82.23
		MISTRAL41W surface mounted transparent door 54M	54	382x507x120	2	1SPE007717F1020	82.23
		4 Row					
		MISTRAL41W surface mounted opaque door 48M	48	292x656x120	1	1SPE007717F0710	74.18
		MISTRAL41W surface mounted transparent door 48M	48	292x656x120	1	1SPE007717F0720	74.18
 1SPE007717F0710	 1SPE007717F0720	MISTRAL41W surface mounted opaque door 72M	72	382x656x120	1	1SPE007717F1110	115.00
		MISTRAL41W surface mounted transparent door 72M	72	382x656x120	1	1SPE007717F1120	115.00

System pro *E* comfort MISTRAL®
Distribution boxes

—

System pro *E* comfort MISTRAL41W IP41 surface-mounted series

Accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
	**Opaque door**				
	Opaque door 4M MISTRAL41W	4	24	1SPE007717F9900	7.65
	Opaque door 8M MISTRAL41W	8	14	1SPE007717F9901	12.42
	Opaque door 12M MISTRAL41W	12	14	1SPE007717F9902	15.58
	Opaque door 24M / 48M MISTRAL41W	24	15	1SPE007717F9903	23.98
	Opaque door 36M MISTRAL41W – 3F	36	18	1SPE007717F9904	64.34
	Opaque door 18M MISTRAL41W	18	14	1SPE007717F9905	35.42
	Opaque door 36M / 72M MISTRAL41W– 2F	36	18	1SPE007717F9906	70.78
	Opaque door 54M MISTRAL41W	54	18	1SPE007717F9907	92.12
	**Transparent door**				
	Transparent door 4M MISTRAL41W	4	24	1SPE007717F9908	7.65
	Transparent door 8M MISTRAL41W	8	14	1SPE007717F9909	12.42
	Transparent door 12M MISTRAL41W	12	14	1SPE007717F9910	15.58
	Transparent door 24M / 48M MISTRAL41W	24	15	1SPE007717F9911	23.98
	Transparent door 36M MISTRAL41W - 3F	36	18	1SPE007717F9912	64.34
	Transparent door 18M MISTRAL41W	18	14	1SPE007717F9913	35.42
	Transparent door 36M / 72M MISTRAL41W– 2F	36	18	1SPE007717F9914	70.78
	Transparent door 54M MISTRAL41W	54	18	1SPE007717F9915	92.12

Other accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
 Lockset 1SPE007715F5010	Lockset for transparent door MISTRAL41W		5	1SPE007715F5010	24.90
Horizontal partitioning 1SPE007715F5650	Horizontal partitioning 12M MISTRAL41W	12	5	1SPE007715F5112	20.41
	Horizontal partitioning 18M MISTRAL41W	18	5	1SPE007715F5118	22.66
 MCB cover 1SPE007715F5750	MCB Cover 12M GWT 650 MISTRAL41W	12	5	1SPE007715F5650	4.89

System pro *E* comfort MISTRAL®
Distribution boxes

System pro *E* comfort MISTRAL65 IP65 surface-mounted series

Halogen Free

	Description	Module No. [18 mm]	Dimensions WxHxD [mm]	Minimum order quantity	Code	Price (EUR)
	1 Row					
 801006F0901	MISTRAL65 transparent door 4M	4	152x202x117	24	1SL1200A00	21.85
	MISTRAL65 transparent door 8M	8	232x250x154	11	1SL1201A00	32.03
	MISTRAL65 transparent door 12M	12	320x250x155	7	1SL1202A00	50.95
	MISTRAL65 transparent door 18M	18	430x250x155	4	1SL1203A00	72.45
 801010F0901	**2 Row**					
	MISTRAL65 transparent door 24M	24	320x435x155	4	1SL1204A00	77.57
	MISTRAL65 transparent door 36M 2F	36	430x435x155	2	1SL1205A00	99.59
 801016F0901	**3 Row**					
	MISTRAL65 transparent door 36M 3F	36	320x600x155	3	1SL1206A00	108.60
	MISTRAL65 transparent door 54M	54	430x600x155	1	1SL1208A00	166.10
 801020F0901	**4 Row**					
	MISTRAL65 transparent door 48M	48	320x735x155	1	1SL1207A00	159.50
	MISTRAL65 transparent door 72M	72	430x735x155	1	1SL1209A00	233.00

System pro *E* comfort MISTRAL®
Distribution boxes

—

System pro *E* comfort MISTRAL65 IP65 surface-mounted series

Accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
	Transparent door				
	Transparent door 4M MISTRAL65	4	15	1SL1901A00	14.20
	Transparent door 8M MISTRAL65	8	20	1SL1903A00	17.77
	Transparent door 12M MISTRAL65	12	10	1SL1905A00	25.07
	Transparent door 18M MISTRAL65	18	20	1SL1907A00	31.34
	Transparent door 24M / 48M MISTRAL65	24	6	1SL1909A00	35.71
	Transparent door 36M MISTRAL65 – 3F	36	10	1SL1911A00	71.82
 801022F0901	Transparent door 36M / 72M MISTRAL65– 2F	36	14	1SL1913A00	71.82
	Transparent door 54M MISTRAL65	54	8	1SL1915A00	87.06
	Mounting plates				
	Metal base plate 12M MISTRAL65	12	12	1SL1920A00	13.57
	Metal base plate 2x12M MISTRAL65	24	4	1SL1921A00	28.87
	Metal base plate 18M MISTRAL65	18	8	1SL1922A00	16.68
 801023F0901	Metal base plate 2x18M MISTRAL65	36	4	1SL1923A00	34.33
	Central blind panel				
	Central blind panel 12M MISTRAL65	12	15	1SL1945A00	3.39
	Blind panel 12M MISTRAL65	12	20	1SL1946A00	3.39
	Central blind panel 18M MISTRAL65	18	30	1SL1947A00	3.74
 801024F0901	Blind panel 18M MISTRAL65	18	30	1SL1948A00	3.74

Other accessories	Description	Module No. [18 mm]	Minimum order quantity	Code	Price (EUR)
 Wall bracket 801025F0901	Wall bracket (4 pcs.) MISTRAL65		1	1SL1927A00	6.90
 Module cover 801026F0901	Module cover 12M MISTRAL65	12	5	1SL1929A00	4.54
	Keylock MISTRAL65		1	1SL1931A00	11.39
 Key lock 801027F0901	Cable gland Ø 16		10	1SL1935A00	0.75
	Cable gland Ø 20		10	1SL1936A00	0.81
 Cable gland 801028F0901	Cable gland Ø 25		10	1SL1937A00	1.09
 Cable adapter 801029F0901	Cable gland Ø 32		5	1SL1938A00	1.84
	Cable adapter MISTRAL65		1	1SL1942A00	7.82
 Junction unit 801030F0901	Junction unit Ø 28,5 MISTRAL65		10	1SL1949A00	8.34

System pro *E* comfort MISTRAL®
Distribution boxes

Terminal blocks

		Description	Max. current	Minimum order quantity	Code	Price (EUR)
		Screw terminal block				
 801032F0901	 801033F0901	Terminal block N 3x16mm²+3x25mm²	100 A	5	1SPE007715F0731	3.02
		Terminal block N 5x16mm²+6x25mm²	100 A	5	1SPE007715F0732	5.18
		Terminal block N 7x16mm²+9x25mm²	100 A	5	1SPE007715F0733	7.40
 801034F0901	 801035F0901	Terminal block N 9x16mm²+12x25mm²	100 A	5	1SPE007715F0734	8.80
		Terminal block N 11x16mm²+15x25mm²	100 A	5	1SPE007715F0735	11.45
		Terminal block PE 3x16mm²+3x25mm²	100 A	5	1SPE007715F0741	3.02
 801036F0901	 801037F0901	Terminal block PE 5x16mm²+6x25mm²	100 A	5	1SPE007715F0742	5.18
		Terminal block PE 7x16mm²+9x25mm²	100 A	5	1SPE007715F0743	7.40
		Terminal block PE 9x16mm²+12x25mm²	100 A	5	1SPE007715F0744	8.80
		Terminal block PE 11x16mm²+15x25mm²	100 A	5	1SPE007715F0745	11.45
		Terminal block screwless				
 801046F0901	 801047F0901	Terminal block screwless N 5x1,5-4mm²	63 A	5	1SPE007715F9701	3.78
		Terminal block screwless N 5x1,5-4mm²+1x25mm²	63 A	5	1SPE007715F9702	4.59
		Terminal block screwless N 8x1,5-4mm²+2x25mm²	63 A	5	1SPE007715F9703	7.56
		Terminal block screwless N 11x1,5-4mm²+3x25mm²	63 A	5	1SPE007715F9704	10.69
 801048F0901	 801049F0901	Terminal block screwless N 14x1,5-4mm²+4x25mm²	63 A	5	1SPE007715F9705	13.66
		Terminal block screwless N 17x1,5-4mm²+5x25mm²	63 A	5	1SPE007715F9706	16.85
		Terminal block screwless N 20x1,5-4mm²+6x25mm²	63 A	5	1SPE007715F9707	19.82
		Terminal block screwless PE 5x1,5-4mm²+1x25mm²	63 A	5	1SPE007715F9712	4.59
		Terminal block screwless PE 8x1,5-4mm²+2x25mm²	63 A	5	1SPE007715F9713	7.56
 801050F0901	 801051F0901	Terminal block screwless PE 11x1,5-4mm²+3x25mm²	63 A	5	1SPE007715F9714	10.69
		Terminal block screwless PE 14x1,5-4mm²+4x25mm²	63 A	5	1SPE007715F9715	13.66
		Terminal block screwless PE 17x1,5-4mm²+5x25mm²	63 A	5	1SPE007715F9716	16.85
		Terminal block screwless PE 20x1,5-4mm²+6x25mm²	63 A	5	1SPE007715F9717	19.82
		Terminal carrier				
 801031F0901		Terminal carrier 8M MISTRAL65		5	1SPE007715F0751	2.59
		Terminal carrier 12M MISTRAL65		5	1SPE007715F0752	3.02
		Terminal carrier 18M MISTRAL65		5	1SPE007715F0753	3.83

MODULAR DIN RAIL DEVICES
Fuse holders

Fuse holders


E 91hN/32


E 91/50

Description	Minimum order quantity	Type	Code	Price (EUR)
For 8.5x31.5 mm fuses (up to 20A)				
1 phase	6	E 91/20	2CSM200983R1801	5.83
1 phase+neutral	6	E 91hN/20	2CSM200963R1801	10.89
3 phase	2	E 93/20	2CSM200943R1801	15.46
3 phase+neutral	2	E 93hN/20	2CSM200933R1801	27.45
For 10.3x38 mm fuses (up to 32A)				
1 phase	6	E 91/32	2CSM200923R1801	6.00
1 phase+neutral	6	E 91hN/32	2CSM200913R1801	11.72
3 phase	2	E 93/32	2CSM204753R1801	16.78
3 phase+neutral	2	E 93hN/32	2CSM204743R1801	28.77
For 14x51 mm fuses (up to 50A)				
1 phase	4	E 91/50	2CSM279022R1801	17.44
1 phase+neutral	2	E 91N/50	2CSM277982R1801	34.60
3 phase	1	E 93/50	2CSM277962R1801	53.63
3 phase+neutral	1	E 93N/50	2CSM277952R1801	80.69
For 22x58 mm fuses (up to 125A)				
1 phase	4	E 91/125	2CSM277572R1801	46.59
1 phase+neutral	2	E 91N/125	2CSM277352R1801	93.83
3 phase	1	E 93/125	2CSM277502R1801	146.40
3 phase+neutral	1	E 93N/125	2CSM296532R1801	229.50

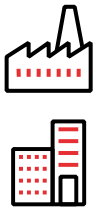
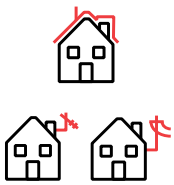
Switch disconnectors

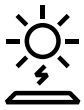


Size	Rated voltage (VAC)	Rated current (A)	Breaking capacity (kA)	Type	Code	Price EUR/Piece
8,5x31,5	400	2	20	E 9F8 GG2	2CSM256393R1801	2.92
8,5x31,5	400	4	20	E 9F8 GG4	2CSM258663R1801	2.92
8,5x31,5	400	6	20	E 9F8 GG6	2CSM257483R1801	2.92
8,5x31,5	400	10	20	E 9F8 GG10	2CSM277573R1801	2.92
8,5x31,5	400	16	20	E 9F8 GG16	2CSM277133R1801	2.92
8,5x31,5	690	20	20	E 9F8 GG20	2CSM277503R1801	2.92
10,3x38	500	2	120	E 9F10 GG2	2CSM258723R1801	2.53
10,3x38	500	4	120	E 9F10 GG4	2CSM257543R1801	2.53
10,3x38	500	6	120	E 9F10 GG6	2CSM256363R1801	2.53
10,3x38	500	8	120	E 9F10 GG8	2CSM258633R1801	2.53
10,3x38	500	10	120	E 9F10 GG10	2CSM257453R1801	2.53
10,3x38	500	16	120	E 9F10 GG16	2CSM277543R1801	2.53
10,3x38	500	20	120	E 9F10 GG20	2CSM277323R1801	2.53
10,3x38	500	25	120	E 9F10 GG25	2CSM277103R1801	2.53
10,3x38	400	32	120	E 9F10 GG32	2CSM258713R1801	2.53
14x51	500	40	120	E 9F14 GG40	2CSM257513R1801	4.68
14x51	400	50	120	E 9F14 GG50	2CSM256333R1801	4.68
22x58	690	63	80	E 9F22 GG63	2CSM258213R1801	10.01
22x58	690	80	80	E 9F22 GG80	2CSM257033R1801	10.01
22x58	500	100	120	E 9F22 GG100	2CSM259523R1801	10.01
22x58	400	125	120	E 9F22 GG125	2CSM258343R1801	10.23

SHORT SELECTION GUIDE
Surge protective devices
Power line protection AC

Detailed product description

Type of building to be protected		Main Distribution Board T1 (+T2)	Product name	Type
	**Industrial areas, offices, public, big residential buildings** 	**TN-S and TT systems with 230/400 V**		
			OVR T1-T2 3N 100-255 P TS	2CTB812111R2300
		230/400 V TN-C Systemleri		
			OVR T1-T2 3L 75-255 P TS	2CTB812751R2300
		– Optional Auxiliary contact (TS)		
	**Residential building** with lightning rod, overhead power line or antenna 	**TN-C systems with 230/400 V**		
			OVR T1-T2 3N 12.5-275s P QS	2CTB825101R1300
			OVR T1-T2 3N 12.5-275s P TS QS	2CTB825101R0600
		– Extended protection with additional varistor – Optional Auxiliary contact (TS)		
	**Residential building** without lightning rod, overhead power lines or antenna 	**TN and TT systems with 230/400 V**		
			OVR T2 3N 40-275 P QS	2CTB803973R1100
			OVR T2 3N 40-275 P TS QS	2CTB803973R0500
		TT (3 phases without neutral) + TN-C systems with 230/400 V		
			OVR T2 3L 40-275 P QS	2CTB803873R2400
			OVR T2 3L 40-275 P TS QS	2CTB803873R2500
		– Optional Auxiliary contact (TS)		

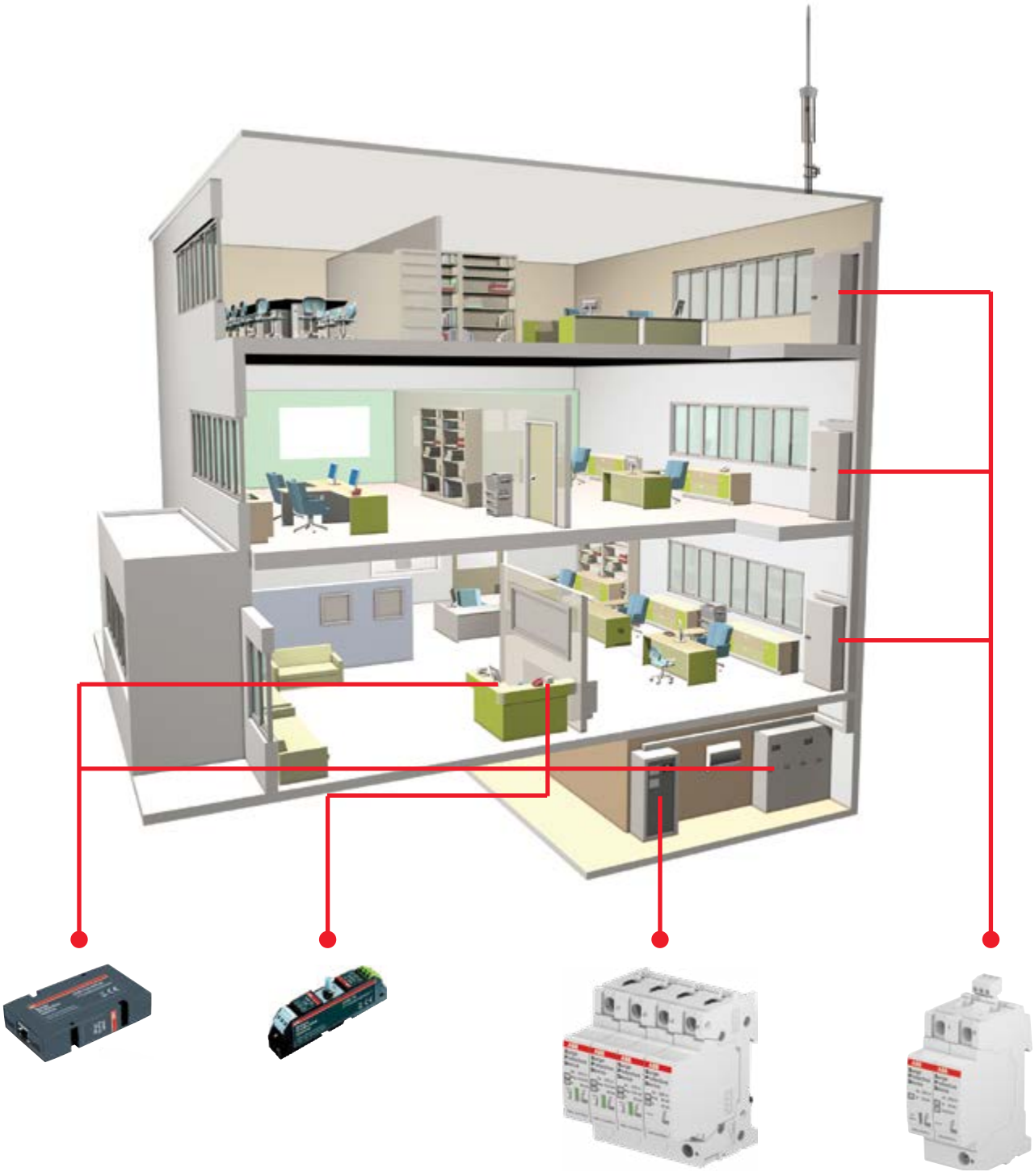
		DC voltage	Direct current (DC)	Type
	**Protection for photovoltaic (PV) installations** 	**1100 V**	OVR PV T2 40-1000 P	2CTB802400R1000
			OVR PV T2 40-1000 P TS	2CTB802401R1000
			OVR PV T1-T2 5-1000 P QS	2CTB812050R1000
			OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000
			OVR PV T1-T2 12.5-1000 P QS	2CTB812120R1000
			OVR PV T1-T2 12.5-1000 P TS QS	2CTB812121R1000
		1500 V	OVR PV T2 40-1500 P	2CTB802400R1500
			OVR PV T2 40-1500 P TS	2CTB802401R1500
			OVR PV T1-T2 5-15000 P QS	2CTB812050R1500
			OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500
			OVR PV T1-T2 10-1500 P QS	2CTB812100R1500
			OVR PV T1-T2 10-1500 P TS QS	2CTB812100R1500
		– Optional Auxiliary contact (TS)		

	Sub distribution board T2	Product code	Type
	**Distance to sub distribution > 10 meters**		
		OVR T2 3N 40-275 P QS	2CTB803973R1100
		OVR T2 3N 40-275 P TS QS	2CTB803973R0500
	Distance to sub distribution > 10 meters		
		OVR T2 3L 40-275 P QS	2CTB803873R2400
		OVR T2 3L 40-275 P TS QS	2CTB803873R2500
	– Optional Auxiliary contact (TS)		
	**Distance to sub distribution board and loads > 10 meters**		
		OVR T2-T3 3N 20-275 P QS QS	2CTB803973R1200
		OVR T2-T3 3N 20-275 P TS QS	2CTB803973R1600
	– Optional Auxiliary contact (TS)		
	Distance between sub distribution board and loads < 10 meters		
		Not need for extra protection	

	Alternating current (AC)	Type
	**3 Phase**	
	OVR T2 3N 40-275 P QS	2CTB803973R1100
	OVR T2 3N 40-275 P TS QS	2CTB803973R0500
	1 Phase	
	OVR T2 1N 40-275 P QS	2CTB803972R1100
	OVR T2 1N 40-275 P TS QS	2CTB803972R0500
	– Optional Auxiliary contact (TS)	

MODULAR DIN RAIL DEVICES
Surge protective devices

Surge protective device selection in multi-storey office buildings



OVR Cat-6
Protection of Ethernet data lines

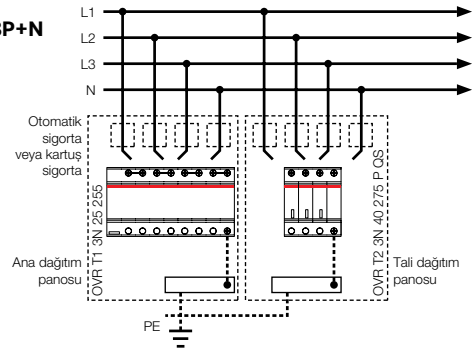
OVR TN/RJ11-2/6
Protection of phone lines

OVR T1-T2 3N 12.5-275s P QS
Protection of primary switchgear, direct lightning protection

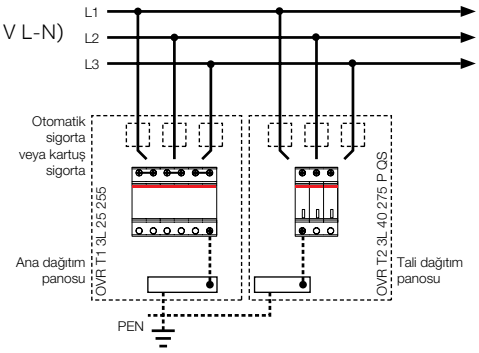
OVR T2 1N 40 275 P TS QS
Protection of secondary switchgear

MODULAR DIN RAIL DEVICES
Surge protective devices

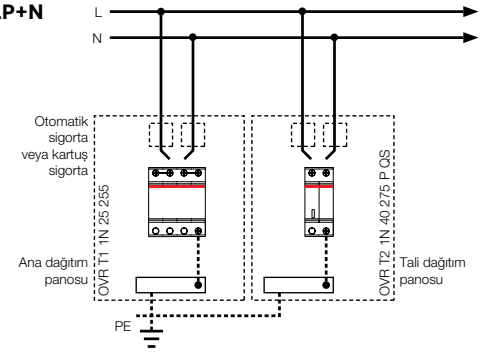
TT and TN-S 3P+N



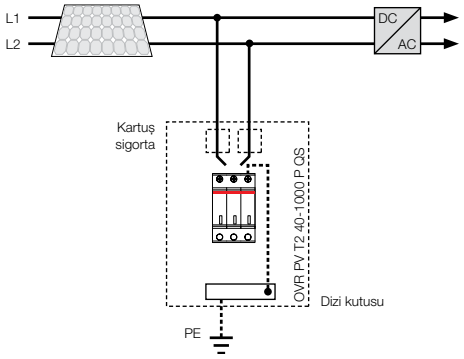
TNC 3P (230 V L-N)



TT and TN-S, 1P+N



Photovoltaic



—

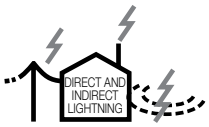
Surge protective device selection in multi-storey office buildings

Type	Order Code	Impulse current I_{imp} (10/350)	Monitoring current cut-off I_{fi}	Maximum discharge current I_{max} (8/20)	Rated discharge current I_n	Rated voltage U_n	Voltage protection class U_p
OVR TN/RJ11-2/6	7TCA085400R0337	/	/	10 kA	/	296 V	395 V
OVR Cat-6	7TCA085400R0291	/	/	10 kA	/	5 V	700 V
OVR T1 3N 25 255 TS	2CTB815101R0700	100 kA	50 kA	/		230 V	2.5 kV
OVR T2 1N 40 275 P TS QS	2CTB803972R0500		/	40/80 kA(1)	20/30 kA(1)	230 V	1.25 kV

1) L-N / N-PE

MODULAR DIN RAIL DEVICES
Surge protective devices

—
SPD selection

		System		Surge protective device		Cylindrical fuse		
	Type	**System**	**Pole**	**Code**	**Type**	**Current rating**	**Code**	**Type**
	If there is a lightning rod in the building and it is fed by overhead line and there are sensitive components in the switchboard, the choice of surge arrester to be used in the primary switchgear;							
	**1 + 2**	TT, TN-S	3P+N	2CTB812111R2300	OVR T1-T2 3N 100-255 P TS	**3** x 125A gG	2CSM296532R1801	E 93N/125
			1P+N	2CTB812511R2300	OVR T1-T2 1N 50-255 P TS	**1** x 125A gG	2CSM277352R1801	E 91N/125
		TN-C	3P	2CTB812751R2300	OVR T1-T2 3L 75-255 P TS	**3** x 125A gG	2CSM277502R1801	E 93/125

		System		Surge protective device		Cylindrical fuse		
	Type	**System**	**Pole**	**Code**	**Type**	**Current rating**	**Code**	**Type**
	Selection of surge protective devices to be used in all switchgear for the protection of electrically operated devices from the electromagnetic impact of lightning;							
	**2**	TT, TN-S	3P+N	2CTB803973R1100	OVR T2 **3N** 40 275 P QS	3P+N C63A	2CDS273103R0634	S 203 M - C 63 NA
			1P+N	2CTB803972R1100	OVR T2 **1N** 40 275 P QS	1P+N C63A	2CDS271103R0634	S 201 M - C 63 NA
		TN-C	3P	2CTB803873R2400	OVR T2 **3L** 40 275 P QS	3P 63A	2CDS273001R0634	S 203 M – C 63

		Photovoltaic, DC side		Surge protective device		Only if Isc > 100A - protection breaker		
	Class	**Maximum string voltage Uoc**	**Remote**	**Code**	**Type**	**Size**	**Code**	**Type**
	To protect against surges on the DC side in string boxes;							
	**2**	670 V DC	-	2CTB804153R2800	OVR PV T2 40-600 P QS	**2** x 10A gPV	2CSM204703R1801	E 92/32 PV
			Yes	2CTB804153R2900	OVR PV T2 40-600 P TS QS	Not necessary		
		1000 V DC	-	2CTB804153R2400	OVR PV T2 40-1000 P QS			
			Yes	2CTB804153R2500	OVR PV T2 40-1000 P TS QS			
		1500 V DC	-	2CTB804153R2600	OVR PV T2 40-1500 P QS			
			Yes	2CTB804153R2700	OVR PV T2 40-1500 P TS QS			

MODULAR DIN RAIL DEVICES
Surge protective devices

Surge protective devices

	Number of protected conductors	Impulse current 10/350 Iimp	Max. discharge current Imax 8/20	Voltage protect. level Up	Rated voltage Un	Continuous operating voltage Uc	Type	Code	Price (EUR)
	Phases	kA	kA	kV	V	V			
	Type 1+2 (Class B+C) surge protective device, Cartridge								
 OVR T1-T2 3N 12.5-275s P TS QS	1	25	60	1,5	230	264	OVR T1-T2 1L 25-255 P	2CTB813250R2300	384.20
	1	25	60	1,5	230	264	OVR T1-T2 1L 25-255 P TS	2CTB813251R2300	404.40
	1+1	50	60	1,5	230	255	OVR T1-T2 1N 50-255 P TS	2CTB812511R2300	672.90
	3	75	60	1,5	230/400	264	OVR T1-T2 3L 75-255 P TS	2CTB812751R2300	796.50
	3+1	100	60	1,5	230/400	264	OVR T1-T2 3N 100-255 P TS	2CTB812111R2300	933.80
	4	100	60	1,5	230/400	255	OVR T1-T2 4L 100-255 P TS	2CTB812101R2300	888.00
	3	37,5	80	1,1	230/400	275	OVR T1-T2 3L 12.5-275s P QS	2CTB815710R1800	499.80
	3	37,5	80	1,1	230/400	275	OVR T1-T2 3L 12.5-275s P TS QS	2CTB815710R0600	550.20
	1+1	25	80	1,3	230	275	OVR T1-T2 1N 12.5-275s P QS	2CTB815710R1300	282.90
	1+1	25	80	1,3	230	275	OVR T1-T2 1N 12.5-275s P TS QS	2CTB815710R0100	393.90
	3+1	50	80	1,3	230/400	275	OVR T1-T2 3N 12.5-275s P QS	2CTB815710R1900	447.60
	3+1	50	80	1,3	230/400	275	OVR T1-T2 3N 12.5-275s P TS QS	2CTB815710R0700	537.10
	Neutral surge protective devices								
	1	100	60	1,5	230	255	OVR T1-T2 N 100-255 P	2CTB813010R2300	429.20
	1	100	60	1,5	230	255	OVR T1-T2 N 100-255 P TS	2CTB813011R2300	511.10
	Type 2 (Class C) surge protective device (8 / 20 µs), Pluggable								
 OVR T2 1N 40 275 P TS QS	1	2	40	1,25	230	275	OVR T2 40-275 P QS	2CTB803871R2300	55.66
	1	2	40	1,25	230	275	OVR T2 40-275 P TS QS	2CTB803871R1700	63.86
	1	6,25	80	1,8	230	275	OVR T2 80-275s P QS	2CTB815708R1200	97.79
	1	6,25	80	1,8	230	275	OVR T2 80-275s P TS QS	2CTB815708R0000	112.30
	3	2	40	1,25	230/400	275	OVR T2 3L 40-275 P QS	2CTB803873R2400	149.30
	3	2	40	1,25	230/400	275	OVR T2 3L 40-275 P TS QS	2CTB803873R2500	163.60
	3	6,25	80	1,8	230/400	275	OVR T2 3L 80-275s P QS	2CTB815708R1800	243.90
	3	6,25	80	1,8	230/400	275	OVR T2 3L 80-275s P TS QS	2CTB815708R0600	280.80
	1+1	2	40	1,25	230	275	OVR T2 1N 40-275 P QS	2CTB803972R1100	121.50
	1+1	2	40	1,25	230	275	OVR T2 1N 40-275 P TS QS	2CTB803972R0500	124.60
	3+1	2	40	1,5	230/400	275	OVR T2 3N 40-275 P QS	2CTB803973R1100	206.90
	3+1	2	40	1,5	230	275	OVR T2 3N 40-275 P TS QS	2CTB803973R0500	238.70
	1+1	6,25	80	1,8	230	275	OVR T2 1N 80-275s P QS	2CTB815708R1400	383.80
	1+1	6,25	80	1,8	230	275	OVR T2 1N 80-275s P TS QS	2CTB815708R0200	383.80
	3+1	6,25	80	1,8	230/400	275	OVR T2 3N 80-275s P QS	2CTB815708R2000	357.00
	3+1	6,25	80	1,8	230	275	OVR T2 3N 80-275s P TS QS	2CTB815708R0800	362.10
	Type 2+3 (Class C+D) surge protective devices (1.2/50 and 8/20 µs), Pluggable								
 OVR T2-T3 1N 20 275 P TS QS	1+1	2	20	1,4	230	275	OVR T2-T3 1N 20-275 P QS	2CTB803972R1200	116.30
	1+1	2	20	1,4	230	275	OVR T2-T3 1N 20-275 P TS QS	2CTB803972R1300	159.60
	3+1	2	20	1,4	230/400	275	OVR T2-T3 3N 20-275 P QS	2CTB803973R1200	276.70
	3+1	2	20	1,4	230/400	275	OVR T2-T3 3N 20-275 P TS QS	2CTB803973R1600	320.90

SPD options: *P: Cartridge *TS: Remote indicator *s: Safety reserve
Please see page 82 for the surge protective devices you can use for PV systems.

	Replacement cartridges								
 OVR L 40-275 C	1	25	60	1,5	230	264	OVR T1-T2 1L 25-255 C	2CTB813252R2300	311.60
	1	100	60	1,5	230	255	OVR T1-T2 N 100-255 C	2CTB813012R2300	349.10
	1	100	60	1,5	230	255	OVR T1-T2 N 100-255 TT C	2CTB812022R2300	444.20
	1	12,5	80	1,1	230	275	OVR T1-T2 12.5-275s C QS	2CTB815710R2600	123.50
	1	50	80	1	230	275	OVR T1-T2 N 50-275s C QS	2CTB815710R2700	194.50
	1	–	40	1,25	230	275	OVR T2 40-275 C QS	2CTB803876R1000	35.09
	1	–	80	1,4	230	275	OVR T2 N 80-275 C QS	2CTB803876R0000	69.08
	1	–	80	1,8	230	275	OVR T2 80-275s C QS	2CTB815708R2600	62.87
	1	–	80	1,8	230	275	OVR T2 N 80-275s C QS	2CTB815708R2800	113.20
	1	–	20	1,4	230	275	OVR T2 20-275 C QS	2CTB803876R1200	46.42

SURGE PROTECTIVE DEVICES

—
Data and telecom SPDs

	Number of protected conductors	Max. discharge current Imax 8/20 (per signal line)	Voltage protection level (C2 test) Up (L-L/L-PE)	Rated voltage Un	Continuous operating voltage Uc	Description	Type	Code	Price (EUR)
	Phases	kA	V	V	V				
	Data and signal surge protective devices								
	2	10	63	30	36,7	2-wire, shielded, terminal block type data and signal protection	OVR SL30/I	7TCA085400R0383	271.50
	2	10	63	30	36,7	2-wire, with led, terminal block type data and signal protection	OVR SL30L	7TCA085400R0368	256.70
	2	10	63	30	36,7	2-wire, shielded, with led, terminal block type data and signal protection	OVR SL30L/I	7TCA085400R0393	285.20
	2	10	63	30	36,7	ATEX/IECEx approved 2-wire terminal block type data and signal protection	OVR SL30	7TCA085400R0363	421.10
 OVR SL	3	10	90,3	50	56,7	3-wire terminal block type data and signal protection	OVR SL50/3W	7TCA085400R0332	256.70
	2	10	63	30	36,7	2-wire, with led, 4-20mA signal protection	OVR SL30L/4-20	7TCA085400R0371	271.50
	2	10	63	30	36,7	2-wire, shielded, with led, 4-20mA signal protection	OVR SL30L/4-20/I	7TCA085400R0372	298.70
	2	10	60	30	36,7	2-wire data and signal protection	OVR 30E	7TCA085400R0353	234.00
	8	10	53	30	37,8	2-wire data and signal protection (four pairs)	OVR 30Q	7TCA085400R0341	690.40
	2	10	55	15	16,7	2-wire RS485 protection	OVR RS485	7TCA085400R0311	313.60
	8	10	55	15	16,7	2-wire RS485 protection (four pairs)	OVR RS485Q	7TCA085400R0312	743.70
	Telecom systems surge protective devices								
	10	10	395/395	–	296	10 LSA-Plus PBX protection	OVR K10T1	7TCA085400R0307	455.40
	10	10	395/395	–	296	10 LSA-Plus PBX protection (autoreset)	OVR K10T1/PTC	7TCA085400R0410	496.30
	1	10	395/395	–	296	1 LSA-Plus PBX protection	OVR KT1	7TCA085400R0305	53.57
 OVR TN	2	10	395/395	296	296	SPD for 2 wire telephone line with RJ11 connection	OVR TN/RJ11-2/6	7TCA085400R0337	214.80
	4	10	395/395	296	296	SPD for 4 wire telephone line with RJ11 connection	OVR TN/RJ11-4/6	7TCA085400R0338	256.70
	6	10	395/395	296	296	SPD for 6 wire telephone line with RJ11 connection	OVR TN/RJ11-6/6	7TCA085400R0339	287.30
	4	10	28/88	5	58	SPD for 4 wire ISDN telephone line	OVR ISDN/RJ45-4/8	7TCA085460R0359	249.90
 OVR Cat-6	8	10	28/88	5	58	SPD for 8 wire ISDN telephone line	OVR ISDN/RJ45-8/8	7TCA085460R0360	358.80
	8	10	120/700	–	5	Cat-5E RJ45 communication protection	OVR CAT-6	7TCA085400R0291	358.80
	8	10	120/700	–	58	Cat-5E RJ45 power protection	OVR CAT-6/POE	7TCA085400R0292	410.00
	Surge protective devices for transceiver and CCTV systems								
	–	10	39,5	1	7,79	Coaxial BNC female CCTV protection	OVR CCTV/B	7TCA085400R0296	234.00
	–	10	55	1	16,7	Coaxial BNC female CCTV protection (15V)	OVR CCTV/B-15V	7TCA085400R0297	246.60
 OVR CCTV/B	2	10	39,5	2	7,79	Screw CCTV protection	OVR CCTV/T	7TCA085400R0301	234.00

SURGE PROTECTIVE DEVICES

SPD protection breaker selection

Protection against fault currents: MCBs and fuse links protect the circuit against overload and short circuit. In accordance with the coordination rules, the SPD must be used together with the protection breaker. S200, S800 series MCBs or E90 series fuse links can be selected as protection breakers before the surge protective device. Thus, for example, the SPD will be protected against very high transients.

SPD type	Earthing system	MCB* (B or C char.) maximum values Short circuit current that may occur at the connection point of the SPD (Ip) Ip ≤ 6 kA	Ip ≤ 10 kA	Ip ≤ 25 kA	Ip ≤ 50 kA	Fuse link* (gL - gG) maximum values	Compact Switch
Type 1+2							
OVR T1-T2 Iimp 25 kA Uc 255 V	TNC TNS/TT 1P+N TNS/TT 3P+N	–	–	–	–	E 93/125 - 125 A E 91N/125 - 125 A E 93N/125 - 125 A	
OVR T1-T2 Pluggable - with reserve QS Iimp 12.5 kA Uc 275 V	TNC TNS/TT 1P+N TNS/TT 3P+N	–	–	–	–	XLP00-6BC - 160 A XLP00-2P-6BC - 160 A XLP00-4P-6BC - 160 A	XT4S 250A Ekip LSI (I=<3In)
Type 2							
OVR T2 Pluggable QS Imax 40 kA Uc 275, 350, 440, 600 V	TNC TNS/TT 1P+N TNS/TT 3P+N	S203 M- 63 S201 M- 63 NA S203 M- 63 NA	S203 M - 63 S201 M - 63 NA S203 M - 63 NA	S303 P - 63 S301 P - 63 NA S303 P - 63 NA	S803S - 125 S802S - 125 S804S - 125	E 93/125 - 125 A E 91N/125 - 125 A E 93N/125 - 125 A	@Uc=275V Tmax XT4S 250, Ekip LSI, I<3In
OVR T2 Pluggable - with reserve QS Imax 40 kA, 80 kA Uc 275, 440 V	TNC TNS/TT 1P+N TNS/TT 3P+N	S203 M- 63 S201 M- 63 NA S203 M- 63 NA	S203 M - 63 S201 M - 63 NA S203 M - 63 NA	S303 P - 63 S301 P - 63 NA S303 P - 63 NA	S803S - 125 S802S - 125 S804S - 125	XLP00 - 160 A XLP00-2P - 160 A XLP00-4P - 160 A	
Type 2+3							
OVR T2-T3 Pluggable QS Imax 20 kA Uc 275, 350, 440 V	TNC TNS/TT 1P+N TNS/TT 3P+N	S203 M- 63 S201 M- 63 NA S203 M- 63 NA	S203 M - 63 S201 M - 63 NA S203 M - 63 NA	S303 P - 63 S301 P - 63 NA S303 P - 63 NA	S803S - 125 S802S - 125 S804S - 125	E 93/125 - 125 A E 91N/125 - 125 A E 93N/125 - 125 A	@Uc=275V Tmax XT4S 250, Ekip LSI, I<3In

*MCBs or fuse links must be selected with a breaking capacity matching the short circuit breaking capacity of the circuit breaker or main circuit breaker at the next higher level in order to comply with the coordination rules.

SPD type	PE (earth) connection cable cross-section
Type 1	16 mm^2
Type 1+2	16 mm^2
Type 2	4 mm^2
Type 2+3	4 mm^2

MODULAR DIN RAIL DEVICES

Staircase lighting time-delay switch



Description	Type	Code	Price (EUR)
1...7 min., 1VA	E 232-230	2CDE110000R0501	50.71
0,5...20 min., 6VA	E 232 E-230N	2CDE110003R0511	82.50

Twilight switch



TL1

Illuminance (lux)	Number of contacts	Type	Code	Price (EUR)
2 : 200	1NO	TL1 *	2CSM229921R1341	101.80
2 : 15.000	1CO	DWTL1**	2CSM222491R1000	176.90
2 : 200	1NO	TL1 Pole***	2CSM229911R1341	143.20

*TL1 is DIN rail mounted type. Light sensor is included in the package. The light sensor (TLs) can be ordered as a spare part with the code 2CSM229931R1341.
**DWTL1 is DIN rail mounted type. Light sensor is included in the package. The light sensor (DWS) can be ordered as a spare part with the code 2CSM222481R1000.
***TL1 Pole is mounted on an outdoor lighting pole or wall. The light sensor is mounted on the device.

Astronomical time switch



Number of contacts	Type	Code	Price (EUR)
1NO/NC	DWA-1	2CSM222511R1000	238.40
2NO/NC	DWA-2	2CSM222501R1000	288.00

*In places where light sensors cannot be used, automatic control of lighting circuits is provided according to the sunrise and sunset time.

Analog time switches



AD1NO-15m AD1CO-R-15m DW2

Programme time	Kontak	Type	Code	Price (EUR)
ATS electromechanical time switches (230V AC)				
24 hours (vertical dial)	1A/K	AD1NO-15m	2CSM222471R1000	51.88
24 hours (100 hours reserve - vertical dial)	1A/K	AD1NO-R-15m	2CSM222461R1000	54.61
24 hours (150 hours reserve - 2 module horizontal dial)	1A/K	AD1CO-R-15m	2CSM208151R1000	64.96
7 days (150 hours reserve - 2 modules horizontal dial)	1A/K	AW1CO-R-120m	2CSM208141R1000	103.60
D Line electronic time switches (230V AC)				
7 days, single channel	1A/K	DW1	2CSM222531R1000	120.30
7 days, dual channel	2A/K	DW2	2CSM222521R1000	189.20

Din-rail socket outlets



M1175

Description	Type	Code	Price (EUR)
Din-rail socket outlets (250V 50/60Hz)			
16A, French type	M1174	2CSM110000R0711	11.72
16A German type	M1175	2CSM210000R0721	11.72
16A German type, with cover	M1175-C	2CSM211000R0721	18.47

MODULAR DIN RAIL DEVICES

SD200 control switches


SD200

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
1	25	10	SD201/25	2CDD281101R0025	17.71
1	32	10	SD201/32	2CDD281101R0032	19.33
2	25	5	SD202/25	2CDD282101R0025	37.53
2	32	5	SD202/32	2CDD282101R0032	40.39
3	25	1	SD203/25	2CDD283101R0025	58.75
3	32	1	SD203/32	2CDD283101R0032	63.50
4	25	1	SD204/25	2CDD284101R0025	78.73
4	32	1	SD204/32	2CDD284101R0032	84.35

E213 selector switches


E213-1


E213-2


E214

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
0-I					
1	25	10	E213-25-001	2CCA703041R0001	23.71
2	25	10	E213-25-002	2CCA703046R0001	41.90
I-0-II					
1	25	10	E214-25-101	2CCA703026R0001	32.51
2	25	10	E214-25-202	2CCA703031R0001	62.21

E 215 pushbuttons for DIN rail mounting (230 VAC)


E215-16-11C

Color	Contact	Minimum order quantity	Type	Code	Price (EUR)
Grey	1NA+1NK	10	E215-16-11B	2CCA703150R0001	21.92
Red	1NA+1NK	10	E215-16-11C	2CCA703151R0001	21.92
Green	1NA+1NK	10	E215-16-11D	2CCA703152R0001	21.92
Yellow	1NA+1NK	10	E215-16-11E	2CCA703153R0001	21.92
Black	1NA+1NK	10	E215-16-11F	2CCA703154R0001	21.92
Blue	1NA+1NK	10	E215-16-11G	2CCA703155R0001	21.92

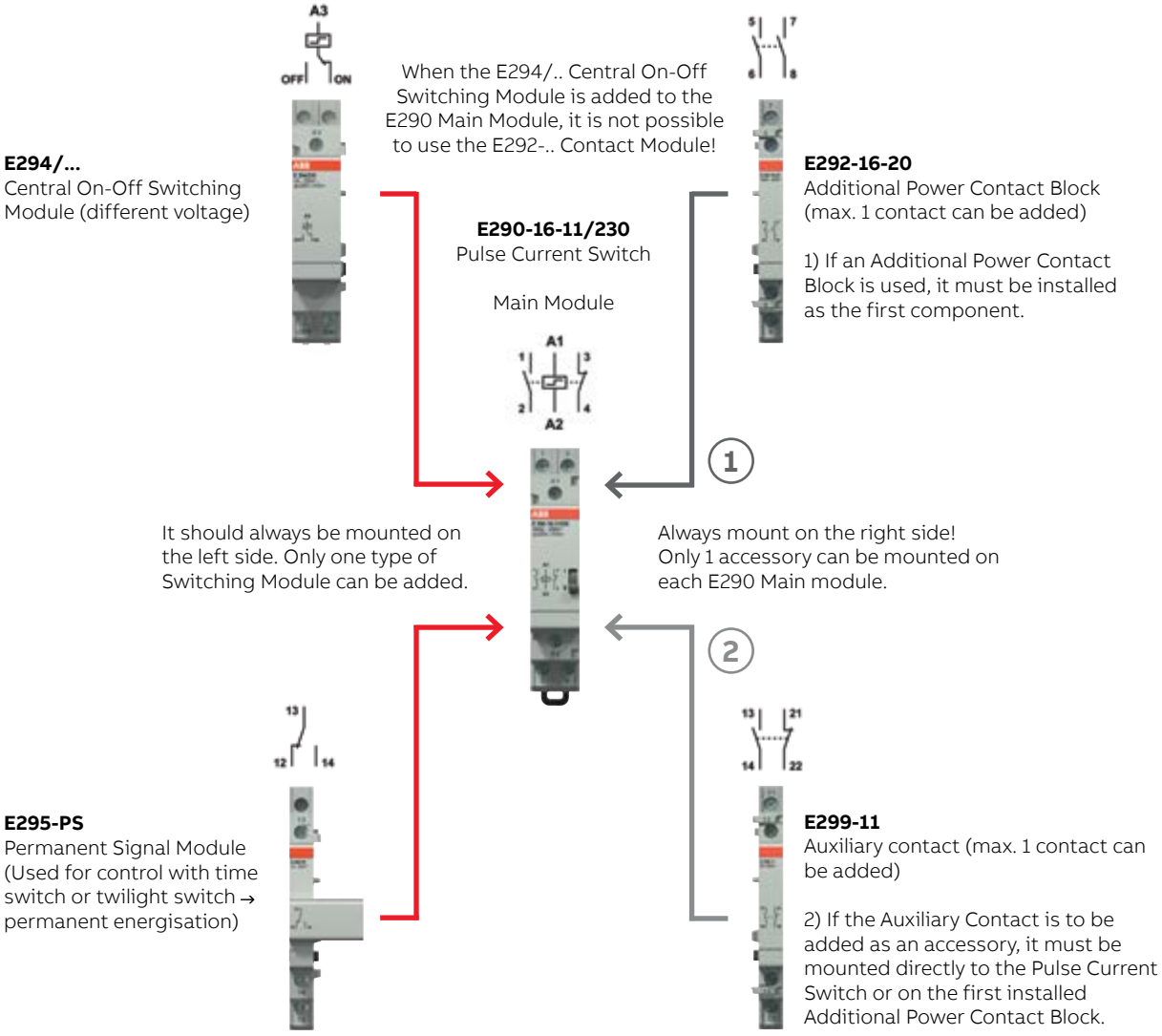
E 219 pilot lights for DIN rail mounting


E219-C


E219-3CDE

Color	Minimum order quantity	Type	Code	Price (EUR)
Single pilot lights (115 - 250 VAC)				
White	10	E219-B	2CCA703400R0001	14.80
Red	10	E219-C	2CCA703401R0001	14.80
Green	10	E219-D	2CCA703402R0001	14.80
Yellow	10	E219-E	2CCA703403R0001	14.80
Blue	10	E219-G	2CCA703404R0001	14.80
Triple pilot lights (230 - 415 VAC)				
Red, red, red	10	E219-3C	2CCA703900R0001	34.45
Green, green, green	10	E219-3D	2CCA703901R0001	34.45
Red, yellow, green	10	E219-3CDE	2CCA703902R0001	34.45

MODULAR DIN RAIL DEVICES
E290 Pulse current switch



Safety warning: If more than one Pulse Current Switch is to be installed side by side, it is recommended to use a spacer between the two devices. This guarantees optimum heat dissipation of the main modules. The spacer (9 or 18 mm wide) ZLS725 or ZLS726 (depending on the application) must be selected.

MODULAR DIN RAIL DEVICES

E290 latching relays for control of lighting circuits from different points (Rated voltage=250VAC)


E290-16-10/230

Number of poles	Rated current (A)	Coil voltage (V)	Minimum order quantity	Type	Code	Price (EUR)
1NO	16	24VAC/12VDC	10	E290-16-10/24	2TAZ312000R2041	48.17
1NO	16	48VAC/24VDC	10	E290-16-10/48	2TAZ312000R2031	49.57
1NO	16	230VAC/110VDC	10	E290-16-10/230	2TAZ312000R2011	27.11
1NO	32	230VAC/110VDC	10	E290-32-10/230	2TAZ322000R2011	42.82
2NO	16	24VAC/12VDC	10	E290-16-20/24	2TAZ312000R2042	69.39
2NO	16	48VAC/24VDC	10	E290-16-20/48	2TAZ312000R2032	69.77
2NO	16	230VAC/110VDC	10	E290-16-20/230	2TAZ312000R2012	50.27
2NO	32	230VAC/110VDC	10	E290-32-20/230	2TAZ322000R2012	77.27
3NO	16	24VAC/12VDC	10	E290-16-10/24 + E292-16-20	Check the product price	
3NO	16	48VAC/24VDC	10	E290-16-10/48 + E292-16-20	Check the product price	
3NO	16	230VAC/110VDC	10	E290-16-10/230 + E292-16-20	Check the product price	
4NO	16	24VAC/12VDC	10	E290-16-20/24 + E292-16-20	Check the product price	
4NO	16	48VAC/24VDC	10	E290-16-20/48 + E292-16-20	Check the product price	
4NO	16	230VAC/110VDC	10	E290-16-20/230 + E292-16-20	Check the product price	

* 3-pole and 4-pole pulse current switches can be obtained with additional power contact block combination.

Inverting pulse current switches (Rated voltage=250VAC)


E290-16-11/230

Number of poles	Rated current (A)	Coil voltage (V)	Minimum order quantity	Type	Code	Price (EUR)
1NO+1NC	16	24VAC/12VDC	10	E290-16-11/24	2TAZ312000R2043	66.53
1NO+1NC	16	48VAC/24VDC	10	E290-16-11/48	2TAZ312000R2033	66.10
1NO+1NC	16	230VAC/110VDC	10	E290-16-11/230	2TAZ312000R2013	37.26
1NO+1NC	32	230VAC/110VDC	10	E290-32-11/230	2TAZ322000R2013	86.45

Additional power contact blocks


E292-16-20

Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
2NO	16	10	E292-16-20	2CCA704300R0001	32.83
1NO+1NC	16	10	E292-16-11	2CCA704301R0001	32.83
1CO	16	10	E292-16-001	2CCA704302R0001	32.83

Accessories


E299-11


E294/230

Description	Minimum order quantity	Type	Code	Price (EUR)
Central on-off switching module (different control voltages - coil control voltage 24VAC)	5	E294/24	2TAZ312001R2043	78.14
Central on-off switching module (different control voltages - coil control voltage 230 VAC)	5	E294/230	2TAZ312001R2013	78.14
Auxiliary contact (1NO+1NC)	10	E299-11	2CCA704340R0001	35.15
Permanent Signal Module	10	E295-PS	2TAZ312005R1003	72.52
Group module	10	E295-GM	2TAZ310002R1000	77.27
Compensator	10	E296-CP	2TAZ310003R1000	63.29
Spacer 18 mm (to facilitate heat dissipation - 5-pack)	1	ZLS725	2CCS500900R0181	17.01
Spacer 9 mm (to facilitate heat dissipation - 5-pack)	1	ZLS726	2CCS400900R0091	12.15

MODULAR DIN RAIL DEVICES

Residual current protection relay

	Supply voltage	Tripping time	Sensitivity setting	Type	Code	Price (EUR)
 RD3	230 - 400V AC	Adjustable 0-5 sec	Adjustable 30mA-2A	RD2	2CSM142120R1201	257.70
	230 - 400V AC	Adjustable 0-10 sec	Adjustable 30mA-30A	RD3	2CSJ201001R0002	353.90
	230 - 400V AC	Adjustable 0-10 sec	Adjustable 30mA-30A, with frequency filter	RD3M*	2CSJ202001R0002	419.10
	230 - 400V AC	Adjustable 0-10 sec	Adjustable 30mA-30A, with frequency filter, alarm	RD3P*	2CSJ203001R0002	571.90

*It has frequency filtering feature for use in loads such as motor drive, solar inverter.

Residual current protection relay Enclosure Cover Mounting (96x96mm)

	Supply voltage	Tripping time	Sensitivity setting	Type	Code	Price (EUR)
 ELR96PD	230 - 400V AC	Adjustable 0-5 sec	Adjustable 30mA-30A	ELR96	2CSG152130R1202	365.40
	230 - 400V AC	Adjustable 0-5 sec	Adjustable 30mA-30A	ELR96P	2CSG152434R1202	501.70
	230 - 400V AC	Adjustable 0-5 sec	Adjustable 30mA-30A, with frequency filter	ELR96PF	2CSG152435R1202	587.10
	230 - 400V AC	Adjustable 0-5 sec	Adjustable 30mA-30A, frequency filtered, with display	ELR96PD	2CSG152436R1202	801.30

Toroid current transformer

	Transformer type	Max. current carrying capacity (A)	Diameter (mm)	Type	Code	Price (EUR)
 TR	Not openable	250	35	TR1	2CSG035100R1211	87.05
	Not openable	400	60	TR2	2CSG060100R1211	111.20
	Not openable	800	80	TR3	2CSG080100R1211	139.10
	Not openable	1250	110	TR4	2CSG110100R1211	187.80
	Not openable	3200	210	TR5/C	2CSG210100R1211	290.00
	Openable	3200	210	TR5/A	2CSG210200R1211	405.30
	Not openable	5000	300	TR6/C	2CSG300100R1211	890.60
	Openable	5000	300	TR6/A	2CSG300200R1211	1,405.00

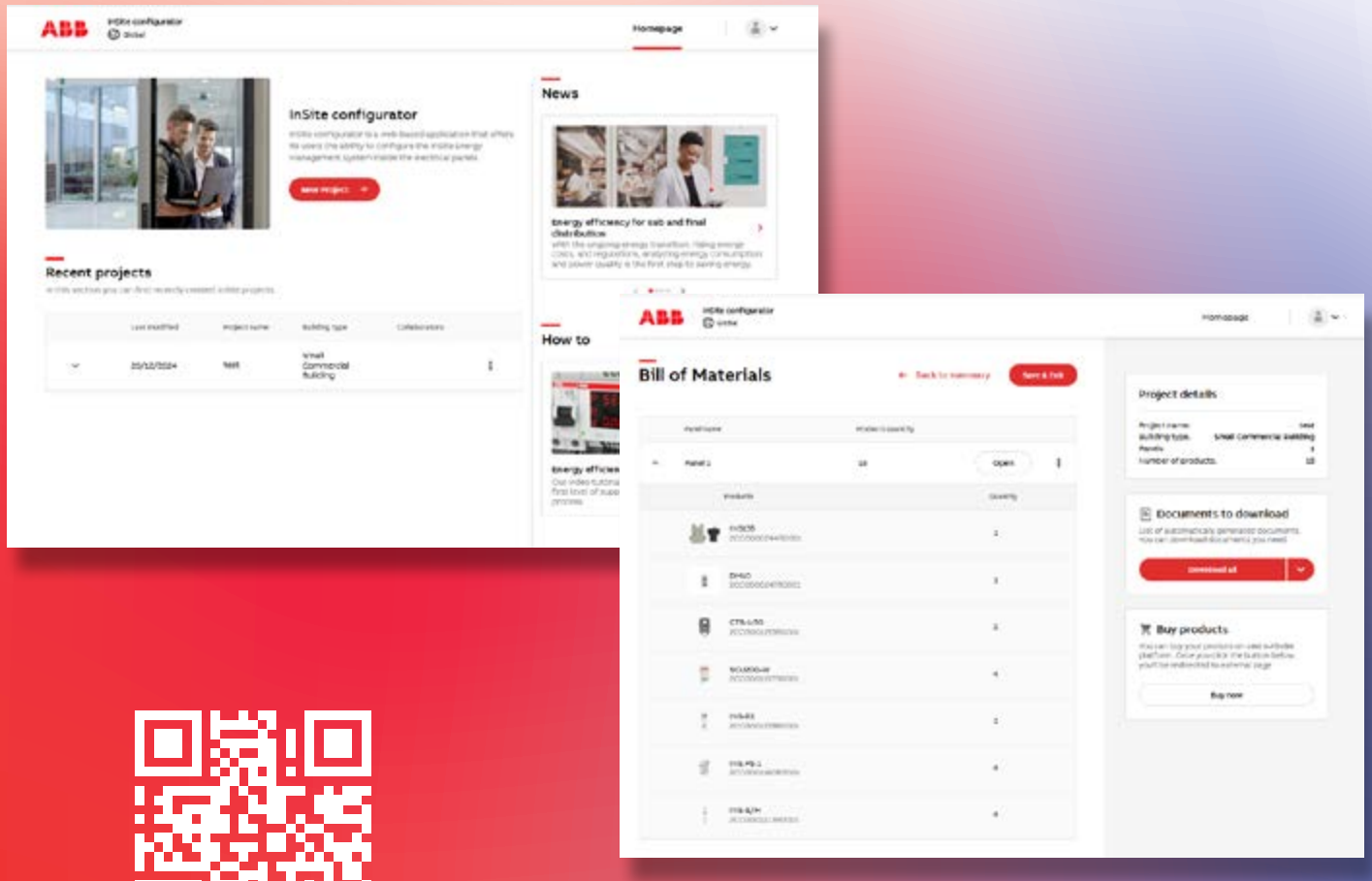
NOTE: Toroid current transformers should be selected according to the availability of sufficient useful diameter for cables and current carrying capacity.



Information on rectangular toroids used with Emax 2 AİR circuit breakers can be found on page 163.

InSite CONFIGURATOR
Start configuring now!

ABB InSite Configurator is a comprehensive configuration tool with a web-based interface that allows easy selection of InSite control units and all accessory products. Being web-based, it is accessible from anywhere and allows you to create optimized solution packages. It can automate your power consumption calculations and centrally manage all the necessary settings for energy monitoring and cloud integration.



Insite configurator

ELECTRONIC ENERGY METERS

Electronic energy meter (MID Approved), DIN rail mounted

	Description	Type	Code	Price (EUR)
	Direct connection meters			
 D11 15-M 40 Modbus	1x220-240 AC active reactive 1-phase energy meter (up-to 40A direct connection, Class I, DI/DO 1/1, 2/4* Tariff options (4* with Comm.), Modbus RS-485)	D11 15-M 40 Modbus	2CMA241665R1000	197.00
	3x220-240 AC active reactive energy meter (up-to 65A direct connection, Class I, DI/DO 1/1, 2/4* Tariff options (4* with Comm.), Modbus RS-485 or Mbus communication)	D13 15-M 65 Modbus	2CMA241765R1000	451.20
		D13 15-M 65 Mbus	2CMA241845R1000	540.00
	3x220-240/400V AC active energy meter (Direct connection up to 65A, class I, 2 inputs-2 outputs, 1-4 tariff options, can be connected to KNX module via IR port)	B23 311 - 100 Silver	2CMA100168R1000	439.70
 D13 15-M 65 Modbus	3x220-240/400V AC active energy meter (Direct connection up to 65A, class I, 2 inputs-2 outputs, 1-4 tariff options, can be connected to KNX module via IR (Infrared) port, Modbus RS-485 communication)	B23 312 - 100 Silver	2CMA100169R1000	485.00
	3x100-500/57-288V AC active and reactive energy meter (Direct connection up to 80A, class I, 4 adjustable inputs/ outputs, 1-4 tariff options, harmonic and THD measurement, history record, maximum-minimum demand record, load profiles, internal clock, can be connected to KNX module via IR (Infrared) port, Modbus RS-485 communication)	A43 512 - 100 Platinum	2CMA170531R1000	1,545.00
	Transformer connected meters			
	3x220-240/400V AC active energy meter (Connection via CT/5A, class I, with pulse and alarm output, can be connected to KNX module via IR (infrared) port)	B24 111 - 100 Steel	2CMA100177R1000	363.90
 B24 112 - 100	3x220-240/400V AC active energy meter (Connection via CT/5A, class I, with pulse and alarm output, It can be connected to the KNX module via IR (infrared) port, Modbus RS-485 communication)	B24 112 - 100 Steel	2CMA100178R1000	559.50
		B24 113 - 100 Steel	2CMA100179R1000	836.70
	3x220-240/400V AC active energy meter (Connection via CT/5A, class 0.5S, 2 inputs-2 outputs, 1-4 tariff options, can be connected to KNX module via IR (Infrared) port, Modbus RS-485 communication)	B24 352 - 100 Silver	2CMA100183R1000	520.80
 A44 552 - 110	3x100-500/57-288V AC active and reactive energy meter (Connection via CT/5A, class 0.5S, 4 adjustable inputs/outputs, 1-4 tariff options, harmonic and THD measurement, history record, maximum-minimum demand record, load profiles, internal clock, can be connected to KNX module via IR (Infrared) port, Modbus RS-485 communication)	A44 552 - 110 Platinum	2CMA170549R1000	1,307.00



ENERGY METERS
Selection framework

The below framework is designed to streamline the process of choosing the right energy meter tailored to individual needs. By considering factors such as accuracy of energy measurement and desired features, the framework guides customers towards optimal selections. With a focus on accuracy, efficiency, and compatibility, users can confidently identify the perfect energy meter solution for their residential, commercial, or industrial requirements.

	STEEL	BRONZE	15 NEW	SILVER	GOLD	PLATINUM
Active energy	✓	✓	✓	✓	✓	✓
Class 1	✓	✓	✓	✓	✓	✓
Class 0.5				Optional	Optional	Optional
Pulse output	✓	✓	✓	✓	✓	✓
Alarm	✓	✓	✓	✓	✓	✓
Reactive energy		✓	✓	✓	✓	✓
Apparent energy			✓			
Import/Export energy		✓	✓	✓	✓	✓
Tariffs			2/4* *4 via Communication	4	4	4
Resettable energy register			✓	✓	✓	✓
Fixed I/O			1DI/1DO	2DI/2DO	2DI/2DO	2DI/2DO
Configurable I/O						4
Harmonics						2-16
Clock functions*					✓	✓
Advanced clock functions**					✓	✓

* Tariff control, previous values, max/min demand, event log -
** Load profiles

D11 and D13

NEW



available in: 15

voltage: 220-240 VAC
3x230/400 VAC

D11	Single phase, up to 40A
D13	Three phase, up to 65A

A series



available in: STEEL BRONZE SILVER GOLD PLATINUM

voltage: 57.7...288 VAC
57.7.../100...288 VAC
3x57.7/100 ... 288/500 VAC
3x57.7/100 ... 400/690 VAC

A41	Single phase, up to 80A
A42	Single phase, with CT/VT
A43	Three phase, up to 80A
A44	Three phase, with CT/VT

B series



available in: STEEL BRONZE SILVER

voltage: 220-240 VAC
3x230/400 VAC

B21	Single phase, up to 65A
B23	Three phase, up to 65A
B24	Three phase, with CT

ENERGY ANALYZERS

—
D1M rail-mounted energy analysers

	Description	Communication protocol	Input/Output (I/O)	Code	Price (EUR)
 D1M 15 Modbus	**D1M 15 Multifunction power meter**				
	For LV and MV networks: Voltage, current, frequency, power factor, active/reactive/ apparent power and energy, Measurement of average active/reactive/apparent power and energy, energy produced/consumed Active energy Class 1.0 according to IEC 61557-12. Auxiliary voltage: 100-230 V AC/(DC ±15%) Din Rail mounted main unit with 1A and 5A current transformer inputs (3 module width)				
	D1M 15	-	2 digital outputs	2TAZ665050R2000	258.10
	D1M 15 Modbus	Modbus RTU	2 digital outputs	2TAZ665052R2000	275.10
 D1M 20 Ethernet	**D1M 20 Energy analyser**				
	For LV and MV networks, 3 or 4 wires, for balanced and unbalanced load: Voltage, current, average current, frequency, power factor, active/reactive/apparent power and energy, average active/reactive/apparent power and energy, produced/consumed energy measurement, %THDV and %THDI, 40th individual harmonic Active energy Class 0.5 according to IEC 61557-12. Auxiliary voltage: 100-230 V AC/(DC ± 15%) Din Rail mounted main unit with 1A and 5A current transformer inputs (3 module width)				
	D1M 20 Modbus	Modbus RTU	2 digital inputs, 2 digital outputs	2TAZ665052R2001	298.90
	D1M 20 Ethernet	Modbus TCP/IP	2 digital inputs, 2 digital outputs	2TAZ665054R2000	441.50

—
Energy analyzers

	Description	Communication protocol	Input/Output (I/O)	Code	Price (EUR)
 M1M 10	**M1M 10 Multimeters**				
	For LV and MV networks: Voltage, current and frequency Auxiliary voltage: 80...300V AC 45-65Hz (80...300V DC) Enclosure type main unit with 1A and 5A current transformer input (99.5x96 mm)				
	M1M 10			1SYG235081R4051	75.02
 M1M 12	**M1M 12 Multimeters**				
	For LV and MV networks: Voltage, current, frequency, power factor, active power, active energy and operating hours. Auxiliary voltage: 80...300V AC 45-65Hz (80...300V DC) Enclosed main unit with 1A and 5A current transformer input (99.5x96 mm)				
	M1M 12			1SYG207591R4051	136.50
	M1M 12 Modbus (Modbus RTU communication, RS485 Serial port)	Modbus RTU		1SYG207581R4051	204.80
 M1M 15	**M1M 15 Multimeters**				
	For LV and MV networks: Voltage, current, average current, frequency, power factor, active/reactive/ apparent power and energy, average active/reactive/apparent power and energy, produced/consumed energy measurement. Auxiliary voltage: 100-230 V AC/(DC ±%15) Enclosed main unit (96x96 mm) with 1A and 5A current transformer inputs				
	M1M 15			2TAZ661010R2000	234.40
	M1M 15 Modbus (Modbus RTU communication, RS485 Serial port)	Modbus RTU		2TAZ661012R2000	255.40
 M1M 20	**M1M 20 Power meter**				
	For LV and MV networks, 3 or 4 wires, for balanced and unbalanced loads: Voltage, current, average current, frequency, power factor, active/reactive/apparent power and energy, average active/reactive/ apparent power and energy, produced/consumed energy measurement, %THDV and %THDI Auxiliary voltage: 100-230 V AC/(DC ±%15) Enclosed main unit (96x96 mm) with 1A and 5A current transformer inputs				
	M1M 20			2TAZ662010R2000	281.50
	M1M 20 Modbus (Modbus RTU communication, RS485 Serial port)	Modbus RTU		2TAZ662012R2000	306.60
 M1M 30 Modbus	**M1M 30 Power meter**				
	For LV and MV networks, 3 or 4 wires, for balanced and unbalanced load: Voltage, current, average current, frequency, power factor, active/reactive/apparent power and energy, average active/reactive/ apparent power and energy, produced/consumed energy measurement, %THDV and %THDI, 40th individual harmonic Active energy Class 1.0 according to IEC 61557-12 Auxiliary voltage: 100-230 V AC/(DC ±%15) Enclosed main unit (96x96 mm) with 1A and 5A current transformer inputs				
	M1M 30 Modbus (Modbus RTU communication, RS485 Serial port)	Modbus RTU	2 digital outputs	2TAZ663012R2000	357.30

ENERGY ANALYZERS

—
Energy analyzers

	Description	Communication protocol	Input/Output (I/O)	Code	Price (EUR)
	M4M 20 energy analyzers				
	For LV and MV networks, 3 or 4 wires, for balanced or unbalanced load Active energy Class 0.5 according to IEC 61557-12, active energy Class 0.5S according to IEC 62053-22 Auxiliary voltage: 48...240 AC (45-65Hz)/DC Enclosed main unit (96x96 mm) with 1A and 5A current transformer inputs				
 M4M 20	M4M 20	Bluetooth	2 Digital outputs	2CSG251151R4051	450.60
	M4M 20 Modbus	Modbus RTU, Bluetooth	2 Digital outputs	2CSG251141R4051	495.00
	M4M 20-M Modbus (MID approved)	Modbus RTU, Bluetooth	2 Digital outputs	2CSG239055R4051	652.20
	M4M 20 I/O	Modbus RTU, Bluetooth	2 Progr. I/O, 2 Digital outputs, 2 Analog çıkış	2CSG251161R4051	610.60
	M4M 20 Ethernet	Modbus TCP/IP, Bluetooth	2 Digital outputs	2CSG204471R4051	554.30
	M4M 20 Profibus	Profibus DP-V0, Bluetooth	2 Digital outputs	2CSG251131R4051	595.00
	M4M 20-M Ethernet (MID approved)	Modbus TCP/IP, Bluetooth	2 Digital outputs	2CSG239065R4051	730.40
	M4M 20 Bacnet	BACnet/IP, Bluetooth	2 Digital outputs	2CSG236831R4051	595.00
	M4M 20 Rogowski	Modbus RTU, Bluetooth	2 Digital outputs	2CSG207081R4051	620.80
	M4M 30 energy analyzers				
	For LV and MV networks, 3 or 4 wires, for balanced or unbalanced load Active energy Class 0.5 according to IEC 61557-12, active energy Class 0.5S according to IEC 62053-22 Auxiliary voltage: 48...240 AC (45-65Hz)/DC Enclosed main unit (96x96 mm) with 1A and 5A current transformer inputs				
 M4M 30	M4M 30 Modbus	Modbus RTU, Bluetooth	4 Progr. I/O	2CSG274761R4051	584.10
	M4M 30-M Modbus (MID approved)	Modbus RTU, Bluetooth	4 Progr. I/O	2CSG239035R4051	769.60
	M4M 30 I/O	Modbus RTU, Bluetooth	6 Progr. I/O, 2 Analogue Outputs	2CSG202471R4051	683.90
	M4M 30 Ethernet	Modbus TCP/IP, Bluetooth	4 Progr. I/O	2CSG274681R4051	669.00
	M4M 30-M Ethernet (MID approved)	Modbus TCP/IP, Bluetooth	4 Progr. I/O	2CSG239045R4051	881.60
	M4M 30 Profibus	Profibus DP-V0, Bluetooth	4 Progr. I/O	2CSG236791R4051	702.10
	M4M 30 Bacnet	BACnet/IP, Bluetooth	4 Progr. I/O	2CSG202451R4051	702.10
	M4M 30 Rogowski	Modbus RTU, Bluetooth	4 Progr. I/O	2CSG202461R4051	732.60
 R4M Rogowski	**R4M Rogowski coils**				
	Up to 12kA, in two different sizes (80mm or 200mm)				
	R4M-80	Diameter 80 mm		2CSG202160R1101	222.90
	R4M-200	Diameter 200 mm		2CSG202150R1101	297.10

It is necessary to select 1 R4M Rogowski coil for each phase.

From M1M 10 to M4M 30
Range overview





		M1M 10	M1M 12
	Accuracy Class (active energy)	-	1%
	IEC 61557-12 PMD	-	-
Measurement	Voltage measurement range	40-300VL-N	40-300VL-N
	Direct voltage measurement up to 690VL-L		
	Current measurement via CT (…/1A and …/5A)	■	■
	Current measurement via Rogowski coils		
	Samples per cycle	64	64
Real-time	TRMS current	■	■
	TRMS voltage	■	■
	Frequency	■	■
	Active, Reactive and Apparent power		Active
	Power factor		■
	Timers	■	■
Energy	Active, Reactive and Apparent energy		Active
	4 quadrants Energy (Import/Export)		
	Tariffs		
Power Quality	THD (I, VLN, VLL)		
	Individual Harmonics		
	Unbalances (I, VLN, VLL)		
	Neutral current		
	Phasors, Waveforms		
Data recording and logs	Single alarms / Complex alarms with logics		
	Warnings, alarms and errors		
	Min/Max/Demand values		
	Flash memory		
	Real Time Clock (RTC)		
HMI		**LED**	**LED**
	Graphs visualization		
	Homepage and favourite page		
	Password protection	■	■
Connectivity	Modbus RTU		■
	Modbus TCP/IP		
	Profibus DP-V0		
	BACnet/IP		
	Automatic integration in System pro M compact® InSite		
	Bluetooth Low Energy		
	Standard I/O		
	Additional I/O (I/O version)		







	M1M 15	M1M 20	M1M 30	M4M 20	M4M 30
	Class 1	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
	PMD/S/K55/1	PMD/S/K55/0.5	PMD/S/K55/0.5	PMD/S/K70/0.5	PMD/S/K70/0.5
	80-265VL-N	80-265VL-N (40-265 VL-N for M1M 20 I/O Pro)	80-265VL-N (40-265 VL-N for M1M 30 I/O Pro)	50-400VL-N	50-400VL-N
				■	■
	■	■	■	■	■
				■	■
	128	128	128	128	128
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
		■	■	■	■
					■
		■	■	■	■
		15th	40th		40th
			■		■
		Calculated	Calculated	Calculated	Measured
					■
		15 / -	15 / -	25 / -	25 / 4
		■	■	■	■
			Basic	Basic	Advanced
			1MB		32MB
			■		■
	LED	**LCD**	**LCD**	**Graphic color**	**Graphic color touchscreen**
				Basic	Advanced
				■	■
	■	■	■	■	■
	■	■	■	■	■
		■	■	■	■ (2xRJ45 for daisy-chain)
				■	■
				■	■
	■	■	■	■	■
				■	■
			2 Digital Outputs	2 Digital Outputs	4 configurable I/O
		2 Digital Inputs 2 Digital Outputs (M1M 20 I/O only) 2 Digital Inputs 2 Relay Outputs (M1M 20 I/O Pro only)	2 Digital Inputs 2 Digital Outputs (M1M 30 I/O only) 4 Digital Inputs 2 Relay Outputs (M1M 30 I/O Pro only)	2 Digital Outputs 2 Configurable I/O 2 Analogue Outputs	6 Configurable I/O 2 Analogue Outputs

InSite ENERGY MANAGEMENT SYSTEM

System pro M compact® InSite is a range of connected devices to support energy and asset management in electrical distribution.

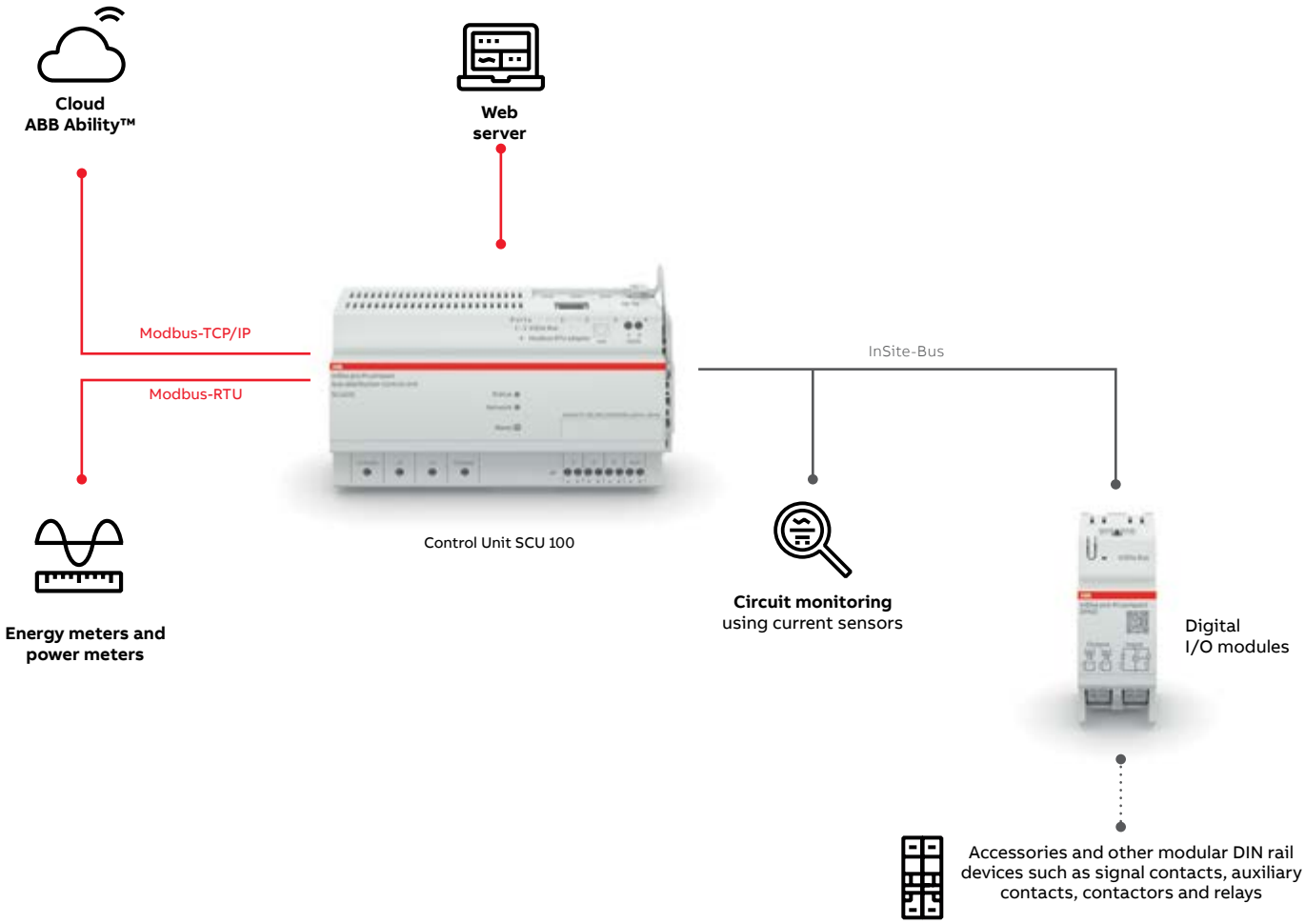
The solution delivers highest data security standards (encrypted SNMP V3 and SSL certificate) as well as continuous upgrades thanks to regular firmware updates.

Central to the System pro M® InSite range is the SCU100 control unit, that has been specifically developed to allow users to better manage energy and assets in sub distribution boards. It can collect data from up to 16 energy and power meters and up to 96 current sensors for branch measurement.

ABB's ready-made, pre-assembled InSite kits are designed to make sub and final electrical distribution smarter with minimal effort. Any size of installation in commercial or industrial application can easily be upgraded, reducing installation and configuration time to nearly zero, and in turn, minimize costly operational downtime.

To enable monitoring and control of the entire energy distribution system, the series is completed with a flexible range of input and output modules. They can be easily connected to ABB System pro M compact® accessories of MCBs and RCDs and other DIN-Rail products with digital inputs or outputs. They can also be connected to pulse meters – such as gas or water – to collect utilities consumption.

Based on a wide set of data, available functionalities range from simple monitoring of the installation to analysis of historical data, customized alarms and implementation of automated actions to reduce energy consumption, identify potential risks and ensure operational continuity.



CONTROL UNIT SCU200

SCU200 elevates smart energy and load management functionalities, offering a comprehensive solution to optimize energy usage in both sub and final distribution.

The compact control unit collects data from field devices, which can then be accessed via the InSite web server, or any third-party application.

Depending on the specific needs, expansion modules can be selected from a range of options, allowing the system to be customized in a cost- and space-efficient way.



LED lights for at-a-glance information about device status and connectivity

Embedded Wi-Fi antenna for the wireless connectivity of the system to the LAN but also to access the WebUI

Micro SD card memory slot

3 ports for up to 64 devices connected:

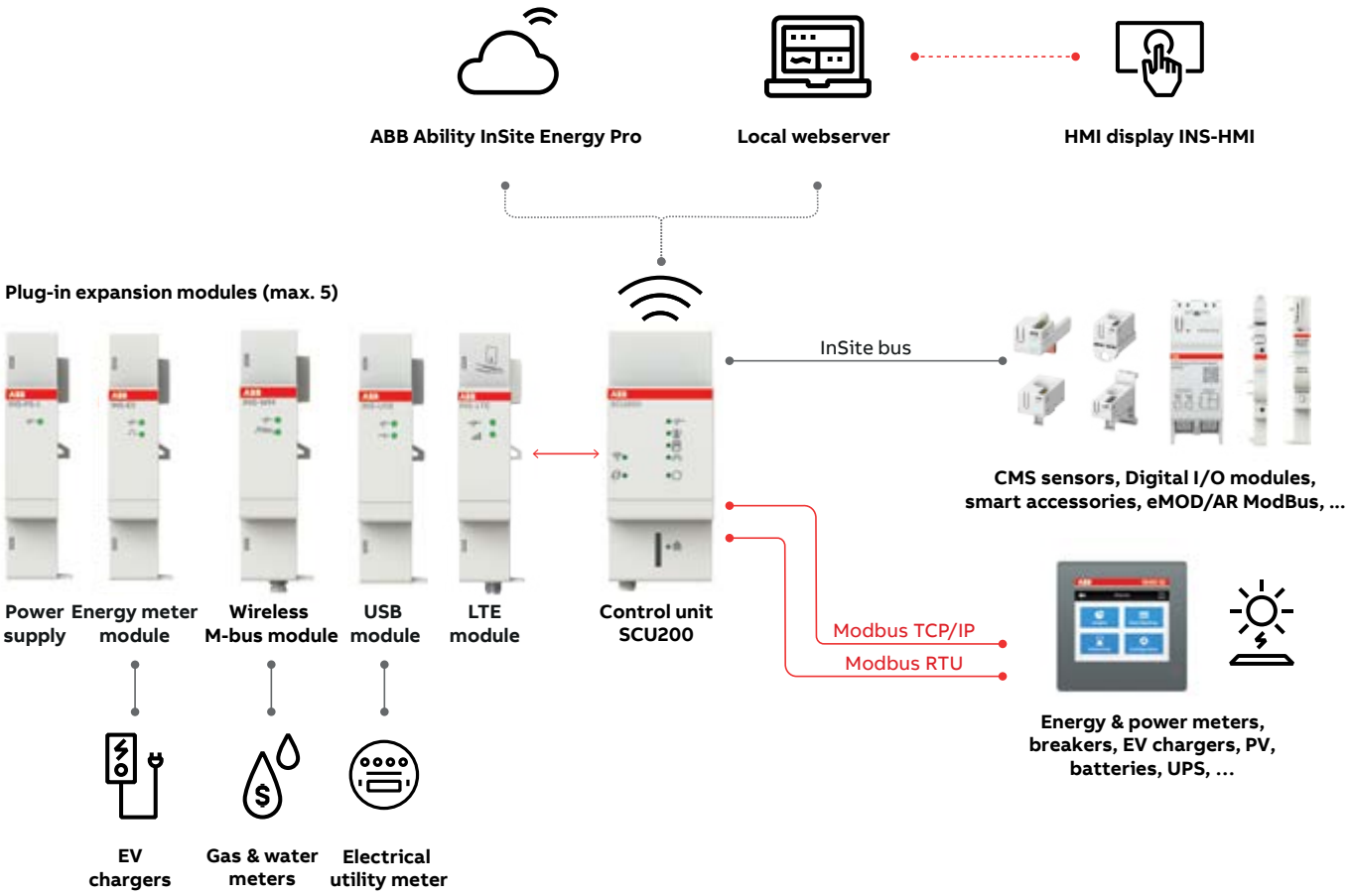
1) Ethernet RJ45 port - Modbus TCP:
Connectivity of up to 16 TCP devices of any kind (meters, breakers, EV chargers, solar, …)

2) RS485 port – Modbus RTU:
Connectivity of up to 16 RTU devices of any kind (meters, breakers, EV chargers, solar, …)

3) InSite bus port:
Connectivity of up to 32 devices, whether they are current sensors, I/O modules, or smart accessories

External antenna port

SYSTEM ARCHITECTURE SCU200



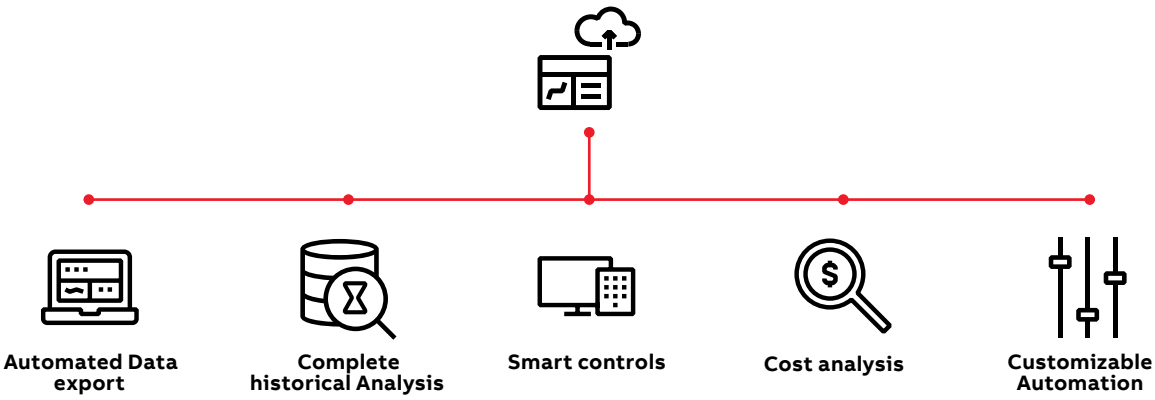
WEB SERVER SCU200

Once the system is installed, it enables connection to the integrated InSite web server with automatic device recognition. Through the SCU200 local web server, real-time insights into energy consumption and power quality are provided.

Users can customize widgets such as graphs, charts, and tables, for immediate visibility into consumer allocation, top consumers, and trend deviations. Additionally, the system calculates costs using a range of tariff options and enables the management of multiple contracts for comprehensive financial insight.

Consumption trends can be effortlessly tracked and analyzed over time, with data stored in intervals as small as thirty seconds. Moreover, alerts and actions can be automated based on predefined conditions.

The system facilitates local device control by providing a dedicated page for each device, featuring writable Modbus variables. Additionally, it allows control of devices from external cloud platforms or BMS systems via REST API or Modbus. This ensures efficient and optimized energy management at your fingertips, customized to meet specific requirements. Thanks to its seamless platform, integrating any third-party device is straightforward and user-friendly, making it remarkably convenient for customers.





PLUG-IN EXPANSION MODULES for SCU200



Customize your InSite energy management system with plug-in expansion modules for your specific application needs.

Simply plug up to 5 expansion modules into the central Control Unit SCU200(W) without any tools needed. The system will automatically recognize the modules, making them visible in its local webserver and cloud platform.

01 02 03



01
Control Unit SCU200(W)
Central system gateway

02
Power Supply module
AC to DC converter

03
USB module
for connection of smart meters with P1 port

PLUG-IN EXPANSION MODULES for SCU200

04



05



06



07



08



09



10



04
Wireless M-Bus module
for the integration of wireless Mbus meters on the field

05
Energy metering module
for energy measurements

06
Split-core Current Transformers
for INS-E3 metering module, to measure currents up to 80A

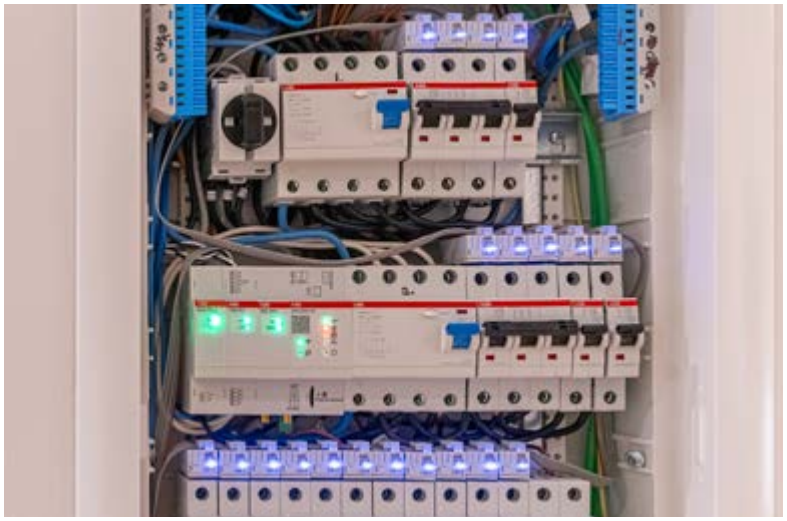
07
LTE connectivity module
for direct connection to the internet via mobile networks

08
Antenna
compatible with all InSite products (SCU200-W, INS-LTE, INS-LoRa, INS-WM)

09
LoRa communication module
enables LoRaWAN communication for the SCU200

10
Collector Hub module
for reaching up to 160 devices via the InSite flat cable

INTEGRATED DEVICES with SCU100 and SCU200



The InSite energy management system monitors a wide range of connected devices, including breakers, meters, EV chargers, and further electrical assets.

Integrated devices such as current sensors and smart accessories are automatically recognized by the InSite system once they are connected.

Branch monitoring sensors

—
01



—
02



—
03



—
04



—
01
Solid-core sensor

—
02
Open-core sensor

—
03
Connectors

—
04
InSite flat cable (INS)
for an easy and fast connection of CMS sensors, I/O modules and smart accessories

INTEGRATED DEVICES
with SCU100 and SCU200

Smart accessories

—
05



—
06



—
07



—
08



—
05
Smart Auxiliary and Signalling device for protection device smart monitoring

—
06
Digital I/O modules for recognizing digital inputs or sending digital outputs

—
07
Tap-off Box module for conversion of flat cable communication to RJ45 and vice versa

—
08
ModBus Interface for MOD/AR ranges eMOD/AR ModBus

Meters, protection devices, and displays

—
09



—
10



—
11



—
12



—
13



—
09
Energy meters

—
10
Power meters

—
11
Digital surge protective device eOVR

—
12
Network Analyzers

—
13
HMI Display INS-HMI

InSite ENERGY MANAGEMENT SYSTEM CMS energy sensors

Current measurement system (CMS) is a family of ultra-compact and high-performance multi-channel measurement systems for monitoring at the branch level. The system consists of a control unit and sensors with different measuring ranges and mounting options. The sensors can measure alternating current (AC), direct current (DC) or mixed currents (AC and DC) up to 160 A. It is possible to connect 64 sensors to the CMS-600 controller and 96 sensors to the CMS-700 controller. Measurement data can be read remotely via the RS485 Modbus RTU interface on the controller.

Integrate it into your application the way you want thanks to different mounting options.
Depending on your application, you can choose from four very simple mounting options to integrate CMS sensors into your installation.

Sensors suitable for installation with ABB products







Sensors compatible with System pro M and SMISSLINE series
All dual terminal System pro M and SMISSLINE series products can be used by installing CMS-120PS and CMS-100PS series sensors.



Sensors compatible with S800 series
The CMS-100S8 and CMS-200S8 series sensors can be fitted to all S800 high performance MCBs with cage terminals.

Sensors for universal use







DIN rail mounted sensors
CMS-120DR, CMS-100DR and CMS-200DR series sensors can be mounted on DIN rail.



Sensors for cable tie mounting
If it is not possible to extend your installation, you can attach CMS-120CA, CMS-100CA and CMS-200CA series sensors directly to the cables to be measured with cable ties.

InSite ENERGY MANAGEMENT SYSTEM
Product codes

InSite Energy Management System


SCU100


SCU200 (W)


INS-HMI


INS-E3


CTS-1-80


INS135 Connector

Description	Type	Code	Price (EUR)
Control units			
InSite control unit	SCU200	2CCG001158R0001	904.60
InSite control unit with wireless interface	SCU200-W	2CCG001157R0001	974.70
Sub distribution control unit	SCU100	2CCG000242R0001	1,928.00
Integrated devices			
Smart signal auxiliary contact	INS-S/H	2CCG001213R0001	157.40
Digital input module (4 digital inputs)	DM11	2CCG000245R0001	168.40
Digital output module (4 digital outputs)	DM00	2CCG000246R0001	188.20
Digital input and output module (2 inputs + 2 outputs)	DM10	2CCG000247R0001	219.60
Tap-off box module	INS-TB	2CMA268075R1000	101.30
ModBus interface for MOD/AR ranges	eMOD/AR Modbus	2CSS201998R0036	127.50
Insite HMI display	INS-HMI	2CMA278465R1000	2,100.00
Metering, expansion and communication modules for SCU200			
Openable current transformer - 20A	CTS-1-20	2CCG001154R0001	51.50
Openable current transformer - 50A	CTS-1-50	2CCG001155R0001	60.10
Openable current transformer - 80A	CTS-1-80	2CCG001156R0001	68.62
Energy meter module - CTS-1 .../40mA	INS-E3	2CCG001159R0001	291.70
Energy meter module - CT .../5A	INS-E3-5	2CMA268055R1000	337.50
Power supply module - 15W	INS-PS-1	2CCG001160R0001	192.70
Power supply module - 15W	INS-PS-2	2CCG001172R0001	390.00
Wireless M-bus module	INS-WM	2CCG001171R0001	381.20
LTE Connectivity module	INS-LTE	2CMA268125R1000	300.00
Antenna for the InSite system	INS-ATE	2CMA269075R1000	15.00
LoRa communication module	INS-LORA	2CMA268135R1000	390.00
Collector Hub module	INS-HUB	2CMA278455R1000	270.00
Flat cable connection accessories			
Flat cable 2m	INS102	2CCG001491R0001	16.48
Flat cable 5m	INS105	2CCG000243R0001	24.03
Flat cable 10m	INS110	2CCG001493R0001	81.75
Flat cable 30m	INS130	2CCG001494R0001	247.10
Connector set (35pcs)	INS135	2CCG000244R0001	46.87

Open-Core sensors



Measurement range	Type	Code	Price (EUR)
Sensors compatible with System pro M & SMISSLINE series, 18 mm			
Up to 80 A	CMS-120PS	2CCA880210R0001	101.10
Up to 40 a	CMS-121PS	2CCA880211R0001	101.10
Up to 20 a	CMS-122PS	2CCA880212R0001	101.10
Sensors for cable tie mounting (universal use), 18 mm			
Up to 80 a	CMS-120CA	2CCA880220R0001	101.10
Up to 40 a	CMS-121CA	2CCA880221R0001	101.10
Up to 20 a	CMS-122CA	2CCA880222R0001	101.10

Closed-Core sensors





Measurement range	Type	Code	Price (EUR)
Sensors compatible with System pro M & SMISSLINE series, 18 mm			
Up to 80 A	CMS-100PS	2CCA880100R0001	102.40
up to 40 A	CMS-101PS	2CCA880101R0001	102.40
up to 20 A	CMS-102PS	2CCA880102R0001	102.40
Sensors for cable tie mounting (universal use), 18 mm			
Up to 80 A	CMS-100CA	2CCA880107R0001	102.40
up to 40 A	CMS-101CA	2CCA880108R0001	102.40
up to 20 A	CMS-102CA	2CCA880109R0001	102.40
Sensors for cable tie mounting (universal use), 25 mm			
up to 160 A	CMS-200CA	2CCA880117R0001	130.50
up to 80 A	CMS-201CA	2CCA880118R0001	130.50
up to 40 A	CMS-202CA	2CCA880119R0001	130.50

ENERGY EFFICIENCY
Current transformers selection table

Breaker choice*							
Modular	S200, S750DR, S800						
Tmax	XT1, XT2	XT1, XT2, XT3, XT4, XT5		XT5	XT5, XT6	XT6, XT7	XT3, XT4, XT5
Emax					E1.2		
Installation choice							
Fixing system	DIN rail	DIN rail	DIN rail, Cable or Busbar, Base mounted with feet				Busbar









Class	Rated current (A)	**CTA**	**TRF M**	**CT1M-2**	**CT1M-3**	**CT1M-4**	**CT1M-5**	**CT1M-S-30**
0.5	10	2CSG111030R1141 CTA/10						
0.5	20	2CSG111050R1141 CTA/20						
0.5	25	2CSG111060R1141 CTA/25						
0.5	40	2CSG111080R1141 CTA/40 (cl. 0.5)	2CSM100050R1111 TRFM/40					
1	50	2CSG111090R1141 CTA/50 (cl. 0.5)		2CSG280225R1000 CT1M-2 50 (Cl.1)				
1	60	2CSG111100R1141 CTA/60 (cl. 0.5)	2CSM100070R1111 TRFM/60 (cl. 1)	2CSG280235R1000 CT1M-2 60 (Cl.1)				
0.5	80	2CSG111110R1141 CTA/80 (cl. 0.5)		2CSG280245R1000 CT1M-2 80				
1	100	2CSG111120R1141 CTA/100 (cl. 0.5)	2CSM100090R1111 TRFM/100	2CSG280255R1000 CT1M-2 100				2CSG280725R1000 CT1M-S-30 100 (Cl.1)
0.5	150		2CSM100100R1111 TRFM/150	2CSG280265R1000 CT1M-2 150				2CSG280735R1000 CT1M-S-30 150 (Cl.1)
0.5	200			2CSG280275R1000 CT1M-2 200				
0.5	250		2CSM100120R1111 TRFM/250	2CSG280285R1000 CT1M-2 250				2CSG280745R1000 CT1M-S-30 250 (Cl.1)
0.5	300			2CSG280295R1000 CT1M-2 300	2CSG280315R1000 CT1M-3 300	2CSG280375R1000 CT1M-4 300		
0.5	400		2CSM100140R1111 TRFM/400	2CSG280305R1000 CT1M-2 400	2CSG280325R1000 CT1M-3 400	2CSG280385R1000 CT1M-4 400		2CSG280755R1000 CT1M-S-30 400
0.5	500				2CSG280335R1000 CT1M-3 500	2CSG280395R1000 CT1M-4 500		
0.5	600		2CSM100160R1111 TRFM/600		2CSG280345R1000 CT1M-3 600	2CSG280405R1000 CT1M-4 600		
0.5	800					2CSG280355R1000 CT1M-4 800		
0.5	1000						2CSG280365-R1000 CT1M-5 1000	

*Breaker choice recommendations are only indicative. For precise information, please refer to the related product catalogs.

XT5, XT6, XT7	XT5, XT6, XT7	XT5, XT6, XT7				XT6, XT7
E1.2, E2.2		E2.2	E2.2, E4.2, E6.2			
DIN rail, Cable or Busbar, Base mounted with feet	Busbar	Cable or Busbar, Base mounted with feet				Busbar
						
CT1M-6	**CT1M-7**	**CT1M-S-80**	**CT1M-8**	**CT1M-10**	**CT1M-12**	**CT1M-S-120**
2CSG280415R1000 CT1M-6 250	2CSG280765R1000 CT1M-S-80 250					
2CSG280425R1000 CT1M-6 300						
2CSG280435R1000 CT1M-6 400	2CSG280775R1000 CT1M-S-80 400					
2CSG280445R1000 CT1M-6 500	2CSG280785R1000 CT1M-S-80 500					
2CSG280455R1000 CT1M-6 600	2CSG280795R1000 CT1M-S-80 600	2CSG280525R1000 CT1M-8 600	2CSG280605R1000 CT1M-10 600			
2CSG280465R1000 CT1M-6 800	2CSG280805R1000 CT1M-S-80 800	2CSG280535R1000 CT1M-8 800	2CSG280615R1000 CT1M-10 800			2CSG280825R1000 CT1M-S-120 800
2CSG280475R1000 CT1M-6 1000	2CSG280815R1000 CT1M-S-80 1000	2CSG280545R1000 CT1M-8 1000	2CSG280625R1000 CT1M-10 1000			

ENERGY EFFICIENCY
Current Transformers selection table

Breaker choice*							
Modular	S200, S750DR, S800						
Tmax	XT1, XT2	XT1, XT2, XT3, XT4, XT5	XT5	XT5, XT6	XT6, XT7	XT3, XT4, XT5	
Emax				E1.2			
Installation choice							
Fixing system	DIN rail	DIN rail	DIN rail, Cable or Busbar, Base mounted with feet			Busbar	

Class	Rated current (A)	**CTA**	**TRF M**	**CT1M-2**	**CT1M-3**	**CT1M-4**	**CT1M-5**	**CT1M-S-30**
0.5	1200							
05	1250							
0.5	1500							
0.5	2000							
0.5	2500							
0.5	3000							
0.5	4000							
0.5	5000							
0.5	6000							

	CTA	**TRF M**	**CT1M-2**	**CT1M-3**	**CT1M-4**	**CT1M-5**	**CT1M-S-30**
	Wound primary	Through primary	Through primary	Through primary	Through primary	Through primary	Split-core through primary
Cable diameter (mm)	8	29	21	26	31	41	–
Horizontal busbar size	–	–	20x10	30x10, 25x15	40x10, 30x20	50x10, 40x20, 30x30	–
Vertical busbar size	–	–	–	–	40x10, 30x20	–	33x23

*Breaker choice recommendations are only indicative. For precise information, please refer to the related product catalogs.

XT5, XT6, XT7	XT5, XT6, XT7	XT5, XT6, XT7				XT6, XT7
E1.2, E2.2		E2.2	E2.2, E4.2, E6.2			
DIN rail, Cable or Busbar, Base mounted with feet	Busbar	Cable or Busbar, Base mounted with feet				Busbar
						
CT1M-6	**CT1M-7**	**CT1M-S-80**	**CT1M-8**	**CT1M-10**	**CT1M-12**	**CT1M-S-120**
2CSG280485R1000 CT1M-6 1200			2CSG280555R1000 CT1M-8 1200	2CSG280635R1000 CT1M-10 1200		2CSG280835R1000 CT1M-S-120 1200
				2CSG280705R1000 CT1M-10 1250		
2CSG280495R1000 CT1M-6 1500			2CSG280565R1000 CT1M-8 1500	2CSG280645R1000 CT1M-10 1500		2CSG280845R1000 CT1M-S-120 1500
2CSG280505R1000 CT1M-6 2000			2CSG280575R1000 CT1M-8 2000	2CSG280655R1000 CT1M-10 2000		
	2CSG280515R1000 CT1M-7 2500			2CSG280585R1000 CT1M-10 2500		
				2CSG280595R1000 CT1M-10 3000	2CSG280665R1000 CT1M-12 3000	
				2CSG280715R1000 CT1M-10 4000	2CSG280675R1000 CT1M-12 4000	
					2CSG280685R1000 CT1M-12 5000	
					2CSG280695R1000 CT1M-12 6000	

CT1M-6	**CT1M-7**	**CT1M-S-80**	**CT1M-8**	**CT1M-10**	**CT1M-12**	**CT120**
Through primary	Through primary	Split-core through primary	Through primary	–	Through primary	Split-core through primary
65	–	–	73	86	–	–
80x10, 60x30, 50x50	101x56	–	80x30,60x50	100x30, 80x50, 70x60	125x93	–
80x10, 60x30, 50x50	–	85x55	80x30,60x50	100x30, 80x50, 70x60	–	125x85

CT1M SERIES CURRENT TRANSFORMERS

NEW PRODUCT

CT1M-2 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
50	1	CT1M-2 50	2CSG280225R1000	42.00
60	1	CT1M-2 60	2CSG280235R1000	42.00
80	0.5	CT1M-2 80	2CSG280245R1000	42.00
100	0.5	CT1M-2 100	2CSG280255R1000	42.00
150	0.5	CT1M-2 150	2CSG280265R1000	42.00
200	0.5	CT1M-2 200	2CSG280275R1000	42.00
250	0.5	CT1M-2 250	2CSG280285R1000	42.00
300	0.5	CT1M-2 300	2CSG280295R1000	42.00
400	0.5	CT1M-2 400	2CSG280305R1000	42.00

CT1M-3 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
300	0.5	CT1M-3 300	2CSG280315R1000	57.00
400	0.5	CT1M-3 400	2CSG280325R1000	57.00
500	0.5	CT1M-3 500	2CSG280335R1000	57.00
600	0.5	CT1M-3 600	2CSG280345R1000	57.00

CT1M-4 & CT1M-5 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
300	0.5	CT1M-4 300	2CSG280375R1000	65.25
400	0.5	CT1M-4 400	2CSG280385R1000	65.25
500	0.5	CT1M-4 500	2CSG280395R1000	65.25
600	0.5	CT1M-4 600	2CSG280405R1000	65.25
800	0.5	CT1M-4 800	2CSG280355R1000	65.25
1000	0.5	CT1M-5 1000	2CSG280365R1000	90.75

CT1M-6 & CT1M-7 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
250	0.5	CT1M-6 250	2CSG280415R1000	101.30
300	0.5	CT1M-6 300	2CSG280425R1000	101.30
400	0.5	CT1M-6 400	2CSG280435R1000	101.30
500	0.5	CT1M-6 500	2CSG280445R1000	101.30
600	0.5	CT1M-6 600	2CSG280455R1000	101.30
800	0.5	CT1M-6 800	2CSG280465R1000	101.30
1000	0.5	CT1M-6 1000	2CSG280475R1000	121.50
1200	0.5	CT1M-6 1200	2CSG280485R1000	131.30
1500	0.5	CT1M-6 1500	2CSG280495R1000	131.30
2000	0.5	CT1M-6 2000	2CSG280505R1000	176.30
2500	0.5	CT1M-7 2500	2CSG280515R1000	176.30

CT1M-8 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
600	0.5	CT1M-8 600	2CSG280525R1000	146.30
800	0.5	CT1M-8 800	2CSG280535R1000	146.30
1000	0.5	CT1M-8 1000	2CSG280545R1000	176.30
1200	0.5	CT1M-8 1200	2CSG280555R1000	191.30
1500	0.5	CT1M-8 1500	2CSG280565R1000	191.30
2000	0.5	CT1M-8 2000	2CSG280575R1000	258.80

CT1M SERIES CURRENT TRANSFORMERS

NEW PRODUCT

CT1M-10 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
600	0.5	CT1M-10 600	2CSG280605R1000	168.80
800	0.5	CT1M-10 800	2CSG280615R1000	168.80
1000	0.5	CT1M-10 1000	2CSG280625R1000	202.50
1200	0.5	CT1M-10 1200	2CSG280635R1000	217.50
1250	0.5	CT1M-10 1250	2CSG280705R1000	202.50
1500	0.5	CT1M-10 1500	2CSG280645R1000	217.50
2000	0.5	CT1M-10 2000	2CSG280655R1000	292.50
2500	0.5	CT1M-10 2500	2CSG280585R1000	292.50
3000	0.5	CT1M-10 3000	2CSG280595R1000	318.80
4000	0.5	CT1M-10 4000	2CSG280715R1000	337.50

CT1M-12 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
3000	0.5	CT1M-12 3000	2CSG280665R1000	360.00
4000	0.5	CT1M-12 4000	2CSG280675R1000	378.80
5000	0.5	CT1M-12 5000	2CSG280685R1000	435.00
6000	0.5	CT1M-12 6000	2CSG280695R1000	435.00

CT1M-S-30 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
100	1	CT1M-S-30 100	2CSG280725R1000	337.50
150	1	CT1M-S-30 150	2CSG280735R1000	337.50
250	1	CT1M-S-30 250	2CSG280745R1000	337.50
400	0.5	CT1M-S-30 400	2CSG280755R1000	337.50

CT1M-S-80 .../5 A Series



Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
250	0.5	CT1M-S-80 250	2CSG280765R1000	401.30
400	0.5	CT1M-S-80 400	2CSG280775R1000	401.30
500	0.5	CT1M-S-80 500	2CSG280785R1000	401.30
600	0.5	CT1M-S-80 600	2CSG280795R1000	401.30
800	0.5	CT1M-S-80 800	2CSG280805R1000	401.30
1000	0.5	CT1M-S-80 1000	2CSG280815R1000	483.80

CT1M-S-120 .../5 A Series



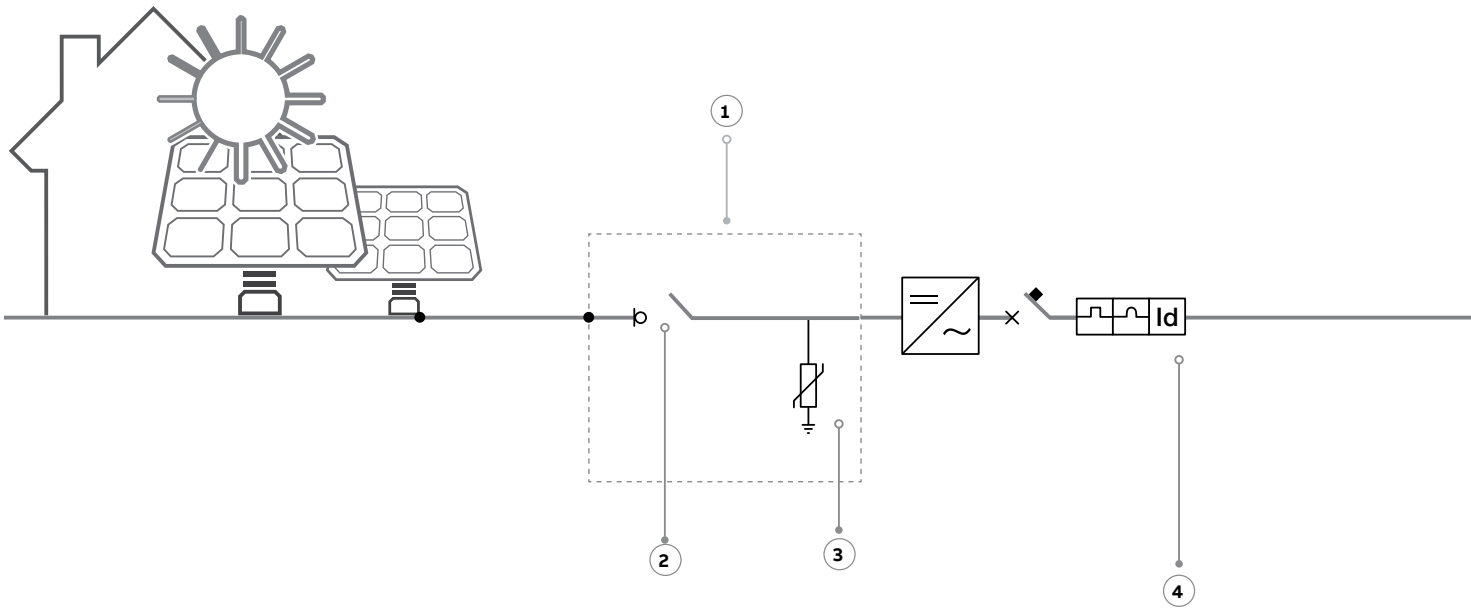
Primer Current (A)	Sensitivity Class (Cl)	Type	Code	Price (EUR)
800	0.5	CT1M-S-120 800	2CSG280825R1000	536.30
1200	0.5	CT1M-S-120 1200	2CSG280835R1000	701.30
1500	0.5	CT1M-S-120 1500	2CSG280845R1000	701.30

CT1M DIN Rail Adapters



Type	Code	Price (EUR)
CT1M-2 DIN Rail Adapter	2CSG428309R1000	4.50
CT1M-3 DIN Rail Adapter	2CSG428310R1000	4.50
CT1M-4/5/6/7 DIN Rail Adapter	2CSG428311R1000	4.95

FOR PV SYSTEMS
Low voltage product solutions



Low voltage products:

1 - **String boxes**
Panolar: Gemini
Consumer units Mistral
Circuit breakers: S200 M UC Z, S800 PV-SP
Fuse holders: E 90 PV
Fuse links E 9F PV
Spring-loaded and screw terminals: SNK PI

2 - Switch disconnectors: OTDC, S800 PV-SD

3 - Surge protective devices: OVR PV QS

4 - Residual current devices: F202B, F204B

5 - Energy meters: EQ counters and current transformers

6 - Contactors: AF Series
Grid feeding monitoring relays: CM-UFD.Mxx
Power supplies: CP-x

7 - Fuse holders: E 90

8 - Surge protective devices: OVR T1 / T1-T2 / T2 QS

9 - Residual current circuit breakers: DS202C



1



2



3



4

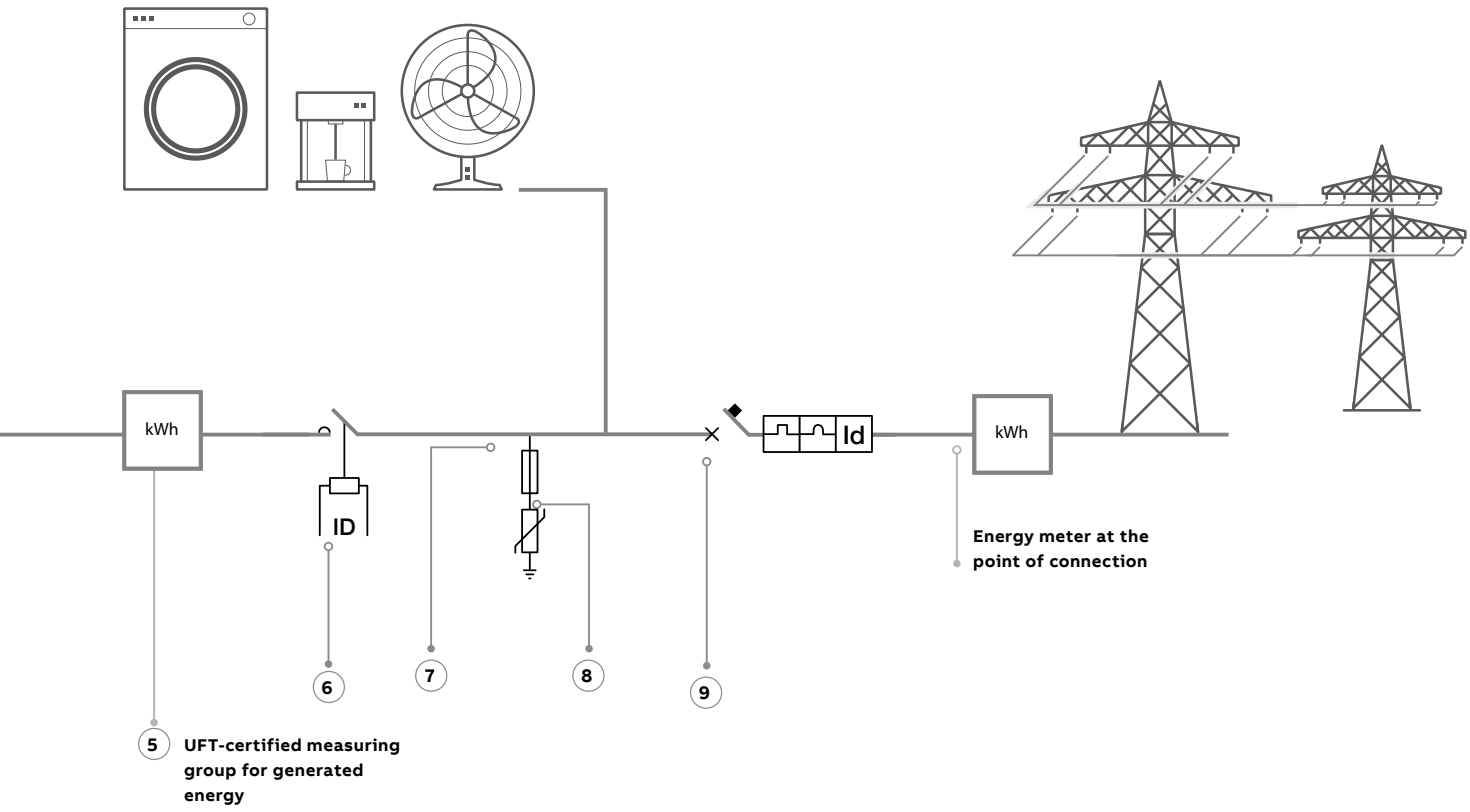


5



5

For information on compact and open-type circuit breakers used in solar applications, please refer to pages 172, 173, 174, and 175.

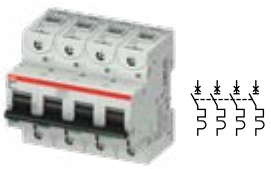

kWh
ID
Id
kWh
6
7
8
9
5
UFT-certified measuring group for generated energy
Energy meter at the point of connection



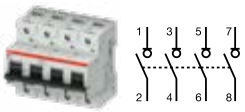
6 6 7 8 9

FOR PV SYSTEMS
Low voltage product solutions

—
S800PV-SP string protection fuse standard IEC/EN 60947-2 Annex P Icu=5kA

PV-SP	Area of use: PV systems					
	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
 S804PV-SP	4	5	1	S804PV-SP5	2CCF019586R0001	478.20
		6	1	S804PV-SP6	2CCF019647R0001	478.20
		8	1	S804PV-SP8	2CCF019648R0001	478.20
		10	1	S804PV-SP10	2CCF019622R0001	478.20
		13	1	S804PV-SP13	2CCF019623R0001	478.20
		16	1	S804PV-SP16	2CCF019624R0001	478.20
		20	1	S804PV-SP20	2CCF019625R0001	478.20
		25	1	S804PV-SP25	2CCF019626R0001	478.20
		32	1	S804PV-SP32	2CCF019627R0001	478.20
		40	1	S804PV-SP40	2CCF019628R0001	534.50
		50	1	S804PV-SP50	2CCF019629R0001	534.50
		63	1	S804PV-SP63	2CCF019630R0001	534.50
		80	1	S804PV-SP80	2CCF019631R0001	691.00
	Ue: 1500V DC	100	1	S804PV-SP100	2CCF019632R0001	691.00

—
S800PV-SD DC main disconnector switch standard IEC/EN 60947-3 Icw=1.5kA

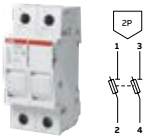
PV-SD	Area of use: PV systems					
	Number of poles	Rated current (A)	Minimum order quantity	Type	Code	Price (EUR)
 S804PV-SD	4	32	1	S804PV-SD32	2CCF019640R0001	383.50
		63	1	S804PV-SD63	2CCF019641R0001	451.70
	Ue: 1500V DC	125	1	S804PV-SD125	2CCF019642R0001	712.70

—
PV surge protective devices

	Area of use: PV systems			
	Description	Type	Code	Price (EUR)
 OVR PV T1 6.25-600 P TS	**Type 1+2, DC surge protective devices for PV applications, 3 phase (+,-,PE)**			
	1000 V	OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	295.60
	1500 V	OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	362.30
 OVR PV T2 40-1000 P QS	**Replacement fuse link for OVR PV surge protective devices**			
	Class 1+2, 1000 V, 5 kA fuse link	OVR PV T1-T2 5-1000 C QS	2CTB812052R1000	68.83
	Class 1+2, 1500 V, 5 kA fuse link	OVR PV T1-T2 5-1500 C QS	2CTB812052R1500	77.65

FOR PV SYSTEMS
Low voltage product solutions

—
PV fuse holders

	Description	Minimum order quantity	Type	Code	Price (EUR)
 E91/32 PV	**32A for 10.3x38 mm fuse links.**				
	1 phase	6	E 91/32 PV	2CSM204713R1801	7.19
	1 phase	6	E 91/32 PVs	2CSM204693R1801	10.13
	2 phase	3	E 92/32 PV	2CSM204703R1801	15.28
	2 phase	3	E 92/32 PVs	2CSM256913R1801	22.37

*s: version with indicator

—
PV fuse links

	Size	Rated voltage (VDC)	Rated current (A)	Breaking capacity (kA)	Type	Code	Price (EUR)
	10.3x38	1000	8	10	E 9F8 PV	2CSM213526R1801	22.73
	10.3x38	1000	10	10	E 9F10 PV	2CSM213536R1801	23.36
	10.3x38	1000	12	10	E 9F12 PV	2CSM213546R1801	23.36
	10.3x38	1000	15	10	E 9F15 PV	2CSM213556R1801	23.36
	10.3x38	1000	20	10	E 9F20 PV	2CSM213566R1801	23.36
	10.3x38	1000	25	10	E 9F25 PV	2CSM213576R1801	23.36
	10.3x38	1000	30	10	E 9F30 PV	2CSM213586R1801	23.36

—
PV fuse holders
1500VDC 32A for 10×85 mm and 14×85 mm fuse links

	Description	Minimum order quantity	Type	Code	Price (EUR)
	1 Phase	3	E91/32 PV1500e	2CSM202041R1801	23.93

—
PV fuse links

	Size	Rated voltage (VDC)	Rated current (A)	Breaking capacity (kA)	Type	Code	Price (EUR)
	10 x 85	1500	8	50	E9F8 PV1500	2CSM205315R1801	22.73
	10 x 85	1500	10	50	E9F10 PV1500	2CSM205325R1801	22.73
	10 x 85	1500	12	50	E9F12 PV1500	2CSM205335R1801	22.73
	10 x 85	1500	15	50	E9F15 PV1500	2CSM205345R1801	22.73
	10 x 85	1500	20	50	E9F20 PV1500	2CSM206875R1801	22.73
	10 x 85	1500	25	50	E9F25 PV1500	2CSM206895R1801	22.73
	10 x 85	1500	30	50	E9F30 PV1500	2CSM206905R1801	29.39
	10 x 85	1500	32	50	E9F32 PV1500	2CSM206925R1801	29.39

FOR PV SYSTEMS
Low voltage product solutions

—
Grid feeding monitoring relays

	Description	Type	Code	Price (EUR)
 CM-UFD.M31	24-240 V AC/DC, 1 and 3 phase network, 50Hz Monitoring functions: Low-high voltage, low-high frequency, frequency change ratio, 10 minutes average value (Standard: VDE-AR-N 4105 ve BDEW)	CM-UFD.M31	1SVR560730R3401	2,034.70

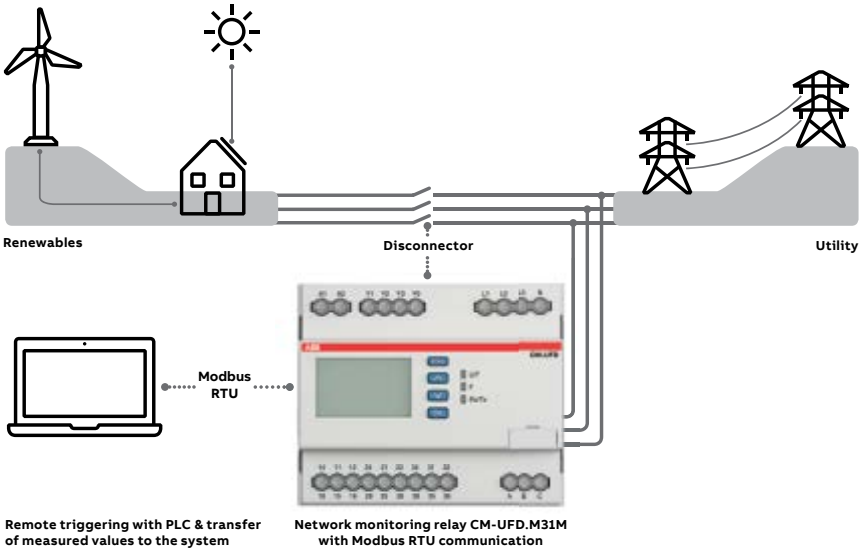
—
The new CM-UFD.M31M is equipped with an RS485 interface based on the Modbus RTU communication protocol. Through this communication interface:

- Visualization of process data
- Storage of process data
- Remote triggering is possible

Please contact our sales office for more information.

You can see our Turkish instructions document for CM-UFD.M31(M) connections and settings.





Remote triggering with PLC & transfer of measured values to the system

Network monitoring relay CM-UFD.M31M with Modbus RTU communication

FOR PV SYSTEMS
Low voltage product solutions

—
Switch disconnectors and circuit breakers for PV applications


OTDC


TMAX PV


TMAX XT

OTDC Switch Disconnector
OTDC switch disconnectors are designed to provide you with reliable and simple operating conditions while minimizing heat generation and power losses. Compliant with IEC and UL standards, up to 1500V DC, 16A-1600A current range, 2-3-4-6 pole options are available.

TMAX PV Switch Disconnectors
Tmax PV molded case switch disconnectors are 4-pole disconnectors that increase the safety and ease of installation of the system and can operate up to 1500V DC, 160A - 1600A current range with its design in accordance with IEC and UL standards.

TMAX XT Circuit Breaker
Tmax XT molded case circuit breakers have a maximum short circuit breaking capacity of 100kA with a current range of 16A - 250A, up to 500V DC. With 3 and 4 pole types, it offers different mounting options such as plug-in, fixed and withdrawable.

TMAX T Circuit Breaker
Tmax T molded case circuit breakers have a maximum short circuit breaking capacity of 150kA in the current range of 250A - 1000A up to 750V DC and maximum 40kA in the current range of 250A - 800A up to 1000V DC. With 3 and 4 pole types, it offers different mounting options such as plug-in, fixed and withdrawable.

Please contact our sales offices for more information.

—
OTDC switch disconnectors, 1000V


OTDC315...500F11

Number of poles	Rated current In(A) (DC21/1000V)	Type	Code	Price (EUR)
Handle and shaft not included.				
2	100	OTDC100E11	1SCA125821R1001	236.10
2	160	OTDC160E11	1SCA123745R1001	274.20
2	200	OTDC200E11	1SCA125626R1001	285.60
2	250	OTDC250E11	1SCA125865R1001	293.20
2	315	OTDC315F11	1SCA158172R1001	388.50
2	400	OTDC400F11	1SCA158196R1001	394.50
2	500	OTDC500F11	1SCA158220R1001	450.80
2	630	OTDC630F11	1SCA158244R1001	467.60

—
OTDC switch disconnectors, 1500V


OTDC315...500FV11K

Number of poles	Rated current In(A) (DC21B/1500V)	Type	Code	Price (EUR)
Direct mounted handle comes as standard.				
2	315	OTDC315FV11K	1SCA158260R1001	528.80
2	400	OTDC400FV11K	1SCA158268R1001	543.10
2	500	OTDC500FV11K	1SCA158276R1001	827.40
Selector handle and shaft supplied as standard.				
2	315	OTDC315FV11P	1SCA158460R1001	534.80
2	400	OTDC400FV11P	1SCA158447R1001	543.10
2	500	OTDC500FV11P	1SCA158426R1001	900.00
2	630	OTDC630FV11P	1SCA158414R1001	1,200.00

—
OTDC accessories


OTDV250EK

Description	Type	Code	Price (EUR)
Handle			
Direct mounting black handle for OTDC100...250E	OTDV250EK	1SCA127390R1001	38.18
Direct mounted black handle for OTDC315...1000F_	OTDV400FK1	1SCA157315R1001	55.81
Black pistol handle for OTDC100...250E	OHB65J6	1SCA022380R9660	33.31
Black pistol handle for OTDC315...1000F_	OHB95J12	1SCA022381R0830	43.69
Shaft			
150mm shaft for OTDC100...250E	OXP6X150	1SCA022295R5600	14.65
210mm shaft for OTDC100...250E	OXP6X210	1SCA022295R6080	11.96
166mm shaft for OTDC315...1000F_	OXP12X166	1SCA022325R7100	12.43
250mm shaft for OTDC315...1000F_	OXP12X250	1SCA022325R6980	12.86

DC SWITCH DISCONNECTORS FROM 16 A TO 1600 A
In short, the optimal solution.

OTDC switch disconnectors are designed to provide you with reliable and simple operating conditions while minimizing heat generation and power losses. The OTDC product range covers 2-pole switch disconnectors for 1000 V DC and 3-pole switch disconnectors for 1500 V DC from 16 A to 1600 A. Thanks to its modular design, OTDC can adapt to a wide range of installation requirements.





SWITCH DISCONNECTORS
Fuse switch disconnectors

OS switch fuses, 3-pole


OS160GD12


OS630D03P

	Rated current In(A) (AC20-23, <690V)	Fuse size to be used - NH	Type	Code	Price (EUR)
	32A	000-00	OS32GD12P	1SCA114581R1001	277.00
	63A	000-00	OS63GD12P	1SCA115227R1001	369.00
	125A	000-00	OS125GD12P	1SCA115641R1001	385.10
	160A	000-00	OS160GD12P	1SCA115643R1001	434.00
	250A	0-1	OS250D03P	1SCA022719R0090	651.20
	400A	0-2	OS400D03P	1SCA022719R0250	985.20
	630A	3	OS630D03P	1SCA022825R2830	1,516.00
	800A	3	OS800D03P	1SCA022825R4880	3,200.00
	1250A	4	OS1250D03P	1SCA105475R1001	3,909.00

OS32...1250, without fuse. You can choose from the fuse links on page 90.
*Please contact our sales offices for motorized types.


OHB65J6

Standard supplied accessories with OS fuse switch disconnectors

Disconnector type	Shaft type	Latch type	Terminal bolts
OS32...63_P	OXP6X161	OHB65J6	-
OS125...160_P	OXP6X161	OHB65J6	M6x20
OS200_P	OXP6X210	OHB65J6	M8x25
OS250_P	OXP6X210	OHB65J6	M10x30
OS400_P	OXP12X250	OHB95J12	M10x30
OS630...800_P	OXP12X280	OHB145J12	M12x40
OS1250_P	OXP12X395	OHB200J12P	M12x60

OS switch disconnector accessory


OHB145J12


OFS 260,690

	Description	Type	Code	Price (EUR)
	Latch			
	Black plastic for OS32...250, lockable in '0' position.	OHB65J6	1SCA022380R9660	33.31
	Black plastic for OS315...400, lockable in '0' position.	OHB95J12	1SCA022381R0830	43.69
	Black plastic for OS630...800, lockable in "0" position.	OHB145J12	1SCA022381R2110	53.44
	Black plastic for OS1250, lockable in '0' position.	OHB150J12P	1SCA022865R9430	110.00
	Black plastic for OS1250, lockable in '0' position.	OHB200J12P	1SCA022865R9510	113.70
	Shaft			
	430mm shaft for OS32...250	OXP6X430	1SCA022056R6030	13.93
	535mm shaft for OS400...1250	OXP12X535	1SCA022042R6110	41.03
	Auxiliary contact block			
	1NA for OS32...1250	OA1G10	1SCA022353R4970	13.93
	1NK for OS32...1250	OA3G01	1SCA022456R7410	19.26
	Fuse monitoring module (1NA+1NK)			
	100...260VAC rated voltage, OS32G...1250	OFS260	1SCA022716R0180	219.90
	380...690VAC rated voltage, OS32G...1250	OFS690	1SCA022715R9920	219.90

SWITCH DISCONNECTORS
Fuse switch disconnectors

—
XLP-fuse holder. 3-pole

	Rated current In(A)	Rated voltage (V)	Fuse size to be used - NH	Type	Code	Price EUR/Piece
 XLP1-3P	100/50	400-690	00 (max. 21 mm)	XLP 000-6CC	1SEP201428R0002	96.56
	160/63	400-800	00	XLP 00-6BC	1SEP101890R0002	65.73
	250/160	400-800	1	XLP 1-6BC	1SEP101891R0002	237.40
	400/315	400-690	2	XLP 2-6BC	1SEP101892R0002	420.80
	630/500	400-690	3	XLP 3-6BC	1SEP101975R0002	576.70

—
XLP-fuse holder. 1-pole

	Rated current In(A)	Rated voltage (V)	Fuse size to be used - NH	Type	Code	Price EUR/Piece
 XLP00-1P	160/125	500-690	00	XLP00-1P-2BC	1SEP600113R0002	277.20
	250/200	500-690	1	XLP1-1P-2BC	1SEP600116R0002	24.95
	400/315	500-690	2	XLP2-1P-2BC	1SEP600122R0002	140.80
	630/500	500-690	3	XLP3-1P-2BC	1SEP600126R0002	475.90

—
XLP-fuse holder. 2-pole

	Rated current In(A)	Rated voltage (V)	Fuse size to be used - NH	Type	Code	Price EUR/Piece
 XLP1-2P	160/125	500-690	00	XLP00-2P-4BC	1SEP600114R0002	254.60
	250/200	500-690	1	XLP1-2P-4BC	1SEP600117R0002	55.05
	400/315	500-690	2	XLP2-2P-4BC	1SEP600123R0002	144.80
	630/500	500-690	3	XLP3-2P-4BC	1SEP600127R0002	229.20

—
XLP-fuse holder. 4-pole

	Rated current In(A)	Rated voltage (V)	Fuse size to be used - NH	Type	Code	Price EUR/Piece
 XLP2-4P	160A	500	00	XLP00-4P-8BC	1SEP600115R0002	344.60
	250A	500	1	XLP1-4P-8BC	1SEP600119R0002	88.93
	400A	500	2	XLP2-4P-8BC	1SEP600124R0002	245.00
	630A	500	3	XLP3-4P-8BC	1SEP600128R0002	412.40

- XLP000...XLP3 does not include a fuse. You can choose from the fuse links on page 90.

SWITCH DISCONNECTORS
Fuse switch disconnectors

Inline2-Vertical fuse switch disconnectors


ZLBM 00 160A

Size	Type	Code	Price (EUR)
160A, single phase tripping, 185 mm busbar connection	ZLBM00-1P-M8	1SEP620010R1000	10.39
160A, three phase tripping, 185 mm busbar connection	ZLBM00-3P-M8	1SEP620010R3000	44.45
250A, single phase tripping, 185 mm busbar connection	ZLBM1-1P-M12	1SEP620011R1000	44.45
250A, three phase tripping, 185 mm busbar connection	ZLBM1-3P-M12	1SEP620011R3000	8.42
400A, single phase tripping, 185 mm busbar connection	ZLBM2-1P-M12	1SEP620012R1000	165.10
400A, three phase tripping, 185 mm busbar connection	ZLBM2-3P-M12	1SEP620012R3000	165.10
400A, single phase side output, 185mm busbar connection	ZLBM2-1P-BC-Right	1SEP622028R0002	290.90
400A, three phase side output, 185mm busbar connection	ZLBM2-3P-BC-Right	1SEP622028R0001	290.90
630A, single phase tripping, 185 mm busbar connection	ZLBM3-1P-M12	1SEP620013R1000	260.50
630A, three phase tripping, 185 mm busbar connection	ZLBM3-3P-M12	1SEP620013R3000	260.50
630A, three phase side output, 185mm busbar connection	ZLBM3-3P-BC-Right	1SEP622030R0001	378.20

*ZLBM00, ZLBM1, ZLBM2, ZLBM3 do not include fuse. Choose from the fuse links on page 90.
*ZLBM00, ZLBM1, ZLBM2, ZLBM3 are suitable for 800VAC operation. For details, please see the related **brochure**.

Inline2 accessories


Label holder


Temporary supply connection


Mounting kit for IP


Auxiliary contact

Identification	Type	Code	Price (EUR)
ZLBM 00 accessories			
ZLBM00 Label holder	LH-ZLBM/ZHBM00	1SEP619208R0001	315.40
ZLBM00 Cable protection cover (86mm)	CS-ZLBM00-L86	1SEP619690R0001	5.27
ZLBM00 Cable protection cover (177mm)	CS-ZLBM00-L177	1SEP619207R0001	790.00
ZLBM00 Ammeter holder (for 48x48 mm A-meter)	AMH-ZLBM/ZHBM00-48	1SEP619209R0001	566.60
Current transformer kit 160/5A 2.5VA cl.1 (3pcs.)	CT-ZLBM00-160/5-1-BB	1SEP408149R0001	257.60
ZLBM 1/2/3 accessories			
ZLBM123 Label holder	LH-ZLBM/ZHBM123	1SEP619214R0001	3.78
ZLBM123 Cable protection cover (86mm)	CS-ZLBM123-L86	1SEP619211R0001	7.09
ZLBM123 Cable protection cover (177mm)	CS-ZLBM123-L177	1SEP619210R0001	1,077.00
ZLBM123 Ammeter holder (for 72x72 mm A-meter)	AMH-ZLBM/ZHBM123-72	1SEP619215R0001	7.93
ZLBM Current transformer kit 200A/5A 3,75VA cl.1 (3 pcs.)	CT-ZLBM123-200/5-1-BB	1SEP408149R0002	455.70
ZLBM Current transformer kit 400A/5A 5VA cl.1 (3 pcs.)	CT-ZLBM123-400/5-1-BB	1SEP408149R0003	630.80
ZLBM Current transformer kit 600A/5A 5VA cl.1 (3 pcs.)	CT-ZLBM123-600/5-1-BB	1SEP408149R0004	84.23
ZLBM Current transformer kit 600A/5A 5VA cl.0,5 (3 pcs.)	CT-ZLBM123-600/5-0.5-BB	1SEP408149R0005	264.40
ZLBM 123 Temporary supply connection	HP-ZLBM123	HP-ZLBM123	481.80
Mounting kit for ZLBM 2x400/630A-3P	KFM-ZLBM/ZHBM23-3P	1SEP619216R0001	34.01
Mounting kit for ZLBM 2x400/630A-1P	KFM-ZLBM/ZHBM23-1P	1SEP621008R0001	35.64
ZLBM common accessories			
ZLBM Auxiliary contact 1K Aux switch NC	MS-ZLBM/ZHBM-NC	1SEP619554R0001	10.39
ZLBM Auxiliary contact 1A Aux switch NO	MS-ZLBM/ZHBM-NO	1SEP619555R0001	14.87
Padlock extension (up to 3 locks)	PE-XR	1SEP408753R0001	272.70

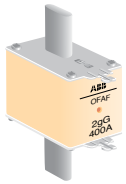
SWITCH DISCONNECTORS
Fuse links

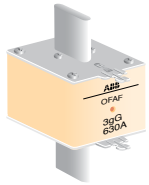
DIN gG type fuse links with double indicator ≤ 500VAC


OFAF000H_


OFAF00H_


OFAF1H_


OFAF2H_


OFAF3H_

	Size	Width (mm)	Rated current In (A)	Minimum order quantity	Type	Code	Price (EUR)
	000	21	2	9	OFAF000H2	1SCA022627R0230	12.20
	000	21	4	9	OFAF000H4	1SCA022627R0310	7.45
	000	21	6	9	OFAF000H6	1SCA022627R0400	7.45
	000	21	10	9	OFAF000H10	1SCA022627R0580	7.45
	000	21	16	9	OFAF000H16	1SCA022627R0660	7.45
	000	21	20	9	OFAF000H20	1SCA022627R0740	7.45
	000	21	25	9	OFAF000H25	1SCA022627R0820	7.45
	000	21	32	9	OFAF000H32	1SCA022627R0910	7.45
	000	21	35	9	OFAF000H35	1SCA022627R1040	7.45
	000	21	40	9	OFAF000H40	1SCA022627R1120	7.45
	000	21	50	9	OFAF000H50	1SCA022627R1210	7.45
	000	21	63	9	OFAF000H63	1SCA022627R1390	7.45
	000	21	80	9	OFAF000H80	1SCA022627R1470	7.45
	000	21	100	9	OFAF000H100	1SCA022627R1550	7.45
	00	30	125	3	OFAF00H125	1SCA022627R1630	10.17
	00	30	160	3	OFAF00H160	1SCA022627R1710	10.17
	1	40	200	3	OFAF1H200	1SCA022627R4490	18.02
	1	40	224	3	OFAF1H224	1SCA022627R4570	18.02
	1	40	250	3	OFAF1H250	1SCA022627R4650	18.02
	2	51	300	3	OFAF2H300	1SCA022627R5970	22.35
	2	51	315	3	OFAF2H315	1SCA022627R6010	22.35
	2	51	355	3	OFAF2H355	1SCA022627R6190	22.35
	2	51	400	3	OFAF2H400	1SCA022627R6270	22.35
	3	70	425	1	OFAF3H425	1SCA022627R6860	51.50
	3	70	450	1	OFAF3H450	1SCA022627R6940	51.50
	3	70	500	1	OFAF3H500	1SCA022627R7080	51.50
	3	70	630	1	OFAF3H630	1SCA022627R7160	51.50
	3	70	800	1	OFAF3H800	1SCA022627R7240	107.80
	4	89	1000	1	OFAF4H1000	1SCA022627R7750	409.50
	4	89	1250	1	OFAF4H1250	1SCA022627R7830	461.30
	4A	89	1000	1	OFAF4AH1000	1SCA022637R4280	409.50
	4A	89	1250	1	OFAF4AH1250	1SCA022637R4360	461.30

- It has a dual instrument system, one on top and one in the front center.
- gG fuse links can be used in general installation and industrial applications.
- Please contact our sales offices for the selection of aM blade fuses.

Technical data according to EN/IEC 60269
Fuse links are tested at the specified short circuit ratings.

Size			000	00	0	1	2	3	4
Max. current, AC	500 V	A	100	160	250	355	500	800	1250
	690 V	A	80	125	160	250	355	500	1000
Max. current, DC,	250 V	A	100	160			500	800	
time constant <20 ms	400 V	A			200	250	355	400	1250
	440 V	A				160	160		1000

Size			000...3	4	5
Breaking capacity, AC	500 V	kA	120	120	
	690 V	kA	80	160	160
Breaking capacity, DC	250 V	kA	40		
	400 V	kA	80	80	
	440 V	kA	80	80	80

SWITCH DISCONNECTORS
Non-fusible switch disconnectors

OT switch disconnectors, 3-poles


OT80F3


OT400E03P


OT3200E03P

Ith (A)	Rated current In(A) (AC22, 415V)	Short circuit making capacity Icm(kA)	Type	Code	Price (EUR)
25A	16A	0,7	OT16F3	1SCA104811R1001	33.91
32A	25A	0,7	OT25F3	1SCA104857R1001	36.52
40A	40A	0,7	OT40F3	1SCA104902R1001	43.27
63A	63A	1,4	OT63F3	1SCA105332R1001	67.61
80A	80A	2,1	OT80F3	1SCA105798R1001	77.60
115A	100A	3,6	OT100F3	1SCA105004R1001	99.70
125A	125A	3,6	OT125F3	1SCA105033R1001	111.60
160A	160A	12	OT160G03P	1SCA135139R1001	182.30
200A	200A	30	OT200E03P	1SCA022712R0800	263.70
250A	250A	30	OT250E03P	1SCA022710R0100	330.90
315A	315A	65	OT315E03P	1SCA022718R8510	432.40
400A	400A	65	OT400E03P	1SCA022718R8780	476.60
630A	630A	80	OT630E03P	1SCA022718R8940	619.60
800A	800A	80	OT800E03P	1SCA022718R9410	1,019.00
1000A	1000A	110	OT1000E03P	1SCA022860R5930	1,638.00
1250A	1250A	110	OT1250E03P	1SCA022860R6230	1,775.00
1600A	1600A	110	OT1600E03P	1SCA022860R6580	2,169.00
2000A	2000A	176	OT2000E03P	1SCA108036R1001	3,000.00
2500A	2500A	176	OT2500E03P	1SCA104972R1001	3,375.00
3200A	3200A	176	OT3200E03P	1SCA128481R1001	3,875.00

Please contact our sales offices for motorised types.

OT switch disconnectors, 4-poles


OT25F4N2


OT630E04P


OT2500E04P

Ith (A)	Rated current In(A) (AC22, 415V)	Short circuit making capacity Icm(kA)	Type	Code	Price (EUR)
25A	16A	0.7	OT16F4N2	1SCA104829R1001	45.30
32A	25A	0.7	OT25F4N2	1SCA104886R1001	47.75
40A	40A	0.7	OT40F4N2	1SCA104932R1001	55.26
63A	63A	1.4	OT63F4N2	1SCA105365R1001	88.80
80A	80A	2.1	OT80F4N2	1SCA105413R1001	98.77
100A	100A	3.6	OT100F4N2	1SCA105018R1001	128.10
125A	125A	3.6	OT125F4N2	1SCA105051R1001	138.70
160A	160A	12	OT160G04P	1SCA135140R1001	329.10
200A	200A	30	OT200E04P	1SCA022713R4930	350.10
250A	250A	30	OT250E04P	1SCA022710R0520	434.00
315A	315A	65	OT315E04P	1SCA022719R1730	562.40
400A	400A	65	OT400E04P	1SCA022719R1810	618.80
630A	630A	80	OT630E04P	1SCA022719R2030	807.70
800A	800A	80	OT800E04P	1SCA022719R2110	1,313.00
1000A	1000A	110	OT1000E04P	1SCA022860R6150	2,131.00
1250A	1250A	110	OT1250E04P	1SCA022860R6310	2,287.00
1600A	1600A	110	OT1600E04P	1SCA022860R6740	2,712.00
2000A	2000A	176	OT2000E04P	1SCA108038R1001	3,875.00
2500A	2500A	176	OT2500E04P	1SCA105140R1001	4,075.00
3200A	3200A	176	OT3200E04P	1SCA128482R1001	5,019.00
3800A	3800A	176	OT4000E04P	1SCA124856R1001	7,943.00

Please contact our sales offices for motorised types.
Check the next page for the standard accessories shipped with OT switch disconnectors

SWITCH DISCONNECTORS
Non-fusible switch disconnectors

Standard supplied accessories with OT switch disconnectors

Disconnector type	Shaft type	Latch type	Terminal bolts
OT16...125F3	-	-	IP20
OT160G03P	OXP6X210	OHB65J6	-
OT200...250_P	OXP6X210	OHB65J6	M8x25
OT315...400_P	OXP12X185	OHB95J12	M10x30
OT630...800_P	OXP12X185	OHB125J12	M12x40
OT1000...1250_P	OXP12X280	OHB200J12P	M12x50
OT1600_P	OXP12X280	OHB200J12P	M12x60
OT2000...2500_P	OXP12X280	OHB200J12P	M12x60
OT3200...4000_P	OXP12X280	OHB274J12	M12x60

OT16...125F3,_F4 is mounted on DIN rail. Shaft and handle for operation from the panel cover must be ordered separately.

OT switch disconnector accessories

	Description	Type	Code	Price (EUR)
	Handle			
 OHB1AH OHY1AH	Black plastic for OT16...80F, IP54*	OHBS1AH	1SCA102680R1001	11.32
	Yellow red plastic for OT16...80F, IP54*	OHYS1AH	1SCA105290R1001	13.56
	Black plastic for OT16...125F, IP65, lockable in "0" position.*	OHBS2AJ	1SCA105213R1001	12.44
	Yellow red plastic for OT16...125F, IP65, lockable in "0" position.*	OHYS2AJ	1SCA105296R1001	14.65
	Black plastic for OT200...250_, lockable in '0' position.	OHB65J6T	1SCA022399R8110	40.12
 OHB65J6T	Black plastic for OT315...400_, lockable in '0' position.	OHB95J12	1SCA022381R0830	43.69
	Black plastic for OT630...800_, lockable in '0' position.	OHB125J12	1SCA022381R1560	49.05
	Black plastic for OT1000...2500_, lockable in '0' position.	OHB150J12P	1SCA022865R9430	110.00
	Black plastic for OT1000...4000_, lockable in '0' position.	OHB274J12	1SCA115920R1001	190.10
	Shaft			
	85 mm shaft** for OT16...125F and OT160G	OXS6X85	1SCA101647R1001	11.20
	120 mm shaft** for OT16...125F and OT160G	OXS6X120	1SCA101654R1001	11.20
 OXS6X_	160 mm shaft** for OT16...125F and OT160G	OXS6X160	1SCA101656R1001	11.20
	180 mm shaft** for OT16...125F and OT160G	OXS6X180	1SCA101659R1001	11.20
	250 mm shaft** for OT16...125F and OT160G	OXS6X250	1SCA101660R1001	11.20
	330 mm shaft** for OT16...125F and OT160G	OXS6X330	1SCA101661R1001	11.20
	455 mm shaft for OT16...125F**	OXS6X455	1SCA101662R1001	15.23
	500 mm shaft for OT200...250	OXP6X500	1SCA109416R1001	15.93
	535 mm shaft for OT315...3200	OXP12X535	1SCA022042R6110	41.03
	Auxiliary contact block			
 OA1G_	1NA for OT16...4000	OA1G10	1SCA022353R4970	13.93
	1NK for OT16...125F and OT160G	OA1G01	1SCA022353R4890	13.93
	1NK for OT200...4000	OA3G01	1SCA022456R7410	19.26
	1NA+1NK for OT16...125F	OA2G11	1SCA022379R8100	26.16
	Terminal cover			
 OTS25061L3	Long terminal cover for OT160...250, 3 pcs	OTS250G1L/3	1SCA022731R8150	46.78
	Long terminal cover for OT315...400, 3 pcs	OTS400G1L/3	1SCA022736R8840	61.25
	Long terminal cover for OT630...800, 3 pcs	OTS800G1L/3	1SCA022776R7890	97.86
	Long terminal cover for OT1000...1600, 3 pcs	OTS1600G1L/3	1SCA022871R9510	126.60
	Long terminal cover for OT2000...2500, 3 pcs	OTS2500G1L/3	1SCA107261R1001	143.20
	Long terminal cover for OT3200...4000, 3 pcs	OTS4000G1L/3	1SCA129042R1001	220.80

* Selector handle
** Shaft for selector handle
*** Shafts for selector handles are not suitable for use with pistol handles.

SWITCH DISCONNECTORS
Cam switch disconnectors (lockable in position “O”)

—
Cam switch disconnectors, 3 poles


OT_FT3HS_ST


OT_F3HS5X6ST_

	Ith (A)	Rated current In(A) (AC22, 415V)	Short circuit making capacity Icm (kA)	Type	Code	Price (EUR)
	Including yellow-red handle, panel cover mounted, 3-pole					
	25A	16A	0,7	OT16FT3HY3ST1	1SCA104848R1001-B	35.94
	32A	25A	0,7	OT25FT3HY3ST1	1SCA104897R1001-B	38.79
	40A	40A	0,7	OT40FT3HY3ST1	1SCA104953R1001-B	53.99
	63A	63A	1,4	OT63FT3HY7ST2	1SCA105391R1001-B	80.42
	80A	80A	2,1	OT80FT3HY7ST2	1SCA1054 41R1001-B	83.23
	115A	100A	3,6	OT100FT3HY7ST4	1SCA105030R1001-B	138.70
	125A	125A	3,6	OT125FT3HY7ST4	1SCA105065R1001-B	147.00
	Including black handle, panel cover mounted, 3-pole					
	25A	16A	0,7	OT16FT3HS3ST1	1SCA110539R1001-B	39.09
	32A	25A	0,7	OT25FT3HS3ST1	1SCA104892R1001-B	41.51
	40A	40A	0,7	OT40FT3HS3ST1	1SCA104948R1001-B	57.23
	63A	63A	1,4	OT63FT3HS7ST2	1SCA105388R1001-B	83.66
	80A	80A	2,1	OT80FT3HS7ST2	1SCA105438R1001-B	95.65
	115A	100A	3,6	OT100FT3HS7ST4	1SCA105027R1001-B	142.20
	125A	125A	3,6	OT125FT3HS7ST4	1SCA105063R1001-B	149.60
	Including yellow-red handle and 120 mm shaft, mounted on DIN rail or mounting plate, 3-pole					
	25A	16A	0,7	OT16F3HY5X6ST1	1SCA104827R1001-B	41.51
	32A	25A	0,7	OT25F3HY5X6ST1	1SCA104872R1001-B	42.87
	40A	40A	0,7	OT40F3HY5X6ST1	1SCA104928R1001-B	49.93
	63A	63A	1,4	OT63F3HY5X6ST2	1SCA105363R1001-B	67.94
	80A	80A	2,1	OT80F3HY5X6ST2	1SCA105411R1001-B	83.23
	115A	100A	3,6	OT100F3HY5X6ST4	1SCA105016R1001-B	110.80
	125A	125A	3,6	OT125F3HY5X6ST4	1SCA105049R1001-B	116.60
	Including black handle and 120 mm shaft, mounted on DIN rail or mounting plate, 3-pole					
	25A	16A	0,7	OT16F3HS5X6ST1	1SCA104824R1001-B	41.48
	32A	25A	0,7	OT25F3HS5X6ST1	1SCA104870R1001-B	42.87
	40A	40A	0,7	OT40F3HS5X6ST1	1SCA104924R1001-B	49.93
	63A	63A	1,4	OT63F3HS5X6ST2	1SCA105356R1001-B	67.94
	80A	80A	2,1	OT80F3HS5X6ST2	1SCA105410R1001-B	83.23
	115A	100A	3,6	OT100F3HS5X6ST4	1SCA105014R1001-B	110.80
	125A	125A	3,6	OT125F3HS5X6ST4	1SCA105047R1001-B	116.60

SWITCH DISCONNECTORS
Cam switches

OT cam switch accessories


OTP_40


OTP_80

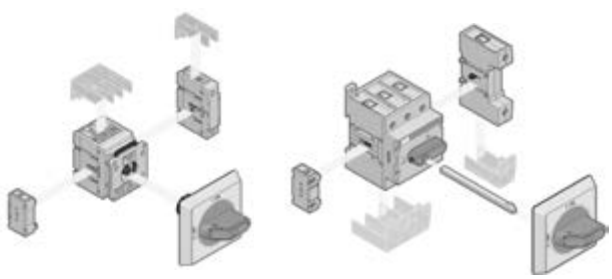

OA1G01


OXS6X_


OTS_T3


OTS_T1

	Description	Type	Code	Price (EUR)
	**Fourth pole with late-break and early make function**			
	OT16...40FT3	OTPL40FD	1SCA105716R1001	14.32
	OT63...80FT3	OTPL80FD	1SCA105451R1001	21.65
	OT100...125FT3	OTPL125FD	1SCA105088R1001	45.33
	OT16...40F3	OTPL40FP	1SCA105717R1001	14.32
	OT63...80F3	OTPL80FP	1SCA105452R1001	21.65
	OT100...125F3	OTPL125FP	1SCA105090R1001	45.33
	**Neutral terminal**			
	OT16...40FT3	OTPN40FD	1SCA105718R1001	12.54
	OT63...80FT3	OTPN80FD	1SCA105456R1001	14.90
	OT100...125FT3	OTPN125FD	1SCA105092R1001	39.45
	OT16...40F3	OTPN40FP	1SCA104997R1001	12.54
	OT63...80F3	OTPN80FP	1SCA105457R1001	14.90
	OT100...125F3	OTPN125FP	1SCA105094R1001	39.45
	**Protective earth module**			
	OT16...40FT3	OTPE40FD	1SCA109884R1001	12.54
	OT63...80FT3	OTPE80FD	1SCA105446R1001	14.90
	OT100...125FT3	OTPE125FD	1SCA105698R1001	39.45
	OT16...40F3	OTPE40FP	1SCA104995R1001	12.54
	OT63...80F3	OTPE80FP	1SCA105448R1001	14.90
	OT100...125F3	OTPE125FP	1SCA105128R1001	39.45
	Auxiliary contact block			
	OT16...125F3, -FT3, 1NK, left side mounted.	OA1G01	1SCA022353R4890	13.93
	OT16...125F3, -FT4, 1NA, right side mounted.	OA1G10	1SCA022353R4970	13.93
	Shaft			
	OT16...125F3, 160 mm mil	OXS6X160	1SCA101656R1001	11.20
	OT16...125F3, 180 mm mil	OXS6X180	1SCA101659R1001	11.20
	OT16...125F3, 250 mm mil	OXS6X250	1SCA101660R1001	11.20
	OT16...125F3, 330 mm mil	OXS6X330	1SCA101661R1001	11.20
	OT16...125F3, 455 mm mil	OXS6X455	1SCA101662R1001	15.23
	Transparent terminal cover, for 3 poles			
	OT16...40F3, -FT3	OTS40T3	1SCA105317R1001	7.39
	OT63...80F3, -FT3	OTS63T3	1SCA022353R6750	7.39
	OT100...125F3, -FT3	OTS125T3	1SCA022379R9680	7.39
	Transparent terminal cover, for 1 poles			
	OTP...40F	OTS40T1	1SCA105314R1001	10.51
	OTP...80F	OTS63T1	1SCA022353R6910	10.51
	OTP...125F	OTS125T1	1SCA022379R9760	10.51



SWITCH DISCONNECTORS
Transfer switches (I-O-II)

Manual operated change-over switches (I-O-II)

	Rated current In(A) (AC21, 415VAC)	Number of poles	Type	Code	Price (EUR)
 OT40F3C	16A	3 Poles	OT16F3C	1SCA104816R1001	116.60
	25A	3 Poles	OT25F3C	1SCA104863R1001	131.00
	40A	3 Poles	OT40F3C	1SCA104913R1001	164.10
	63A	3 Poles	OT63F3C	1SCA105338R1001	168.60
	80A	3 Poles	OT80F3C	1SCA105402R1001	252.40
 OT125F3C	100A	3 Poles	OT100F3C	1SCA105008R1001	323.20
	125A	3 Poles	OT125F3C	1SCA105037R1001	437.60
	160A	3 Poles	OT160E03CP	1SCA022772R6510	624.30
	200A	3 Poles	OT200E03CP	1SCA022771R7520	678.60
	250A	3 Poles	OT250E03CP	1SCA022771R3450	872.60
 OT250EO3CP	315A	3 Poles	OT315E03CP	1SCA022772R6780	974.20
	400A	3 Poles	OT400E03CP	1SCA022771R8500	1,141.00
	630A	3 Poles	OT630E03CP	1SCA022785R6050	1,782.00
	800A	3 Poles	OT800E03CP	1SCA022785R6300	2,587.00
	1000A	3 Poles	OT1000E03CP	1SCA022872R1680	3,499.00
 OT3200E03CP	1250A	3 Poles	OT1250E03CP	1SCA022872R0790	3,802.00
	1600A	3 Poles	OT1600E03CP	1SCA022872R1840	4,401.00
	2000A	3 Poles	OT2000E03CP	1SCA103908R1001	8,398.00
	2500A	3 Poles	OT2500E03CP	1SCA105615R1001	10,239.00
	3200A	3 Poles	OT3200E03CP	1SCA129156R1001	13,898.00
	16A	4 Poles	OT16F4C	1SCA104831R1001	141.30
 OT40F4C	25A	4 Poles	OT25F4C	1SCA104877R1001	157.10
	40A	4 Poles	OT40F4C	1SCA104934R1001	193.10
	63A	4 Poles	OT63F4C	1SCA105369R1001	232.60
	80A	4 Poles	OT80F4C	1SCA105418R1001	300.30
	100A	4 Poles	OT100F4C	1SCA105019R1001	412.70
 OT125F4C	125A	4 Poles	OT125F4C	1SCA105054R1001	499.80
	160A	4 Poles	OT160E04CP	1SCA022775R9440	729.10
	200A	4 Poles	OT200E04CP	1SCA022771R7280	773.10
	250A	4 Poles	OT250E04CP	1SCA022775R4640	1,028.00
	315A	4 Poles	OT315E04CP	1SCA022775R7150	1,113.00
 OT250EO4CP	400A	4 Poles	OT400E04CP	1SCA022771R8680	1,291.00
	630A	4 Poles	OT630E04CP	1SCA022785R6130	2,048.00
	800A	4 Poles	OT800E04CP	1SCA022785R6210	3,276.00
	1000A	4 Poles	OT1000E04CP	1SCA022872R1500	3,653.00
	1250A	4 Poles	OT1250E04CP	1SCA022872R1250	4,563.00
	1600A	4 Poles	OT1600E04CP	1SCA022872R2310	5,348.00
	2000A	4 Poles	OT2000E04CP	1SCA103912R1001	9,045.00
	2500A	4 Poles	OT2500E04CP	1SCA103906R1001	11,010.00
 OT800E04CP	3200A	4 Poles	OT3200E04CP	1SCA129158R1001	15,164.00

OT16...125 does not include a latch or handle.

Accessories for transfer switch OT16...125F_C

	Description	Type	Code	Price (EUR)
	Direct mounting handles			
 OHBS12	Black plastic for OT16...80F_C, lockable in '0' position	OHBS12	1SCA108252R1001	20.26
	Black plastic for OT100...125F_C, lockable in '0' position	OHBS11	1SCA109092R1001	26.43
	Selector handles			
	Black plastic for OT16...125F_C, lockable in '0' position	OHBS2AJE011	1SCA105220R1001	36.64

Used with the shafts on page 76.

SWITCH DISCONNECTORS
Transfer switches (I-O-II)

Motor operated change-over switches (I-0-II)


OTM160F3CMA230V


OTM2500E3CM230C


OTM125F4CMA230V


OTM400E4CM230C

Rated current In(A) (AC21, 415VAC)	Number of poles	Type	Code	Price (EUR)
40A	3 Poles	OTM40F3CMA230V	1SCA120096R1001	769.50
63A	3 Poles	OTM63F3CMA230V	1SCA120095R1001	823.60
80A	3 Poles	OTM80F3CMA230V	1SCA120093R1001	890.10
100A	3 Poles	OTM100F3CMA230V	1SCA120071R1001	983.40
125A	3 Poles	OTM125F3CMA230V	1SCA120070R1001	1,280.00
160A	3 Poles	OTM160E3CM230C	1SCA022845R8610	2,235.00
200A	3 Poles	OTM200E3CM230C	1SCA022845R8960	2,353.00
250A	3 Poles	OTM250E3CM230C	1SCA022845R9260	2,617.00
315A	3 Poles	OTM315E3CM230C	1SCA022847R1210	2,961.00
400A	3 Poles	OTM400E3CM230C	1SCA022847R1630	3,277.00
630A	3 Poles	OTM630E3CM230C	1SCA103567R1001	3,422.00
800A	3 Poles	OTM800E3CM230C	1SCA103570R1001	4,513.00
1000A	3 Poles	OTM1000E3CM230C	1SCA112677R1001	8,168.00
1250A	3 Poles	OTM1250E3CM230C	1SCA112676R1001	8,661.00
1600A	3 Poles	OTM1600E3CM230C	1SCA112678R1001	9,689.00
2000A	3 Poles	OTM2000E3CM230C	1SCA112709R1001	12,989.00
2500A	3 Poles	OTM2500E3CM230C	1SCA112710R1001	17,520.00
3200A	3 Poles	OTM3200E3CM230C	1SCA129240R1001	19,661.00
40A	4 Poles	OTM40F4CMA230V	1SCA120102R1001	922.50
63A	4 Poles	OTM63F4CMA230V	1SCA120101R1001	988.80
80A	4 Poles	OTM80F4CMA230V	1SCA120100R1001	1,068.00
100A	4 Poles	OTM100F4CMA230V	1SCA120098R1001	1,181.00
125A	4 Poles	OTM125F4CMA230V	1SCA120097R1001	1,536.00
160A	4 Poles	OTM160E4CM230C	1SCA022848R1510	2,337.00
200A	4 Poles	OTM200E4CM230C	1SCA022846R1590	2,481.00
250A	4 Poles	OTM250E4CM230C	1SCA022846R1910	3,139.00
315A	4 Poles	OTM315E4CM230C	1SCA022847R2870	3,554.00
400A	4 Poles	OTM400E4CM230C	1SCA022847R3250	3,929.00
630A	4 Poles	OTM630E4CM230C	1SCA022873R1990	4,108.00
800A	4 Poles	OTM800E4CM230C	1SCA022872R8340	5,917.00
1000A	4 Poles	OTM1000E4CM230C	1SCA112703R1001	10,019.00
1250A	4 Poles	OTM1250E4CM230C	1SCA112702R1001	10,395.00
1600A	4 Poles	OTM1600E4CM230C	1SCA112704R1001	11,914.00
2000A	4 Poles	OTM2000E4CM230C	1SCA112712R1001	18,418.00
2500A	4 Poles	OTM2500E4CM230C	1SCA112713R1001	24,544.00
3200A	4 Poles	OTM3200E4CM230C	1SCA129242R1001	26,110.00

Motor control voltage is 230VAC.


OTM1600E3C8D230C

Products required to create an automatic transfer switch

In order to create an automatic transfer switch, you need to order the transfer switch you have selected from this page together with the products mentioned below by selecting them from the back page.

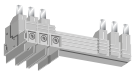
up to 125 A	
Motorized transfer switch, OTM40...125_CMA	1 pcs
Automatic transfer switch	1 pcs
Parallel junction unit	1 pcs
Double feeder unit for motor*	1 pcs

160A to 3200A	
Motorized transfer switch, OTM160...3200_CM_	1 pcs
Automatic transfer switch	1 pcs
Voltage sensing connector	1 pcs
OA1G10 1NA auxiliary contact	2 pcs
Bridging busbar	1 pcs
Double feeder unit for motor*	1 pcs

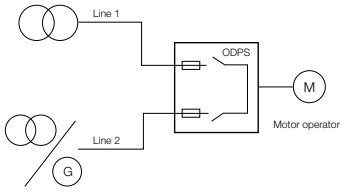
* The motor dual feed unit comes as standard with the automatic transfer switch OMD300. No need to order separately when OMD300 is selected.

SWITCH DISCONNECTORS
Transfer switches (I-O-II)

—
Transfer switch accessories

	Description	Type	Code	Price (EUR)
 OMD300  OMD800	**OMD automatic control units**			
	Automatic transfer switch - only for 4 poles	OMD300E480C-A1	1SCA123790R1001	1,815.00
	Automatic transfer switch - only for 3 and 4 poles	OMD800E480C-A1	1SCA123791R1001	3,024.00
	* Specifications of OMD automatic transfer switches are on pages 98 and 99.			
  OMZB48	**Voltage sensing connectors**			
	Connector - Volt. sensing conn. for 160...250E_C	OMZB18-OT	1SCA120153R1001	102.30
	Connector - volt. sensing conn. for 315...400E_C	OMZB28-OT	1SCA120154R1001	126.60
	Connector - Volt. sensing conn. for 630...800E_C	OMZB38-OT	1SCA120155R1001	143.80
	Connector - volt. sensing conn. for OT_1000...3200E_C	OMZB48-OT	1SCA120156R1001	253.90
 OMZC03	**Parallel junction unit**			
	3-pole, for OTM40…125F3C	OMZC03	1SCA117037R1001	123.60
	4-pole, for OTM40…125F4C_	OMZC04	1SCA117038R1001	182.30
	Bridging busbars			
	3-pole, for OT_160...250E_C	OTZC13	1SCA022767R6910	60.16
	4-pole, for OT_160...250E_C	OTZC14	1SCA022767R7040	81.54
 OTZC13	3-pole, for OT_315...400E_C	OTZC23	1SCA022767R7120	95.65
	4-pole, for OT_315...400E_C	OTZC24	1SCA022767R7210	132.30
	3-pole, for OT_600...800E_C	OTZC33	1SCA022785R7020	175.60
	4-pole, for OT_600...800E_C	OTZC34	1SCA022785R7110	228.90
	3-pole, for OT_1000...1250E_C	OTZC43	1SCA022868R0710	487.90
	4-pole, for OT_1000...1250E_C	OTZC44	1SCA022868R0800	515.30
	3-pole, for OT_1600E_C	OTZC53	1SCA022868R0980	533.50
 OTZC43	4-pole, for OT_1600E_C	OTZC54	1SCA022868R1010	707.20
	3-pole, for OT_2000...2500E_C	OTZC63	1SCA022868R1100	1,247.00
	4-pole, for OT_2000...2500E_C	OTZC64	1SCA022868R1360	1,668.00
	3-pole, for OT_3200...3200E_C	OTZC73	1SCA128843R1001	2,248.00
	4-pole, for OT_3200...3200E_C	OTZC74	1SCA128844R1001	3,002.00
	Can be used with all transfer switches			
 OMZD1  OMZC2	**Other accessories**			
	Panel fastener	OMZD1	1SCA022787R5190	8.78
	Transparent over plate	OMZC2	1SCA101001R1001	201.80
	1NA auxiliary contact	OA1G10	1SCA022353R4970	13.93
 ODPS230	**Dual power supply accessory for the motor (motor is fed from the energized source)**			
	Dual power source and internal ATS - OTM40…3200	ODPS230	1SCA122946R1001	550.90

The ODPS230 not only energizes the motor from two sources but also features an innovative automatic transfer switch (ATS) function as standard. The ODPS230 has two fuse-protected inputs, line I - line II, and an output for the motor. Thus, it is sufficient to have energy on any of the two lines for the motor to be energized. The ODPS230 also features a basic ATS function: When there is a fault on Line I or the Line I voltage drops below 154Vac, the ODPS230 switches the OTM motorized transfer switch to the fault-free Line II position. Voltage measurement is based on phase-neutral measurement. When the LNI voltage rises back above 198Vac, the ODPS230 returns the transfer switch to the LNI position.



SWITCH DISCONNECTORS
Transfer switches



OTM_C_D_

OMD

Automatic Transfer Switch characteristics

	OTM_C3D_	OTM_C8D_
OTM_C_D product overview		
Automatic control unit	OMD300	OMD800
Manual control with the help of a handle	x	x
Local control with keypad	x	x
Automatic transfer switching	x	x
Feeding the motor from dual power supply[1]	x	o
Measurements		
LINE 1, 1 phase voltage measurement	x	x
LINE 1, 3 phase voltage measurement	x	x
LINE 2, 1 phase voltage measurement	x	x
LINE 2, 3 phase voltage measurement	x	x
LINE 1 frequency	x	x
LINE 2 frequency	x	x
Monitoring measurements on the LCD		x
Source failure detections		
No voltage	x	x
Undervoltage	x	x
High voltage	x	x
Phase missing	x	x
Voltage unbalance	x	x
Invalid frequency	x	x
Incorrect phase sequence		x
Configuration		
via DIP switches	x	
via potentiometer	x	
via keypad and display		x
Voltage threshold setting	x	x
Voltage hysteresis setting		x
Frequency threshold setting		x
Frequency hysteresis setting		x
Time delay		
Switching delay	x[2]	x
Transfer delay[3]		x
I-II transition time (stop at position 0)		x
Back-switching delay	x[4]	x
II-I switching time (stop at position 0)		x
Generator stop delay	x[5]	x
Monitoring time delays on LCD		x

1) Dual power supply allows the motor to be supplied from two separate power sources. Thus the motor is always energized.

2) Four options are available. (0, 5, 10 or 30 seconds)
3) This pre-transfer delay of the load to the generator allows the generator to warm up in cold regions.
4) Two options. Switching with the same time as the switching delay or a fixed 300ms time delay is available.
(I-II or II-I transition time delay is also fixed 300ms).
5) Two options. Generator stop delay is 0, 5, 10, 30 seconds or fixed 5 minutes.

x available as standard in the product.
o with additional product

SWITCH DISCONNECTORS
Transfer switches



OTM_C_D_

OMD

Automatic Transfer Switch characteristics

	OTM_C3D_	OTM_C8D_
Specifications		
Generator start and stop control	x	x
Test off-load	x	x
Test on-load	x	x
Monitoring the status of the supply on the display	x	x
Monitoring the status of the supply with digital outputs		x
Monitoring the position of the switching from the display	x	x
LCD[6)]		x
Fieldbus interface[7)]		x
Event/Alarm log		x
Operation counter		x
External power supply[8)]		x
Programmable digital inputs (8) and digital outputs (6)		x
Secondary load control (load shedding/coupling control)		x
Digital input - allows secondary transfer[9)]		x
Digital input - generator alarm[10)]		x
Digital input - remote control, for positions I - 0 - II		x
Operation mode		
Priority line	x[11)]	x[12)]
Manual Back Switching[13)]	x	x
Automatic switching to position 0 (as a result of a source failure)[14)]		x
Applications		
Transfer between two transformers	x	x
Transfer between transformer and generator	x	x

6) Menus can be displayed in 8 different languages. (English, French, German, Italian, Italian, Spanish, Russian, Chinese and Finnish.)
7) Two-way communication uses the Modbus protocol.
8) ATS can be supplied from 24...110VDC external power supply against supply faults.
9) The controller needs an external signal before allowing transfer to the secondary.
10) After receiving the alarm, there are two options. The control unit resumes normal operation or initiates a generator stop by switching the transfer switch to position 0.
11) There are two options. Non-priority line or Source 1 priority line
12) There are three options. Non-priority line, line 1 priority or line 2 priority
13) Automatic switching back to the main source is prevented.
14) The control unit and motor must be energized.

x available as standard in the product.
o with additional product

ENCLOSED SWITCH-DISCONNECTORS AND CAM SWITCHES



Please contact our sales offices for 3 and 4 pole 16 to 1600A enclosed switch-disconnectors and cam switches
http://new.abb.com/low-voltage/products/enclosed-switches

AUTOMATIC TRANSFER SWITCHES
Compact ATS

—
Compact ATS

	Number of poles	Rated current (A)	Rated voltage (V)	Type	Code	Price (EUR)
Fixed - For Network/Network application						
 OTM_C20D	2	63	230:220-240	OTM63F2C20D230C	1SCA151421R1001	1,340.00
	2	125	230:220-240	OTM125F2C20D230C	1SCA151417R1001	1,513.00
	3	63	400:380-415	OTM63F3C20D400C	1SCA151423R1001	1,353.00
	3	125	400:380-415	OTM125F3C20D400C	1SCA151419R1001	1,529.00
	4	40	400:380-415	OTM40F4C20D400C	1SCA151252R1001	1,329.00
	4	63	400:380-415	OTM63F4C20D400C	1SCA151254R1001	1,396.00
	4	125	400:380-415	OTM125F4C20D400C	1SCA151250R1001	1,576.00
Adjustable - Grid/Grid and Grid/Generator applications						
 OTM_C21D	2	63	230:220-240	OTM63F2C21D230C	1SCA151422R1001	1,819.00
	3	63	400:380-415	OTM63F3C21D400C	1SCA151424R1001	1,838.00
	3	125	400:380-415	OTM125F3C21D400C	1SCA151420R1001	2,006.00
	4	40	400:380-415	OTM40F4C21D400C	1SCA151253R1001	1,845.00
	4	63	400:380-415	OTM63F4C21D400C	1SCA151255R1001	1,894.00
	4	125	400:380-415	OTM125F4C21D400C	1SCA151251R1001	2,069.00

—
Compact ATS accessories

	Description	Type	Code	Price (EUR)
	Latch holder			
 OTVS0	Latch holder	OTVS0	1SCA117524R1001	37.54
	Auxiliary contacts			
	1NA auxiliary contact, right side mounted	OA1G10	1SCA022353R4970	13.93
	1NK auxiliary contact, right side mounted	OA8G01	1SCA022744R2240	17.38
	1NA auxiliary contact, left side mounted	OA7G10	1SCA022673R1140	17.02
	1NK auxiliary contact, left side mounted	OA1G01	1SCA022353R4890	13.93
	Terminal cover			
 OMZC_	Terminal cover, for 3 poles	OTS125T3	1SCA022379R9680	7.39
	Terminal cover, for 4 poles	OTS125T1	1SCA022379R9760	10.51
	Parallel connection kit			
	Parallel connection kit, for 3 poles	OMZC03	1SCA117037R1001	123.60
	Parallel connection kit, for 4 poles	OMZC04	1SCA117038R1001	182.30

AUTOMATIC TRANSFER SWITCHES
Compact ATS

Compact ATS feature comparison

	OTM_C20D_	OTM_C21D_
Rated voltage		154 V AC - 480 V AC +/- 20% + N
Rated frequency		50 / 60 Hz +/- 10%
Operation types		
Manual operation with handle	x	x
Local operation with keypad		x
Automatic operation	x	x
Applications		
Transfer between two transformers	x	x
Transfer between transformer and generator		x
Operation mode		
Automatic transfer and back switching operation	x	x
Automatic transfer and manual back switching operation		
Source failure detection		
No voltage	x	x
Undervoltage	Fixed 0.7Ue	0.7-0.95 Ue
Overvoltage	Fixed 1.3Ue	1.05-1.3 Ue
Phase missing	x	x
Voltage unbalance		x
Invalid frequency		x
Configuration		
via DIP switch	x	x
via rotary switches		x
Time delay settings		
Transfer delay[3)]		0-30s
Back switching delay		0-900s
Generator stop delay		30s,400s
Input and output signals		
Emergency shutdown with 24VDC signal input	x	x
Test signal input		x
Switch position signal	With auxiliary contacts	Without auxiliary contacts
Alarm output signal		x

[3)] Overvoltage and undervoltage conditions

M4M NETWORK ANALYZERS
Sensing. To manage power.

ABB's M4M is the new fully-connected, state-of-the-art range of network analyzers, guaranteeing complete power quality analysis and accurate energy efficiency monitoring of all the energy assets: industrial and commercial buildings, facilities, data centers.





AUTOMATIC TRANSFER SWITCHES
TRUONE® ATS - Level 2

TruONE ATS Level 2 controller (DIP), Top entry -Source 1 and Source 2 on the top, load the on bottom

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3S2QT	IEC, 200A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB200E3X2QT	1SCA153434R1001	4,121.00
	IEC, 250A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB250E3X2QT	1SCA153460R1001	4,674.00
	IEC, 315A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB315E3X2QT	1SCA153507R1001	5,184.00
	IEC, 400A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB400E3X2QT	1SCA153520R1001	5,561.00
	IEC, 500A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB500E3X2QT	1SCA151028R1001	5,898.00
	IEC, 630A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB630E3X2QT	1SCA149957R1001	6,369.00
	IEC, 800A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB800E3X2QT	1SCA150940R1001	9,351.00
 OXB500E3S2QT	IEC, 1000A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB1000E3X2QT	1SCA153582R1001	12,165.00
	IEC, 1250A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB1250E3X2QT	1SCA153617R1001	12,887.00
	IEC, 1600A, 3P, I-0-II, Level 2 Controller (DIP), Source input on top	3 Poles	OXB1600E3X2QT	1SCA153626R1001	14,165.00
	IEC, 200A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB200E3S2QT	1SCA153428R1001	4,249.00
	IEC, 250A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB250E3S2QT	1SCA153457R1001	4,818.00
	IEC, 315A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB315E3S2QT	1SCA153502R1001	5,345.00
	IEC, 400A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB400E3S2QT	1SCA153516R1001	5,733.00
	IEC, 500A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB500E3S2QT	1SCA151026R1001	6,081.00
	IEC, 630A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB630E3S2QT	1SCA151055R1001	6,566.00
	IEC, 800A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB800E3S2QT	1SCA150935R1001	9,640.00
 OXB1000E3S2QT	IEC, 1000A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB1000E3S2QT	1SCA153578R1001	12,541.00
	IEC, 1250A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB1250E3S2QT	1SCA153611R1001	13,286.00
	IEC, 1600A, 4P, I-0-II, Level 2 Controller (DIP), Source input on top	4 Poles	OXB1600E3S2QT	1SCA153623R1001	14,604.00

TruONE ATS Level 2 controller (DIP), Bottom input - Source 1 and Source 2 connections on the bottom, load connections on the top

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3X2QB	IEC, 200A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB200E3X2QB	1SCA153433R1001	4,121.00
	IEC, 250A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB250E3X2QB	1SCA153459R1001	4,674.00
	IEC, 315A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB315E3X2QB	1SCA153506R1001	5,184.00
	IEC, 400A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB400E3X2QB	1SCA152049R1001	5,561.00
	IEC, 500A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB500E3X2QB	1SCA151027R1001	5,898.00
	IEC, 630A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB630E3X2QB	1SCA151062R1001	6,369.00
	IEC, 800A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB800E3X2QB	1SCA149960R1001	9,351.00
 OXB500E3X2QB	IEC, 1000A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB1000E3X2QB	1SCA152411R1001	12,165.00
	IEC, 1250A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB1250E3X2QB	1SCA153616R1001	12,887.00
	IEC, 1600A, 3P, I-0-II, Level 2 Controller (DIP), Source input at bottom	3 Poles	OXB1600E3X2QB	1SCA153625R1001	14,165.00
	IEC, 200A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB200E3S2QB	1SCA153427R1001	4,249.00
	IEC, 250A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB250E3S2QB	1SCA153456R1001	4,818.00
	IEC, 315A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB315E3S2QB	1SCA153501R1001	5,345.00
	IEC, 400A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB400E3S2QB	1SCA153515R1001	5,733.00
	IEC, 500A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB500E3S2QB	1SCA151025R1001	6,081.00
	IEC, 630A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB630E3S2QB	1SCA151054R1001	6,566.00
	IEC, 800A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB800E3S2QB	1SCA150934R1001	9,640.00
 OXB1000E3S2QB	IEC, 1000A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB1000E3S2QB	1SCA153577R1001	12,541.00
	IEC, 1250A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB1250E3S2QB	1SCA153610R1001	13,286.00
	IEC, 1600A, 4P, I-0-II, Level 2 Controller (DIP), Source input at bottom	4 Poles	OXB1600E3S2QB	1SCA153622R1001	14,604.00

AUTOMATIC TRANSFER SWITCHES
TRUONE® ATS - Level 3

TruONE ATS Level 3 controller (LCD), Top entry -Source 1 and Source 2 on the top, load the on bottom

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3S3QT	IEC, 200A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB200E3X3QT	1SCA153435R1001	5,984.00
	IEC, 250A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB250E3X3QT	1SCA153462R1001	6,570.00
	IEC, 315A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB315E3X3QT	1SCA153509R1001	7,193.00
	IEC, 400A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB400E3X3QT	1SCA153522R1001	7,587.00
	IEC, 500A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB500E3X3QT	1SCA151745R1001	8,008.00
	IEC, 630A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB630E3X3QT	1SCA151065R1001	8,085.00
	IEC, 800A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB800E3X3QT	1SCA150943R1001	11,545.00
	IEC, 1000A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB1000E3X3QT	1SCA151492R1001	15,147.00
 OXB500E3S3QT	IEC, 1250A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB1250E3X3QT	1SCA153619R1001	15,982.00
	IEC, 1600A, 3P, I-0-II, Level 3 Controller (LCD), Source input on top	3 Poles	OXB1600E3X3QT	1SCA153628R1001	17,485.00
	IEC, 200A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB200E3S3QT	1SCA153430R1001	6,168.00
	IEC, 250A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB250E3S3QT	1SCA153458R1001	6,773.00
	IEC, 315A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB315E3S3QT	1SCA153503R1001	7,415.00
	IEC, 400A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB400E3S3QT	1SCA153518R1001	7,822.00
	IEC, 500A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB500E3S3QT	1SCA151742R1001	8,256.00
	IEC, 630A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB630E3S3QT	1SCA151058R1001	8,335.00
	IEC, 800A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB800E3S3QT	1SCA150937R1001	11,903.00
	IEC, 1000A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB1000E3S3QT	1SCA153580R1001	15,615.00
 OXB1000E3S3QT	IEC, 1250A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB1250E3S3QT	1SCA153613R1001	16,476.00
	IEC, 1600A, 4P, I-0-II, Level 3 Controller (LCD), Source input on top	4 Poles	OXB1600E3S3QT	1SCA153624R1001	18,026.00

TruONE ATS Level 3 controller (LCD), Bottom input - Supply 1 and Supply 2 connections on the bottom, load connections on the top

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3X3QB	IEC, 200A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB200E3X3QB	1SCA152042R1001	5,984.00
	IEC, 250A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB250E3X3QB	1SCA153461R1001	6,570.00
	IEC, 315A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB315E3X3QB	1SCA153508R1001	7,193.00
	IEC, 400A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB400E3X3QB	1SCA153521R1001	7,587.00
	IEC, 500A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB500E3X3QB	1SCA151744R1001	8,008.00
	IEC, 630A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB630E3X3QB	1SCA151064R1001	8,085.00
	IEC, 800A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB800E3X3QB	1SCA150942R1001	11,545.00
	IEC, 1000A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB1000E3X3QB	1SCA153583R1001	15,147.00
 OXB500E3X3QB	IEC, 1250A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB1250E3X3QB	1SCA153618R1001	15,982.00
	IEC, 1600A, 3P, I-0-II, Level 3 Controller (LCD), Source input at bottom	3 Poles	OXB1600E3X3QB	1SCA153627R1001	17,485.00
	IEC, 200A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB200E3S3QB	1SCA153429R1001	6,168.00
	IEC, 250A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB250E3S3QB	1SCA152435R1001	6,773.00
	IEC, 315A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB315E3S3QB	1SCA152046R1001	7,415.00
	IEC, 400A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB400E3S3QB	1SCA153517R1001	7,822.00
	IEC, 500A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB500E3S3QB	1SCA151741R1001	8,256.00
	IEC, 630A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB630E3S3QB	1SCA151057R1001	8,335.00
	IEC, 800A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB800E3S3QB	1SCA149958R1001	11,903.00
	IEC, 1000A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB1000E3S3QB	1SCA153579R1001	15,615.00
 OXB1000E3X3QB	IEC, 1250A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB1250E3S3QB	1SCA153612R1001	16,476.00
	IEC, 1600A, 4P, I-0-II, Level 3 Controller (LCD), Source input at bottom	4 Poles	OXB1600E3S3QB	1SCA152412R1001	18,026.00

AUTOMATIC TRANSFER SWITCHES
TRUONE® ATS - Level 4

TruONE ATS Level 4 controller (TOUCH), Top entry -Source 1 and Source 2 on the top, load the on bottom

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3S4QT	IEC, 200A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB200E3X4QT	1SCA152044R1001	7,180.00
	IEC, 250A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB250E3X4QT	1SCA153464R1001	7,884.00
	IEC, 315A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB315E3X4QT	1SCA152047R1001	8,632.00
	IEC, 400A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB400E3X4QT	1SCA153524R1001	9,104.00
	IEC, 500A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB500E3X4QT	1SCA151746R1001	9,610.00
	IEC, 630A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB630E3X4QT	1SCA151068R1001	9,702.00
	IEC, 800A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB800E3X4QT	1SCA150946R1001	13,855.00
 OXB500E3S4QT	IEC, 1000A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB1000E3X4QT	1SCA153585R1001	18,176.00
	IEC, 1250A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB1250E3X4QT	1SCA153621R1001	19,179.00
	IEC, 1600A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input on top	3 Poles	OXB1600E3X4QT	1SCA153630R1001	20,982.00
	IEC, 200A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB200E3S4QT	1SCA153432R1001	7,402.00
	IEC, 250A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB250E3S4QT	1SCA152045R1001	8,128.00
	IEC, 315A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB315E3S4QT	1SCA153505R1001	8,898.00
	IEC, 400A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB400E3S4QT	1SCA153519R1001	9,386.00
	IEC, 500A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB500E3S4QT	1SCA151743R1001	9,907.00
 OXB1000E3S4QT	IEC, 630A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB630E3S4QT	1SCA151061R1001	10,002.00
	IEC, 800A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB800E3S4QT	1SCA150939R1001	14,283.00
	IEC, 1000A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB1000E3S4QT	1SCA153581R1001	18,738.00
	IEC, 1250A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB1250E3S4QT	1SCA153615R1001	19,772.00
	IEC, 1600A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input on top	4 Poles	OXB1600E3S4QT	1SCA152413R1001	21,631.00

TruONE ATS Level 4 controller (TOUCH), Bottom input - Supply 1 and Supply 2 connections on the bottom, load connections on the top

	Description	Number of poles	Type	Code	Price (EUR)
 OXB315E3X4QB	IEC, 200A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB200E3X4QB	1SCA152043R1001	7,180.00
	IEC, 250A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB250E3X4QB	1SCA153463R1001	7,884.00
	IEC, 315A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB315E3X4QB	1SCA153510R1001	8,632.00
	IEC, 400A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB400E3X4QB	1SCA153523R1001	9,104.00
	IEC, 500A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB500E3X4QB	1SCA149956R1001	9,610.00
	IEC, 630A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB630E3X4QB	1SCA151067R1001	9,702.00
	IEC, 800A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB800E3X4QB	1SCA150945R1001	13,855.00
 OXB500E3X4QB	IEC, 1000A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB1000E3X4QB	1SCA153584R1001	18,176.00
	IEC, 1250A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB1250E3X4QB	1SCA153620R1001	19,179.00
	IEC, 1600A, 3P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	3 Poles	OXB1600E3X4QB	1SCA153629R1001	20,982.00
	IEC, 200A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB200E3S4QB	1SCA153431R1001	7,402.00
	IEC, 250A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB250E3S4QB	1SCA152794R1001	8,128.00
	IEC, 315A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB315E3S4QB	1SCA153504R1001	8,898.00
	IEC, 400A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB400E3S4QB	1SCA152048R1001	9,386.00
	IEC, 500A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB500E3S4QB	1SCA150003R1001	9,907.00
 OXB1000E3X4QB	IEC, 630A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB630E3S4QB	1SCA151060R1001	10,002.00
	IEC, 800A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB800E3S4QB	1SCA149959R1001	14,283.00
	IEC, 1000A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB1000E3S4QB	1SCA151491R1001	18,738.00
	IEC, 1250A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB1250E3S4QB	1SCA153614R1001	19,772.00
	IEC, 1600A, 4P, I-0-II, Level 4 Controller (TOUCH), Source input at bottom	4 Poles	OXB1600E3S4QB	1SCA152414R1001	21,631.00

AUTOMATIC TRANSFER SWITCHES
TruONE® ATS

TruONE® ATS accessories


OXEA1


Ekip Com


OXES_G_S_

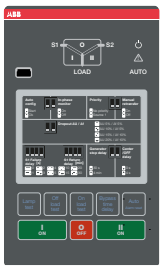

OXES_G_L_


OXEC21

Description	Type	Code	Price (EUR)
Communication accessories			
12-24VDC auxiliary power supply module for OX30...1600	OXEA1	1SCA148926R1001	412.70
Modbus RTU communication module for OX30...1600	Ekip Com Modbus RS-485-OX	1SDA104051R1	510.80
Modbus TCP communication module for OX30...1600	Ekip Com Modbus TCP-OX	1SDA104052R1	510.80
Profibus DP communication module for OX30...1600	Ekip Com Profibus	1SDA074152R1	640.30
Profinet communication module for OX30...1600	Ekip Com Profinet	1SDA074153R1	640.30
EtherNet/IP communication module for OX30...1600	Ekip Com EtherNet / IP	1SDA074155R1	640.30
DeviceNet communication module for OX30...1600	Ekip Com DeviceNet	1SDA074154R1	640.30
2K-1-OX signalling module for OX30...1600	Ekip Signalling 2K-1-OX	1SDA104053R1	308.10
2K-2-OX signalling module for OX30...1600	Ekip Signalling 2K-2-OX	1SDA104054R1	308.10
3K-3-OX signalling module for OX30...1600	Ekip Signalling 2K-3-OX	1SDA104055R1	308.10
Programming module for OX30...1600	Ekip Programming	1SDA076154R1	845.30
Terminal cover			
IEC200-250A short version 4 pole	OXES250G1S/4	1SCA150194R1001	56.20
IEC200-250A long version 4 pole	OXES250G1L/4	1SCA150192R1001	73.06
IEC315-800A short version 4 pole	OXES800G1S/4	1SCA150198R1001	57.23
IEC315-800A long version 4 pole	OXES800G1L/4	1SCA150196R1001	78.78
IEC1000-1600A long version 4 pole	OXES1600G1L/4	1SCA150190R1001	99.70
Phase barrier			
Phase barrier for OX30...1600, 6 pcs	OXEB1600/6	1SCA150202R1001	111.80
*Phase barriers cannot be used with terminal covers			
HMI protective cover, IP 54			
HMI protective cover frame for OX30...1600	OXEC21	1SCA147308R1001	113.10
Auxiliary contact block			
1NA auxiliary contact block for OX30...1600	OA1G10	1SCA022353R4970	13.93
1NK auxiliary contact block for OX30...1600	OA3G01	1SCA022456R7410	19.26
1NA auxiliary contact block for OX30...1600	OA1G10AU	1SCA022436R7910	27.49
1NK auxiliary contact block for OX30...1600	OA3G01AU	1SCA022819R5260	27.49

*OX30...1600 ATSs can have a maximum of 4 auxiliary contact blocks for Supply1 and Supply2 (8 auxiliary contact blocks in total).

AUTOMATIC TRANSFER SWITCHES
TruONE® ATS

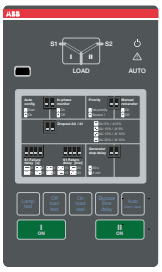




TruONE® ATS feature comparison

	Level 2 controller	Level 3 controller	Level 4 controller
Amp sizes available	IEC: 200-1600 A	IEC: 200-1600 A	IEC: 200-1600 A
	UL: 30-1200 A	UL: 30-1200 A	UL: 30-1200 A
Rated voltage	200-480Vac	200-480Vac	200-480Vac
Rated frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Phase system	Single and triple	Single and triple	Single and triple
No. of poles	2, 3 and 4	2, 3 and 4	3 and 4
Neutral configuration			
Switching	Yes	Yes	Yes
Overlap	No	Yes	Yes
Product type			
Open transition (I-II)	Yes	Yes	Yes
Delayed transition (I-O-II)	Yes	Yes	Yes
Voltage and frequency settings			
Pick up Voltage Source 1	Fixed 2% above drop out	81-99%, 101-119%	81-99%, 101-119%
Drop out voltage Source 1	+/-5, 10, 15, 20 %	80-98%, 102-120%	80-98%, 102-120%
Pick up Voltage Source 2	Fixed 2% above drop out	81-99, 101-119	81-99, 101-119
Drop out voltage Source 2	+/-5, 10, 15, 20 %	80-98%, 102-120%	80-98%, 102-120%
Pick up frequency Source 1	Fixed 1% above drop out	80.5-99.5, 100.5-119.5	80.5-99.5, 100.5-119.5
Drop out frequency Source 1	+/-5%, 10%	80-99, 101-120	80-99, 101-120
Pick up frequency Source 2	Fixed 1% above drop out	80.5-99.5, 100.5-119.5	80.5-99.5, 100.5-119.5
Drop out frequency Source 2	+/-5%, 10%	80-99, 101-120	80-99, 101-120
Time delay settings			
Supply 1 transient delay, sec.	0, 1, 2, 3, 4, 5, 10, 15, 20, 25, 30	0-60	0-60
Transfer from Supply 1 to Supply 2, sec.	Constant 2 seconds	0-3600	0-3600
Supply 2 transient delay, sec.	Constant 1.5 seconds	0-60	0-60
Transfer from Supply 2 to Supply 1, sec.	0, 1, 2, 3, 4, 5, 10, 15, 20, 25, 30	0-120	0-120
Generator stop delay, min.	30 sec. or 4 min.	0-60	0-60
Center off delay, sec.	0 or 4	0-300	0-300
Delay before transfer from S1 to S2, sec.	No	0-60	0-60
Delay after transfer from S1 to S2, sec.	No	0-60	0-60
Delay before transfer from S2 to S1, sec.	No	0-60	0-60
Delay after transfer from S2 to S1, sec.	No	0-60	0-60
Load shedding delay, sec.	No	0-60	0-60
Source failure detection			
No voltage	Yes	Yes	Yes
Undervoltage	Yes	Yes	Yes
Overvoltage	Yes	Yes	Yes
Phase missing	Yes	Yes	Yes
Voltage unbalance	Yes	Yes	Yes
Invalid frequency	Yes	Yes	Yes
Incorrect phase sequence	Yes	Yes	Yes

AUTOMATIC TRANSFER SWITCHES
TruONE® ATS





TruONE® ATS feature comparison

	Level 2 controller	Level 3 controller	Level 4 controller
Specifications			
Controls	DIP switches	LCD switches	Touch switches
LED indicators for ATS, S1 and S2 status	Yes	Yes	Yes
Open switching - Standard digital inputs/outputs	0 / 1	1 / 1	2 / 1
Delayed switching - Standard digital inputs/ outputs	1 / 1	2 / 1	3 / 1
Programmable digital inputs/outputs	No	Yes	Yes
Automatic configuration (voltage, frequency, phase system)	Yes	Yes	Yes
Supply priority	Supply 1, No priority	Supply 1/2, No priority	Supply 1/2, No priority
Manual retransfer	Yes	Yes	Yes
Co-phase tracking (synchronization control)	Yes	Yes	Yes
Genset application: on load, no load	Yes	Yes	Yes
Built-in power measurement module	No	No	Yes
Load shedding	No	Yes	Yes
hour	No	Yes	Yes
Event log	No	Yes	Yes
Predictive maintenance	No	No	Yes
Voltage and Current Harmonics measurement	No	No	Yes
Field-mounted accessories			
Auxiliary contacts for position indication	Yes	Yes	Yes
Digital input/output modules	No	Yes	Yes
12-24 Vdc auxiliary supply module for controller	No	Yes	Yes
Communication modules	No	Yes	Yes
Connectivity			
Modbus RTU (RS-485)	No	Yes	Yes
Modbus/TCP	No	Yes	Yes
Profibus DP	No	Yes	Yes
ProfiNet	No	Yes	Yes
DeviceNet	No	Yes	Yes
Ethernet IP	No	Yes	Yes
IEC 61850	No	Yes	Yes
Monitoring via ABB Ability™: EDCS	No	Yes	Yes
For applications			
Grid - Grid	Yes	Yes	Yes
Grid - Generator (minimum size 40kVA)	Yes	Yes	Yes

TruONE®
The world's first true all-in-one automatic transfer switch

The all-new TruONE® is the world's first truly purpose-built automatic transfer switch, designed to combine switching and control in one perfect unit.



Unlike typical ATS solutions, TruONE® provides emergency manual operation under load for immediate power restoration in the event of an equipment failure. Tested for performance beyond standard requirements, TruONE® is always ready to deliver critical power on a regular basis.
abb.com/truone



CIRCUIT BREAKERS

Electric power distribution systems are changing rapidly in response to the needs of today's world and new trends such as energy efficiency, connectivity and smart grids are now entering the scene. These trends are creating new applications and market requirements that ABB SACE low voltage circuit breakers can meet with high quality, accuracy and reliability.



Formula
Molded case circuit breakers up to 630A
Non-adjustable thermomagnetic trip unit
Fixed version; 1, 2, 3 and 4 poles



Tmax T Special Applications
Molded case circuit breakers for specific voltage applications
Thermomagnetic and electronic protection unit
Fixed and withdrawable; 3 and 4 poles



Tmax XT
Molded case circuit breakers up to 1600A
Thermomagnetic and electronic protection unit
Fixed and withdrawable version; 3 and 4 poles



Emax 2
Air circuit braakers up to 6300A.
Electronic trip unit
Fixed and withdrawable; 3 and 4 poles



MOLDED CASE CIRCUIT BREAKERS
FORMULA molded case circuit breakers

			A1							A2				A3	
Size		[A]	125							250				400/630	
Rated curent, In		[A]	15...125							125...250				320...630	
Poles		[Qty.]	1, 2, 3, 4							2, 3, 4				3, 4	
Nominal operating voltage, Ue	(AC) 50-60 Hz	[V]	550 (2p-3p-4p); 415 (1p)							550 (2p-3p-4p)				550	
	(DC)	[V]	250 (2p-3p-4p); 125 (1p)							250 (2p-3p-4p)				250	
Nominal insulation voltage, Ui		[V]	690							690				690	
Nominal impulse withstand voltage, Uimp		[kV]	6							6				6	
Types			Fixed							Fixed				Fixed	
Performance level			A	B	C		N			B	C	N		N	S
Poles		[Qty.]	3/4	3/4	1	3/4	1	2	3/4	3/4	3/4	2	3/4	3/4	3/4
Rated maximum short circuit breaking capacity, Icu															
Icu @ 240V 50-60Hz (AC)		[kA]	10	25	18	30	25	50	100	25	50	50	85	85	100
Icu @ 415V 50-60Hz (AC)		[kA]	10	18	2.5	25	5	36(4)	36(4)	18	25	36	36	36	50
Icu @ 550V 50-60Hz (AC)		[kA]	5	5	-	8	-	10	10	5	8	10	10	15	20
Icu @ 125 V (DC) 1 pole		[kA]	-	-	5	-	10	-	-	-	-	-	-	-	-
Icu @ 250 V (DC) 2 poles connected in series		[kA]	5	5	-	10	-	10	10	18	25	10	36	36	50
Rated service short-circuit breaking capacity, Ics															
Ics @ 240V 50-60Hz (AC)		[kA]	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Ics @ 415V 50-60Hz (AC)		[kA]	50%	25%(1)	50%	25%(2)	25%	25%	25%	50%	50%	50%	50%	50%	50%
Ics @ 550V 50-60Hz (AC)		[kA]	50%	50%	-	25% (3)	-	25%	25%	50%	50%	50%	50%	50%	50%
Ics @ 250 V (DC) 2 poles in series		[kA]	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Utilization category (IEC 60947-2)			A							A				A	
Mechanical life		[No. operations]	8500							10000				5000	
Electrical life @ 415 (AC)		[No. operations]	1500							4000				2000	
Total opening time	Circuit breaker with opening release	[ms]	15							15				15	
	Circuit breaker with undervoltage release	[ms]	15							15				≤ 25	
Dimensions (Width x Depth x Height)	1 poles	[mm]	25,4x60x130							35x60x150				-	
	2 poles	[mm]	50,8x60x130							70x60x150				-	
	3 poles	[mm]	76,2x60x130							105x60x150				139,5x 103,5x 205	
	4 poles	[mm]	101,6x60x130							140x60x150				186x 103,5x 205	
Weight	1 poles	[kg]	0.245							0.370				-	
	2 poles	[kg]	0.470							0.730				-	
	3 poles	[kg]	0.700							1.100				3.25	
	4 poles	[kg]	0.925							1.450				4.15	
Trip unit															
Thermomagnetic TMF			■							■				■ (Up to 500A)	
Electronic ELT LI														■ (Up to 630A)	

(1) 5kA; (2) 9kA; (3) 2.5kA;(4) In=15A, Icu=30kA



The highlights of SACE FORMULA DSA range of molded case circuit-breakers include:

- Quick and easy selection and ordering with few, but essential, versions of circuit-breakers
- Multiple polarities, dedicated to various applications
- Accompanying accessory line
- Reduced circuit-breaker depths
- A new installation system making assembly of the circuit-breakers easier
- Suitable for use at 50°C without derating

MOLDED CASE CIRCUIT BREAKERS
FORMULA molded case circuit breakers

TMF fixed thermomagnetic release, 1-pole



A1/1p

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (240VAC)	Code	Price (EUR)
A1C125, TMF, In=20A	20	400	18	1SDA066486R1	77.94
A1C125, TMF, In=32A	32	400	18	1SDA068754R1	77.94
A1C125, TMF, In=40A	40	400	18	1SDA066489R1	80.33
A1C125, TMF, In=50A	50	500	18	1SDA066490R1	77.94
A1C125, TMF, In=63A	63	630	18	1SDA068765R1	77.94
A1C125, TMF, In=80A	80	800	18	1SDA066493R1	100.70
A1C125, TMF, In=100A	100	1000	18	1SDA066495R1	100.70
A1C125, TMF, In=125A	125	1250	18	1SDA066496R1	104.30
A1N125, TMF, In=20A	20	400	25	1SDA066686R1	82.73
A1N125, TMF, In=32A	32	400	25	1SDA068755R1	82.73
A1N125, TMF, In=40A	40	400	25	1SDA066689R1	82.70
A1N125, TMF, In=50A	50	500	25	1SDA066690R1	82.70
A1N125, TMF, In=63A	63	630	25	1SDA068766R1	82.73
A1N125, TMF, In=80A	80	800	25	1SDA066693R1	103.10
A1N125, TMF, In=100A	100	1000	25	1SDA066695R1	103.10
A1N125, TMF, In=125A	125	1250	25	1SDA066696R1	110.30

TMF fixed thermomagnetic release, 2-pole



A2/2p

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (240VAC)	Code	Price (EUR)
A1N125, TMF, In=20A	20	400	36	1SDA066497R1	99.52
A1N125, TMF, In=32A	32	400	36	1SDA068756R1	99.52
A1N125, TMF, In=40A	40	400	36	1SDA066500R1	99.52
A1N125, TMF, In=50A	50	500	36	1SDA066501R1	99.52
A1N125, TMF, In=63A	63	630	36	1SDA068767R1	99.52
A1N125, TMF, In=80A	80	800	36	1SDA066504R1	124.70
A1N125, TMF, In=100A	100	1000	36	1SDA066506R1	124.70
A1N125, TMF, In=125A	125	1250	36	1SDA066507R1	133.10
A2N250, TMF, In=160A	160	1600	36	1SDA066543R1	152.30
A2N250, TMF, In=200A	200	2000	36	1SDA066545R1	208.60
A2N250, TMF, In=250A	250	2500	36	1SDA066547R1	208.60

For different rated current (In) and short circuit breaking capacity (Icu) values, you can see our product catalogue or contact our offices.

MOLDED CASE CIRCUIT BREAKERS
FORMULA molded case circuit breakers

TMF fixed thermomagnetic release, 3-pole


A1 125A


A2 250A


A3 630A

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)	
A1B 125, TMF, In=20A	20	400	18	1SDA066698R1	97.16	
A1B 125, TMF, In=25A	25	400	18	1SDA066699R1	97.16	
A1B 125, TMF, In=32A	32	400	18	1SDA068758R1	97.16	
A1B 125, TMF, In=40A	40	400	18	1SDA066701R1	538.90	
A1B 125, TMF, In=50A	50	500	18	1SDA066702R1	538.90	NEW
A1B 125, TMF, In=63A	63	630	18	1SDA068769R1	97.16	
A1B 125, TMF, In=80A	80	800	18	1SDA066705R1	672.60	
A1B 125, TMF, In=100A	100	1000	18	1SDA066707R1	672.60	
A1B 125, TMF, In=125A	125	1250	18	1SDA066708R1	717.90	
A1C 125, TMF, In=20A	20	400	25	1SDA066710R1	593.60	
A1C 125, TMF, In=25A	25	400	25	1SDA066711R1	593.60	
A1C 125, TMF, In=32A	32	400	25	1SDA068759R1	111.90	
A1C 125, TMF, In=40A	40	400	25	1SDA066713R1	593.60	
A1C 125, TMF, In=50A	50	500	25	1SDA066714R1	593.60	
A1C 125, TMF, In=63A	63	630	25	1SDA068770R1	111.90	
A1C 125, TMF, In=80A	80	800	25	1SDA066717R1	716.80	
A1C 125, TMF, In=100A	100	1000	25	1SDA066719R1	716.80	
A1C 125, TMF, In=125A	125	1250	25	1SDA066720R1	750.40	
A1N125, TMF, In=20A	20	400	36	1SDA066722R1	117.50	
A1N125, TMF, In=25A	25	400	36	1SDA066723R1	117.50	
A1N125, TMF, In=30A	30	400	36	1SDA066724R1	117.50	
A1N125, TMF, In=40A	40	400	36	1SDA066725R1	117.50	
A1N125, TMF, In=50A	50	500	36	1SDA066726R1	117.50	
A1N125, TMF, In=60A	60	600	36	1SDA066727R1	117.50	
A1N125, TMF, In=63A	63	630	36	1SDA068771R1	117.50	
A1N125, TMF, In=70A	70	700	36	1SDA066728R1	146.30	
A1N125, TMF, In=80A	80	800	36	1SDA066729R1	146.30	
A1N125, TMF, In=90A	90	900	36	1SDA066730R1	146.30	
A1N125, TMF, In=100A	100	1000	36	1SDA066731R1	146.30	
A1N125, TMF, In=125A	125	1250	36	1SDA066732R1	157.10	
A2N250, TMF, In=160A	160	1600	36	1SDA066782R1	178.70	
A2N250, TMF, In=175A	175	1750	36	1SDA066783R1	178.70	
A2N250, TMF, In=200A	200	2000	36	1SDA066784R1	244.60	
A2N250, TMF, In=225A	225	2250	36	1SDA066785R1	244.60	
A2N250, TMF, In=250A	250	2500	36	1SDA066786R1	244.60	
A3N400, TMF, In=320A	320	3200	36	1SDA066560R1	504.80	
A3N400, TMF, In=400A	400	4000	36	1SDA066561R1	545.50	
A3N630, TMF, In=500A	500	5000	36	1SDA066564R1	610.30	
A3S400, TMF, In=320A	320	3200	50	1SDA066562R1	516.80	
A3S400, TMF, In=400A	400	4000	50	1SDA066563R1	581.50	
A3S630, TMF, In=500A	500	5000	50	1SDA066565R1	623.50	

ELT-LI non-adjustable electronic release, 3-pole

A3N630, ELT-LI, In=630A	630	6000	36	1SDA066566R1	628.30
A3S630, ELT-LI, In=630A	630	6000	50	1SDA066567R1	641.50

For different rated current (In) and short circuit breaking capacity (Icu) values, you can see our product catalogue or contact our offices.

MOLDED CASE CIRCUIT BREAKERS
FORMULA molded case circuit breakers

TMF fixed thermomagnetic release, 4-pole


A2/4p

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)	
A1B 125, TMF, In=20A	20	400	18	1SDA066734R1	121.50	NEW
A1B 125, TMF, In=25A	25	400	18	1SDA066735R1	121.50	
A1B 125, TMF, In=32A	32	400	18	1SDA068762R1	121.50	
A1B 125, TMF, In=40A	40	400	18	1SDA066737R1	121.50	
A1B 125, TMF, In=50A	50	500	18	1SDA066738R1	121.50	
A1B 125, TMF, In=63A	63	630	18	1SDA068773R1	121.50	
A1B 125, TMF, In=80A	80	800	18	1SDA066741R1	151.80	
A1B 125, TMF, In=100A	100	1000	18	1SDA066743R1	151.80	
A1B 125, TMF, In=125A	125	1250	18	1SDA066744R1	162.60	
A1C125, TMF, In=20A	20	400	25	1SDA066746R1	140.30	
A1C 125,TMF, In=25A	25	400	25	1SDA066747R1	140.30	
A1C125, TMF, In=32A	32	400	25	1SDA068763R1	140.30	
A1C125, TMF, In=40A	40	400	25	1SDA066749R1	140.30	
A1C125, TMF, In=50A	50	500	25	1SDA066750R1	140.30	
A1C125, TMF, In=63A	63	630	25	1SDA068774R1	140.30	
A1C125, TMF, In=80A	80	800	25	1SDA066753R1	173.90	
A1C125, TMF, In=100A	100	1000	25	1SDA066755R1	173.90	
A1C125, TMF, In=125A	125	1250	25	1SDA066756R1	185.80	
A1N125, TMF, In=20A	20	400	36	1SDA066758R1	146.30	
A1N125, TMF, In=32A	32	400	36	1SDA068764R1	146.30	
A1N125, TMF, In=40A	40	400	36	1SDA066761R1	146.30	
A1N125, TMF, In=50A	50	500	36	1SDA066762R1	146.30	
A1N125, TMF, In=60A	60	600	36	1SDA066763R1	146.30	
A1N125, TMF, In=63A	63	630	36	1SDA068775R1	146.30	
A1N125, TMF, In=80A	80	800	36	1SDA066765R1	183.00	
A1N125, TMF, In=100A	100	1000	36	1SDA066767R1	183.40	
A1N125, TMF, In=125A	125	1250	36	1SDA066768R1	196.60	
A2N250, TMF, In=160A	160	1600	36	1SDA066794R1	223.10	
A2N250, TMF, In=200A	200	2000	36	1SDA066796R1	305.60	
A2N250, TMF, In=250A	250	2500	36	1SDA066798R1	305.60	
A3N400, TMF, In=320A	320	3200	36	1SDA066568R1	645.10	
A3N400, TMF, In=400A	400	4000	36	1SDA066569R1	685.80	
A3N630, TMF, In=500A	500	5000	36	1SDA066572R1	749.40	
A3S400, TMF, In=320A	320	3200	50	1SDA066570R1	679.80	
A3S400, TMF, In=400A	400	4000	50	1SDA066571R1	723.00	
A3S630, TMF, In=500A	500	5000	50	1SDA066573R1	794.90	

ELT-LI non-adjustable electronic release, 4-pole

A3N630, ELT-LI, In=630A	630	6000	36	1SDA066574R1	822.50
A3S630, ELT-LI, In=630A	630	6000	50	1SDA066575R1	866.90

For different rated current (In) and short circuit breaking capacity (Icu) values, you can see our product catalogue or contact our offices.

MOLDED CASE CIRCUIT BREAKERS
FORMULA molded case circuit breakers

	Breaker type	Description	Code	Price (EUR)
 Undervoltage release	**Undervoltage release**			
	A1-A2	UVR 220...240VAC - 220...250VDC	1SDA066146R1	81.53
	A1-A2	UVR 380...440VAC	1SDA066147R1	81.53
	A3	UVR 220...240VAC - 220...250VDC	1SDA054891R1	115.10
	A3	UVR 380...440VAC	1SDA054892R1	115.10
 Shunt opening release	**Shunt opening release**			
	A1-A2	SOR 220...240VAC - 220...250VDC	1SDA066137R1	64.74
	A1-A2	SOR 380...440VAC	1SDA066138R1	64.74
	A3	SOR 220...240VAC - 220...250VDC	1SDA054873R1	107.90
	A3	SOR 380...440VAC	1SDA054874R1	107.90
 Auxiliary contact	**Auxiliary contact**			
	A1-A2 3p, 4p	1A/K auxiliary contact + trip contact 250VAC/DC	1SDA066149R1	45.56
	A1-A2 3p, 4p	2A/K auxiliary contact + trip contact 250VAC/DC	1SDA066150R1	61.15
	A3	1A/K auxiliary contact + trip contact 250VAC/DC	1SDA054910R1	74.34
	A3	3A/K auxiliary contact + trip contact 250VAC/DC	1SDA054911R1	149.90
 Rotary handle	**Rotary handle operating mechanism**			#YOK
	A1-A2	RHE standard, adjustable shaft	1SDA066158R1	64.75
	A1-A2	RHE_EM emergency stop, adjustable shaft	1SDA066160R1	64.75
	A3	RHE standard, adjustable shaft	1SDA066159R1	133.10
	A3	RHE_EM emergency stop, adjustable shaft	1SDA066161R1	178.70
	A1-A2	RHD standard, direct mounting	1SDA066154R1	45.56
	A1-A2	RHD_EM emergency stop, direct mounting	1SDA066156R1	79.13
 Front for locks A3	A3	RHD standard, direct mounting	1SDA066155R1	74.34
	A3	RHD_EM emergency stop, direct mounting	1SDA066157R1	166.70
	Front for locks			
 DIN rail mounting plate	A3	Front for locks	1SDA066179R1	37.17
	DIN rail mounting plate			
	A1-A2	DIN rail mounting plate	1SDA066180R1	9.59

TMAX XT
Characteristics

Rated operational voltage, Ue	(AC) 50-60Hz	[V]	690
	(DC)	[V]	500[1]
Nominal insulation voltage, Ui		[V]	800/1000[2]
Nominal impulse withstand voltage, Uimp		[kV]	8
Poles		[Qty.]	3, 4
Types			Fixed, Plug-in[3] Withdrawable[4]
Standard			IEC 60947-2



XT1



XT2



XT3



XT4

Size			[A]
Rated maximum short circuit breaking capacity, Icu			
Icu @ (AC) 220-230-240V 50-60Hz			[kA]
Icu @ (AC) 415V 50-60Hz			[kA]
Icu @ (AC) 690V 50-60Hz			[kA]
Icu @ (DC) 250V 2 poles in series			[kA]
Icu @ (DC) 500V 2 poles in series			[kA]
Icu @ (DC) 500V 3 poles in series			[kA]
Rated service short-circuit breaking capacity, Ics			
Ics @ (AC) 220-230-240V 50-60Hz			[%Icu]
Ics @ (AC) 415V 50-60Hz			[%Icu]
Ics @ (AC) 690V 50-60Hz			[%Icu]
Ics @ (DC) 250V 2 poles in series			[%Icu]
Ics @ (DC) 500V 2 poles in series			[%Icu]
Ics @ (DC) 500V 3 poles in series[5]			[%Icu]
Utilization category (IEC 60947-2)			
Total opening time			
Circuit breaker with opening release			[ms]
Circuit breaker with undervoltage release			[ms]
Interchangeable trip units			
Mechanical life			[No. operations]
			[Number of operations/hour]
Electrical life (415V)			[No. operations]
			[Number of operations/hour]
Dimensions - Fixed version (Width x Depth x Height)		3 poles	[mm]
		4 poles	[mm]
Weight	Fixed	3/4 poles	[kg]
	Plug-in	3/4 poles	[kg]
	Withdrawable	3/4 poles	[kg]

[1] Please contact ABB for the XT4 750V DC version.
[2] 800V for XT1 and XT3 size, 1000V for XT2 and XT4 size
[3] In max=125A for plug-in XT1
[4] Only available for XT2 and XT4 sizes
[5] 4 poles must be connected in series for XT1 500V DC
[6] In<32A Icu=25kA/Ics=20kA and In≤52A/Icu=Ics=5kA for circuit breakers with magnetic release only
[7] Ics=100%Icu for XT4V 250A with EF, ES, R and external FC CuAl (2x...) terminals.
I1>200A Icu=25% for other terminal types

				XT1				XT2		XT3						XT4	
				160				160		250						160/250	
B	C	N	S	H	N	S	H	L	V	N	S	N	S	H	L	V	X
25	40	65	85	100	65	85	100	150	200	50	85	65	85	100	150	200	200
18	25	36	50	70	36	50	70	120	150	36	50	36	50	70	120	150	200
3	4	6	8	10	10	12	15	18	20	5	6	10	12	15	20	50[6]	100
18	25	36	50	70	36	50	70	85	100	36	50	36	50	70	85	100	100
-	-	-	-	-	-	-	-	-	-	-	-	36	50	70	85	100	100
18	25	36	50	70	36	50	70	85	100	36	50	36	50	70	85	100	100
100%	100%	75% (50)	75%	75%	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%	100%
100%	100%	100%	75%	50% (37,5)	100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%	100%
100%	100%	75%(5)	50%(5)	50%	100%	100%	100%	75%(15)	75%	50%(3)	50%	100%	100%	100%	100%	100%[7]	100%[7]
100%	100%	100%	100%	75%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%	100%
-	-	-	-	-	-	-	-	-	-	-	-	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	75%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%	100%
				A					A		A						A
				30					30		30						30
				30					30		30						30
									✔								✔
				25000					25000		25000						25000
				240					240		240						240
				8000					8000		8000						8000
				120					120		120						120
				76.2 x 70 x 130					90 x 82.5 x 130		105 x 70 x 150						105 x 82.5 x 160
				101.6 x 70 x 130					120 x 82.5 x 130		140 x 70 x 150						140 x 82.5 x 160
				1.1 / 1.4					1.2 / 1.6		1.7 / 2.1						2.5 / 3.5
				2.21 / 2.82					2.54 / 3.27		3.24 / 4.1						4.19 / 5.52
									3.32 / 4.04								5 / 6.76

TMAX XT
Characteristics

Rated operational voltage, Ue	(AC) 50-60Hz	[V]	690
	(DC)	[V]	750[1]
Nominal insulation voltage, Ui		[V]	1000
Nominal impulse withstand voltage, Uimp		[kV]	8
Poles		[Qty.]	3, 4
Types			Fixed, Plug-in[2] Withdrawable
Standard			IEC 60947-2



XT5



XT6



XT7



XT7 M

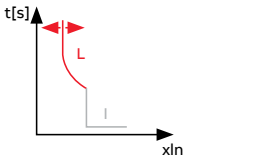
Size			[A]
Rated maximum short circuit breaking capacity, Icu			
Icu @ (AC) 220-230-240V 50-60Hz			[kA]
Icu @ (AC) 415V 50-60Hz			[kA]
Icu @ (AC) 690V 50-60Hz			[kA]
Icu @ (DC) 250V 2 poles in series			[kA]
Icu @ (DC) 500V 2 poles in series			[kA]
Icu @ (DC) 500V 3 poles in series			[kA]
Icu @ (DC) 750V 3 poles in series			[kA]
Rated service short-circuit breaking capacity, Ics			
Ics @ (AC) 220-230-240V 50-60Hz			[%Icu]
Ics @ (AC) 415V 50-60Hz			[%Icu]
Ics @ (AC) 690V 50-60Hz			[%Icu]
Ics @ (DC) 250V 2 poles in series			[%Icu]
Ics @ (DC) 500V 2 poles in series			[%Icu]
Ics @ (DC) 500V 3 poles in series[5]			[%Icu]
Ics @ (DC) 750V 3 poles in series			[%Icu]
Utilization category (IEC 60947-2)			
Total opening time			
Circuit breaker with opening release			[ms]
Circuit breaker with undervoltage release			[ms]
Interchangeable trip units			
Mechanical life			[No. operations]
			[Number of operations/hour]
Electrical life (415V)			[No. operations]
			[Number of operations/hour]
Dimensions - Fixed version (Width x Depth x Height)		3 poles	[mm]
		4 poles	[mm]
Weight	Fixed	3/4 poles	[kg]
	Plug in (EF terminals)	3/4 poles	[kg]
	Withdrawable (EF terminals)	3/4 poles	[kg]

[1] Excluding Tmax XT7-XT7M
[2] Max. In 400C=600A in plug-in/withdrawable versions
[3] Ics=%75 In>500A
[4] Ics=%50 In>500A
[5] Category B: circuit breakers with electronic trip unit only
[6] 1000A is only available in fixed version with EF, ES, R and FCCuAl terminals.
EF terminals are supplied as standard unless another terminal has been ordered.

					XT5			**XT6**			**XT7**			**XT7 M**
					400 / 630			**800 / 1000 [6]**			**800 / 1000 / 1250 / 1600**			**800 / 1000 / 1250 / 1600**
N	**S**	**H**	**L**	**V**	**X**	**N**	**S**	**H**	**S**	**H**	**L**	**S**	**H**	**L**
70	85	100	150	200	200	70	85	100	85	100	200	85	100	200
36	50	70	120	200	200	36	50	70	50	70	120	50	70	120
20	25	40	70	80	100	20	22	25	30	42	50	30	42	[50]
25	35	50	70	85	100	35	50	75	-	-	-	-	-	-
25	35	50	70	85	100	20	35	50	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	85	100	18	24	36	-	-	-	-	-	-
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%[3]	100%[4]	100%[4]	100%[4]	100%	100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	50% (35kA)	50%	-	-	-	-	-	-
100%	100%	100%	100%	100%	100%	100%	50%	50%	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	100%	100%	100%	75%	50%	-	-	-	-	-	-
					A (up to 630A). B (up to 500A) [5]			A (up to 1000A) - B (800A) [5]			B			B
					50			50			20			20
					50			50			30			30
					✔			✔			✔			✔
					20000			20000			10000			20000
					120			120			60			60
					7000 (400A) - 5000 (630A)			5000			3000			3000
					60			60			60			60
					140 x 103 x 205			210 x 103.5 x 268			210 x 166 x 268			210 x 178 x 268
					186 x 103 x 205			280 x 103.5 x 268			280 x 166 x 268			280 x 178 x 268
					3.25 / 4.15			9.5 / 12			9.7 / 12.5			11 / 14
					5.15 / 6.65			-			-			-
					5.4 / 6.9			12.1 / 15.1			29.7 / 39.6			32 / 42.6

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

TMD and TMA thermomagnetic release, 3-pole

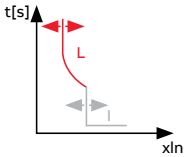


TMD protection: Thermal adjustable, magnetic fixed.


TMD protection: Thermal adjustable, magnetic fixed


XT1


XT3



TMA protection: Thermal adjustable, magnetic adjustable.

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT1B 160, TMD, In=20A	14...20	450	18	1SDA066800R1	117.80
XT1B 160, TMD, In=25A	17.5..25	450	18	1SDA066801R1	117.80
XT1B 160, TMD, In=32A	22.5..32	450	18	1SDA066802R1	117.80
XT1B 160, TMD, In=40A	28...40	450	18	1SDA066803R1	117.80
XT1B 160, TMD, In=50A	35...50	500	18	1SDA066804R1	117.80
XT1B 160, TMD, In=63A	44...63	630	18	1SDA066805R1	117.80
XT1B 160, TMD, In=80A	56...80	800	18	1SDA066806R1	117.80
XT1B 160, TMD, In=100A	70...100	1000	18	1SDA066807R1	117.80
XT1B 160, TMD, In=125A	87.5..125	1250	18	1SDA066808R1	143.60
XT1B 160, TMD, In=160A	112..160	1600	18	1SDA066809R1	147.50
XT1N 160, TMD, In=32A	22,5...32	450	36	1SDA067411R1	158.30
XT1N 160, TMD, In=40A	28...40	450	36	1SDA067412R1	158.30
XT1N 160, TMD, In=50A	35...50	500	36	1SDA067413R1	158.30
XT1N 160, TMD, In=63A	44...63	630	36	1SDA067414R1	158.30
XT1N 160, TMD, In=80A	56...80	800	36	1SDA067415R1	158.30
XT1N 160, TMD, In=100A	70...100	1000	36	1SDA067416R1	158.30
XT1N 160, TMD, In=125A	87,5...125	1250	36	1SDA067417R1	191.80
XT1N 160, TMD, In=160A	112...160	1600	36	1SDA067418R1	197.80
XT3N 250, TMD, In=200A	140...200	2000	36	1SDA068058R1	300.90
XT3N 250, TMD, In=250A	175...250	2500	36	1SDA068059R1	300.90
XT5N 400, TMA, In=320A	224...320	1600...3200	36	1SDA100344R1	616.30
XT5N 400, TMA, In=400A	280...400	2000...4000	36	1SDA100345R1	709.80
XT5N 630, TMA, In=630A	441...630	3150...6300	36	1SDA100347R1	1,032.00
XT6N 800, TMA, In=800A	560...800	4000...8000	36	1SDA100718R1	1,608.00
XT1S 160, TMD, In=32A	22,5...32	450	50	1SDA080833R1	194.20
XT1S 160, TMD, In=40A	28...40	450	50	1SDA080834R1	194.20
XT1S 160, TMD, In=50A	35...50	500	50	1SDA067431R1	194.20
XT1S 160, TMD, In=63A	44...63	630	50	1SDA067432R1	194.20
XT1S 160, TMD, In=80A	56...80	800	50	1SDA067433R1	205.00
XT1S 160, TMD, In=100A	70...100	1000	50	1SDA067434R1	205.00
XT1S 160, TMD, In=125A	87,5...125	1250	50	1SDA067435R1	245.80
XT1S 160, TMD, In=160A	112...160	1600	50	1SDA067436R1	254.20
XT3S 250, TMD, In=200A	140...200	2000	50	1SDA068220R1	363.30
XT3S 250, TMD, In=250A	175...250	2500	50	1SDA068221R1	363.30
XT5S 400, TMA, In= 320A	224...320	1600...3200	50	1SDA100414R1	711.00
XT5S 400, TMA, In=400A	280...400	2000...4000	50	1SDA100415R1	815.30
XT5S 630, TMA, In=630A	441...630	3150...6300	50	1SDA100417R1	1,218.00
XT6S 800, TMA, In=800A	560...800	4000...8000	50	1SDA100740R1	1,695.00

NEW

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

TMD and TMA thermomagnetic release, 3-pole



XT5

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT1H 160, TMD, In=32A	22,5…32	450	70	1SDA080838R1	219.40
XT1H 160, TMD, In=40A	28…40	450	70	1SDA080839R1	219.40
XT1H 160, TMD, In=50A	35…50	500	70	1SDA067449R1	219.40
XT1H 160, TMD, In=63A	44…63	630	70	1SDA067450R1	219.40
XT1H 160, TMD, In=80A	56…80	800	70	1SDA067451R1	231.40
XT1H 160, TMD, In=100A	70…100	1000	70	1SDA067452R1	231.40
XT1H 160, TMD, In=125A	87,5…125	1250	70	1SDA067453R1	277.00
XT1H 160, TMD, In=160A	112…160	1600	70	1SDA067454R1	289.00
XT4H 250, TMA, In=200A	140…200	1000…2000	70	1SDA068343R1	530.00
XT4H 250, TMA, In=250A	175…250	1250…2500	70	1SDA068345R1	530.00
XT5H 400, TMA, In=320A	224…320	1600…3200	70	1SDA100484R1	1,126.00
XT5H 400, TMA, In=400A	280…400	2000…4000	70	1SDA100485R1	1,126.00
XT5H 630, TMA, In=630A	441…630	3150…6300	70	1SDA100487R1	1,597.00
XT6H 800, TMA, In=800A	560…800	4000…8000	70	1SDA100762R1	1,947.00

TMA thermomagnetic release, 3-pole



TMA protection: Thermal adjustable, magnetic adjustable

XT2S 160, TMA, In=40A	28...40	320...400	50	1SDA067554R1	253.00
XT2S 160, TMA, In=50A	35...50	300...500	50	1SDA067555R1	253.00
XT2S 160, TMA, In=63A	44...63	300...500	50	1SDA067556R1	255.40
XT2S 160, TMA, In=80A	56...80	400...800	50	1SDA067557R1	255.40
XT2S 160, TMA, In=100A	70...100	500...1000	50	1SDA067558R1	255.40
XT2S 160, TMA, In=125A	87,5...125	625...1250	50	1SDA067559R1	255.40
XT2S 160, TMA, In=160A	112...160	800...1600	50	1SDA067560R1	260.20
XT4S 250, TMA, In=200A	140...200	1000...2000	50	1SDA068310R1	393.30
XT4S 250, TMA, In=250A	175...250	1250...2500	50	1SDA068312R1	393.30

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

LS/I electronic release, 3-pole


XT4


XT5


XT6


XT7

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT2N 160, Ekip Dip LS/I, In=10A	0,4...1xIn	1...10xIn	36	1SDA067054R1	360.90
XT2N 160, Ekip Dip LS/I, In=25A	0,4...1xIn	1...10xIn	36	1SDA067055R1	360.90
XT2N 160, Ekip Dip LS/I, In=63A	0,4...1xIn	1...10xIn	36	1SDA067056R1	360.90
XT2N 160, Ekip Dip LS/I, In=100A	0,4...1xIn	1...10xIn	36	1SDA067057R1	360.90
XT2N 160, Ekip Dip LS/I, In=160A	0,4...1xIn	1...10xIn	36	1SDA067058R1	365.70
XT4N 250, Ekip Dip LS/I, In=250A	0,4...1xIn	1...10xIn	36	1SDA068126R1	459.20
XT5N 400, Ekip Dip LS/I, In=320A	0,4...1xIn	1...10xIn	36	1SDA100353R1	886.10
XT5N 400, Ekip Dip LS/I, In=400A	0,4...1xIn	1...10xIn	36	1SDA100354R1	886.10
XT5N 630, Ekip Dip LS/I, In=630A	0,4...1xIn	1...10xIn	36	1SDA100355R1	1,229.00
XT6N 800, Ekip Dip LS/I, In=800A	0,4...1xIn	1...10xIn	36	1SDA100719R1	1,626.00
XT6N 1000, Ekip Dip LS/I, In=1000A	0,4...1xIn	1...10xIn	36	1SDA100720R1	2,170.00
XT2S 160, Ekip Dip LS/I, In=160A	0,4...1xIn	1...10xIn	50	1SDA067804R1	411.30
XT4S 250, Ekip Dip LS/I, In=250A	0,4...1xIn	1...10xIn	50	1SDA068475R1	488.00
XT5S 400, Ekip Dip LS/I, In=320A	0,4...1xIn	1...10xIn	50	1SDA100423R1	1,018.00
XT5S 400, Ekip Dip LS/I, In=400A	0,4...1xIn	1...10xIn	50	1SDA100424R1	1,018.00
XT5S 630, Ekip Dip LS/I, In=630A	0,4...1xIn	1...10xIn	50	1SDA100425R1	1,414.00
XT6S 800, Ekip Dip LS/I, In=800A	0,4...1xIn	1...10xIn	50	1SDA100741R1	1,713.00
XT6S 1000, Ekip Dip LS/I, In=1000A	0,4...1xIn	1...10xIn	50	1SDA100742R1	2,285.00
XT7S 1000, Ekip Dip LS/I, In=1000A*	0,4...1xIn	1...10xIn	50	1SDA100827R1	2,332.00
XT7S 1250, Ekip Dip LS/I, In=1250A*	0,4...1xIn	1...10xIn	50	1SDA100828R1	2,681.00
XT7S 1600, Ekip Dip LS/I, In=1600A*	0,4...1xIn	1...10xIn	50	1SDA100829R1	3,709.00
XT2H 160, Ekip Dip LS/I, In=160A	0,4...1xIn	1...10xIn	70	1SDA067861R1	531.20
XT4H 250, Ekip Dip LS/I, In=250A	0,4...1xIn	1...10xIn	70	1SDA068515R1	624.70
XT5H 400, Ekip Dip LS/I, In=320A	0,4...1xIn	1...10xIn	70	1SDA100489R1	1,152.00
XT5H 400, Ekip Dip LS/I, In=400A	0,4...1xIn	1...10xIn	70	1SDA100490R1	1,152.00
XT5H 630, Ekip Dip LS/I, In=630A	0,4...1xIn	1...10xIn	70	1SDA100491R1	1,597.00
XT6H 800, Ekip Dip LS/I, In=800A	0,4...1xIn	1...10xIn	70	1SDA100763R1	1,965.00
XT6H 1000, Ekip Dip LS/I, In=1000A	0,4...1xIn	1...10xIn	70	1SDA100764R1	2,400.00
XT7H 1000, Ekip Dip LS/I, In=1000A*	0,4...1xIn	1...10xIn	70	1SDA100891R1	2,450.00
XT7H 1250, Ekip Dip LS/I, In=1250A*	0,4...1xIn	1...10xIn	70	1SDA100892R1	2,822.00
XT7H 1600, Ekip Dip LS/I, In=1600A*	0,4...1xIn	1...10xIn	70	1SDA100893R1	3,906.00

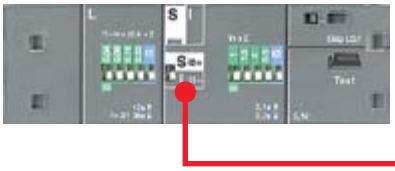
* Of the above products, only the standard XT7 switch cannot be fitted with a motor. However, other accessories can be fitted. The motor mountable version of the XT7 is the XT7 M size below.

XT7 M motor mountable, LS/I electronic release, 3-pole


XT7 M

XT7S 800M, Ekip Dip LS/I, In=800A	0,4...1xIn	1...10xIn	50	1SDA101366R1	2,155.00
XT7S 1000M, Ekip Dip LS/I, In=1000A	0,4...1xIn	1...10xIn	50	1SDA101367R1	2,519.00
XT7S 1250M, Ekip Dip LS/I, In=1250A	0,4...1xIn	1...10xIn	50	1SDA101368R1	2,897.00
XT7S 1600M, Ekip Dip LS/I, In=1600A	0,4...1xIn	1...10xIn	50	1SDA101369R1	4,006.00
XT7H 800M, Ekip Dip LS/I, In=800A	0,4...1xIn	1...10xIn	70	1SDA101430R1	2,165.00
XT7H 1000M, Ekip Dip LS/I, In=1000A	0,4...1xIn	1...10xIn	70	1SDA101431R1	2,645.00
XT7H 1250M, Ekip Dip LS/I, In=1250A	0,4...1xIn	1...10xIn	70	1SDA101432R1	3,049.00
XT7H 1600M, Ekip Dip LS/I, In=1600A	0,4...1xIn	1...10xIn	70	1SDA101433R1	4,219.00

In XT7 M series, motor, opening and closing coil are required for remote switching.
Use the XT7 M series for motor applications. The motor for the XT7 M must be ordered separately.
XT7 M switches are suitable for grid-generator transfer and synchronisation.

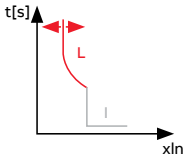


L: Overcurrent protection
S: Delayed short circuit protection
I: instantaneous short-circuit protection

In the LS/I protection unit, either S or I protection is selected via the dip switch.

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

TMD and TMA thermomagnetic release, 4-pole

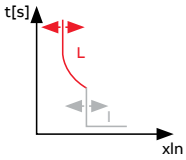


TMD protection: Thermal adjustable, magnetic fixed


TMD protection: Thermal adjustable, magnetic fixed


XT3


XT6



TMA protection: Thermal adjustable, magnetic adjustable

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA)	Code	Price (EUR)
XT1N 160, TMD, In=32A, 4p	22,5…32	450	36	1SDA067419R1	200.20
XT1N 160, TMD, In=40A, 4p	28…40	450	36	1SDA067420R1	200.20
XT1N 160, TMD, In=50A, 4p	35…50	500	36	1SDA067421R1	200.20
XT1N 160, TMD, In=63A, 4p	44…63	630	36	1SDA067422R1	200.20
XT1N 160, TMD, In=80A, 4p	56…80	800	36	1SDA067423R1	211.00
XT1N 160, TMD, In=100A, 4p	70…100	1000	36	1SDA067424R1	211.00
XT1N 160, TMD, In=125A, InN=100%, 4p	87,5…125	1250	36	1SDA067427R1	253.00
XT1N 160, TMD, In=160A, InN=100%, 4p	112…160	1600	36	1SDA067428R1	263.80
XT3N 250, TMD, In=200A, InN=100%, 4p	140…200	2000	36	1SDA068069R1	400.50
XT3N 250, TMD, In=250A, InN=100%, 4p	175…250	2500	36	1SDA068070R1	400.50
XT5N 400, TMA, In=320A, InN=100%, 4p	224…320	1600….3200	36	1SDA100383R1	959.20
XT5N 400, TMA, In=400A, InN=100%, 4p	280…400	2000…4000	36	1SDA100385R1	1,043.00
XT5N 630, TMA, In=630A, InN=100%, 4p	441…630	3150…6300	36	1SDA100389R1	1,279.00
XT6N 800, TMA, In=800A, InN=100%, 4p	560…800	4000…8000	36	1SDA100731R1	2,138.00
XT1S 160, TMD, In=32A, 4p	22,5…32	450	50	1SDA080848R1	257.80
XT1S 160, TMD, In=40A, 4p	28…40	450	50	1SDA080849R1	257.80
XT1S 160, TMD, In=50A, 4p	35…50	500	50	1SDA067439R1	257.80
XT1S 160, TMD, In=63A, 4p	44…63	630	50	1SDA067440R1	257.80
XT1S 160, TMD, In=80A, 4p	56…80	800	50	1SDA067441R1	272.20
XT1S 160, TMD, In=100A, 4p	70…100	1000	50	1SDA067442R1	272.20
XT1S 160, TMD, In=125A, InN=100%, 4p	87,5…125	1250	50	1SDA067445R1	326.10
XT1S 160, TMD, In=160A, InN=100%, 4p	112…160	1600	50	1SDA067446R1	332.10
XT3S 250, TMD, In=200A, InN=100%, 4p	140…200	2000	50	1SDA068231R1	483.20
XT3S 250, TMD, In=250A, InN=100%, 4p	175…250	2500	50	1SDA068232R1	483.20
XT5S 400, TMA, In=320A, InN=100%, 4p	224…320	1600….3200	50	1SDA100453R1	1,131.00
XT5S 400, TMA, In=400A, InN=100%, 4p	280…400	2000…4000	50	1SDA100455R1	1,199.00
XT5S 630, TMA, In=630A, InN=100%, 4p	441…630	3150…6300	50	1SDA100459R1	1,471.00
XT6S 800, TMA, In=800A, InN=100%, 4p	560…800	4000…8000	50	1SDA100753R1	2,255.00
XT1H 160, TMD, In=32A, 4p	22,5…32	450	70	1SDA080853R1	291.40
XT1H 160, TMD, In=40A, 4p	28…40	450	70	1SDA080854R1	291.40
XT1H 160, TMD, In=50A, 4p	35…50	500	70	1SDA067457R1	291.40
XT1H 160, TMD, In=63A, 4p	44…63	630	70	1SDA067458R1	291.40
XT1H 160, TMD, In=80A, 4p	56…80	800	70	1SDA067459R1	306.90
XT1H 160, TMD, In=100A, 4p	70…100	1000	70	1SDA067460R1	306.90
XT1H 160, TMD, In=125A, InN=100%, 4p	87,5…125	1250	70	1SDA067463R1	368.10
XT1H 160, TMD, In=160A, InN=100%, 4p	112…160	1600	70	1SDA067464R1	383.70
XT4H 250, TMA, In=200A, InN=100%, 4p	140…200	1000…2000	70	1SDA068362R1	689.40
XT4H 250, TMA, In=250A, InN=100%, 4p	175…250	1250…2500	70	1SDA068364R1	689.40
XT5H 400, TMA, In=320A, InN=100%, 4p	224…320	1600….3200	70	1SDA100519R1	1,499.00
XT5H 400, TMA, In=400A, InN=100%,4p	280…400	2000…4000	70	1SDA100521R1	1,499.00
XT5H 630, TMA, In=630A, InN=100%, 4p	441…630	3150…6300	70	1SDA100525R1	2,123.00
XT6H 800, TMA, In=800A, InN=100%,4p	560…800	4000…8000	70	1SDA100775R1	2,590.00

TMA thermomagnetic release, 4-pole


TMA protection: Thermal adjustable, magnetic adjustable

XT2S 160, TMA, In=40A, 4p	28…40	300…400	50	1SDA067575R1	334.50
XT2S 160, TMA, In=50A, 4p	35…50	300…500	50	1SDA067576R1	334.50
XT2S 160, TMA, In=63A, 4p	44…63	300…630	50	1SDA067577R1	334.50
XT2S 160, TMA, In=80A, 4p	56…80	400…800	50	1SDA067578R1	334.50
XT2S 160, TMA, In=100A, 4p	70…100	500…1000	50	1SDA067579R1	334.50
XT2S 160, TMA, In=125A, InN=100%, 4p	87,5…125	625…1250	50	1SDA067582R1	336.90
XT2S 160, TMA, In=160A, InN=100%, 4p	112…160	800…1600	50	1SDA067583R1	336.90
XT4S 250, TMA, In=200A, InN=100%, 4p	140…200	1000…2000	50	1SDA068329R1	508.40
XT4S 250, TMA, In=250A, InN=100%, 4p	175…250	1250…2500	50	1SDA068331R1	508.40

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

LS/I electronic release, 4-pole

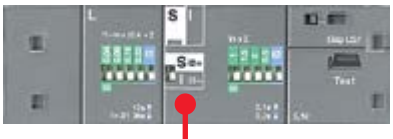
	Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
 XT4 4p	XT2N 160, Ekip Dip LS/I, In=10A, 4p	0,4…1xIn	1…10xIn	36	1SDA067090R1	472.40
	XT2N 160, Ekip Dip LS/I, In=25A, 4p	0,4…1xIn	1…10xIn	36	1SDA067091R1	472.40
	XT2N 160, Ekip Dip LS/I, In=63A, 4p	0,4…1xIn	1…10xIn	36	1SDA067092R1	462.80
	XT2N 160, Ekip Dip LS/I, In=100A, 4p	0,4…1xIn	1…10xIn	36	1SDA067093R1	462.80
	XT2N 160, Ekip Dip LS/I, In=160A, 4p	0,4…1xIn	1…10xIn	36	1SDA067095R1	468.80
	XT4N 250, Ekip Dip LS/I, In=250A, 4p	0,4…1xIn	1…10xIn	36	1SDA068147R1	588.70
	XT5N 400, Ekip Dip LS/I, In=320A, 4p	0,4…1xIn	1…10xIn	36	1SDA100395R1	1,179.00
	XT5N 400, Ekip Dip LS/I, In=400A, 4p	0,4…1xIn	1…10xIn	36	1SDA100396R1	1,179.00
 XT5 4p	XT5N 630, Ekip Dip LS/I, In=630A, 4p	0,4…1xIn	1…10xIn	36	1SDA100397R1	1,634.00
	XT6N 800, Ekip Dip LS/I, In=800A, 4p	0,4…1xIn	1…10xIn	36	1SDA100732R1	2,162.00
	XT6N 1000, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	36	1SDA100733R1	2,885.00
	XT2H 160, Ekip Dip LS/I, In=160A, 4p	0,4…1xIn	1…10xIn	50	1SDA067838R1	527.60
	XT4S 250, Ekip Dip LS/I, In=250A, 4p	0,4…1xIn	1…10xIn	50	1SDA068495R1	627.10
	XT5S 400, Ekip Dip LS/I, In=320A, 4p	0,4…1xIn	1…10xIn	50	1SDA100465R1	1,355.00
	XT5S 400, Ekip Dip LS/I, In=400A, 4p	0,4…1xIn	1…10xIn	50	1SDA100466R1	1,355.00
 XT6 4p	XT5S 630, Ekip Dip LS/I, In=630A, 4p	0,4…1xIn	1…10xIn	50	1SDA100467R1	1,880.00
	XT6S 800, Ekip Dip LS/I, In=800A, 4p	0,4…1xIn	1…10xIn	50	1SDA100754R1	2,279.00
	XT6S 1000, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	50	1SDA100755R1	3,041.00
	XT7S 1000, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	50	1SDA101115R1	3,102.00
	XT7S 1250, Ekip Dip LS/I, In=1250A, 4p	0,4…1xIn	1…10xIn	50	1SDA101116R1	3,566.00
	XT7S 1600, Ekip Dip LS/I, In=1600A, 4p	0,4…1xIn	1…10xIn	50	1SDA101117R1	4,933.00
 XT7 4p	XT2H 160, Ekip Dip LS/I, In=160A, 4p	0,4…1xIn	1…10xIn	70	1SDA067895R1	688.20
	XT4H 250, Ekip Dip LS/I, In=250A, 4p	0,4…1xIn	1…10xIn	70	1SDA068535R1	808.10
	XT5H 400, Ekip Dip LS/I, In=320A, 4p	0,4…1xIn	1…10xIn	70	1SDA100527R1	1,534.00
	XT5H 400, Ekip Dip LS/I, In=400A, 4p	0,4…1xIn	1…10xIn	70	1SDA100528R1	1,534.00
	XT5H 630, Ekip Dip LS/I, In=630A, 4p	0,4…1xIn	1…10xIn	70	1SDA100529R1	2,123.00
	XT6H 800, Ekip Dip LS/I, In=800A, 4p	0,4…1xIn	1…10xIn	70	1SDA100776R1	2,614.00
	XT6H 1000, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	70	1SDA100777R1	3,192.00
	XT7H 1000, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	70	1SDA101171R1	3,256.00
	XT7H 1250, Ekip Dip LS/I, In=1250A, 4p	0,4…1xIn	1…10xIn	70	1SDA101172R1	3,755.00
	XT7H 1600, Ekip Dip LS/I, In=1600A, 4p	0,4…1xIn	1…10xIn	70	1SDA101173R1	5,196.00

* Of the above products, only the standard XT7 switch cannot be fitted with a motor. However, other accessories can be fitted. The motor mountable version of the XT7 is the XT7 M size below.

XT7 M motor mountable, LS/I electronic release, 4-pole

 XT7M 4p	XT7S 800M, Ekip Dip LS/I, In=800A, 4p	0,4…1xIn	1…10xIn	50	1SDA101654R1	2,803.00
	XT7S 1000M, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	50	1SDA101655R1	3,350.00
	XT7S 1250M, Ekip Dip LS/I, In=1250A, 4p	0,4…1xIn	1…10xIn	50	1SDA101656R1	3,851.00
	XT7S 1600M, Ekip Dip LS/I, In=1600A, 4p	0,4…1xIn	1…10xIn	50	1SDA101657R1	5,327.00
	XT7H 800M, Ekip Dip LS/I, In=800A, 4p	0,4…1xIn	1…10xIn	70	1SDA101710R1	2,880.00
	XT7H 1000M, Ekip Dip LS/I, In=1000A, 4p	0,4…1xIn	1…10xIn	70	1SDA101711R1	3,518.00
	XT7H 1250M, Ekip Dip LS/I, In=1250A, 4p	0,4…1xIn	1…10xIn	70	1SDA101712R1	4,056.00
	XT7H 1600M, Ekip Dip LS/I, In=1600A, 4p	0,4…1xIn	1…10xIn	70	1SDA101713R1	5,613.00

In XT7M series, motor, opening and closing coil are needed for remote switching.
Use the XT7 M series for motor applications. The motor for the XT7 M must be ordered separately.
XT7M switches are suitable for grid-generator transfer and synchronisation.



L: Overcurrent protection
S: Delayed short circuit protection
I: instantaneous short-circuit protection

In the LS/I protection unit, either S or I protection is selected via the dip switch.

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

Energy-measuring Tmax XT with Ekip Touch Measuring trip unit, 3 pole

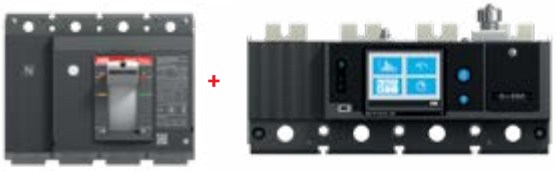

XT2


XT5


XT7

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT2N 160, Ekip Touch Measuring LSI, In=40A*	0,4…1xIn	1…10xIn	36	1SDA068163-100108R	1,213.00
XT2N 160, Ekip Touch Measuring LSI, In=63A*	0,4…1xIn	1…10xIn	36	1SDA068163-100109R	1,213.00
XT2N 160, Ekip Touch Measuring LSI, In=100A*	0,4…1xIn	1…10xIn	36	1SDA068163-100110R	1,235.00
XT2N 160, Ekip Touch Measuring LSI, In=160A*	0,4…1xIn	1…10xIn	36	1SDA068163-100111R	1,235.00
XT4N 250, Ekip Touch Measuring LSI, In=250A*	0,4…1xIn	1…10xIn	36	1SDA068173-100287R	1,290.00
XT5N 400, Ekip Touch Measuring LSI, In=320A	0,4…1xIn	1…10xIn	36	1SDA100550-100599R	1,588.00
XT5N 400, Ekip Touch Measuring LSI, In=400A*	0,4…1xIn	1…10xIn	36	1SDA100550-100600R	1,590.00
XT5N 630, Ekip Touch Measuring LSI, In=630A*	0,4…1xIn	1…10xIn	36	1SDA100551-100601R	1,903.00
XT2S 160, Ekip Touch Measuring LSI, In=40A*	0,4…1xIn	1…10xIn	50	1SDA068164-100108R	1,231.00
XT2S 160, Ekip Touch Measuring LSI, In=63A*	0,4…1xIn	1…10xIn	50	1SDA068164-100109R	1,231.00
XT2S 160, Ekip Touch Measuring LSI, In=100A*	0,4…1xIn	1…10xIn	50	1SDA068164-100110R	1,254.00
XT2S 160, Ekip Touch Measuring LSI, In=160A*	0,4…1xIn	1…10xIn	50	1SDA068164-100111R	1,254.00
XT4S 250, Ekip Touch Measuring LSI, In=250A*	0,4…1xIn	1…10xIn	50	1SDA068174-100287R	1,319.00
XT5S 400, Ekip Touch Measuring LSI, In=320A	0,4…1xIn	1…10xIn	50	1SDA100554-100599R	1,676.00
XT5S 400, Ekip Touch Measuring LSI, In=400A*	0,4…1xIn	1…10xIn	50	1SDA100554-100600R	1,677.00
XT5S 630, Ekip Touch Measuring LSI, In=630A*	0,4…1xIn	1…10xIn	50	1SDA100555-100601R	2,087.00
XT7S 800, Ekip Touch Measuring LSI, In=800A**	0,4…1xIn	1…10xIn	50	1SDA100846R1	2,081.00
XT7S 1000, Ekip Touch Measuring LSI, In=1000A**	0,4…1xIn	1…10xIn	50	1SDA100847R1	2,520.00
XT7S 1250, Ekip Touch Measuring LSI, In=1250A**	0,4…1xIn	1…10xIn	50	1SDA100848R1	2,870.00
XT7S 1600, Ekip Touch Measuring LSI, In=1600A**	0,4…1xIn	1…10xIn	50	1SDA100849R1	3,898.00
XT2H 160, Ekip Touch Measuring LSI, In=40A*	0,4…1xIn	1…10xIn	70	1SDA068165-100108R	1,352.00
XT2H 160, Ekip Touch Measuring LSI, In=63A*	0,4…1xIn	1…10xIn	70	1SDA068165-100109R	1,352.00
XT2H 160, Ekip Touch Measuring LSI, In=100A*	0,4…1xIn	1…10xIn	70	1SDA068165-100110R	1,374.00
XT2H 160, Ekip Touch Measuring LSI, In=160A*	0,4…1xIn	1…10xIn	70	1SDA068165-100111R	1,374.00
XT4H 250, Ekip Touch Measuring LSI, In=250A*	0,4…1xIn	1…10xIn	70	1SDA068175-100287R	1,454.00
XT5H 400, Ekip Touch Measuring LSI, In=320A	0,4…1xIn	1…10xIn	70	1SDA100558-100599R	1,810.00
XT5H 400, Ekip Touch Measuring LSI, In=400A*	0,4…1xIn	1…10xIn	70	1SDA100558-100600R	1,812.00
XT5H 630, Ekip Touch Measuring LSI, In=630A*	0,4…1xIn	1…10xIn	70	1SDA100559-100601R	2,272.00
XT7H 800, Ekip Touch Measuring LSI, In=800A**	0,4…1xIn	1…10xIn	70	1SDA100910R1	2,193.00
XT7H 1000, Ekip Touch Measuring LSI, In=1000A**	0,4…1xIn	1…10xIn	70	1SDA100911R1	2,638.00
XT7H 1250, Ekip Touch Measuring LSI, In=1250A**	0,4…1xIn	1…10xIn	70	1SDA100912R1	3,012.00
XT7H 1600, Ekip Touch Measuring LSI, In=1600A**	0,4…1xIn	1…10xIn	70	1SDA100913R1	4,096.00

* For XT2-XT4-XT5 frames, shielded protection units must be ordered as breaker part + protection unit with the above mounted codes.


Breaking Part + Trip unit

* Of the above products, only the standard XT7 switch cannot be fitted with a motor. However, other accessories can be fitted. The motor mountable version of the XT7 is the XT7 M size below.

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

Tmax XT, XT7 M stored energy motor operator with Ekip Touch Measuring trip unit, 3-pole


XT7 M

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT7S 800M, Ekip Touch Measuring LSI, In=800A	0,4…1xIn	1…10xIn	50	1SDA101386R1	2,345.00
XT7S 1000M, Ekip Touch Measuring LSI, In=1000A	0,4…1xIn	1…10xIn	50	1SDA101387R1	2,707.00
XT7S 1250M, Ekip Touch Measuring LSI, In=1250A	0,4…1xIn	1…10xIn	50	1SDA101388R1	3,085.00
XT7S 1600M, Ekip Touch Measuring LSI, In=1600A	0,4…1xIn	1…10xIn	50	1SDA101389R1	4,194.00
XT7H 800M, Ekip Touch Measuring LSI, In=800A	0,4…1xIn	1…10xIn	70	1SDA101450R1	2,355.00
XT7H 1000M, Ekip Touch Measuring LSI, In=1000A	0,4…1xIn	1…10xIn	70	1SDA101451R1	2,834.00
XT7H 1250M, Ekip Touch Measuring LSI, In=1250A	0,4…1xIn	1…10xIn	70	1SDA101452R1	3,238.00
XT7H 1600M, Ekip Touch Measuring LSI, In=1600A	0,4…1xIn	1…10xIn	70	1SDA101453R1	4,408.00

In XT7 M series, motor, opening and closing coil are required for remote switching. Use the XT7 M series for motor applications. The motor for the XT7 M must be ordered separately. XT7 M switches are suitable for grid-generator transfer and synchronisation.



Measurements included with the Ekip Touch Measuring trip unit
- Voltage: phase-phase, phase-neutral
- Power: active, reactive, apparent
- Energy: active, reactive, apparent
- Phase sequence
- Frequency
- Power factor
- Peak factor

To display phase-neutral voltage information on the screen of Tmax XT7 / XT7M Ekip Touch Measuring Series 3-pole drawer-type compact circuit breakers, it is necessary to order the 5-contact group with code 1SDA132705R1.

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

Tmax XT with Ekip Touch Measuring trip unit, 4 pole

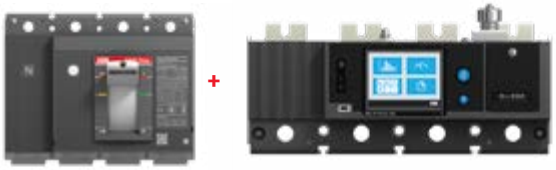

XT2 4p


XT5 4p


XT7 4p

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT2N 160, Ekip Touch Measuring LSI, In=40A, 4p*	0,4…1xIn	1…10xIn	36	1SDA068168-100150R	1,495.00
XT2N 160, Ekip Touch Measuring LSI, In=63A, 4p*	0,4…1xIn	1…10xIn	36	1SDA068168-100151R	1,495.00
XT2N 160, Ekip Touch Measuring LSI, In=100A, 4p*	0,4…1xIn	1…10xIn	36	1SDA068168-100153R	1,522.00
XT2N 160, Ekip Touch Measuring LSI, In=160A, 4p*	0,4…1xIn	1…10xIn	36	1SDA068168-100152R	1,522.00
XT4N 250, Ekip Touch Measuring LSI, In=250A, 4p*	0,4…1xIn	1…10xIn	36	1SDA068178-100326R	1,626.00
XT5N 400, Ekip Touch Measuring LSI, In=320A, 4p*	0,4…1xIn	1…10xIn	36	1SDA100552-100680R	2,052.00
XT5N 400, Ekip Touch Measuring LSI, In=400A, 4p*	0,4…1xIn	1…10xIn	36	1SDA100552-100681R	2,054.00
XT5N 630, Ekip Touch Measuring LSI, In=630A, 4p*	0,4…1xIn	1…10xIn	36	1SDA100553-100682R	2,532.00
XT2S 160, Ekip Touch Measuring LSI, In=40A, 4p*	0,4…1xIn	1…10xIn	50	1SDA068169-100150R	1,555.00
XT2S 160, Ekip Touch Measuring LSI, In=63A, 4p*	0,4…1xIn	1…10xIn	50	1SDA068169-100151R	1,555.00
XT2S 160, Ekip Touch Measuring LSI, In=100A, 4p*	0,4…1xIn	1…10xIn	50	1SDA068169-100153R	1,581.00
XT2S 160, Ekip Touch Measuring LSI, In=160A, 4p*	0,4…1xIn	1…10xIn	50	1SDA068169-100152R	1,581.00
XT4S 250, Ekip Touch Measuring LSI, In=250A, 4p*	0,4…1xIn	1…10xIn	50	1SDA068179-100326R	1,677.00
XT5S 400, Ekip Touch Measuring LSI, In=320A, 4p*	0,4…1xIn	1…10xIn	50	1SDA100556-100680R	2,229.00
XT5S 400, Ekip Touch Measuring LSI, In=400A, 4p*	0,4…1xIn	1…10xIn	50	1SDA100556-100681R	2,230.00
XT5S 630, Ekip Touch Measuring LSI, In=630A, 4p*	0,4…1xIn	1…10xIn	50	1SDA100557-100682R	2,778.00
XT7S 800, Ekip Touch Measuring LSI, In=800A, 4p**	0,4…1xIn	1…10xIn	50	1SDA101134R1	2,767.00
XT7S 1000, Ekip Touch Measuring LSI, In=1000A, 4p**	0,4…1xIn	1…10xIn	50	1SDA101135R1	3,352.00
XT7S 1250, Ekip Touch Measuring LSI, In=1250A, 4p**	0,4…1xIn	1…10xIn	50	1SDA101136R1	3,816.00
XT7S 1600, Ekip Touch Measuring LSI, In=1600A, 4p**	0,4…1xIn	1…10xIn	50	1SDA101137R1	5,183.00
XT2H 160, Ekip Touch Measuring LSI, In=40A, 4p*	0,4…1xIn	1…10xIn	70	1SDA068170-100150R	1,715.00
XT2H 160, Ekip Touch Measuring LSI, In=63A, 4p*	0,4…1xIn	1…10xIn	70	1SDA068170-100151R	1,715.00
XT2H 160, Ekip Touch Measuring LSI, In=100A, 4p*	0,4…1xIn	1…10xIn	70	1SDA068170-100153R	1,741.00
XT2H 160, Ekip Touch Measuring LSI, In=160A, 4p*	0,4…1xIn	1…10xIn	70	1SDA068170-100152R	1,741.00
XT4H 250, Ekip Touch Measuring LSI, In=250A, 4p*	0,4…1xIn	1…10xIn	70	1SDA068180-100326R	1,846.00
XT5H 400, Ekip Touch Measuring LSI, In=320A, 4p*	0,4…1xIn	1…10xIn	70	1SDA100560-100680R	2,408.00
XT5H 400, Ekip Touch Measuring LSI, In=400A, 4p*	0,4…1xIn	1…10xIn	70	1SDA100560-100681R	2,410.00
XT5H 630, Ekip Touch Measuring LSI, In=630A, 4p*	0,4…1xIn	1…10xIn	70	1SDA100561-100682R	3,021.00
XT7H 800, Ekip Touch Measuring LSI, In=800A, 4p**	0,4…1xIn	1…10xIn	70	1SDA101190R1	2,917.00
XT7H 1000, Ekip Touch Measuring LSI, In=1000A, 4p**	0,4…1xIn	1…10xIn	70	1SDA101191R1	3,508.00
XT7H 1250, Ekip Touch Measuring LSI, In=1250A, 4p**	0,4…1xIn	1…10xIn	70	1SDA101192R1	4,006.00
XT7H 1600, Ekip Touch Measuring LSI, In=1600A, 4p**	0,4…1xIn	1…10xIn	70	1SDA101193R1	5,447.00

* For XT2-XT4-XT5 frames, shielded protection units must be ordered as breaker part + protection unit with the above mounted codes.


Breaking Part + Trip unit

* Of the above products, only the standard XT7 switch cannot be fitted with a motor. However, other accessories can be fitted. The motor mountable version of the XT7 is the XT7 M size below.

Tmax XT, XT7 M stored energy motor operator with Ekip Touch Measuring trip unit, 4-pole


XT7 M 4p

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415VAC)	Code	Price (EUR)
XT7S 800M, Ekip Touch Measuring LSI, In=800A, 4p	0,4…1xIn	1…10xIn	50	1SDA101674R1	3,117.00
XT7S 1000M, Ekip Touch Measuring LSI, In=1000A, 4p	0,4…1xIn	1…10xIn	50	1SDA101675R1	3,601.00
XT7S 1250M, Ekip Touch Measuring LSI, In=1250A, 4p	0,4…1xIn	1…10xIn	50	1SDA101676R1	4,103.00
XT7S 1600M, Ekip Touch Measuring LSI, In=1600A, 4p	0,4…1xIn	1…10xIn	50	1SDA101677R1	5,578.00
XT7H 800M, Ekip Touch Measuring LSI, In=800A, 4p	0,4…1xIn	1…10xIn	70	1SDA101730R1	3,131.00
XT7H 1000M, Ekip Touch Measuring LSI, In=1000A, 4p	0,4…1xIn	1…10xIn	70	1SDA101731R1	3,770.00
XT7H 1250M, Ekip Touch Measuring LSI, In=1250A, 4p	0,4…1xIn	1…10xIn	70	1SDA101732R1	4,307.00
XT7H 1600M, Ekip Touch Measuring LSI, In=1600A, 4p	0,4…1xIn	1…10xIn	70	1SDA101733R1	5,863.00

In XT7 M series, motor, opening and closing coil are required for remote switching. Use the XT7 M series for motor applications. The motor for the XT7 M must be ordered separately. XT7 M switches are suitable for grid-generator transfer and synchronisation.

MOLDED CASE CIRCUIT BREAKERS
Tmax XT molded case circuit breakers

—

Molded case circuit breakers for motor protection, 3-pole



MA trip unit



XT2



XT5

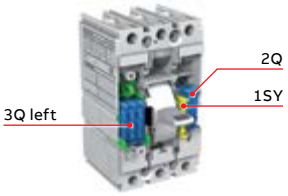
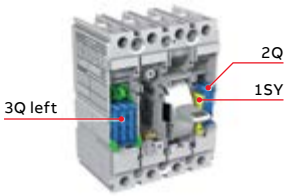
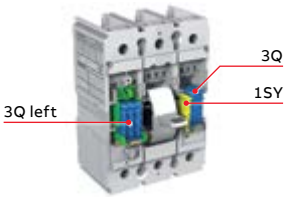
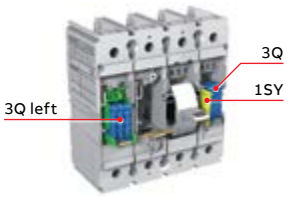
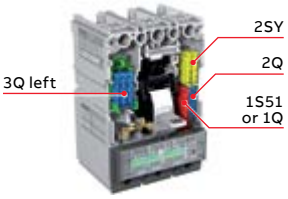
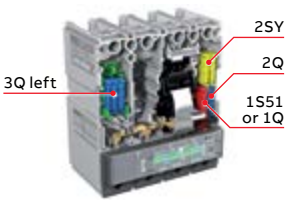
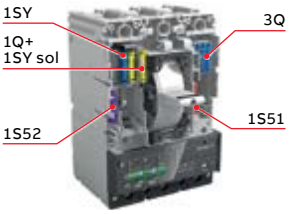
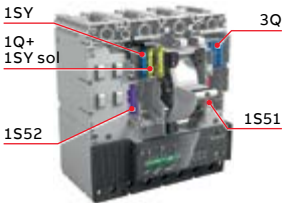
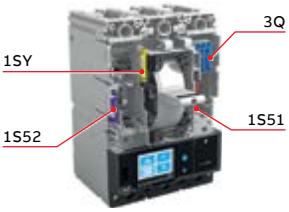
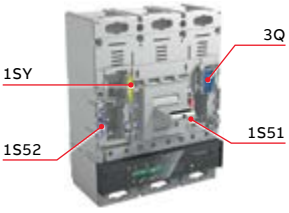
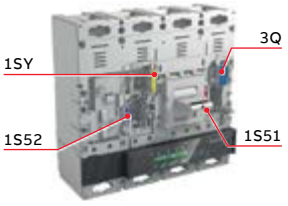
	Type	Magnetic release I3 (A)	Breaking capacity Icu (kA) (415V)	Code	Price (EUR)
	With magnetic only trip unit				
	XT2S 160, MA, In=32A, 3p	192...448	50	1SDA067766R1	242.20
	XT2S 160, MA, In=52A, 3p	314...728	50	1SDA067767R1	242.20
	XT2S 160, MA, In=80A, 3p	480...1120	50	1SDA067768R1	244.60
	XT2S 160, MA, In=100A, 3p	600...1400	50	1SDA067769R1	244.60
	XT3S 250, MA, In=125A, 3p	750...1500	50	1SDA068280R1	295.00
	XT3S 250, MA, In=160A, 3p	960...1920	50	1SDA068281R1	295.00
	XT3S 250, MA, In=200A, 3p	1200...2400	50	1SDA068282R1	311.70
	With electronic trip unit - magnetic only protection				
	XT4S 250, Ekip I, In=250A, 3p	1...10xIn	50	1SDA068480R1	474.80
	XT5S 400, Ekip M Dip I, In=320A, 3p	1...10xIn	50	1SDA100437R1	971.20
	XT5S 400, Ekip M Dip I, In=400A, 3p	1...10xIn	50	1SDA100438R1	971.20
	XT5S 630, Ekip M Dip I, In=630A, 3p	1...10xIn	50	1SDA100439R1	1,181.00
	XT6S 800, Ekip M Dip I, In=800A, 3p	1...10xIn	50	1SDA100747R1	1,713.00
	With advanced electronic release*				
	XT5S 400, Ekip M Dip LIU, In=320A, 3p	6...13xIn	50	1SDA100441R1	1,769.00
	XT5S 400, Ekip M Dip LIU, In=400A, 3p	6...13xIn	50	1SDA100442R1	1,769.00

*Ekip M Dip LIU release:
- Overload
- Short circuit
- Phase missing
- Phase imbalance

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

—

Auxiliary contacts 24V DC - 250V AC/DC

	3-pole circuit-breaker	4-pole circuit-breaker
XT1		
XT3		
XT2 **XT4**		
XT2 **XT4** **with Ekip Touch and Hi-Touch trip units**		
XT5		
XT5 **with Ekip Touch and Hi-Touch trip units**		
XT6		

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Accessories


XT1-XT3 Motor


XT2-XT4 Motor


Undervoltage release


Delay unit


For withdrawable opening release

	Breaker type	Description	Code	Price (EUR)
	Motor			
	XT1, XT3	MOD motor 220...250 V AC/DC	1SDA066460R1	462.80
	XT2, XT4	MOE motor 220...250 V AC/DC	1SDA066466R1	605.50
	XT5	MOE motor 220...250V AC/DC	1SDA104885R1	1,282.00
	XT6	MOE motor 220...250V AC/DC	1SDA104895R1	1,113.00
	XT7 M	Motor 220-250V AC/DC	1SDA104922R1	630.70
	XT2, XT4	MOE-E motor 220..250V AC/DC - Communication	1SDA066472R1	787.70
	XT5	MOE-E motor 220..250V AC/DC - Communication	1SDA104905R1	1,475.00
	Undervoltage release			
	XT1, XT2, XT3, XT4 fixed and plug-in	UVR-C 220-240V AC/220-250V DC	1SDA066399R1	101.90
	XT1, XT2, XT3, XT4 fixed and plug-in	UVR-C 380-440 V AC	1SDA066400R1	101.90
	XT2, XT4 withdrawable	UVR-C 220-240V AC/220-250V DC	1SDA066406R1	111.50
	XT2, XT4 withdrawable	UVR-C 380-440 V AC	1SDA066407R1	111.50
	XT5, XT6 fixed and plug-in	YU 220-240V AC / 220-250V DC	1SDA104958R1	118.70
	XT5, XT6 fixed and plug-in	YU 380-440V AC	1SDA104959R1	118.70
	XT5, XT6 withdrawable	YU 220-240V AC / 220-250V DC	1SDA104951R1	128.30
	XT5, XT6 withdrawable	YU 380-440V AC	1SDA104952R1	128.30
	XT7 fixed and plug-in	YU 220-240V AC / 220-250V DC	1SDA073700R1	133.10
	XT7 fixed and plug-in	YU 380-440V AC	1SDA073703R1	380.10
	Undervoltage release time delay unit			
	XT1-XT2-XT3-XT4	UVD 110...125V AC/DC	1SDA051360R1	497.60
	XT1-XT2-XT3-XT4	UVD 220...250V AC/DC	1SDA051361R1	497.60
	XT5, XT6	UVD 110...125V AC/DC	1SDA101981R1	339.30
	XT5, XT6	UVD 220...250V AC/DC	1SDA101982R1	336.90
	XT7, XT7 M	UVD 110...127V AC/DC	1SDA038319R1	321.10
	XT7, XT7 M	UVD 220...250V AC/DC	1SDA038320R1	268.60
	Shunt opening release			
	XT1, XT2, XT3, XT4 fixed and plug-in	SOR-C 220-240V AC/220-250V DC	1SDA066325R1	95.92
	XT1, XT2, XT3, XT4 fixed and plug-in	SOR-C 380-440V AC	1SDA066326R1	95.92
	XT2, XT4 withdrawable	SOR-C 220-240V AC/220-250V DC	1SDA066332R1	104.30
	XT2, XT4 withdrawable	SOR-C 380-440V AC	1SDA066333R1	104.30
	XT5, XT6 fixed and plug-in	YO 110-240V AC / 110-250V DC	1SDA104934R1	107.90
	XT5, XT6 fixed and plug-in	YO 380…440V AC	1SDA104935R1	109.10
	XT5, XT6 withdrawable	YO 110-240V AC / 110-250V DC	1SDA104930R1	117.50
	XT5, XT6 withdrawable	YO 380…440V AC	1SDA104931R1	117.50
	XT7-XT7 M fixed and plug-in	YO 220-240V AC/DC	1SDA073674R1	122.30
	XT7-XT7 M fixed and plug-in	YO 380-400V AC	1SDA073677R1	249.40
	Closing release			
	XT7 M fixed and plug-in	YC 220-240V AC/DC	1SDA073687R1	103.10
	XT7 M fixed and plug-in	YC 380-400V AC	1SDA073690R1	249.40

Shunt closing release can only be installed in the XT7 M size. In other case types, closing can be done by using a motor.

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

—
Accessories

	Breaker type	Description	Code	Price (EUR)
	Auxiliary contacts			
	XT1, XT2, XT3, XT4, XT5, XT6 fixed and plug-in	AUX-C 1A/K+1SY 250V AC/DC	1SDA066431R1	55.15
 Auxiliary contact	XT2, XT4 withdrawable	AUX-C 1A/K+1SY 250V AC/DC	1SDA066432R1	64.75
	XT5, XT6 withdrawable	AUX-C 1A/K+1SY 250V AC/DC	1SDA104789R1	64.75
	XT1, XT2, XT3, XT4, XT5, XT6 fixed and plug-in	AUX-C 2A/K+1SY 250V AC/DC	1SDA066433R1	83.93
	XT5, XT6 withdrawable	AUX-C 2A/K+1SY 250V AC/DC	1SDA104796R1	92.32
	XT2, XT3, XT4, XT5, XT6 fixed and plug-in	AUX-C 3A/K+1SY 250V AC/DC	1SDA066434R1	111.50
	XT2, XT4 withdrawable	AUX-C 3A/K+1SY 250V AC/DC	1SDA066435R1	121.10
	XT5, XT6 withdrawable	AUX-C 3A/K+1SY 250V AC/DC	1SDA104798R1	111.50
	XT7, XT7 M fixed ve withdrawable	AUX 4Q 400V	1SDA073750R1	62.35
 For withdrawable auxiliary contact	XT1 (fitted in the left space)	AUX-C 3A/K L 250V AC/DC	1SDA066426R1	100.70
	XT2, XT4 (fitted in the left space)	AUX-C 3A/K L 250V AC/DC	1SDA066427R1	100.70
	XT3 (fitted in the left space)	AUX-C 3A/K L 250V AC/DC	1SDA066428R1	100.70
	XT2, XT4 fixed and plug-in	AUX-C 2A/K+2SY+AUX-SA-C 250V AC/DC	1SDA066438R1	155.90
	XT2, XT4 withdrawable	AUX-C 2A/K+2SY+AUX-SA-C 250V AC/DC	1SDA066439R1	165.50
	XT2, XT4, XT5, XT6 fixed and plug-in	AUX-SA-C 250V AC/DC	1SDA066429R1	43.16
	XT2, XT4 withdrawable	AUX-SA-C 250V AC/DC	1SDA066430R1	52.76
	XT5, XT6 withdrawable	AUX-SA-C 250V AC/DC	1SDA104791R1	37.17
	XT7, XT7 M fixed ve withdrawable	AUX-SA-C 250V AC/DC	1SDA073776R1	77.94
	Position contacts for plug-in and withdrawable breakers			
 Position contacts	XT2, XT4	AUP-R 250V AC, circuit breaker racked-out	1SDA066452R1	45.56
	XT2, XT4	AUP-R 24V DC, circuit breaker racked-out	1SDA066453R1	41.97
	XT1, XT2, XT3, XT4	AUP-I 250V AC, circuit breaker racked-in	1SDA066450R1	58.75
	XT1, XT2, XT3, XT4	AUP-I 24V DC, circuit breaker racked-in	1SDA066451R1	32.37
	XT5, XT6	AUP-R 250V AC, circuit breaker racked-out	1SDA104817R1	21.58
 XT7-XT7 M Position contacts	XT5, XT6	AUP-R 24V DC, circuit breaker racked-out	1SDA104818R1	19.18
	XT5, XT6	AUP-I 250V AC, circuit breaker racked-in	1SDA104815R1	55.15
	XT5, XT6	AUP-I 24V DC, circuit breaker racked-in	1SDA104816R1	55.15
	XT7, XT7 M	AUP 6 auxiliary position contact 400V AC	1SDA073762R1	430.40
	XT7, XT7 M	AUP 6 auxiliary position contact 24V DC	1SDA073763R1	452.00
	Early auxiliary contacts			
	XT2, XT4 withdrawable	AUE 2K - rotary handle racked-in	1SDA066455R1	83.93
 Early auxiliary contacts	XT2, XT4 withdrawable	AUE 2A - rotary handle racked-in	1SDA067119R1	83.93
	XT1, XT2, XT3, XT4 fixed and plug-in	AUE 2K - rotary handle racked-in	1SDA066454R1	74.34
	XT1, XT2, XT3, XT4 fixed and plug-in	AUE 2A - rotary handle racked-in	1SDA067118R1	74.34
	XT5, XT6 withdrawable	AUE 2K - rotary handle racked-in	1SDA104822R1	83.93
	XT5, XT6 fixed and plug-in	AUE 2K - rotary handle racked-in	1SDA104821R1	74.34
	XT7 fixed ve withdrawable	AUE 2K - circuit-breaker racked-in	1SDA104823R1	135.50
	Trip unit I/O contact			
	XT7 / XT7M	Trip unit I/O contact	1SDA132705R1	83,38
	Keylock on the motor			
 MOL-D	XT1, XT3	Keylock on MOL-D motor	1SDA066623R1	28.78
	XT2, XT4	Keylock on MOL-D motor	1SDA066629R1	28.78
	XT5, XT6	Keylock on MOL-D motor	1SDA105092R1	46.76

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

—
Accessories

	Breaker type	Description	Code	Price (EUR)
 Direct rotary handle	**Direct rotary handle**			
	XT1, XT3 fixed and plug-in	RHD standard, direct mounting	1SDA066475R1	43.16
	XT1, XT3 fixed and plug-in	RHD_EM emergency stop, direct mounting	1SDA066477R1	43.16
	XT2, XT4 fixed and plug-in	RHD standard, direct mounting	1SDA069053R1	43.16
	XT2, XT4 fixed and plug-in	RHD_EM emergency stop, direct mounting	1SDA069054R1	43.16
	XT2, XT4 withdrawable	RHD standard, direct mounting	1SDA066476R1	43.16
	XT2, XT4 withdrawable	RHD_EM emergency stop, direct mounting	1SDA066478R1	38.37
	XT5 fixed and plug-in	RHD standard, direct mounting	1SDA104826R1	63.55
	XT5 fixed and plug-in	RHD_EM emergency stop, direct mounting	1SDA104830R1	63.55
 XT7-XT7 M Direct rotary handle	XT5 withdrawable	RHD standard, direct mounting	1SDA104828R1	63.55
	XT5 withdrawable	RHD_EM emergency stop, direct mounting	1SDA104831R1	63.55
	XT6 fixed	RHD standard, direct mounting	1SDA104832R1	117.50
	XT6 fixed	RHD_EM emergency stop, direct mounting	1SDA104836R1	117.50
	XT6 withdrawable	RHD standard, direct mounting	1SDA104834R1	117.50
	XT6 withdrawable	RHD_EM emergency stop, direct mounting	1SDA104837R1	117.50
	XT7 fixed and plug-in	RHD standard, direct mounting	1SDA104838R1	169.10
	XT7 fixed and plug-in	RHD_EM emergency stop, direct mounting	1SDA104840R1	169.10
	Rotary handles with adjustable shaft			
 Rotary handle with adjustable shaft	XT1, XT3 fixed and plug-in	RHE standard, adjustable shaft	1SDA066479R1	64.75
	XT1, XT3 fixed and plug-in	RHE_EM emergency stop, adjustable shaft	1SDA066481R1	64.75
	XT2, XT4 fixed and plug-in	RHE standard, adjustable shaft	1SDA069055R1	64.75
	XT2, XT4 fixed and plug-in	RHE_EM emergency stop, adjustable shaft	1SDA069056R1	64.75
	XT2, XT4 withdrawable	RHE standard, adjustable shaft	1SDA066480R1	64.75
	XT2, XT4 withdrawable	RHE_EM emergency stop, adjustable shaft	1SDA066482R1	64.75
	XT5 fixed and plug-in	RHE standard, adjustable shaft	1SDA104843R1	97.12
	XT5 fixed and plug-in	RHE_EM emergency stop, adjustable shaft	1SDA104849R1	97.12
 XT7-XT7 M Rotary handles with adjustable shaft	XT6 fixed	RHE standard, adjustable shaft	1SDA104853R1	117.50
	XT6 fixed	RHE_EM emergency stop, adjustable shaft	1SDA104859R1	117.50
	XT6 withdrawable	RHE standard, adjustable shaft	1SDA104854R1	117.50
	XT6 withdrawable	RHE_EM emergency stop, adjustable shaft	1SDA104860R1	117.50
	XT7 fixed and plug-in	RHE standard, adjustable shaft	1SDA104863R1	170.30
	XT7 fixed and plug-in	RHE_EM emergency stop, adjustable shaft	1SDA104866R1	170.30
	Side rotary handles			
 Side rotary handle	XT1, XT3 fixed and plug-in	RHS L standard	1SDA066579R1	71.94
	XT1, XT3 fixed and plug-in	RHS L emergency stop	1SDA066580R1	77.94
	XT2, XT4 fixed and plug-in	RHS L standard	1SDA069058R1	77.94
	XT2, XT4 fixed and plug-in	RHS L emergency stop	1SDA069059R1	77.94
	Accessories for rotary handles			
 IP54 protection	XT1, XT2, XT3, XT4	x RHE for IP54 protection	1SDA066587R1	21.58
	XT5	x RHD for IP54 protection	1SDA104876R1	19.18
	XT6	x RHD for IP54 protection	1SDA104877R1	69.54
	XT7	x RHD for IP54 protection	1SDA104878R1	135.50

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

—
Accessories


Fixed part plug-in


Conversion kit to plug-in type


Fixed part withdrawable


Conversion kit to withdrawable type


XT7-XT7 M fixed part withdrawable


XT7-XT7 M conversion kit to withdrawable type

	Breaker type	Description	Code	Price (EUR)
	Accessories for converting a fixed breaker to plug-in type			
	XT1, 3-pole	Fixed part plug-in for 3p EF terminal XT1	1SDA068183R1	194.20
		Conversion kit for fixed switch to plug-in XT1, 3p	1SDA066276R1	43.16
	XT2, 3-pole	Fixed part plug-in for 3p EF terminal XT2	1SDA068187R1	194.20
		Conversion kit for fixed switch to plug-in XT2, 3p	1SDA066278R1	45.56
	XT3, 3-pole	Fixed part plug-in for 3p EF terminal XT3	1SDA068192R1	206.20
		Conversion kit for fixed switch to plug-in XT3, 3p	1SDA066280R1	67.14
	XT4, 3-pole	Fixed part plug-in for 3p EF terminal XT4	1SDA068196R1	206.20
		Conversion kit for fixed switch to plug-in XT4, 3p	1SDA066282R1	74.34
	XT5 400, 3-pole	Fixed part plug-in for 3p EF terminal XT5 400	1SDA104668R1	490.40
		Conversion kit for fixed switch to plug-in XT5 400, 3p	1SDA104707R1	86.33
	XT5 630, 3-pole	Fixed part plug-in for 3p EF terminal XT5 630	1SDA104676R1	518.00
		Conversion kit for fixed switch to plug-in XT5 630, 3p	1SDA104709R1	119.90
	XT1, 4-pole	Fixed part plug-in for 4p EF terminal XT1	1SDA068185R1	257.80
		Conversion kit for fixed switch to plug-in XT1, 4p	1SDA066277R1	53.96
	XT2, 4-pole	Fixed part plug-in for 4p EF terminal XT2	1SDA068190R1	257.80
		Conversion kit for fixed switch to plug-in XT2, 4p	1SDA066279R1	57.55
	XT3, 4-pole	Fixed part plug-in for 4p EF terminal XT3	1SDA068194R1	274.60
		Conversion kit for fixed switch to plug-in XT3, 4p	1SDA066281R1	85.13
	XT4, 4-pole	Fixed part plug-in for 4p EF terminal XT4	1SDA068198R1	274.60
		Conversion kit for fixed switch to plug-in XT4, 4p	1SDA066283R1	94.72
	XT5 400, 4-pole	Fixed part plug-in for 4p EF terminal XT5 400	1SDA104672R1	651.10
		Conversion kit for fixed switch to plug-in XT5 400, 4p	1SDA104708R1	115.10
	XT5 630, 4-pole	Fixed part plug-in for 4p EF terminal XT5 630	1SDA104679R1	689.40
		Conversion kit for fixed switch to plug-in XT5 630, 4p	1SDA104710R1	159.50
	Accessories for converting a fixed breaker to withdrawable type			
	XT2, 3-pole	Fixed part withdrawable for FP 3p EF XT2	1SDA068200R1	172.70
		Conversion kit for fixed switch to withdrawable XT2, 3p	1SDA066284R1	149.90
	XT4, 3-pole	Fixed part withdrawable for FP 3p EF XT4	1SDA068204R1	188.20
		Conversion kit for fixed switch to withdrawable XT4, 3p	1SDA066286R1	158.30
	XT5 400, 3-pole	Fixed part withdrawable for FP 3p EF XT5 400	1SDA104682R1	538.40
		Conversion kit for fixed switch to withdrawable XT5 400, 3p	1SDA104711R1	237.40
	XT5 630, 3-pole	Fixed part withdrawable for FP 3p EF XT5 630	1SDA104690R1	616.30
		Conversion kit for fixed switch to withdrawable XT5 630, 3p	1SDA104713R1	333.30
	XT6 630/800, 3 pole	Fixed part withdrawable for FP 3p EF XT6 630/800	1SDA104696R1	958.00
		Conversion kit for fixed switch to withdrawable XT6 630/800, 3p	1SDA104715R1	237.40
	XT7-XT7 M, EF, 3 pole	Fixed part withdrawable for FP 3p EF XT7-XT7 M	1SDA104702R1	1,458.00
		Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 3p	1SDA104717R1	926.80
	XT7-XT7 M, HR, 3 pole	Fixed part withdrawable for FP 3p HR XT7-XT7 M	1SDA104703R1	1,644.00
		Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 3p	1SDA104717R1	926.80
	XT2, 4-pole	Fixed part withdrawable for FP 4p EF XT2	1SDA068202R1	229.00
		Conversion kit for fixed switch to withdrawable XT2, 4p	1SDA066285R1	199.00
	XT4, 4-pole	Fixed part withdrawable for FP 4p EF XT4	1SDA068206R1	245.80
		Conversion kit for fixed switch to withdrawable XT4, 4p	1SDA066287R1	209.80
	XT5 400, 4-pole	Fixed part withdrawable for FP 4p EF XT5 400	1SDA104686R1	715.80
		Conversion kit for fixed switch to withdrawable XT5 400, 4p	1SDA104712R1	316.50
	XT5 630, 4-pole	Fixed part withdrawable for FP 4p EF XT5 630	1SDA104693R1	800.90
		Conversion kit for fixed switch to withdrawable XT5 630, 4p	1SDA104714R1	443.60
	XT6 630/800, 4 pole	Fixed part withdrawable for FP 4p EF XT6 630/800	1SDA104699R1	1,275.00
		Conversion kit for fixed switch to withdrawable XT6 630/800, 4p	1SDA104716R1	315.30
	XT7-XT7 M, EF, 4 pole	Fixed part withdrawable for FP 4p EF XT7-XT7 M	1SDA104704R1	1,894.00
		Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 4p	1SDA104718R1	1,011.00
	XT7-XT7 M, HR, 4 pole	Fixed part withdrawable for FP 4p HR XT7-XT7 M	1SDA104705R1	1,938.00
		Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 4p	1SDA104718R1	1,011.00

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Accessories


Fixed part plug-in


Conversion kit to plug-in type


Fixed part withdrawable


Conversion kit to withdrawable type


XT7-XT7 M fixed part withdrawable


XT7-XT7 M conversion kit to withdrawable type

Breaker type	Description	Code	Price (EUR)
Accessories for converting a fixed breaker to plug-in type			
XT1, 3-pole	Fixed part plug-in for 3p EF terminal XT1	1SDA068184R1*	213.40
	Conversion kit for fixed switch to plug-in XT1, 3p	1SDA066276R1	43.16
XT2, 3-pole	Fixed part plug-in for 3p EF terminal XT2	1SDA068189R1*	213.40
	Conversion kit for fixed switch to plug-in XT2, 3p	1SDA066278R1	45.56
XT3, 3-pole	Fixed part plug-in for 3p EF terminal XT3	1SDA068193R1*	226.60
	Conversion kit for fixed switch to plug-in XT3, 3p	1SDA066280R1	67.14
XT4, 3-pole	Fixed part plug-in for 3p EF terminal XT4	1SDA068197R1*	226.60
	Conversion kit for fixed switch to plug-in XT4, 3p	1SDA066282R1	74.34
XT5 400, 3-pole	Fixed part plug-in for 3p EF terminal XT5 400	1SDA104670R1	539.60
	Conversion kit for fixed switch to plug-in XT5 400, 3p	1SDA104707R1	86.33
XT5 630, 3-pole	Fixed part plug-in for 3p EF terminal XT5 630	1SDA104677R1	569.50
	Conversion kit for fixed switch to plug-in XT5 630, 3p	1SDA104709R1	119.90
XT1, 4-pole	Fixed part plug-in for 4p EF terminal XT1	1SDA068186R1*	284.20
	Conversion kit for fixed switch to plug-in XT1, 4p	1SDA066277R1	53.96
XT2, 4-pole	Fixed part plug-in for 4p EF terminal XT2	1SDA068191R1*	257.80
	Conversion kit for fixed switch to plug-in XT2, 4p	1SDA066279R1	57.55
XT3, 4-pole	Fixed part plug-in for 4p EF terminal XT3	1SDA068195R1*	274.60
	Conversion kit for fixed switch to plug-in XT3, 4p	1SDA066281R1	85.13
XT4, 4-pole	Fixed part plug-in for 4p EF terminal XT4	1SDA068199R1*	274.60
	Conversion kit for fixed switch to plug-in XT4, 4p	1SDA066283R1	94.72
XT5 400, 4-pole	Fixed part plug-in for 4p EF terminal XT5 400	1SDA104674R1	717.00
	Conversion kit for fixed switch to plug-in XT5 400, 4p	1SDA104708R1	115.10
XT5 630, 4-pole	Fixed part plug-in for 4p EF terminal XT5 630	1SDA104680R1	759.00
	Conversion kit for fixed switch to plug-in XT5 630, 4p	1SDA104710R1	159.50
Accessories for converting a fixed breaker to withdrawable type			
XT2, 3-pole	Fixed part withdrawable for FP 3p EF XT2	1SDA068201R1*	189.40
	Conversion kit for fixed switch to withdrawable XT2, 3p	1SDA066284R1	149.90
XT4, 3-pole	Fixed part withdrawable for FP 3p EF XT4	1SDA068205R1*	209.80
	Conversion kit for fixed switch to withdrawable XT4, 3p	1SDA066286R1	158.30
XT5 400, 3-pole	Fixed part withdrawable for FP 3p EF XT5 400	1SDA104684R1*	592.30
	Conversion kit for fixed switch to withdrawable XT5 400, 3p	1SDA104711R1	237.40
XT5 630, 3-pole	Fixed part withdrawable for FP 3p EF XT5 630	1SDA104691R1	677.40
	Conversion kit for fixed switch to withdrawable XT5 630, 3p	1SDA104713R1	333.30
XT6 630/800, 3 pole	Fixed part withdrawable for FP 3p EF XT6 630/800	1SDA104697R1**	958.00
	Conversion kit for fixed switch to withdrawable XT6 630/800, 3p	1SDA104715R1	237.40
XT7-XT7 M, HR, 3 pole	Fixed part withdrawable for FP 3p HR XT7-XT7 M	1SDA104703R1	1,644.00
	Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 3p	1SDA104717R1	926.80
XT2, 4-pole	Fixed part withdrawable for FP 4p EF XT2	1SDA068203R1*	251.80
	Conversion kit for fixed switch to withdrawable XT2, 4p	1SDA066285R1	199.00
XT4, 4-pole	Fixed part withdrawable for FP 4p EF XT4	1SDA068207R1*	260.20
	Conversion kit for fixed switch to withdrawable XT4, 4p	1SDA066287R1	209.80
XT5 400, 4-pole	Fixed part withdrawable for FP 4p EF XT5 400	1SDA104688R1*	787.70
	Conversion kit for fixed switch to withdrawable XT5 400, 4p	1SDA104712R1	316.50
XT5 630, 4-pole	Fixed part withdrawable for FP 4p EF XT5 630	1SDA104694R1	800.90
	Conversion kit for fixed switch to withdrawable XT5 630, 4p	1SDA104714R1	443.60
XT6 630/800, 4 pole	Fixed part withdrawable for FP 4p EF XT6 630/800	1SDA104700R1**	1,245.00
	Conversion kit for fixed switch to withdrawable XT6 630/800, 4p	1SDA104716R1	315.30
XT7-XT7 M, HR, 4 pole	Fixed part withdrawable for FP 4p HR XT7-XT7 M	1SDA104705R1	1,938.00
	Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 4p	1SDA104718R1	1,011.00

* Can only be ordered assembled from the factory.
** Not suitable for XT6 1000A, In max=800A.

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Accessories

	Breaker type	Description	Code	Price (EUR)
 Socket-plug panel connector	**Adapters - For plug-in breakers**			
	XT1, XT2, XT3, XT4, XT5	Adapter 3PIN	1SDA066409R1	15.59
	XT1, XT2, XT3, XT4, XT5	Adapter 6PIN	1SDA066410R1	41.97
	XT1, XT2, XT3, XT4, XT5	Adapter 9PIN	1SDA066411R1	51.56
	XT1, XT2, XT3, XT4, XT5	Adapter 15PIN	1SDA066412R1	79.13
 Socket-plug panel connector	XT2, XT4, XT5	Adapter 12PIN, on moving part*	1SDA066413R1	68.34
	XT2, XT4, XT5	Adapter 12PIN, on fixed part*	1SDA066414R1	68.34
	*Must be ordered together.			
	Front for operating lever mechanism			
	XT2, XT4 fixed and plug-in	Front for locks FLD	1SDA066635R1	53.96
 Front for locks	XT2, XT4 withdrawable	Front for locks FLD	1SDA066636R1	53.96
	XT5 fixed and plug-in	Front for locks FLD	1SDA104871R1	53.96
	XT5 withdrawable	Front for locks FLD	1SDA104872R1	53.96
	XT6 fixed	Front for locks FLD	1SDA104873R1	69.54
	XT6 withdrawable	Front for locks FLD	1SDA104874R1	69.54

Residual current protection modules

	Breaker type	Description	Sensitivity setting	Tripping times	Code	Price (EUR)
 XT1 RC 200 mm	XT1, 3-pole	RC Inst. Type A	0.03…3 A	instantaneous trip	1SDA067122R1	730.20
	XT1, 3-pole	RC Sel. type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067123R1	739.80
	XT3, 3-pole	RC Inst. Type A	0.03…3 A	instantaneous trip	1SDA067127R1	998.80
	XT3, 3-pole	RC Sel. type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067128R1	1,047.00
 XT1-XT3 RC type A	XT1, 4-pole	RC Inst. Type A	0.03…3 A	instantaneous trip	1SDA067124R1	749.40
	XT1, 4-pole	RC Sel. type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067125R1	701.40
	XT1, 4-pole	RC Sel. 200 type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067121R1	844.10
 XT2-XT4 RC type A	XT2, 4-pole	RC Sel. type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067126R1	738.60
	XT3, 4-pole	RC Inst. Type A	0.03…3 A	instantaneous trip	1SDA067129R1	1,098.00
	XT3, 4-pole	RC Sel. type A	0.03…10 A	inst. trip or 0.1...3sec	1SDA067130R1	983.20
 XT3 RC type B	XT3, 4-pole	RC type B	0.03…1 A	inst. trip or 0.1...3sec	1SDA067132R1	1,659.00
	XT4, 4-pole	RC Sel.	0.03…10 A	inst. trip or 0.1...3sec	1SDA067131R1	1,034.00
	XT5, 4-pole	RC Sel. type A	0.03…30 A	inst. trip or 0.06…5sec	1SDA105131R1	1,234.00

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Mechanical interlock


Mechanical interlock

Breaker type	Description	Code	Price (EUR)
XT1 fixed	MIR-P mounting plate	1SDA066639R1	50.36
XT1 plug-in	MIR-P mounting plate	1SDA066640R1	51.56
XT2 fixed	MIR-P mounting plate	1SDA066641R1	53.96
XT2 plug-in and withdrawable	MIR-P mounting plate	1SDA066642R1	51.56
XT3 fixed	MIR-P mounting plate	1SDA066643R1	51.56
XT3 plug-in	MIR-P mounting plate	1SDA066644R1	51.56
XT4 fixed	MIR-P mounting plate	1SDA066645R1	51.56
XT4 plug-in and withdrawable	MIR-P mounting plate	1SDA066646R1	51.56
XT5 fixed	MIR-P mounting plate	1SDA105122R1	44.36
XT5 400 plug-in and withdrawable	MIR-P mounting plate	1SDA105123R1	44.36
XT5 630 plug-in and withdrawable	MIR-P mounting plate	1SDA105124R1	44.36
XT4 fixed (with XT5)	MIR-P mounting plate (XT5 with XT4 F)	1SDA105121R1	44.36
XT4 plug-in and withdrawable (with XT5)	MIR-P mounting plate (XT5 with XT4 P/W)	1SDA105125R1	44.36
XT6 fixed	MIR-P mounting plate	1SDA105126R1	73.14
XT6 withdrawable	MIR-P mounting plate	1SDA105127R1	73.14
XT5 fixed (with XT6)	MIR-P mounting plate (XT6 with XT5 F)	1SDA101988R1	73.14
XT5 400 plug-in and withdrawable (with XT6)	MIR-P mounting plate (XT6 with XT5 P/W 400A)	1SDA101989R1	73.14
XT5 630 plug-in and withdrawable (with XT6)	MIR-P mounting plate (XT6 with XT5 P/W 630A)	1SDA101990R1	73.14
XT7, XT7 M fixed	Chasis for fixed version	1SDA073893R1	392.10
XT7, XT7 M withdrawable	Chasis for fixed part withdrawable	1SDA073896R1	300.90
XT1, XT2, XT3, XT4	MIR-HR horizontal chasis	1SDA066637R1	227.80
XT1, XT2, XT3, XT4	MIR-VR vertical chasis	1SDA066638R1	440.00
XT5	MIR-HR horizontal chasis	1SDA105117R1	223.00
XT5	MIR-VR vertical chasis	1SDA105119R1	223.00
XT6	MIR-HR horizontal chasis	1SDA105118R1	368.10
XT6	MIR-VR vertical chasis	1SDA105120R1	368.10
XT7, XT7 M	Locking cable - horizontal	1SDA073881R1	213.40
XT7, XT7 M	Locking cable - vertical	1SDA073885R1	213.40

* Mechanical interlocking is available between fixed, plug-in or withdrawable types. Circuit breakers can be 3 or 4 poles.

Mechanical interlocking is possible between the following Tmax XTs;

	XT1	XT2	XT3	XT4	XT5	XT6
XT1	●	●	●	●		
XT2	●	●	●	●		
XT3	●	●	●	●		
XT4	●	●	●	●	●	
XT5				●	●	●
XT6					●	●

Note: If the locked circuit breaker has an MOE/MOE-E motor operator, the use of MOL-M is mandatory.

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Ordering example



1 pcs horizontal/ vertical chasis

+



2 pcs mounting plate

=



Mechanical interlock

Breaker type	Description	Code
Horizontal mechanical interlocking - XT1 (fixed, 3-pole) to XT1 (fixed, 3-pole)		
XT1 fixed	XT1N 160, TMD In=160A, 3p	1SDA067418R1
	MIR-HR XT1...XT4 horizontal chasis	1SDA066637R1
	MIR-P mounting plate XT1 F	1SDA066639R1
XT1 fixed	XT1N 160, TMD In=160A, 3p	1SDA067418R1
	MIR-P mounting plate XT1 F	1SDA066639R1
Vertical mechanical interlocking - XT2 (fixed, 4-pole) to XT4 (withdrawable, 4-pole)		
XT2 fixed	XT2S 160, TMA, In=40A, 4p	1SDA067575R1
	MIR-VR XT1..XT4 vertical chasis	1SDA066638R1
	MIR-P mounting plate x XT2 F	1SDA066641R1
XT4 withdrawable	XT4N 250, Ekip Dip LS/I, In=250A, 4p	1SDA068147R1
	Fixed part withdrawable for FP 4p EF XT4	1SDA068206R1
	Conversion kit for fixed switch to withdrawable XT4, 4p	1SDA066287R1
	MIR-P mounting plate x XT4 P/W	1SDA066646R1
Horizontal mechanical interlocking - XT5 400 (plug-in, 3-pole) to XT5 630 (withdrawable, 4-pole)		
XT5 400 plug-in	XT5N 400, Ekip Dip LS/I, In=400A, 3p	1SDA100354R1
	Fixed part plug-in for 3p EF terminal XT5 400	1SDA104668R1
	Conversion kit for fixed switch to plug-in XT5 400, 3p	1SDA104707R1
	MIR-HR XT5 horizontal chasis	1SDA105117R1
	MIR-P mounting plate x XT5 400 P/W	1SDA105123R1
XT5 630 withdrawable	XT5S 630, Ekip Dip LS/I, In=630A, 4p	1SDA100425R1
	Fixed part withdrawable for FP 4p EF XT5 630	1SDA104693R1
	Conversion kit for fixed switch to withdrawable XT5 630, 4p	1SDA104714R1
	MIR-P mounting plate x XT5 630 P/W	1SDA105124R1
	MIR-P mounting plate XT6 F	1SDA105126R1
	MIR-VR Vertical chasis XT6 F	1SDA105120R1
Horizontal mechanical interlocking - XT7 M (fixed, 3-pole) to XT7 M (withdrawable, 4-pole)		
XT7 M fixed	XT7 1000M, Ekip Dip LS/I , 3p	1SDA101367R1
	Locking cable - horizontal	1SDA073881R1
	XT7-XT7 M chasis for fixed version	1SDA073893R1
XT7 M withdrawable	XT7 1250M, Ekip Dip LS/I , 4p	1SDA101656R1
	Fixed part withdrawable for FP 4p EF XT7-XT7 M	1SDA104704R1
	Conversion kit for M fixed switch to withdrawable XT7-XT7 M, 4p	1SDA104718R1
	XT7, XT7 M chasis for fixed part withdrawable	1SDA073896R1

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Additional connection terminals



Rear connection

Breaker type	Description	Code	Price (EUR)
R terminal for conversion to rear connection			
XT1	KIT R rear connection 3 pcs	1SDA066937R1	43.16
XT1	KIT R rear connection 4 pcs	1SDA066938R1	57.55
XT2	KIT R rear connection 3 pcs	1SDA066941R1	41.97
XT2	KIT R rear connection 4 pcs	1SDA066942R1	58.75
XT3	KIT R rear connection 3 pcs	1SDA066945R1	47.96
XT3	KIT R rear connection 4 pcs	1SDA066946R1	65.95
XT4	KIT R rear connection 3 pcs	1SDA066949R1	49.16
XT4	KIT R rear connection 4 pcs	1SDA066950R1	67.14
XT5	KIT R rear connection 3 pcs	1SDA104760R1	141.50
XT5	KIT R rear connection 4 pcs	1SDA104761R1	188.20
XT6	KIT R rear connection 3 pcs	1SDA104762R1	166.70
XT6	KIT R rear connection 4 pcs	1SDA104763R1	221.80
XT7 - XT7 M	KIT HR/VR rear horizontal/vertical connection 3 pcs	1SDA073989R1	646.30
XT7 - XT7 M	KIT HR/VR rear horizontal/vertical connection 4 pcs	1SDA073990R1	860.90
EF terminal for conversion to extended front connection			
XT1	KIT extended front for fixed part 3 pcs	1SDA066865R1	19.18
XT1	KIT extended front for fixed part 4 pcs	1SDA066866R1	25.18
XT2	KIT extended front for fixed part 3 pcs	1SDA066869R1	43.16
XT2	KIT extended front for fixed part 4 pcs	1SDA066870R1	57.55
XT3	KIT extended front for fixed part 3 pcs	1SDA066873R1	40.77
XT3	KIT extended front for fixed part 4 pcs	1SDA066874R1	53.96
XT4	KIT extended front for fixed part 3 pcs	1SDA066877R1	47.96
XT4	KIT extended front for fixed part 4 pcs	1SDA066878R1	63.55
XT5	KIT extended front for fixed part 3 pcs	1SDA104734R1	39.57
XT5	KIT extended front for fixed part 4 pcs	1SDA104735R1	50.36
XT6 800	KIT extended front for fixed part 3 pcs - 800A	1SDA104736R1	239.80
XT6 800	KIT extended front for fixed part 4 pcs - 800A	1SDA104737R1	318.90
XT6 1000	KIT extended front for fixed part 3 pcs - 1000A	1SDA107473R1	263.80
XT6 1000	KIT extended front for fixed part 4 pcs - 1000A	1SDA107474R1	351.30
XT7 - XT7 M	KIT extended front for fixed part 3 pcs	1SDA073967R1	515.60
XT7 - XT7 M	KIT extended front for fixed part 4 pcs	1SDA073968R1	684.60
ES terminal for conversion to extended spread front connection			
XT1	KIT Extended spread front for fixed part 3 pcs	1SDA066889R1	37.17
XT1	KIT Extended spread front for fixed part 4 pcs	1SDA066890R1	50.36
XT2	KIT Extended spread front for fixed part 3 pcs	1SDA066893R1	61.15
XT2	KIT Extended spread front for fixed part 4 pcs	1SDA066894R1	81.53
XT3	KIT Extended spread front for fixed part 3 pcs	1SDA066897R1	49.16
XT3	KIT Extended spread front for fixed part 4 pcs	1SDA066898R1	64.75
XT4	KIT Extended spread front for fixed part 3 pcs	1SDA066901R1	71.94
XT4	KIT Extended spread front for fixed part 4 pcs	1SDA066902R1	95.92
XT5	KIT Extended spread front for fixed part 3 pcs	1SDA104738R1	70.74
XT5	KIT Extended spread front for fixed part 4 pcs	1SDA104739R1	94.72
XT6	KIT Extended spread front for fixed part 3 pcs - Top	1SDA104740R1	271.00
XT6	KIT Extended spread front for fixed part 3 pcs - Bottom	1SDA113127R1	271.00
XT6	KIT Extended spread front for fixed part 4 pcs	1SDA104741R1	365.70
XT7 - XT7 M	KIT Extended spread front for fixed part 3 pcs - Top	1SDA073979R1	1,111.00
XT7 - XT7 M	KIT Extended spread front for fixed part 3 pcs - Bottom	1SDA076076R1	497.60
XT7 - XT7 M	KIT Extended spread front for fixed part 4 pcs	1SDA073980R1	1,482.00



Extended front for fixed part



Extended spread front for fixed part

MOLDED CASE CIRCUIT BREAKERS
Accessories for Tmax XT circuit breakers

Additional connection terminals



Terminal covers

Breaker type	Description	Code	Price (EUR)
High terminal covers			
XT1, 3-pole	HTC terminal cover high type 2pcs	1SDA066664R1	29.98
XT1, 4-pole	HTC terminal cover high type 2pcs	1SDA066665R1	39.57
XT2, 3-pole	HTC terminal cover high type 2pcs	1SDA066666R1	33.57
XT2, 4-pole	HTC terminal cover high type 2pcs	1SDA066667R1	45.56
XT3, 3-pole	HTC terminal cover high type 2pcs	1SDA066668R1	43.16
XT3, 4-pole	HTC terminal cover high type 2pcs	1SDA066669R1	56.35
XT4, 3-pole	HTC terminal cover high type 2pcs	1SDA066670R1	53.96
XT4, 4-pole	HTC terminal cover high type 2pcs	1SDA066671R1	70.74
XT5, 3-pole	HTC terminal cover high type 2pcs	1SDA105025R1	50.36
XT5, 4-pole	HTC terminal cover high type 2pcs	1SDA105026R1	67.14
XT6, 3-pole	HTC terminal cover high type 2pcs	1SDA105027R1	61.15
XT6, 4-pole	HTC terminal cover high type 2pcs	1SDA105028R1	81.53
XT7 - XT7 M, 3 poles	HTC terminal cover high type 2pcs	1SDA105029R1	57.55
XT7 - XT7 M, 4 poles	HTC terminal cover high type 2pcs	1SDA105030R1	88.73
Low terminal covers			
XT1, 3-pole	LTC terminal cover low type 2 pcs	1SDA066655R1	38.37
XT1, 4-pole	LTC terminal cover low type 2 pcs	1SDA066656R1	50.36
XT2, 3-pole	LTC terminal cover low type 2 pcs	1SDA066657R1	40.77
XT2, 4-pole	LTC terminal cover low type 2 pcs	1SDA066659R1	53.96
XT3, 3-pole	LTC terminal cover low type 2 pcs	1SDA066660R1	41.97
XT3, 4-pole	LTC terminal cover low type 2 pcs	1SDA066661R1	56.35
XT4, 3-pole	LTC terminal cover low type 2 pcs	1SDA066662R1	44.36
XT4, 4-pole	LTC terminal cover low type 2 pcs	1SDA066663R1	59.95
XT5, 3-pole	LTC terminal cover low type 2 pcs	1SDA105018R1	45.56
XT5, 4-pole	LTC terminal cover low type 2 pcs	1SDA105019R1	59.95
XT6, 3-pole	LTC terminal cover low type 2 pcs	1SDA105020R1	43.16
XT6, 4-pole	LTC terminal cover low type 2 pcs	1SDA105021R1	57.55
XT7 - XT7 M, 3 poles, fixed	LTC terminal cover low type 2 pcs	1SDA107475R1	40.77
XT7 - XT7 M, 3 poles, withdrawable	LTC terminal cover low type 2 pcs	1SDA105022R1	40.77
XT7 - XT7 M, 4 poles, fixed	LTC terminal cover low type 2 pcs	1SDA107476R1	62.35
XT7 - XT7 M, 4 poles, withdrawable	LTC terminal cover low type 2 pcs	1SDA105023R1	62.35
Phase separators			
XT1, XT3, 3 poles	PB 100mm 4 pcs	1SDA066676R1	10.79
XT1, XT3, 3 poles	PB 200mm 4 pcs	1SDA066678R1	20.38
XT2, XT4, 3 poles	PB 100mm 4 pcs	1SDA066675R1	10.79
XT2, XT4, 3 poles	PB 200mm 4 pcs	1SDA066677R1	20.38
XT5, 3-pole	PB 100mm 4 pcs	1SDA105002R1	11.99
XT5, 3-pole	PB 200mm 4 pcs	1SDA105004R1	17.99
XT6, 3-pole	PB 100mm 4 pcs	1SDA105010R1	21.58
XT6, 3-pole	PB 200mm 4 pcs	1SDA105012R1	32.37
XT7, XT7 M, 3 pcs	PB 100mm 4 pcs	1SDA073877R1	25.18
XT7, XT7 M, 3 pcs	PB 200mm 4 pcs	1SDA073879R1	39.57
XT1, XT3, 4 poles	PB 100mm 6 pcs	1SDA066681R1	13.19
XT2, XT4, 4 poles	PB 100mm 6 pcs	1SDA066680R1	13.19
XT5, 4-pole	PB 100mm 6 pcs	1SDA105003R1	17.99
XT6, 4-pole	PB 100mm 6 pcs	1SDA105011R1	33.57
XT7, XT7 M, 4 pcs	PB 100mm 6 pcs	1SDA073878R1	35.97



Terminal covers



Phase separators

MOLDED CASE CIRCUIT BREAKERS
Tmax XT - products for converting to plug-in or withdrawable type

Plug-in version



Fixed part plug-in + Fixed breaker + Conversion kit for fixed breaker to plug-in + Socket-plug panel connector = Plug-in switch

*If electrical accessories are to be attached to the plug-in switch, an adapter suitable for the accessories must be selected.

Withdrawable version Solution 1



Fixed part withdrawable | Fixed breaker | Conversion kit for fixed breaker to withdrawable | *FLD Front for locks / Motor / Rotary handle = Withdrawable breaker

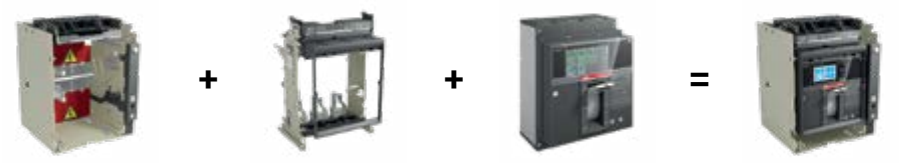
Withdrawable version Solution 2



Fixed part plug-in + Conversion kit for converting fixed part plug-in to fixed part withdrawable + Fixed breaker + Conversion kit for fixed breaker to withdrawable + *FLD Front for locks / Motor / Rotary handle = Withdrawable breaker

* For the withdrawable switch, one of the FLD front for locks, motor or rotary handle must be ordered.

XT7 - XT7M



Fixed part + Conversion kit for fixed breaker to withdrawable + Fixed breaker = Withdrawable breaker



Socket-plug panel connector



Adapter selection for plug-in version	
If accessories are to be used in plug-in breakers, an adapter must be ordered. After determining the total number of cables from the table below, the appropriate adapter from page 125 should be selected so that the number of pins equals or exceeds the number of cables.	
Accessory	**Number of cables**
SOR, UVR, external neutral, PTC	2
SA, 1 AUX	3
Auxiliary power supply 24V DC, AUE, PR212CI	4
MOE-E	5
Ekip Com, Residual current module	6
MOE (with AUX-MO), MOD (with AUX-MO)	7

MOLDED CASE CIRCUIT BREAKERS
Devices and systems for communication with Tmax XT

Ekip Com modules
Thanks to the wide range of supported communication protocols, SACE Tmax XT circuit breakers with Ekip Dip Measuring, Ekip Touch / Ekip Touch Measuring and Ekip Hi-Touch protection units can be integrated into communication networks without the need for external interface units.

- **Wide range of protocols supported;** IEC 61850, Modbus TCP, Modbus RS-485, Profibus, Profinet, DeviceNet, EtherNet/IP, Cloud
- **Redundant communication for higher reliability of the system;** By installing two communication modules on the circuit breaker at the same time, it is possible to exchange information on two busbars simultaneously.
- **Ready for the smart grid;** the Ekip Com IEC 61850 module is the solution for integrating SACE Tmax XT circuit-breakers into the automated systems of electrical substations based on the IEC 61850 Standard without the need for complex external devices.

Internal communication with Tmax XT

Tmax XT4

Supervision and remote control

Supervision

Ekip Dip Measuring



\+

Ekip Com Modbus RTU Dip



XT2/XT4

\+

MOE-E



- Remote current, voltage, power, energy measurements, circuit breaker status (on/off/trip), and alarms can be read.
- The trip unit can be programmed remotely.
- Remote open / close / reset command can be sent to the circuit breaker.

Tmax XT2
Tmax XT4
Tmax XT5

Supervision, energy measurement and remote control

Supervision and energy measurement

Ekip Touch, Ekip Touch Measuring



\+

Ekip Com



XT2/XT4 XT5

\+

MOE-E



- Remote current, voltage, power, energy, power factor and frequency measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.
- Remote open / close / reset command can be sent to the circuit breaker.

**In the Tmax XT Ekip Touch version, only current data can be read. If voltage, power, energy values are also to be read, Ekip Touch Measuring or higher versions should be selected

Tmax XT2
Tmax XT4
Tmax XT5

Supervision, energy and power quality measurement and remote control

Supervision, energy and power quality measurement
Ekip Hi-Touch, Ekip G Hi-Touch



\+

Ekip Com



XT2/XT4 XT5

\+

MOE-E



- Remote current, voltage, power, energy, power factor, frequency, current and voltage harmonics up to 50th harmonic, THD measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.
- Remote open / close / reset command can be sent to the circuit breaker.

MOLDED CASE CIRCUIT BREAKERS
Devices and systems for communication with Tmax XT

External communication with Tmax XT

Tmax XT2
Tmax XT4
Tmax XT5

Supervision, energy measurement and remote control

Supervision and energy measurement

Ekip Touch, Ekip Touch Measuring + Cartridge + Ekip Supply + Ekip Com + MOE-E







- Remote current, voltage, power, energy, power factor and frequency measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely

- Remote open / close / reset command can be sent to the circuit breaker.

**In the Tmax XT Ekip Touch version, only current data can be read. If voltage, power, energy values are also to be read, Ekip Touch Measuring or higher versions should be selected.

Tmax XT2
Tmax XT4
Tmax XT5

Supervision, energy and power quality measurement and remote control

Supervision, energy and power quality measurement

Ekip Hi-Touch, Ekip G Hi-Touch + Cartridge + Ekip Supply + Ekip Com + MOE-E







- Remote current, voltage, power, energy, power factor, frequency, current and voltage harmonics up to 50th harmonic, THD measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.

- Remote open / close / reset command can be sent to the circuit breaker.

Tmax XT7

Supervision, energy measurement and remote control

Supervision, energy and power quality measurement

Ekip Touch, Ekip Touch Measuring + Ekip Supply + Ekip Com + YO






Ekip Com Actuator

- Remote current, voltage, power, energy, power factor and frequency measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.

- Remote open command can be sent to the circuit breaker.

Tmax XT7 M

Supervision, energy and power quality measurement and remote control

Supervision, energy and power quality measurement

Ekip Hi-Touch, Ekip G Hi-Touch + Ekip Supply + Ekip Com + Ekip Com M Actuator + YO + M + YC









- Remote current, voltage, power, energy, power factor, frequency, current and voltage harmonics up to 50th harmonic, THD measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.

- Remote open / close / reset command can be sent to the circuit breaker.

MOLDED CASE CIRCUIT BREAKERS
Communication accessories for Tmax XT molded case circuit breakers

Ekip Supply power supply module



Breaker type	Description	Code	Price (EUR)
XT2-XT4-XT5-XT7-XT7 M	Ekip Supply 110-240V AC/DC	1SDA074172R1	189.40
XT2-XT4-XT5-XT7-XT7 M	Ekip Supply 24-48V DC	1SDA074173R1	189.40

Ekip Com external communication modules*



Breaker type	Description	Code	Price (EUR)
XT2-XT4-XT5-XT7**-XT7 M**	Ekip Com Modbus RS-485	1SDA105166R1	412.50
XT2-XT4-XT5-XT7**-XT7 M**	Ekip Com Modbus TCP	1SDA105167R1	648.70
XT2-XT4-XT5-XT7**-XT7 M**	Ekip Com Profibus	1SDA105170R1	658.30

Internal communication modules***



Breaker type	Description	Code	Price (EUR)
XT2-XT4 fixed and plug-in	Slim Ekip Com RS-485	1SDA105175R1	412.50
XT2-XT4 withdrawable	Slim Ekip Com RS-485	1SDA105176R1	422.00
XT2-XT4 fixed, plug-in and withdrawable	Ekip Com Modbus TCP XT2-XT4	1SDA105177R1	647.50
XT2-XT4 fixed, plug-in and withdrawable	Ekip Link	1SDA105197R1	383.70
XT4 fixed and plug-in	Ekip Com Modbus RTU - Dip Measuring	1SDA122799R1	466.30
XT4 withdrawable	Ekip Com Modbus RTU - Dip Measuring	1SDA122800R1	466.30
XT5 fixed and plug-in	Ekip Com Modbus RTU	1SDA105187R1	412.50
XT5 withdrawable	Ekip Com Modbus RTU	1SDA105188R1	422.00
XT5 fixed and plug-in	Ekip Com Modbus TCP	1SDA105189R1	647.50
XT5 withdrawable	Ekip Com Modbus TCP	1SDA105189R1	647.50

Please consult for Profinet, Devicenet, Ethernet/ IP, IEC61850 type communication modules and replacement modules.

Ekip Cartridge external cartridge module



Breaker type	Description	Code	Price (EUR)
XT2-XT4-XT5	Ekip Cartridge XT2-XT4-XT5 with 2 slots	1SDA105203R1	125.90
XT2-XT4-XT5	Ekip Cartridge XT2-XT4-XT5 with 4 slots	1SDA105204R1	188.20

Team monitoring and supervision system



Breaker type	Description	Code	Price (EUR)
XT2-XT4-XT5-XT7-XT7 M	Ekip Multimetre...96x96 mm	1SDA074192R1	59.95
XT2-XT4-XT5-XT6-XT7-XT7 M	EKIP T&P	1SDA066989R1	2,150.00
XT2-XT4-XT5-XT6-XT7-XT7 M	EKIP TT	1SDA066988R1	233.80
XT2-XT4-XT5-XT6-XT7-XT7 M	Ekip Programming	1SDA076154R1	845.30

* External communication modules are used with Ekip Supply power supply and Ekip Cartridge module in circuit breakers with XT2-XT4-XT5 Ekip Touch/Hi-Touch trip unit.
** No Ekip Cartridge module is needed for XT7-XT7 M. Communication modules can be installed directly in the terminal box of the circuit breaker together with the Ekip Supply.
*** Supplied mounted inside the circuit breaker; Ekip Supply and Ekip Cartridge module is not needed.

Bluetooth™

Circuit breakers with Tmax XT Touch trip unit have built-in bluetooth communication. With the smartphone application EPiC Mobile, you can connect to these breakers and see all their information and make their settings easily.

Supported protocols
1 - Modbus RTU
2 - Profibus-DP
3 - DeviceNet
4 - Modbus TCP/IP
5 - Profinet
6 - EtherNet IP
7 - IEC61850
8 - Link

MOLDED CASE CIRCUIT BREAKERS
Tmax T to Tmax XT conversion table

!
Tmax T series products have been discontinued, so you can choose from Tmax XT series for new product selections.

TMA thermomagnetic release, 3-pole


XT5

Tmax T code	Description	Tmax XT code	Description
1SDA054437R1	T5N 400, TMA, In=400A	1SDA100345R1	XT5N 400 TMA 400-4000 3p F F
1SDA060202R1	T6N 630, TMA, In=630A	1SDA100347R1	XT5N 630 TMA 630-6300 3p F F
1SDA060214R1	T6N 800, TMA, In=800A	1SDA100718R1	XT6N 800 TMA 800-8000 3p F F
1SDA054441R1	T5S 400, TMA, In=400A	1SDA100415R1	XT5S 400 TMA 400-4000 3p F F
1SDA060204R1	T6S 630, TMA, In=630A	1SDA100417R1	XT5S 630 TMA 630-6300 3p F F
1SDA060216R1	T6S 800, TMA, In=800A	1SDA100740R1	XT6S 800 TMA 800-8000 3p F F
1SDA054445R1	T5H 400, TMA, In=400A	1SDA100485R1	XT5H 400 TMA 400-4000 3p F F
1SDA060206R1	T6H 630, TMA, In=630A	1SDA100487R1	XT5H 630 TMA 630-6300 3p F F
1SDA060218R1	T6H 800, TMA, In=800A	1SDA100762R1	XT6H 800 TMA 800-8000 3p F F

LS/I electronic release, 3-pole


XT7

Tmax T code	Description	Tmax XT code	Description
1SDA054317R1	T5N 400, PR221DS-LS/I, In=400A	1SDA100354R1	XT5N 400 Ekip Dip LS/I In=400 3p F F
1SDA054396R1	T5N 630, PR221DS-LS/I, In=630A	1SDA100355R1	XT5N 630 Ekip Dip LS/I In=630 3p F F
1SDA060226R1	T6N 630, PR221DS-LS/I, In=630A	1SDA100355R1	XT5N 630 Ekip Dip LS/I In=630 3p F F
1SDA060268R1	T6N 800, PR221DS-LS/I, In=800A	1SDA100719R1	XT6N 800 Ekip Dip LS/I In=800 3p F F
1SDA060537R1	T6N 1000, PR221DS-LS/I, In=1000A	1SDA100720R1	XT6N 1000 Ekip Dip LS/I In=1000 3p F F
1SDA054333R1	T5S 400, PR221DS-LS/I, In=400A	1SDA100424R1	XT5S 400 Ekip Dip LS/I In=400 3p F F
1SDA054404R1	T5S 630, PR221DS-LS/I, In=630A	1SDA100425R1	XT5S 630 Ekip Dip LS/I In=630 3p F F
1SDA060236R1	T6S 630, PR221DS-LS/I, In=630A	1SDA100425R1	XT5S 630 Ekip Dip LS/I In=630 3p F F
1SDA060278R1	T6S 800, PR221DS-LS/I, In=800A	1SDA100741R1	XT6S 800 Ekip Dip LS/I In=800 3p F F
1SDA060547R1	T6S 1000, PR221DS-LS/I, In=1000A	1SDA100742R1	XT6S 1000 Ekip Dip LS/I In=1000 3p F F
1SDA062738R1	T7S 1000, PR231/P-LS/I, In=1000A	1SDA100827R1	XT7S 1000 Ekip Dip LS/I In=1000A 3p F F
1SDA062866R1	T7S 1250, PR231/P-LS/I, In=1250A	1SDA100828R1	XT7S 1250 Ekip Dip LS/I In=1250A 3p F F
1SDA062994R1	T7S 1600, PR231/P-LS/I, In=1600A	1SDA100829R1	XT7S 1600 Ekip Dip LS/I In=1600A 3p F F
1SDA054349R1	T5H 400, PR221DS-LS/I, In=400A	1SDA100490R1	XT5H 400 Ekip Dip LS/I In=400 3p F F
1SDA054412R1	T5H 630, PR221DS-LS/I, In=630A	1SDA100491R1	XT5H 630 Ekip Dip LS/I In=630 3p F F
1SDA060246R1	T6H 630, PR221DS-LS/I, In=630A	1SDA100491R1	XT5H 630 Ekip Dip LS/I In=630 3p F F
1SDA060289R1	T6H 800, PR221DS-LS/I, In=800A	1SDA100763R1	XT6H 800 Ekip Dip LS/I In=800 3p F F
1SDA060561R1	T6H 1000, PR221DS-LS/I, In=1000A	1SDA100764R1	XT6H 1000 Ekip Dip LS/I In=1000 3p F F
1SDA062770R1	T7H 1000, PR231/P-LS/I, In=1000A	1SDA100891R1	XT7H 1000 Ekip Dip LS/I In=1000A 3p F F
1SDA062898R1	T7H 1250, PR231/P-LS/I, In=1250A	1SDA100892R1	XT7H 1250 Ekip Dip LS/I In=1250A 3p F F
1SDA063026R1	T7H 1600, PR231/P-LS/I, In=1600A	1SDA100893R1	XT7H 1600 Ekip Dip LS/I In=1600A 3p F F

T7M motor mountable, LS/I electronic release, 3-pole


XT7 M

Tmax T code	Description	Tmax XT code	Description
1SDA061981R1	T7S 800M, PR231/P-LS/I, In=800A	1SDA101366R1	XT7S M 800 Ekip Dip LS/I In=800A 3p F F
1SDA062754R1	T7S 1000M, PR231/P-LS/I, In=1000A	1SDA101367R1	XT7S M 1000 Ekip Dip LS/I In1000A 3p F F
1SDA062882R1	T7S 1250M, PR231/P-LS/I, In=1250A	1SDA101368R1	XT7S M 1250 Ekip Dip LS/I In1250A 3p F F
1SDA063010R1	T7S 1600M, PR231/P-LS/I, In=1600A	1SDA101369R1	XT7S M 1600 Ekip Dip LS/I In1600A 3p F F
1SDA062658R1	T7H 800M, PR231/P-LS/I, In=800A	1SDA101430R1	XT7H M 800 Ekip Dip LS/I In=800A 3p F F
1SDA062786R1	T7H 1000M, PR231/P-LS/I, In=1000A	1SDA101431R1	XT7H M 1000 Ekip Dip LS/I In1000A 3p F F
1SDA062914R1	T7H 1250M, PR231/P-LS/I, In=1250A	1SDA101432R1	XT7H M 1250 Ekip Dip LS/I In1250A 3p F F
1SDA063042R1	T7H 1600M, PR231/P-LS/I, In=1600A	1SDA101433R1	XT7H M 1600 Ekip Dip LS/I In1600A 3p F F

MOLDED CASE CIRCUIT BREAKERS
Tmax T to Tmax XT conversion table

! Tmax T series products have been discontinued, so you can choose from Tmax XT series for new product selections.

TMA thermomagnetic release, 4-pole


XT5

Tmax T code	Description	Tmax XT code	Description
1SDA054478R1	T5N 400, TMA, In=400A, InN=100%, 4p	1SDA100385R1	XT5N 400 TMA 400-4000 4p F F InN=100%In
1SDA060210R1	T6N 630, TMA, In=630A, InN=100%, 4p	1SDA100389R1	XT5N 630 TMA 630-6300 4p F F InN=100%In
1SDA060222R1	T6N 800, TMA, In=800A, InN=100%, 4p	1SDA100731R1	XT6N 800 TMA 800-8000 4p F F InN=100%In
1SDA054480R1	T5S 400, TMA, In=400A, InN=100%, 4p	1SDA100455R1	XT5S 400 TMA 400-4000 4p F F InN=100%In
1SDA060211R1	T6S 630, TMA, In=630A, InN=100%, 4p	1SDA100459R1	XT5S 630 TMA 630-6300 4p F F InN=100%In
1SDA060223R1	T6S 800, TMA, In=800A, InN=100%, 4p	1SDA100753R1	XT6S 800 TMA 800-8000 4p F F InN=100%In
1SDA054482R1	T5H 400, TMA, In=400A, InN=100%, 4p	1SDA100521R1	XT5H 400 TMA 400-4000 4p F F InN=100%In
1SDA060212R1	T6H 630, TMA, In=630A, InN=100%, 4p	1SDA100525R1	XT5H 630 TMA 630-6300 4p F F InN=100%In
1SDA060224R1	T6H 800, TMA, In=800A, InN=100%, 4p	1SDA100775R1	XT6H 800 TMA 800-8000 4p F F InN=100%In

LS/I electronic release, 4-pole


XT7

Tmax T code	Description	Tmax XT code	Description
1SDA054325R1	T5N 400, PR221DS-LS/I, In=400A, 4p	1SDA100396R1	XT5N 400 Ekip Dip LS/I In=400 4p F F
1SDA054400R1	T5N 630, PR221DS-LS/I, In=630A, 4p	1SDA100397R1	XT5N 630 Ekip Dip LS/I In=630 4p F F
1SDA060231R1	T6N 630, PR221DS-LS/I, In=630A, 4p	1SDA100397R1	XT5N 630 Ekip Dip LS/I In=630 4p F F
1SDA060273R1	T6N 800, PR221DS-LS/I, In=800A, 4p	1SDA100732R1	XT6N 800 Ekip Dip LS/I In=800 4p F F
1SDA060542R1	T6N 1000, PR221DS-LS/I, In=1000A, 4p	1SDA100733R1	XT6N 1000 Ekip Dip LS/I In=1000 4p F F
1SDA054341R1	T5S 400, PR221DS-LS/I, In=400A, 4p	1SDA100466R1	XT5S 400 Ekip Dip LS/I In=400 4p F F
1SDA054408R1	T5S 630, PR221DS-LS/I, In=630A, 4p	1SDA100467R1	XT5S 630 Ekip Dip LS/I In=630 4p F F
1SDA060241R1	T6S 630, PR221DS-LS/I, In=630A, 4p	1SDA100467R1	XT5S 630 Ekip Dip LS/I In=630 4p F F
1SDA060283R1	T6S 800, PR221DS-LS/I, In=800A, 4p	1SDA100754R1	XT6S 800 Ekip Dip LS/I In=800 4p F F
1SDA060556R1	T6S 1000, PR221DS-LS/I, In=1000A, 4p	1SDA100755R1	XT6S 1000 Ekip Dip LS/I In=1000 4p F F
1SDA062746R1	T7S 1000, PR231/P LS/I, In=1000A, 4p*	1SDA101115R1	XT7S 1000 Ekip Dip LS/I In=1000A 4p F F
1SDA062874R1	T7S 1250, PR231/P LS/I, In=1250A, 4p*	1SDA101116R1	XT7S 1250 Ekip Dip LS/I In=1250A 4p F F
1SDA063002R1	T7S 1600, PR231/P LS/I, In=1600A, 4p*	1SDA101117R1	XT7S 1600 Ekip Dip LS/I In=1600A 4p F F
1SDA054357R1	T5H 400, PR221DS-LS/I, In=400A, 4p	1SDA100528R1	XT5H 400 Ekip Dip LS/I In=400 4p F F
1SDA054416R1	T5H 630, PR221DS-LS/I, In=630A, 4p	1SDA100529R1	XT5H 630 Ekip Dip LS/I In=630 4p F F
1SDA060251R1	T6H 630, PR221DS-LS/I, In=630A, 4p	1SDA100529R1	XT5H 630 Ekip Dip LS/I In=630 4p F F
1SDA060294R1	T6H 800, PR221DS-LS/I, In=800A, 4p	1SDA100776R1	XT6H 800 Ekip Dip LS/I In=800 4p F F
1SDA060566R1	T6H 1000, PR221DS-LS/I, In=1000A, 4p	1SDA100777R1	XT6H 1000 Ekip Dip LS/I In=1000 4p F F
1SDA062778R1	T7H 1000, PR231/P LS/I, In=1000A, 4p*	1SDA101171R1	XT7H 1000 Ekip Dip LS/I In=1000A 4p F F
1SDA062906R1	T7H 1250, PR231/P LS/I, In=1250A, 4p*	1SDA101172R1	XT7H 1250 Ekip Dip LS/I In=1250A 4p F F
1SDA063034R1	T7H 1600, PR231/P LS/I, In=1600A, 4p*	1SDA101173R1	XT7H 1600 Ekip Dip LS/I In=1600A 4p F F

T7M motor mountable, LS/I electronic release, 4-pole

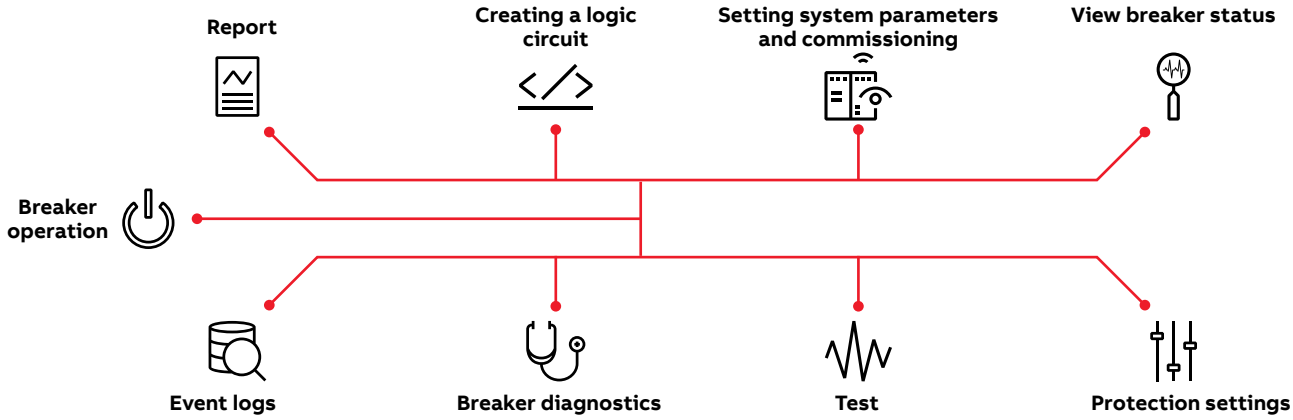

XT7 M

Tmax T code	Description	Tmax XT code	Description
1SDA061989R1	T7S 800M, PR231/P LS/I, In=800A, 4p	1SDA101654R1	XT7S M 800 Ekip Dip LS/I In=800A 4p F F
1SDA062762R1	T7S 1000M, PR231/P LS/I, In=1000A, 4p	1SDA101655R1	XT7S M 1000 Ekip Dip LS/I In1000A 4p F F
1SDA062890R1	T7S 1250M, PR231/P LS/I, In=1250A, 4p	1SDA101656R1	XT7S M 1250 Ekip Dip LS/I In1250A 4p F F
1SDA063018R1	T7S 1600M, PR231/P LS/I, In=1600A, 4p	1SDA101657R1	XT7S M 1600 Ekip Dip LS/I In1600A 4p F F
1SDA062666R1	T7H 800M, PR231/P LS/I, In=800A, 4p	1SDA101710R1	XT7H M 800 Ekip Dip LS/I In=800A 4p F F
1SDA062794R1	T7H 1000M, PR231/P LS/I, In=1000A, 4p	1SDA101711R1	XT7H M 1000 Ekip Dip LS/I In1000A 4p F F
1SDA062922R1	T7H 1250M, PR231/P LS/I, In=1250A, 4p	1SDA101712R1	XT7H M 1250 Ekip Dip LS/I In1250A 4p F F
1SDA063050R1	T7H 1600M, PR231/P LS/I, In=1600A, 4p	1SDA101713R1	XT7H M 1600 Ekip Dip LS/I In1600A 4p F F

SOFTWARE AND APPLICATIONS

Ekip Connect

Ekip Connect is the ABB programming and commissioning software tool that allows the user to unlock the full potential of circuit-breakers, improving the efficiency of the electrical plant. From commissioning to implementation, through monitoring, testing, and analysis, Ekip Connect is the perfect tool to drive the user in the management of ABB circuit-breakers throughout the whole product life cycle.



EPiC Mobile

With the built-in Bluetooth in the Ekip Touch trip units, it is possible to quickly connect to the EPiC mobile app. Thanks to the easy and intuitive interface of the app, all system parameters and protection thresholds can be set quickly. By purchasing additional measurement and protection functions, the breaker can be equipped with new and advanced features not foreseen during the project stage.





WITH CUSTOMIZED CIRCUIT BREAKERS
Break new ground.

SACE Tmax XT
Maximum flexibility for every application – SACE Tmax XT sets standards for electrical installations. Easy selection, one-fits-all accessories and intuitive design pave the way for fast upgrades and create values through the entire customer journey. Even for the most critical projects. **go.abb/xt**



SACE EMAX 2
Technical specifications

Rated operating voltage ,Ue	[V]	690
Nominal insulation voltage, Ui	[V]	1000
Rated impulse withstand voltage, Uimp	[kV]	12
Frequency	[Hz]	50 - 60
No. of poles	[Qty.]	3 - 4
Version		Fixed – Withdrawable

SACE Emax 2		
Performance levels		
Rated uninterrupted current Iu @ 40°C		[A]
		[A]
		[A]
		[A]
		[A]
		[A]
		[A]
Neutral pole current carrying capacity, for 4-pole circuit breakers		[%Iu]
Ultimate rated short-circuit breaking capacity Icu	400-415V	[kA]
	690 V	[kA]
Rated service short-circuit breaking capacity Ics		[%Icu]
Rated short-time withstand current Icw	(1s)	[kA]
Utilization category (IEC 60947-2)		
Dimensions	Height – Fixed / Withdrawable	[mm]
	Depth – Fixed / Withdrawable	[mm]
	Width – Fixed 3p/4p/4p Fs | Withdrawable 3p/4p/4p Fs	[mm]
Weight (including trip unit and current sensor)	Fixed 3p/4p	[kg]
	Withdrawable 3p/4p/4p/4p FS including fixed part	[kg]
Available versions	Circuit breakers @690-900 V AC	
	Switch disconnectors @690 V AC	
	Sectionalizing switch	
	Earthing switch with making capacity	
	Earthing switch	

1) Ics=50kA @400V...440V
2) Ics=125kA @400V...440V






E1.2			E2.2				E4.2				E6.2		
B	**C**	**N**	**B**	**N**	**S**	**H**	**N**	**S**	**H**	**V**	**H**	**V**	**X**
630	630	250	1600	800	250	800	3200	3200	3200	2000	4000	4000	4000
800	800	630	2000	1000	800	1000	4000	4000	4000	2500	5000	5000	5000
1000	1000	800		1250	1000	1250				3200	6300	6300	6300
1250	1250	1000		1600	1250	1600				4000			
1600	1600	1250		2000	1600	2000							
		1600		2500	2000	2500							
					2500								
100	100	100	100	100	100	100	100	100	100	100	50-100	50-100	50-100
42	50	66	42	66	85	100	66	85	100	150	100	150	150
42	42	50	42	66	66	85	66	66	85	100	100	100	100
100	100	100[1)]	100	100	100	100	100	100	100	100[2)]	100	100	100
42	42	50	42	66	66	85	66	66	85	100	100	100	120
B	B	B	B	B	B	B	B	B	B	B	B	B	B
296 / 363.5			371 / 425				371 / 425				371 / 425		
183 / 271			270 / 383				270 / 383				270 / 383		
210 / 280 | 278 / 348			276 / 366 | 317 / 407				384 / 510 | 425 / 551				762/888/1014 | 803/929/1069		
14/16			41/53				56/70				109/125/140		
38/43			84/99				110/136				207/234/260		
•			•				•				•		
•			•				•				•		
•			•				•				•		
•			•				•				•		
•			•				•				•		

	Standard protections	Standard measurements	Measuring package	Voltage protections	Frequency protections	Power protections	Adaptive protections	Datalogger	Network analyzer	Advanced voltage protections	ROCOF protections	1% accuracy
Ekip Touch	●	●	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Ekip G Touch	●	●	●	↑	↑	↑	↑	●	↑	↑	↑	↑
Ekip Hi- Touch	●	●	●	●	●	↑	●	●	●	↑	↑	●
Ekip G Hi-Touch	●	●	●	●	●	●	●	●	●	●	●	●

● Standard

↑ Upgradable

↑ Some protections in the package are pre-installed as standard.
It is possible to upgrade the trip unit to obtain the complete package.

These features are not available for Dip trip units.

See page 3/6 of the catalog for detailed package contents.



For further information please refer to the product catalogue.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 3-pole, fixed



E1.2B 1600A



E2.2N 2500A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E1.2B 630A, Ekip Dip	42	1SDA070701R1	2,906.00
	E1.2B 800A, Ekip Dip	42	1SDA070741R1	3,033.00
	E1.2B 1000A, Ekip Dip	42	1SDA070781R1	3,128.00
	E1.2B 1250A, Ekip Dip	42	1SDA070821R1	3,393.00
	E1.2B 1600A, Ekip Dip	42	1SDA070861R1	4,572.00
	E2.2B 1600A, Ekip Dip	42	1SDA070981R1	4,730.00
	E2.2B 2000A, Ekip Dip	42	1SDA071021R1	5,548.00
LSI	E1.2B 630A, Ekip Dip	42	1SDA070702R1	3,432.00
	E1.2B 800A, Ekip Dip	42	1SDA070742R1	3,515.00
	E1.2B 1000A, Ekip Dip	42	1SDA070782R1	3,674.00
	E1.2B 1250A, Ekip Dip	42	1SDA070822R1	3,863.00
	E1.2B 1600A, Ekip Dip	42	1SDA070862R1	4,774.00
	E2.2B 1600A, Ekip Dip	42	1SDA070982R1	5,021.00
	E2.2B 2000A, Ekip Dip	42	1SDA071022R1	5,807.00
LI	E1.2C 630A, Ekip Dip	50	1SDA070711R1	3,065.00
	E1.2C 800A, Ekip Dip	50	1SDA070751R1	3,097.00
	E1.2C 1000A, Ekip Dip	50	1SDA070791R1	3,204.00
	E1.2C 1250A, Ekip Dip	50	1SDA070831R1	3,420.00
	E1.2C 1600A, Ekip Dip	50	1SDA070871R1	4,705.00
LSI	E1.2C 630A, Ekip Dip	50	1SDA070712R1	3,572.00
	E1.2C 800A, Ekip Dip	50	1SDA070752R1	3,748.00
	E1.2C 1000A, Ekip Dip	50	1SDA070792R1	3,933.00
	E1.2C 1250A, Ekip Dip	50	1SDA070832R1	4,047.00
	E1.2C 1600A, Ekip Dip	50	1SDA070872R1	4,971.00
LI	E1.2N 630A, Ekip Dip	66	1SDA070721R1	3,192.00
	E1.2N 800A, Ekip Dip	66	1SDA070761R1	3,337.00
	E1.2N 1000A, Ekip Dip	66	1SDA070801R1	3,445.00
	E2.2N 1250A, Ekip Dip	66	1SDA070951R1	3,965.00
	E2.2N 1600A, Ekip Dip	66	1SDA070991R1	4,953.00
	E2.2N 2000A, Ekip Dip	66	1SDA071031R1	6,160.00
	E2.2N 2500A, Ekip Dip	66	1SDA071061R1	7,503.00
	E4.2N 3200A, Ekip Dip	66	1SDA071141R1	8,765.00
	E4.2N 4000A, Ekip Dip	66	1SDA071191R1	13,292.00
LSI	E1.2N 630A, Ekip Dip	66	1SDA070722R1	3,774.00
	E1.2N 800A, Ekip Dip	66	1SDA070762R1	3,869.00
	E1.2N 1000A, Ekip Dip	66	1SDA070802R1	4,039.00
	E2.2N 1250A, Ekip Dip	66	1SDA070952R1	4,255.00
	E2.2N 1600A, Ekip Dip	66	1SDA070992R1	5,224.00
	E2.2N 2000A, Ekip Dip	66	1SDA071032R1	6,452.00
	E2.2N 2500A, Ekip Dip	66	1SDA071062R1	7,738.00
	E4.2N 3200A, Ekip Dip	66	1SDA071142R1	9,056.00
	E4.2N 4000A, Ekip Dip	66	1SDA071192R1	13,557.00

Protection functions

L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 3-pole, fixed

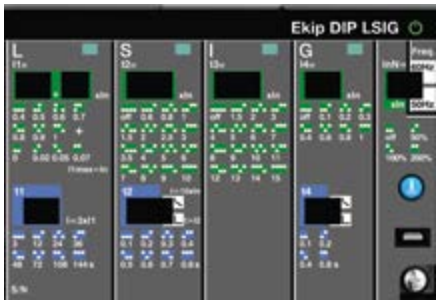


E4.2N 3200A



E6.2H 6300A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Dip	85	1SDA071041R1	6,478.00
	E2.2S 2500A, Ekip Dip	85	1SDA071071R1	7,864.00
	E4.2S 3200A, Ekip Dip	85	1SDA071151R1	9,188.00
	E4.2S 4000A, Ekip Dip	85	1SDA071201R1	13,874.00
LSI	E2.2S 2000A, Ekip Dip	85	1SDA071042R1	6,605.00
	E2.2S 2500A, Ekip Dip	85	1SDA071072R1	8,023.00
	E4.2S 3200A, Ekip Dip	85	1SDA071152R1	7,835.00
	E4.2S 4000A, Ekip Dip	85	1SDA071202R1	14,152.00
LI	E2.2H 1250A, Ekip Dip	100	1SDA070971R1	4,566.00
	E2.2H 1600A, Ekip Dip	100	1SDA071011R1	5,364.00
	E2.2H 2000A, Ekip Dip	100	1SDA071051R1	6,610.00
	E2.2H 2500A, Ekip Dip	100	1SDA071081R1	8,030.00
	E4.2H 3200A, Ekip Dip	100	1SDA071161R1	9,373.00
	E4.2H 4000A, Ekip Dip	100	1SDA071211R1	14,159.00
	E6.2H 5000A, Ekip Dip	100	1SDA071261R1	20,599.00
	E6.2H 6300A, Ekip Dip	100	1SDA071291R1	26,545.00
LSI	E2.2H 1250A, Ekip Dip	100	1SDA070972R1	4,655.00
	E2.2H 1600A, Ekip Dip	100	1SDA071012R1	5,523.00
	E2.2H 2000A, Ekip Dip	100	1SDA071052R1	6,737.00
	E2.2H 2500A, Ekip Dip	100	1SDA071082R1	6,850.00
	E4.2H 3200A, Ekip Dip	100	1SDA071162R1	7,994.00
	E4.2H 4000A, Ekip Dip	100	1SDA071212R1	12,079.00
	E6.2H 5000A, Ekip Dip	100	1SDA071262R1	17,504.00
	E6.2H 6300A, Ekip Dip	100	1SDA071292R1	23,071.00
LI	E4.2V 4000A, Ekip Dip	150	1SDA071221R1	16,287.00
	E6.2V 5000A, Ekip Dip	150	1SDA071271R1	22,100.00
	E6.2V 6300A, Ekip Dip	150	1SDA071301R1	29,091.00
LSI	E4.2V 4000A, Ekip Dip	150	1SDA071222R1	16,609.00
	E6.2V 5000A, Ekip Dip	150	1SDA071272R1	22,542.00
	E6.2V 6300A, Ekip Dip	150	1SDA071302R1	29,673.00



Emax 2 Ekip Dip trip unit

Materials delivered as standard with the fixed Emax 2:

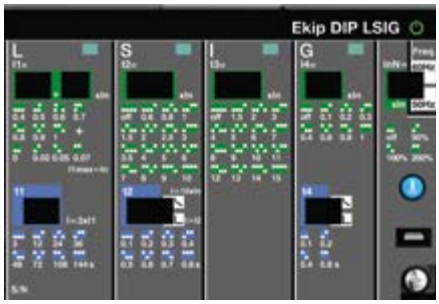
- 4A/K auxiliary contact
- TU Reset mechanical overcurrent warning indicator
- S51 electrical overcurrent warning contact
- IP 30 enclosure frame
- Front terminal for E1.2
- Adjustable rear terminal for E2.2, E4.2 and E6.2

(Delivered as HR-HR mounted)

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 3-pole, withdrawable

	Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
	LI	E1.2B 630A, Ekip Dip	42	1SDA072051R1	3,109.00
		E1.2B 800A, Ekip Dip	42	1SDA072091R1	3,179.00
		E1.2B 1000A, Ekip Dip	42	1SDA072131R1	3,337.00
		E1.2B 1250A, Ekip Dip	42	1SDA072171R1	3,520.00
		E1.2B 1600A, Ekip Dip	42	1SDA072211R1	4,243.00
		E2.2B 1600A, Ekip Dip	42	1SDA072331R1	4,072.00
		E2.2B 2000A, Ekip Dip	42	1SDA072371R1	4,984.00
	LSI	E1.2B 630A, Ekip Dip	42	1SDA072052R1	3,140.00
		E1.2B 800A, Ekip Dip	42	1SDA072092R1	3,192.00
 E1.2C 1000A		E1.2B 1000A, Ekip Dip	42	1SDA072132R1	3,414.00
		E1.2B 1250A, Ekip Dip	42	1SDA072172R1	3,856.00
		E1.2B 1600A, Ekip Dip	42	1SDA072212R1	4,527.00
		E2.2B 1600A, Ekip Dip	42	1SDA072332R1	4,369.00
		E2.2B 2000A, Ekip Dip	42	1SDA072372R1	5,193.00
	LI	E1.2C 630A, Ekip Dip	50	1SDA072061R1	3,248.00
		E1.2C 800A, Ekip Dip	50	1SDA072101R1	3,337.00
		E1.2C 1000A, Ekip Dip	50	1SDA072141R1	3,489.00
		E1.2C 1250A, Ekip Dip	50	1SDA072181R1	3,685.00
		E1.2C 1600A, Ekip Dip	50	1SDA072221R1	4,465.00
	LSI	E1.2C 630A, Ekip Dip	50	1SDA072062R1	3,280.00
		E1.2C 800A, Ekip Dip	50	1SDA072102R1	3,350.00
		E1.2C 1000A, Ekip Dip	50	1SDA072142R1	3,526.00
		E1.2C 1250A, Ekip Dip	50	1SDA072182R1	4,186.00
		E1.2C 1600A, Ekip Dip	50	1SDA072222R1	4,743.00
	LI	E1.2N 630A, Ekip Dip	66	1SDA072071R1	3,420.00
		E1.2N 800A, Ekip Dip	66	1SDA072111R1	3,502.00
		E1.2N 1000A, Ekip Dip	66	1SDA072151R1	3,597.00
		E2.2N 1250A, Ekip Dip	66	1SDA072301R1	3,489.00
		E2.2N 1600A, Ekip Dip	66	1SDA072341R1	4,307.00
		E2.2N 2000A, Ekip Dip	66	1SDA072381R1	5,535.00
		E2.2N 2500A, Ekip Dip	66	1SDA072411R1	6,743.00
		E4.2N 3200A, Ekip Dip	66	1SDA072491R1	7,877.00
 E2.2B 2000A		E4.2N 4000A, Ekip Dip	66	1SDA072541R1	11,608.00
	LSI	E1.2N 630A, Ekip Dip	66	1SDA072072R1	3,457.00
		E1.2N 800A, Ekip Dip	66	1SDA072112R1	3,508.00
		E1.2N 1000A, Ekip Dip	66	1SDA072152R1	3,635.00
		E2.2N 1250A, Ekip Dip	66	1SDA072302R1	4,014.00
		E2.2N 1600A, Ekip Dip	66	1SDA072342R1	4,598.00
		E2.2N 2000A, Ekip Dip	66	1SDA072382R1	5,768.00
		E2.2N 2500A, Ekip Dip	66	1SDA072412R1	7,098.00
		E4.2N 3200A, Ekip Dip	66	1SDA072492R1	8,168.00
		E4.2N 4000A, Ekip Dip	66	1SDA072542R1	11,905.00



Materials delivered as standard with the withdrawable Emax 2:
- 4A/K auxiliary contact
- TU Reset mechanical overcurrent warning indicator
- S51 electrical overcurrent warning contact
- Operating lever
- Lock for racking-out mechanism with circuit-breaker in closed position

Materials delivered as standard with the fixed part:
- IP 30 enclosure frame
- Fixed part with adjustable HR-HR terminal
- SL shutter lock
- Anti-insertion lock

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 3-pole, withdrawable


E4.2S 4000A


E6.2X 6300A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Dip	85	1SDA072391R1	6,388.00
	E2.2S 2500A, Ekip Dip	85	1SDA072421R1	7,903.00
	E4.2S 3200A, Ekip Dip	85	1SDA072501R1	9,277.00
	E4.2S 4000A, Ekip Dip	85	1SDA072551R1	12,962.00
LSI	E2.2S 2000A, Ekip Dip	85	1SDA072392R1	6,617.00
	E2.2S 2500A, Ekip Dip	85	1SDA072422R1	8,188.00
	E4.2S 3200A, Ekip Dip	85	1SDA072502R1	9,605.00
	E4.2S 4000A, Ekip Dip	85	1SDA072552R1	13,443.00
LI	E2.2H 1250A, Ekip Dip	100	1SDA072321R1	4,261.00
	E2.2H 1600A, Ekip Dip	100	1SDA072361R1	5,338.00
	E2.2H 2000A, Ekip Dip	100	1SDA072401R1	6,523.00
	E2.2H 2500A, Ekip Dip	100	1SDA072431R1	8,061.00
	E4.2H 3200A, Ekip Dip	100	1SDA072511R1	9,460.00
	E4.2H 4000A, Ekip Dip	100	1SDA072561R1	13,229.00
	E6.2H 5000A, Ekip Dip	100	1SDA072611R1	18,186.00
	E6.2H 6300A, Ekip Dip	100	1SDA072641R1	23,112.00
LSI	E2.2H 1250A, Ekip Dip	100	1SDA072322R1	4,427.00
	E2.2H 1600A, Ekip Dip	100	1SDA072362R1	5,535.00
	E2.2H 2000A, Ekip Dip	100	1SDA072402R1	6,756.00
	E2.2H 2500A, Ekip Dip	100	1SDA072432R1	8,358.00
	E4.2H 3200A, Ekip Dip	100	1SDA072512R1	9,802.00
	E4.2H 4000A, Ekip Dip	100	1SDA072562R1	13,715.00
	E6.2H 5000A, Ekip Dip	100	1SDA072612R1	18,478.00
	E6.2H 6300A, Ekip Dip	100	1SDA072642R1	20,248.00
LI	E4.2V 4000A, Ekip Dip	150	1SDA072571R1	15,217.00
	E6.2V 5000A, Ekip Dip	150	1SDA072621R1	20,770.00
	E6.2V 6300A, Ekip Dip	150	1SDA072651R1	26,127.00
LSI	E4.2V 4000A, Ekip Dip	150	1SDA072572R1	15,774.00
	E6.2V 5000A, Ekip Dip	150	1SDA072622R1	21,529.00
	E6.2V 6300A, Ekip Dip	150	1SDA072652R1	27,058.00

Protection functions
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

Emax 2 withdrawable air circuit breakers consist of two parts, fixed and moving. Both codes must be ordered together.
(For example: Emax 2 fixed part on page 153 for Ekip Dip circuit breakers on pages 152 and 153).

Fixed part for Emax 2, 3-pole, withdrawable


E4.2 fixed part

Type of circuit breaker to be used	Terminal type	Code	Price (EUR)
E1.2 fixed part up to 1600A	Rear horizontal HR-HR	1SDA073907R1	1,050.00
E2.2 fixed part up to 2000A	Rear horizontal HR-HR	1SDA073909R1	1,568.00
Fixed part for E2.2 2500A	Rear horizontal HR-HR	1SDA073911R1	1,713.00
E4.2 fixed part up to 3200A	Rear horizontal HR-HR	1SDA073913R1	2,108.00
Fixed part for E4.2 4000A or for E4.2V	Rear horizontal HR-HR	1SDA073915R1	3,557.00
E6.2 fixed part up to 5000A	Rear horizontal HR-HR	1SDA073917R1	5,259.00
Fixed part for E6.2 6300A or for E6.2X	Rear horizontal HR-HR	1SDA073920R1	4,628.00

* Rear horizontal HR-HR terminals can be set as 90° vertical terminals on site without the need for additional kits.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with energy metering and Ekip Touch trip unit, 3-pole, fixed



E1.2N 1600A



E2.2H 2500A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E1.2B 630A, Ekip Touch + Measuring package	42	1SDA070704R1MP	3,081.00
	E1.2B 800A, Ekip Touch + Measuring package	42	1SDA070744R1MP	3,216.00
	E1.2B 1000A, Ekip Touch + Measuring package	42	1SDA070784R1MP	3,319.00
	E1.2B 1250A, Ekip Touch + Measuring package	42	1SDA070824R1MP	3,604.00
	E1.2B 1600A, Ekip Touch + Measuring package	42	1SDA070864R1MP	4,852.00
	E2.2B 1600A, Ekip Touch + Measuring package	42	1SDA070984R1MP	5,017.00
	E2.2B 2000A, Ekip Touch + Measuring package	42	1SDA071024R1MP	5,906.00
LSI	E1.2B 630A, Ekip Touch + Measuring package	42	1SDA070705R1MP	3,641.00
	E1.2B 800A, Ekip Touch + Measuring package	42	1SDA070745R1MP	3,732.00
	E1.2B 1000A, Ekip Touch + Measuring package	42	1SDA070785R1MP	3,898.00
	E1.2B 1250A, Ekip Touch + Measuring package	42	1SDA070825R1MP	4,104.00
	E1.2B 1600A, Ekip Touch + Measuring package	42	1SDA070865R1MP	5,073.00
	E2.2B 1600A, Ekip Touch + Measuring package	42	1SDA070985R1MP	5,328.00
	E2.2B 2000A, Ekip Touch + Measuring package	42	1SDA071025R1MP	6,187.00
LI	E1.2C 630A, Ekip Touch + Measuring package	50	1SDA070714R1MP	3,252.00
	E1.2C 800A, Ekip Touch + Measuring package	50	1SDA070754R1MP	3,288.00
	E1.2C 1000A, Ekip Touch + Measuring package	50	1SDA070794R1MP	3,398.00
	E1.2C 1250A, Ekip Touch + Measuring package	50	1SDA070834R1MP	3,629.00
	E1.2C 1600A, Ekip Touch + Measuring package	50	1SDA070874R1MP	4,999.00
LSI	E1.2C 630A, Ekip Touch + Measuring package	50	1SDA070715R1MP	3,794.00
	E1.2C 800A, Ekip Touch + Measuring package	50	1SDA070755R1MP	3,977.00
	E1.2C 1000A, Ekip Touch + Measuring package	50	1SDA070795R1MP	4,170.00
	E1.2C 1250A, Ekip Touch + Measuring package	50	1SDA070835R1MP	4,298.00
	E1.2C 1600A, Ekip Touch + Measuring package	50	1SDA070875R1MP	5,279.00
LI	E1.2N 630A, Ekip Touch + Measuring package	66	1SDA070724R1MP	3,367.00
	E1.2N 800A, Ekip Touch + Measuring package	66	1SDA070764R1MP	3,519.00
	E1.2N 1000A, Ekip Touch + Measuring package	66	1SDA070804R1MP	3,635.00
	E2.2N 1250A, Ekip Touch + Measuring package	66	1SDA070954R1MP	4,207.00
	E2.2N 1600A, Ekip Touch + Measuring package	66	1SDA070994R1MP	5,254.00
	E2.2N 2000A, Ekip Touch + Measuring package	66	1SDA071034R1MP	6,539.00
	E2.2N 2500A, Ekip Touch + Measuring package	66	1SDA071064R1MP	7,970.00
	E4.2N 3200A, Ekip Touch + Measuring package	66	1SDA071144R1MP	9,303.00
	E4.2N 4000A, Ekip Touch + Measuring package	66	1SDA071194R1MP	14,121.00
LSI	E1.2N 630A, Ekip Touch + Measuring package	66	1SDA070725R1MP	3,988.00
	E1.2N 800A, Ekip Touch + Measuring package	66	1SDA070765R1MP	4,086.00
	E1.2N 1000A, Ekip Touch + Measuring package	66	1SDA070805R1MP	4,268.00
	E2.2N 1250A, Ekip Touch + Measuring package	66	1SDA070955R1MP	4,512.00
	E2.2N 1600A, Ekip Touch + Measuring package	66	1SDA070995R1MP	5,548.00
	E2.2N 2000A, Ekip Touch + Measuring package	66	1SDA071035R1MP	6,850.00
	E2.2N 2500A, Ekip Touch + Measuring package	66	1SDA071065R1MP	8,219.00
	E4.2N 3200A, Ekip Touch + Measuring package	66	1SDA071145R1MP	9,615.00
	E4.2N 4000A, Ekip Touch + Measuring package	66	1SDA071195R1MP	14,400.00

Protection functions;
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2:0.05...0.8 sec; zone protection feature
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn; zone protection feature

By using the L=OFF rating plug, overload protection can be deactivated, giving the circuit breaker magnetic protection capability only.
Please refer to page 162 for selection.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with energy metering and Ekip Touch trip unit, 3-pole, fixed


E4.2H 3200A


E6.2V 5000A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Touch + Measuring package	85	1SDA071044R1MP	6,881.00
	E2.2S 2500A, Ekip Touch + Measuring package	85	1SDA071074R1MP	8,361.00
	E4.2S 3200A, Ekip Touch + Measuring package	85	1SDA071154R1MP	9,760.00
	E4.2S 4000A, Ekip Touch + Measuring package	85	1SDA071204R1MP	14,747.00
LSI	E2.2S 2000A, Ekip Touch + Measuring package	85	1SDA071045R1MP	7,014.00
	E2.2S 2500A, Ekip Touch + Measuring package	85	1SDA071075R1MP	8,524.00
	E4.2S 3200A, Ekip Touch + Measuring package	85	1SDA071155R1MP	9,948.00
	E4.2S 4000A, Ekip Touch + Measuring package	85	1SDA071205R1MP	15,039.00
LI	E2.2H 1250A, Ekip Touch + Measuring package	100	1SDA070974R1MP	4,848.00
	E2.2H 1600A, Ekip Touch + Measuring package	100	1SDA071014R1MP	5,693.00
	E2.2H 2000A, Ekip Touch + Measuring package	100	1SDA071054R1MP	7,020.00
	E2.2H 2500A, Ekip Touch + Measuring package	100	1SDA071084R1MP	8,524.00
	E4.2H 3200A, Ekip Touch + Measuring package	100	1SDA071164R1MP	9,955.00
	E4.2H 4000A, Ekip Touch + Measuring package	100	1SDA071214R1MP	15,045.00
	E6.2H 5000A, Ekip Touch + Measuring package	100	1SDA071264R1MP	21,883.00
	E6.2H 6300A, Ekip Touch + Measuring package	100	1SDA071294R1MP	28,209.00
LSI	E2.2H 1250A, Ekip Touch + Measuring package	100	1SDA070975R1MP	4,937.00
	E2.2H 1600A, Ekip Touch + Measuring package	100	1SDA071015R1MP	5,864.00
	E2.2H 2000A, Ekip Touch + Measuring package	100	1SDA071055R1MP	7,156.00
	E2.2H 2500A, Ekip Touch + Measuring package	100	1SDA071085R1MP	8,694.00
	E4.2H 3200A, Ekip Touch + Measuring package	100	1SDA071165R1MP	10,151.00
	E4.2H 4000A, Ekip Touch + Measuring package	100	1SDA071215R1MP	15,344.00
	E6.2H 5000A, Ekip Touch + Measuring package	100	1SDA071265R1MP	22,231.00
	E6.2H 6300A, Ekip Touch + Measuring package	100	1SDA071295R1MP	29,300.00
LI	E4.2V 4000A, Ekip Touch + Measuring package	150	1SDA071224R1MP	17,274.00
	E6.2V 5000A, Ekip Touch + Measuring package	150	1SDA071274R1MP	23,485.00
	E6.2V 6300A, Ekip Touch + Measuring package	150	1SDA071304R1MP	30,913.00
LSI	E4.2V 4000A, Ekip Touch + Measuring package	150	1SDA071225R1MP	17,616.00
	E6.2V 5000A, Ekip Touch + Measuring package	150	1SDA071275R1MP	23,948.00
	E6.2V 6300A, Ekip Touch + Measuring package	150	1SDA071305R1MP	31,527.00

The price of the measuring package with the code 1SDA107525R1 is included in the list prices of Emax 2 Ekip Touch circuit breakers ending with "MP".



Measuring Package
Measurements included

- Voltage: phase-phase, phase-neutral
- Power: active, reactive, apparent
- Energy: active, reactive, apparent
- Phase sequence
- Frequency
- Power factor
- Peak factor

Phase-phase and phase-neutral current measurements are available on all Emax2 breakers.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with energy metering and Ekip Touch trip unit, 3-pole, withdrawable


E1.2B 1000A


E2.2B 1600A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E1.2B 630A, Ekip Touch + Measuring package	42	1SDA072054R1MP	3,391.00
	E1.2B 800A, Ekip Touch + Measuring package	42	1SDA072094R1MP	3,471.00
	E1.2B 1000A, Ekip Touch + Measuring package	42	1SDA072134R1MP	3,635.00
	E1.2B 1250A, Ekip Touch + Measuring package	42	1SDA072174R1MP	3,830.00
	E1.2B 1600A, Ekip Touch + Measuring package	42	1SDA072214R1MP	4,598.00
	E2.2B 1600A, Ekip Touch + Measuring package	42	1SDA072334R1MP	4,463.00
	E2.2B 2000A, Ekip Touch + Measuring package	42	1SDA072374R1MP	5,431.00
LSI	E1.2B 630A, Ekip Touch + Measuring package	42	1SDA072055R1MP	3,428.00
	E1.2B 800A, Ekip Touch + Measuring package	42	1SDA072095R1MP	3,483.00
	E1.2B 1000A, Ekip Touch + Measuring package	42	1SDA072135R1MP	3,715.00
	E1.2B 1250A, Ekip Touch + Measuring package	42	1SDA072175R1MP	4,183.00
	E1.2B 1600A, Ekip Touch + Measuring package	42	1SDA072215R1MP	4,902.00
	E2.2B 1600A, Ekip Touch + Measuring package	42	1SDA072335R1MP	4,779.00
	E2.2B 2000A, Ekip Touch + Measuring package	42	1SDA072375R1MP	5,657.00
LI	E1.2C 630A, Ekip Touch + Measuring package	50	1SDA072064R1MP	3,537.00
	E1.2C 800A, Ekip Touch + Measuring package	50	1SDA072104R1MP	3,635.00
	E1.2C 1000A, Ekip Touch + Measuring package	50	1SDA072144R1MP	3,800.00
	E1.2C 1250A, Ekip Touch + Measuring package	50	1SDA072184R1MP	4,007.00
	E1.2C 1600A, Ekip Touch + Measuring package	50	1SDA072224R1MP	4,836.00
LSI	E1.2C 630A, Ekip Touch + Measuring package	50	1SDA072065R1MP	3,581.00
	E1.2C 800A, Ekip Touch + Measuring package	50	1SDA072105R1MP	3,653.00
	E1.2C 1000A, Ekip Touch + Measuring package	50	1SDA072145R1MP	3,837.00
	E1.2C 1250A, Ekip Touch + Measuring package	50	1SDA072185R1MP	4,542.00
	E1.2C 1600A, Ekip Touch + Measuring package	50	1SDA072225R1MP	5,133.00
LI	E1.2N 630A, Ekip Touch + Measuring package	66	1SDA072074R1MP	3,715.00
	E1.2N 800A, Ekip Touch + Measuring package	66	1SDA072114R1MP	3,800.00
	E1.2N 1000A, Ekip Touch + Measuring package	66	1SDA072154R1MP	3,916.00
	E2.2N 1250A, Ekip Touch + Measuring package	66	1SDA072304R1MP	3,842.00
	E2.2N 1600A, Ekip Touch + Measuring package	66	1SDA072344R1MP	4,712.00
	E2.2N 2000A, Ekip Touch + Measuring package	66	1SDA072384R1MP	6,015.00
	E2.2N 2500A, Ekip Touch + Measuring package	66	1SDA072414R1MP	7,349.00
	E4.2N 3200A, Ekip Touch + Measuring package	66	1SDA072494R1MP	8,561.00
	E4.2N 4000A, Ekip Touch + Measuring package	66	1SDA072544R1MP	12,652.00
LSI	E1.2N 630A, Ekip Touch + Measuring package	66	1SDA072075R1MP	3,758.00
	E1.2N 800A, Ekip Touch + Measuring package	66	1SDA072115R1MP	3,812.00
	E1.2N 1000A, Ekip Touch + Measuring package	66	1SDA072155R1MP	3,952.00
	E2.2N 1250A, Ekip Touch + Measuring package	66	1SDA072305R1MP	4,403.00
	E2.2N 1600A, Ekip Touch + Measuring package	66	1SDA072345R1MP	5,024.00
	E2.2N 2000A, Ekip Touch + Measuring package	66	1SDA072385R1MP	6,265.00
	E2.2N 2500A, Ekip Touch + Measuring package	66	1SDA072415R1MP	7,720.00
	E4.2N 3200A, Ekip Touch + Measuring package	66	1SDA072495R1MP	8,871.00
	E4.2N 4000A, Ekip Touch + Measuring package	66	1SDA072545R1MP	12,964.00

Protection functions;
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2:0.05...0.8 sec; zone protection feature
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn; zone protection feature

By using the L=OFF rating plug, overload protection can be deactivated, giving the circuit breaker magnetic protection capability only.
Please refer to page 162 for selection.
* For different short circuit current breaking capacity values and 4-pole versions, you can check our product catalog or contact our offices.

To display phase-neutral voltage information on the screen for Emax 2 Ekip Touch Series 3-pole withdrawable open-type circuit breakers, it is necessary to order the 5-contact group with code 1SDA132705R1.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with energy metering and Ekip Touch trip unit, 3-pole, withdrawable


E6.2H 4000A


E4.2V 4000A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Touch + Measuring package	85	1SDA072394R1MP	6,929.00
	E2.2S 2500A, Ekip Touch + Measuring package	85	1SDA072424R1MP	8,573.00
	E4.2S 3200A, Ekip Touch + Measuring package	85	1SDA072504R1MP	10,040.00
	E4.2S 4000A, Ekip Touch + Measuring package	85	1SDA072554R1MP	14,089.00
LSI	E2.2S 2000A, Ekip Touch + Measuring package	85	1SDA072395R1MP	7,172.00
	E2.2S 2500A, Ekip Touch + Measuring package	85	1SDA072425R1MP	8,877.00
	E4.2S 3200A, Ekip Touch + Measuring package	85	1SDA072505R1MP	10,393.00
	E4.2S 4000A, Ekip Touch + Measuring package	85	1SDA072555R1MP	14,595.00
LI	E2.2H 1250A, Ekip Touch + Measuring package	100	1SDA072324R1MP	4,664.00
	E2.2H 1600A, Ekip Touch + Measuring package	100	1SDA072364R1MP	5,808.00
	E2.2H 2000A, Ekip Touch + Measuring package	100	1SDA072404R1MP	7,063.00
	E2.2H 2500A, Ekip Touch + Measuring package	100	1SDA072434R1MP	8,749.00
	E4.2H 3200A, Ekip Touch + Measuring package	100	1SDA072514R1MP	10,242.00
	E4.2H 4000A, Ekip Touch + Measuring package	100	1SDA072564R1MP	14,370.00
	E6.2H 5000A, Ekip Touch + Measuring package	100	1SDA072614R1MP	19,800.00
	E6.2H 6300A, Ekip Touch + Measuring package	100	1SDA072644R1MP	25,067.00
LSI	E2.2H 1250A, Ekip Touch + Measuring package	100	1SDA072325R1MP	4,840.00
	E2.2H 1600A, Ekip Touch + Measuring package	100	1SDA072365R1MP	6,015.00
	E2.2H 2000A, Ekip Touch + Measuring package	100	1SDA072405R1MP	7,312.00
	E2.2H 2500A, Ekip Touch + Measuring package	100	1SDA072435R1MP	9,060.00
	E4.2H 3200A, Ekip Touch + Measuring package	100	1SDA072515R1MP	10,600.00
	E4.2H 4000A, Ekip Touch + Measuring package	100	1SDA072565R1MP	14,887.00
	E6.2H 5000A, Ekip Touch + Measuring package	100	1SDA072615R1MP	20,111.00
	E6.2H 6300A, Ekip Touch + Measuring package	100	1SDA072645R1MP	26,219.00
LI	E4.2V 4000A, Ekip Touch + Measuring package	150	1SDA072574R1MP	16,501.00
	E6.2V 5000A, Ekip Touch + Measuring package	150	1SDA072624R1MP	22,547.00
	E6.2V 6300A, Ekip Touch + Measuring package	150	1SDA072654R1MP	28,269.00
LSI	E4.2V 4000A, Ekip Touch + Measuring package	150	1SDA072575R1MP	17,097.00
	E6.2V 5000A, Ekip Touch + Measuring package	150	1SDA072625R1MP	23,357.00
	E6.2V 6300A, Ekip Touch + Measuring package	150	1SDA072655R1MP	29,256.00

The price of the measuring package with the code 1SDA107525R1 is included in the list prices of Emax 2 Ekip Touch circuit breakers ending with "MP".

Protection functions
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

By using the L=OFF rating plug, overload (thermal) protection can be deactivated, giving the circuit breaker connected) position (magnetic protection capability only.
Please refer to page 162 for selection.

Emax 2 withdrawable air circuit breakers consist of two parts, fixed and moving. Both codes must be ordered together.
(For example: Emax 2 fixed part on page 157 for Ekip Touch breakers on pages 156 and 157)

Fixed part for Emax 2 (630-6300A, 42-200 kA), 3-pole, withdrawable


E2.2 fixed part

Type of circuit breaker to be used	Terminal type	Code	Price (EUR)
E1.2 fixed part up to 1600A	Rear horizontal HR-HR	1SDA073907R1	1,050.00
E2.2 fixed part up to 2000A	Rear horizontal HR-HR	1SDA073909R1	1,568.00
Fixed part for E2.2 2500A	Rear horizontal HR-HR	1SDA073911R1	1,713.00
E4.2 fixed part up to 3200A	Rear horizontal HR-HR	1SDA073913R1	2,108.00
Fixed part for E4.2 4000A or for E4.2V	Rear horizontal HR-HR	1SDA073915R1	3,557.00
E6.2 fixed part up to 5000A	Rear horizontal HR-HR	1SDA073917R1	5,259.00
Fixed part for E6.2 6300A or for E6.2X	Rear horizontal HR-HR	1SDA073920R1	4,628.00

Rear horizontal HR-HR terminals can be set as 90° vertical terminals on site without the need for additional kits.

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 4-pole, fixed



E1.2N 1600A



E2.2H 2500A

	Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
	LI	E1.2B 630A, Ekip Dip	42	1SDA071331R1	3,472.00
		E1.2B 800A, Ekip Dip	42	1SDA071371R1	3,623.00
		E1.2B 1000A, Ekip Dip	42	1SDA071411R1	3,741.00
		E1.2B 1250A, Ekip Dip	42	1SDA071451R1	4,061.00
		E1.2B 1600A, Ekip Dip	42	1SDA071491R1	5,464.00
		E2.2B 1600A, Ekip Dip	42	1SDA071611R1	5,657.00
		E2.2B 2000A, Ekip Dip	42	1SDA071651R1	6,630.00
	LSI	E1.2B 630A, Ekip Dip	42	1SDA071332R1	4,107.00
		E1.2B 800A, Ekip Dip	42	1SDA071372R1	4,206.00
		E1.2B 1000A, Ekip Dip	42	1SDA071412R1	4,392.00
		E1.2B 1250A, Ekip Dip	42	1SDA071452R1	4,626.00
		E1.2B 1600A, Ekip Dip	42	1SDA071492R1	5,714.00
		E2.2B 1600A, Ekip Dip	42	1SDA071612R1	6,006.00
		E2.2B 2000A, Ekip Dip	42	1SDA071652R1	6,945.00
	LI	E1.2C 630A, Ekip Dip	50	1SDA071341R1	3,664.00
		E1.2C 800A, Ekip Dip	50	1SDA071381R1	3,705.00
		E1.2C 1000A, Ekip Dip	50	1SDA071421R1	3,833.00
		E1.2C 1250A, Ekip Dip	50	1SDA071461R1	4,090.00
		E1.2C 1600A, Ekip Dip	50	1SDA071501R1	5,628.00
	LSI	E1.2C 630A, Ekip Dip	50	1SDA071342R1	4,271.00
		E1.2C 800A, Ekip Dip	50	1SDA071382R1	4,481.00
		E1.2C 1000A, Ekip Dip	50	1SDA071422R1	4,702.00
		E1.2C 1250A, Ekip Dip	50	1SDA071462R1	4,842.00
		E1.2C 1600A, Ekip Dip	50	1SDA071502R1	5,942.00
	LI	E1.2N 630A, Ekip Dip	66	1SDA071351R1	3,822.00
		E1.2N 800A, Ekip Dip	66	1SDA071391R1	3,991.00
		E1.2N 1000A, Ekip Dip	66	1SDA071431R1	4,119.00
		E2.2N 1250A, Ekip Dip	66	1SDA071581R1	4,742.00
		E2.2N 1600A, Ekip Dip	66	1SDA071621R1	5,919.00
		E2.2N 2000A, Ekip Dip	66	1SDA071661R1	7,370.00
		E2.2N 2500A, Ekip Dip	66	1SDA071691R1	8,978.00
		E4.2N 3200A, Ekip Dip	66	1SDA071771R1	10,480.00
		E4.2N 4000A, Ekip Dip	66	1SDA071821R1	15,898.00
	LSI	E1.2N 630A, Ekip Dip	66	1SDA071352R1	4,514.00
		E1.2N 800A, Ekip Dip	66	1SDA071392R1	4,626.00
		E1.2N 1000A, Ekip Dip	66	1SDA071432R1	4,830.00
		E2.2N 1250A, Ekip Dip	66	1SDA071582R1	5,086.00
		E2.2N 1600A, Ekip Dip	66	1SDA071622R1	6,250.00
		E2.2N 2000A, Ekip Dip	66	1SDA071662R1	7,719.00
		E2.2N 2500A, Ekip Dip	66	1SDA071692R1	9,257.00
		E4.2N 3200A, Ekip Dip	66	1SDA071772R1	10,829.00
		E4.2N 4000A, Ekip Dip	66	1SDA071822R1	16,213.00

Protection functions
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 4-pole, fixed

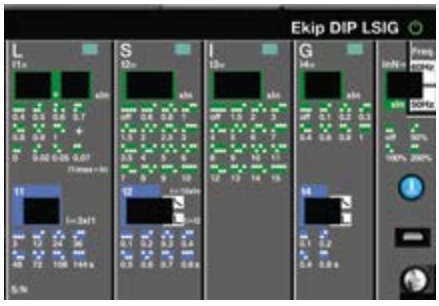


E4.2V 4000A



E6.2X 6300A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Dip	85	1SDA071671R1	7,749.00
	E2.2S 2500A, Ekip Dip	85	1SDA071701R1	9,409.00
	E4.2S 3200A, Ekip Dip	85	1SDA071781R1	10,988.00
	E4.2S 4000A, Ekip Dip	85	1SDA071831R1	16,597.00
LSI	E2.2S 2000A, Ekip Dip	85	1SDA071672R1	7,900.00
	E2.2S 2500A, Ekip Dip	85	1SDA071702R1	8,027.00
	E4.2S 3200A, Ekip Dip	85	1SDA071782R1	11,202.00
	E4.2S 4000A, Ekip Dip	85	1SDA071832R1	16,924.00
LI	E2.2H 1250A, Ekip Dip	100	1SDA071601R1	5,459.00
	E2.2H 1600A, Ekip Dip	100	1SDA071641R1	6,413.00
	E2.2H 2000A, Ekip Dip	100	1SDA071681R1	7,905.00
	E2.2H 2500A, Ekip Dip	100	1SDA071711R1	9,600.00
	E4.2H 3200A, Ekip Dip	100	1SDA071791R1	11,208.00
	E4.2H 4000A, Ekip Dip	100	1SDA071841R1	16,935.00
	E6.2H 5000A, Ekip Dip	100	1SDA071891R1	24,637.00
	E6.2H 6300A, Ekip Dip	100	1SDA071921R1	31,750.00
LSI	E2.2H 1250A, Ekip Dip	100	1SDA071602R1	5,563.00
	E2.2H 1600A, Ekip Dip	100	1SDA071642R1	6,599.00
	E2.2H 2000A, Ekip Dip	100	1SDA071682R1	8,057.00
	E2.2H 2500A, Ekip Dip	100	1SDA071712R1	9,787.00
	E4.2H 3200A, Ekip Dip	100	1SDA071792R1	11,430.00
	E4.2H 4000A, Ekip Dip	100	1SDA071842R1	17,274.00
	E6.2H 5000A, Ekip Dip	100	1SDA071892R1	20,933.00
	E6.2H 6300A, Ekip Dip	100	1SDA071922R1	32,980.00
LI	E4.2V 4000A, Ekip Dip	150	1SDA071851R1	19,475.00
	E6.2V 5000A, Ekip Dip	150	1SDA071901R1	26,438.00
	E6.2V 6300A, Ekip Dip	150	1SDA071931R1	34,796.00
LSI	E4.2V 4000A, Ekip Dip	150	1SDA071852R1	19,860.00
	E6.2V 5000A, Ekip Dip	150	1SDA071902R1	26,961.00
	E6.2V 6300A, Ekip Dip	150	1SDA071932R1	35,483.00



Emax 2 Ekip Dip trip unit

Materials delivered as standard with the fixed Emax 2:

- 4A/K auxiliary contact
- TU Reset mechanical overcurrent warning indicator
- S51 electrical overcurrent warning contact
- IP 30 enclosure frame
- Front terminal for E1.2
- Adjustable rear terminal for E2.2, E4.2 and E6.2

(Delivered as HR-HR mounted)

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 4-pole, withdrawable

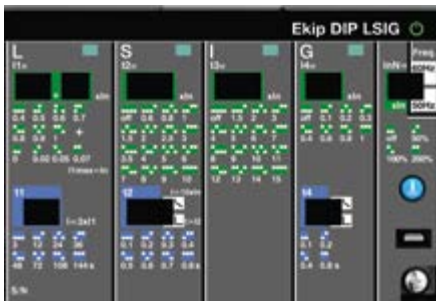


E1.2N 1600A



E2.2H 2500A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E1.2B 630A, Ekip Dip	42	1SDA072681R1	3,717.00
	E1.2B 800A, Ekip Dip	42	1SDA072721R1	3,803.00
	E1.2B 1000A, Ekip Dip	42	1SDA072761R1	3,984.00
	E1.2B 1250A, Ekip Dip	42	1SDA072801R1	4,212.00
	E1.2B 1600A, Ekip Dip	42	1SDA072841R1	5,074.00
	E2.2B 1600A, Ekip Dip	42	1SDA072961R1	4,870.00
	E2.2B 2000A, Ekip Dip	42	1SDA073001R1	5,953.00
LSI	E1.2B 630A, Ekip Dip	42	1SDA072682R1	3,758.00
	E1.2B 800A, Ekip Dip	42	1SDA072722R1	3,815.00
	E1.2B 1000A, Ekip Dip	42	1SDA072762R1	4,078.00
	E1.2B 1250A, Ekip Dip	42	1SDA072802R1	4,608.00
	E1.2B 1600A, Ekip Dip	42	1SDA072842R1	5,411.00
	E2.2B 1600A, Ekip Dip	42	1SDA072962R1	5,225.00
	E2.2B 2000A, Ekip Dip	42	1SDA073002R1	6,211.00
LI	E1.2C 630A, Ekip Dip	50	1SDA072691R1	3,886.00
	E1.2C 800A, Ekip Dip	50	1SDA072731R1	3,984.00
	E1.2C 1000A, Ekip Dip	50	1SDA072771R1	4,171.00
	E1.2C 1250A, Ekip Dip	50	1SDA072811R1	4,410.00
	E1.2C 1600A, Ekip Dip	50	1SDA072851R1	5,342.00
LSI	E1.2C 630A, Ekip Dip	50	1SDA072692R1	3,927.00
	E1.2C 800A, Ekip Dip	50	1SDA072732R1	4,008.00
	E1.2C 1000A, Ekip Dip	50	1SDA072772R1	4,218.00
	E1.2C 1250A, Ekip Dip	50	1SDA072812R1	5,011.00
	E1.2C 1600A, Ekip Dip	50	1SDA072852R1	5,674.00
LI	E1.2N 630A, Ekip Dip	66	1SDA072701R1	4,090.00
	E1.2N 800A, Ekip Dip	66	1SDA072741R1	4,182.00
	E1.2N 1000A, Ekip Dip	66	1SDA072781R1	4,304.00
	E2.2N 1250A, Ekip Dip	66	1SDA072931R1	4,171.00
	E2.2N 1600A, Ekip Dip	66	1SDA072971R1	5,151.00
	E2.2N 2000A, Ekip Dip	66	1SDA073011R1	6,618.00
	E2.2N 2500A, Ekip Dip	66	1SDA073041R1	8,069.00
	E4.2N 3200A, Ekip Dip	66	1SDA073121R1	9,419.00
	E4.2N 4000A, Ekip Dip	66	1SDA073171R1	13,883.00
LSI	E1.2N 630A, Ekip Dip	66	1SDA072702R1	4,137.00
	E1.2N 800A, Ekip Dip	66	1SDA072742R1	4,201.00
	E1.2N 1000A, Ekip Dip	66	1SDA072782R1	4,352.00
	E2.2N 1250A, Ekip Dip	66	1SDA072932R1	4,801.00
	E2.2N 1600A, Ekip Dip	66	1SDA072972R1	5,500.00
	E2.2N 2000A, Ekip Dip	66	1SDA073012R1	6,898.00
	E2.2N 2500A, Ekip Dip	66	1SDA073042R1	8,489.00
	E4.2N 3200A, Ekip Dip	66	1SDA073122R1	9,769.00
	E4.2N 4000A, Ekip Dip	66	1SDA073172R1	14,232.00



Materials delivered as standard with the withdrawable Emax 2:

- 4A/K auxiliary contact
- TU Reset mechanical overcurrent warning indicator
- S51 electrical overcurrent warning contact
- Operating lever
- Lock for racking-out mechanism with circuit-breaker in closed position

Materials delivered as standard with the fixed part:

- IP 30 enclosure frame
- Fixed part with adjustable HR-HR terminal
- SL shutter lock
- Anti-insertion lock

AIR CIRCUIT BREAKERS
Emax 2 air circuit breakers

Emax 2 with Ekip Dip trip unit, 4-pole, withdrawable



E4.2V 4000A



E6.2V 4000A

Protection function	Emax 2 type	Breaking capacity Icu (kA) 415VAC	Code	Price (EUR)
LI	E2.2S 2000A, Ekip Dip	85	1SDA073021R1	7,644.00
	E2.2S 2500A, Ekip Dip	85	1SDA073051R1	9,448.00
	E4.2S 3200A, Ekip Dip	85	1SDA073131R1	11,092.00
	E4.2S 4000A, Ekip Dip	85	1SDA073181R1	15,508.00
LSI	E2.2S 2000A, Ekip Dip	85	1SDA073022R1	7,917.00
	E2.2S 2500A, Ekip Dip	85	1SDA073052R1	9,793.00
	E4.2S 3200A, Ekip Dip	85	1SDA073132R1	11,488.00
	E4.2S 4000A, Ekip Dip	85	1SDA073182R1	16,079.00
LI	E2.2H 1250A, Ekip Dip	100	1SDA072951R1	5,098.00
	E2.2H 1600A, Ekip Dip	100	1SDA072991R1	6,385.00
	E2.2H 2000A, Ekip Dip	100	1SDA073031R1	7,802.00
	E2.2H 2500A, Ekip Dip	100	1SDA073061R1	9,641.00
	E4.2H 3200A, Ekip Dip	100	1SDA073141R1	9,470.00
	E4.2H 4000A, Ekip Dip	100	1SDA073191R1	15,823.00
	E6.2H 5000A, Ekip Dip	100	1SDA073241R1	21,747.00
	E6.2H 6300A, Ekip Dip	100	1SDA073271R1	27,643.00
LSI	E2.2H 1250A, Ekip Dip	100	1SDA072952R1	5,296.00
	E2.2H 1600A, Ekip Dip	100	1SDA072992R1	6,623.00
	E2.2H 2000A, Ekip Dip	100	1SDA073032R1	8,080.00
	E2.2H 2500A, Ekip Dip	100	1SDA073062R1	9,991.00
	E4.2H 3200A, Ekip Dip	100	1SDA073142R1	11,721.00
	E4.2H 4000A, Ekip Dip	100	1SDA073192R1	16,405.00
	E6.2H 5000A, Ekip Dip	100	1SDA073242R1	18,487.00
	E6.2H 6300A, Ekip Dip	100	1SDA073272R1	28,941.00
LI	E4.2V 4000A, Ekip Dip	150	1SDA073201R1	18,192.00
	E6.2V 5000A, Ekip Dip	150	1SDA073251R1	24,840.00
	E6.2V 6300A, Ekip Dip	150	1SDA073281R1	31,248.00
LSI	E4.2V 4000A, Ekip Dip	150	1SDA073202R1	18,863.00
	E6.2V 5000A, Ekip Dip	150	1SDA073252R1	25,756.00
	E6.2V 6300A, Ekip Dip	150	1SDA073282R1	32,362.00

Protection functions
L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

Emax 2 withdrawable air circuit breakers consist of two parts, fixed and moving. Both codes must be ordered together.
(For example: Emax 2 fixed part on page 161 for Ekip Dip circuit breakers on pages 160 and 161).

Fixed part for Emax 2, 4-pole, withdrawable



E4.2 fixed part

Type of circuit breaker to be used	Terminal type	Code	Price (EUR)
E1.2 fixed part up to 1600A	Rear horizontal HR-HR	1SDA073908R1	1,366.00
E2.2 fixed part up to 2000A	Rear horizontal HR-HR	1SDA073910R1	2,041.00
Fixed part for E2.2 2500A	Rear horizontal HR-HR	1SDA073912R1	2,228.00
E4.2 fixed part up to 3200A	Rear horizontal HR-HR	1SDA073914R1	2,739.00
Fixed part for E4.2 4000A or for E4.2V	Rear horizontal HR-HR	1SDA073916R1	4,617.00
E6.2 fixed part up to 5000A	Rear horizontal HR-HR	1SDA073918R1	5,718.00
E6.2/f** fixed part up to 5000A	Rear horizontal HR-HR	1SDA073919R1	6,308.00
Fixed part for E6.2* 6300A or E6.2X	Rear horizontal HR-HR	1SDA073921R1	7,190.00
Fixed part for E6.2/f** 6300A or E6.2X	Rear horizontal HR-HR	1SDA073922R1	6,638.00

Rear horizontal HR-HR terminals can be set as 90° vertical terminals on site without the need for additional kits.
*The related fixed parts are compatible with all moving parts of type E6.2 from 4000A-6300A.
** Not available for type E6.2.

AIR CIRCUIT BREAKERS
Electrical accessories for Emax 2 molded case circuit breakers


E1.2 motor


E2.2...E6.2 motor


YO opening release


YC closing release


YU undervoltage release


New push-in terminal structure


RTC


AUP


Rating plug

	Emax 2 type	Description	Code	Price (EUR)
	Motor			
	E1.2	Motor 220-250 Vac/dc	1SDA073711R1	579.10
	E2.2...E6.2	Motor 220-250 Vac/dc	1SDA073725R1	794.90
	Shunt opening release			
	E1.2…E6.2	YO 220-240 Vac/dc	1SDA073674R1	122.30
	E1.2…E6.2	YO 380-400 Vac	1SDA073677R1	249.40
	Closing release			
	E1.2…E6.2	YC 220-240 Vac/dc	1SDA073687R1	103.10
	E1.2…E6.2	YC 380-400 Vac	1SDA073690R1	249.40
	Undervoltage release			
	E1.2…E6.2	YU 220-240 Vac/dc	1SDA073700R1	133.10
	E1.2…E6.2	YU 380-400 Vac	1SDA073703R1	380.10
	Undervoltage release time delay unit			
	E1.2…E6.2	UVD 220-250 Vac/dc	1SDA038320R1	268.60
	YR remote resetting			
	E1.2	YR 220 Vac/dc	1SDA073746R1	153.50
	E2.2…E6.2	YR 220 Vac/dc	1SDA073749R1	189.40
	Auxiliary contact			
	E2.2…E6.2	AUX 6 A/K 400Vac - mounted*	1SDA073756R1	Request price
	E2.2…E6.2	AUX 6 A/K 400Vac fixed	1SDA123475R1	188.70
	E2.2…E6.2	AUX 6 A/K 400Vac withdrawable	1SDA123748R1	188.70
	*To be ordered mounted on the circuit breaker. Not to be sold separately. **In Emax 2 circuit breakers, 4 A/K auxiliary contact and S51 electrical overcurrent warning contact comes as standard on the product.			
	RTC Ready to close signaling contact			
	E1.2	RTC 250 Vac	1SDA073770R1	70.74
	E2.2...E6.2	RTC 250 Vac	1SDA073773R1	70.74
	Terminals for auxiliary connection			
	E1.2…E6.2	Terminals - 10 pcs	1SDA073906R1	112.70
	Trip unit I/O contact			
	E1.2…E6.2	Trip unit I/O contact	1SDA132705R1	83,38
	Auxiliary Position Contacts – AUP			
	E1.2	AUP 6 contact 400 Vac	1SDA073762R1	430.40
	E2.2...E6.2	AUP 5 contact 400 Vac - left set	1SDA073764R1	452.00
	E2.2...E6.2	AUP 5 contacts 400 Vac - right set	1SDA073766R1	452.00
	E1.2..E6.2	AUP Contact for Ekip	1SDA073768R1	91.12
	L=OFF rating plug			
	*Can be used with all circuit breakers with Touch or Hi-Touch trip unit. Overload (thermal) protection can be deactivated by using the L=OFF rating plug. Therefore, the circuit breaker only performs short circuit (magnetic) protection.			
	E1.2...E6.2	L=OFF rating plug 100A	1SDA112860R1	55.15
	E1.2...E6.2	L=OFF rating plug 200A	1SDA112861R1	55.15
	E1.2...E6.2	L=OFF rating plug 250A	1SDA112862R1	55.15
	E1.2...E6.2	L=OFF rating plug 400A	1SDA112863R1	55.15
	E1.2...E6.2	L=OFF rating plug 630A	1SDA112865R1	55.15
	E1.2...E6.2	L=OFF rating plug 800A	1SDA112866R1	55.15
	E1.2...E6.2	L=OFF rating plug 1000A	1SDA112867R1	55.15
	E1.2...E6.2	L=OFF rating plug 1250A	1SDA112869R1	55.15
	E1.2...E6.2	L=OFF rating plug 1600A	1SDA112870R1	55.15
	E1.2...E6.2	L=OFF rating plug 2000A	1SDA112871R1	55.15
	E1.2...E6.2	L=OFF rating plug 2500A	1SDA112872R1	55.15
	E1.2...E6.2	L=OFF rating plug 3200A	1SDA112873R1	55.15
	E1.2...E6.2	L=OFF rating plug 4000A	1SDA112875R1	55.15
	E1.2...E6.2	L=OFF rating plug 5000A	1SDA112876R1	55.15
	E1.2...E6.2	L=OFF rating plug 6300A	1SDA112878R1	55.15

AIR CIRCUIT BREAKERS
Mechanical accessories for Emax 2 molded case circuit breakers

	Emax 2 type	Description	Code	Price (EUR)
 Mechanical operation counter	**Mechanical operation counter**			
	E1.2	MOC mekanik çalışma sayacı	1SDA073780R1	85.13
	E2.2...E6.2	MOC mekanik çalışma sayacı	1SDA073781R1	131.90
 PB seperators	**Phase separators PB**			
	E1.2, 3-pole	PB phase separator H=100mm 4 pcs	1SDA073877R1	25.18
	E1.2, 3 phase	PB phase separator H=200mm 4 pcs	1SDA073879R1	39.57
	Terminal cover			
 Terminal cover	E1.2, 3-pole	HTC high terminal covers 2 pcs.	1SDA073871R1	200.20
	E1.2, 3 phase	LTC Low terminal covers 2 pcs.	1SDA073873R1	74.34
	IP54 flange protection			
 IP30 enclosure frame IP54 enclosure door	E1.2	Different keys	1SDA073866R1	366.90
	E1.2	Same key no: 20005	1SDA073868R1	366.90
	E2.2...E6.2	Different keys	1SDA073867R1	366.90
	E2.2...E6.2	Same key no: 20005	1SDA073869R1	366.90
	The IP30 enclosure frame is shipped with circuit breakers as standard.			
 PLC padlock device	**PLC padlock device**			
	E1.2	PLC padlock device	1SDA073800R1	26.38
	E2.2…E6.2	PLC padlock device	1SDA073803R1	40.77
	*Note: The padlock must be supplied by the customer.			
 PBC pushbutton cover	**PBC pushbutton cover**			
	E1.2	PBC pushbutton cover	1SDA073854R1	13.19
	E2.2…E6.2	PBC pushbutton cover	1SDA073858R1	16.79
	*Note: PBC pushbutton cover is not compatible with PLC padlock device and cannot be used together.			
 Adjustable rear terminals	**Terminal kits**			
	E1.2 fixed	Adjustable Kit HR/VR 3 pcs	1SDA073989R1	646.30
	Adjustable rear terminals can rotate horizontally or vertically on site. No additional conversion kit is needed.			

Residual Current protection

With the Emax 2 circuit breaker it is possible to protect against earth leakage fault (ANSI 64 and ANSI 50NDT) in the range 3...30A. For this purpose, the following accessories must be added to the Emax 2 (E1.2-E2.2-E4.2) with Ekip Touch LSIG trip unit;

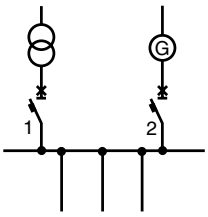
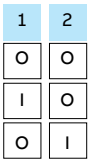
- Residual current plug
- External toroid
- Ekip Supply
- Measur Enabler with voltage sockets

Products for residual current protection

 Toroid RC	E1.2 3p/4p, E2.2 3p	Toroid RC	1SDA073741R1	3,754.00
	E2.2 4p, E4.2 3p	Toroid RC	1SDA073742R1	4,043.00
	E1.2	Measur Enabler with voltage sockets	1SDA107544R1	961.60
	E2.2	Measur Enabler with voltage sockets	1SDA107546R1	961.60
	E4.2	Measur Enabler with voltage sockets	1SDA107548R1	961.60
 Rating plug RC	E1.2..E6.2	Rating plug RC 1250A	1SDA112887R1	55.15
	E1.2..E6.2	Rating plug RC 2000A	1SDA112888R1	55.15
	E1.2..E6.2	Rating plug RC 3200A	1SDA112889R1	55.15
 Measur Enabler with voltage sockets	E1.2..E6.2	Rating plug RC 4000A	1SDA112891R1	55.15
	For more information about Emax 2 with Ekip Touch LSIG protection unit, please contact our sales offices.			

AIR CIRCUIT BREAKERS
Mechanical accessories for Emax 2 molded case circuit breakers

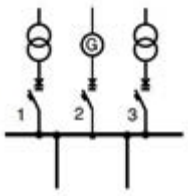
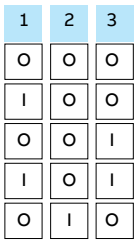
Mechanical interlock

Lock types	Application	Operating scenario	Circuit breakers
Type A			
Backup type: It is the type of interlocking that is supplied from only one energy source at a time. Applied between 2 circuit breakers.	Main power supply and emergency power supply. (grid - generator) 		Applicable between E1.2, E2.2, E4.2 and E6.2 fixed/withdrawable circuit breakers.

Type A mechanical interlock accessories

Emax 2 type	No. of poles	Description	Code	Price (EUR)
E1.2…E6.2	3- and 4-pole:	Locking cable - horizontal	1SDA073881R1	213.40
E1.2…E6.2	3- and 4-pole:	Locking cable - vertical	1SDA073885R1	213.40
E1.2	3- and 4-pole:	Chasis for fixed version	1SDA073893R1	392.10
E2.2…E6.2	3- and 4-pole:	Chasis for fixed version	1SDA073895R1	165.50
E1.2	3- and 4-pole	Chasis for part withdrawable	1SDA073896R1	300.90
E2.2…E6.2	3- and 4-pole	Chasis for part withdrawable	1SDA073895R1	165.50
E2.2	3- and 4-pole	Locking mechanism	1SDA073889R1	113.90
E4.2	3- and 4-pole	Locking mechanism	1SDA073890R1	113.90
E6.2	3 pole	Locking mechanism	1SDA073891R1	117.50
E6.2	4 pole	Locking mechanism	1SDA073892R1	191.80

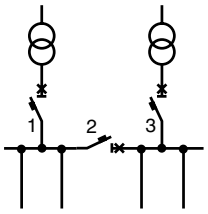
* For ATS automatic transfer switch, please refer to page 169.

Type B	Application	Operating scenario	Circuit breakers
Applied between 3 circuit breakers. If the third circuit breaker is in the open position, it allows the other two circuit breakers to be activated. The third can only close when two circuit breakers are in the open position.	Two transformers and one emergency power supply. 		Applicable between E2.2, E4.2, E6.2 fixed/ withdrawable circuit breakers.

Type B mechanical interlock accessory

Emax 2 type	No. of poles	Description	Code	Price (EUR)
E2.2 … E6.2	3- and 4-pole	Locking cable - horizontal	1SDA073882R1	588.70
E2.2 … E6.2	3- and 4-pole	Locking cable - vertical	1SDA073886R1	588.70
E2.2 … E6.2	3- and 4-pole	Chasis for fixed version	1SDA073895R1	165.50
E2.2 … E6.2	3- and 4-pole	Chasis for part withdrawable	1SDA073895R1	165.50
E2.2	3- and 4-pole	Locking mechanism	1SDA073889R1	113.90
E4.2	3- and 4-pole	Locking mechanism	1SDA073890R1	113.90
E6.2	3 pole	Locking mechanism	1SDA073891R1	117.50
E6.2	4 pole	Locking mechanism	1SDA073892R1	191.80

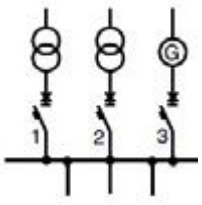
AIR CIRCUIT BREAKERS
Mechanical accessories for Emax 2 molded case circuit breakers

Type C	Application	Operating scenario	Circuit breakers
Coupling type: It is the type of interlocking where a maximum of two circuit breakers are enabled at the same time. Applied between 3 circuit breakers.	Power can be supplied by a single transformer (coupling off) or by both transformers at the same time (coupling on). 	1 2 3 O O O I O O O I O O O I O I I I I O I O I	Applicable between E2.2, E4.2 and E6.2 fixed/ withdrawable circuit breakers.

Type C mechanical interlock accessories

Emax 2 type	No. of poles	Description	Code	Price (EUR)
E2.2…E6.2	3- and 4-pole	Locking cable - horizontal	1SDA073882R1	588.70
E2.2…E6.2	3- and 4-pole	Locking cable - vertical	1SDA073886R1	588.70
E2.2…E6.2	3- and 4-pole	Chasis for fixed version	1SDA073897R1	221.80
E2.2…E6.2	3- and 4-pole	Chasis for part withdrawable	1SDA073897R1	221.80
E2.2	3- and 4-pole	Locking mechanism	1SDA073889R1	113.90
E4.2	3- and 4-pole	Locking mechanism	1SDA073890R1	113.90
E6.2	3 pole	Locking mechanism	1SDA073891R1	117.50
E6.2	4 pole	Locking mechanism	1SDA073892R1	191.80

* For ATS automatic transfer switch, please refer to page 169.

Type D	Application	Operating scenario	Circuit breakers
Applied between 3 circuit breakers. It is the type of interlocking where only one circuit breaker is enabled at a time.	Three power supplies that should not run in parallel on the same busbar. 	1 2 3 O O O I O O O I O O O I	Applicable between E2.2, E4.2, E6.2 fixed/ withdrawable circuit breakers.

Type D mechanical interlock accessories

Emax 2 type	No. of poles	Description	Code	Price (EUR)
E2.2 … E6.2	3- and 4-pole	Locking cable - horizontal	1SDA073882R1	588.70
E2.2 … E6.2	3- and 4-pole	Locking cable - vertical	1SDA073886R1	588.70
E2.2 … E6.2	3- and 4-pole	Chasis for fixed version	1SDA073895R1	165.50
E2.2 … E6.2	3- and 4-pole	Chasis for part withdrawable	1SDA073895R1	165.50
E2.2	3- and 4-pole	Locking mechanism	1SDA073889R1	113.90
E4.2	3- and 4-pole	Locking mechanism	1SDA073890R1	113.90
E6.2	3 pole	Locking mechanism	1SDA073891R1	117.50
E6.2	4 pole	Locking mechanism	1SDA073892R1	191.80

AIR CIRCUIT BREAKERS
Mechanical accessories for Emax 2 circuit breakers

Order examples for mechanical interlocks

Mechanical interlocks are available in various configurations, suitable for fixed and withdrawable type circuit breakers.
For locking types, 3 accessory groups should be selected together.

of register	Group name	Description	Qty.
1	Cable	Differentiates for types A / B / C / D, select only one, horizontal or vertical.	1 piece per lock
2	Chasis	It is installed on a fixed circuit breaker or on the fixed part of a withdrawable circuit breaker.	1 for each circuit breaker
3	Locking mechanism	Only required for types E2.2, E4.2 and E6.2. It is installed on a fixed circuit breaker or on the fixed part of a withdrawable circuit breaker.	1 for each circuit breaker

Group name	Code	Identification	Qty.
Example no. 1 **Mechanical interlocking between 2 fixed E1.2 and E1.2 circuit breakers - type A horizontal mechanical interlocking**			
Circuit breaker 1	1SDA070821R1	E1.2B 1250 Ekip Dip LI 3p F F	1
Circuit breaker 2	1SDA070871R1	E1.2C 1600 Ekip Dip LI 3p F F	1
Cable	1SDA073881R1	Type A Locking cable - horizontal	1
Chasis 1 and 2	1SDA073893R1	Chasis for fixed E1.2	2
No locking mechanism code selection is required for type E1.2.			
Example no. 2 **Mechanical interlocking between 2 fixed E2.2 and E4.2 circuit breakers - Type A vertical mechanical interlocking**			
Circuit breaker 1		E2.2N 2500 Ekip Dip LSI 3p FHR	1
Circuit breaker 2	1SDA071192R1	E4.2N 4000 Ekip Dip LSI 3p FHR	1
Cable	1SDA073885R1	Type A locking cable - vertical	1
Chasis 1 and 2	1SDA073895R1	Chasis for fixed E2.2...E6.2 - A, B,D	2
Locking mechanism 1	1SDA073889R1	E2.2 Locking mechanism	1
Locking mechanism 2	1SDA073890R1	E4.2 Locking mechanism	1
Example no. 3 **Mechanical interlocking between 2 withdrawable E1.2 and E2.2 circuit breakers - type A horizontal mechanical interlocking**			
Circuit breaker 1	1SDA072051R1	E1.2B 630 Ekip Dip LI 3p WMP	1
Fixed part 1	1SDA073907R1	E1.2 W FP Iu=1600 3p HR HR	1
Circuit breaker 2	1SDA072411R1	E2.2N 2500 Ekip Dip LI 3p WMP	1
Fixed part 2	1SDA073911R1	E2.2 W FP Iu=2500 3p HR HR	1
Cable	1SDA073881R1	Type A Locking cable - horizontal	1
Chasis 1	1SDA073896R1	Chasis for part withdrawable E1.2	1
Chasis 2	1SDA073895R1	Chasis for fixed E2.2...E6.2 - A, B,D	1
Locking mechanism	1SDA073889R1	E2.2 Locking mechanism	1
Example no. 4 **3 fixed circuit breakers - 1 E2.2 and 2 E4.2 mechanical interlocking between circuit breakers - type C horizontal mechanical interlocking**			
Circuit breaker 1	1SDA071074R1MP	E2.2S 2500 Ekip Touch LI 3p FHR + Measuring package	1
Circuit breaker 2 and 3	1SDA071164R1MP	E4.2H 3200 Ekip Touch LI 3p FHR + Measuring package	2
Cable	1SDA073882R1	Type C Locking cable - horizontal	1
Chasis 1-2 and 3	1SDA073897R1	Chasis for fixed E2.2...E6.2 - C	3
Locking mechanism 1	1SDA073889R1	E2.2 Locking mechanism	1
Locking mechanism 2 and 3	1SDA073890R1	E4.2 Locking mechanism	2
Example no. 5 **3 withdrawable type circuit breakers - 1 E2.2, 1 E4.2 and 1 E6.2 mechanical interlocking between circuit breakers - type C horizontal mechanical interlocking**			
Circuit breaker 1	1SDA072382R1	E2.2N 2000 Ekip Dip LSI 3p WMP	1
Fixed part 1	1SDA073909R1	E2.2 W FP fixed part up to 2000A	1
Circuit breaker 2	1SDA072511R1	E4.2H 3200 Ekip Dip LI 3p WMP	1
Fixed part 2	1SDA073913R1	E4.2 W FP fixed part up to 3200A	1
Circuit breaker 3	1SDA072645R1MP	E6.2H 6300 Ekip Touch LSI 3p WMP + Measuring package	1
Fixed part 3	1SDA073920R1	E6.2 W FP fixed part up to 6300 A or for E6.2X	1
Cable	1SDA073882R1	Type C Locking cable - horizontal	1
Chasis 1-2 and 3	1SDA073897R1	Chasis for withdrawable E2.2...E6.2 - C	3
Locking mechanism 1	1SDA073889R1	E2.2 Locking mechanism	1
Locking mechanism 2	1SDA073890R1	E4.2 Locking mechanism	1
Locking mechanism 3	1SDA073891R1	E6.2 Locking mechanism	1

AIR CIRCUIT BREAKERS
Devices and systems for communication with Emax 2

The integration of low-voltage devices into communication networks is especially necessary in industrial process automation, industrial and petrochemical sites, modern data centers and smart grids.

Ekip Com Modules

Thanks to the wide range of communication protocols supported, SACE Emax 2 circuit breakers with Ekip Touch and Ekip Hi-Touch protection units can be integrated into communication networks without the need for external interface units.

- **Wide range of protocols supported;** IEC 61850, Modbus TCP, Modbus RS-485, Profibus, Profinet, DeviceNet, EtherNet/IP, Cloud
- **Minimized installation times;** communication modules are plug-and-play, connecting directly to the circuit breaker terminal box without the need to remove the electronic trip unit.
- **Redundant communication for higher reliability of the system;** by installing two communication modules on the circuit breaker at the same time, it is possible to exchange information on two busbars simultaneously.
- **Smart grid ready;** Ekip Com IEC 61850 module is the solution for integrating SACE Emax 2 circuit-breakers into the automated systems of electrical substations based on the IEC 61850 Standard without the need for complex external devices.

Emax2 E1.2
Emax2 E2.2
Emax2 E4.2
Emax2 E6.2

Supervision, energy measurement and remote control

Supervision and energy measurement

Ekip Touch+Measurement Package | Ekip Supply | Ekip Com



Ekip Com Actuator





- Remote current, voltage, power, energy, power factor and frequency measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.
- Remote open / close / reset command can be sent to the circuit breaker.

Emax2 E1.2
Emax2 E2.2
Emax2 E4.2
Emax2 E6.2

Supervision, energy and power quality measurement and remote control

Supervision, energy and power quality measurement

Ekip Hi-Touch | Ekip Supply | Ekip Com



Ekip Com Actuator





- Remote current, voltage, power, energy, power factor, frequency, current and voltage harmonics up to 50th harmonic, THD measurements, circuit breaker status information (on/off/trip), alarms, maintenance data and contact wear value can be read.
- The trip unit can be programmed remotely.
- Remote open / close / reset command can be sent to the circuit breaker.

AIR CIRCUIT BREAKERS
Communication accessories for Emax 2 molded case circuit breakers

Ekip Supply power supply module



Emax 2 Type	Description	Code	Price (EUR)
E1.2…E6.2	Ekip Supply 110-240V AC/DC	1SDA074172R1	189.40
E1.2…E6.2	Ekip Supply 24-48V DC	1SDA074173R1	189.40

Ekip Com communication module



Ekip Com Modbus

Emax 2 Type	Description	Code	Price (EUR)
E1.2…E6.2	Ekip Com Modbus RS-485	1SDA074150R1	316.50
E1.2…E6.2	Ekip Com Modbus TCP	1SDA074151R1	640.30
E1.2…E6.2	Ekip Com Profibus	1SDA074152R1	640.30
E1.2…E6.2	Ekip Link	1SDA074163R1	380.10
E1.2…E6.2	Ekip Com actuator	1SDA074166R1	380.10

* Please consult for Profinet, Devicenet, Ethernet/ IP, IEC61850 type communication modules and replacement modules.
* Ekip Supply module must be ordered to use all Ekip Com modules.
* These modules can be used with all trip units except Ekip Dip.

Ekip Signaling module



Ekip 2K-1

Emax 2 Type	Description	Code	Price (EUR)
E1.2…E6.2	Ekip 2K-1 (mounting in cartridge compartment)	1SDA074167R1	338.10
E1.2…E6.2	Ekip 2K-2 (mounting in cartridge compartment)	1SDA074168R1	338.10
E1.2…E6.2	Ekip 2K-3 (mounting in cartridge compartment)	1SDA074169R1	338.10
E2.2…E6.2	Ekip 4K (mounting on the trip unit)	1SDA074170R1	564.70
E1.2…E6.2	Ekip 10K (DIN rail mounting)	1SDA074171R1	1,016.00

* Only the Ekip 10K module can be used with the Ekip Dip trip unit.

Ekip RTC Ready to close signaling contact

Emax 2 Type	Description	Code	Price (EUR)
E1.2	RTC Ekip 24Vdc E1.2	1SDA073772R1	82.73
E2.2..E6.2	RTC Ekip 24Vdc E2.2...E6.2	1SDA073775R1	82.73

Team monitoring and supervision system



Ekip Multimeter



EKIP TT



EKIP T&P USB

Emax 2 Type	Description	Code	Price (EUR)
E1.2…E6.2	Ekip Multimeter…96x96 mm	1SDA074192R1	59.95
E1.2…E6.2	EKIP T&P	1SDA066989R1	2,150.00
E1.2…E6.2	EKIP TT	1SDA066988R1	233.80
E1.2...E6.2	Ekip Programming	1SDA076154R1	845.30

- Please visit **www.abb.com/abblibrary/DownloadCenter** to download the free Ekip Connect software.
- **Emax 2 is the first low voltage circuit breaker compliant with IEC 61850 protocol.**

Bluetooth™

Circuit breakers with Emax 2 Touch trip unit have built-in bluetooth communication. With the smartphone application EPiC Mobile, you can connect to these breakers and see all their information and make their settings easily.

Supported protocols
1 - Modbus RTU
2 - Profibus-DP
3 - DeviceNet
4 - Modbus TCP/IP
5 - Profinet
6 - EtherNet IP
7 - IEC61850
8 - Cloud



CIRCUIT BREAKERS
Circuit breakers with automatic transfer switch

—
Automatic control units


ATS_

Circuit breaker to be used	Description	Code	Price (EUR)
Emax 2 - Tmax T - Tmax XT	ATS021 Automatic advanced control transfer device*	1SDA065523R1	1,222.00
Emax 2 - Tmax T - Tmax XT	ATS022 Automatic advanced control transfer device*	1SDA065524R1	1,629.00

*No external power supply required

—
Accessories for use with ATS021 and ATS022

Circuit breaker to be used	Description	Qty./ per 1 breaker	Related page
Emax 2 - XT7M	SOR opening release	1	140-108
Emax 2 - XT7M	SCR Closing release	1	140-108
Emax 2 - XT7M	Motor	1	140-108
Emax 2 - XT7M	Auxiliary contact*	1	140-109
Emax 2 - XT7M	Electrical overcurrent warning contact*	1	140-109
Emax 2 - XT7M	Contact for the racked-in position (in the case of a withdrawable circuit-breaker)	1	140-109
Emax 2 - XT7M	Mechanical interlock	✓	142-114

*4A/K auxiliary contact and overcurrent warning contact (S51) are provided as standard in Emax 2 circuit breakers.
Digital signaling for S51 contact must be ordered separately if preferred.

XT1-XT2-XT3-XT4-XT5-XT6	Motor 220-250V AC/DC	1	108
XT1-XT2-XT3-XT4-XT5-XT6	Auxiliary contact 2A/K	1	109
XT2-XT4-XT5-XT6	Contact for the racked-in position (in the case of a withdrawable circuit-breaker)	1	109
XT1-XT2-XT3-XT4-XT5-XT6	Keylock on the motor	1	109
XT1-XT2-XT3-XT4-XT5-XT6	Mechanical interlock	✓	114

—
Technical specifications

ATS circuit Tmax.XT

ATS circuit Emax2-Tmax.T




		ATS021	ATS022
External power supply		No external power supply required	No external power supply required (for ModBus communication and 16 2/3 Hz systems 24-110 Vdc power supply is required)
Rated voltage, Un		Max. 480 Vac	Max. 480 Vac
Frequency, fn		50, 60 Hz	16 2/3, 50, 60, 400 Hz
Dimensions 	H mm	96	96
	L mm	144	144
	W mm	170	170
Installation type		Mounting on DIN rail and enclosure cover	Mounting on DIN rail and enclosure cover
Operating mode		Auto/Manual	Auto/Manual
Monitoring of normal and emergency line		•	•
Controlling CBs of the Normal and Emergency lines		•	•
Generator set start-up		•	•
Generator set shutdown with adjustable delay		•	•
Coupling		–	•
No-priority Line		–	•
ModBus RS485 communication		–	•
Display		–	•

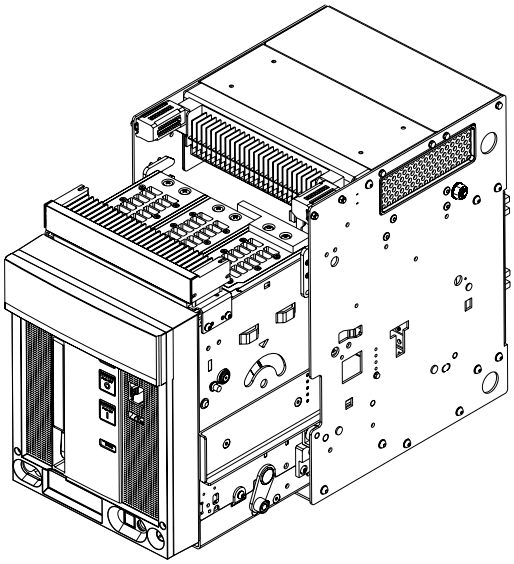
SERVICE
Circuit breaker retrofit solutions

How to retrofit an older Emax or New Emax circuit breaker?
ABB offers a complete range of solutions to retrofit Emax and New Emax circuit breakers with Emax2 retrofit solutions:

Hard bus retrofill (RF):
It is the traditional retrofit solution where all Emax and New Emax circuit breakers have to be removed from the enclosure. This solution provides a new Emax2 breaker equipped with special terminals to fit existing busbars. Available for both fixed and withdrawable versions.



Direct replacement (DR):
It is the most advanced retrofit solution. In this case, only the moving part of the withdrawable circuit breakers needs to be replaced. The moving part of the Emax2 withdrawable circuit breaker is supplied by ABB customized to match the installed Emax2/New Emax fixed part in the enclosure. This solution is only possible if the installed fixed part is fully functioning properly.



Retrofit solutions for Emax/New Emax

		Versions		
		Fixed version	Withdrawable version	Withdrawable version
Emax/New Emax	Performance Level	HR Terminal	HR Terminal	VR Terminal
X1	B	RF	RF	RF
	N	RF	RF	RF
E1	B	RF	DR-RF	DR
	N	RF	DR-RF	DR
E2	B	RF	DR-RF	DR-RF
	N	RF	DR-RF	DR-RF
	S	RF	DR-RF	DR-RF
E3	N	RF	DR-RF	DR-RF
	S	RF	DR-RF	DR-RF
	H	RF	DR-RF	DR-RF
	V*	RF	DR-RF	DR-RF
E4	S	RF(1)	DR-RF	DR-RF(1)
	H	RF(1)	DR-RF	DR-RF(1)
	V*	RF(1)	DR-RF	DR-RF(1)
E6	H	-	DR-RF	DR-RF(2)
	V	-	DR-RF	DR-RF(2)

* Products are only available for the New Emax series.
(1) Only available for 3-pole versions.
(2) Also available for 4p/f version.

CIRCUIT BREAKER SOLUTIONS FOR SOLAR APPLICATIONS SACE Emax 2/E & Tmax T PV & Tmax XT5X-HVA8

ABB SACE Emax 2/E circuit breakers can effectively and simply control many demanding applications with the highest availability and service continuity.



SACE Tmax is a complete product family of compact circuit breakers and load disconnectors for special applications, designed to protect and isolate electrical systems starting from 1000V DC or 800V AC, according to UL and IEC standards.

The SACE Tmax XT5-HVA8 is designed to provide reliable solutions for renewable energy applications; it supports operating voltages up to 800VAC and breaking capacities up to 50kA.



SOLAR COMPACT TYPE CIRCUIT BREAKERS
Tmax T compact type circuit breakers

Tmax T, 800V, thermomagnetic version, fixed type


T4V-HA

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (800VAC)	3 pole	4 pole
T4V-HA 250 TMD 50-500 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083657R1	1SDA083646R1
T4V-HA 250 TMA 80-800 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083658R1	1SDA083647R1
T4V-HA 250 TMA 100-1000 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083659R1	1SDA083648R1
T4V-HA 250 TMA 125-1250 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083660R1	1SDA083649R1
T4V-HA 250 TMA 160-1600 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083661R1	1SDA083650R1
T4V-HA 250 TMA 200-2000 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083662R1	1SDA083651R1
T4V-HA 250 TMA 250-2500 FF 800V AC	0,7…1xIn	5…10xIn	25	1SDA083663R1	1SDA083652R1
T5V-HA 400 TMA 320-3200 FF 800V AC	0,7…1xIn	5…10xIn	32	1SDA083664R1	1SDA083653R1
T5V-HA 400 TMA 400-4000 FF 800V AC	0,7…1xIn	5…10xIn	32	1SDA083665R1	1SDA083654R1
T5V-HA 630 TMA 500-5000 FF 800V AC	0,7…1xIn	5…10xIn	32	1SDA083666R1	1SDA083655R1

Tmax T, 800V, electronic version, fixed type


T5V-HA

Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (800VAC)	3 pole	4 pole
T4V-HA250 PR222DS-LSIG In250 FF800VAC	0,7…1xIn	5…10xIn	25	1SDA107747R1	1SDA113740R1
T5V-HA630 PR221DS-LS/I In630 FF800VAC	0,7…1xIn	5…10xIn	32	1SDA083656R1	1SDA083667R1
T5X-HA400 PR222DS-LSIG In320 FF800VAC	0,7…1xIn	5…10xIn	35	1SDA107745R1	1SDA113737R1
T5X-HA400 PR222DS-LSIG In400 FF800VAC	0,7…1xIn	5…10xIn	35	1SDA107746R1	1SDA113739R1

Protection functions

For thermomagnetic trip unit:

TMA : Overload (thermal) protection, setting range: 0.7 ... 1xIn
Short circuit (magnetic) protection, setting range: 5 ... 10xIn
TMD : Overload (thermal) protection, setting range: 0.7 ... 1xIn

For the electronic trip unit:

L : Overload (thermal) protection, setting range: 0.4 ... 1xIn
S : Selective protection, setting range: 0.6 ... 10xIn; t2: 0.1 ... 0,8sn
I : Short circuit (magnetic) protection, setting range: 1.5 ... 15xIn
G : Protection against earth fault, setting range: 0.1 ... 1xIn

SOLAR COMPACT TYPE CIRCUIT BREAKERS
Tmax T compact type circuit breakers

NEW PRODUCT

—

Tmax XT5X-HVA8 TMA - Ön Terminaller (F)

Kasa	Iu	Koruma ünitesi	In		Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
XT5	400	TMA	320	XT5X 400 HVA8 TMA 320-3200	50	1SDA133713R1	1SDA133715R1
			400	XT5X 400 HVA8 TMA 400-4000	50	1SDA133714R1	

Tmax XT5X-HVA8 Ekip Dip LS/I- Ön Terminaller (F)

Kasa	Iu	Koruma ünitesi	In		Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
XT5	400	Ekip Dip LS/I	250	XT5X HVA8 400 Ekip Dip LS/I In=250	50	1SDA133717R1	1SDA133726R1
			320	XT5X HVA8 400 Ekip Dip LS/I In=320	50	1SDA133718R1	1SDA133727R1
			400	XT5X HVA8 400 Ekip Dip LS/I In=400	50	1SDA133719R1	



XT5 devre kesici

Tmax XT5X-HVA8 Ekip Dip LSI- Ön Terminaller (F)

Kasa	Iu	Koruma ünitesi	In		Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
XT5	400	Ekip Dip LSI	250	XT5X HVA8 400 Ekip Dip LSI In=250	50	1SDA133720R1	1SDA133728R1
			320	XT5X HVA8 400 Ekip Dip LSI In=320	50	1SDA133721R1	1SDA133729R1
			400	XT5X HVA8 400 Ekip Dip LSI In=400	50	1SDA133722R1	

Tmax XT5X-HVA8 Ekip Dip LSIG- Ön Terminaller (F)

Kasa	Iu	Koruma ünitesi	In		Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
XT5	400	Ekip Dip LSIG	250	XT5X HVA8 400 Ekip Dip LSIG In=250	50	1SDA133723R1	1SDA133730R1
			320	XT5X HVA8 400 Ekip Dip LSIG In=320	50	1SDA133724R1	1SDA133731R1
			400	XT5X HVA8 400 Ekip Dip LSIG In=400	50	1SDA133725R1	

Devre Kesici için Terminaller

Kasa	Type	3 Pole	4 Pole
XT5	F Front Terminals	1SDA104730R1	1SDA104731R1
	EF Extended front terminals	1SDA104734R1	1SDA104735R1
	FC CuAl 2x70...240mm (2x2/0AWG-500kcmil)	1SDA113066R1	1SDA113067R1
	FC CuAl 1x185...300mm (1x350-750kcmil)	1SDA115945R1	1SDA115946R1
	FC CuAl 2x240...300mm (2x500-750kcmil)	1SDA115948R1	1SDA115949R1



FC CuAl harici terminal

Standard Tmax XT5 Accessoriesıyla uyumluluk hakkında

Tmax XT5 -HVA8 kompakt devre kesiciler, aşağıdaki Tmax XT5 Accessoriesı/yedek parçalarıyla uyumlu değildir:

- Koruma üniteleri: Tmax XT -HVA8 yalnızca yukarıdaki kodlara göre fabrikada montajlı Kesici Parça + Koruma Ünitesi olarak sunulur.
- Montaj parçaları ve dönüşüm kitleri: Tmax XT5 -HVA8 yalnızca fixed versiyon olarak mevcuttur.
- Arka mekanik kilitleme
- Kaçak akım cihazları
- Akım soketleri

CIRCUIT BREAKER SOLUTIONS FOR SOLAR APPLICATIONS
Emax 2 air circuit breakers

Emax 2/E9, 900V, fixed



Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
E1.2N/E9 1250 Ekip Dip LSI F F	0,4…1xIn	1…10xIn	50	1SDA104274R1	1SDA104284R1
E2.2S/E9 1250 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	50	1SDA104317R1	1SDA104332R1
E2.2H/E9 1250 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	65	1SDA104347R1	1SDA104362R1
E2.2S/E9 2000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	50	1SDA104322R1	1SDA104337R1
E2.2H/E9 2000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	65	1SDA104352R1	1SDA104367R1
E2.2S/E9 2500 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	50	1SDA104327R1	1SDA104342R1
E2.2H/E9 2500 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	65	1SDA104357R1	1SDA104372R1
E4.2S/E9 3200 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	65	1SDA104377R1	1SDA104387R1
E4.2H/E9 3200 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	75	1SDA104397R1	1SDA104407R1
E4.2S/E9 4000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	65	1SDA104382R1	1SDA104392R1
E4.2H/E9 4000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	75	1SDA104402R1	1SDA104412R1
E6.2H/E9 5000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	75	1SDA104605R1	1SDA104615R1
E6.2X/E9 5000 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	90	1SDA104417R1	1SDA104427R1
E6.2H/E9 6300 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	75	1SDA104610R1	1SDA104620R1
E6.2X/E9 6300 Ekip Dip LSI FHR	0,4…1xIn	1…10xIn	90	1SDA104422R1	1SDA104432R1

(*) Icu value for E1.2 is for 800V AC

Emax 2/E9, 900V, withdrawable



Type	Thermal release I1 (A)	Magnetic release I3 (A)	Breaking capacity Icu (kA) (800VAC)	3 Pole	4 Pole
E1.2N/E9 1250 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	50	1SDA104294R1	1SDA104304R1
E2.2S/E9 1250 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	50	1SDA104437R1	1SDA104452R1
E2.2H/E9 1250 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	65	1SDA104467R1	1SDA104482R1
E2.2S/E9 2000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	50	1SDA104442R1	1SDA104457R1
E2.2H/E9 2000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	65	1SDA104472R1	1SDA104487R1
E2.2S/E9 2500 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	50	1SDA104447R1	1SDA104462R1
E2.2H/E9 2500 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	65	1SDA104477R1	1SDA104492R1
E4.2S/E9 3200 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	65	1SDA104497R1	1SDA104507R1
E4.2H/E9 3200 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	75	1SDA104517R1	1SDA104527R1
E4.2S/E9 4000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	65	1SDA104502R1	1SDA104512R1
E4.2H/E9 4000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	75	1SDA104522R1	1SDA104532R1
E6.2H/E9 5000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	75	1SDA104625R1	1SDA104635R1
E6.2X/E9 5000 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	90	1SDA104537R1	1SDA104547R1
E6.2H/E9 6300 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	75	1SDA104630R1	1SDA104640R1
E6.2X/E9 6300 Ekip Dip LSI WMP	0,4…1xIn	1…10xIn	90	1SDA104542R1	1SDA104552R1

(*) Icu value for E1.2 is for 800V AC

Seperators

Kasa	Type	Code
E1.2	PB Sep. H=100mm 4 pcs. E1.2-XT7-XT7M F 3P	1SDA073877R1
E1.2	PB Sep. H=100mm 6 pcs. E1.2-XT7-XT7M F 4P	1SDA073878R1
E1.2	PB Sep. H=200mm 4 pcs. E1.2-XT7-XT7M F 3P	1SDA073879R1
E1.2	PB Sep. H=200mm 6 pcs. E1.2-XT7-XT7M F 4P	1SDA073880R1
E1.2	PB Separators 2 pcs. E1.2-XT7-XT7M W FP 3P	1SDA076164R1
E1.2	PB Separators 3 pcs. E1.2-XT7-XT7M W FP 4P	1SDA076165R1
E2.2…E6.2	PB Separators 2 pcs. E2.2..E6.2 F 3P	1SDA076166R1
E2.2…E6.2	PB Separators 3 pcs. E2.2..E6.2 F 4P	1SDA076167R1
E2.2…E6.2	PB Separators 2 pcs. E2.2..E6.2 W FP 3P	1SDA076168R1
E2.2…E6.2	PB Separators 3 pcs. E2.2..E6.2 W FP 4P	1SDA076169R1

Note 1: Phase separators are mandatory for Emax 2/E circuit breakers.
For the withdrawable version, the phase separators must be ordered as loose parts.
For the fixed version they are supplied as standard.

Note 2: Accessories for Emax 2/E series products are the same as for the standard Emax 2 series. See page 175 for accessories for Tmax T Special Applications range products.

ACCESSORIES FOR THE TMAX T SPECIAL APPLICATIONS RANGE

Accessories

	Breaker type	Description	Code	Price (EUR)
 Motor T4-T5	**Motor**			
	T4-T5	MOE 220-250V AC/DC	1SDA054897R1	905.20
 Undervoltage release	**Undervoltage release**			
	T4-T5	UVR 220-240V AC/220-250V DC	1SDA054891R1	115.10
	T4-T5	UVR 380-440V AC	1SDA054892R1	115.10
	Undervoltage release time delay unit			
	T4-T5	UVD 110-125V AC/DC	1SDA051360R1	497.60
	T4-T5	UVD 220-250V AC/DC	1SDA051361R1	497.60
 Shunt opening release	**Shunt opening release**			
	T4-T5	SOR 220-240V AC/220-250V DC	1SDA054873R1	107.90
	T4-T5	SOR 380-440VAC	1SDA054874R1	107.90
	T4-T5	PS-SOR-C permanent service, 110-120V AC	1SDA054879R1	119.80
 3A/K signal contact	**Auxiliary contact**			
	T4-T5	1A/K aux. contact + trip contact 250V AC/DC	1SDA054910R1	74.34
	T4-T5	3A/K aux. contact + trip contact 250V AC/DC	1SDA054911R1	149.90
	T4-T5	Trip signal contact	1SDA055050R1	76.15
	T4-T5	2A/K auxiliary contact 400V AC	1SDA054913R1	70.07
 Position contacts	**Position contacts for plug-in and withdrawable switches**			
	T4-T5 withdrawable	AUP-R 400V AC/DC, circuit breaker racked-out	1SDA054919R1	25.29
	T4-T5 withdrawable	AUP-R 24V DC, circuit breaker racked-out	1SDA054921R1	40.92
	T4-T5 plug-in and withdrawable	AUP-I 400V AC/DC, circuit breaker racked-in	1SDA054918R1	25.29
	T4-T5 plug-in and withdrawable	AUP-I 24V DC, circuit breaker racked-in	1SDA054920R1	31.02
 Direct mounting  Adjustable shaft mounting	**Rotary handle**			
	T4-T5 fixed and plug-in	Standard direct mounting	1SDA054926R1	64.58
	T4-T5 fixed and plug-in	Emergency direct mounting	1SDA054927R1	155.10
	T4-T5 fixed and plug-in	Standard version including adjustable shaft	1SDA054929R1	115.00
	T4-T5 fixed and plug-in	Emergency version including adjustable shaft	1SDA054930R1	155.10
 MOL-D	**Keylock on the motor**			
	T4, T5	Keylock on MOL-D motor	1SDA054904R1	46.61

EKIP UP+
Digital unit

Technical specifications

UP- date

Update existing facilities with the latest digital innovations
- Compatible with all switching devices
- 100% applicable to all low voltage scenarios

UP - load

Upload electrical system data to the cloud-based ABB Ability platform
- Complete microgrid control
- Installation in less than 10 minutes



Compliant with IEC60255

UP- grade

Increase the efficiency of existing facilities
- 30% operating cost savings with energy management system
- A cost-effective solution compared to traditional improvement approaches

UP- time

Maximize uptime thanks to easy installation
- 50% time savings during retrofit due to reduced impact on switchgear design
- Zero downtime during commissioning



Ekip UP+ Monitor

- **Measurement of:** Current, voltage, power, energy
- Network analyzer: Power quality
- **Data logger:** Event analysis
- **Connectivity:** Modbus TCP, Modbus RTU, IEC 61850, Profibus, Profinet, Ethernet IP™,



Ekip UP+ Protect

DeviceNet™, Cloud
- Ekip UP+ Monitor functions
- **Protections:** Current, voltage, power, frequency

Software packages

- Monitor to protect
- **Advanced protections:** Generator protection, motor protection, adaptive protection
- **Advanced functions:** Power control, adaptive load shedding, interface protection (CEI 0-16)



Accessories

- Sensors
- Signaling modules
- Communications modules
- Synchronization modules
- Rating plugs

Where to use?

Renewables

Marine

Food & Beverage

Energy & Mining

Building

EKIP UP+
Digital unit

For more information

Structure of the mounted code and order information

1/2		3	4/5/6/7				8/9		10
U	P	M	4	0	0	0	C	6	D

Order steps	Example
1. Select the code of the desired Ekip UP version.	1SDA117056R1 UPM
2. Select mandatory accessories.	
a. Rating plug – mounted	1SDA074270R1 - 4000
b. Current sensor	1SDA085563R1 - C6
c. Power supply module	1SDA074173R1 - D
3. Generate the mounted code in accordance with the coding specified below.	**UPM4000C6D**
4. Select optional accessories (such as communication and signaling modules).	**1SDA074151R1**

Order List

Ekip UP and accessories

			Description	Code	Price (EUR)
	1/2/3		**Ekip UP digital module**		
		UPM	Ekip UP+ Monitor	1SDA117056R1	Request price
		UPP	Ekip UP+ Protect	1SDA117057R1	Request price
	4/5/6/7		**Rating plugs**		
		0100	Rating plug 100A - Mounted	1SDA074258R1	Request price
		0200	Rating plug 200A - Mounted	1SDA074259R1	Request price
		0250	Rating plug 250A - Mounted	1SDA074260R1	Request price
		0400	Rating plug 400A - Mounted	1SDA074261R1	Request price
		0630	Rating plug 630A - Mounted	1SDA074262R1	Request price
		0800	Rating plug 800A - Mounted	1SDA074263R1	Request price
		1000	Rating plug 1000A - Mounted	1SDA074264R1	Request price
		1250	Rating plug 1250A - Mounted	1SDA074265R1	Request price
		1600	Rating plug 1600A - Mounted	1SDA074266R1	Request price
		2000	Rating plug 2000A - Mounted	1SDA074267R1	Request price
		2500	Rating plug 2500A - Mounted	1SDA074268R1	Request price
		3200	Rating plug 3200A - Mounted	1SDA074269R1	Request price
		4000	Rating plug 4000A - Mounted	1SDA074270R1	Request price
		5000	Rating plug 5000A - Mounted	1SDA074271R1	Request price
		6300	Rating plug 6300A - Mounted	1SDA112839R1	Request price
			Current sensors		
	8/9	C3	Open Current Sensor - 3P - type C 120; inner diameter 120mm; Inmax: 4000A	1SDA083372R1	1,352.00
		C4	Open Current Sensor - 4P - type C 120; inner diameter 120mm; Inmax: 4000A	1SDA083373R1	1,803.00
		C5	Open Current Sensor - 3P - type C 200; inner diameter 200mm; Inmax: 4000A	1SDA085565R1	1,675.00
		C6	Open Current Sensor - 4P - type C 200; inner diameter 200mm; Inmax: 4000A	1SDA085563R1	2,234.00
		C7	Open Current Sensor - 3P - type C 290; inner diameter 290mm; Inmax: 6300A	1SDA107696R1	2,441.00
		C8	Open Current Sensor - 4P - type C 290; inner diameter 290mm; Inmax: 6300A	1SDA107695R1	2,675.00
			**Power supply module**		
	10	D	Ekip Supply 24-48V DC	1SDA074173R1	189.40
			Communications modules		
			Ekip Com Modbus RS-485	1SDA074150R1	316.50
			Ekip Com Modbus TCP	1SDA074151R1	640.30
			Ekip Com Profibus	1SDA074152R1	640.30
			Signaling Modules		
			Ekip Signalling 3T-1	1SDA085693R1	593.50
			Ekip Signalling 3T-2	1SDA085694R1	593.50

* Ekip 3T Signalling module provides 3 analog inputs for PT1000 temperature sensors and 1 4-20mA analog input for other external sensors (e.g. gas/humidity meters).

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Low voltage power capacitors

QCap cylindrical type low voltage power capacitors 3 phase, 50 Hz, IP20





Top view



Side view Front view

One size for the whole family

Un rated voltage (V)	Qn rated power (kVar)	Description	Code	Price (EUR)
400	3,8	QCAP F5 V400 Q3.8 N3	2GCA296674A0031	244.00
400	5	QCAP F5 V400 Q5 N3	2GCA296679A0031	247.00
400	6,3	QCAP F5 V400 Q6.3 N3	2GCA296684A0031	248.00
400	7,5	QCAP F5 V400 Q7.5 N3	2GCA296689A0031	250.00
400	10	QCAP F5 V400 Q10 N3	2GCA296694A0031	253.00
400	12,5	QCAP F5 V400 Q12.5 N3	2GCA296699A0031	255.00
400	15	QCAP F5 V400 Q15 N3	2GCA296704A0031	259.00
400	20	QCAP F5 V400 Q20 N3	2GCA296709A0031	268.00
400	25	QCAP F5 V400 Q25 N3	2GCA296714A0031	300.00
440	5	QCAP F5 V440 Q5 N3	2GCA296763A0031	242.00
440	7,5	QCAP F5 V440 Q7.5 N3	2GCA296773A0031	246.00
440	10	QCAP F5 V440 Q10 N3	2GCA296778A0031	280.00
440	12,5	QCAP F5 V440 Q12.5 N3	2GCA296783A0031	249.00
440	15	QCAP F5 V440 Q15 N3	2GCA296788A0031	259.00
440	20	QCAP F5 V440 Q20 N3	2GCA296793A0031	304.00
440	25	QCAP F5 V440 Q25 N3	2GCA296796A0031	309.00
440	30	QCAP F5 V440 Q30 N3	2GCA296799A0031	303.00
480	12,5	QCAP F5 V480 Q12.5 N3	2GCA296820A0031	248.00
480	15	QCAP F5 V480 Q15 N3	2GCA296825A0031	262.00
480	20	QCAP F5 V480 Q20 N3	2GCA296830A0031	373.00
480	25	QCAP F5 V480 Q25 N3	2GCA296833A0031	389.00
480	30	QCAP F5 V480 Q30 N3	2GCA296834A0031	424.00
480	33,6	QCAP F5 V480 Q33.6 N3	2GCA297217A0031*	436.00
525	10	QCAP F5 V525 Q10 N3	2GCA296847A0031	259.00
525	12,5	QCAP F5 V525 Q12.5 N3	2GCA296852A0031	268.00
525	15	QCAP F5 V525 Q15 N3	2GCA296857A0031	274.00
525	20	QCAP F5 V525 Q20 N3	2GCA296862A0031	368.00
525	25	QCAP F5 V525 Q25 N3	2GCA296867A0031	384.00
525	33,1	QCAP F5 V525 Q33.1 N3	2GCA297219A0031*	469.00
690	10	QCAP F5 V690 Q10 N3	2GCA296893A0031	324.00
690	12,5	QCAP F5 V690 Q12.5 N3	2GCA296896A0031	333.00
690	15	QCAP F5 V690 Q15 N3	2GCA296899A0031	357.00
690	20	QCAP F5 V690 Q20 N3	2GCA296902A0031	510.00
690	25	QCAP F5 V690 Q25 N3	2GCA296905A0031	531.00
690	30	QCAP F5 V690 Q30 N3	2GCA296908A0031	559.00

*: Product not conforming to cCSAus standard

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Low voltage power capacitors

QCap cylindrical type low voltage power capacitors 3 phase, 50 Hz, IP20
(Capacitor selection examples for applications with reactor)



Bus Voltage (V)	Reactor (%p)	Net power with reactor (kVAr)	Description	Code	Price (EUR)
400	%7,00	3,75	QCAP F5 V430 Q4 N3	2GCA296676A0031	246.00
400	%7,00	5,00	QCAP F5 V430 Q5.4 N3	2GCA296681A0031	255.00
400	%7,00	6,25	QCAP F5 V430 Q6.7 N3	2GCA296686A0031	257.00
400	%7,00	7,50	QCAP F5 V430 Q8.1 N3	2GCA296691A0031	260.00
400	%7,00	10,00	QCAP F5 V430 Q10.8 N3	2GCA296696A0031	261.00
400	%7,00	12,50	QCAP F5 V430 Q13.4 N3	2GCA296701A0031	266.00
400	%7,00	15,00	QCAP F5 V430 Q16.1 N3	2GCA296706A0031	282.00
400	%7,00	20,00	QCAP F5 V430 Q21.5 N3	2GCA296711A0031	289.00
400	%7,00	25,00	QCAP F5 V430 Q26.9 N3	2GCA296716A0031	323.00
400	%5,67	12,50	QCAP F5 V424 Q13.3 N3	2GCA296700A0031	222.00
400	%5,67	25,00	QCAP F5 V424 Q26.5 N3	2GCA296715A0031	319.00
400	%12,50	12,50	QCAP F5 V457 Q14.3 N3	2GCA296702A0031	268.00
400	%12,50	25,00	QCAP F5 V457 Q28.6 N3	2GCA296717A0031	319.00
400	%14,00	12,50	QCAP F5 V465 Q14.5 N3	2GCA296703A0031	255.00
400	%14,00	25,00	QCAP F5 V465 Q29.1 N3	2GCA296718A0031	354.00
690	%7,00	12,50	QCAP F5 V742 Q13.4 N3	2GCA296898A0031	341.00
690	%7,00	25,00	QCAP F5 V742 Q26.9 N3	2GCA296907A0031	559.00

General characteristics	QCap
Voltage range	220V to 742 V
Frequency	50 and 60 Hz
Connection	3 phase
Net output power	2.5 kvar to 34.30 kvar
Capacity tolerance	2.5-12.5 kvar: -5% / +10% 15-30 kvar: 0% / +10%
Losses	< 0.2 Watt/kvar (dielectric only) < 0.5 Watt/kvar (including discharge resistance)
Discharge resistance	Factory-installed discharge resistors that allow discharging below 50V within 1 minute
Max. permissible current	1.3xIn in continuous operation
Voltage tolerance	30% for maximum 1 minute
Enclosure material	Recyclable aluminum
Color	Raw aluminum
Mounting	1 bolt (M12)
Dimensions (DxH)	90x417 mm
Weight	Approx. 3 kg
Terminals	Screw Terminals
Minimum clearance above the capacitor	20 mm
Earthing	Earthing through the mounting cabinet
Application	Internal
Temperature range	-25oC / +55oC (class D, according to IEC 60831)
Altitude	up to 2000 m
Protection class	IP20

—

Dimensions

Total H (mm)	Body H (mm)	D (mm)	D connection bolt (mm)	H connection bolt
401	368	90	M12	16

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Low voltage power capacitors

SERVICE PRODUCT

CLMD33S low voltage power capacitors 3 phase, 50Hz, IP40



Un rated voltage (V)	Qn rated power (kVar)	Description	Code	Price (EUR)
400	10	CLMD33S Q10 400V	2GCA289068A0030	200.00
400	12,5	CLMD33S Q12.5 400V	2GCA289069A0030	230.00
400	15	CLMD33S Q15 400V	2GCA289070A0030	240.00
400	20	CLMD33S Q20 400V	2GCA289071A0030	300.00
400	25	CLMD33S Q25 400V	2GCA289072A0030	320.00
415	10	CLMD33S Q10 415V	2GCA289073A0030	235.00
415	12,5	CLMD33S Q12.5 415V	2GCA289074A0030	235.00
415	15	CLMD33S Q15 415V	2GCA289075A0030	240.00
415	20	CLMD33S Q20 415V	2GCA289076A0030	300.00
415	25	CLMD33S Q25 415V	2GCA289077A0030	300.00
525	10	CLMD33S Q10 525V	2GCA289084A0030	220.00
525	12,5	CLMD33S Q12.5 525V	2GCA289085A0030	220.00
525	20	CLMD33S Q20 525V	2GCA289086A0030	305.00
525	25	CLMD33S Q25 525V	2GCA289087A0030	310.00
690	10	CLMD33S Q10 690V	2GCA289090A0030	200.00
690	12,5	CLMD33S Q12.5 690V	2GCA289091A0030	225.00
690	20	CLMD33S Q20 690V	2GCA289093A0030	305.00
690	25	CLMD33S Q25 690V	2GCA289094A0030	330.00

As ABB, we do not sell IP element (capacitor coil) to any capacitor manufacturer in Turkey.
The sale of this product is handled by the Service department.

CLMD33S low voltage power capacitors 3 phase, 50Hz, IP40
(Capacitor selection examples for applications with reactor)





Busbar voltage (V)	Reactor (%p)	Net power with reactor (kVAr)	Description	Code	Price (EUR)
400	%5,67-210Hz	12,5	CLMD33S Q13.7 430V	2GCA289078A0030	210.00
400	%5,67-210Hz	25	CLMD33S Q27.3 430V	2GCA289079A0030	280.00
400	%7-189Hz	12,5	CLMD33S Q13.7 430V	2GCA289078A0030	210.00
400	%7-189Hz	25	CLMD33S Q27.3 430V	2GCA289079A0030	280.00
415	%5,67-210Hz	12,5	CLMD33S Q14.3 457V	2GCA289080A0030	210.00
415	%5,67-210Hz	25	CLMD33S Q28.2 457V	2GCA289081A0030	280.00
415	%7-189Hz	12,5	CLMD33S Q14.3 457V	2GCA289080A0030	210.00
415	%7-189Hz	25	CLMD33S Q28.2 457V	2GCA289081A0030	280.00
690	%5,67-210Hz	12,5	CLMD33S Q13.7 742V	2GCA289095A0030	210.00
690	%5,67-210Hz	25	CLMD33S Q27.3 742V	2GCA289096A0030	290.00
690	%7-189Hz	12,5	CLMD33S Q13.7 742V	2GCA289095A0030	210.00
690	%7-189Hz	25	CLMD33S Q27.3 742V	2GCA289096A0030	290.00
690	%14-134Hz	12,5	CLMD33S Q14.3 789V	2GCA289097A0030	210.00
690	%14-134Hz	25	CLMD33S Q28.6 789V	2GCA289098A0030	290.00

The sale of this product is handled by the Service department.

LOW VOLTAGE NETWORK QUALITY PRODUCTS
CLMD 13Z low voltage power capacitors 1/3 phase, 50Hz, IP40

SERVICE PRODUCT

CLMD33S low voltage power capacitors 1 phase, 50Hz, IP40



CLMD33S

Un rated voltage (V)	Qn rated power (kVar)	Description	Code	Price (EUR)
457	14,3	CLMD33S Q14.3 457V Single Phase	2GCA289080A0030M	200.00
457	28,2	CLMD33S Q28.2 457V Single Phase	2GCA289081A0030M	290.00
457	32,5	CLMD33S Q32.5 457V Single Phase	2GCA289344A0030M	300.00
457	9,5	CLMD 13Z Q9.5 457V Single Phase	2GCA289010A0030ZM	155.00
457	21	CLMD 33S Q21 457V Single Phase	2GCA289011A0030M	300.00

All of the CLMD capacitors in the price list have single phase (2 terminals) option.
You can contact the sales office for ordering.

CLMD13Z low voltage power capacitors 1/3 phase, 50Hz, IP40

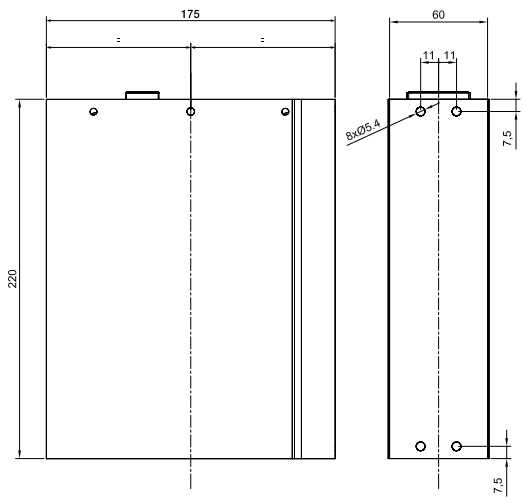


CLMD13Z

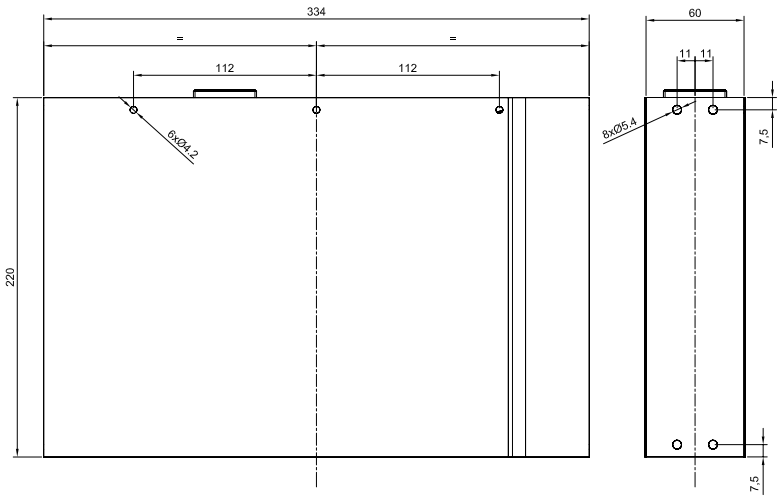
Un rated voltage (V)	Qn rated power (kVar)	Description	Code	Price (EUR)
400	1,5	CLMD13Z Q1.5 400V	2GCA281673A0030Z	190.00
400	2,5	CLMD13Z Q2.5 400V	2GCA280554A0030Z	190.00
400	5	CLMD13Z Q5 400V	2GCA281602A0030Z	190.00
400	7,5	CLMD13Z Q7.5 400V	2GCA281481A0030Z	200.00
400	10	CLMD13Z Q10 400V	2GCA280556A0030Z	180.00
400	12,5	CLMD13Z Q12.5 400V	2GCA280557A0030Z	205.00
400	15	CLMD13Z Q15 400V	2GCA280558A0030Z	215.00

Please contact our sales office for single phase products.

CLMD 13Z



CLMD 33S



Half the size of the CLMD 33S.

LOW VOLTAGE NETWORK QUALITY PRODUCTS
CLMD low voltage power capacitors 3 phase, 50Hz, IP42

SERVICE PRODUCT

CLMD low voltage power capacitors 3 phase, 50Hz, IP42





Un rated voltage (V)	Qn rated power (kVar)	Description	Code	Price (EUR)
415/400	11.0/10.0	CLMD13 Q11 415V	2GCA280556A0030	180.00
415/400	16.0/15.0	CLMD13 Q16 415V	2GCA280558A0030	220.00
415/400	22.0/20.0	CLMD43 Q22 415V	2GCA280960A0030	305.00
415/400	27.0/25.0	CLMD43 Q27 415V	2GCA280774A0030	350.00
415/400	32.0/30.0	CLMD43 Q32 415V	2GCA280961A0030	395.00
415/400	43.0/40.0	CLMD53 Q43 415V	2GCA280776A0030	580.00
415/400	54.0/50.0	CLMD63 Q54 415V	2GCA280729A0030	730.00
415/400	65.0/60.0	CLMD63 Q65 415V	2GCA280982A0030	760.00
415/400	86.0/80.0	CLMD63 Q86 415V	2GCA280781A0030	935.00
415/400	110.0/100.0	CLMD83 Q110 415V	2GCA280731A0030	1,340.00
415/400	130.0/120.0	CLMD83 Q130 415V	2GCA281094A0030	1,520.00
440	5.0	CLMD13 Q5 440V	2GCA280560A0030	220.00
440	10.0	CLMD13 Q10 440V	2GCA280561A0030	195.00
440	12.0	CLMD13 Q12 440V	2GCA280562A0030	180.00
440	14.0	CLMD13 Q14 440V	2GCA280563A0030	190.00
440	20.0	CLMD43 Q20 440V	2GCA280785A0030	330.00
440	25.0	CLMD43 Q25 440V	2GCA280744A0030	305.00
440	30.0	CLMD53 Q30 440V	2GCA280789A0030	520.00
440	35.0	CLMD53 Q35 440V	2GCA280790A0030	480.00
440	40.0	CLMD53 Q40 440V	2GCA280792A0030	495.00
440	50.0	CLMD53 Q50 440V	2GCA280794A0030	575.00
440	60.0	CLMD63 Q60 440V	2GCA280796A0030	715.00
440	70.0	CLMD63 Q70 440V	2GCA280797A0030	750.00
440	80.0	CLMD63 Q80 440V	2GCA280798A0030	860.00
440	100.0	CLMD83 Q100 440V	2GCA280800A0030	1,040.00
525/500	10.0/9.0	CLMD13 Q10 525V	2GCA280842A0030	210.00
525/500	20.0/18.0	CLMD43 Q20 525V	2GCA280852A0030	325.00
525/500	30.0/27.0	CLMD43 Q30 525V	2GCA285296A0030	360.00
525/500	40.0/36.0	CLMD53 Q40 525V	2GCA280855A0030	710.00
525/500	50.0/45.0	CLMD53 Q50 525V	2GCA285290A0030	1,030.00
525/500	60.0/54.0	CLMD63 Q60 525V	2GCA280860A0030	1,170.00
525/500	80.0/73.0	CLMD63 Q80 525V	2GCA280864A0030	1,395.00
525/500	90.0/81.6	CLMD63 Q90 525V	2GCA285299A0030	1,520.00
525/500	100.0/91.0	CLMD83 Q100 525V	2GCA280865A0030	1,290.00
525/500	120.0/109.0	CLMD83 Q120 525V	2GCA280866A0030	1,635.00

As ABB, we do not sell IP element (capacitor coil) to any capacitor manufacturer in Türkiye.
The sale of this product is handled by the Service department.

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Low voltage power capacitors

SERVICE PRODUCT



General characteristics	CLMD 13-13Z-33S-43-53-63 & 83
Voltage range	220V to 1000V
Frequency	50/60Hz
Connection	1 / 3 phase
Reactors	Ability to use with reactors
Discharge resistors	Factory-installed discharge resistors that discharge to below 50 V within 1 minute (minimum discharge time 40 seconds)
Ends	M6, 8, 10 or 12 bolted ends depending on the capacitor power Free cable ends on CLMD33S
Earthing	M8 terminal included in terminal plate
Housing	Zinc electrolytic steel
Color	Beige RAL 7032
Mounting	26x12 mm with two holes
Application	Internal or external*
Protection class (according to IEC 60529)	CLMD 33S : IP 40 CLMD 13-13Z-33S-43-53-63-83: IP42 External outdoor applications : IP54
Maximum ambient temperature	Class D according to IEC 60831: - Maximum average over any 1-year period: 35 °C - Maximum average over any 24-hour period: 45 °C - At any given moment: 55 °C
Minimum ambient temperature	-25 °C for indoor applications and -40 °C for outdoor applications
Minimum distance between units	According to CLMD types and values (see user manual for details) 20 mm to 50 mm
Minimum distance between units and wall	50 mm
Losses	For voltage ratings 380V and above: 0.2 W/kvar (excluding discharge resistors) 0.5 W/kvar (total including discharge resistors)
Capacitance sensitivity	0% + 10%
Voltage test (according to IEC 60831)	2.15 Un in 10 seconds between terminals Between terminals and earth: 3kV for 10 seconds (Un<=500V) 4kV for 10 seconds (Un>=500V)
Lightning impulse voltage test	CLMD 13-43-53-63-83: 15 kV CLMD 33S : 8 kV
Overload withstand (according to IEC 60831)	Overvoltage 10% for up to 8 hours and 30% for up to 1 minute every 24 hours Maximum allowed current: 1.3 x In for continuous operation
Elevation above sea level	up to 1000 m IEC 60831 - Part 1 & 2
Compliance	CE mark

* Consult the sales office for the selection of externally applied products.

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Reactive power control relays



RVC-12
144x144x43 mm

RVC Reactive power control relays

Type	Description	Code	Price (EUR)
RVC-6	6 steps, 100-440VAC	2GCA294984A0050	720.00
RVC-12	12 steps, 100-440VAC	2GCA294987A0050	763.00



RVT2-12
Front panel: 146x146 mm
Back section: 205x135 mm
Overall dimensions: 146x211x67 mm

RVT2 reactive power control relays

Type	Description	Code	Price (EUR)
RVT2-6	6 steps, 100-440VAC	2GCA291720A0050	1,939.00
RVT2-12	12 steps, 100-440VAC	2GCA291721A0050	2,309.00
RVT2-12-3P	12 steps, 100-440VAC, 3 phase control	2GCA291722A0050	2,541.00



Temperature probe

Accessories used with RVT2

Description	Type	Code	Price (EUR)
Temperature probe (max. 8 connections in daisy chain)	Temperature control option for RVT2	2GCA291864A0050	706.00
Kit RS485 Modbus adapter*	For RVT2 MODBUS communication	2GCA291880A0050	807.00

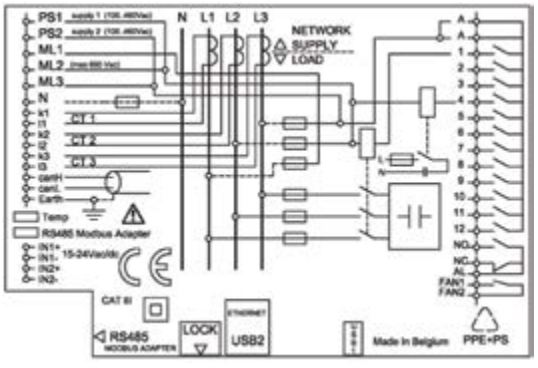
*Not compatible with legacy RVT relay. Please contact our sales office for an adapter compatible with the legacy RVT



RVT2 with Modbus adapter



RVT2
relay backside



New RVT2, 3-phase controlled reactive power control relay and its features
The new 3-phase controlled RVT2 helps in power factor correction in plants with balanced or unbalanced loads. RVT2 enables compensation on each phase or globally on all 3 phases. Another prominent feature of the RVT2 is the measurements it performs in each phase and the energy meter feature.

Complete measurements :
- Active Power (kW) - 1 phase/3 phase
- Apparent Power (kVA) - 1 phase/3 phase
- Reactive Power (kVAr) - 1 phase/3 phase
- Reactive power required to achieve target Cosφ (kVAr) – 1 phase/3 phase
- Voltage (V) - 1 phase/3 phase
- Current (A) - 1 phase/3 phase
- Cosφ - 1 phase/3 phase
- Voltage/current total harmonic distortion : THD V/I (%)
- Voltage/current harmonics : H2 to H49 (%-spectrum)

Touch screen : With the 3.5" touch screen QVGA display, parameter settings can be easily changed.
Ethernet connection : Together with ABB PQ Link software and RJ-45 connectivity, it allows you to reach the controller anywhere in the world using the 10/100BASE-T interface.
USB connectivity : The new RVT2 supports USB2.0. With this feature, the RVT2 can be easily connected to a computer and all parameter settings can be accessed via the computer.
Up to 8 temperature alarm outputs: You can control the temperature of 8 points in the panel with the temperature probe you connect.
Real time clock : With the featured real time clock, instant information of each alarm and status can be accessed.
Device and software lock: Both the device and the software are equipped with locks to protect the set levels and against unauthorized access.

Other powerful features of the RVT2;
- It can control MV (medium voltage) and HV (high voltage) capacitor stages just like the control of low voltage capacitor stages.
- Easy commissioning thanks to fully automatic settings of RVT2 parameters.
- It supports Ethernet (10/100BASE-T), USB2.0 as well as RS485 connection and all parameter settings and measurements can be accessed remotely.
- C/k, active outputs, switching sequence and phase change can be set automatically.
- Protection against low and high voltage, high temperature and excessive harmonic distortion is possible.
- 5A or 1A current transformer can be connected.
- Two digital inputs can be used as day/night power factor and external alarm.
- The new RVT2 can be connected to 100-460VAC, 50/60Hz networks. The measurement voltage is up to 690VAC and no additional devices are required.
- There are two alarm relay outputs (NA and NK) and FAN/Warning relay output.
- The on-line help button on the display can be used to get help with operation and commissioning.

LOW VOLTAGE NETWORK QUALITY PRODUCTS
Harmonic filter reactors

Harmonic filter reactors 3 phase, 50Hz, IP00, THD-U up to 8%



Rated voltage Un (Volt)	Rated power Qn (kVAr)	Resonance frequency Fr (Hz)	P (%)	thd-u (%)	Code	Price (EUR)
400	6,25	134	14	8	1019715	995.00
400	12,5	134	14	8	1019717	1,220.00
400	25	134	14	8	1019718	1,330.00
400	50	134	14	8	1019719	1,680.00
400	100	134	14	8	1019720	2,978.00
400	6,25	189	7	8	1019706	694.00
400	12,5	189	7	8	350040	850.00
400	25	189	7	8	350050	929.00
400	50	189	7	8	350060	1,131.00
400	100	189	7	8	1019704	2,074.00
400	6,25	210	5,67	8	1019703	711.00
400	12,5	210	5,67	8	350010	873.00
400	25	210	5,67	8	350020	950.00
400	50	210	5,67	8	350030	1,296.00
400	100	210	5,67	8	1019701	2,169.00

PMOD Series Harmonic Filter Reactors 3 Phase, 50 Hz, IP00, THD-U up to 8%



Rated voltage Un (Volt)	Rated power Qn (kVAr)	Resonance frequency Fr (Hz)	P (%)	thd-u (%)	Code	Price (EUR)
400	6,25	134	14	8	2GCA514026A0045	554.00
400	12,5	134	14	8	2GCA514025A0045	568.00
400	25	134	14	8	2GCA514024A0045	856.00
400	50	134	14	8	2GCA514023A0045	1,262.00
400	75	134	14	8	2GCA514013A0045	1,623.00
400	100	134	14	8	2GCA514029A0045	2,360.00
400	6,25	189	7	8	2GCA500026A0045	447.00
400	12,5	189	7	8	2GCA500025A0045	397.00
400	25	189	7	8	2GCA500024A0045	665.00
400	50	189	7	8	2GCA500023A0045	844.00
400	75	189	7	8	2GCA500013A0045	1,079.00
400	100	189	7	8	2GCA500029A0045	1,513.00

- For more extreme harmonic conditions, please contact our sales department for technical details and price information about the reinforced reactors designed to be used in “thdi-u: 10%, 12%, 15% ... and above” total voltage harmonic distortions.
- Please contact our sales department for technical details and price information about tuned reactors.
- Please contact our sales department for technical details and price information about reactors that can be used at other nominal operating voltages (Un=440V, 525V, 660V, 690V, 1000V, etc...).



PMOD compensation cassettes
Easy installation with modular design PMOD compensation cassettes, ABB's official compensation solution, offer superior reliability and efficiency guarantee with its modular structure, easy installation, operation and service facilities.

Designed by ABB engineers, PMOD cassettes guarantee that all products such as capacitors, reactors, fuses, contactors, etc. used inside are fully compatible with each other. Thanks to its modular structure, panel manufacturers can quickly and easily produce compensation panels of different powers.

PQF ACTIVE FILTER SERIES
Efficiency with increased power quality

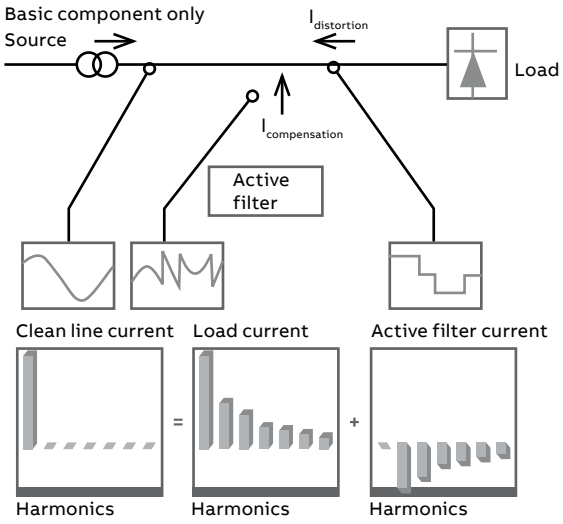


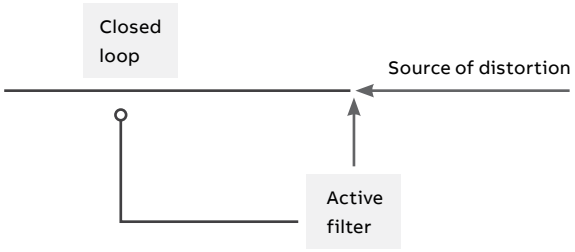
ABB PQF active filter is a power electronics based electrical equipment that is installed parallel to the polluting loads. The active filter measures the polluted current drawn by the polluting load and analyzes the harmonics in this current according to their frequency. It can then generate for each harmonic frequency a compensation current in perfect phase opposition to the polluting current. In this way, the section extending from the point where the active filter is connected to the grid is free from harmonics.



The closed loop control system measures the line current for each harmonic and reactive power component and compares this with the target set by the customer. Any deviation is automatically eliminated.

In this way, it provides excellent results to achieve targets in factors that cause poor power quality such as:

- Harmonic distortion
- Load imbalance causing voltage instability
- Reactive power



It offers the perfect solution to unbalanced loads and neutral current problems, which are among the biggest problems of commercial buildings.

Application data commissioned by ABB Türkiye teams:

Without filter

Phase 1 current 49.1 Arms

Phase 2 current 5.3 Arms

Phase 3 current 5.1 Arms

Neutral current 44.1 Arms

With filter

Phase 1 current 19.6 Arms

Phase 2 current 19.4 Arms

Phase 3 current 19.5 Arms

Neutral current 3.5 Arms

INCREASE APPLICATION EFFICIENCY with soft starters

Take your soft starter beyond just starting the motor and reduce your plant downtime.

ABB soft starters increase your plant uptime by reducing mechanical stress in your motor application.

With torque control, pump cleaning, motor braking and many more functions, they allow you to utilize your process to its full potential.





CONTACTORS
ESB installation contactors

ESB installation contactors









Type	Operating voltage (V)	AC1 Rated current (A)	Contact	Code	Price (EUR)
ESB16-11N	230 V AC/DC	16	1NA+1NK	1SBE111111R0611	30.20
ESB16-20N	230 V AC/DC	16	2NA	1SBE111111R0620	28.55
ESB16-02N	230 V AC/DC	16	2NK	1SBE111111R0602	35.38
ESB20-11N	230 V AC/DC	20	1NA+1NK	1SBE121111R0611	33.49
ESB20-20N	230 V AC/DC	20	2NA	1SBE121111R0620	31.75
ESB20-02N	230 V AC/DC	20	2NK	1SBE121111R0602	39.30
ESB25-22N	230…240 V AC/DC	25	2NA+2NK	1SAE231111R0622	59.29
ESB25-31N	230…240 V AC/DC	25	3NA+1NK	1SAE231111R0631	58.17
ESB25-40N	230…240 V AC/DC	25	4NA	1SAE231111R0640	53.43
ESB25-04N	230…240 V AC/DC	25	4NK	1SAE231111R0604	68.00
ESB40-22N	230 V AC/DC	40	2NA+2NK	1SAE341111R0622	125.60
ESB40-31N	230 V AC/DC	40	3NA+1NK	1SAE341111R0631	136.90
ESB40-40N	230 V AC/DC	40	4NA	1SAE341111R0640	102.60
ESB63-20N	230 V AC/DC	63	2NA	1SAE351111R0620	162.80
ESB63-31N	230 V AC/DC	63	3NA+1NK	1SAE351111R0631	162.80
ESB63-40N	230 V AC/DC	63	4NA	1SAE351111R0640	144.80
ESB100-20N	230 V AC/DC	100	2NA	1SAE361111R0620	378.70
ESB100-40N	230 V AC/DC	100	4NA	1SAE661111R0640	398.70

Auxiliary contacts for ESB installation contactors



EH 04

Type	Contact	Code	Price (EUR)
EH04-11N	1NA+1NK	1SAE901901R1011	24.63
EH04-20N	2NA	1SAE901901R1020	24.63

CONTACTORS
Mini contactors



B6-30-10



Auxiliary contact blocks
B/K series

B6/B7 and BC6/BC7 series mini contactors						
Rated power 380/400V (kW)	**AC3 Rated current θ≤55°C, 380/400V (A)**	**AC1 Rated current θ≤40°C (A)**	**Aux. contact**	**Type**	**Code**	**Price (EUR)**
AC control circuit, screw connection						
4	8,9 / 8,5	20	1NA	B6-30-10	GJL1211001RX10X	21.80
4	8,9 / 8,5	20	1NK	B6-30-01	GJL1211001RX01X	21.80
5,5	12,1 / 11,5	20	1NA	B7-30-10	GJL1311001RX10X	28.78
5,5	12,1 / 11,5	20	1NK	B7-30-01	GJL1311001RX01X	28.78
DC control circuit, screw connection						
4	8,9 / 8,5	20	1NA	BC6-30-10	GJL1213001RX10X	21.04
4	8,9 / 8,5	20	1NK	BC6-30-01	GJL1213001RX01X	21.04
5,5	12,1 / 11,5	20	1NA	BC7-30-10	GJL1313001RX10X	28.56
5,5	12,1 / 11,5	20	1NK	BC7-30-01	GJL1313001RX01X	28.56

Note: Fill in the corresponding code from the coil voltage table below where XX is written and create the order code.

K6/KC6 series auxiliary contactors				
AC15 rated current θ≤55°C, 380/400V (A)	**Contact layout**	**Type**	**Code**	**Price (EUR)**
AC control circuit, screw connection				
3	4NA	K6 40 E	GJH1211001RX40X	32.16
3	3NA+1NK	K6 31 Z	GJH1211001RX31X	29.87
3	2NA+2NK	K6 22 Z	GJH1211001RX22X	19.18
DC control circuit, screw connection				
3	4NA	KC 6 40 E	GJH1213001RX40X	24.74
3	3NA+1NK	KC 6 31 Z	GJH1213001RX31X	29.10
3	2NA+2NK	KC 6 22 Z	GJH1213001RX22X	29.10

Note: Fill in the corresponding code from the coil voltage table below where XX is written and create the order code.

AS/NS coil voltages and codes		
Voltage (V) 50Hz	**Voltage (V) 60Hz**	**Code xx**
24	24	20
230	230	26

B6-7, BC6-7, K6, KC coil voltages and codes			
AC		**DC**	
Voltage (V) 50Hz	**Code xx**	**Voltage (V) 60Hz**	**Code xx**
24	0...1	12	0...7
42	0...2	24	0...1
48	0...3	42	0...2
110...127	8...4	48	1...6
220...240	8...0	60	0...3
380...415	8...5	110...125	0...4
		220...240	0...5

Auxiliary contact blocks					
Contact layout	**Type of contactor used**	**Mounting**	**Type**	**Code**	**Price (EUR)**
1NA+1NK	K6, KC	Side	CA 6-11 K	GJL1201317R0001	9.27
1NA+1NK	B6-B7/10	Side	CA 6-11 M	GJL1201317R0003	8.61
1NA+1NK	B6-B7/01	Side	CA 6-11 N	GJL1201317R0004	15.48
1NA+1NK	K6, KC	Top	CAF 6-11 K	GJL1201330R0001	8.50
2NA	K6, KC	Top	CAF 6-20 K	GJL1201330R0005	15.48
1NA+1NK	B6-B7/10	Top	CAF 6-11 M	GJL1201330R0003	8.61
2NA	B6-B7/10	Top	CAF 6-20 M	GJL1201330R0007	15.48
1NA+1NK	B6-B7/01	Top	CAF 6-11 N	GJL1201330R0004	7.19
2NA	B6-B7/01	Top	CAF 6-20 N	GJL1201330R0008	15.48

* CA6 and CAF6 cannot be installed at the same time.

CONTACTORS
AS series contactors



AS09-30-10

AS series AC contactors; 3-pole						
Rated power 400V (kW)	**AC3 Rated current θ≤60°C, 400V (A)**	**AC1 Rated current θ≤40°C (A)**	**Aux. contact**	**Type**	**Code**	**Price (EUR)**
AC control circuit						
4	9	22	1NA	AS09-30-10	1SBL101001RXX10	21.80
4	9	22	1NK	AS09-30-01	1SBL101001RXX01	22.45
5.5	12	24	1NA	AS12-30-10	1SBL111001RXX10	23.22
5.5	12	24	1NK	AS12-30-01	1SBL111001RXX01	25.94
7.5	15.5	24	1NA	AS16-30-10	1SBL121001RXX10	26.60
7.5	15.5	24	1NK	AS16-30-01	1SBL121001RXX01	29.10

Note: Fill in the corresponding code from the coil voltage table on the previous page where XX is written and create the order code.



NS80E

NS series AC auxiliary contactors				
Thermal current Ith (A) θ≤40°C	**Contact layout**	**Type**	**Code**	**Price (EUR)**
AC control circuit				
10	2NA+2NK	NS22E	1SBH101001RXX22	30.25
10	3NA+1NK	NS31E	1SBH101001RXX31	30.25
10	4NA	NS40E	1SBH101001RXX40	30.25
10	4NA+4NK	NS44E	1SBH101001RXX44	54.20
10	5NA+3NK	NS53E	1SBH101001RXX53	54.20
10	6NA+2NK	NS62E	1SBH101001RXX62	54.20
10	7NA+1NK	NS71E	1SBH101001RXX71	54.20
10	8NA	NS80E	1SBH101001RXX80	54.20

Note: Fill in the corresponding code from the coil voltage table on the previous page where XX is written and create the order code.

T16 series thermal relays



T16

T16 series thermal relays (for AS/ASL and B6/B7 series)				
Current adjustment range (A)	**To be used together contactor type**	**Type**	**Code**	**Price (EUR)**
0.10-0.13	AS/ASL-B6/B7	T16-0.13	1SAZ711201R1005	40.44
0.13-0.17	AS/ASL-B6/B7	T16-0.17	1SAZ711201R1008	40.44
0.17-0.23	AS/ASL-B6/B7	T16-0.23	1SAZ711201R1009	38.70
0.23-0.31	AS/ASL-B6/B7	T16-0.31	1SAZ711201R1013	40.44
0.31-0.41	AS/ASL-B6/B7	T16-0.41	1SAZ711201R1014	40.44
0.41-0.55	AS/ASL-B6/B7	T16-0.55	1SAZ711201R1017	40.44
0.55-0.74	AS/ASL-B6/B7	T16-0.74	1SAZ711201R1021	40.44
0.74-1	AS/ASL-B6/B7	T16-1.0	1SAZ711201R1023	40.44
1-1.3	AS/ASL-B6/B7	T16-1.3	1SAZ711201R1025	38.70
1.3-1.7	AS/ASL-B6/B7	T16-1.7	1SAZ711201R1028	38.70
1.7-2.3	AS/ASL-B6/B7	T16-2.3	1SAZ711201R1031	33.03
2.3-3.1	AS/ASL-B6/B7	T16-3.1	1SAZ711201R1033	39.79
3.1-4.2	AS/ASL-B6/B7	T16-4.2	1SAZ711201R1035	36.19
4.2-5.7	AS/ASL-B6/B7	T16-5.7	1SAZ711201R1038	30.19
5.7-7.6	AS/ASL-B6/B7	T16-7.6	1SAZ711201R1040	35.97
7.6-10	AS/ASL-B6/B7	T16-10	1SAZ711201R1043	39.79
10-13	AS/ASL-B6/B7	T16-13	1SAZ711201R1045	35.97
13-16	AS/ASL-B6/B7	T16-16	1SAZ711201R1047	36.19



DB16

Stand-alone mounting kit for T16 series thermal relay			
Thermal type to be used together	**Type**	**Code**	**Price (EUR)**
T16	DB16	1SAZ701901R0001	16.35

CONTACTORS
Accessories for AS series contactors


CA3-10


VM3


RV5


BEA16-3


BER16C-3


BEY16C-3

Auxiliary contact blocks					
Contact layout	**Contactor type to be used together**	**Mounting**	**Type**	**Code**	**Price (EUR)**
1NA	AS	Top	CA3-10	1SBN011010T1010	4.47
1NK	AS	Top	CA3-01	1SBN011010T1001	4.47

Mechanical interlock unit				
Contactor type to be used on the left	**Contactor type to be used on the right**	**Type**	**Code**	**Price (EUR)**
AS	AS	VM3	1SBN031005T1000	3.60

Varistor				
Contactor type to be used together	**Control voltage**	**Type**	**Code**	**Price (EUR)**
AS	24...50V AC/DC	RV5/50	1SBN050010R1000	38.37
AS	110...250V AC/DC	RV5/250	1SBN050010R1002	38.37

Connector for motor protection switch				
Contactor type to be used together	**Motor protection switch type**	**Type**	**Code**	**Price (EUR)**
AS	MS116 & MS132	BEA16-3	1SBN081006T1000	8.61

Connection kit for inverter starter				
Contactor type to be used	**Mechanical interlock unit**	**Type**	**Code**	**Price (EUR)**
2xAS	VM3 (optional)	BER16C-3	1SBN081012R1000	17.77

Connection kit for star-delta starter						
Contactor type to be used			**Mechanical interlock unit**	**Type**	**Code**	**Price (EUR)**
Line	**Delta**	**Star**				
AS09	AS09	AS09	VM3 (optional)	BEY16C-3	1SBN081018R2000	23.54
AS12	AS12	AS09	VM3 (optional)	BEY16C-3	1SBN081018R2000	23.54

3 POLE AF CONTACTORS






AC/DC control supply				Type	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
IEC	**AC-3**	Rated operating power For AF09...AF370 θ ≤ 60 °C For AF400...AF2650 θ ≤ 55 °C	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 service current	**380 - w400 V**	**A**	**9**	**12**	**18**	**26**	**32**	**38**	**40**	**53**	**65**	**80**	**96**
	AC-1	Rated service current	**θ ≤ 40 °C, 690 V**	**A**	**25**	**28**	**30**	**45**	**50**	**50**	**70**	**100**	**105**	**125**	**130**
UL / CSA	**1 phase motor value**		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 value		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**	**20**	**30**	**40**	**50**	**60**	**60**
			550 - 600 V	hp	7.5	10	15	20	25	30	40	50	60	75	75
	General use value		**600 V**	**A**	**25**	**28**	**30**	**45**	**50**	**50**	**60**	**80**	**90**	**105**	**115**
NEMA	**NEMA size**				**00**	**0**	**—**	**1**	**—**	**—**	**2**	**—**	**—**	**3**	**—**

Basic accessories

Auxiliary contact blocks	Front mounting	**CA4-10** (1 x N.A.) **CA4-01** (1 x N.K.)				
	Side mounting	**CAL4-11** (1 x N.A. + 1 x N.K.)				
Timers	Electronic	**TEF4-ON** **TEF4-OFF**				
Locking units	Mechanical	**VM4**		**VM96-4**		
	Mechanical/Electrical	**VEM4**				
Connection kits	Invertor contactors	**BER16-4**	**BER38-4**	**BER65-4**	**BER96-4**	
Impulse voltage protectors		Built-in pulse protection				

Thermal 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)	



Motor protection switches



	Thermal/magnetic protection Class 10	**MS116** (0.10...32 A) Ics up to 50 kA for Class 10 A		**MS165** (10...65 A) Ics up to 100 kA	**MS5100** (40...100 A) Ics up to 50 kA	
		MS132 (0.10...32 A) Ics up to 100 kA		**MS495** (45…100 A) Ics up to 50 kA		
				MS497 (22…100 A) Ics up to 100 kA		
	Magnetic protection only	**MO132** (0.16...32 A) Ics up to 100 kA		**MO165** (16...65 A) Ics up to 100 kA	**MO5100** (70...100 A) Ics up to 36 kA	
				MO496 (32…100 A) Ics up to 100 kA		
					MO495 (63…100 A) Ics up to 50 kA	
Accessories	Contactor connection kit	**BEA16-4**	**BEA38-4**	**BEA65-4** (2)		

(1) MS165/MO165 is suitable for use with AF09...AF30 in North American applications.
(2) BEA65-4 is only suitable for use with MS165 and MO165.








	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
	30	37	45	55	55	75	90	110	110	132	160	220	—	257	315	—	—
	55	**75**	**75**	**90**	**110**	**132**	**160**	**200**	**200**	**250**	**315**	**400**	—	**475**	**560**	—	—
	55	75	75	90	110	132	160	200	220	250	355	425	—	500	630	—	—
	75	90	90	110	132	160	160	200	220	250	355	450	—	560	710	—	—
	75	90	90	110	132	160	200	250	250	315	400	520	—	560	710	—	—
	55	75	90	132	160	200	250	315	315	355	500	600	—	800	1000	—	—
	—	—	75	110	132	132	132	132	220	280	355	400	—	—	—	—	—
	116	**140**	**146**	**190**	**205**	**265**	**305**	**370**	**400**	**460**	**580**	**750**	—	**860**	**1060**	—	—
	160	**200**	**225**	**275**	**350**	**400**	**500**	**600**	**600**	**700**	**800**	**1050**	**1260**	**1350**	**1650**	**2050**	**2650**
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	40	40	50	60	75	100	125	125	150	200	250	—	—	—	—	—
	40	50	50	60	75	100	125	150	150	200	250	300	—	400	450	—	—
	75	**100**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**500**	**600**	—	**800**	**900**	—	—
	100	125	125	150	200	250	300	350	400	500	600	700	—	1000	1150	—	—
	160	**200**	**200**	**250**	**300**	**350**	**400**	**520**	**550**	**650**	**750**	**900**	**1210**	**1350**	**1650**	**2100**	**2700**
	—	**4**	—	—	—	**5**	—	—	—	**6**	—	**7**	—	—	**8**	—	—

	CAL19-11 (1 x N.A. + 1 x N.K.)								**CAL18-11** (1 x N.A. + 1 x N.K.)								
	VM19 (for contactors of the same size)								**VM750H** **VM750V**					**VM1650H**			
	BER140-4			**BER205-4**		**BER370-4**			**BEM460-30**		**BEM750-30**						

	TF140DU (66...142 A)θ ≤ 55 °C			**TA200DU** (66...200 A) θ ≤ 55 °C													
	EF146 (54...150 A)			**EF205** (63...210 A)		**EF370** (115...380 A)			**E460** (150…500 A)		**EF750** (250…800 A)			**E1250DU** (375…1250 A)			

Short circuit (magnetic) protection elements

Compact switches and disconnectors






BEYOND THE STANDARDS
Always one step ahead

With the new generation AF series contactor family, ABB offers flexible solutions to all its customers, compliant with all local and international standards worldwide, allowing AC/DC supply voltage over a single coil in the range of 9A-2650A. While the new AF technology offers superior functionality compared to standard contactors, it reduces logistics costs by eliminating code confusion with a total of 4 different supply voltage ranges. With coil energy consumption savings of up to 80%, it provides maximum efficiency for all your applications.





CONTACTORS
New generation 3-pole AF series contactors - AC/DC control voltage

AF series contactors, 3-pole 100-250V, 50/60Hz AC/DC control voltage


AF09, AF12, AF16


AF40, AF52, AF65


AF80, AF96

Rated power 380-400V (kW)*	AC3 Rated current θ≤60°C, 380-400V (A)**	AC1 Rated current θ≤40°C, 690V (A)	Aux. contact	Type	Code	Price (EUR)
4	9	25	1NA	AF09-30-10	1SBL137001R1310	38.26
4	9	25	1NK	AF09-30-01	1SBL137001R1301	35.75
5.5	12	28	1NA	AF12-30-10	1SBL157001R1310	40.00
5.5	12	28	1NK	AF12-30-01	1SBL157001R1301	38.15
7.5	18	30	1NA	AF16-30-10	1SBL177001R1310	39.24
7.5	18	30	1NK	AF16-30-01	1SBL177001R1301	38.59
11	26	45	-	AF26-30-00	1SBL237001R1300	54.72
15	32	50	-	AF30-30-00	1SBL277001R1300	80.01
18.5	38	50	-	AF38-30-00	1SBL297001R1300	95.05
18.5	40	70	1NA+1NK	AF40-30-11	1SBL347001R1311	155.90
22	53	100	1NA+1NK	AF52-30-11	1SBL367001R1311	155.90
30	65	105	1NA+1NK	AF65-30-11	1SBL387001R1311	185.80
37	80	125	1NA+1NK	AF80-30-11	1SBL397001R1311	213.40
45	96	130	1NA+1NK	AF96-30-11	1SBL407001R1311	285.40
55	116	160	1NA+1NK	AF116-30-11	1SFL427001R1311	326.10
75	140	200	1NA+1NK	AF140-30-11	1SFL447001R1311	461.60
75	146	225	1NA+1NK	AF146-30-11	1SFL467001R1311	449.60
90	190	275	1NA+1NK	AF190-30-11	1SFL487002R1311	432.80
110	205	350	1NA+1NK	AF205-30-11	1SFL527002R1311	606.70
140	265	400	1NA+1NK	AF265-30-11	1SFL547002R1311	852.50
160	305	500	1NA+1NK	AF305-30-11	1SFL587002R1311	848.90
200	370	600	1NA+1NK	AF370-30-11	1SFL607002R1311	1,101.00
200	400	600	1NA+1NK	AF400-30-11	1SFL577001R7011	1,524.00
250	460	700	1NA+1NK	AF460-30-11	1SFL597001R7011	1,640.00
315	580	800	1NA+1NK	AF580-30-11	1SFL617001R7011	2,193.00
400	750	1.050	1NA+1NK	AF750-30-11	1SFL637001R7011	2,502.00
-	-	1.260	1NA+1NK	AF1250-30-11	1SFL647001R7011	3,048.00
475	860	1.350	1NA+1NK	AF1350-30-11	1SFL657001R7011	4,683.00
560	1.060	1.650	1NA+1NK	AF1650-30-11	1SFL677001R7011	4,867.00
-	-	2.050	1NA+1NK	AF2050-30-11	1SFL707001R7011	5,969.00
-	-	2.650	1NA+1NK	AF2650-30-11	1SFL667001R7011	8,169.00

* 1000V IEC ratings are available for AF146-AF2650 contactors.
** For AF400-AF2650 θ≤55°C, for AF09...AF370 θ≤60°C.

Note: AF series contactors include an internal damping element.
Please contact the sales office for other coil options.



CONTACTORS
New generation 3-pole AF series contactors - AC/DC control voltage

AF series contactors, 3-pole 24-60V, 50/60 Hz AC / 20-60V DC control voltage



AF26, AF30, AF38



AF205

	Rated power 380-400V (kW)	AC3 Rated current θ≤60°C, 380-400V (A)	AC1 Rated current θ≤40°C, 690V (A)	Aux. contact	Type	Code	Price (EUR)
	4	9	25	1NA	AF09-30-10	1SBL137001R1110	38.48
	4	9	25	1NK	AF09-30-01	1SBL137001R1101	40.77
	5.5	12	28	1NA	AF12-30-10	1SBL157001R1110	42.29
	5.5	12	28	1NK	AF12-30-01	1SBL157001R1101	40.98
	7.5	18	30	1NA	AF16-30-10	1SBL177001R1110	46.33
	7.5	18	30	1NK	AF16-30-01	1SBL177001R1101	47.42
	11	26	45	-	AF26-30-00	1SBL237001R1100	67.04
	15	32	50	-	AF30-30-00	1SBL277001R1100	100.30
	18.5	38	50	-	AF38-30-00	1SBL297001R1100	119.70
	18.5	40	70	1NA+1NK	AF40-30-11	1SBL347001R1111	148.70
	22	53	100	1NA+1NK	AF52-30-11	1SBL367001R1111	195.40
	30	65	105	1NA+1NK	AF65-30-11	1SBL387001R1111	275.80
	37	80	125	1NA+1NK	AF80-30-11	1SBL397001R1111	327.30
	45	96	130	1NA+1NK	AF96-30-11	1SBL407001R1111	297.40
	55	116	160	1NA+1NK	AF116-30-11	1SFL427001R1111	406.50
	75	140	200	1NA+1NK	AF140-30-11	1SFL447001R1111	659.50
	75	146	225	1NA+1NK	AF146-30-11	1SFL467001R1111	730.20
	90	190	275	1NA+1NK	AF190-30-11	1SFL487002R1111	513.20
	110	205	350	1NA+1NK	AF205-30-11	1SFL527002R1111	682.20
	140	265	400	1NA+1NK	AF265-30-11	1SFL547002R1111	949.60
	160	305	500	1NA+1NK	AF305-30-11	1SFL587002R1111	1,128.00
	200	370	600	1NA+1NK	AF370-30-11	1SFL607002R1111	1,874.00

* Please contact the sales office for product types and codes for higher current values in 24V DC coil voltage option.

Note: AF series contactors include an internal damping element.
Please contact the sales office for other coil options.

AF-Z series contactors - (24-60V, 50/60Hz AC / 20-60V DC control voltage), low energy consumption coil (24V DC, 1.7 W)



AF09Z, AF12Z, AF16Z

	Rated power 380-400V (kW)	AC3 Rated current θ≤60°C, 380-400V (A)	AC1 Rated current θ≤40°C, 690V (A)	Aux. contact	Type	Code	Price (EUR)
	4	9	25	1NA	AF09Z-30-10	1SBL136001R2110	56.14
	4	9	25	1NK	AF09Z-30-01	1SBL136001R2101	56.14
	5.5	12	28	1NA	AF12Z-30-10	1SBL156001R2110	56.24
	5.5	12	28	1NK	AF12Z-30-01	1SBL156001R2101	57.55
	7.5	18	30	1NA	AF16Z-30-10	1SBL176001R2110	57.99
	7.5	18	30	1NK	AF16Z-30-01	1SBL176001R2101	69.65
	11	26	45	-	AF26Z-30-00	1SBL236001R2100	88.73
	15	32	50	-	AF30Z-30-00	1SBL276001R2100	122.30
	18,5	38	50	-	AF38Z-30-00	1SBL296001R2100	157.10

Note: AF series contactors include an internal damping element.
Please contact the sales office for other coil options.

AFC CONTACTORS
for AC Control Applications

NEW PRODUCT

ABB's AF platform is now extended with AFC contactors bringing AC control to the offer. It provides an additional choice, fitting to even more solutions up to 45 kW (400 V - 96 A AC-3). With a single footprint, design work is simpler and installation time is shorter – all with the advantage of ABB's trusted quality and global support.



Speed up your projects

One modular design

AF platform shares the same footprint – giving standalone contactors and starter combinations the same space requirements. The short-circuit performance is equivalent, making it possible to use one common circuit design for multiple applications.

Plug-and-play it – save time!

Optimum interface

One contactor platform

AF platform is available with screw or Push-in Spring terminals and has a common range of accessories and protection devices. Reducing stock levels, minimizing mounting errors and maximizing interchangeability - the new AFC contactors are good for business.

Global availability

Expand your market

Use ABB's global distribution channels to source your AFC contactors. The range is compliant with all major international standards and approvals and suitable for use in most countries. Supported by ABB's global service network all around the word, get peace of mind.

CONTACTORS
Yeni nesil, 3 Pole AFC Series AC Contactors

NEW PRODUCT



AFC09-30-10



AFC26-30-10

New generation, 3 pole AFC series AC contactors, 24VAC 50/60Hz control voltage

Rated power 380-400V (kW)	AC3 Rated current θ≤60°C, 380-400V (A)	AC1 Rated current θ≤40°C, 690V (A)	Type	Code	Price (EUR)
4	9	25	AFC09-30-10-81	1SBL131001R8110	38.48
4	9	25	AFC09-30-01-81	1SBL131001R8101	40.77
5,5	12	28	AFC12-30-10-81	1SBL151001R8110	42.29
5,5	12	28	AFC12-30-01-81	1SBL151001R8101	40.98
7,5	18	30	AFC16-30-10-81	1SBL171001R8110	46.33
7,5	18	30	AFC16-30-01-81	1SBL171001R8101	47.42
11	26	45	AFC26-30-00-81	1SBL231001R8100	67.04
15	32	50	AFC30-30-00-81	1SBL271001R8100	100.30
18,5	38	50	AFC38-30-00-81	1SBL291001R8100	119.70
18,5	40	70	AFC40-30-00-81	1SBL341001R8100	138.34
22	53	100	AFC52-30-00-81	1SBL361001R8100	185.04
30	65	105	AFC65-30-00-81	1SBL381001R8100	265.44
37	80	125	AFC80-30-00-81	1SBL391001R8100	316.94
45	96	130	AFC96-30-00-81	1SBL401001R8100	287.04

New generation, 3 pole AFC series AC contactors, 220-230VAC 50/60Hz control voltage

Rated power 380-400V (kW)	AC3 Rated current θ≤60°C, 380-400V (A)	AC1 Rated current θ≤40°C, 690V (A)	Type	Code	Price (EUR)
4	9	25	AFC09-30-10-80	1SBL131001R8010	38.26
4	9	25	AFC09-30-01-80	1SBL131001R8001	35.75
5,5	12	28	AFC12-30-10-80	1SBL151001R8010	40.00
5,5	12	28	AFC12-30-01-80	1SBL151001R8001	38.15
7,5	18	30	AFC16-30-10-80	1SBL171001R8010	39.24
7,5	18	30	AFC16-30-01-80	1SBL171001R8001	38.59
11	26	45	AFC26-30-00-80	1SBL231001R8000	54.72
15	32	50	AFC30-30-00-80	1SBL271001R8000	80.01
18,5	38	50	AFC38-30-00-80	1SBL291001R8000	95.05
18,5	40	70	AFC40-30-00-80	1SBL341001R8000	145.54
22	53	100	AFC52-30-00-80	1SBL361001R8000	145.54
30	65	105	AFC65-30-00-80	1SBL381001R8000	175.44
37	80	125	AFC80-30-00-80	1SBL391001R8000	203.04
45	96	130	AFC96-30-00-80	1SBL401001R8000	275.04

Note: The AFC series shares accessories with the AF series.
All accessories valid up to the AF96 series are also valid for the AFC series (auxiliary contacts, mechanical lock, etc.).

AUXILIARY CONTACTORS
New generation NF series auxiliary contactors - AC/DC control voltage

NF series auxiliary contactors



NF22, NF31, NF40, NFZ22, NF231, NFZ40

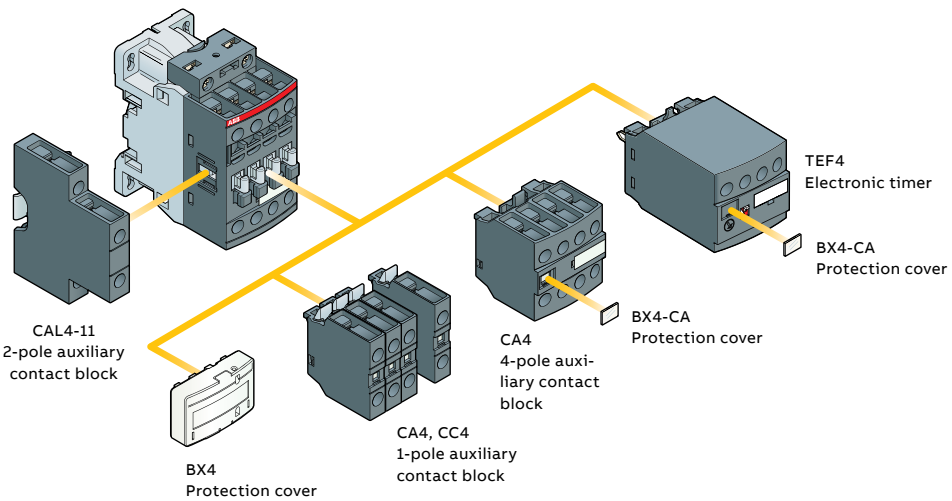


NF44, NF53, NF62, NF71, NF80, NF80, NFZ44, NFZ53, NFZ62, NFZ71, NFZ80

	Thermal current Ith (A) θ≤40°C	Contact layout	Type	Code	Price (EUR)
	NF series auxiliary contactors - (100-250V 50/60Hz AC/DC control voltage)				
	16	2NA+2NK	NF22E	1SBH137001R1322	39.68
	16	3NA+1NK	NF31E	1SBH137001R1331	41.86
	16	4NA	NF40E	1SBH137001R1340	39.89
	16	4NA+4NK	NF44E	1SBH137001R1344	71.83
	16	5NA+3NK	NF53E	1SBH137001R1353	78.92
	16	6NA+2NK	NF62E	1SBH137001R1362	78.92
	16	7NA+1NK	NF71E	1SBH137001R1371	78.92
	16	8NA	NF80E	1SBH137001R1380	78.92
	NF series auxiliary contactors - (24-60V 50/60Hz AC/ 20-60V DC control voltage)				
	16	2NA+2NK	NF22E	1SBH137001R1122	38.59
	16	3NA+1NK	NF31E	1SBH137001R1131	37.93
	16	4NA	NF40E	1SBH137001R1140	38.15
	16	4NA+4NK	NF44E	1SBH137001R1144	78.92
	16	5NA+3NK	NF53E	1SBH137001R1153	78.92
	16	6NA+2NK	NF62E	1SBH137001R1162	78.92
	16	7NA+1NK	NF71E	1SBH137001R1171	78.92
	16	8NA	NF80E	1SBH137001R1180	78.92
	NF-Z series auxiliary contactors - (24-60V 50/60Hz AC / 20-60V DC control voltage), low energy consumption coil (24V DC, 1.7 W)				
	16	2NA+2NK	NFZ22E	1SBH136001R2122	59.51
	16	3NA+1NK	NFZ31E	1SBH136001R2131	59.51
	16	4NA	NFZ40E	1SBH136001R2140	59.51
	16	4NA+4NK	NFZ44E	1SBH136001R2144	90.80
	16	5NA+3NK	NFZ53E	1SBH136001R2153	90.80
	16	6NA+2NK	NFZ62E	1SBH136001R2162	90.80
	16	7NA+1NK	NFZ71E	1SBH136001R2171	90.80
	16	8NA	NFZ80E	1SBH136001R2180	90.80

* NF and NF-Z series auxiliary contactors contain an internal damping element.
* Please contact the sales office for other coil options.

NF auxiliary contactors



CONTACTORS
Accessories for AF series 3-pole contactors and NF series auxiliary contactors

Auxiliary contact blocks


CA4-10


CA4-11


CAL19-11

Contact layout	Contactor type to be used together	Mounting	Type	Code	Price (EUR)
1NA	AF09...AF96 / NF	Top	CA4-10	1SBN010110R1010	5.56
1NK	AF09...AF96 / NF	Top	CA4-01	1SBN010110R1001	5.23
1NA+1NK	AF09...AF96 / NF	Side	CAL4-11	1SBN010120R1011	10.36
2NA+2NK	AF09...AF16-30-10	Top	CA4-22M	1SBN010140R1122	21.69
3NA+1NK	AF09...AF16-30-10	Top	CA4-31M	1SBN010140R1131	24.31
1NA+3NK	AF09...AF16-30-10	Top	CA4-13M	1SBN010140R1113	27.25
4NK	AF09...AF16-30-10	Top	CA4-04M	1SBN010140R1104	16.35
2NA+2NK	AF09...AF16-30-01	Top	CA4-22U	1SBN010140R1322	16.35
3NA+1NK	AF09...AF16-30-01	Top	CA4-31U	1SBN010140R1331	24.20
4NA	AF09...AF16-30-01	Top	CA4-40U	1SBN010140R1340	19.08
2NA+2NK	AF26...AF96	Top	CA4-22E	1SBN010140R1022	16.35
3NA+1NK	AF26...AF96	Top	CA4-31E	1SBN010140R1031	18.09
4NA	AF26...AF96	Top	CA4-40E	1SBN010140R1040	23.76
4NK	AF26...AF96	Top	CA4-04E	1SBN010140R1004	30.19
2NA+2NK	NF	Top	CA4-22N	1SBN010140R1222	24.31
3NA+1NK	NF	Top	CA4-31N	1SBN010140R1231	24.31
1NA+3NK	NF	Top	CA4-13N	1SBN010140R1213	23.11
4NA	NF	Top	CA4-40N	1SBN010140R1240	30.19
4NK	NF40E	Top	CA4-04N	1SBN010140R1204	30.19
1NA+1NK	AF116 ... AF370	Side	CAL19-11	1SFN010820R1011	12.75
1NA+1NK	AF116 ... AF370	Side	CAL19-11B	1SFN010820R3311	12.75
1NA+1NK	AF400 ... AF2650	Side	CAL18-11	1SFN010720R1011	12.43
1NA+1NK	AF400 ... AF2650	Side	CAL18-11B	1SFN010720R3311	12.75

Special type auxiliary contact blocks (includes A1/A2 coil supply terminal)


CAT4-11M

Contact layout	Contactor type to be used together	Mounting	Type	Code	Price (EUR)
1NA+1NK	AF09...AF16-30-10	Top	CAT4-11M	1SBN010151R1111	18.09
1NA+1NK	AF09...AF16-30-01	Top	CAT4-11U	1SBN010151R1311	18.09
1NA+1NK	AF26...AF65-30-00	Top	CAT4-11E	1SBN010151R1011	18.09

Mechanical interlock kit


VM4

Contactor type to be used on the left	Contactor type to be used on the right	Type	Code	Price (EUR)
AF09...AF38	AF09...AF38	VM4	1SBN030105T1000	15.48
AF40 ... AF96	AF40 ... AF96	VM96-4	1SBN033405T1000	15.48
AF116 ... AF370	AF116 ... AF370	VM19	1SFN030300R1000	47.96
AF116 ... AF146	AF190, AF205	VM140/190	1SFN034403R1000	52.54
AF190, AF205	AF265 ... AF370	VM205/265	1SFN035203R1000	52.54
AF400 ... AF1250	AF400 ... AF1250	VM750H	1SFN035700R1000	127.10

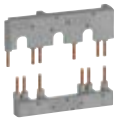
Mechanical and electrical interlock kit


VEM4

Contactor type to be used together	Type	Code	Price (EUR)
AF09...AF16, AF26...AF38	VEM4	1SBN030111R1000	26.16

CONTACTORS
Accessories for AF series 3-pole contactors and NF series auxiliary contactors

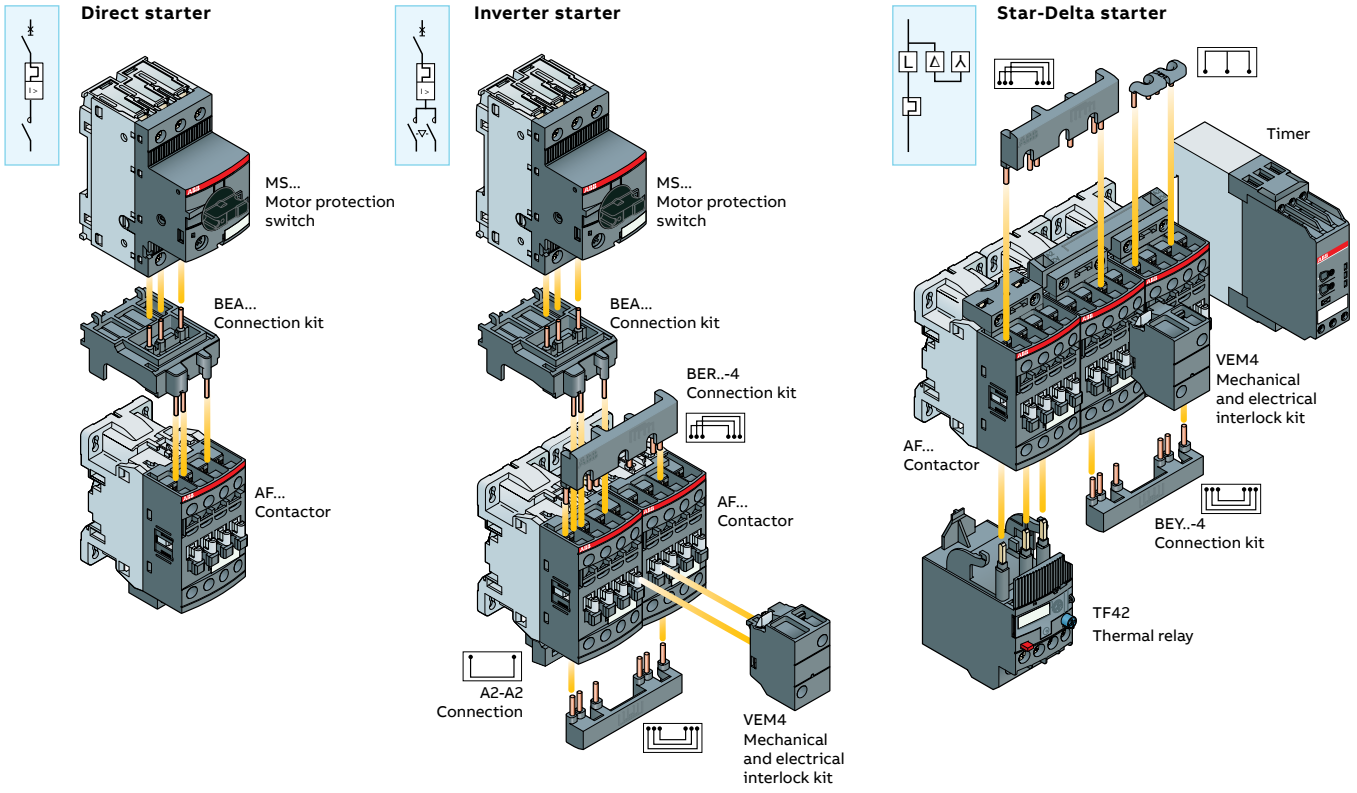
Connection kits

	Description	Contactor type to be used together	Type	Code	Price (EUR)
 BER16-4	Connection kit for MS116-0,16...MS116-25 and MS132-0,16...MS132-25	AF09...AF16	BEA16-4	1SBN081306T1000	13.19
	Connection kit for MS116-0,16...MS116-16 and MS132-0,16...MS132-10	AF26...AF38	BEA26-4	1SBN082306T1000	17.55
	Connection kit for MS116-20...MS116-32 and MS132-12...MS132-32	AF26...AF38	BEA38-4	1SBN082306T2000	17.55
	Connection kit for MS165-16 ... MS165-65	AF40...AF65	BEA65-4	1SBN083406R1000	58.21
	Inverter connection kit	AF09...AF16	BER16-4	1SBN081311R1000	29.10
	Inverter connection kit	AF26...AF38	BER38-4	1SBN082311R1000	40.44
	Inverter connection kit	AF40...AF65	BER65-4	1SBN083411R1000	48.94
	Inverter connection kit	AF80...AF96	BER96-4	1SBN083911R1000	83.17
 TEF4-ON	Star-delta connection kit	AF09...AF16	BEY16-4	1SBN081313R2000	38.15
	Star-delta connection kit	AF26...AF38	BEY38-4	1SBN082713R2000	56.14
	Star-delta connection kit	AF40...AF65	BEY65-4	1SBN083413R2000	80.99
	Star-delta connection kit	AF80...AF96	BEY96-4	1SBN083913R2000	102.20

Electronic timers (snap-on type)

	Adjustment range	Type	Contactor type to be used together	Type	Code	Price (EUR)
	0.1-100sn	ON Delay	AF09...AF38, NF	TEF4-ON	1SBN020112R1000	83.82
	0.1-100sn	OFF Delay	AF09...AF38, NF	TEF4-OFF	1SBN020114R1000	83.82

Starting combinations



THERMAL RELAYS
TF series thermal relays

TF series thermal relays


TF42


TF65


TF140DU

Current adjustment range (A)	Contactor type to be used together	Type	Code	Price (EUR)
0.10-0.13	AF09...AF38	TF42-0.13	1SAZ721201R1005	44.04
0.13-0.17	AF09...AF38	TF42-0.17	1SAZ721201R1008	44.04
0.17-0.23	AF09...AF38	TF42-0.23	1SAZ721201R1009	40.66
0.23-0.31	AF09...AF38	TF42-0.31	1SAZ721201R1013	41.20
0.31-0.41	AF09...AF38	TF42-0.41	1SAZ721201R1014	40.33
0.41-0.55	AF09...AF38	TF42-0.55	1SAZ721201R1017	44.04
0.55-0.74	AF09...AF38	TF42-0.74	1SAZ721201R1021	39.02
0.74-1	AF09...AF38	TF42-1.0	1SAZ721201R1023	32.48
1-1.3	AF09...AF38	TF42-1.3	1SAZ721201R1025	41.20
1.3-1.7	AF09...AF38	TF42-1.7	1SAZ721201R1028	40.98
1.7-2.3	AF09...AF38	TF42-2.3	1SAZ721201R1031	40.98
2.3-3.1	AF09...AF38	TF42-3.1	1SAZ721201R1033	41.75
3.1-4.2	AF09...AF38	TF42-4.2	1SAZ721201R1035	41.64
4.2-5.7	AF09...AF38	TF42-5.7	1SAZ721201R1038	32.48
5.7-7.6	AF09...AF38	TF42-7.6	1SAZ721201R1040	32.48
7.6-10	AF09...AF38	TF42-10	1SAZ721201R1043	32.48
10-13	AF09...AF38	TF42-13	1SAZ721201R1045	32.48
13-16	AF09...AF38	TF42-16	1SAZ721201R1047	32.70
16-20	AF09...AF38	TF42-20	1SAZ721201R1049	32.70
20-24	AF09...AF38	TF42-24	1SAZ721201R1051	32.70
24-29	AF09...AF38	TF42-29	1SAZ721201R1052	42.29
29-35	AF09...AF38	TF42-35	1SAZ721201R1053	42.29
35-38/40	AF09...AF38	TF42-38	1SAZ721201R1055	52.21
22-28	AF40...AF65	TF65-28	1SAZ811201R1001	70.52
25-33	AF40...AF65	TF65-33	1SAZ811201R1002	74.12
30-40	AF40...AF65	TF65-40	1SAZ811201R1003	63.77
36-47	AF40...AF65	TF65-47	1SAZ811201R1004	66.93
44-53	AF40...AF65	TF65-53	1SAZ811201R1005	69.98
50-60	AF40...AF65	TF65-60	1SAZ811201R1006	72.92
57-67	AF40...AF65	TF65-67	1SAZ811201R1007	98.32
40-51	AF80...AF96	TF96-51	1SAZ911201R1001	80.12
48-60	AF80...AF96	TF96-60	1SAZ911201R1002	114.00
57-68	AF80...AF96	TF96-68	1SAZ911201R1003	95.70
65-78	AF80...AF96	TF96-78	1SAZ911201R1004	127.10
75-87	AF80...AF96	TF96-87	1SAZ911201R1005	140.30
84-96	AF80...AF96	TF96-96	1SAZ911201R1006	139.10
66-90	AF116...AF146	TF140DU-90	1SAZ431201R1001	139.10
80-110	AF116...AF146	TF140DU-110	1SAZ431201R1002	160.70
100-135	AF116...AF146	TF140DU-135	1SAZ431201R1003	171.50
110-142	AF116...AF146	TF140DU-142	1SAZ431201R1004	159.50

TA200 series thermal relays


TA200 DU

Current adjustment range (A)	Contactor type to be used together	Type	Code	Price (EUR)
65-90	AF190...AF205	TA200 DU 90	1SAZ421201R1001	146.30
80-110	AF190...AF205	TA200 DU 110	1SAZ421201R1002	154.70
100-135	AF190...AF205	TA200 DU 135	1SAZ421201R1003	160.70
110-150	AF190...AF205	TA200 DU 150	1SAZ421201R1004	160.70
130-175	AF190...AF205	TA200 DU 175	1SAZ421201R1005	196.60
150-200	AF190...AF205	TA200 DU 200	1SAZ421201R1006	200.20

3-pole, temperature compensated manual/automatic reset, 1NA+1NK

ELECTRONIC THERMAL RELAYS
EF and E series electronic thermal relays

EF and E series electronic thermal relays

	Thermal type to be used together	To be used together contactor type	Type	Code	Price (EUR)
 EF19	0.1-0.32	AF09...AF16	EF19-0.32	1SAX121001R1101	135.50
	0.3-1	AF09...AF16	EF19-1.0	1SAX121001R1102	106.30
	0.8-2.7	AF09...AF16	EF19-2.7	1SAX121001R1103	128.30
	1.9-6.3	AF09...AF16	EF19-6.3	1SAX121001R1104	106.30
	5.7-18.9	AF09...AF16	EF19-18.9	1SAX121001R1105	149.90
	9.0-30	AF26...AF38	EF45-30	1SAX221001R1101	236.20
	15.0-45	AF26...AF38	EF45-45	1SAX221001R1102	181.00
 EF45	25-70	AF40...AF65	EF65-70	1SAX331001R1101	274.60
	36-100	AF80...AF96	EF96-100	1SAX341001R1101	335.70
	54-150	AF116...AF146	EF146-150	1SAX351001R1101	332.10
	63-210	AF190...AF205	EF205-210	1SAX531001R1101	302.10
	115-380	AF265...AF370	EF370-380	1SAX611001R1101	332.10
	150-500	AF400...AF460	EF460-500	1SAX721001R1101	672.60
	250-800	AF580...AF1250	EF750-800	1SAX821001R1101	1,242.00
	375-1250	AF1350...AF2050	EF1250DU-1250	1SFA739001R1001	2,755.00

Stand-alone mounting kit for thermal and electronic thermal relays

	Thermal type to be used together	Type	Code	Price (EUR)
 DB42	TF42	DB42	1SAZ701902R0001	13.30
	EF19	DB19EF	1SAX101910R1001	28.78
	EF45	DB45EF	1SAX201910R0001	47.52
	TF65	DB65	1SAZ801901R1001	49.27
	TF96, EF96	DB96	1SAZ901901R1001	94.50
	TA200DU	DB200	1SAZ401110R0001	42.62

Connection kit for electronic thermal relays

	Thermal type to be used together	To be used together contactor type	Type	Code	Price (EUR)
	E 500 DU	AF400-AF460	DT 500 / AF460	1SAX701902R1011	263.80
	E 800 DU	AF580-AF750	DT 800 / AF750	1SAX801902R1011	374.10

CONTACTORS
4 pole contactors

—
AF contactors

	AC1 rated current θ≤40°C (A)	AC3 rated current θ≤60°C (A)	Type	Code	Price (EUR)
	AF series contactors, 4-pole, 100-250 V, 50/60 Hz AC/DC control voltage				
 AF09, AF16	25	9	AF09-40-00	1SBL137201R1300	39.02
	30	18	AF16-40-00	1SBL177201R1300	43.38
	45	22	AF26-40-00	1SBL237201R1300	76.85
	55	22	AF38-40-00	1SBL297201R1300	101.40
	70	40	AF40-40-00	1SBL347201R1300	220.60
	100	53	AF52-40-00	1SBL367201R1300	214.60
	125	80	AF80-40-00	1SBL397201R1300	235.00
 AF116	160	116	AF116-40-11	1SFL427101R1311	422.00
	200	140	AF140-40-11	1SFL447101R1311	559.90
	275	190	AF190-40-11	1SFL487102R1311	589.90
	350	205	AF205-40-11	1SFL527102R1311	984.40
	400	265	AF265-40-11	1SFL547102R1311	1,083.00
	500	305	AF305-40-11	1SFL587102R1311	1,934.00
	525	370	AF370-40-11	1SFL607102R1311	1,692.00
	AF series contactors, 4-pole, 24-60 V, 50/60 Hz AC / 20-60V DC control voltage				
	25	9	AF09-40-00	1SBL137201R1100	45.67
	30	18	AF16-40-00	1SBL177201R1100	54.94
 AF205	45	22	AF26-40-00	1SBL237201R1100	77.39
	55	22	AF38-40-00	1SBL297201R1100	155.90
	70	40	AF40-40-00	1SBL347201R1100	286.60
	100	53	AF52-40-00	1SBL367201R1100	262.60
	125	80	AF80-40-00	1SBL397201R1100	295.00
	160	116	AF116-40-11	1SFL427101R1111	459.20
	200	140	AF140-40-11	1SFL447101R1111	431.60
	275	190	AF190-40-11	1SFL487102R1111	904.00
	350	205	AF205-40-11	1SFL527102R1111	1,278.00
	400	265	AF265-40-11	1SFL547102R1111	1,641.00
	500	305	AF305-40-11	1SFL587102R1111	2,192.00
	525	370	AF370-40-11	1SFL607102R1111	2,308.00
	EK series contactors, 4-pole, 220...230 VAC / 50Hz, 240VAC / 60Hz control voltage				
	800	550	EK550-40-11	SK827041-AL	2,231.00
	1000	-	EK1000-40-11	SK827044-AL	2,633.00

CONTACTORS
Accessories for AF/A/EK series 4-pole contactors and UA compensation contactors

Auxiliary contact blocks


CA4-10


CA4-22E


CA5-11

Contact layout	Contactor type to be used together	Mounting	Type	Code	Price (EUR)
Auxiliary contact blocks					
1NA	AF09...AF80-40-00	Top	CA4-10	1SBN010110R1010	5.56
1NK	AF09...AF80-40-00	Top	CA4-01	1SBN010110R1001	5.23
1NA+1NK	AF09...AF80-40-00	Side	CAL4-11	1SBN010120R1011	10.36
2NA+2NK	AF09...AF80-40-00	Top	CA4-22E	1SBN010140R1022	16.35
3NA+1NK	AF09...AF80-40-00	Top	CA4-31E	1SBN010140R1031	18.09
4NA	AF09...AF80-40-00	Top	CA4-40E	1SBN010140R1040	23.76
4NK	AF09...AF16-40-00/ AF40...AF80-40-00	Top	CA4-04E	1SBN010140R1004	30.19
1NA+1NK	AF116...AF370	Side	CAL19-11	1SFN010820R1011	12.75
1NA	UA30...UA110	Top	CA5-10	1SBN010010R1010	4.91
1NK	UA30...UA110	Top	CA5-01	1SBN010010R1001	4.91
1NA+1NK	UA16...UA75	Side	CAL5-11	1SBN010020R1011	14.50
1NA+1NK	EK	Side	CAL16-11B	SK829002-B	35.75
1NA+1NK	EK	Side	CAL16-11C	SK829002-C	35.75
1NA+1NK	EK	Side	CAL16-11D	SK829002-D	35.75
Special type auxiliary contact blocks (includes A1/A2 coil supply terminal)					
1NA+1NK	AF09...AF52-40-00	Top	CAT4-11E	1SBN010151R1011	18.09

Locking kits


VM4


VEM4

Contactor type to be used together	Type	Code	Price (EUR)
Mechanical interlock kit			
AF09...AF38-40-00	VM4	1SBN030105T1000	15.48
AF40...AF80-40-00	VM96-4	1SBN033405T1000	15.48
AF116...AF370	VM19	1SFN030300R1000	47.96
EK550...EK1000	VH800	SK829070-F	980.80
Mechanical and electrical interlock kit			
AF09...AF38-40-00	VEM4	1SBN030111R1000	26.16

Electronic timers (snap-on type)


TEF4-ON

Adjustment range	Type	Contactor type to be used together	Type	Code	Price (EUR)
0.1-100sn	ON Delay	AF09...AF80-40-00	TEF4-ON	1SBN020112R1000	83.82
0.1-100sn	OFF Delay	AF09...AF80-40-00	TEF4-OFF	1SBN020114R1000	83.82

CONTACTORS FOR CAPACITOR SWITCHING
AC-6b utilization category according to IEC 60947-4-1

NEW PRODUCT

Capacitor transient conditions

In Low Voltage industrial installations, capacitors are mainly used for reactive energy correction (raising the power factor). When these capacitors are energized, overcurrents of high amplitude and high frequencies (3 to 15 kHz) occur during the transient period (1 to 2 ms).

The amplitude of these current peaks, also known as "inrush current peaks", depends on the following factors:

- The network inductances.
- The transformer power and short-circuit voltage.
- The type of power factor correction.

There are 2 types of power factor correction: fixed or automatic.

Fixed power factor correction consists of inserting, in parallel on the network, a capacitor bank whose total power is provided by the assembly of capacitors of identical or different ratings.

The bank is energized by a contactor that simultaneously supplies all the capacitors (a single step).

The inrush current peak, in the case of fixed correction, can reach 30 times the nominal current of the capacitor bank.

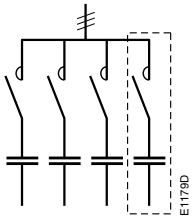


Single-step capacitor bank scheme
Use the AF... , AFC... or UAFC... contactor ranges

An automatic power factor correction system, on the other hand, consists of several capacitor banks of identical or different ratings (several steps), energized separately according to the value of the power factor to be corrected.

An electronic device automatically determines the power of the steps to be energized and activates the relevant contactors.

The inrush current peak, in the case of automatic correction, depends on the power of the steps already on duty, and can reach 100 times the nominal current of the step to be energized.



Multi-step capacitor bank scheme
Use the UAFC... or UAFC...RA contactor ranges

Steady state condition data

The presence of harmonics and the network's voltage tolerance lead to a current, estimated to be 1.3 times the nominal current In of the capacitor, permanently circulating in the circuit.

Taking into account the manufacturing tolerances, the exact power of a capacitor can reach 1.1 times its nominal power.

Standard IEC 60831-1 Edition 2014 specifies that the capacitor must therefore have a maximum thermal current IT of:

IT=1.3 x 1.1 x In = 1.43 x In

Consequences for the contactors

To avoid malfunctions (welding of main poles, abnormal temperature rise, etc.), contactors for capacitor bank switching must be sized to withstand:

- **A permanent current that can reach 1.43 times the nominal current of the capacitor bank.**
- **The short but high peak current on pole closing** (maximum permissible peak current $\hat{I}$).

CONTACTORS FOR CAPACITOR SWITCHING
The ABB solutions

NEW PRODUCT

ABB offers 2 contactor versions according to the value of the inrush current peak and the power of the capacitor bank.

UAFC..RA contactors for capacitor switching (UAFC15..RA to UAFC70..RA) with insertion of damping resistors

The insertion of damping resistors protects the contactor and the capacitor from the highest inrush currents.
Maximum permissible peak current $\hat{I} \leq 200$ times the nominal rms current of the switched capacitor.






UAFC contactors for capacitor switching (UAFC15 to UAFC70)

Maximum permissible peak current $\hat{I} \leq 100$ times the nominal rms current of the switched capacitor.






UAFC SERIES COMPENSATION CONTACTORS

NEW PRODUCT



IEC	UL/CSA						
Rated Power θ ≤ 40 °C 400V AC-6b	**Rated Power θ ≤ 40 °C 480V**	**Coil Voltage**		**Auxiliary Contact**	**Type**	**Code**	**Price (EUR)**
kvar	kvar	V 50Hz	V 60Hz				
15	16	220..230	230...240	1NA	UAFC15-30-10RA-80	1SBL171024R8010	115.30
15	16	220..230	230...240	1NA+1NK	UAFC15-30-11RA-80	1SBL171024R8011	115.96
20	22	220..230	230...240	1NA	UAFC20-30-10RA-80	1SBL231024R8010	116.22
25	25	220..230	230...240	1NA	UAFC25-30-10RA-80	1SBL271024R8010	137.90
30	28	220..230	230...240	1NA	UAFC30-30-10RA-80	1SBL291024R8010	206.20
40	50	220..230	230...240	-	UAFC40-30-00RA-80	1SBL361024R8000	291.40
50	55	220..230	230...240	-	UAFC50-30-00RA-80	1SBL381024R8000	323.70
65	65	220..230	230...240	-	UAFC65-30-00RA-80	1SBL391024R8000	340.50
70	80	220..230	230...240	-	UAFC70-30-00RA-80	1SBL401024R8000	396.88

* For 220-230 V external coil selection, you can use the following coil codes.



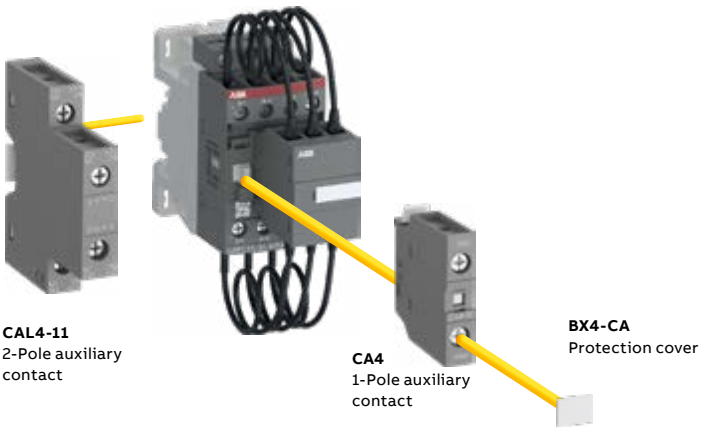
Coil codes

75	200V 50Hz / 200-220 60Hz
80	220-230V 50Hz / 230-240V 60Hz
81	24V 50Hz / 24V 60Hz
84	110V 50 Hz / 110-120V 60 Hz
85	380-400V 50 Hz / 400-415 60 Hz
86	400-415V 50Hz / 415-440V 60Hz
88	230-240V 50Hz / 240-260V 60Hz

* The appropriate coil voltage can be selected from the table above and integrated into the product code.
Example:
24V Coil: 20kvar Type: UAFC20-30-10RA-81, Code: 1SBL231024R8110
380V Coil: 30kvar Type: UAFC30-30-10RA-85, Code: 1SBL291024R8510

Auxiliary contacts

Contact pattern	Mounting type	Type	Code	Price (EUR)
1NA	Top	CA4-10	1SBN010110R1010	5.56
1NK	Top	CA4-01	1SBN010110R1001	5.23
1NA + 1NK	Side	CAL4-11	1SBN010120R1011	10.36



CAL4-11
2-Pole auxiliary contact

CA4
1-Pole auxiliary contact

BX4-CA
Protection cover

CONTACTORS
UA series compensation contactors

UA-RA type contactors

	Rated power 400-415V 50/60 Hz, θ≤40°C	Auxiliary contact	Type	Code	Price (EUR)
 UA50..RA, UA63..RA, UA75..RA	12.5 kVAr	1 NA	UA 16-30-10 RA	1SBL181024RXX10	113.80
	22 kVAr	1 NA	UA 26-30-10 RA	1SBL241024RXX10	149.90
	30 kVAr	1 NA	UA 30-30-10 RA	1SBL281024RXX10	226.80
	40 kVAr	–	UA 50-30-00 RA	1SBL351024RXX00	328.40
	50 kVAr	–	UA 63-30-00 RA	1SBL371024RXX00	376.80
	60 kVAr	–	UA 75-30-00 RA	1SBL411024RXX00	428.70
	70 kVAr	–	UA 95-30-00 RA	1SFL431024RXX00	758.20
	80 kVAr	–	UA 110-30-00 RA	1SFL451024RXX00	807.10

* When a capacitor is switched on, the presence of harmonic currents and the tolerance of the grid voltage cause a continuous current flow of about 1.3 times the rated current (In) of the capacitors. Depending on the generation tolerance, the maximum power of a capacitor can reach 1.15 times its rated power. The contactor (UA-RA) must be selected with the capacity to carry the thermal current specified below.
* In systems without harmonic filter reactor, UA series compensation contactor must be used. In compensation systems with harmonic filter reactors, UA series compensation contactors or AF series contactors can be used.
* Please specify the coil voltage when ordering.

Ith = 1.3 x 1.15 x In = 1.50 In

UA..RA coil voltages and codes

Voltage (V) 50Hz	Voltage (V) 60Hz	Code xx
24	24	81
110	110...120	84
220...230	230...240	80
230...240	240...260	88
380...400	400...415	85
400...415	415...440	86

Compensation contactors accessory mounting details

Contactor type	Main contacts		Auxiliary contacts		Front-mounted auxiliary contacts		Side-mounted auxiliary contacts
	NA	NK	NA	NK	1 pole CA5-.		2 pole CAL..
UA16-30-10RA	3	0	1.00	0.00		-	1xCAL5-11
UA26-30-10RA	3	0	1.00	0.00		-	1 or 2xCAL5-11
UA36-30-10RA	3	0	1.00	0.00	1xCA5-..	+	1 or 2xCAL5-11
UA50-30-00RA	3	0	0.00	0.00	1 or 2xCA5-..	+	1 or 2xCAL5-11
UA63-30-00RA	3	0	0.00	0.00			
UA75-30-00RA	3	0	0.00	0.00			
UA95-30-00RA	3	0	0.00	0.00	1 or 2xCA5-..	+	1 or 2xCAL18-11
UA110-30-00RA	3	0	0.00	0.00			

MOTOR PROTECTION SWITCHES
MS and MO series motor protection switches

MS116 series (0.1-32 A)


MS116

Thermal release AC3 (A)	Motor power (kW) (400V)	Breaking capacity Icu (kA) (400V)	Type	Code	Price (EUR)
0.1-0.16	0.03	50	MS116-0.16	1SAM250000R1001	45.34
0.16-0.25	0.06	50	MS116-0.25	1SAM250000R1002	47.63
0.25-0.4	0.09	50	MS116-0.4	1SAM250000R1003	47.63
0.4-0.63	0.12	50	MS116-0.63	1SAM250000R1004	47.63
0.63-1	0.25	50	MS116-1	1SAM250000R1005	48.40
1-1.6	0.55	50	MS116-1.6	1SAM250000R1006	48.40
1.6-2.5	0.75	50	MS116-2.5	1SAM250000R1007	48.61
2.5-4	1.5	50	MS116-4	1SAM250000R1008	48.61
4-6.3	2.2	50	MS116-6.3	1SAM250000R1009	48.40
6.3-10	4	50	MS116-10	1SAM250000R1010	52.54
8-12	5.5	25	MS116-12	1SAM250000R1012	52.97
10-16	7.5	16	MS116-16	1SAM250000R1011	55.48
16-20	7.5	15	MS116-20	1SAM250000R1013	79.57
20-25	11	15	MS116-25	1SAM250000R1014	80.99
25-32	15	10	MS116-32	1SAM250000R1015	113.60

MS132 Series (0.1-32 A)


MS132

Thermal release AC3 (A)	Motor power (kW) (400 V)	Breaking capacity Icu (kA) (400V)	Type	Code	Price (EUR)
0.1-0.16	0.03	100	MS132-0.16	1SAM350000R1001	55.15
0.16-0.25	0.06	100	MS132-0.25	1SAM350000R1002	61.48
0.25-0.4	0.09	100	MS132-0.4	1SAM350000R1003	55.15
0.4-0.63	0.12	100	MS132-0.63	1SAM350000R1004	45.02
0.63-1	0.25	100	MS132-1.0	1SAM350000R1005	54.61
1-1.6	0.55	100	MS132-1.6	1SAM350000R1006	57.23
1.6-2.5	0.75	100	MS132-2.5	1SAM350000R1007	55.15
2.5-4	1.5	100	MS132-4.0	1SAM350000R1008	55.15
4-6.3	2.2	100	MS132-6.3	1SAM350000R1009	59.41
6.3-10	4	100	MS132-10	1SAM350000R1010	62.35
8-12	5.5	100	MS132-12	1SAM350000R1012	68.13
10-16	7.5	100	MS132-16	1SAM350000R1011	80.12
16-20	7.5	100	MS132-20	1SAM350000R1013	81.42
20-25	11	50	MS132-25	1SAM350000R1014	94.61
25-32	15	50	MS132-32	1SAM350000R1015	97.88

MO132 Series (0.16-32 A)


MO132

Rated current (A)	Motor power (kW) (400 V)	Breaking capacity Icu (kA) (400V)	Type	Code	Price (EUR)
0.16	0.03	100	MO132-0.16	1SAM360000R1001	60.28
0.25	0.06	100	MO132-0.25	1SAM360000R1002	60.28
0.40	0.09	100	MO132-0.4	1SAM360000R1003	60.28
0.63	0.12	100	MO132-0.63	1SAM360000R1004	60.28
1.0	0.25	100	MO132-1.0	1SAM360000R1005	60.17
1.6	0.55	100	MO132-1.6	1SAM360000R1006	60.17
2.5	0.75	100	MO132-2.5	1SAM360000R1007	60.17
4.0	1.5	100	MO132-4.0	1SAM360000R1008	60.17
6.3	2.2	100	MO132-6.3	1SAM360000R1009	60.17
10	4	100	MO132-10	1SAM360000R1010	70.74
12	5.5	100	MO132-12	1SAM360000R1012	84.80
16	7.5	100	MO132-16	1SAM360000R1011	76.19
20	7.5	100	MO132-20	1SAM360000R1013	92.43
25	11	50	MO132-25	1SAM360000R1014	97.23
32	15	50	MO132-32	1SAM360000R1015	129.50

Note: MO132 series motor protection switches are magnetic protection only.

MOTOR PROTECTION SWITCHES
MS165 Series motor protection switches

MS165 series (30-80A) motor protection switches

	Thermal release AC3 (A)	Motor power (kW) (400 V)	Breaking capacity Icu (kA) (400V)	Type	Code	Price (EUR)
 MS165	30-42	22	50	MS165-42	1SAM451000R1015	226.60
	40-54	22	50	MS165-54	1SAM451000R1016	255.40
	52-65	30	50	MS165-65	1SAM451000R1017	274.60
	62-73	37	30	MS165-73	1SAM451000R1018	298.00
	70-80	45	30	MS165-80	1SAM451000R1019	313.80

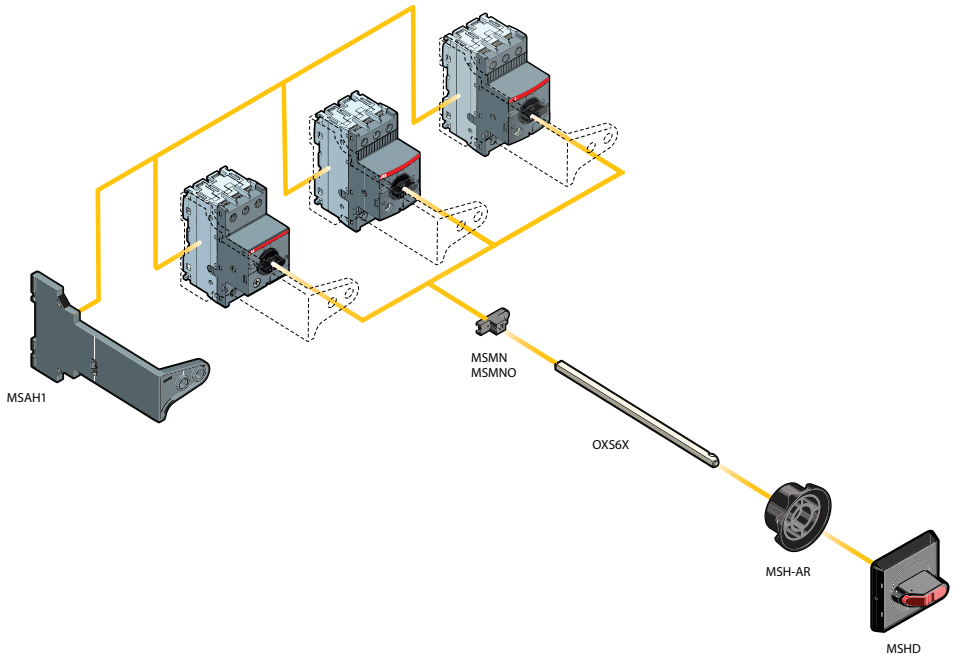
Accessories for MS116, MS132, MO132 and MS165 series

	Description		Type	Code	Price (EUR)
 HKF1-11	Auxiliary contact block - top mounted	1NA+1NK	HKF1-11	1SAM201901R1001	7.30
	Auxiliary contact block - right mounted, max. 2 pcs	1NA+1NK	HK1-11	1SAM201902R1001	8.72
		2NA	HK1-20	1SAM201902R1002	12.32
		2NK	HK1-02	1SAM201902R1003	14.39
 PS1-2-0-65	Fault signal contact - right mounted, max. 2 pcs	1NA+1NK	SK1-11	1SAM201903R1001	13.30
		2NA	SK1-20	1SAM201903R1002	16.24
	Low voltage coil - left mounted	230/240V AC	UA1-230	1SAM201904R1005	29.10
	Shunt opening release - left mounted	200-240 V AC	AA1-230	1SAM201910R1003	28.84
 S1-M1-25	Contactor connection kit, for B series mini contactor		BEA7/132	1SBN080906R1002	11.77
	3-phase bridging busbars, Ie=65 A (Side-mounted auxiliary contact is not used) (Only available with MS116, MS132, MO132 series)	For 2 motor protection switches	PS1-2-0-65	1SAM201906R1102	11.99
		For 3 motor protection switches	PS1-3-0-65	1SAM201906R1103	16.35
		For 4 motor protection switches	PS1-4-0-65	1SAM201906R1104	17.88
		For 5 motor protection switches	PS1-5-0-65	1SAM201906R1105	20.17
 S1-M2-25	3-phase supply terminals, Ie=65 A (Only available with MS116, MS132, MO132 series)	Flat type	S1-M1-25	1SAM201907R1101	12.43
		High type	S1-M2-25	1SAM201907R1102	16.35

MOTOR PROTECTION SWITCHES
Common accessories for motor protection switches

—
Accessories

	Description	Type	Code	Price (EUR)
 Rotary handle	**Shafts**			
	85 mm long shaft	OXS6X85	1SCA101647R1001	11.20
	105 mm long shaft	OXS6X105	1SCA108043R1001	11.57
	130 mm long shaft	OXS6X130	1SCA101655R1001	11.57
	180 mm long shaft	OXS6X180	1SCA101659R1001	11.20
	Note: The above shafts are suitable for MS116, MS132, MO132 and MS165 series.			
 Rotary handle	**Rotary handles (IP64)**			
	Black/red rotary handle [1]	MSHD-LB	1SAM201920R1001	29.23
	Yellow/red rotary handle [1]	MSHD-LY	1SAM201920R1002	29.23
	Black/red rotary handle [2]	MSHD-LTB	1SAM201920R1011	29.23
	Yellow/red rotary handle [2]	MSHD-LTY	1SAM201920R1012	29.23
	1) With I-O indicator and ON-OFF indicator (recommended for MS116 and MS4XX) 2) With I-O indicator and ON-OFF - TRIP indicator			
 Driver	**Drivers**			
	Drivers with coding	MSMN	1SAM101923R0002	4.11
	Drivers without coding	MSMNO	1SAM101923R0012	4.11
 Shaft alignment ring	**Shaft alignment ring**			
	Shaft alignment ring	MSH-AR	1SAM201920R1000	7.36
	Note: Should be used on shafts longer than 105 mm.			
 Shaft supporter	**Shaft supporter**			
	Shaft supporter	MSAH1	1SAM201909R1021	14.66
	Note: Should be used on shafts longer than 130 mm.			
 IP65 enclosure	**Enclosure**			
	IP65 enclosure - yellow-red	IB132-Y	1SAM201911R1011	31.94
	IP65 enclosure - black-gray	IB132-G	1SAM201911R1010	29.91
	Note: The enclosures can be padlocked in the OFF position.			



SOFTSTARTERS
Industrial benefits

ABB soft starters offer many benefits to their users. Whether for consulting firms, machine builders, switchboard manufacturers or end users, using soft starters' means safer protection, easier installation and more efficient application.



MORE
SECURE
Protection

ABB soft starters increase a motor's lifetime by protecting it from electrical stress. Starting currents are easily optimized according to the load condition, application type and motor size. More than 10 motor protection features are built-in and the motor is protected under different load and grid conditions.

EASIER
Installation

Reduces installation time and panel size with built-in product features. Thanks to its compact design and many built-in features, soft starters are very easy to install. Built-in bypass saves energy and space while reducing heat dissipation. A complete motor starting solution is provided in a single unit.

MORE
EFFICIENT
Application

The soft starter not only starts the motor but also reduces downtime in production. Our soft starters reduce mechanical stress on motors and extend motor life. Processes run at full performance with many features such as torque control, pump cleaning and motor braking.

SOFTSTARTERS
Selection guide

For more precise sizing, you can use the free soft starter selection tool by scanning the QR Code above or visiting the link below.
https://new.abb.com/drives/tr/yumusak-yolvericiler/yazilim-ve-araclar

Step	
1	**Which series should I choose?**
	ABB has 3 different soft starter series. The first step in the selection process is to decide which series is adequate for the motor and application needs. To help with this you can find the detailed specifications table below. After deciding on the series, it is necessary to check which series can meet your motor current and grid voltage. • PSR: 1…105 Amper, 208…600 V • PSE: 6…370 Amper, 208…600 V • PSTX: 9…1250 Amper, 208…600/690 V
2	**Selection of suitable products**
	Once the soft starter series has been selected, it is necessary to go to the page of that series, find the value that meets your motor current and select the right size product. For this selection, you can also look at voltage and power.
3	**Fine-tuning your choice**
	The final step is to fine-tune our choice. There are 3 values to look at for this; 1. Standard load or heavy duty load? You can use the table below for selection. If your application is heavy duty, you may need to upgrade. 2. High ambient temperature 3. High altitude

Note: If your application is more complex or has different requirements such as acceleration time, maximum starting current or the need for more than 10 starts per hour, the choice can be made with Prosoft software.

PSTX softstarter – The advanced range

- All motor protection functions and when full protection is desired
- When extensive functionality and an advanced range of soft starters are required
- If the motor is to be connected star-delta or if the grid voltage is 690V

PSE – The efficient range

- If there is limited space
- If standard functions and protections are required
- Pump applications

PSR – The compact range

- If basic functions and features are sufficient
- If small engines are used
- If up to 100 starts per hour are required

Typical applications	
Normal starting	**Heavy duty starting**
Compressor	Fan
Pump	Crusher
Conveyor (short)	Mixer
	Conveyor (long)
	Mill

Specifications	**PSR**	**PSE**	**PSTX**	
Current limiting	–	●	●	Motor safety
Ramp and dual current limiting	–	–	●	
Electronic motor overload protection	–	●	●	
Dual overload protection	–	–	●	
Low-load protection	–	●	●	
Power factor low load protection	–	–	●	
Interlocked rotor protection	–	●	●	
Current/Voltage surge protection	–	–	●	
Reverse direction protection	–	–	●	
User-defined protection	–	–	●	
Motor heating	–	–	●	
PTC/PT100 input	–	–	●	
Over/Under voltage protection	–	–	●	
Earth fault protection	–	–	●	
Internal bypass	●	●	●	Installation efficiency
Delta connection capability	–	–	●	
Graphical display and keypad	–	●	●	
Detachable keypad	–	–	●	
Motor run time and number of starts	–	–	●	
Programmable warning functions	–	–	●	
Fault definition	–	–	●	
Overload trip time	–	–	●	
Overload cooling time	–	–	●	
Analog output	–	●	●	
Fieldbus communication	O	O	●	
Event log	–	O	●	
Language	–	–	17	
Electrical meter	–	–	●	
Torque control	–	●	●	Application efficiency
Torque limiting	–	–	●	
Coated circuit board	–	●	●	
Emergency mode	–	–	●	
Low speed jog back and forward	–	–	●	
Dynamic brake	–	–	●	
Stand still brake	–	–	●	
Sequence start	–	–	●	
Full voltge start	–	–	●	
Kickstart	–	●	●	
Pump cleaning	–	–	●	

● = Standard
O = Optional
— = N/A

SOFTSTARTERS
PSR - The compact range



Technical information
- Operating voltage: 208...600 V AC
- Wide control supply voltage: 100...240 V
- AC, 50/60 Hz or 24 V AC/DC
- Rated operating current: 3...105 A Two phase controlled
- Soft start with voltage ramp
- Soft stop with voltage ramp
- Built-in bypass for energy savings and ease of installation
- Easy adjustment with three potentiometers
- Operation and end of ramp relays available for condition monitoring
- Connection kits for soft starters to ABB motor protection switches

Certifications:
- CE, cULus, CCC, EAC, ANCE, C-tick, PRS



Reduce electrical stress and protect the motor with a motor protection switch
The PSR reduces the starting current of the motor. The motor is protected against overload and short circuit thanks to the connection with the motor protection switch.



Save time and money with built-in bypass and faceplate adjustment potentiometers
With PSR's built-in bypass feature, you can save installation time and also save space in your enclosure. Adjustments can be made quickly and easily with the three potentiometers on the faceplate.



Reduce mechanical stress on the motor
Soft start and soft stop using PSR can reduce mechanical wear and damage to the motor. This contributes positively to motor service life.

PSR SERIES SOFTSTARTERS



PSR3 ... PSR16



PSR25 ... PSR30



PSR37 ... PSR45

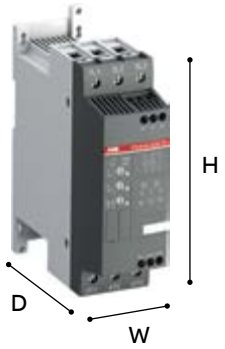


PSR60 ... PSR105

For more precise sizing, you can use the free soft starter selection tool by scanning the QR Code above or visiting the link below.
https://new.abb.com/drives/tr/yumusak-yolvericiler/yazilim-ve-araclar

Normal condition starting, trip class 10, direct connection				
Motor power P_e 400V AC (kW)	**Output current I_e (A)**	**Device type**	**Code**	**Price (EUR)**
1.5	3.9	PSR3-600-70	1SFA896103R7000	214.60
3	6.8	PSR6-600-70	1SFA896104R7000	221.80
4	9	PSR9-600-70	1SFA896105R7000	221.80
5.5	12	PSR12-600-70	1SFA896106R7000	254.20
7.5	16	PSR16-600-70	1SFA896107R7000	306.90
11	25	PSR25-600-70	1SFA896108R7000	321.30
15	30	PSR30-600-70	1SFA896109R7000	387.30
18.5	37	PSR37-600-70	1SFA896110R7000	495.20
22	45	PSR45-600-70	1SFA896111R7000	636.70
30	60	PSR60-600-70	1SFA896112R7000	786.50
37	72	PSR72-600-70	1SFA896113R7000	852.50
45	85	PSR85-600-70	1SFA896114R7000	1,062.00
55	105	PSR105-600-70	1SFA896115R7000	1,161.00

PSR Dimensions and weight				
Frame type	**H (mm)**	**W (mm)**	**D (mm)**	**Weight (kg)**
PSR3...16	140	45	113.5	0.45
PSR25...30	160	45	128	0.65
PRS37...45	187	54	153	1.0
PSR60...105	220	70	180	2.27



SOFTSTARTERS
PSE - The efficient range



Technical information
- Operating voltage: 208...600 V AC
- Wide rated control supply voltage: 100...250 V AC, 50/60 Hz
- Rated operating current: 18...370 A Two phase controlled
- Voltage ramp and torque control at start and stop
- Current limiting
- Kickstart
- Energy and space saving built-in bypass
- Varnished circuit board suitable for use in corrosive and dusty environments
- Graphical display with backlight and easy to adjust settings with symbols only
- Optional external keypad IP66 (Type 1, 4X,12)
- Analog output for motor current display
- Electronic thermal protection
- Low-load protection
- Interlocked rotor protection

Communication protocols:
- Modbus RTU

Certifications:
- CE, cULus, CCC, EAC, ANCE, C-tick, ABS, DNV GL, Lloyd's Register, CCS, PRS, Class NK

Basic motor protection and current limiting
PSE has many protection functions for pumps that can be used in different load situations. For example, overload and underload protection. The current limiting feature allows you to start and control the motor more efficiently in poor grid conditions.

Built-in bypass that saves time and money and compact product design
PSE series includes bypass which saves time and space during installation. Keypad and display have no language options as icons are shown graphically. Compact product design speeds up installation and makes it very easy.

Torque control feature that prevents water damage in pump systems
It is the most efficient way to start and stop a torque controlled pump. PSE has a special torque stop ramp, developed in collaboration with pump manufacturers, which optimally prevents water damage.

PSE SERIES SOFT STARTERS


1SFC132001V0001

PSE18 ... PSE105


1SFC132002V0001

PSE142 ... PSE170


1SFC132003V0001

PSE210 ... PSE370

For more precise sizing, you can use the free soft starter selection tool by scanning the QR Code above or visiting the link below.
https://new.abb.com/drives/tr/yumusak-yolvericiler/yazilim-ve-araclar

Normal condition starting, trip class 10, direct connection				
Motor power P_e 400V AC (kW)	**Output current I_e (A)**	**Device type**	**Code**	**Price (EUR)**
7.5	18	PSE18-600-70	1SFA897101R7000	1,041.00
11	25	PSE25-600-70	1SFA897102R7000	1,080.00
15	30	PSE30-600-70	1SFA897103R7000	1,114.00
18.5	37	PSE37-600-70	1SFA897104R7000	1,147.00
22	45	PSE45-600-70	1SFA897105R7000	1,182.00
30	60	PSE60-600-70	1SFA897106R7000	1,216.00
37	72	PSE72-600-70	1SFA897107R7000	1,324.00
45	85	PSE85-600-70	1SFA897108R7000	1,486.00
55	106	PSE105-600-70	1SFA897109R7000	1,553.00
75	143	PSE142-600-70	1SFA897110R7000	2,566.00
90	171	PSE170-600-70	1SFA897111R7000	3,161.00
110	210	PSE210-600-70-1	1SFA897112R7001	3,268.00
132	250	PSE250-600-70-1	1SFA897113R7001	3,715.00
160	300	PSE300-600-70-1	1SFA897114R7001	3,938.00
200	370	PSE370-600-70-1	1SFA897115R7001	4,626.00

PSE Dimensions and weight				
Frame type	**H (mm)**	**W (mm)**	**D[1] (mm)**	**Weight (kg)**
PSE18...60	245	90	185.5	2.4
PSE72...105	245	90	185.5	2.5
PSE142...170	295	130	219.5	4.2
PSE210	550	190	236.5	12.4
PSE210...370	550	190	236.5	13.9

[1] Note: Panel included



SOFTSTARTERS
PSTX - Advanced range



Technical information
- Operating voltage 208-600 V AC or 208-690 V AC
- Wide rated control supply voltage: 100 – 250 V, 50/60 Hz
- PSTX rated operating current: 30 to 1250A (delta: 2160A) 3 phase controlled
- Direct and delta connection
- Varnished electronic boards against moisture, dust and corrosive effects
- Detachable keypad IP66 (Type 1, 4X,12)
- Graphical display with easy adjustment and 17 different language options
- Built-in bypass that speeds up installation and saves energy
- Built-in Modbus RTU for control and monitoring
- Compatibility with all basic communication protocols
- Analog output for measurement of current, voltage, power factor, etc.

Communication protocols:
- Standard built-in: Modbus RTU
- Anybus:
  - MODBUS RTU
  - PROFIBUS
  - DeviceNet
  - EtherNet/IP
  - PROFINET

Certifications:
- CE, cULus, CCC, EAC, ANCE, C-tick, ABS, DNV GL, Lloyd's Register, CCS, PRS, Class NK



Full motor protection
The PSTX provides complete motor protection against load and network disturbances in a single unit. PT-100 protects your motors in the safest way with many protection functions such as earth fault protection and over/under voltage.



Time and energy saving with built-in bypass
When the motor reaches the rated speed, the PSTX activates its bypass. This reduces the heat dissipation of the soft starter and saves energy. With the built-in bypass feature of the PSTX, it is possible to reduce installation time and save space in your cabinets.



Full control of pumps
Time to use pump processes to their full potential. PSTX has special application features such as torque control, the most efficient way to start and stop pumps. The pump cleaning feature reverses the direction of pump rotation, cleans piping and increases operational safety.

PSTX SERIES SOFTSTARTERS

For more precise sizing, you can use the soft starter selection tool for free by scanning the QR code above or by visiting the link below.
https://new.abb.com/drives/tr/yumusak-yolvericiler/yazilim-ve-araclar



PSTX30 ... PSTX105



PSTX142 ... PSTX170



PSTX210 ... PSTX370



PSTX470 ... PSTX570



PSTX720 ... PSTX840



PSTX1050 ... PSTX1250

Normal condition starting, class 10 (class10)

Direct connection		Delta connection		Device type	Code	Price (EUR)
Motor power 400V AC (kW)	Output current (A)	Motor power 400V AC (kW)	Output current (A)			
15	30	25	52	PSTX30-600-70	1SFA898103R7000	1,444.00
18.5	37	30	64	PSTX37-600-70	1SFA898104R7000	1,596.00
22	45	37	76	PSTX45-600-70	1SFA898105R7000	1,689.00
30	60	55	105	PSTX60-600-70	1SFA898106R7000	1,935.00
37	72	59	124	PSTX72-600-70	1SFA898107R7000	2,029.00
45	85	75	147	PSTX85-600-70	1SFA898108R7000	2,477.00
55	106	90	181	PSTX105-600-70	1SFA898109R7000	2,884.00
75	143	132	245	PSTX142-600-70	1SFA898110R7000	3,561.00
90	171	160	300	PSTX170-600-70	1SFA898111R7000	4,374.00
110	210	184	360	PSTX210-600-70	1SFA898112R7000	4,916.00
132	250	220	430	PSTX250-600-70	1SFA898113R7000	5,279.00
160	300	257	515	PSTX300-600-70	1SFA898114R7000	6,626.00
200	370	355	640	PSTX370-600-70	1SFA898115R7000	8,023.00
250	470	450	814	PSTX470-600-70	1SFA898116R7000	10,539.00
315	570	540	987	PSTX570-600-70	1SFA898117R7000	12,889.00
400	720	710	1247	PSTX720-600-70	1SFA898118R7000	15,658.00
450	840	800	1455	PSTX840-600-70	1SFA898119R7000	17,203.00
560	1050	1000	1810	PSTX1050-600-70	1SFA898120R7000	20,357.00
710	1200	1200	2160	PSTX1250-600-70	1SFA898121R7000	23,550.00

—

Options

	Device type	Code	Price (EUR)
PSTX30 ... Anybus communication modules compatible with PSTX1250 series			
Profibus	AB-PROFIBUS-1	1SFA899300R1001	573.90
DeviceNet	AB-DEVICENET-1	1SFA899300R1002	573.90
Modbus-RTU	AB-MODBUS-RTU-1	1SFA899300R1003	573.90
EtherNet/IP (2-port)	AB-ETHERNET-IP-2	1SFA899300R1006	803.50
Modbus/TCP (2-port)	AB-MODBUS-TCP-2	1SFA899300R1008	803.50
Profinet (2-port)	AB-PROFINET-IO-2	1SFA899300R1010	803.50

PSTX Dimensions and weight

Frame type	H (mm)	W (mm)	D[1] (mm)	Weight (kg)
PSTX30...105	314	150	197.5	6.10
PSTX142...170	377	199	283.3	9.60
PSTX210...370	470	258	279.1	12.70
PSTX470...570	493	361	282.15	25.00
PSTX720...840	493	435	369	46.20
PSTX1050	515	435	369	64.20
PSTX1250	565	435	369	64.70

1) Panel included



ENCLOSED STARTERS FOR THREE-PHASE MOTORS
DRAS, DRASL series enclosed DOL starters

DRAS, DRASL series enclosed DOL starters	Rated motor power (kw), AC3 220 V	400 V	500 V	Rated Current(A) θ≤40°C Ue=400 V	Control voltage (V)	Thermal relay to be used together*	Type	Code	Price (EUR)
	AC control voltage - AS contactor								
 DRAS	2,2	4	4	9,00	24V AC	T16	DRAS09-20S	1SBK104235R2000	74.23
					230VAC	T16	DRAS09-26N	1SBK104135R2600	61.59
	3	6	6	12,00	24V AC	T16	DRAS12-20S	1SBK114235R2000	86.44
					230V AC	T16	DRAS12-26N	1SBK114135R2600	86.44
	4	8	8	15,50	24V AC	T16	DRAS16-20S	1SBK124235R2000	99.08
					230V AC	T16	DRAS16-26N	1SBK124135R2600	74.23
	DC control voltage - ASL contactor								
	2,2	4	4	9,00	24V DC	T16	DRASL09-81S	1SBK104335R8100	84.26
	3	6	6	12,00	24V DC	T16	DRASL12-81S	1SBK114335R8100	98.54
	4	8	8	15,50	24V DC	T16	DRASL16-81S	1SBK124335R8100	113.50

T16 series thermal relays (for AS/ASL and B6/B7 series)	Current adjustment range (A)	Contactor type to be used together	Type	Code	Price (EUR)
 T16	0.10-0.13	AS/ASL-B6/B7	T16-0.13	1SAZ711201R1005	40.44
	0.13-0.17	AS/ASL-B6/B7	T16-0.17	1SAZ711201R1008	40.44
	0.17-0.23	AS/ASL-B6/B7	T16-0.23	1SAZ711201R1009	38.70
	0.23-0.31	AS/ASL-B6/B7	T16-0.31	1SAZ711201R1013	40.44
	0.31-0.41	AS/ASL-B6/B7	T16-0.41	1SAZ711201R1014	40.44
	0.41-0.55	AS/ASL-B6/B7	T16-0.55	1SAZ711201R1017	40.44
	0.55-0.74	AS/ASL-B6/B7	T16-0.74	1SAZ711201R1021	40.44
	0.74-1	AS/ASL-B6/B7	T16-1.0	1SAZ711201R1023	40.44
	1-1.3	AS/ASL-B6/B7	T16-1.3	1SAZ711201R1025	38.70
	1.3-1.7	AS/ASL-B6/B7	T16-1.7	1SAZ711201R1028	38.70
	1.7-2.3	AS/ASL-B6/B7	T16-2.3	1SAZ711201R1031	33.03
 DB16	2.3-3.1	AS/ASL-B6/B7	T16-3.1	1SAZ711201R1033	39.79
	3.1-4.2	AS/ASL-B6/B7	T16-4.2	1SAZ711201R1035	36.19
	4.2-5.7	AS/ASL-B6/B7	T16-5.7	1SAZ711201R1038	30.19
	5.7-7.6	AS/ASL-B6/B7	T16-7.6	1SAZ711201R1040	35.97
	7.6-10	AS/ASL-B6/B7	T16-10	1SAZ711201R1043	39.79
	10-13	AS/ASL-B6/B7	T16-13	1SAZ711201R1045	35.97
	13-16	AS/ASL-B6/B7	T16-16	1SAZ711201R1047	36.19

Stand-alone mounting kit for T16 series thermal relay	Thermal type to be used together	Type	Code	Price (EUR)
	T16	DB16	1SAZ701901R0001	16.35



ABB Cylon®
Intelligent Building Solutions

ABB Cylon® products are manufactured and developed for a wide variety of connected Building Energy Management Solutions, scalable for automation and energy control of any size commercial or industrial building. ABB Cylon® offers solutions according to the needs of each facility with its open protocol application, the use of common and secure internet standards and daily developing R&D studies.

https://new.abb.com/low-voltage/tr/products/akilli-bina-cozumleri/product-range/abb-cylon



UNIVERSAL MOTOR PROTECTION AND CONTROL SYSTEM
UMC100.3 Take motor control to the next level



UMC100.3 by applications

Cement factories: Robust and compact design, multiple inputs/outputs
Oil/chemical/gas industries: Programmable function blocks, detection against voltage drops, protection against hazardous-explosive atmospheres with ATEX
Paper industry: Communication functions, coated version
Mining: Rated motor voltage up to 1000 V, available up to 5000 m, ground fault monitoring
Water industry: Pump control, 2x fast low load detection, pump cleaning ..and more!

Parameters
- All the necessary functions for quick setup at your fingertips! The UMC100.3 can be easily configured via the operator panel or from a PC with the FIM UMC Edition software. With the software you can also design motor control functions according to your application.

Monitoring
- Monitor current, voltage, motor status and many more relevant data! You can review error messages and warnings for comprehensive diagnostics.

Motor control
- Ready control functions: direct, reverse, star-delta, Dahlander, soft-start
- Programmable control functions with FIM UMC Edition: Create your own logic with easy function blocks!
- Jog (low speed) mode

Motor protection
- Overload protection of single and three-phase AC motors according to EN/IEC 60947-4-1
- Rated motor current 0.24...63 A with internal measuring system & up to 850 A with current transformer CT4L/CT5L
- Selectable overload classes: 5E, 10E, 20E, 30E or 40E
- Interlocked rotor protection, thermistor motor protection, phase loss/asymmetry/sequence protection, over-/under-voltage protection, earth fault detection (internal or with CEM11 sensors), voltage related protection (with VI150/VI155-FBP.0)

Functioning
- With the operating mode you can easily test your installation! You can access commands such as start, stop, reset error and important data.

Data
- Motor start and stop times, motor status, motor current, thermal load, maximum starting current, energy, number of starts, number of overload trips, detailed error messages and warnings...

UNIVERSAL MOTOR CONTROL SYSTEM

	Control voltage	Type	Code	Price (EUR)
 UMC100.3	**UMC 100.3 main module**			
	24V DC	UMC100.3 DC	1SAJ530000R0100	1,271.00
	100-240V AC/DC	UMC100.3 UC	1SAJ530000R1100	1,271.00

*Please ask for coated and ATEX versions.

	Control voltage	Identification	Type	Code	Price (EUR)
	Expansion modules				
 DX111	24 V DC	Digital I/O (8DI/4DO/1AO)	DX111	1SAJ611000R0102	812.20
	100-240 V AC/DC	Digital I/O (8DI/4DO/1AO)	DX122	1SAJ622000R0102	983.70
	24 V DC	Voltage module (grounded systems)	VI150	1SAJ650000R0101	563.70
 VI150-155	24 V DC	Voltage module (grounded and ungrounded systems)	VI155	1SAJ655000R0101	711.70
	-	UMC100.3 to expansion module cable, 0.3 meters	UMCIO-CAB.030	1SAJ691000R0001	35.60
	-	Expansion module to Expansion module cable, 0.3 meters	IOIO-CAB.030	1SAJ692000R0001	35.60

Communications modules	Description	Type	Code	Price (EUR)
	FieldBus communication modules			
 MRP31-PDP32  MTQ22-PNQ22	Profibus-DP	PDP32	1SAJ242000R0001	772.20
	Modbus RTU	MRP31	1SAJ251000R0001	705.00
	Ethernet communication modules			
	Modbus TCP	MTQ22	1SAJ260000R0100	1,910.00
	Profinet IO	PNQ22	1SAJ261000R0100	1,910.00

Earth residual current sensors	Sensor diameter Ø	Current range	Type	Code	Price (EUR)
 CEM11	20 mm	80 - 1.700 mA	CEM11-FBP.20	1SAJ929200R0020	601.90
	35 mm	100 - 3.400 mA	CEM11-FBP.35	1SAJ929200R0035	628.30
	60 mm	120 - 6.800 mA	CEM11-FBP.60	1SAJ929200R0060	653.50
	120 mm	300 - 13.600 mA	CEM11-FBP.120	1SAJ929200R0120	1,344.00

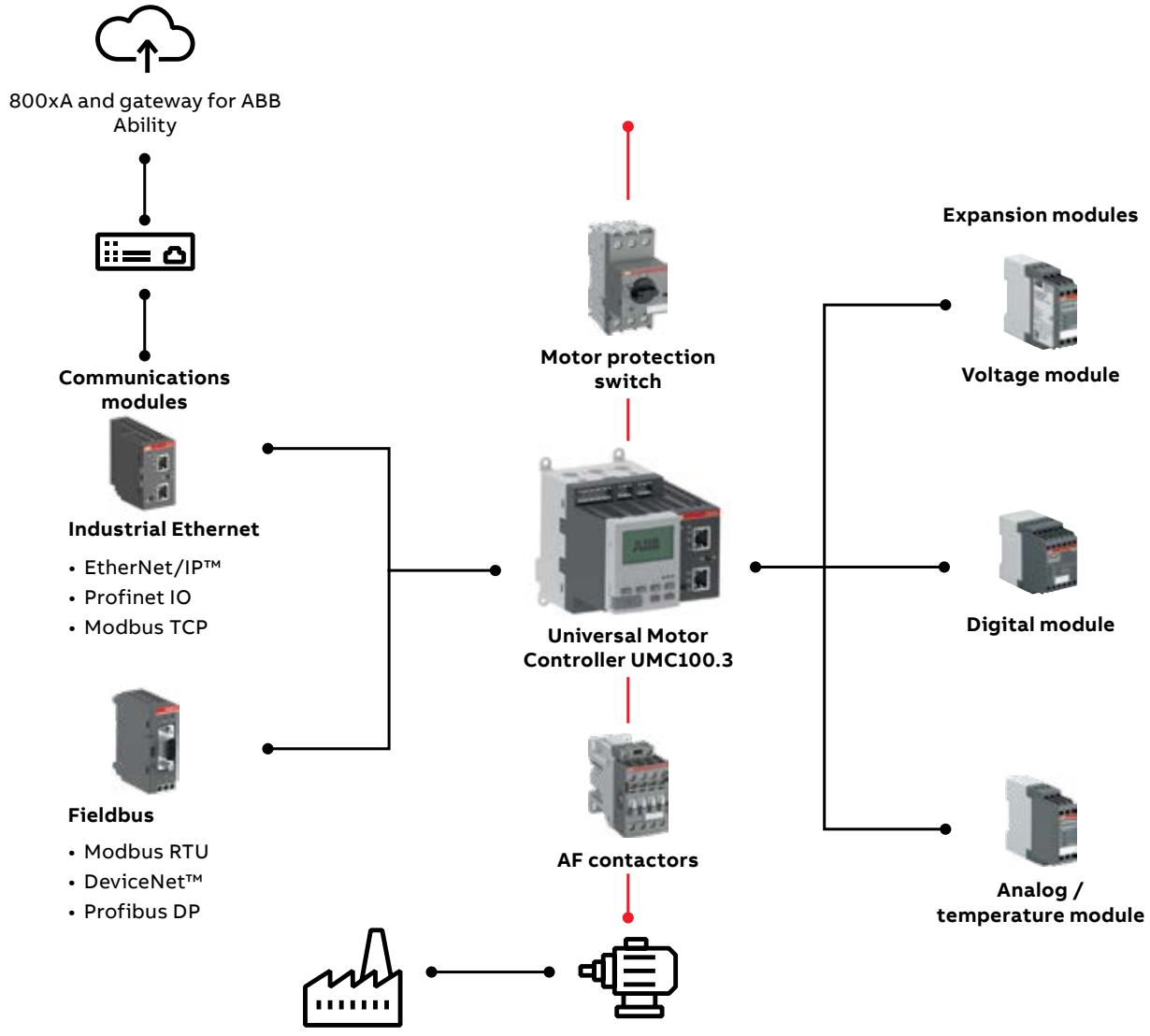
Current transformers	Description	Current range	Type	Code	Price (EUR)
 CT4L-CT5L	Current transformer for applications with rated motor current greater than 63A	60…185 A	CT4L 185 R/4	1SAJ929500R0185	636.70
		180…310 A	CT4L 310 R/4	1SAJ929500R0310	762.60
		300…500 A	CT5L 500 R/4	1SAJ929501R0500	1,053.00
		500…850 A	CT5L 850 R/4	1SAJ929501R0850	1,135.00

UNIVERSAL MOTOR CONTROL SYSTEM

Accessories	Description	Type	Code	Price (EUR)
	Ethernet interface to UMC100.3 cable, 1.5 m	CDP23.150	1SAJ929230R0015	133.10
	Ethernet interface to UMC100.3 cable, 3 m	CDP23.300	1SAJ929230R0030	143.90
	UMC100-PAN control panel			
	Control panel extension cable, 0.7 m	UMC-CAB.070	1SAJ510003R0002	131.90
	Control panel extension cable, 1.5 m	UMC-CAB.150	1SAJ510004R0002	169.10
	Control panel extension cable, 3 m	UMC-CAB.300	1SAJ510002R0002	191.80
 UMC100-PAN	LCD control panel (USB port)	UMC100-PAN	1SAJ590000R0103	563.50

Software	Description	Type	Code	Price (EUR)
	UMC software package	FIM UMC Edition	1SAJ925000R0001	4,815.00

* Standard micro USB cable is required for connection between UMC100.3 and PC.



CP SERIES POWER SUPPLIES

ABB's modern CP series power supplies are the ideal solution for energy and automation technology applications. Its wide product family fully meets the needs of its users:

CP-D
CP-D series power supplies are suitable for use in all distribution and automation switchgear with their modular DIN rail design. Models with output voltage 12 VDC and 24VDC and output current from 0.42 A to 4.2 A have high thermal endurance and high energy efficiency.

CP-E
The CP-E series power supplies have a wide range of output voltages from 5 VDC to 48 VDC and output currents from 0.625A to 20A. All power supplies can operate up to +70°C ambient temperature.

CP-S.1
High efficiency and reliability in a compact design. Designed for a wide range of applications, including OEMs, this advanced series increases internal power reserve by 150% for five seconds and operates at up to 94% efficiency. With overheat protection, active power factor correction, wide certified AC and DC input range and extensive worldwide approvals including marine, the all-new CP-S.1 power supplies are the preferred choice for a wide range of industrial applications.

CP-T
The CP-T product series, the latest in ABB's power supply family, can be supplied in three-phase. The output currents of the products offered as 24 VDC, 48 VDC are 5A, 10A, 20A and 40A.

CP-C.1
The CP-C.1 series is characterized by high efficiency and reliability in industrial applications. This advanced series features 150% power reserve. It also offers 94% efficiency with overheat protection and active power factor correction functions. Models suitable for use in hazardous environments are available with ATEX and IECEx approvals.



PRIMARY SWITCH MODE POWER SUPPLIES

Single-phase switching power supplies (100-240 V AC input)

		Output voltage	Output current	Type	Code	Price (EUR)
		CP-D Series				
 CP-D 24/2.5	 CP-D 12/0.83	24 V DC	0.42 A	CP-D 24/0.42	1SVR427041R0000	53.08
		24 V DC	1.3 A	CP-D 24/1.3	1SVR427043R0100	86.11
		24 V DC	2.5 A	CP-D 24/2.5	1SVR427044R0200	104.60
		24 V DC	4.2 A	CP-D 24/4.2	1SVR427045R0400	146.30
		12 V DC	0.83 A	CP-D 12/0.83	1SVR427041R1000	51.88
		12 V DC	2.1 A	CP-D 12/2.1	1SVR427043R1200	85.13
		CP-E Series				
		24 V DC	0.75 A	CP-E 24/0.75	1SVR427030R0000	69.54
		24 V DC	1.25 A	CP-E 24/1.25	1SVR427031R0000	91.78
 CP-E 24/0.75		24 V DC	2.5 A	CP-E 24/2.5	1SVR427032R0000	104.30
		24 V DC	5 A	CP-E 24/5.0	1SVR427034R0000	154.70
		24 V DC	10 A	CP-E 24/10.0	1SVR427035R0000	235.00
		24 V DC	20 A	CP-E 24/20.0	1SVR427036R0000	429.20
		5 V DC	3 A	CP-E 5/3.0	1SVR427033R3000	74.77
		12 V DC	2.5 A	CP-E 12/2.5	1SVR427032R1000	94.39
		48 V DC	0.62 A	CP-E 48/0.62	1SVR427030R2000	117.20
		48 V DC	1.25 A	CP-E 48/1.25	1SVR427031R2000	135.50
		CP-C.1 Series				
 *CP-C.1		24 V DC	5 A	CP-C.1 24/5.0	1SVR360563R1001	372.90
		24 V DC	10 A	CP-C.1 24/10.0	1SVR360663R1001	497.60
		24 V DC	20 A	CP-C.1 24/20.0	1SVR360763R1001	745.80
		CP-S.1 Series				
 *CP-S.1		24 V DC	3 A	CP-S.1 24/3.0	1SVR320361R1000	178.10
		24 V DC	5 A	CP-S.1 24/5.0	1SVR320561R1000	219.20
		24 V DC	10 A	CP-S.1 24/10.0	1SVR320661R1000	382.20
		24 V DC	20 A	CP-S.1 24/20.0	1SVR320761R1000	550.80
		24 V DC	40 A	CP-S.1 24/40.0	1SVR320861R1000	1,031.00

* 2 serial and 5 parallel connections possible
* 150% power boost (power reserve)
* Coated and ATEX approved versions available

Three-phase switching power supplies (3 x 400-500 V AC input)

	Output voltage	Output current	Type	Code	Price (EUR)
	CP-T Series				
 CP-T	24 V DC	5 A	CP-T 24/5.0	1SVR427054R0000	184.60
	24 V DC	10 A	CP-T 24/10.0	1SVR427055R0000	300.90
	24 V DC	20 A	CP-T 24/20.0	1SVR427056R0000	472.40
	24 V DC	40 A	CP-T 24/40.0	1SVR427057R0000	790.10
	48 V DC	5 A	CP-T 48/5.0	1SVR427054R2000	326.10
	48 V DC	10 A	CP-T 48/10.0	1SVR427055R2000	510.80
	48 V DC	20 A	CP-T 48/20.0	1SVR427056R2000	820.10

- 2 serial and 2 parallel connections possible except CP-T 24/5.0

CR-S SERIES PLUG-IN PLC INTERFACE RELAYS

—

CR-S plug-in PLC interface relays

	Control voltage	Type	Code	Price (EUR)
 CR-S screw	**Screw connection, 1A/K (1 SPDT), 250V 6A**			
	24V AC/DC	CR-S024VADC1CRS	1SVR405541R3110	15.70
	110V AC/DC	CR-S110VADC1CRS	1SVR405541R6110	22.78
	230V AC/DC	CR-S230VADC1CRS	1SVR405541R7110	20.17
 CR-S Spring	**Spring connection, 1A/K (1 SPDT), 250V 6A**			
	24V AC/DC	CR-S024VADC1CRZ	1SVR405541R3210	18.86
	110V AC/DC	CR-S110VADC1CRZ	1SVR405541R6210	24.42
	230V AC/DC	CR-S230VADC1CRZ	1SVR405541R7210	24.42

CR-S SERIES REPLACEMENT AND ACCESSORIES

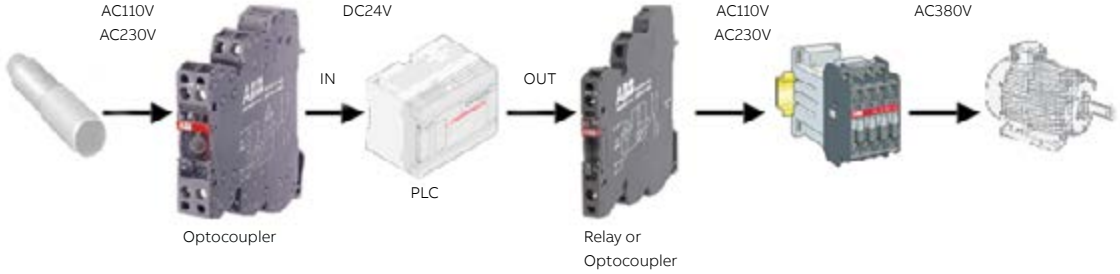
	Description	Type	Code	Price (EUR)
Replacement relays	5 V DC	CR-S005VDC1R	1SVR405501R1010	6.76
	12 V DC	CR-S012VDC1R	1SVR405501R2010	6.76
	24 V DC	CR-S024VDC1R	1SVR405501R3010	6.76
	48 V DC	CR-S048VDC1R	1SVR405501R4010	8.61
	60 V DC	CR-S060VDC1R	1SVR405501R5010	10.90
Replacement sockets	**Screw sockets**			
	6-24V DC	CR-S006/024VDC1SS	1SVR405521R1100	11.99
	12-24V DC	CR-S012/024VADC1SS	1SVR405521R3100	11.99
	48-60V DC	CR-S048/060VADC1SS	1SVR405521R5100	12.43
	110-125V DC	CR-S110/125VADC1SS	1SVR405521R6100	12.32
	220-240V DC	CR-S220/240VADC1SS	1SVR405521R7100	12.32
	Spring sockets			
	6-24V DC	CR-S006/024VDC1SZ	1SVR405521R1200	13.30
	12-24V DC	CR-S012/024VADC1SZ	1SVR405521R3200	13.52
	48-60V DC	CR-S048/060VADC1SZ	1SVR405521R5200	13.52
	110-125V DC	CR-S110/125VADC1SZ	1SVR405521R6200	16.35
	220-240V DC	CR-S220/240VADC1SZ	1SVR405521R7200	16.35
Accessories	20 poles, black bridge	CR-SJB20-BLACK	1SVR405598R0900	4.58
	20 poles, blue bridge	CR-SJB20-BLUE	1SVR405598R0700	4.58
	20 poles, red bridge	CR-SJB20-RED	1SVR405598R0800	4.58
	Separator plate	CR-SSEP	1SVR405599R0000	1.85

Note: There are 48 labels in 1 sheet and 1344 labels in 1 box.

R600 SERIES FIXED PLC INTERFACE RELAYS AND OPTOCOUPLERS

R600 series relay and optocouplers

	Description	Type	Code	Price (EUR)
 R600 PLC relay	**R600 PLC interface relay series**			
	1SPDT contact 10mA-6A	RB121-24VDC	1SNA645071R0000	18.75
	1SPDT contact 10mA-6A	RB121A 24V AC/DC	1SNA645001R0300	22.35
	1SPDT contact 10mA-6A	RB121A 48-60V AC/DC	1SNA645002R0400	29.21
	1SPDT contact 10mA-6A	RB121A 115V AC/DC	1SNA645003R0500	34.23
	1SPDT contact 10mA-6A	RB121A 230V AC/DC	1SNA645004R0400	33.25
 R600 optocoupler	**R600 series optocouplers**			
	5-58V DC output / 100mA transistor	OBIC0100 24V DC	1SNA645021R2600	41.20
	5-58V DC output / 100mA transistor	OBIC0100 48-60V AC/DC	1SNA645049R1200	45.67
	5-58V DC output / 100mA transistor	OBIC0100 115/230V AC/DC	1SNA645022R2700	49.92
	5-58V DC output / 2A Triac	OBOC1000 24V DC	1SNA645051R0400	54.06
	5-58V DC output / 2A Triac	OBOC1000 48-60V AC/DC	1SNA645053R0600	64.53
	5-58V DC output / 2A Triac	OBOC1000 115V AC/DC	1SNA645054R0700	58.32
	5-58V DC output / 2A Triac	OBOC1000 230V AC/DC	1SNA645026R2300	59.62



PLUG-IN RELAYS

PCB relays

	Description	Control voltage	Minimum order quantity	Type	Code	Price (EUR)
 PCB relay	**Contact : 1A/K**	24 V DC	10	CR-P024DC1	1SVR405600R1000	4.03
	5-pin, 250V AC, 16 A	24 V AC	10	CR-P024AC1	1SVR405600R0000	5.89
		48 V DC	10	CR-P048DC1	1SVR405600R6000	6.32
		230 V AC	10	CR-P230AC1	1SVR405600R3000	10.36
	Contact : 2A/K	24 V DC	10	CR-P024DC2	1SVR405601R1000	5.67
	8-pin, 250V AC, 8 A	24 V AC	10	CR-P024AC2	1SVR405601R0000	6.65
		48 V DC	10	CR-P048DC2	1SVR405601R6000	7.30
		230 V AC	10	CR-P230AC2	1SVR405601R3000	10.25

Miniature relays

	Description	Control voltage	Minimum order quantity	Type	Code	Price (EUR)
 Miniature relay	**Contact : 3A/K**	24 V DC	10	CR-M024DC3	1SVR405612R1000	9.48
	11-pin, 250V AC, 10 A	24 V AC	10	CR-M024AC3	1SVR405612R0000	9.48
		48 V DC	10	CR-M048DC3	1SVR405612R6000	13.84
		230 V AC	10	CR-M230AC3	1SVR405612R3000	10.68
	Contact : 4A/K	24 V DC	10	CR-M024DC4	1SVR405613R1000	9.70
	14-pin, 250V AC, 6 A	24 V AC	10	CR-M024AC4	1SVR405613R0000	9.48
		48 V DC	10	CR-M048DC4	1SVR405613R6000	14.39
		230 V AC	10	CR-M230AC4	1SVR405613R3000	11.23

PLUG-IN RELAYS

Miniature relays


Miniature relay

Description	Control voltage	Minimum order quantity	Type	Code	Price (EUR)
Kontak: 2 A/K: 250V AC 7A	24V DC	300	CR-MX024DC2T	1SVR405641R1000	8.98
	24V AC	300	CR-MX024AC2T	1SVR405641R0000	9.46
	48V DC	300	CR-MX048DC2T	1SVR405641R6000	9.50
	230V AC	300	CR-MX230AC2T	1SVR405641R3000	9.84
Kontak: 4 A/K: 250V AC 5A	24V DC	300	CR-MX024DC4T	1SVR405643R1000	9.03
	24V AC	300	CR-MX024AC4T	1SVR405643R0000	9.87
	48V DC	300	CR-MX048DC4T	1SVR405643R6000	9.94
	230V AC	300	CR-MX230AC4T	1SVR405643R3000	10.37

Universal relays


Universal relay

Description	Control voltage	Minimum order quantity	Type	Code	Price (EUR)
Contact : 2A/K 8-pin, 250V AC, 10 A	24V DC	10	CR-U024DC2	1SVR405621R1000	13.95
	24V AC	10	CR-U024AC2	1SVR405621R0000	20.17
	48V DC	10	CR-U048DC2	1SVR405621R6000	20.17
	230V AC	10	CR-U230AC2	1SVR405621R3000	14.82
Contact : 3A/K 11-pin, 250V AC, 10 A	24V DC	10	CR-U024DC3	1SVR405622R1000	13.30
	24V AC	10	CR-U024AC3	1SVR405622R0000	20.71
	48V DC	10	CR-U048DC3	1SVR405622R6000	13.84
	230V AC	10	CR-U230AC3	1SVR405622R3000	16.68

Sockets


CR - PSS


CR - MxSS

Description	Number of contacts	Terminal	Type	Code	Price (EUR)
PCB socket for relay	1 or 2 A/K	Screw	CR-PSS	1SVR405650R1000	4.69
PCB socket for relay	1 or 2 A/K	Spring	CR-PLP	1SVR405650R0310	9.54
Socket for miniature relay	3A/K	Screw	CR-M3SS	1SVR405651R2000	6.65
Socket for miniature relay	4A/K	Screw	CR-M4SS	1SVR405651R3000	7.19
Socket for miniature relay	4A/K	Spring	CR-M4LP	1SVR405651R6110	10.65
Socket for universal relay	2A/K	Screw	CR-U2S	1SVR405670R0000	6.00
Socket for universal relay	3A/K	Screw	CR-U3S	1SVR405660R0000	7.41

Sockets

NEW PRODUCT



Description	Number of contacts	Terminal	Type	Code	Price (EUR)
Socket for miniature relay	2 A/K	Fork type	CR-M2SFB	1SVR405651R1400	5.69
Socket for miniature relay	4 A/K	Fork type	CR-M4SFB	1SVR405651R3400	5.69

It can only be used with miniature relays that start with the CR-MX code.

Accessories



Description	Type	Code	Price (EUR)
Plastic holder for CR-P relay	CR-PH	1SVR405659R0000	0.33
Plastic holder for CR-M relay	CR-MH	1SVR405659R1000	0.76
Metal holder for CR-U relay	CR-UH	1SVR405669R0000	3.38
LED diode for CR-P/M relays 6-24 V DC	CR-P/M 42	1SVR405652R0000	3.27
Varistor for CR-P/M relays 110-230 V AC/DC	CR-P/M 92C	1SVR405655R0100	4.03

INDUSTRIAL ELECTRONIC CONTROL RELAYS

Single phase, over/under current control relays


CM-SRS.12S

Type	Control voltage	Measurement range AC/DC	Number of contacts	Code	Price (EUR)
No time setting					
CM-SRS.11S	24-240 V AC/DC	3mA - 1A	1 A/K	1SVR730840R0200	293.80
CM-SRS.11S	220-240V AC	3mA - 1A	1 A/K	1SVR730841R1200	245.80
CM-SRS.12S	24-240V AC/DC	0,3A - 15A	1 A/K	1SVR730840R0300	293.80
CM-SRS.12S	220-240V AC	0,3A - 15A	1 A/K	1SVR730841R1300	245.80
Time setting (adjustable switch-on delay between 0 or 0.1-30 s)					
CM-SRS.21S	24-240V AC/DC	3mA - 1A	2 A/K	1SVR730840R0400	317.70
CM-SRS.21S	220-240V AC	3mA - 1A	2 A/K	1SVR730841R1400	207.40
CM-SRS.22S	24-240V AC/DC	0,3A - 15A	2 A/K	1SVR730840R0500	317.70
CM-SRS.22S	220-240V AC	0,3A - 15A	2 A/K	1SVR730841R1500	272.20
Multifunctional (adjustable switch-on delay between 0 or 0.1-30 s)					
CM-SRS.M1S	24-240V AC/DC	3mA - 1A	2 A/K	1SVR730840R0600	345.30
CM-SRS.M2S	24-240V AC/DC	0,3A - 15A	2 A/K	1SVR730840R0700	345.30

Single phase, over-/under-voltage monitoring relays


CM-ESS.2S

Type	Control voltage	Measurement range AC/DC	Description	Code	Price (EUR)
No time setting					
CM-ESS.1S	24-240V AC/DC	3-600 V AC/DC	1 A/K	1SVR730830R0300	261.40
CM-ESS.1S	220-240V AC	3-600 V AC/DC	1 A/K	1SVR730831R1300	245.80
Time setting (adjustable switch-on delay between 0 or 0.1-30 s)					
CM-ESS.2S	24-240V AC/DC	3-600 V AC/DC	2 A/K	1SVR730830R0400	245.80
CM-ESS.2S	220-240V AC	3-600 V AC/DC	2 A/K	1SVR730831R1400	272.20
Multifunctional (adjustable switch-on delay between 0 or 0.1-30 s)					
CM-ESS.MS	24-240V AC/DC	3-600 V AC/DC	2 A/K	1SVR730830R0500	306.90

Three phase, voltage monitoring relays


CM-PFE


CM-PSS.31S


CM-PVS.31S

Type	Control voltage	Description	Code	Price (EUR)
Single or three phase control, phase failure				
CM-PBE	L1,2,3-N : 3x380-440V AC / 220-240V AC	1NA kontak	1SVR550881R9400	83.17
Single or three phase control, phase failure, over-low voltage				
CM-PVE	L1,2,3-N : 3x320-460V AC / 185-265V AC	1NA kontak	1SVR550870R9400	83.71
Three phase control, phase failure, over-low voltage				
CM-PVE	L1,2,3 : 3x320-460V AC	1NA kontak	1SVR550871R9500	87.53
Three phase control, phase failure, phase sequence				
CM-PFE	L1,2,3 : 3x208-440V AC	1A/K kontak	1SVR550824R9100	62.78
CM-PFS.S	L1,2,3 : 3x200-500V AC	2A/K kontak	1SVR730824R9300	91.02
Three phase control, phase failure, phase sequence, over-low voltage				
CM-PSS.31S	L1,2,3 : 3x380V AC	2A/K kontak	1SVR730784R2300	202.60
CM-PSS.41S	L1,2,3 : 3x400V AC	2A/K kontak	1SVR730784R3300	202.60
CM-PVS.31S	L1,2,3 : 3x160-300V AC	2A/K kontak	1SVR730794R1300	285.40
CM-PVS.41S	L1,2,3 : 3x300-500V AC	2A/K kontak	1SVR730794R3300	277.00
Three phase control, phase failure, phase sequence, phase imbalance				
CM-PAS.31S	L1,2,3 : 3x160-300V AC	2A/K kontak	1SVR730774R1300	271.00
CM-PAS.41S	L1,2,3 : 3x300-500V AC	2A/K kontak	1SVR730774R3300	271.00
CM-MPS.31S	L1,2,3 : 3x160-300V AC	2A/K kontak	1SVR730884R1300	290.20
CM-MPS.41S	L1,2,3 : 3x300-500V AC	2A/K kontak	1SVR730884R3300	259.00
CM-MPS.21S	L1,2,3-N : 3x180-280V AC	2A/K kontak	1SVR730885R3300	199.00

*Please contact the sales office for new control relays with “Easy Connect” technology with push-in terminal structure.

SMART TEMPERATURE MONITORING RELAYS

ABB EPiC mobile app: your digital partner





Everything you need at a glance
Data such as measured values and contact states are always at hand thanks to the relay's display. Parameter configuration has never been easier with the symbol-based menu structure!

80% faster setup with one touch
Thanks to NFC support, you can configure parameters from the ABB EPiC smartphone app with one touch.

Intelligent temperature monitoring relays (Control voltage: 24-240 V AC/DC)



Type	Measurement range	Number of channels	Sensors	Modbus RTU	Code	Price (EUR)
CM-TCS.011P	-200..+850°C	1	PT100, PTC, PT1000, NTC	No	1SVR740740R0110	572.20
CM-TCN.011P		3		No	1SVR760740R0110	673.20
CM-TCN.012P		3		Yes	1SVR760740R0120	740.50

Ready-made factory profiles
Installation time can be reduced by selecting one of the profiles with presets for typical applications. Each parameter can also be set individually and saved as a user profile.

Diagnostic data
Event logs, operational data and statistics can be accessed from the ABB Ability EAM platform via Modbus RTU, from the EPiC application via NFC or from the display.

Push-to-turn button
A symbol-based menu structure can be accessed with a single touch. The push-to-turn button can be used with a screwdriver to navigate the menu and make parameter settings.

Display + NFC + Modbus RTU
Thanks to NFC support, settings can be made, transferred to the relay, stored and e-mailed via the EPiC mobile app.

INDUSTRIAL ELECTRONIC CONTROL RELAYS

Temperature monitoring relays

	Type	Control voltage	Measurement range °C	Number of contacts	Code	Price (EUR)
 CM-TCS	CM-TCS.21S	24V AC/DC	-50...+50°C	2 A/K	1SVR730740R9100	305.70
	CM-TCS.22S	24V AC/DC	0...+100°C	2 A/K	1SVR730740R9200	305.70
	CM-TCS.23S	24V AC/DC	0...+200°C	2 A/K	1SVR730740R9300	305.70
	CM-TCS.11S	24V...240V AC/DC	-50...+50°C	2 A/K	1SVR730740R0100	372.90
	CM-TCS.12S	24V...240V AC/DC	0...+100°C	2 A/K	1SVR730740R0200	372.90
	CM-TCS.13S	24V...240V AC/DC	0...+200°C	2 A/K	1SVR730740R0300	372.90

- 2 or 3-wire sensor circuits
- 1 temperature sensor (PT100)
- 2 adjustable threshold values - Temperature monitoring functions: Over temperature, under temperature, window monitoring

Thermistor motor protection relays

	Type	Control voltage	Reset	Number of contacts	Code	Price (EUR)
 CM-MSS.33S	CM-MSE	24 V AC	Automatic	1 NA	1SVR550805R9300	80.66
	CM-MSE	220-240 V AC	Automatic	1 NA	1SVR550801R9300	71.94
	CM-MSS.23S	110-130V AC / 220-240V AC	Automatic, manual and remote	2 A/K	1SVR730700R2200	104.30
	CM-MSS.33S	110-130V AC / 220-240V AC	Automatic, manual and remote	2 A/K	1SVR730712R2200	112.80
	CM-MSS.41S	24-240V AC/DC	Automatic, manual and remote	2 A/K	1SVR730712R1200	218.20

Thermistor motor protection relays (CM-MSx series) protect your motor against high temperatures with PTC sensors. Since the sensors are placed in the motor windings, the motor temperature can be measured directly.

Resistance to harsh conditions: The CM-MSS series is available in versions certified for explosive gases or dust in ATEX Ex II (2) G and D environments.

Short circuit detection: When a short circuit is detected between two lines of the sensor circuit, the output relay is de-energized and LEDs indicate the fault.

Dynamic broken cable detection: During operation, the device continuously monitors the measuring circuit. If the resistance of the measuring circuit increases, the device can distinguish between an over-temperature condition and a cut/broken cable condition.

Thermistor motor protection PTC temperature sensors

	Description	Type	Code	Price (EUR)
	White-Brown 70ºC	C011-70	GHC0110003R0001	28.78
	White-White 80ºC	C011-80	GHC0110003R0002	28.78
	Green-Green 90ºC	C011-90	GHC0110003R0003	28.78
	Red-Red 100ºC	C011-100	GHC0110003R0004	28.78
	Brown-Brown 110ºC	C011-110	GHC0110003R0005	28.78
	Gray-Gray 120ºC	C011-120	GHC0110003R0006	28.78
	Blue-Blue 130ºC	C011-130	GHC0110003R0007	28.78
	White-Blue 140ºC	C011-140	GHC0110003R0011	28.78
	Black-Black 150ºC	C011-150	GHC0110003R0008	28.78
	Blue-Red 160ºC	C011-160	GHC0110003R0009	28.78
	White-Green 170ºC	C011-170	GHC0110003R0010	28.78
	3-way temperature sensor 150ºC Black-Black	C011-3-150	GHC0110033R0008	22.35

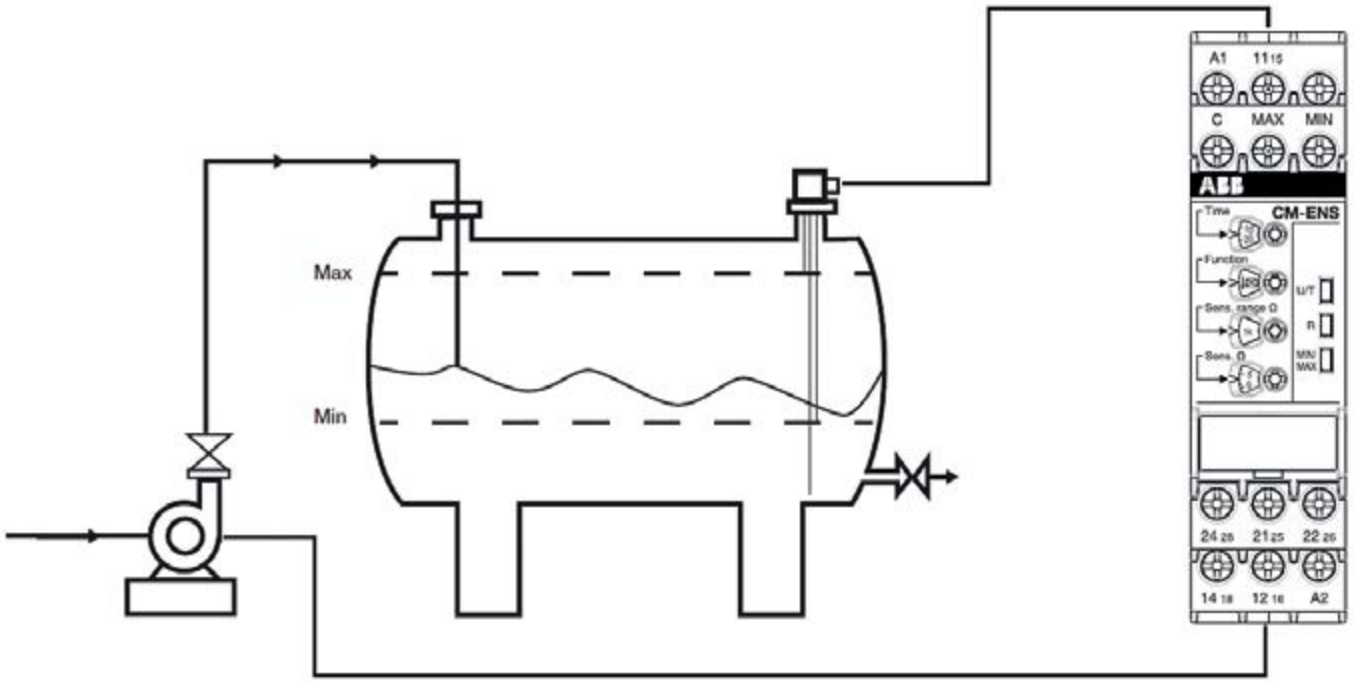
INDUSTRIAL ELECTRONIC CONTROL RELAYS

Liquid level monitoring relays

	Description	Type	Code	Price (EUR)
 CM-ENE MIN	**Minimum level relay**			
	24V AC 1NA kontak	CM-ENE MIN	1SVR550855R9500	111.10
	220-240V AC 1NA kontak	CM-ENE MIN	1SVR550851R9500	111.10
 CM-ENE MAX	**Maximum level relay**			
	24V AC 1NA kontak	CM-ENE MAX	1SVR550855R9400	111.10
	220-240V AC 1NA kontak	CM-ENE MAX	1SVR550851R9400	111.10
 CM-ENS	**Minimum & maximum level relay**			
	24-240V AC/DC 1A/K (SPTD)	CM-ENS.11S	1SVR730850R0100	158.30
	110-130/220-240V AC 1A/K (SPTD)	CM-ENS.13S	1SVR730850R2100	158.30
	24-240V AC/DC 1A/K (SPTD)	CM-ENS.21S	1SVR730850R0200	166.70
	110-130/220-240V AC 1A/K (SPTD)	CM-ENS.23S	1SVR730850R2200	166.70
	24-240V AC/DC 2A/K (SPTD)	CM-ENS.31S	1SVR730850R0300	230.20

- One or two liquid level controls (min/max)
- Fill or empty function
- 3 status indicator LEDs
- CM-ENS.1x: Adjustable response sensitivity 5-100 kΩ
- CM-ENS.2x: Adjustable response sensitivity 0.1-1000 kΩ
- CM-ENS31: Adjustable response sensitivity 0.1-1000 kΩ and selectable ON- or OFF-delay

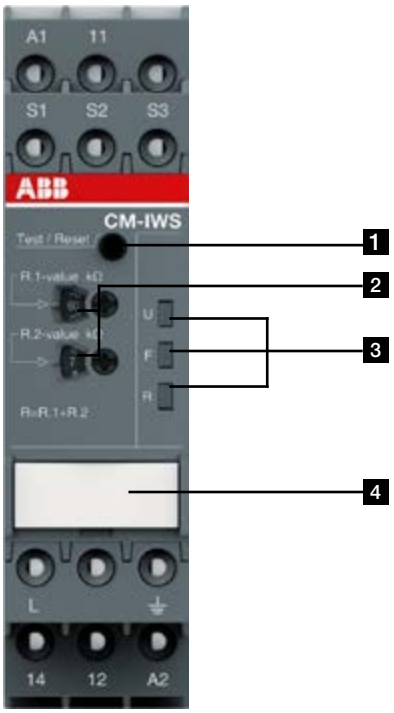
Protection against overflow with CM-ENS liquid level monitoring relay: With the help of CM-KH-3 and 3 bar electrode CM-SE



INDUSTRIAL ELECTRONIC CONTROL RELAYS

—
Insulation monitoring relays

	Description	Measurement voltage / resistance	Type	Code	Price (EUR)
	24-240 V AC/DC supply				
 CM-IWS.2	1 A/K contact, 10 µF maximum capacitance	0-250 V AC/0-300 V DC/1-100kΩ	CM-IWS.1S	1SVR730660R0100	283.30
	1 A/K contact, 10 µF maximum capacitance	0-400 V AC/1-100kΩ	CM-IWS.2S	1SVR730670R0200	290.70
 CM-IWN.1	1 A/K contact, 20 µF maximum capacitance	0-400 V AC/0-600 V DC/1-200kΩ	CM-IWN.1S	1SVR750660R0200	822.60



1 Test and reset button

2 Potentiometer adjustment
Threshold values can be adjusted with potentiometers on the front face
Decimal values for R.1, R1
Decimal kΩ orders such as 0, 10, 20, 30, 40, 50, 50, 60, 70, 80, 90 kΩ
Unit values for R.2, R1:
Unit kΩ orders such as 1, 2, 3, 4, 4, 5, 5, 6, 7, 8, 9, 10 kΩ

3 Status indications
U: green LED - supply voltage
F: red LED - error message
R: yellow LED - relay status information

4 Labeling area for products without dip switch setting

INDUSTRIAL ELECTRONIC CONTROL RELAYS
CT series electronic timers

—
CT-D series (with LED)

	Description	Type	Code	Price (EUR)
 CT-MFD	**Multifunction timers**			
	7 functions, 0.05 s-100 h, 1A/K contact, 24-48V DC, 24-240V AC	CT-MFD.12	1SVR500020R0000	80.01
	7 functions, 0.05 s-100 h, 2A/K contact, 12-240V AC/DC	CT-MFD.21	1SVR500020R1100	94.50
 CT-ERD	**ON delay timers**			
	7 time intervals, 0.05 s-100 h, 1A/K contact, 24-48V DC, 24-240V AC	CT-ERD.12	1SVR500100R0000	78.81
	7 time intervals, 0.05 s-100 h, 2A/K contact, 24-48V DC, 24-240V AC	CT-ERD.22	1SVR500100R0100	110.60
 CT-AHD	**OFF delay timers**			
	7 time intervals, 0.05 s-100 h, 1A/K contact, 24-48V DC, 24-240V AC	CT-AHD.12	1SVR500110R0000	86.76
	7 time intervals, 0.05 s-100 h, 2A/K contact, 24-48V DC, 24-240V AC	CT-AHD.22	1SVR500110R0100	110.60
 CT-EBD	**Flashing timers**			
	7 time intervals, 0.05 s-100 h, 1A/K contact, 24-48V DC, 24-240V AC	CT-EBD.12	1SVR500150R0000	76.19
 CT-SDD	**Star - delta timers**			
	4 time intervals, 0.05 s-10 min, 2NA contact, 24-48V DC, 24-240V AC (fixed 50 ms transition time)	CT-SDD.22	1SVR500211R0100	93.52
	4 time intervals, 0.05 s-10 min, 2NA contact, 24-48V DC, 24-240V AC (adjustable transition time)	CT-SAD.22	1SVR500210R0100	110.60

—
CT-C series (with LED)

	Description	Supply voltage	Number of contacts	Type	Code	Price (EUR)
 CT-MKC.31	**Multifunction timers**					
	7 functions, 7 time interval, 0.05 seconds - 100 hours	24-48 V DC / 24-240 V AC	1 A/K	CT-MFC.12	1SVR508020R0000	83.20
		12-240 V AC/DC	Solid state	CT-MKC.31	1SVR508010R1300	106.30
 CT-ERC.12	**ON delay timers**					
	7 time interval, 0.05 seconds - 100 hours	24-48 V DC / 24-240 V AC	1 A/K	CT-ERC.12	1SVR508100R0000	61.50
 CT-AHC.12	**OFF delay timers**					
	7 time interval, 0.05 seconds - 100 hours	24-48 V DC / 24-240 V AC	1 A/K	CT-AHC.12	1SVR508110R0000	83.70
	Flashing timers					
	7 time interval, 0.05 seconds - 100 hours	24-48 V DC / 24-240 V AC	1 A/K	CT-EBC.12	1SVR508150R0000	63.10
 CT-SAC.22	**Star - delta timers**					
	4 time interval, 0.05 seconds - 10 minutes, transition time 20ms to 100ms adjustable	24-48 V DC / 24-240 V AC	2 NA	CT-SAC.22	1SVR508210R0100	81.30

INDUSTRIAL ELECTRONIC CONTROL RELAYS
CT series electronic timers

CT-S series (with LED)


CT-MVS.21S


CT-SDS.22S

	Description	Control voltage	Type	Code	Price (EUR)
	Multifunction timers				
	10 functions, 10 time intervals, 0.05-300 hours, 2A/K contact	24-240V AC/DC	CT-MVS.21S	1SVR730020R0200	155.90
	10 functions, 10 time intervals, 0.05-300 hours, 2A/K contact	24-48V DC, 24-240V AC	CT-MVS.22S	1SVR730020R3300	165.50
	10 functions, 10 time intervals, 0.05-300 hours, 2A/K contact	380-440V AC	CT-MVS.23S	1SVR730021R2300	183.40
	9 functions, 10 time intervals, 0.05-300 hours, 1A/K contact	24-48V DC, 24-240V AC	CT-MVS.12S	1SVR730020R3100	147.50
	7 functions, 2x10 time interval, 0.05-300 hours, 2A/K contact	24-48V DC, 24-240V AC	CT-MXS.22S	1SVR730030R3300	189.40
	10 functions, 10 time intervals, 0.05-300 hours, 2A/K contact	24-240V AC/DC	CT-MFS.21S	1SVR730010R0200	189.40
	10 functions, 10 time intervals, 0.05-300 hours, 2A/K contact	24-48V DC, 24-240V AC	CT-MBS.22S	1SVR730010R3200	165.50
	ON delay timers				
	10 time interval, 0.05-300 hours, 2A/K contact	24-240V AC/DC	CT-ERS.21S	1SVR730100R0300	134.30
	10 time interval, 0.05-300 hours, 2A/K contact	24-48V DC, 24-240V AC	CT-ERS.22S	1SVR730100R3300	116.40
	10 time interval, 0.05-300 hours, 1A/K contact	24-48V DC, 24-240V AC	CT-ERS.12S	1SVR730100R3100	99.19
	OFF delay timers				
	10 time interval, 0.05-300 hours, 2A/K contact	24-240V AC/DC	CT-APS.21S	1SVR730180R0300	151.10
	10 time interval, 0.05-300 hours, 2A/K contact	24-48V DC, 24-240V AC	CT-APS.22S	1SVR730180R3300	134.30
	10 time interval, 0.05-300 hours, 1A/K contact	24-48V DC, 24-240V AC	CT-APS.12S	1SVR730180R3100	121.10
	Star - delta timers				
	7 time interval, 0.05-10 minutes, 2NA contact	24-48V DC, 24-240V AC	CT-SDS.22S	1SVR730210R3300	113.00
	7 time interval, 0.05-10 minutes, 2NA contact	380-440V AC	CT-SDS.23S	1SVR730211R2300	130.70

*Please contact the sales office for new control relays with “Easy Connect” technology with push-in terminal structure.

ARC GUARD SYSTEM™ TVOC-2

With over 40 years of experience, the Arc Guard System™ has become the industry standard for protecting people and business in a variety of key industries. Typical applications include all low voltage and medium voltage switchboards requiring high protection.



In low and medium voltage, a short circuit fault is often accompanied by an electrical arc. If not detected quickly enough, an arc fault can cause serious damage to personnel and equipment. To protect personnel close to the enclosure from an arc explosion, it is critical to de-energize before it reaches dangerous levels. The Arc Guard System™ detects an arc fault quickly (<1-2 ms) and sends a trip signal to the circuit breaker. It can estimate the energy of your system in 30-50 milliseconds by using light in the activation criterion.



TVOC-2 (with COM module)

Arc monitor TVOC-2
- 3 IGBT solid state tripping contact
- 2 c/o trip signal relays
- 1 c/o self-monitoring alarm relay (IRF)
- 2 current sensing unit inputs
- 1 current sensing unit output



HMI display

HMI display
- Mountable on the enclosure cover
- Additional HMI possibility
- User-friendly menu
- Version with communication module available



Current sensing unit CSU-2

Current sensing unit CSU-2
- 4 current sensor inputs (RJ45 connector)
- 1 c/o trip signal relay (for overcurrent)
- 1 optical input (from other current sensing unit)
- 2 optical outputs
- Modbus RTU

How does it work?

1 Detection

TVOC 2 detects incoming light.



2 Identification

The system determines the intensity of the light.



3 Action

The system sends a trip signal to the circuit breakers.



Benefits
- Exceptional reaction time <1 ms (<2 ms with CSU-2)
- Certified to functional safety standard SIL-2
- Factory calibrated optical sensors (expandable up to 30)
- Open ring Rogowski coils
- HMI display with IP54 degree of protection and can be mounted on the panel cover
- Modbus RTU communication protocol support for remote locations
- Current sensing unit as accessory for overcurrent detection

ARC GUARD SYSTEM™ TVOC-2

Main unit

	Description	Type	Uc	Code	Price (EUR)
	TVOC-2 (including COM module)	TVOC-2-48-C	24…48 V DC	1SFA664001R1004	Request price
	TVOC-2 (including COM module)	TVOC-2-240-C	100...240 V AC, 100...250 V DC	1SFA664001R1003	Request price
	TVOC-2 (including HMI)	TVOC-2-48	24…48 V DC	1SFA664001R1002	Request price
	TVOC-2 (including HMI)	TVOC-2-240	100...240 V AC, 100...250 V DC	1SFA664001R1001	Request price

Accessories

	Description	Type	Code	Price (EUR)
 Expansion unit	**Expansion unit**			
	10 optical inputs	TVOC-2-E1	1SFA664002R1001	Request price
	Communication module (COM module)			
	Modbus RTU interface	TVOC-2-COM	1SFA664002R4001	Request price
 Communication module	**HMI display** *including the necessary accessories to move it to the panel cover			
	HMI	TVOC-2-H1	1SFA664002R1005	Request price
	Sensor cables *Please inquire for cables up to 60 meters			
	1 meter	TVOC-2-DP1	1SFA664003R1010	Request price
	2 meter	TVOC-2-DP2	1SFA664003R1020	Request price
 TVOC to TVOC optical cable	**Current sensing unit**			
	For low voltage	CSU-2LV	1SFA664002R5001	Request price
	For medium voltage	CSU-2MV	1SFA664002R8001	Request price
	Optical cables *Used for CSU-CSU, TVOC-CSU and TVOC-TVOC, for cables up to 30 meters please inquire			
	0.5 meter	TVOC-2_OP05	1SFA664004R1005	Request price
	1 meter	TVOC-2-OP1	1SFA664004R1010	Request price
 Sensor cable	**Current sensors with Rogowski technology for LV applications** *please ask for variants			
	120 mm diameter, 5 meter cable length	RC120-05	1SFA664005R1205	Request price
	120 mm diameter, 10 meter cable length	RC120-10	1SFA664005R1210	Request price
	200 mm diameter, 5 meter cable length	RC200-05	1SFA664005R2005	Request price
	200 mm diameter, 10 meter cable length	RC200-10	1SFA664005R2010	Request price

LIMIT SWITCHES

	Description	Type	Code	Price (EUR)
	LS40 series, all metal switches, 1NA+1NK contact			
 LS40M11B11	Linear moving head, metal pin	LS40M11B11	1SBV011111R1211	84.80
	Linear moving head, steel roller pin	LS40M13B11	1SBV011113R1211	87.64
	Angular moving head, thermoplastic roller pin	LS40M41B11	1SBV011141R1211	103.90
	Angular moving head, steel roller pin	LS40M42B11	1SBV011142R1211	100.30
	Angular moving head, length adjustable thermoplastic roller lever	LS40M51B11	1SBV011151R1211	115.90
	Angular moving head, length adjustable polyamide round rod lever	LS40M72B11	1SBV011172R1211	100.90
	LS60 series, all metal switches, 1NA+1NK contact			
 LS70M38B11	Linear moving head, metal pin	LS60M11B11	1SBV011311R1211	57.55
	Linear moving head, horizontally moving thermoplastic roller lever	LS60M31B11	1SBV011331R1211	85.89
	Angular moving head, thermoplastic roller pin	LS60M41B11	1SBV011341R1211	100.70
	Angular moving head, spiral wire lever-cat's whisker	LS60M91B11	1SBV011391R1211	80.77
	LS32 series, all metal switches, 1NA+1NK contact			
 LS32M42B11	Linear moving head, metal pin	LS32M11B11	1SBV011911R1211	48.72
	Linear moving head, steel roller pin	LS32M12B11	1SBV011912R1211	54.72
	Linear moving head, horizontally moving thermoplastic roller lever	LS32M31B11	1SBV011931R1211	54.28
	Angular moving head, thermoplastic roller lever	LS32M41B11	1SBV011941R1211	55.37
	Angular moving head, length adjustable thermoplastic roller lever	LS32M51B11	1SBV011951R1211	60.93
	Rubber roller lever, 50 mm	LS32M42B11	1SBV011942R1211	66.71
	Multi-directional head, spiral wire lever-cat's whisker	LS32M91B11	1SBV011991R1211	56.24
	LS32 series, all plastic switches, 1NA+1NK contact			
 LS32P91B11	Linear moving head, metal pin	LS32P11B11	1SBV010311R1211	21.47
	Linear moving head, steel roller pin	LS32P12B11	1SBV010312R1211	28.78
	Linear moving head, horizontally moving thermoplastic roller lever	LS32P31B11	1SBV010331R1211	24.85
	Angular moving head, thermoplastic roller lever	LS32P41B11	1SBV010341R1211	28.34
	Angular moving head, length adjustable thermoplastic roller lever	LS32P51B11	1SBV010351R1211	27.58
	Multi-directional head, spiral wire lever-cat's whisker	LS32P91B11	1SBV010391R1211	35.86
	LS72 series, all plastic switches, 1NA+1NK contact			
 LS72P41B11	Linear moving head, metal pin	LS72P11B11	1SBV011011R1211	35.10
	Angular moving head, thermoplastic roller pin	LS72P41B11	1SBV011041R1211	41.20

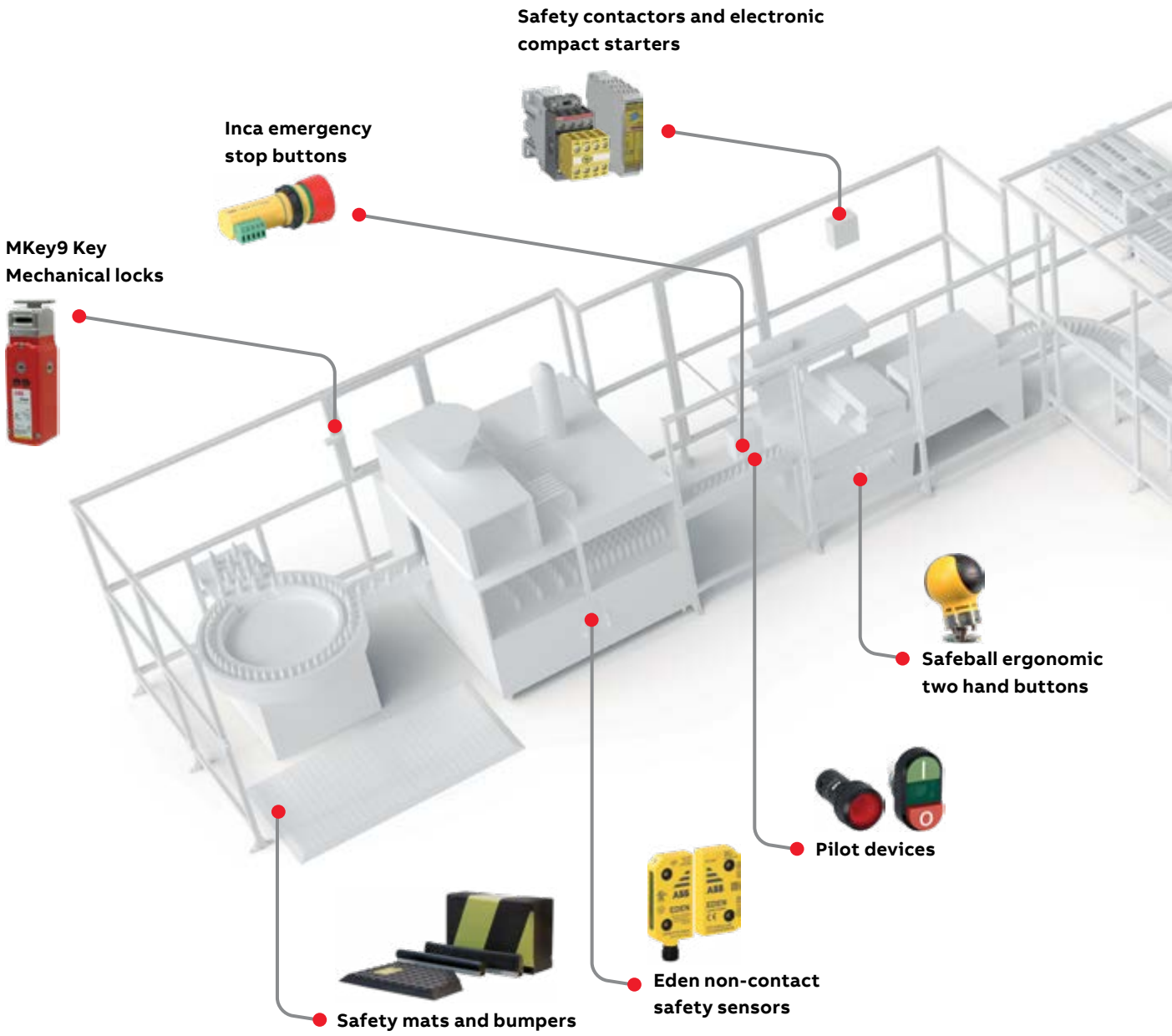
* Please contact the sales office for alternative options.

SAFETY LIMIT SWITCHES

	Description	Type	Code	Price (EUR)
 LS30P75D11-S	**LS40 series, metal body, 3-pole safety limit switches**			
	1 NA+1NK non locking contact	LS40M80D12-S	1SBV031180R1412	189.40
 LS40P80D11-S	**Mechanical keys for LS40 series**			
	Flat key	LSA40X08	1SBV048808R1000	27.03
	Wide key	LSA40X05	1SBV048805R1000	10.90
	Flexible key	LSA40X09	1SBV048809R1000	39.35
 LS40M98D11-SCR	**LS31 series, plastic body, 2-pole safety limit switches**			
	Non-locking, 1NA+1NK contact	LS31P80D11-S	1SBV030180R1411	40.77
	Non-locking, 2NK contact	LS31P80L02-S	1SBV030180R1302	51.67
 LS30P81L02-S	**Mechanical keys for LS30 series**			
	Flat key	LSA30P06	1SBV048606R1000	4.80
	Flexible key	LSA30P09	1SBV048609R1000	21.58
 LS30P77D11-S	**LS31 series, plastic body, 2-pole safety limit switches**			
	2NK contact, lever tilted to the right	LS31P77L02-S	1SBV030177R1302	50.47

* Please contact the sales office for alternative options.

MACHINE SAFETY PRODUCTS



Magne magnetic lock



Pluto safety PLCs, B&R X20 Safety PLCs, Vital pre-programmed safety PLCs and Sentry safety relays



Smile emergency stop buttons



Orion safety curtains and barriers





GKey Door lock



JSHD4 and HD5 three-position control devices



LineStrong Grab Wire Safety Switch

UNIVERSAL SAFETY RELAYS CUSTOMIZED FOR SAFETY APPLICATIONS

Safety relays



BSR10



SSR32



USR10

	Channel structure	Test/Reset	Number of contacts	Timing function	Supply voltage	Description	Code	Price (EUR)
	1 Channel 2 Channel equivalent contacts	Start/Test	3 NA + 1 NK	x	24 VDC	BSR10	2TLA010040R0000	237.40
	1 Channel 2 Channel equivalent contacts	Start/Test	4 NA	x	24 VDC	BSR11	2TLA010040R0200	261.80
	x		4 NA + 1 NK	x	24 VDC	BSR23	2TLA010041R0600	235.60
	1 Channel 2 Channel equivalent contacts OSSD/PNP Outputs	Manuel Reset	3 NA + 1 NK	x	24 VDC	SSR10	2TLA010050R0000	332.10
	2 Channel equivalent contacts	Manuel Reset	3 NA + 1 NK	x	85-265 VAC/ 120-375 VDC	SSR10M	2TLA010050R0100	386.70
	Two Hand Devices	Manuel Reset	3 NA + 1 NK	x	24 VDC	SSR20	2TLA010051R0000	298.80
	Two Hand Devices	Manuel Reset	3 NA + 1 NK	x	85-265 VAC/ 120-375 VDC	SSR20M	2TLA010051R0100	385.30
	1 Channel 2 Channel equivalent contacts OSSD/PNP Outputs	Manuel Reset	2 NA + 2 Delayed NA	0.5 s. OFF delay	24 VDC	SSR32	2TLA010052R0400	434.40
	1 Channel 2 Channel equivalent contacts OSSD/PNP Outputs	Manuel Reset	2 NA + 2 Delayed NA	1.5 s. OFF delay	24 VDC	SSR42	2TLA010053R0400	434.40
	1 Channel 2 Channel equivalent contacts OSSD/PNP Outputs	x	3 NA + 1 NK	0.5 s. OFF delay/1.5 s. Off Delay/ Timer Functions 0-999 s.	24 VDC	TSR10	2TLA010060R0000	349.10
	1 Channel 2 Channel equivalent contacts OSSD/PNP Outputs	x	3 NA + 1 NK	0.5 s. OFF delay/1.5 s. OFF delay	24 VDC	TSR20	2TLA010061R0000	332.10
	2 Channel equivalent contacts	x	3 NA + 1 NK	0.5 s. OFF delay/1.5 s. OFF delay	85-265 VAC/ 120-375 VDC	TSR20M	2TLA010061R0100	389.90
	1 Channel 2 Channel equivalent contacts 2 Channel opposite contacts OSSD/PNP Outputs Safety mats, ramps Two Hand Devices	Manuel Reset	3 NA + 1 NK	0.5 s. OFF delay/1.5 s. Off Delay/ Timer Functions 0-999 s.	24 VDC	USR10	2TLA010070R0000	340.50
	1 Channel 2 Channel equivalent contacts 2 Channel opposite contacts OSSD/PNP Outputs Safety mats, ramps Two Hand Devices	Manuel Reset	2 NA + 2 Delayed NA	0.5 s. OFF delay/1.5 s. Off Delay/ Timer Functions 0-999 s.	24 VDC	USR22	2TLA010070R0400	572.90

EDEN NON-CONTACT SAFETY SENSORS

EDEN Series sensors

	Type	Description	Status bus	Info signal	Local reset	Series connection	Connection type	Method of use	Code	Price (EUR)
 Adam DYN-Info	Adam	Adam DYN-Status M12-5	Yes	Yes		Yes	M12-5	Pluto PLC	2TLA020051R5200	174.00
	Adam	Adam DYN-Info M12-5		Yes		Yes	M12-5	Pluto/Vital PLC	2TLA020051R5100	145.10
 Adam OSSD-Info	Adam	Adam OSSD-Info M12-5		Yes			M12-5	OSSD Compatible Relay/PLC	2TLA020051R5400	124.50
	Adam	Adam OSSD-Info M12-8		Yes		Yes	M12-8	OSSD Compatible Relay/PLC	2TLA020051R5700	148.50

EDEN Series sensors

	Type	Description	Code level	Code	Price (EUR)
 Eva General	Eva	Eva General	Low	2TLA020046R0800	38.04
	Eva	Eva Unique	High	2TLA020046R0900	68.38

Eden is a non-contact safety sensor used as an interlocking device for door and safe location monitoring.
Eden consists of two parts: Adam and Eva. Adam senses the presence of Eva without mechanical contact and therefore without any wear. The compact size of Eden and its 360° mounting possibility make it easy to use in most applications.
Different models of Eden are available for different types of control modules.
With DYNlink technology, many Eden models allow you to achieve faster PL performance levels using fewer products.
All Eden models have an IP67/IP69K sealing.

EDEN Series accessories

	Connector type	Male/Female	Cable length	Attribute	Type	Code	Price (EUR)
 M12-C61	M12-5 Pin	Female	3 m		M12-C31	2TLA020056R0500	31.22
	M12-5 Pin	Female	6 m		M12-C61	2TLA020056R0000	48.83
	M12-5 Pin	Female	6 m	Harsh conditions/ Halogen free	M12-C61HE	2TLA020056R8000	90.89
	M12-5 Pin	Female	10 m		M12-C101	2TLA020056R1000	55.22
	M12-5 Pin	Female	10 m	Harsh conditions/ Halogen free	M12-C101HE	2TLA020056R8100	131.00
 M12-C61HE	M12-5 Pin	Female	20 m		M12-C201	2TLA020056R1400	107.90
	M12-5 Pin	Female + Male	0.3 m		M12-C0312	2TLA020056R5800	45.64
	M12-5 Pin	Male	6 m		M12-C62	2TLA020056R0200	46.75
	M12-5 Pin	Male	10 m		M12-C102	2TLA020056R1200	64.46
	M12-8 Pin	Female	3 m		M12-C33	2TLA020056R2900	45.78
	M12-8 Pin	Female	6 m		M12-C63	2TLA020056R3000	73.42
	M12-8 Pin	Female	10 m		M12-C103	2TLA020056R4000	85.85
	M12-8 Pin	Female	20 m		M12-C203	2TLA020056R4100	149.10
 M12-C334	M12-8 Pin	Female + Male	0.06 m		M12-C00634	2TLA020056R6400	62.33
	M12-8 Pin	Female + Male	1 m		M12-C134	2TLA020056R5000	65.53
	M12-8 Pin	Female + Male	3 m		M12-C334	2TLA020056R5100	93.45

SAFETY PLCS WITH COMMUNICATION BUS OR STANDARD SAFETY PLCS

Safety PLC

	AS-i	Communication bus	Number of safety inputs	Number of safety outputs	Analog input	High frequency input	Number of normal outputs	Width	Description	Code	Price (EUR)
	x	Yok	16	4	1 *	Yok	8	45	Pluto S20	2TLA020070R4700	1,253.00
	x	Yok	40	6	3 *	Yok	16	90	Pluto S46	2TLA020070R1800	2,032.00
	x	Var	40	6	3 *	Yok	16	90	Pluto B46	2TLA020070R1700	2,638.00
	x	Var	39	6	8 **	4	15	90	Pluto D45	2TLA020070R6600	3,128.00

* 0-27 V analog input
** 0-10 V/4-20 mA analog input

Magnetic safety switches with IP69K protection

	Description	Output contacts	Connection type	Description	Code	Price (EUR)
	IP 69K protected, stainless steel, 14 mm. operating distance, led, magnetic safety switches	2 NK+ 1 NA	10 m. cable	Sense7Z 10M	2TLA050056R6120	447.60
		2 NK+ 1 NA	5 m. cable	Sense7Z 5M	2TLA050056R5120	414.60
		2 NK+ 1 NA	2 m. cable	Sense7Z 2M	2TLA050056R4120	385.40
		2 NK+ 1 NA	M12 connector (25 cm. cable)	Sense7Z M12	2TLA050056R2120	460.10

EMERGENCY STOP BUTTONS

External mounting

	Description	Safety signal output	Connection type	Description	Code	Price (EUR)
	Compact body, IP 65 protection, plastic housing	DYNlink	1 m. wired	Smile 10 EA Tina	2TLA030050R0400	219.40
		DYNlink	1 x M12-5 male	Smile 11 EA Tina	2TLA030050R0000	210.60
		DYNlink	1 x M12-5 male	Smile 11 EC Tina	2TLA030050R0900	218.60
		DYNlink	1 x M12-5 male	Smile 12 EA Tina	2TLA030050R0200	229.70
		2 NK	1 m. Wired	Smile 10 EA	2TLA030051R0400	193.40
		2 NK	1 m. Wired	Smile 10 EK	2TLA030051R0600	145.10
		2 NK	1 x M12-5 male	Smile 11 EA	2TLA030051R0000	186.50
		2 NK	1 x M12-5 male	Smile 12 EA	2TLA030051R0200	203.70
	Plastic housing, IP 66, IP 67 and IP 69K protection	2 NK	2 x M20 channel	CEPY1-1002 (Compact)	1SFA619821R1002	31.50
		2 NK	2 x M20 channel	CEPY1-2002 (Compact)	1SFA619821R2002	31.50
	Metal body IP 67 and IP 69K protection	2 NA + 2 NK	C 3 x M20 channel	EStrongZ LED	2TLA050220R0222	553.60
		2 NA + 2 NK	C 3 x M20 channel	EStrongZ	2TLA050220R0020	494.00

Panel mounting

	Description	Safety signal output	Connection type	Description	Code	Price (EUR)
	IP 65 protection	DYNlink	1 x M12-5 male	Smile 11 EAR Tina	2TLA030050R0100	210.60
		2 NK	1 x M12-5 male	Smile 11 EAR	2TLA030051R0100	186.50
	Pushbutton IP 65 protection connector IP 20 protection	DYNlink	Terminal block	INCA 1 EC Tina	2TLA030054R1400	227.50
		2 NK	Terminal block	INCA 1	2TLA030054R0100	229.40

PILOT DEVICES
Modular pilot devices

22mm diameter modular type pilot devices

	Description		Type	Code	Price (EUR)
 MP1-10G	**Spring-loaded pushbutton head (flat head)**	Black	MP1-10B	1SFA611100R1006	3.92
		White	MP1-10W	1SFA611100R1005	5.01
		Green	MP1-10G	1SFA611100R1002	3.71
		Yellow	MP1-10Y	1SFA611100R1003	4.47
		Blue	MP1-10L	1SFA611100R1004	3.71
		Red	MP1-10R	1SFA611100R1001	3.71
 MPM1-10R	**Spring-loaded, mushroom head (40 mm)**	Black	MPM1-10B	1SFA611124R1006	10.46
		Red	MPM1-10R	1SFA611124R1001	11.55
 MP1-11G	**Illuminated spring-loaded pushbutton head**	White	MP1-11W	1SFA611100R1105	4.36
		Green	MP1-11G	1SFA611100R1102	4.36
		Yellow	MP1-11Y	1SFA611100R1103	5.01
		Blue	MP1-11L	1SFA611100R1104	5.01
		Red	MP1-11R	1SFA611100R1101	4.47
	Double, spring-loaded pushbutton head		MPD13-11B	1SFA611142R1106	12.43
	Double, spring-loaded illuminated pushbutton head		MPD13-11Y	1SFA611142R1103	11.66
 MPET3-10R	**Emergency stop button heads 30 mm**				
	Push, twist-pull	Red	MPET3-10R	1SFA611520R1001	15.70
	Pull	Red	MPEP3-10R	1SFA611521R1001	16.79
	Locked	Red	MPEK3-11R	1SFA611522R1101	33.57
 MPEP4-10R	**Emergency stop button heads 40 mm mushroom head, maintained**				
	Push, twist-pull	Red	MPET4-10R	1SFA611523R1001	13.41
	Pull	Red	MPEP4-10R	1SFA611524R1001	16.79
	Locked	Red	MPEK4-11R	1SFA611525R1101	33.57
 MPMT3-11R	**Illuminated emergency stop button heads 40 mm mushroom head, maintained**				
	Push, twist-pull	Red	MPMT3-11R	1SFA611510R1101	15.70
	Pull	Red	MPMP3-11R	1SFA611511R1101	16.02
	*Note: Used in combination with the MLB-L LED block.				
 M2SS1-10B	**Selector switch heads (black)**				
	2 positions, maintained		M2SS1-10B	1SFA611200R1006	8.61
	3 positions, maintained		M3SS1-10B	1SFA611210R1006	8.83
	3-position, spring-loaded		M3SS2-10B	1SFA611211R1006	8.72
 M2SS4-10B	**Long selector switch heads (black)**				
	2 positions, maintained		M2SS4-10B	1SFA611203R1006	9.59
	3 positions, maintained		M3SS4-10B	1SFA611213R1006	8.72
	3-position, spring-loaded		M3SS5-10B	1SFA611214R1006	8.72
	Selector switch with key				
	2 positions, key removable		M2SSK1-101	1SFA611280R1001	17.77
	3 positions, key removable		M3SSK1-101	1SFA611283R1001	18.09
 ML1-100R	**Pilot light heads**	Red	ML1-100R	1SFA611400R1001	3.49
		Green	ML1-100G	1SFA611400R1002	3.38
		Yellow	ML1-100Y	1SFA611400R1003	3.27
		Blue	ML1-100L	1SFA611400R1004	2.73
		White	ML1-100W	1SFA611400R1005	2.73

*A pushbutton consists of pushbutton head+body-contact block.
A pilot light consists of pilot light head + block with socket + body.
When ordering, it must be specified separately as head+body+block.

PILOT DEVICES
Modular pilot devices

Joystick


MJS joystick

Description		Type	Code	Price (EUR)
Joystik				
MJS1-60B	2-way	Maintained	1SFA611701R6006	78.59
MJS2-60B		Spring	1SFA611702R6006	78.59
MJS5-60B	4-way	Maintained	1SFA611705R6006	87.31
MJS6-60B		Spring	1SFA611706R6006	87.31
Joystick-locking function				
MJS7-60B	2-way	Maintained	1SFA611707R6006	87.31
MJS8-60B		Spring	1SFA611708R6006	87.31
MJS11-60B	4-way	Maintained	1SFA611711R6006	100.30
MJS12-60B		Spring	1SFA611712R6006	100.30

Potentiometers


MT

Description	Type	Code	Price (EUR)
22,5 mm, IP66			
5kΩ, black plastic	MT-105B	1SFA611410R1056	71.83
5kΩ, chrome plastic	MT-205B	1SFA611410R2056	77.50
5kΩ, chrome metal	MT-305B	1SFA611410R3056	77.50
10kΩ, black plastic	MT-110B	1SFA611410R1106	77.50
10kΩ, chrome plastic	MT-210B	1SFA611410R2106	77.50
10kΩ, chrome metal	MT-310B	1SFA611410R3106	77.50
50kΩ, black plastic	MT-150B	1SFA611410R1506	97.01
50kΩ, chrome plastic	MT-250B	1SFA611410R2506	97.01
50kΩ, chrome metal	MT-350B	1SFA611410R3506	97.01

Potentiometer labels


Symbol


Scale 0-10

Description	Code	Price (EUR)
Symbol	SK615562-87	6.10
Scale 0-10	SK615562-88	6.10

Audible warning device


CB1

Description	Type	Code	Price (EUR)
24V AC/DC continuous	CB1-620B	1SFA619600R6206	54.54
230V AC continuous	CB1-623B	1SFA619600R6236	54.54
24V AC/DC pulsed	CB1-630B	1SFA619600R6306	54.54
230V AC pulsed	CB1-633B	1SFA619600R6336	54.54

*A pushbutton consists of pushbutton head+body-contact block.
A pilot light consists of pilot light head + block with socket + body.
When ordering, it must be specified separately as head+body+block.

PILOT DEVICES
Accessories for modular pilot devices

Common accessories


MCBH-00


MCB-10


MCBL

Description	Type	Code	Price (EUR)
Common body for pilot device heads (for 3 blocks in one row)	MCBH-00	1SFA611605R1100	0.76
Common body for pilot device heads (for 5 blocks in one row)	MCBH5-00	1SFA611601R1100	1.20
1NA contact block (for the entire range)	MCB-10	1SFA611610R1001	3.60
1NK contact block (for the entire range)	MCB-01	1SFA611610R1010	3.49
Label holder	KA1-8120	1SFA616920R8120	0.73
Micro contact blocks			
1NA contact block	MCBL-10	1SFA611612R1010	9.92
1NK contact block	MCBL-01	1SFA611612R1001	9.92
Emergency stop label 70mm	SK615546-2	SK615546-2	6.98
Aluminum label without writing	SK615546-8	SK615546-8	7.09
Pilot device mounting tool	MA1-8015	1SFA611920R8015	11.66

LED blocks with built-in protection for pilot devices


MLBL

Description	Color	Type	Code	Price (EUR)
LED block with built-in protection	Red	MLBL-01R	1SFA611621R1011	10.03
24V AC/DC supply	Green	MLBL-01G	1SFA611621R1012	9.48
	Yellow	MLBL-01Y	1SFA611621R1013	8.28
	Blue	MLBL-01L	1SFA611621R1014	9.70
	White	MLBL-01W	1SFA611621R1015	8.28
LED block with built-in protection	Red	MLBL-07R	1SFA611621R1071	11.77
230V AC supply	Green	MLBL-07G	1SFA611621R1072	11.66
	Yellow	MLBL-07Y	1SFA611621R1073	11.55
	Blue	MLBL-07L	1SFA611621R1074	13.08
	White	MLBL-07W	1SFA611621R1075	9.70



PILOT DEVICES
Modular metal series pilot devices

22 mm diameter modular metal type push buttons









	Description		Type	Code	Price (EUR)
	Spring-loaded, flat, pushbutton heads				
	Red		P9MPNRG	1SFA184001R9001	263.50
	Green		P9MPNVG	1SFA184002R9002	263.50
	Black		P9MPNNG	1SFA184000R9006	378.20
	Blue		P9MPNLG	1SFA184006R9004	9.00
	Yellow		P9MPNGG	1SFA184003R9003	342.40
	White		P9MPNBG	1SFA184007R9005	8.08
	Spring loaded, flat, illuminated pushbutton heads				
	Red		P9MPLRGD	1SFA184491R9101	9.49
	Green		P9MPLVGD	1SFA184492R9102	9.49
	Blue		P9MPLLGD	1SFA184496R9104	9.49
	Yellow		P9MPLGGD	1SFA184493R9103	9.49
	White		P9MPLBGD	1SFA184497R9105	9.49
	Spring-loaded, pushbutton heads with symbols	**Symbol**			
	Green	START	P9MPNVG202	1SFA187149R9502	6.63
	Red	STOP	P9MPNRG201	1SFA187147R9501	6.63
	Blue	R	P9MPNLG037	1SFA187143R9504	11.03
	Red	O	P9MPNRG029	1SFA187110R9501	6.63
	Green	I	P9MPNVG028	1SFA187112R9502	6.63
	Black	I	P9MPNNG028	1SFA187111R9506	11.03
	Spring-loaded, mushroom pushbuttons	**Diameter**			
	Red	Ø 40mm	P9MEM4RN	1SFA184041R9001	9.05
	Green	Ø 40mm	P9MEM4VN	1SFA184042R9002	9.05
	Black	Ø 40mm	P9MEM4NN	1SFA184040R9006	9.05
	Maintained, mushroom pushbuttons	**Diameter**	**Pulling Method**		
	Red	Ø 40mm	Twist&Release	P9MER4RN	1SFA184071R9001	13.99
	Mushroom pushbuttons with key, maintained	**Key Code**			
	Red	Key Code 37		P9MEC4RN37	1SFA192012R9001	30.93
	Spring-loaded, illuminated, mushroom pushbuttons	**Diameter**			
	Red	Ø 40mm		P9MEM4RL	1SFA184551R9101	12.34
	Maintained, illuminated mushroom pushbuttons	**Diameter**	**Pulling Method**		
	Red	Ø 40mm	Pull&Release	P9MET4RL1	1SFA184561R9101	16.94

22 mm diameter modular metal pilot lights







Description	Type	Code	Price (EUR)
Transparent	P9MLID	1SFA184798R9008	4.31
Green	P9MLVD	1SFA184792R9002	4.31
Blue	P9MLLD	1SFA184796R9004	4.31
Red	P9MLRD	1SFA184791R9001	4.31
White	P9MLBD	1SFA184797R9005	4.31
Yellow	P9MLGD	1SFA184793R9003	4.31
Orange	P9MLAD	1SFA184795R9009	4.31

PILOT DEVICES

22 mm diameter modular metal type accessories









Description		Type	Code	Price (EUR)
Single contact blocks				
1 NA		P9B10VN	1SFA187002R8001	4.26
1 NK		P9B01VN	1SFA187001R8010	4.31
Dual contact blocks				
1 NA + 1 NK		P9B11VN	1SFA187000R8011	8.13
2 NA		P9B20VN	1SFA187009R8002	8.42
2 NK		P9B02VN	1SFA187008R8020	8.42
Holders				
3 Position		P9ACFS3	1SFA187841R8000	1.21
5 Position		P9ACFS5	1SFA187842R8000	2.18
Led blocks	**Voltage**			
Green	24V AC/DC	P9PLNVDV	1SFA197005R1012	23.47
Blue	24V AC/DC	P9PLNVDL	1SFA197003R1014	23.42
Red	24V AC/DC	P9PLNVDR	1SFA197004R1011	22.31
White	24V AC/DC	P9PLNVDB	1SFA197001R1015	24.20
Yellow	24V AC/DC	P9PLNVDG	1SFA197002R1013	22.31
Green	120 V AC	P9PLNVJV	1SFA197011R1042	26.13
Blue	120 V AC	P9PLNVJL	1SFA197009R1044	27.49
Red	120 V AC	P9PLNVJR	1SFA197010R1041	24.68
White	120 V AC	P9PLNVJB	1SFA197007R1045	25.94
Yellow	120 V AC	P9PLNVJG	1SFA197008R1043	25.94
Green	230 V AC	P9PLNVNV	1SFA197017R1072	28.21
Blue	230 V AC	P9PLNVNL	1SFA197015R1074	29.52
Red	230 V AC	P9PLNVNR	1SFA197016R1071	28.21
White	230 V AC	P9PLNVNB	1SFA197013R1075	28.21
Yellow	230 V AC	P9PLNVNG	1SFA197014R1073	28.21
Padlock device				
Lockable protection device for pushbuttons and position switches		P9ACRCL	1SFA187840R8000	7.69

PILOT DEVICES
Compact pilot devices

—
22 mm diameter compact pilot devices

	Description	Contact	Color	Type	Code	Price (EUR)
 CP1-10G-10	**Spring-loaded push button**	1NA	Black	CP1-10B-10	1SFA619100R1016	6.32
		1NA	White	CP1-10W-10	1SFA619100R1015	6.32
		1NA	Green	CP1-10G-10	1SFA619100R1012	5.56
		1NK	Red	CP1-10R-01	1SFA619100R1041	5.56
		1NA +1NK	Black	CP1-10B-11	1SFA619100R1076	6.76
		1NA +1NK	White	CP1-10W-11	1SFA619100R1075	6.76
		1NA +1NK	Green	CP1-10G-11	1SFA619100R1072	6.76
 CP2-10W-11	**Maintained pushbutton**	1NA	Black	CP2-10B-10	1SFA619101R1016	7.09
		1NA	White	CP2-10W-10	1SFA619101R1015	7.09
		1NA	Green	CP2-10G-10	1SFA619101R1012	7.09
		1NK	Red	CP2-10R-01	1SFA619101R1041	6.76
		1NA +1NK	Black	CP2-10B-11	1SFA619101R1076	9.05
		1NA +1NK	White	CP2-10W-11	1SFA619101R1075	9.05
		1NA +1NK	Green	CP2-10G-11	1SFA619101R1072	9.05
	24V AC/DC, LED with built-in protection					
 CP1-11G-10	**Illuminated, spring-loaded, flat-head pushbutton**	1NK	Red	CP1-11R-01	1SFA619100R1141	13.63
		1NA	Red	CP1-11R-10	1SFA619100R1111	6.32
		1NA	Green	CP1-11G-10	1SFA619100R1112	6.32
		1NA	Yellow	CP1-11Y-10	1SFA619100R1113	12.32
 CP2-11G-10	**Illuminated, maintained, flat-head pushbutton**	1NK	Red	CP2-11R-01	1SFA619101R1141	13.52
		1NA	Red	CP2-11R-10	1SFA619101R1111	13.63
		1NA	Green	CP2-11G-10	1SFA619101R1112	13.63
		1NA	Yellow	CP2-11Y-10	1SFA619101R1113	13.63
 CP3-11Y-10	**Illuminated, spring-loaded, extended pushbutton**	1NK	Red	CP3-11R-01	1SFA619102R1141	13.63
		1NA	Red	CP3-11R-10	1SFA619102R1111	13.63
		1NA	Green	CP3-11G-10	1SFA619102R1112	13.63
		1NA	Yellow	CP3-11Y-10	1SFA619102R1113	13.52
 CP4-11R-01	**Illuminated, maintained, extended pushbutton**	1NK	Red	CP4-11R-01	1SFA619103R1141	13.63
		1NA	Red	CP4-11R-10	1SFA619103R1111	13.63
		1NA	Green	CP4-11G-10	1SFA619103R1112	13.63
		1NA	Yellow	CP4-11Y-10	1SFA619103R1113	13.52
	220-230V AC/DC, LED with built-in protection					
 CP1-11G-10	**Illuminated, spring-loaded, flat-head pushbutton**	1NK	Red	CP1-13R-01	1SFA619100R1341	12.86
		1NA	Red	CP1-13R-10	1SFA619100R1311	13.63
		1NA	Green	CP1-13G-10	1SFA619100R1312	13.41
		1NA	Yellow	CP1-13Y-10	1SFA619100R1313	13.63
 CP2-11G-10	**Illuminated, maintained, flat-head pushbutton**	1NK	Red	CP2-13R-01	1SFA619101R1341	13.63
		1NA	Red	CP2-13R-10	1SFA619101R1311	13.63
		1NA	Green	CP2-13G-10	1SFA619101R1312	13.63
		1NA	Yellow	CP2-13Y-10	1SFA619101R1313	13.63
 CP3-11Y-10	**Illuminated, spring-loaded, extended pushbutton**	1NK	Red	CP3-13R-01	1SFA619102R1341	13.63
		1NA	Red	CP3-13R-10	1SFA619102R1311	13.63
		1NA	Green	CP3-13G-10	1SFA619102R1312	13.63
		1NA	Yellow	CP3-13Y-10	1SFA619102R1313	13.52
 CP4-11R-01	**Illuminated, maintained, extended pushbutton**	1NK	Red	CP4-13R-01	1SFA619103R1341	13.63
		1NA	Red	CP4-13R-10	1SFA619103R1311	13.63
		1NA	Green	CP4-13G-10	1SFA619103R1312	13.63
		1NA	Yellow	CP4-13Y-10	1SFA619103R1313	13.63

PILOT DEVICES
Compact pilot devices

22 mm diameter compact pilot devices

	Description	Contact	Color	Type	Code	Price (EUR)
 CE4T-10R-01	**Emergency stop button**	Push, twist-pull		CE4T-10R-01	1SFA619550R1041	12.64
	40 mm mushroom head, maintained	Key		CE4K1-10R-02	1SFA619552R1051	29.21
 C2SS1-10B	**Selector switch, maintained**	1NA, 2-position	Black	C2SS1-10B-10	1SFA619200R1016	7.41
		2NA, 3-position	Black	C3SS1-10B-20	1SFA619210R1026	9.05
		1NA +1NK, 2-position	Black	C2SS1-10B-11	1SFA619200R1076	9.16
		1NA +1NK, 3-position	Black	C3SS1-10B-11	1SFA619210R1076	9.16
	Selector switch, spring	1NA, 2-position	Black	C2SS3-10B-10	1SFA619202R1016	9.16
		2NA, 3-position	Black	C3SS2-10B-20	1SFA619211R1026	9.81
		1NA +1NK, 2-position	Black	C2SS3-10B-11	1SFA619202R1076	9.16
		1NA +1NK, 3-position	Black	C3SS2-10B-11	1SFA619211R1076	9.81
 CL-100R	**Pilot lights (excluding bulb)**		Red	CL-100R	1SFA619402R1001	4.69
			Green	CL-100G	1SFA619402R1002	4.69
			Yellow	CL-100Y	1SFA619402R1003	4.69
			Blue	CL-100L	1SFA619402R1004	4.69
			White	CL-100W	1SFA619402R1005	4.69
			Transparent	CL-100C	1SFA619402R1008	4.69
 CL2	**LED pilot light (230V AC)**		Red	CL2-523R	1SFA619403R5231	9.16
			Green	CL2-523G	1SFA619403R5232	9.05
			Yellow	CL2-523Y	1SFA619403R5233	8.83
			Blue	CL2-523L	1SFA619403R5234	8.83
			Transparent	CL2-523C	1SFA619403R5238	8.83

CONTROL BOXES
Modular and compact control boxes

Modular control boxes

	Description		Type	Code	Price (EUR)
	Plastic boxes, light gray base, dark gray cover				
	Start function (I)				
	Spring start pushbutton, 1NA, green		MEP1-1001	1SFA611811R1001	50.03
	Spring start pushbutton, 1NA, white		MEP1-1002	1SFA611811R1002	63.66
	Spring start pushbutton, 1NA, red		MEP1-1003	1SFA611811R1003	63.66
	Spring start pushbutton, 1NA, black		MEP1-1004	1SFA611811R1004	63.66
 MEP2-1001	**Start (I) / Stop (0) function**				
	Spring start pushbutton, 1NA green, spring stop pushbutton, 1NK red		MEP2-1001	1SFA611812R1001	64.20
	Start (I) / Stop (0) / Start (II) function				
	Spring start pushbutton, 1NA green, spring stop pushbutton, 1NK red, spring start pushbutton, 1NA green		MEP3-1004	1SFA611813R1004	105.90
	Plastic enclosure	**Number of free holes**			
	Light gray base, dark gray cover	1	MEP1-0	1SFA611811R1000	19.29
		2	MEP2-0	1SFA611812R1000	27.58
		3	MEP3-0	1SFA611813R1000	39.89
		4	MEP4-0	1SFA611814R1000	55.26
		6	MEP6-0	1SFA611816R1000	67.36
	Light gray base, yellow cover	1	MEPY1-0	1SFA611821R1000	19.29

CONTROL BOXES
Modular and compact control boxes

Compact control boxes







CA1-8054

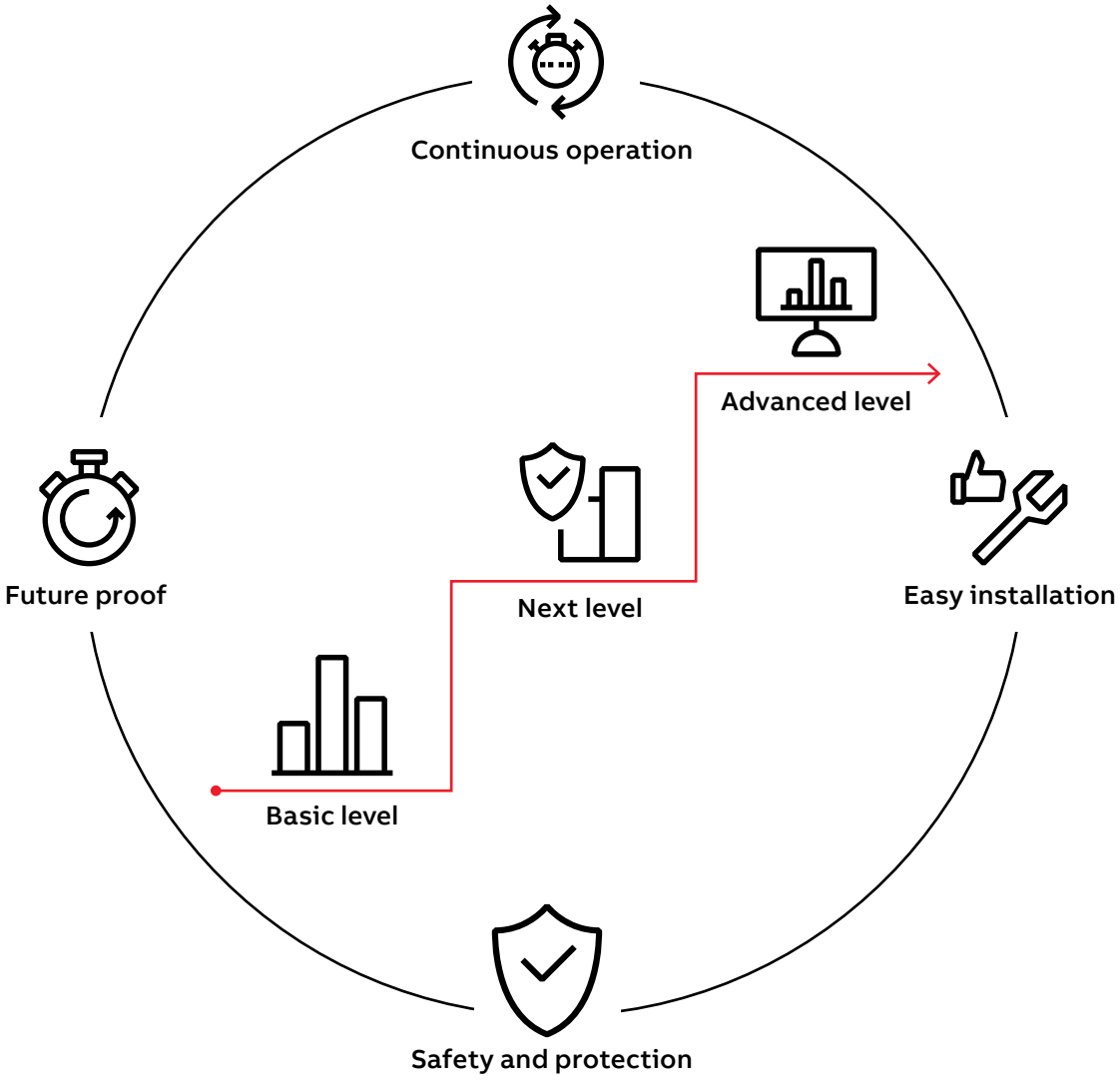
Description	Type	Code	Price (EUR)
Plastic boxes, light gray base, yellow cover			
Push, twist and pull with emergency stop function	CEPY1-1001	1SFA619821R1001	31.50
Red, 2NK			
Push-pull with emergency stop function	CEPY1-1002	1SFA619821R1002	31.50
Red, 2NK			
Push, twist and pull with protection	CEPY1-2001	1SFA619821R2001	31.50
Red, 2NK			
Push-pull with emergency stop function, protection	CEPY1-2002	1SFA619821R2002	31.50
Red, 2NK			
Emergency stop button enclosure	CEPY1-0	1SFA619821R1000	19.84
Protective	CA1-8053	1SFA619920R8053	5.89
Plastic boxes, dark gray			
Push, twist-pull with machine stop function	CEP1-1001	1SFA619811R1001	39.57
Black, 1NA+1NK			
Push-pull with machine stop function	CEP1-1002	1SFA619811R1002	39.57
Black, 1NA+1NK			
Push, twist-pull, with machine stop function, protection	CEP1-2001	1SFA619811R2001	39.57
Black, 1NA+1NK			
Push, pull, with machine stop function, protection	CEP1-2002	1SFA619811R2002	39.57
Black, 1NA+1NK			
Machine stop button enclosure	CEP1-0	1SFA619811R1000	18.75
Protective	CA1-8054	1SFA619920R8054	5.89

SOC for coordination tables in your motor starting applications

The SOC (Selected Optimized Coordination) online tool allows you to quickly select from more than 1800 tested coordination tables for direct starting, star-delta starting and softstarter starting.

The SOC tool offers filtering options for starting method, rated operating voltage, rated motor power, rated short circuit capacity, coordination type according to IEC standards, short circuit protection device and thermal protection device. The use of coordination tables reduces the selection and design time of solutions as well as the risk of unwanted outages.

To access the motor protection coordination tables: lowvoltage-tools.abb.com/soc/Motor
To learn how to use it: SOC - Selected Optimized Coordination - Getting started (abb.com)



CABLE PROTECTION SYSTEMS
Adaptaflex plastic cable protection systems spiral selection guide



Spiral type	**Profile**	**PA Type**	**PA Type**	**PA Type**	**PA Type**	**PF Type**	**PF Type**	**PI Type**	**PI Type**	**PR Type**	**PADL Type**
Type code	Slim	PAFL	PAFL-S	PAFS	PAFH	PFFS	PFFH	PIFS	PIFH	PRFS	PADL
	Kalın	PACL	PACL-S	PACS	PACH	PFCS	PFCH	PICS	PICH	PRCS	
Spiral weight		Lightweight	Lightweight	Standard	Heavy	Standard	Heavy	Standard	Heavy	Standard	Standard
Spiral material		PA6	PA6	PA6	PA6	PA12	PA12	PA11	PA11	PA6	PA6
Coating/mesh coating		–	–	–	–	–	–	–	–	–	–
Spiral color											
Black (BL)		•	•	•	•	•	•	•	•	•	•
Gray (GR)		•	–	•	•	–	–	•	–	–	–
White (W)		–	–	–	–	–	–	–	–	–	–
IP protection (with suitable fitting)											
IP40			•		–	•	•	–	–	•	•
IP65			–		–	–	–	–	–	–	–
IP66			•		–	•	•	•	•	•	•
IP67			•		–	•	•	•	•	•	•
IP68			•		–	•	•	•	•	•	•
IP69K			–		–	•	–	•	•	•	–

—
Özellikler

Temperature range										
Static applications (ºC)	-40 – +120	-40 – +120	-40 – +120	-40 – +120	-50 – +110	-50 – +110	-50 – +110	-50 – +110	-40 – +120	-40 – +120
Dynamic applications (ºC)	-5 – +120	-5 – +120	-5 – +120	-5 – +120	-45 – +120	-45 – +120	-45 – +120	-45 – +120	-5 – +120	-18 – +120
UV resistance	Very high	Very high	Very high	Very high	Very high	Very high	Very high	Very high	Very high	Very high
Flexibility	High	High	High	Middle	Very high	High	Very high	High	High	Middle
Fatigue life	High	High	High	Middle	Very high	High	Very high	Very high	Middle	Middle
Low fire hazard	–	–	Standard	Standard	Standard	Standard	–	–	Advanced	Standard
Halogen free	•	•	•	•	•	•	•	•	•	•
Self-damping	•	•	•	•	•	•	•	•	•	•
EMI display	–	–	–	–	–	–	–	–	–	–
High mechanical durability	–	–	–	–	–	–	–	–	–	–
High wear resistance	–	–	•	•	•	•	–	–	•	•
Approvals										
BSI Kitemark	•	•	•	•	•	•	•	•	•	•
CE	•	•	•	•	•	•	•	•	•	•
UL / CSA	–	–	–	–	–	–	–	–	–	•
DIN 5510-2	•	–	•	•	•	•	•	•	•	–
NF F	–	–	•	•	•	•	•	•	•	–
Lloyds Register	–	–	•	•	–	–	–	–	•	–
LUL 1-085	–	–	–	–	–	–	–	–	•	–
UNI CEI 11170	–	–	–	–	•	•	–	–	–	–
EN45545-2 – HL2	–	–	–	–	•	•	–	–	•	–
EN45545-2 – HL3	–	–	–	–	–	–	–	–	•	–

Please refer to the product catalog for fittings and other accessories.
http://new.abb.com/low-voltage/products/conduit-fittings



CP Type	KF Type	KF Type	KF Type	PP Type	XF Type	RF Type	PK Type	PKTC Type	PKSS Type	PRTC Type	PRSS Type
CPFM	KFL	KFS	KFM	PPFM	XFRF	PKFS	PKFSTC	PKFSSS	PRFSTC	PRFSSS	
CPCM							PKCS	PKCSTC	PKCSSS	PRCSTC	PRCSSS
Medium	Lightweight	Standard	Medium	Medium	Standard	Standard	Standard	Standard	Standard	Standard	Standard
CPe	PVCu	PVCu	PVCu	PP	PVC	PVC	PK	PK	PK	PA6	PA6
–	–	–	–	–	Plasticized PVC	Plasticized PVC	–	Tinned copper	Stainless steel	Tinned copper	Stainless steel
•	–	–	•	•		•	•	•	–	–	–
–	•	–	–	–		–	•	–	–	–	–
–	–	•	–	–		–	–	–	–	–	–
•	•	•	•	•	•	•	–	–	–	–	–
–	–	•	•	•	•	–	•	–	–	–	–
•	•	•	–	–	–	•	–	–	•	•	•
•	•	•	–	–	–	•	–	•	•	•	•
•	•	•	–	–	–	•	–	–	–	–	–
•	•	•	–	–	–	–	–	–	–	–	–
-50 – +135	-5 – +60	-5 – +60	-5 – +60	-20 – +90	-5 – +60	-20 – +60	-60 – +260	-60 – +260	-60 – +260	-40 – +120	-40 – +120
-25 – +150	-5 – +60	-5 – +60	-5 – +60	-5 – +105	-5 – +60	-5 – +60	-45 – +260	-45 – +260	-45 – +260	-5 – +120	-5 – +120
Very high	High	High	High	Middle	High	High	Very high	Very high	Very high	Very high	Very high
Very high	Pliable	Pliable	Pliable	High	Very high	Middle	High	High	High	High	High
Very high	Low	Low	Low	Middle	Middle	Middle	High	High	High	Middle	Middle
Standard	–	–	–	–	–	–	Superior	Superior	Superior	Advanced	Advanced
•	–	–	–	•	–	–	•	•	•	•	•
•	•	•	•	–	•	•	•	•	•	•	•
–	–	–	–	–	–	–	–	High	Standard	High	Standard
–	–	–	–	–	–	–	–	•	•	•	•
–	–	–	–	–	–	–	•	•	•	•	•
•	•	•	•	–	–	–	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	•	•
•	–	–	–	–	–	–	•	•	•	•	•
–	–	–	–	–	–	–	–	–	–	•	•
–	–	–	–	–	–	–	•	•	•	•	•
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

CABLE PROTECTION SYSTEMS
Adaptaflex plastic cable protection systems spiral selection guide

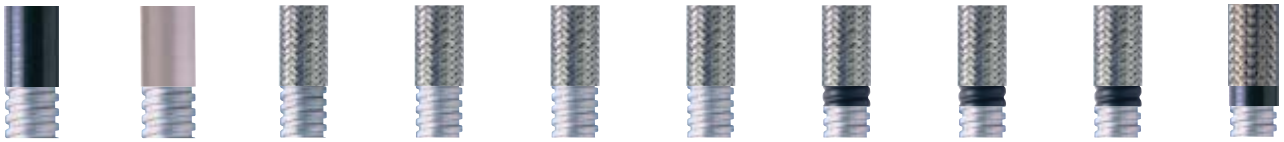


Spiral type	**S type**	**SS Type**	**SP Type**	**SN Type**	**LFH-SP type**	**SPL Type**	**LFH-SPL type**	**SPL-EF type**
Type code	S	SS	SP	SN	LFH-SP	SPL	LFH-SPL	SPL-EF
Spiral material	Galvanized steel	Stainless steel	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel
Coating/mesh coating	–	–	PVC	PA (Nylon)	Poliolefin	PVC	Low fire hazard jacket	Thermoplastic jacket
Spiral color								
Black (BL)	–	–	•	•	•	•	•	•
Gray (GR)	–	–	•	–	–	•	–	–
IP protection (with suitable fitting)								
IP40	•	•	–	–	–	–	–	–
IP54	–	–	•	•	•	–	–	–
IP65	–	–	•	•	•	–	–	–
IP66	–	–	–	–	–	•	•	•
IP67	–	–	–	–	–	•	•	•
IP68	–	–	–	–	–	•	•	•
IP69K	–	–	–	–	–	•	•	•

—
Özellikler

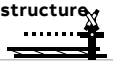
Temperature range								
Static applications (ºC)	-50 – +300	-50 – +350	-25 – +70	-25 – +90	-25 – +90	-20 – +105	-20 – +90	-40 – +105
Dynamic applications (ºC)	-45 – +250	-45 – +250	-5 – +90	-5 – +105	-5 – +105	-5 – +105	-5 – +105	-30 – +105
UV resistance	Very high	Very high	Very high	High	High	Very high	High	Very high
Flexibility	High	High	High	Middle	High	Middle	Middle	Very high
Fatigue life	High	High	Middle	Middle	Middle	Middle	Middle	High
Low fire hazard	Natural	Natural	–	–	Advanced	–	Advanced	Advanced
Halogen free	•	•	–	•	•	–	•	•
Self-damping	–	–	•	•	•	•	•	•
EMI display	–	–	–	–	–	–	–	–
High mechanical durability	•	•	•	•	•	•	•	•
High wear resistance	–	•	–	–	–	–	–	–
Approvals								
BSI Kitemark	•	•	•	•	•	•	•	•
CE	•	•	•	•	•	•	•	•
UL / CSA	–	–	–	–	–	–	–	–
UR	–	–	–	–	–	•	–	–
DIN 5510-2	–	–	–	–	–	–	–	–
NF F	–	–	–	–	•	–	•	–
Lloyds Register	–	–	–	–	•	•	–	–
LUL 1-085	–	–	–	–	•	–	•	–
UNI CEI 11170	–	–	–	–	–	–	–	–
EN45545-2 – HL3	–	–	–	–	–	–	•	•

Please refer to the product catalog for fittings and other accessories.
http://new.abb.com/low-voltage/products/conduit-fittings

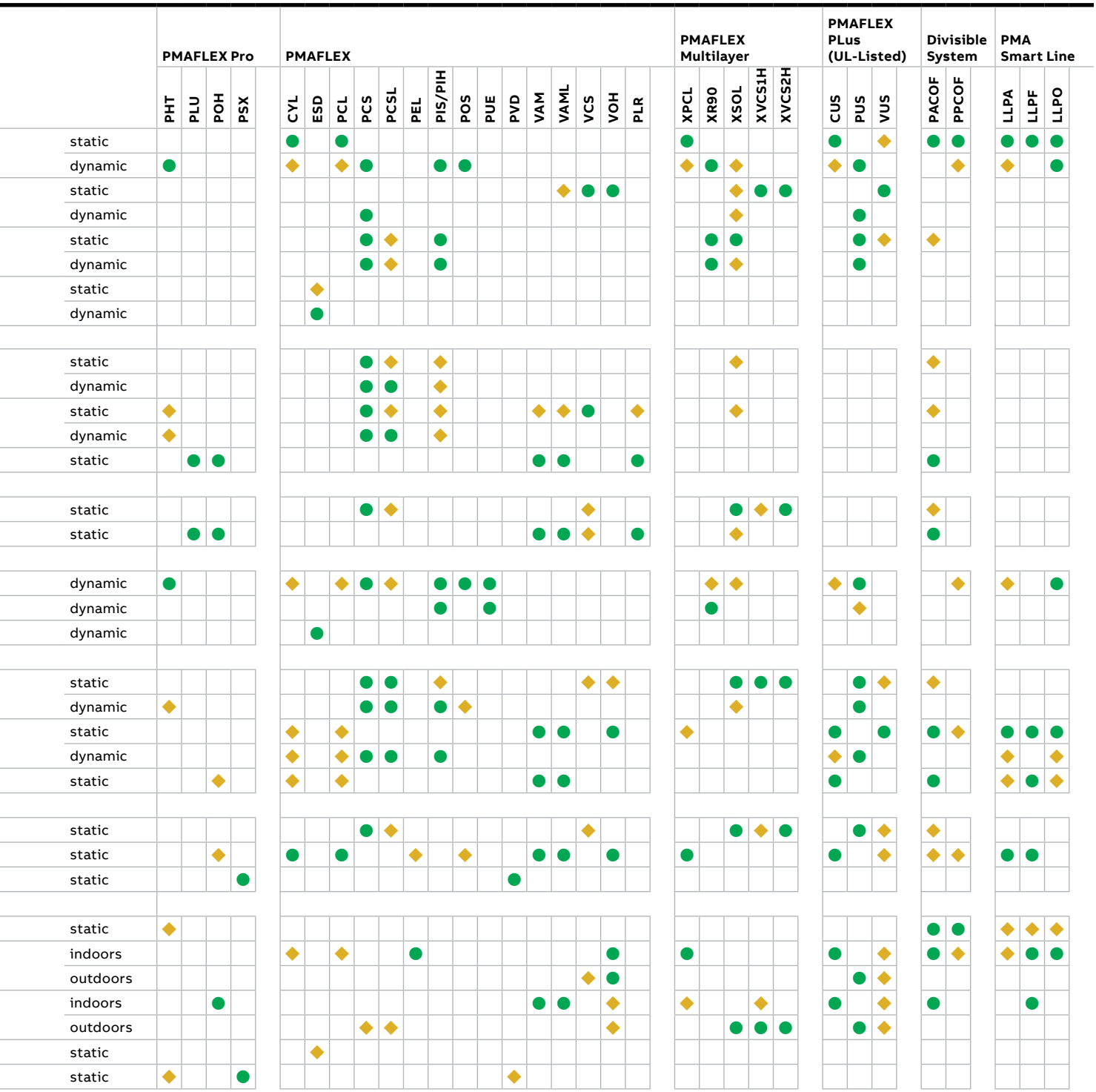


SPLHC Type	**SPUL Type**	**SB Type**	**STC Type**	**SSB Type**	**SSBGS Type**	**SPB Type**	**SPTC Type**	**LFH-SPSS type**	**SPLHCB Type**
SPLHC	SPUL	SB	STC	SSB	SSBGS	SPB	SPTC	LFH-SPSS	SPLHCB
Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel	Stainless steel	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel
Thermoplastic rubber	PVC	Galvanized steel	Tinned copper	Stainless steel	Stainless steel	PVC & galvanized steel	PVC & tinned copper	Stainless steel Low fire hazard jacket	Thermoplastic rubber & stainless steel
•	–	–	–	–	–	–	–	–	–
–	•	–	–	–	–	–	–	–	–
–	–	•	•	•	•	–	–	–	–
–	–	–	–	–	–	•	–	•	–
–	–	–	–	–	–	–	–	–	–
•	•	–	–	–	–	–	–	–	•
•	•	–	–	–	–	–	–	–	•
•	•	–	–	–	–	–	–	–	•
•	•	–	–	–	–	–	–	–	–
-65 – +135	-20 – +75	-50 – +300	-50 – +300	-50 – +300	-50 – +300	-15 – +70	-15 – +70	-20 – +90	-65 – +135
-45 – +150	-5 – +105	-45 – +250	-45 – +250	-45 – +250	-45 – +250	-5 – +90	-5 – +90	-5 – +105	-45 – +150
Very high	High	Very high	Very high	Very high	Very high	Very high	Very high	Very high	Very high
Very high	Middle	High	High	High	High	High	High	Middle	High
High	Middle	High	High	High	High	Middle	Middle	Middle	Middle
–	–	Natural	Natural	Natural	Natural	–	–	Advanced	–
•	–	•	•	•	•	–	–	–	•
•	•	–	–	–	–	•	•	•	•
–	–	Advanced	High	Standard	Standard	Advanced	High	Standard	Standard
•	•	•	•	•	•	•	•	•	•
–	–	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	–
•	•	•	•	•	•	•	•	•	•
–	•	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	•	–
–	–	–	–	–	–	–	–	•	–
–	–	–	–	–	–	–	–	•	–
–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–

CABLE PROTECTION SYSTEMS
PMA plastic cable protection systems spiral selection guide

Spirals	
Fields of application	
Machine production 	General applications
	Heavy loads
	Outdoor applications
	Antistatic requirements
Rolling stock 	Outdoor applications exposed to sunlight
	Outdoor applications
	Indoor applications
Railway infrastructure 	Outdoor applications exposed to sunlight
	Indoor and tunnel applications
Automation/Robotics 	Motion systems
	Extreme motion systems
	Motion systems with antistatic requirements
Marine + Offshore 	Outdoor applications
	Indoor applications
	Passenger area
Energy 	Outdoor applications exposed to sunlight
	Indoor applications
	Radiation exposure
Others 	Vehicle production
	Telecommunications
	Building construction
	Explosion hazardous areas (ATEX, IECEx)
	High temperature applications

Please refer to the product catalog for fittings and other accessories.
http://new.abb.com/low-voltage/products/conduit-fittings



Switch

- recommended
- suitable (application details must be taken into account)

CABLE PROTECTION SYSTEMS
PMA plastic cable protection systems spiral selection guide

Spirals		
Material characteristics		Flexibility
		Reverse bending strength
		Compression strength
		Low temperature performance
		High temperature performance
		Severe weather abrasion resistance
Approvals		Bi-National Recognition File UL1696 & CSA C22.2 No. 227.3-05
		Bi-National Listing File UL1660 & CSA C22.2 No. 227.2.1
		Halogen free, REACH + RoHS compliant
		Flame retardant EN61386
		EN 45545-2
		NF F 16-101 + 102
		BS 6853
		DIN 5510-2
		UNI CEI 11170-3 Ed. 2005
		NFPA 130 (ASTM E162 – ASTM E662 – ASTM E1354) BSS 7239/SMP 800-C
		PN-K 2511
		GOST 12.1.044-89
		DNV (Type approved)
		Lloyd's Register (Type approved)
		Bureau Veritas (Type approved)
Temperature range		Continuous operating temperature (according to DO9.21-4510)
		Short-term max. operating temperature 168h (according to DO 9.21-4360)
Dimensions		Min. nominal width
		Max. nominal width
		Min. metric size
		Max. metric size

Please refer to the product catalog for fittings and other accessories.
http://new.abb.com/low-voltage/products/conduit-fittings

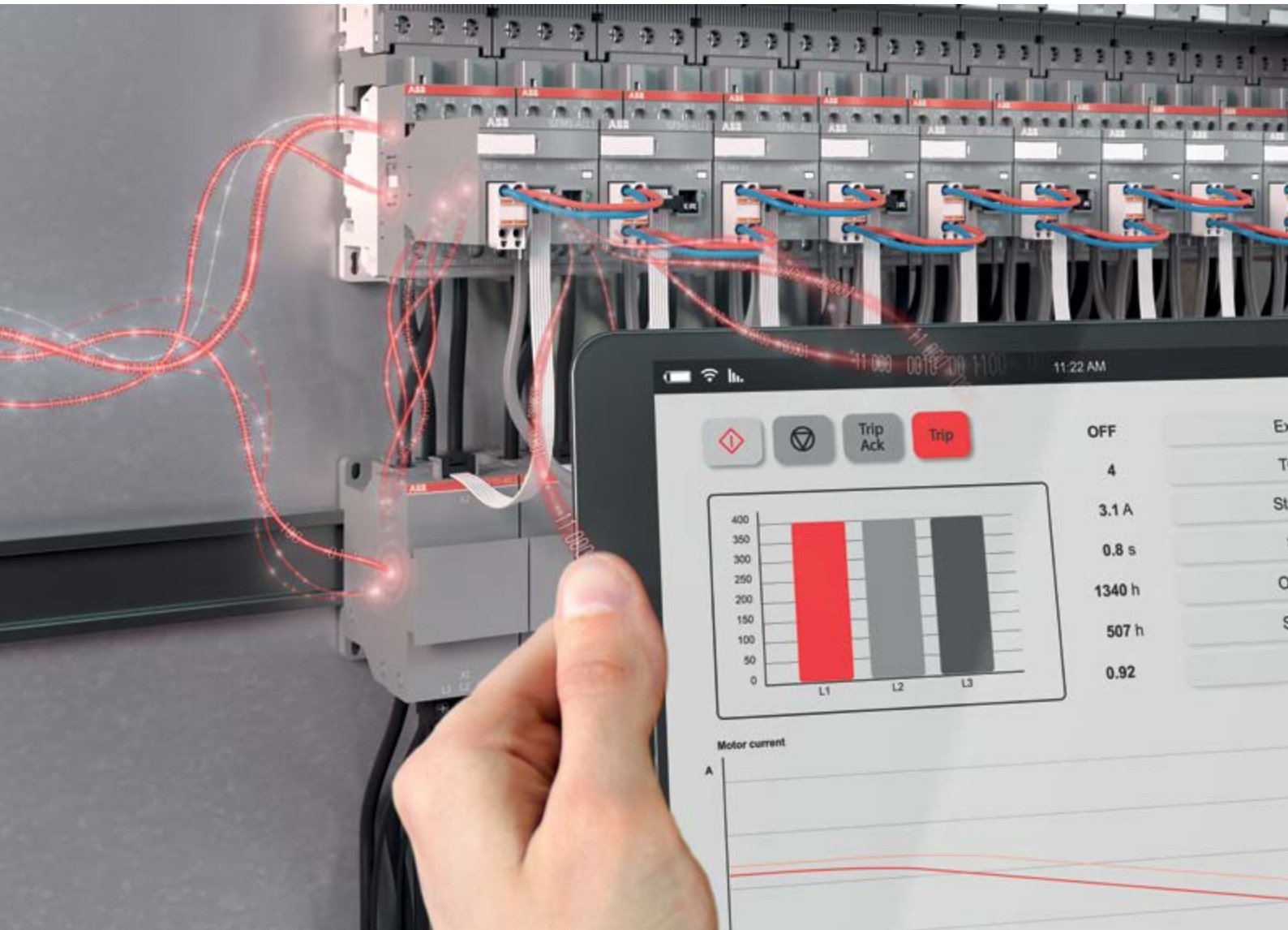
	PMAFLEX Pro				PMAFLEX														PMAFLEX Multilayer					PMAFLEX PLus (UL-Listed)			Divisible System		PMA Smart Line		
	PHT	PLU	POH	PSX	CYL	ESD	PCL	PCS	PCSL	PEL	PIS/PIH	POS	PUE	PVD	VAM	VAML	VCS	VOH	PLR	XPCL	XR90	XSOL	XVCS1H	XVCS2H	CUS	PUS	VUS	PACOF	PPCOF	LLPA	LLPF	LLPO
					●		●	●			●						●					●								●		
																									●	●	●					
	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
				●	●		●	●	●		●			●	●	●	●	●	●	●		●				●	●	●	●	●	●	●	●
			●					●	●						●	●			●										●				
			●					●	●						●	●	●												●				
		●	●					●	●																				●			
			●					●	●		●				●	●	●					●								●		●	
			●					●	●						●	●	●												●			●	
								●	●		●				●	●													●			●	
								●	●						●	●	●																
								●			●				●	●																	
		●			●	●	●	●	●		●			●	●	●	●	●												●	●	●
		●			●	●	●	●	●		●			●	●	●	●	●												●	●	●
		●			●	●	●	●	●		●			●	●	●	●	●												●	●	●
Min. (–)	-50	-25	-25	-100	-40	-40	-50	-50	-50	-50	-50	-25	-60	-40	-40	-40	-50	-40	-40	-50	-40	-50	-50	-50	-40	-50	-50	-40	-20	-40	-40	-20
Max. (+)	135	95	95	170	105	90	105	95	95	60	95	95	50	150	105	105	105	105	105	105	95	95	90	90	105	95	105	105	105	105	105	90
(+)	180	120	120	200	160	150	160	150	150	–	150	130	–	–	160	160	160	160	160	160	150	150	120	120	160	150	160	160	150	160	160	130
	07	10	10	10	07	07	07	07	07	10	07	07	17	10	10	10	07	07	07	12	17	12	12	12	17	17	17	07	07	07	07	07
	48	48	48	48	125	95	125	95	48	48	125	95	70	29	48	125	95	125	48	48	48	48	48	48	48	48	48	70	70	125	48	48
	10	12	12	12	10	10	10	10	10	12	10	10	20	12	12	12	10	10	10	16	20	16	16	16	20	20	20	10	10	10	10	10
	50	50	50	50	146	106	146	106	50	50	146	106	80	32	50	146	106	146	50	50	50	50	50	50	50	50	50	80	80	146	50	50

Switch

● available

Advanced digitization, simplified Novolink modules™ for AF contactors

Say hello to Novolink smart modules for AF contactors, optimize your operations, increase efficiency and start new business models. How? By digitizing your motor starting solutions easily and quickly with the new Novolink smart modules.



LV PRIMARY DISTRIBUTION SWITCHGEAR
System pro E Power – 6300

ABB's new primary distribution and power switchgear solution, System pro E Power, is perfectly compliant with standards for electrical power primary distribution in infrastructures and industry. It offers a complete solution that works in perfect synergy with all other ABB low-voltage products, such as the Tmax T and XT molded case circuit breakers and Emax 2 air circuit breakers. A complete range of accessories ensures that all components work in perfect harmony with each other, so all ABB's devices can be easily implemented with System Pro E Power, with extremely easy installation and wiring. System pro E Power is the market's new benchmark. It redefines the concept of excellence and performance for distribution switchboards. Just further confirmation of ABB's tradition, experience and standing as leader of the electric power and energy distribution market. If Flexibility, Velocity and Simplicity are what you're looking for, then this new main distribution switchboard is the right choice for your electrical system.



Technical specifications

System pro E Power – 6300	
Rated current	Up to 6300A
IP values	IP30, IP31, IP40, IP41, IP65
Rated frequency	50-60 Hz
Ue (operating voltage)	up to 1000V AC/1500V DC
Ui (isolation voltage)	up to 1000V AC/1500V DC
Uimp (rated impulse withstand voltage)	12 kV
Icw (rated short circuit withstand current)	120kA (1s), 50kA (3s)
Ipk (rated short circuit withstand making (peak value) capacity)	264kA
Reference Standards	IEC 61439-1-2
Vibration test	IEC 60068-2-57
Seismic test	IEEE Std 693
Arc-Resistance standard	IEC 61641

* Request the ABB special supervision service factory acceptance test (FAT) approved by ABB Service department from our partners!

ArTu LV switchgear – 6300A

ABB's ArTu series electrical distribution switchgear has a flexible structure that can meet your different needs. With a rated current carrying capacity of 6300A, short circuit withstand capacity of 105kA (Icw) and protection class up to IP65, it offers solutions in numerous areas such as factories, residences, shopping centers, public buildings and infrastructure. With its flexible structure and wide range of size options, it allows optimum utilization of different areas. ArTu distribution switchgear is the product of proven ABB technology and has been fully tested and certified by ACAE (Lovag), an independent organization, according to IEC 61439-1 and 2 standards.



INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 and SR2 enclosures

Technical specifications

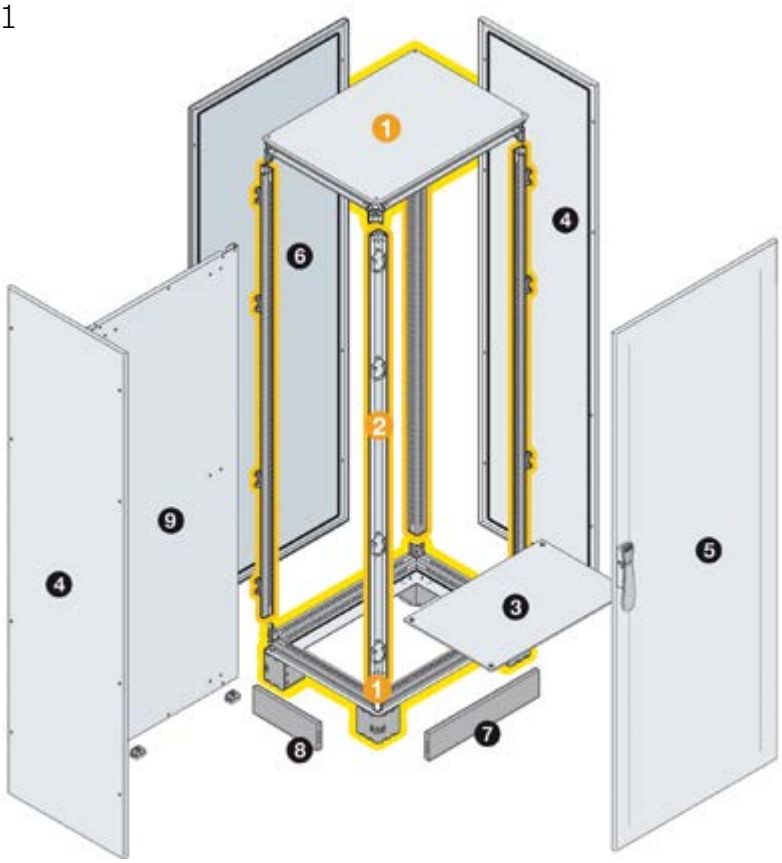
IS2 - Floor standing modular enclosures (IP65)	
Standard	IEC 62208, IEC 60439-1, IEC 61439-1/2
Seismic compatibility	IEC 60068-2-57 IEEE Std 693
Protection degree	IP65 (IEC 60529) TYPE 12 (UL)
Mechanical endurance	IK10 blind door (IEC 62262) IK09 glazed door (IEC 62262)
Other standards	c UL us LISTED, Ex II 3 G D
Construction	Modular
Color	RAL 7035
Type of application	Indoor
Type of installation	Standalone
Operating temperature	-5°C to +40°C

SR2 - Wall-mounted monoblock enclosures (IP65)	
Standard	IEC 62208, IEC 60439-1, IEC 61439-1/2
Protection degree	IP65 (IEC 60529) TYPE 12 (UL)
Mechanical endurance	IK10 blind door (IEC 62262) IK09 glazed door (IEC 62262)
Other standards	CSA, UL LISTED, Ex II 3 G D
Construction	Monoblock
Color	RAL 7035
Type of application	Indoor
Type of installation	Wall mounted
Operating temperature	-5°C to +40°C



INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Configuration examples

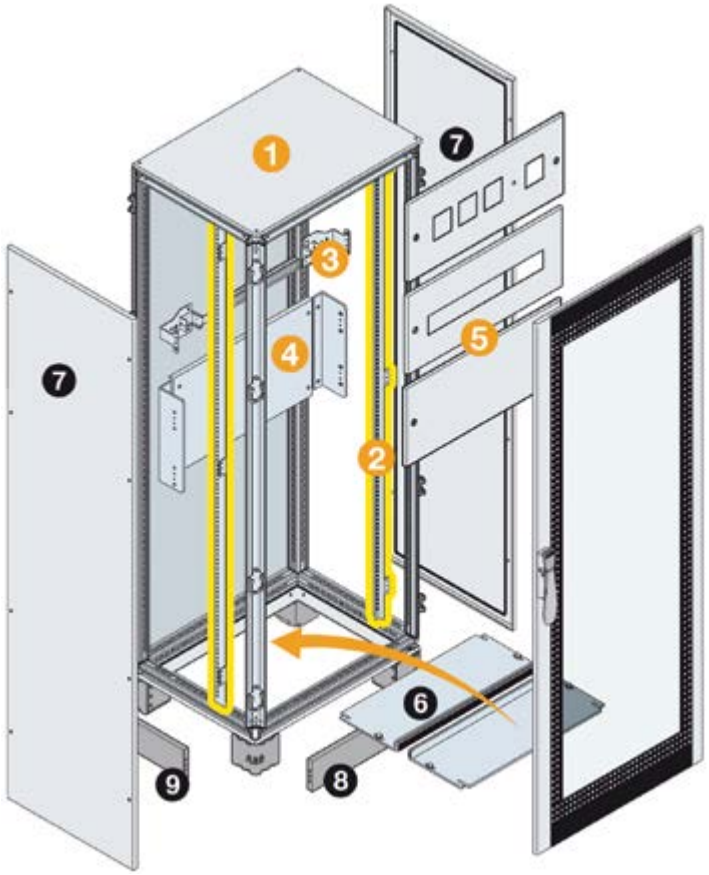
1



Application with mounting plate 2000x600x500 (hxwxd)

1. **EK6050KN**
   Floor and ceiling module
2. **EM2000**
   Struts (set of 4)
3. **EF6050 or EF6051**
   Cable entry flange
4. **EL2050K**
   Blind Side Panels (set of 2)
5. **EC2060K**
   Central blind door
6. **EP2060KL**
   Back covers
7. **ZN6000**
   Plinth flanges (set of 2)
8. **ZN5000**
   Plinth flanges (set of 2)
9. **EA2060**
   Galvanized Back Plate

2

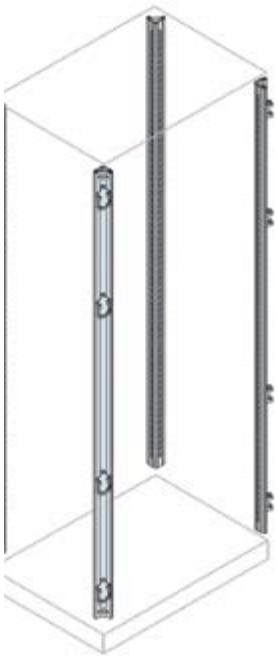


Distribution application 2000x600x600 (hxwxd)

1. **EK6060KN + EM2000 + ET2060K + EP2060KL**
   Housing selection
2. **EH2000L**
   Uprights for modular panels (set of 2)
3. **EH0024**
   DIN rail and fixing supports (24 mod.)
4. **EH...** (e.g.: EH2065)
   Blind apparatus holder back plates
5. **EH...K** (e.g.: EH2062K)
   Faceplates
6. **EF6060 or EF6061**
   Cable entry flange
7. **EL2060KL**
   Blind Side Panels (set of 2)
8. **ZN6000**
   Plinth flanges (set of 2)
9. **ZN6000**
   Plinth flanges (set of 2)

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)





Floor and ceiling modules			
Code	**Description**	**Dimension WxD mm**	**Price (EUR)**
EK3040KN	Floor and ceiling module + cable covers	300x400	535.00
EK3050KN	Floor and ceiling module + cable covers	300x500	561.00
EK3060KN	Floor and ceiling module + cable covers	300x600	589.00
EK3080KN	Floor and ceiling module + cable covers	300x800	647.00
EK4040KN	Floor and ceiling module	400x400	494.00
EK4050KN	Floor and ceiling module	400x500	589.00
EK4060KN	Floor and ceiling module	400x600	610.00
EK4080KN	Floor and ceiling module	400x800	678.00
EK4010KN	Floor and ceiling module	400x1000	749.00
EK6040KN	Floor and ceiling module	600x400	615.00
EK6050KN	Floor and ceiling module	600x500	626.00
EK6060KN	Floor and ceiling module	600x600	684.00
EK6080KN	Floor and ceiling module	600x800	759.00
EK6010KN	Floor and ceiling module	600x1000	834.00
EK8040KN	Floor and ceiling module	800x400	647.00
EK8050KN	Floor and ceiling module	800x500	684.00
EK8060KN	Floor and ceiling module	800x600	721.00
EK8080KN	Floor and ceiling module	800x800	797.00
EK8010KN	Floor and ceiling module	800x1000	912.00
EK1040KN	Floor and ceiling module	1000x400	741.00
EK1050KN	Floor and ceiling module	1000x500	797.00
EK1060KN	Floor and ceiling module	1000x600	834.00
EK1080KN	Floor and ceiling module	1000x800	930.00
EK1010KN	Floor and ceiling module	1000x1000	1,062.00
EK1240KN	Floor and ceiling module	1200x400	818.00
EK1250KN	Floor and ceiling module	1200x500	854.00
EK1260KN	Floor and ceiling module	1200x600	893.00
EK1280KN	Floor and ceiling module	1200x800	1,005.00

Plinth corners included.

Panel struts			
Code	**Description**	**Dimension H mm**	**Price (EUR)**
EM1400	Struts (set of 4)	1400	417.00
EM1600	Struts (set of 4)	1600	456.00
EM1800	Struts (set of 4)	1800	477.00
EM2000	Struts (set of 4)	2000	494.00
EM2200	Struts (set of 4)	2200	532.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



Blind doors			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
EC1480K	Central blind door	1400x800	486.00
EC1660K	Central blind door	1600x600	503.00
EC1610K	Central blind door	1600x1000	494.00
EC1831K	Central blind door	1800x300	258.00
EC1840K	Central blind door	1800x400	295.00
EC1860K	Central blind door	1800x600	362.00
EC1880K	Central blind door	1800x800	466.00
EC1810K	Central blind door	1800x1000	486.00
EC2031K	Central blind door	2000x300	268.00
EC2040K	Central blind door	2000x400	305.00
EC2060K	Central blind door	2000x600	438.00
EC2080K	Central blind door	2000x800	532.00
EC2012K	Central blind door	2000x1000	561.00
EC2232K	Central blind door	2200x300	316.00
EC2240K	Central blind door	2200x400	401.00
EC2260K	Central blind door	2200x600	494.00
EC2280K	Central blind door	2200x800	514.00
EC2210K	Central blind door	2200x1000	721.00



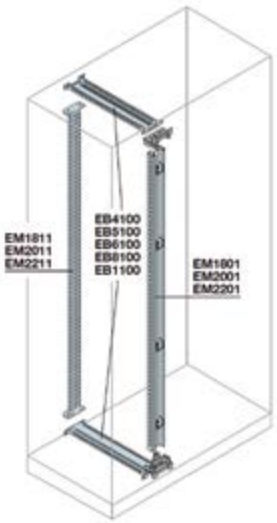
Glazed central doors			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
ET1860K	Glazed central door	1800x600	604.00
ET1880K	Glazed central door	1800x800	722.00
ET2060K	Glazed central door	2000x600	801.00
ET2080K	Glazed central door	2000x800	930.00
ET2010K	Glazed central door	2000x1000	1,041.00
ET2260K	Glazed central door	2200x600	937.00
ET2280K	Glazed central door	2200x800	1,063.00
ET2211K	Glazed central door	2200x1000	1,213.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



Blind double door applications

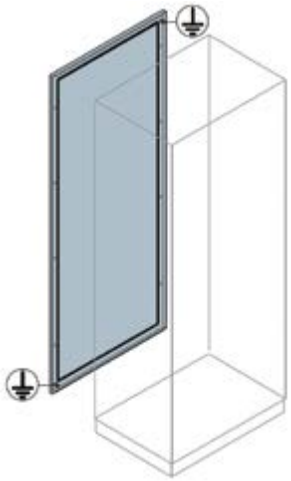
Code	Description	Dimension HxW mm	Price (EUR)
EC1480FC6K	Blind double door application	1400x200	477.00
EC1680FC6K	Blind double door application	1600x200	514.00
EC1880VC2K	Blind double door application	1800x200	210.00
EC2080VC2K	Blind double door application	2000x200	285.00
EC2280VC2K	Blind double door application	2200x200	305.00
EC1880VC4K	Blind double door application	1800x400	344.00
EC2080VC4K	Blind double door application	2000x400	456.00
EC2280VC4K	Blind double door application	2200x400	466.00
EC1880FC5K	Blind double door application	1800x500	361.00
EC2080FC5K	Blind double door application	2000x500	456.00
EC2280FC5K	Blind double door application	2200x500	477.00
EC1880FC6K	Blind double door application	1800x600	363.00
EC2080FC6K	Blind double door application	2000x600	477.00
EC2280FC6K	Blind double door application	2200x600	494.00
EC1880FC8K	Blind double door application	1800x800	410.00
EC2080FC8K	Blind double door application	2000x800	514.00
EC2280FC8K	Blind double door application	2200x800	532.00
EC1880FV6K	Glazed double door application	1800x600	595.00
EC2080FV6K	Glazed double door application	2000x600	818.00
EC2280FV6K	Glazed double door application	2200x600	797.00
EC1880FV8K	Glazed double door application	1800x800	833.00
EC2080FV8K	Glazed double door application	2000x800	912.00
EC2280FV8K	Glazed double door application	2200x800	1,083.00



Crosspieces and uprights

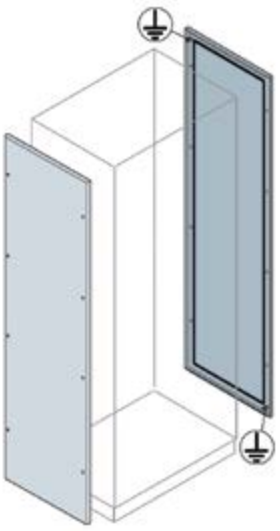
Code	Description	Dimension HxW mm	Price (EUR)
EM1801	Intermediate upright for structure	1800	285.00
EM2001	Intermediate upright for structure	2000	305.00
EM2201	Intermediate upright for structure	2200	344.00
EM1811	Intermediate Back Uprights	1800	102.00
EM2011	Intermediate Back Uprights	2000	115.00
EM2211	Intermediate Back Uprights	2200	118.00
EB4100	Middle upright crosspieces (set of 2)	400	48.00
EB5100	Middle upright crosspieces (set of 2)	500	55.00
EB6100	Middle upright crosspieces (set of 2)	600	62.00
EB8100	Middle upright crosspieces (set of 2)	800	70.00
EB1100	Middle upright crosspieces (set of 2)	1000	77.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



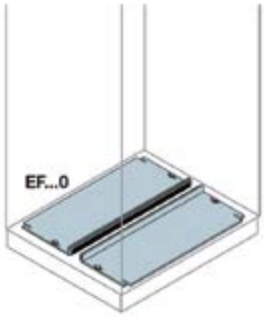
Back covers			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
EP1480K	Back covers	1400x800	220.00
EP1412K	Back covers	1400x1200	333.00
EP1660K	Back covers	1600x600	237.00
EP1610K	Back covers	1600x1000	333.00
EP1612K	Back covers	1600x1200	371.00
EP1830K	Back covers	1800x300	131.00
EP1840K	Back covers	1800x400	153.00
EP1860K	Back covers	1800x600	193.00
EP1880KL	Back covers	1800x800	249.00
EP1811K	Back covers	1800x1000	305.00
EP1812K	Back covers	1800x1200	382.00
EP2030K	Back covers	2000x300	147.00
EP2041KL	Back covers	2000x400	201.00
EP2060KL	Back covers	2000x600	220.00
EP2080KL	Back covers	2000x800	281.00
EP2010K	Back covers	2000x1000	305.00
EP2012K	Back covers	2000x1200	401.00
EP2231K	Back covers	2200x300	153.00
EP2240K	Back covers	2200x400	181.00
EP2260K	Back covers	2200x600	249.00
EP2280K	Back covers	2200x800	316.00
EP2210K	Back covers	2200x1000	371.00
EP2212K	Back covers	2200x1200	447.00

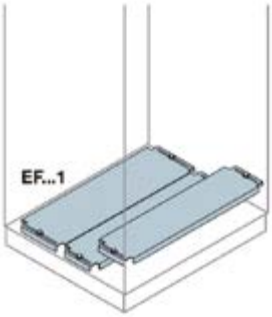
INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



Side covers			
Code	**Description**	**Dimension HxD mm**	**Price (EUR)**
EL1440K	Blind side panels (set of 2)	1400x400	333.00
EL1460K	Blind side panels (set of 2)	1400x600	354.00
EL1650K	Blind side panels (set of 2)	1600x500	410.00
EL1660K	Blind side panels (set of 2)	1600x600	447.00
EL1840K	Blind side panels (set of 2)	1800x400	295.00
EL1850K	Blind side panels (set of 2)	1800x500	354.00
EL1860K	Blind side panels (set of 2)	1800x600	401.00
EL1880KL	Blind side panels (set of 2)	1800x800	486.00
EL1810K	Blind side panels (set of 2)	1800x1000	598.00
EL2040K	Blind side panels (set of 2)	2000x400	316.00
EL2050K	Blind side panels (set of 2)	2000x500	371.00
EL2060KL	Blind side panels (set of 2)	2000x600	410.00
EL2080KL	Blind side panels (set of 2)	2000x800	523.00
EL2012K	Blind side panels (set of 2)	2000x1000	656.00
EL2240K	Blind side panels (set of 2)	2200x400	354.00
EL2250K	Blind side panels (set of 2)	2200x500	417.00
EL2260K	Blind side panels (set of 2)	2200x600	466.00
EL2280KL	Blind side panels (set of 2)	2200x800	552.00
EL2210K	Blind side panels (set of 2)	2200x1000	695.00

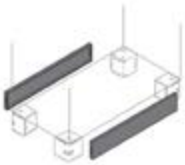
INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)

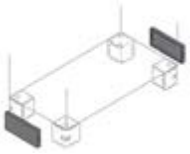




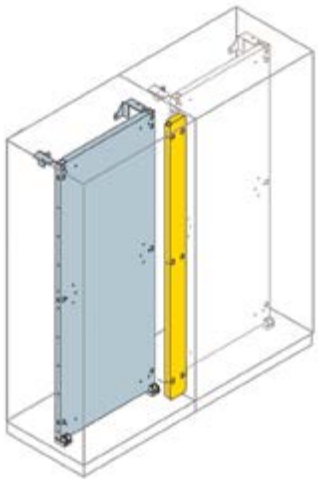
Cable entry flanges			
Code	**Description**	**Dimension WxD mm**	**Price (EUR)**
EF4040	Sliding cable entry flanges	400x400	32.00
EF6040	Sliding cable entry flanges	600x400	41.00
EF8040	Sliding cable entry flanges	800x400	48.00
EF1040	Sliding cable entry flanges	1000x400	71.00
EF4050	Sliding cable entry flanges	400x500	33.00
EF6050	Sliding cable entry flanges	600x500	50.00
EF8050	Sliding cable entry flanges	800x500	62.00
EF1053	Sliding cable entry flanges	1000x500	82.00
EF4060	Sliding cable entry flanges	400x600	38.00
EF6060	Sliding cable entry flanges	600x600	55.00
EF8060	Sliding cable entry flanges	800x600	74.00
EF1060	Sliding cable entry flanges	1000x600	88.00
EF4080	Sliding cable entry flanges	400x800	45.00
EF6080	Sliding cable entry flanges	600x800	71.00
EF8080	Sliding cable entry flanges	800x800	86.00
EF1080	Sliding cable entry flanges	1000x800	103.00
EF4010	Sliding cable entry flanges	400x1000	55.00
EF6010	Sliding cable entry flanges	600x1000	80.00
EF8010	Sliding cable entry flanges	800x1000	103.00
EF1010	Sliding cable entry flanges	1000x1000	147.00
EF4041	Built-up cable entry flanges	400x400	41.00
EF6041	Built-up cable entry flanges	600x400	45.00
EF8041	Built-up cable entry flanges	800x400	62.00
EF1041	Built-up cable entry flanges	1000x400	77.00
EF4051	Built-up cable entry flanges	400x500	48.00
EF6051	Built-up cable entry flanges	600x500	62.00
EF8051	Built-up cable entry flanges	800x500	80.00
EF1051	Built-up cable entry flanges	1000x500	88.00
EF4061	Built-up cable entry flanges	400x600	66.00
EF6061	Built-up cable entry flanges	600x600	70.00
EF8061	Built-up cable entry flanges	800x600	96.00
EF1061	Built-up cable entry flanges	1000x600	112.00
EF4081	Built-up cable entry flanges	400x800	55.00
EF6081	Built-up cable entry flanges	600x800	93.00
EF8081	Built-up cable entry flanges	800x800	108.00
EF1081	Built-up cable entry flanges	1000x800	139.00
EF4011	Built-up cable entry flanges	400x1000	64.00
EF6011	Built-up cable entry flanges	600x1000	96.00
EF8011	Built-up cable entry flanges	800x1000	132.00
EF1011	Built-up cable entry flanges	1000x1000	139.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



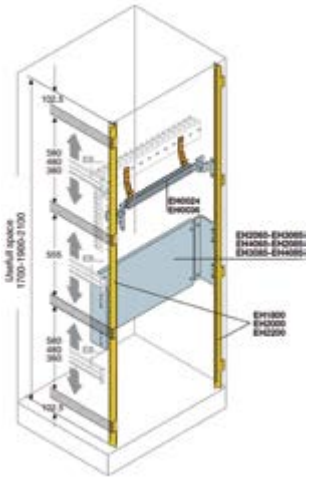


Plinth covers and corners			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
ZN3000	Plinth flanges (set of 2)	100x300	50.00
ZN4000	Plinth flanges (set of 2)	100x400	55.00
ZN5000	Plinth flanges (set of 2)	100x500	58.00
ZN6000	Plinth flanges (set of 2)	100x600	65.00
ZN8000	Plinth flanges (set of 2)	100x800	77.00
ZN1000	Plinth flanges (set of 2)	100x1000	93.00
ZN1010	Angle pieces (set of 4)	100x100	63.00
ZN1020	Intermediate angle (set of 2)	100x100	55.00



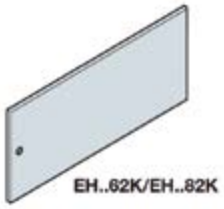
Mounting plates			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
EA1480	Galvanized Back Plate	1400x800	268.00
EA1412	Galvanized Back Plate	1400x1200	371.00
EA1610	Galvanized Back Plate	1600x1000	410.00
EA1612	Galvanized Back Plate	1600x1200	447.00
EA1841	Galvanized Back Plate	1800x400	181.00
EA1860	Galvanized Back Plate	1800x600	252.00
EA1880	Galvanized Back Plate	1800x800	316.00
EA1810	Galvanized Back Plate	1800x1000	371.00
EA1812	Galvanized Back Plate	1800x1200	447.00
EA1817	Galvanized Back Plate	1800x1600	610.00
EA1800	Kit for joining plates	1800	188.00
EA2040	Galvanized Back Plate	2000x400	209.00
EA2060	Galvanized Back Plate	2000x600	278.00
EA2080	Galvanized Back Plate	2000x800	354.00
EA2010	Galvanized Back Plate	2000x1000	429.00
EA2013	Galvanized Back Plate	2000x1200	494.00
EA2016	Galvanized Back Plate	2000x1600	701.00
EA2000	Kit for joining plates	2000	229.00
EA2240	Galvanized Back Plate	2200x400	229.00
EA2260	Galvanized Back Plate	2200x600	305.00
EA2280	Galvanized Back Plate	2200x800	382.00
EA2210	Galvanized Back Plate	2200x1000	665.00
EA2212	Galvanized Back Plate	2200x1200	552.00
EA2216	Galvanized Back Plate	2200x1600	787.00
EA2200	Kit for joining plates	2200	268.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)



DIN rail and mounting plate applications			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
EH1800L*	Uprights for modular panels (set of 2)	1800	166.00
EH2000L*	Uprights for modular panels (set of 2)	2000	126.00
EH2200*	Uprights for modular panels (set of 2)	2200	278.00
EH0024	DIN rail and fixing supports (24 mod.)	600	56.00
EH0036	DIN rail and fixing supports (36 mod.)	800	74.00
EH2065	Blind apparatus holder back plate	200x600	34.00
EH3065	Blind apparatus holder back plate	300x600	50.00
EH4065	Blind apparatus holder back plate	400x600	63.00
EH2085	Blind apparatus holder back plate	200x800	43.00
EH3085	Blind apparatus holder back plate	300x800	63.00
EH4085	Blind apparatus holder back plate	400x800	82.00

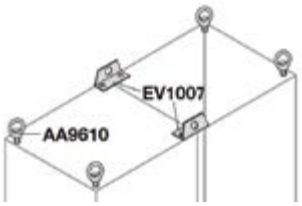
*Uprights for modular panels must be ordered for mounting of DIN Rail kits, blind apparatus holder back plate and uprights for modular panels. The area available is 100mm less than the height of the enclosure.





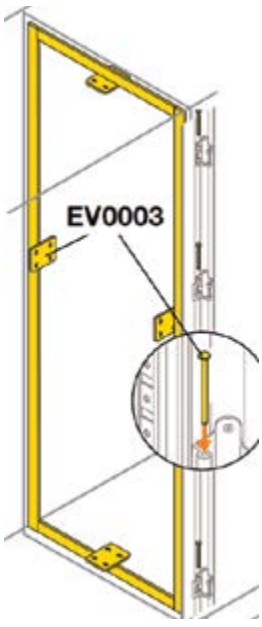
Blind panels and DIN panels			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
EH0562K	Blind panel	50x600	43.00
EH1062K	Blind panel	100x600	54.00
EH1562K	Blind panel	150x600	55.00
EH2062K	Blind panel	200x600	34.00
EH3063K	Blind panel	300x600	50.00
EH4062K	Blind panel	400x600	98.00
EH5062K	Blind panel	500x600	65.00
EH6062K	Blind panel	600x600	70.00
EH0582K	Blind panel	50x800	45.00
EH1082K	Blind panel	100x800	63.00
EH1582K	Blind panel	150x800	70.00
EH2082K	Blind panel	200x800	34.00
EH3082K	Blind panel	300x800	62.00
EH4082K	Blind panel	400x800	70.00
EH5082K	Blind panel	500x800	86.00
EH6082K	Blind panel	600x800	153.00
EH1524K	Panel 24 DIN mod	150x600	45.00
EH2024K	Panel 24 DIN mod	200x600	45.00
EH6025K	Panel 3x24 DIN mod	600x600	88.00
EH1536K	Panel 36 DIN mod	150x800	56.00
EH2036K	Panel 36 DIN mod	200x800	63.00
EH6036K	Panel 3x36 DIN mod	600x800	118.00

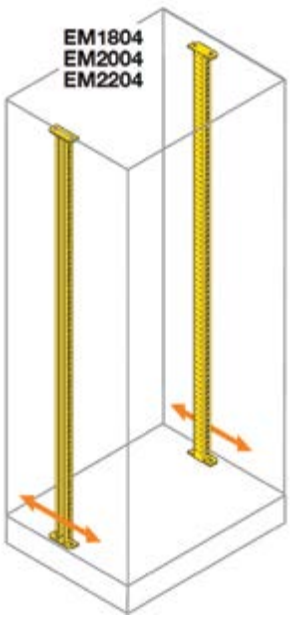
INDUSTRIAL AND AUTOMATION ENCLOSURES
IS2 - Floor standing modular enclosures (IP65)

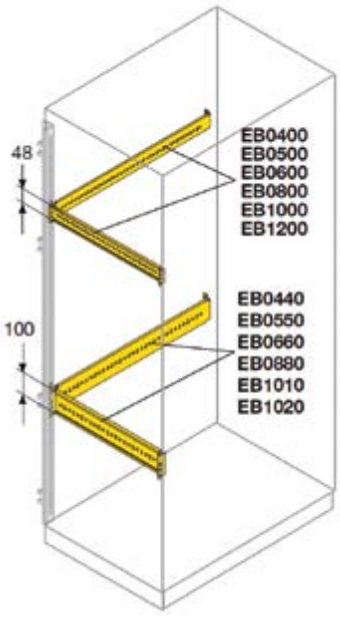


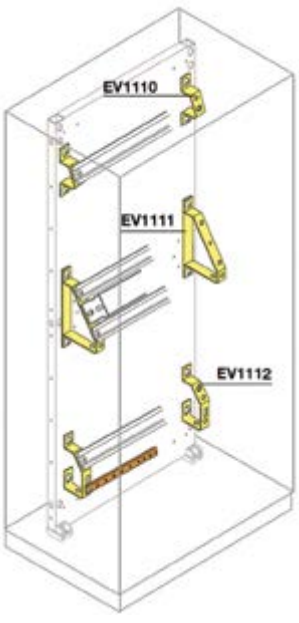
Accessories and mounting profiles

Code	Description	Dimension mm	Price (EUR)
AA9610	Lifting eyes, m12 (set of 4)		48.00
EV1007	Lifting reinforcements (set of 2)		188.00
EV0003	Cabinet joining kit		147.00
EM1804	Uprights For Fixed Rack (set of 2)	1800	147.00
EM2004	Uprights For Fixed Rack (set of 2)	2000	163.00
EM2204	Uprights For Fixed Rack (set of 2)	2200	181.00
EB0400	Crosspieces for fixing accessories and partial plate h=48mm	400	43.00
EB0500	Crosspieces for fixing accessories and partial plate h=48mm	500	48.00
EB0600	Crosspieces for fixing accessories and partial plate h=48mm	600	50.00
EB0800	Crosspieces for fixing accessories and partial plate h=48mm	800	56.00
EB1000	Crosspieces for fixing accessories and partial plate h=48mm	1000	63.00
EB1200	Crosspieces for fixing accessories and partial plate h=48mm	1200	77.00
EB0440	Crosspieces for fixing accessories and partial plate h=100mm	400	62.00
EB0550	Crosspieces for fixing accessories and partial plate h=100mm	500	65.00
EB0660	Crosspieces for fixing accessories and partial plate h=100mm	600	80.00
EB0880	Crosspieces for fixing accessories and partial plate h=100mm	800	88.00
EB1010	Crosspieces for fixing accessories and partial plate h=100mm	1000	102.00
EB1020	Crosspieces for fixing accessories and partial plate h=100mm	1200	118.00









INDUSTRIAL AND AUTOMATION ENCLOSURES
SR2 - Wall-mounted monoblock enclosures (IP65)



Blind door enclosures (including mounting plate)			
Code	**Description**	**Dimension HxWxD mm**	**Price (EUR)**
SRN3215K	Enclosure with blind door	300x200x150	171.00
SRN3315K	Enclosure with blind door	300x300x150	187.00
SRN3415K	Enclosure with blind door	300x400x150	215.00
SRN4315K	Enclosure with blind door	400x300x150	223.00
SRN4320K	Enclosure with blind door	400x300x200	276.00
SRN4420K	Enclosure with blind door	400x400x200	306.00
SRN4620K	Enclosure with blind door	400x600x200	398.00
SRN5320K	Enclosure with blind door	500x300x200	318.00
SRN5420K	Enclosure with blind door	500x400x200	337.00
SRN5425K	Enclosure with blind door	500x400x250	337.00
SRN6420K	Enclosure with blind door	600x400x200	383.00
SRN6425K	Enclosure with blind door	600x400x250	383.00
SRN6625K	Enclosure with blind door	600x600x250	429.00
SRN7520K	Enclosure with blind door	700x500x200	470.00
SRN7525K	Enclosure with blind door	700x500x250	458.00
SRN8625K	Enclosure with blind door	800x600x250	595.00
SRN8630K	Enclosure with blind door	800x600x300	668.00
SRN8830K	Enclosure with blind door	800x800x300	833.00
SRN10625K	Enclosure with blind door	1000x600x250	699.00
SRN10630K	Enclosure with blind door	1000x600x300	852.00
SRN10830K	Enclosure with blind door	1000x800x300	1,095.00
SRN12630K	Enclosure with blind door	1200x600x300	942.00
SRN12830K	Enclosure with blind door	1200x800x300	1,093.00



Blind door enclosures (excluding mounting plate)			
Code	**Description**	**Dimension HxWxD mm**	**Price (EUR)**
SRN5420VK	Enclosure with glazed door	500x400x200	371.00
SRN5425VK	Enclosure with glazed door	500x400x250	383.00
SRN6420VK	Enclosure with glazed door	600x400x200	403.00
SRN6425VK	Enclosure with glazed door	600x400x250	430.00
SRN7520VK	Enclosure with glazed door	700x500x200	502.00
SRN7525VK	Enclosure with glazed door	700x500x250	595.00
SRN8625VK	Enclosure with glazed door	800x600x250	731.00
SRN8630VK	Enclosure with glazed door	800x600x300	823.00
SRN10625VK	Enclosure with glazed door	1000x600x250	811.00
SRN10630VK	Enclosure with glazed door	1000x600x300	954.00
SRN10830VK	Enclosure with glazed door	1000x800x300	1,138.00
SRN12630VK	Enclosure with glazed door	1200x600x300	1,102.00
SRN12830VK	Enclosure with glazed door	1200x800x300	1,288.00

INDUSTRIAL AND AUTOMATION ENCLOSURES
SR2 - Wall-mounted monoblock enclosures (IP65)



Mounting plates			
Code	**Description**	**Dimension HxW mm**	**Price (EUR)**
PF3020	Galvanized Back Plate	300x200	64.00
PF3030	Galvanized Back Plate	300x300	64.00
PF3040	Galvanized Back Plate	300x400	64.00
PF4030	Galvanized Back Plate	400x300	64.00
PF4040	Galvanized Back Plate	400x400	64.00
PF4060	Galvanized Back Plate	400x600	91.00
PF5030	Galvanized Back Plate	500x300	70.00
PF5040	Galvanized Back Plate	500x400	70.00
PF6040	Galvanized Back Plate	600x400	75.00
PF6060	Galvanized Back Plate	600x600	118.00
PF7050	Galvanized Back Plate	700x500	127.00
PF8060	Galvanized Back Plate	800x600	164.00
PF8080	Galvanized Back Plate	800x800	190.00
PF1060	Galvanized Back Plate	1000x600	205.00
PF1080	Galvanized Back Plate	1000x800	264.00
PF1260	Galvanized Back Plate	1200x600	299.00
PF1280	Galvanized Back Plate	1200x800	323.00

UNINTERRUPTIBLE POWER SUPPLIES

ABB offers its customers a wide product portfolio from 1 kVA to 5MVA with uninterruptible power supply applications.

For detailed product and price information, please contact the Regional Sales Office. Contact center no: +90 850 333 1 222

DPA Architecture
It is a UPS (Uninterruptible Power Supply) system designed on the unique and proven Decentralized Parallel Architecture DPA (Decentralized Parallel Architecture) System architecture developed by ABB. DPA means that each UPS module has all the hardware and software required to operate independently of the other modules. There are no common components between the modules.

Each UPS module has its own static bypass system, rectifier and inverter, logic control system, control panel and battery charger. Batteries can be configured separately for each module. DPA architecture is an indispensable part of our modular and fixed type systems.

new.abb.com/ups



UPS PRODUCTS OVERVIEW 1kVA to 5MVA






GENERAL INFORMATION	PowerValue LI Up / Pr0	PowerValue 11T G2	PowerValue 11 RT	PowerValue 11/31 T
Cabinet power range	600/800/1000/1500/2000 VA	1 / 2 / 3 / 6 /10 kVA	1 / 2 / 3 / 6 / 10 kVA	10 / 20 kVA
Module power range	–	–	–	–
Output power factor	0.6 / 0.7 (model dependent)	0.9 - 1.0	Up to 1.0	0.9
Maximum parallellable cabinets	-	Up to 3 units	Up to 3 units	Up to 4 units
Maximum parallellable modules	-	–	–	–
Maximum system power	-	30 kW	30 kW	80 kVA
Cabling	1-ph + N + PE	1-ph + N + PE	1-ph + N + PE	1-ph or 3-ph + N + PE (selectable)
UPS Type	**Standalone**	**Standalone**	**Rack mount or standalone type**	**Standalone**
Topology	Line interactive	Online double conversion	Online double conversion	Online double conversion
Input				
Rated input voltage	230 VAC	220/230/240 VAC (1 – 3 kVA) 208/220/230/240 VAC (6 – 10 kVA)	208, 220, 230, 240 VAC	220 / 380, 230 / 400, 240 / 415 VAC
Voltage range	170-280 VAC	100-300 VAC (1 – 3 kVA) 100-276 VAC (6 – 10 kVA)	110 – 276 VAC	1-ph 110 – 276 VAC 3-ph 190 – 486 VAC
Frequency range	50 / 60 Hz	45-55 Hz / 54-66 Hz 45-55 Hz / 54-66 Hz (expandable to 40-70HZ at load)	45 - 55 Hz for 50 Hz systems 54 - 66 Hz for 60 Hz systems	45 - 55 Hz for 50 Hz systems 54 - 66 Hz for 60 Hz systems
Current harmonics at 100% load	-	5% (1 – 3 kVA) <3% (6 – 10 kVA)	<3%	≤ 5%
Power factor at 100% load	-	≥0.99 (1 – 3 kVA) ≥0,995 (6 – 10 kVA)	≥ 0.995	≥ 0.99
Output				
Rated output voltage (load independent)	230 VAC	220/230/240 VAC (1 – 3 kVA) 208/220/230/240 VAC (6 – 10 kVA)	208, 220, 230, 240 VAC	220, 230, 240 VAC
Voltage harmonics (at linear load)		<2% linear load, <6% non-linear load (1 - 3 kVA) <1% linear load, <5% non-linear load (6 - 10 kVA)	≤ 1%	≤ 2%
Rated frequency	50 or 60 Hz (selectable)	50 or 60 Hz	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)
Efficiency				
Double conversion	≥95% (normal mode)	up to 95%	up to 95%	up to 94%
Eco-mod	-	up to 98%	95% (1-3KVA) 98% (6-10 KVA)	97%
Communication				
User Interface	Touch LCD -(Up), LCD(Pro)	LCD	LCD	LCD + LEDs
Communication ports	USB, RS232	SNMP; Modbus; AS400; Environmental conditions sensor probe	USB, RS-232, SNMP slot, dry contact	USB, RS-232, SNMP slot, optional dry contact
Software	Monitoring and shutdown software optional			

DPA INSIDE







PowerScale	PowerWave 33	TLE
10 / 15 / 20 / 25 / 30 / 40 / 50 kVA	60 / 80 / 100 / 120 / 160 / 200 / 250 / 300 / 400 / 500 kW	160 / 200 /320 / 400 / 600 / 800 kW
–	–	-
0.9	1.0	1.0
Up to 20 units	Up to 10 units	Up to 6 units
–	–	-
1000 kVA	5000 kW	4800 kW
3ph + N + PE	3ph + N + PE	3ph+N+PE
Standalone	**Standalone**	**Standalone**
Online double conversion	Online double conversion	Online double conversion
220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC
161/280 – 264/460 VAC	138/240 – 264/460 VAC	196/340 - 265/460 VAC
35 – 70 Hz	35 – 70 Hz	45 - 66Hz
≤ 3%	≤ 4%	< 3%
≥ 0.99	≥ 0.99	> 0.99
220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC
< 2%	< 2%	< 2.5%
50 or 60 Hz (selectable)	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)
up to 95.5%	up to 96%	up to 96.8%
up to 98%	up to 99%	up to 98.9%
LCD + mimic diagram	Graphic touch screen (60-200kW) LCD+mimic diagram (60-200kW)	Graphic Display LCD
USB, RS-232, SNMP slot, optional dry contact	USB, RS-232, SNMP slot, potential-free contacts	RS232, SNMP (Modbus IP, RS232, RS485 & BacNet IP)
Monitoring and shutdown software optional		

DPA INSIDE






GENERAL INFORMATION	DPA UPScale RI	DPA UPScale ST	DPA 250 S4	Conceptpower DPA 500
Cabinet power range	10 / 20 / 40 / 80 kW	40 / 60 / 80 / 120 / 200 kW	300 kW	500 kW
Module power range	10 / 20 kW	10 / 20 kW	50 kW	100 kW
Output power factor	1.0	1.0	1.0	1.0
Maximum parallellable cabinets	Up to 1 cabinet	Up to 4 cabinet	Up to 6 cabinet	Up to 6 cabinet
Maximum parallellable modules	4 modules	20 modules	30 modules	30 modules
Maximum system power	80 kW	400 kW	1500 kW	3000 kW
Cabling	3ph + N + PE	3ph + N + PE	3ph + N + PE	3ph + N + PE
UPS Type	**Modular (DPA)**	**Modular (DPA)**	**Modular (DPA)**	**Modular (DPA)**
Topology	online double conversion	online double conversion	online double conversion	Online double conversion
Input				
Rated input voltage	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC
Voltage range	150/260 – 264/460 VAC	150/260 – 264/460 VAC	161/280 – 264/460 VAC	161/280 – 264/460 VAC
Frequency range	35 – 70 Hz	35 – 70 Hz	35 – 70 Hz	35 – 70 Hz
Current harmonics at 100% load	<3%	<3%	< 3%	< 3.5%
Power factor at 100% load	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
Output				
Rated output voltage (load independent)	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC	220 / 380, 230 / 400, 240 / 415 VAC
Voltage harmonics (at linear load)	< 1.5%	< 1.5%	< 2%	< 2%
Rated frequency	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)
Efficiency				
Double conversion	Up to 96%	Up to 96%	Module efficiency up to 97.6% System efficiency up to 97.4%	Up to 96%
Eco-mod	98%	98%	99%	99%
Communication				
User Interface	Module level LCD + mimic diagram. Optional remote monitoring display	Module level LCD + mimic diagram. System graphic display	Module level LCD + mimic diagram. System graphic display	Module level LCD + mimic diagram. System graphic display
Communication ports	USB,RS-232,SNMP slot, dry contact	USB,RS-232,SNMP slot, dry contact	USB,RS-232,SNMP slot, dry contact	USB,RS-232,SNMP slot, dry contact
Software	Monitoring and shutdown software optional			

DPA INSIDE







MegaFlex DPA	PowerLine DPA IEC	SG Series
1000 kW- 1500 kW	20 -120 kVA (3ph); 20 - 80 kVA (1ph)	10-500 kVA
250 kW	20 - 40 kVA	-
1.0	1.0	0.9
Up to 4 units	2 redundant	Up to 6 units
24 modules	6	-
6000 kW	120 kVA	3000 kVA
3ph + N + PE (4W), 3ph + PE (3W)	3ph + N+ PE (3ph); 1ph + N + PE (1ph)	3ph + N +PE
Modular (DPA)	**Modular (DPA)**	**Standalone**
Online double conversion	Online double conversion	Online double conversion
220/380, 230/400, 240/415 VAC	400/230 VAC, others on request	380/400/415 VAC
161/280 – 264/460 VAC	(–15%, +10%) @ 100% load (-20%, +10%) at <80% load (-25%, +10%) at <60% load	340-460 VAC
35 – 70 Hz	50 or 60 Hz (selectable)	45-66 Hz
<4%	≤4%	< 2%
0.99	0.99	0.99
220/380, 230/400, 240/415 VAC	400/230 VAC (3ph); 230 VAC (1ph)	3x 380/400/415 VAC
± 1%	<2%	< 1.5%
50 or 60 Hz (selectable)	50 or 60 Hz (selectable)	50 or 60 Hz (selectable)
Up to 97.4% (at 50% load) > 97% (at 25% load)	Up to 96%	up to 94.6%
99%	98.5%	98.7%
Module level LCD + mimic diagram, system graphic display	System graphic display HMI + module LCD panel	Graphic Display LCD
USB, RS-232, programmable dry contact, ABB network card	USB,RS-232,SNMP slot, dry contact	RS232, SNMP (Modbus IP, RS232, RS485 & BacNet IP)
Monitoring and shutdown software optional		

UPS POWERVALUE 11T



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11T G2 1 kVA B	VFI online double conversion, 900W, 8.5 min, RS232, USB, mini COM slot	4NWP100160R0001	516.00
UPS PowerValue 11T G2 1 kVA B + 1 x EBM	35 min.	1x4NWP100160R0001	947.00
UPS PowerValue 11T G2 1 kVA B + 2 x EBM	80 min.	1x4NWP100165R0001	1,378.00
UPS PowerValue 11T G2 1 kVA B + 3 x EBM	120 min.	1x4NWP100160R0001	1,809.00
UPS PowerValue 11T G2 1 kVA B + 4 x EBM	170 min.	2x4NWP100165R0001	2,240.00
UPS PowerValue 11T G2 1 kVA S	VFI online double conversion, 900W, 0min (long supply), RS232, USB, mini COM slot	4NWP100160R0002	442.00
UPS PowerValue 11T G2 1 kVA S + 1 x EBM	27 min.	1x4NWP100160R0002	442.00
		1x4NWP100165R0001	431.00
UPS PowerValue 11T G2 1 kVA S + 2 x EBM	68 min.	1x4NWP100160R0002	442.00
		2x4NWP100165R0001	862.00
UPS PowerValue 11T G2 1 kVA S + 3 x EBM	100 min.	1x4NWP100160R0002	442.00
		3x4NWP100165R0001	1,293.00
UPS PowerValue 11T G2 1 kVA S + 4 x EBM	140 min.	1x4NWP100160R0002	442.00
		4x4NWP100165R0001	1,724.00
UPS PowerValue 11T G2 2 kVA B	VFI online double conversion, 1800W, 9 min, RS232, USB, mini COM slot	4NWP100161R0001	862.00
UPS PowerValue 11T G2 2 kVA B + 1 x EBM	38 min.	1x4NWP100161R0001	862.00
		1x4NWP100166R0001	680.00
UPS PowerValue 11T G2 2 kVA B + 2 x EBM UPS PowerValue 11T G2 2 kVA B + 2 x EBM	85 min.	1x4NWP100161R0001	862.00
		2x4NWP100166R0001	1,360.00
UPS PowerValue 11T G2 2 kVA B + 3 x EBM	130 min.	1x4NWP100161R0001	862.00
		3x4NWP100166R0001	2,040.00
UPS PowerValue 11T G2 2 kVA B + 4 x EBM	180 min.	1x4NWP100161R0001	862.00
		4x4NWP100166R0001	2,720.00
UPS PowerValue 11T G2 2 kVA S	VFI online double conversion, 1800W, 0 min (long supply), RS232, USB, mini COM slot	4NWP100161R0002	760.00
UPS PowerValue 11T G2 2 kVA S + 1 x EBM	28 min.	1x4NWP100161R0002	760.00
		1x4NWP100166R0001	680.00
UPS PowerValue 11T G2 2 kVA S + 2 x EBM	70 min.	1x4NWP100161R0002	760.00
		2x4NWP100166R0001	1,360.00
UPS PowerValue 11T G2 2 kVA S + 3 x EBM	110 min.	1x4NWP100161R0002	760.00
		3x4NWP100166R0001	2,040.00
UPS PowerValue 11T G2 2 kVA S + 4 x EBM	150 min.	1x4NWP100161R0002	760.00
		4x4NWP100166R0001	2,720.00
UPS PowerValue 11T G2 3 kVA B	VFI online double conversion, 2700W, 9min, RS232, USB, mini COM slot	4NWP100162R0001	1,031.00
UPS PowerValue 11T G2 3 kVA B + 1 x EBM	25 min.	1x4NWP100162R0001	1,031.00
UPS PowerValue 11T G2 3 kVA B + 1 x EBM	25 min.	1x4NWP100167R0001	704.00
UPS PowerValue 11T G2 3 kVA B + 2 x EBM	53 min.	1x4NWP100162R0001	1,031.00
UPS PowerValue 11T G2 3 kVA B + 2 x EBM	53 min.	2x4NWP100167R0001	1,408.00
UPS PowerValue 11T G2 3 kVA B + 3 x EBM	85 min.	1x4NWP100162R0001	1,031.00
UPS PowerValue 11T G2 3 kVA B + 3 x EBM	85 min.	3x4NWP100167R0001	2,112.00
UPS PowerValue 11T G2 3 kVA B + 4 x EBM	115 min.	1x4NWP100162R0001	1,031.00
UPS PowerValue 11T G2 3 kVA B + 4 x EBM	115 min.	4x4NWP100167R0001	2,816.00
UPS PowerValue 11T G2 3 kVA S	VFI online double conversion, 2700W, 0min (long supply), RS232, USB, mini COM slot	4NWP100162R0002	898.00
UPS PowerValue 11T G2 3 kVA S + 1 x EBM	16 min.	1x4NWP100162R0002	898.00
UPS PowerValue 11T G2 3 kVA S + 1 x EBM	16 min.	1x4NWP100167R0001	704.00
UPS PowerValue 11T G2 3 kVA S + 2 x EBM	45 min.	1x4NWP100162R0002	898.00
UPS PowerValue 11T G2 3 kVA S + 2 x EBM	45 min.	2x4NWP100167R0001	1,408.00
UPS PowerValue 11T G2 3 kVA S + 3 x EBM	72 min.	1x4NWP100162R0002	898.00
UPS PowerValue 11T G2 3 kVA S + 3 x EBM	72 min.	3x4NWP100167R0001	2,112.00
UPS PowerValue 11T G2 3 kVA S + 4 x EBM	100 min.	1x4NWP100162R0002	898.00
UPS PowerValue 11T G2 3 kVA S + 4 x EBM	100 min.	4x4NWP100167R0001	2,816.00

UPS POWERVALUE 11T



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11T G2 6 kVA B	VFI online double conversion, 6000W, 6min., RS232, USB, mini COM slot	4NWP100163R0001	3,085.00
UPS PowerValue 11T G2 6 kVA B + 1 x EBM	27 min.	1x4NWP100163R0001	3,085.00
		1x4NWP100168R0001	2,125.00
UPS PowerValue 11T G2 6 kVA B + 2 x EBM	60 min.	1x4NWP100163R0001	3,085.00
		2x4NWP100168R0001	4,250.00
UPS PowerValue 11T G2 6 kVA B + 3 x EBM	101 min.	1x4NWP100163R0001	3,085.00
		3x4NWP100168R0001	6,375.00
UPS PowerValue 11T G2 6 kVA B + 4 x EBM	146 min.	1x4NWP100163R0001	3,085.00
		4x4NWP100168R0001	8,500.00
UPS PowerValue 11T G2 6 kVA B2	VFI online double conversion, 6000W, min., RS232, USB, COM slot	4NWP100163R0002	3,206.00
UPS PowerValue 11T G2 6 kVA B2 + 1 x EBM	37 min.	1x4NWP100163R0002	3,206.00
		1x4NWP100168R0002	2,384.00
UPS PowerValue 11T G2 6 kVA B2 + 2 x EBM	82 min.	1x4NWP100163R0002	3,206.00
		2x4NWP100168R0002	4,768.00
UPS PowerValue 11T G2 6 kVA B2 + 3 x EBM	137 min.	1x4NWP100163R0002	3,206.00
		3x4NWP100168R0002	7,152.00
UPS PowerValue 11T G2 6 kVA B2 + 4 x EBM	199 min.	1x4NWP100163R0002	3,206.00
		4x4NWP100168R0002	9,536.00
UPS PowerValue 11T G2 6 kVA S	VFI online double conversion, 6000W, 0min (powerful charging card),RS232,USB,COM slot	4NWP100163R0003	2,423.00
UPS PowerValue 11T G2 6 kVA S + 1 x EBM	27 min.	1x4NWP100163R0003	2,423.00
		1x4NWP100168R0002	2,384.00
UPS PowerValue 11T G2 6 kVA S + 2 x EBM	74 min.	1x4NWP100163R0003	2,423.00
		2x4NWP100168R0002	4,768.00
UPS PowerValue 11T G2 6 kVA S + 3 x EBM	133 min.	1x4NWP100163R0003	2,423.00
		3x4NWP100168R0002	7,152.00
UPS PowerValue 11T G2 6 kVA S + 4 x EBM	200 min.	1x4NWP100163R0003	2,423.00
		4x4NWP100168R0002	9,536.00
UPS PowerValue 11T G2 10 kVA B	VFI online double conversion, 10,000W, 4min RS232,USB,COM slot	4NWP100164R0001	4,117.00
UPS PowerValue 11T G2 10 kVA B + 1 x EBM	18 min.	1x4NWP100164R0001	4,117.00
		1x4NWP100168R0001	2,125.00
UPS PowerValue 11T G2 10 kVA B + 2 x EBM	36 min.	1x4NWP100164R0001	4,117.00
		2x4NWP100168R0001	4,250.00
UPS PowerValue 11T G2 10 kVA B + 3 x EBM	58 min.	1x4NWP100164R0001	4,117.00
		3x4NWP100168R0001	6,375.00
UPS PowerValue 11T G2 10 kVA B + 4 x EBM	82 min.	1x4NWP100164R0001	4,117.00
		4x4NWP100168R0001	8,500.00
UPS PowerValue 11T G2 10 kVA B2	VFI online double conversion, 10000W 5.5min., RS232, USB, COM slot	4NWP100164R0002	4,269.00
UPS PowerValue 11T G2 10 kVA B2 + 1 x EBM	24 min.	1x4NWP100164R0002	4,269.00
		1x4NWP100168R0002	2,384.00
UPS PowerValue 11T G2 10 kVA B2 + 2 x EBM	49 min.	1x4NWP100164R0002	4,269.00
		2x4NWP100168R0002	4,768.00
UPS PowerValue 11T G2 10 kVA B2 + 3 x EBM	79 min.	1x4NWP100164R0002	4,269.00
		3x4NWP100168R0002	7,152.00
UPS PowerValue 11T G2 10 kVA B2 + 4 x EBM	111 min.	1x4NWP100164R0002	4,269.00
		4x4NWP100168R0002	9,536.00

UPS POWERVALUE 11T



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11T G2 10 kVA S	VFI online double conversion, 10000W, 0min (long supply), RS232, USB, COM slot	4NWP100164R0003	3,827.00
UPS PowerValue 11T G2 10 kVA S + 1 x EBM	13 min.	1x4NWP100164R0003	3,827.00
		1x4NWP100168R0002	2,384.00
UPS PowerValue 11T G2 10 kVA S + 2 x EBM	35 min.	1x4NWP100164R0003	3,827.00
		2x4NWP100168R0002	4,269.00
UPS PowerValue 11T G2 10 kVA S + 3 x EBM	64 min.	1x4NWP100164R0003	3,827.00
		3x4NWP100168R0002	7,152.00
UPS PowerValue 11T G2 10 kVA S + 4 x EBM	96 min.	1x4NWP100164R0003	3,827.00
		4x4NWP100168R0002	9,536.00

UPS POWERVALUE 11RT



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11RT G2 1kVA B	VFI online double conversion, 1000W, 7 min, RS232, USB, COM slot	4NWP100200R0001	706.00
UPS PowerValue 11RT G2 1kVA B + 1 x EBM	29 min.	1x4NWP100200R0001	706.00
		1x4NWP100203R0001	493.00
UPS PowerValue 11RT G2 1kVA B + 2 x EBM	56 min.	1x4NWP100200R0001	706.00
		2x4NWP100203R0001	986.00
UPS PowerValue 11RT G2 1kVA B + 3 x EBM	84 min.	1x4NWP100200R0001	706.00
		3x4NWP100203R0001	1,479.00
UPS PowerValue 11RT G2 1kVA B + 4 x EBM	109 min.	1x4NWP100200R0001	706.00
		4x4NWP100203R0001	1,972.00
UPS PowerValue 11RT G2 1kVA S	VFI online double conversion, 1000W, 0 min (long supply), RS232, USB, COM slot	4NWP100200R0007	666.00
UPS PowerValue 11RT G2 1kVA S + 1 x EBM	18 min.	1x4NWP100200R0007	666.00
		1x4NWP100203R0001	493.00
UPS PowerValue 11RT G2 1kVA S + 2 x EBM	43 min.	1x4NWP100200R0007	666.00
		2x4NWP100203R0001	986.00
UPS PowerValue 11RT G2 1kVA S + 3 x EBM	71 min.	1x4NWP100200R0007	666.00
		3x4NWP100203R0001	1,479.00
UPS PowerValue 11RT G2 1kVA S + 4 x EBM	96 min.	1x4NWP100200R0007	666.00
		4x4NWP100203R0001	1,972.00
UPS PowerValue 11RT G2 2kVA B	VFI online double conversion, 2000W, 7 min, RS232, USB, COM slot	4NWP100201R0001	1,206.00
UPS PowerValue 11RT G2 2kVA B + 1 x EBM	30 min.	1x4NWP100201R0001	1,206.00
		1x4NWP100204R0001	770.00
UPS PowerValue 11RT G2 2kVA B + 2 x EBM	57 min.	1x4NWP100201R0001	1,206.00
		2x4NWP100204R0001	1,540.00
UPS PowerValue 11RT G2 2kVA B + 3 x EBM	85 min.	1x4NWP100201R0001	1,206.00
		3x4NWP100204R0001	2,310.00
UPS PowerValue 11RT G2 2kVA B + 4 x EBM	110 min.	1x4NWP100201R0001	1,206.00
		4x4NWP100204R0001	3,080.00
UPS PowerValue 11RT G2 2kVA S	VFI online double conversion, 2000W, 0 min (long supply), RS232, USB, COM slot	4NWP100201R0007	1,118.00
UPS PowerValue 11RT G2 2kVA S + 1 x EBM	19 min.	1x4NWP100201R0007	1,118.00
		1x4NWP100204R0001	770.00
UPS PowerValue 11RT G2 2kVA S + 2 x EBM	43 min.	1x4NWP100201R0007	1,118.00
		2x4NWP100204R0001	1,540.00
UPS PowerValue 11RT G2 2kVA S + 3 x EBM	72 min.	1x4NWP100201R0007	1,118.00
		3x4NWP100204R0001	2,310.00
UPS PowerValue 11RT G2 2kVA S + 4 x EBM	98 min.	1x4NWP100201R0007	1,118.00
		4x4NWP100204R0001	3,080.00
UPS PowerValue 11RT G2 3kVA B	VFI online double conversion, 3000W, 7 min, RS232, USB, COM slot	4NWP100202R0001	1,500.00
UPS PowerValue 11RT G2 3kVA B + 1 x EBM	31 min.	1x4NWP100202R0001	1,500.00
		1x4NWP100205R0001	1,015.00
UPS PowerValue 11RT G2 3kVA B + 2 x EBM	57 min.	1x4NWP100202R0001	1,500.00
		2x4NWP100205R0001	2,030.00
UPS PowerValue 11RT G2 3kVA B + 3 x EBM	85 min.	1x4NWP100202R0001	1,500.00
		3x4NWP100205R0001	3,045.00
UPS PowerValue 11RT G2 3kVA B + 4 x EBM	111 min.	1x4NWP100202R0001	1,500.00
		4x4NWP100205R0001	4,060.00

UPS POWERVALUE 11RT



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11RT G2 3kVA S	VFI online double conversion, 3000W, 0min (long supply), RS232, USB, COM slot	4NWP100202R0007	1,363.00
UPS PowerValue 11RT G2 3kVA S + 1 x EBM	19 min	1x4NWP100202R0007	1,363.00
		1x4NWP100205R0001	1,015.00
UPS PowerValue 11RT G2 3kVA S + 2 x EBM	44 min	1x4NWP100202R0007	1,363.00
		2x4NWP100205R0001	2,030.00
UPS PowerValue 11RT G2 3kVA S + 3 x EBM	73 min	1x4NWP100202R0007	1,363.00
		3x4NWP100205R0001	3,045.00
UPS PowerValue 11RT G2 3kVA S + 4 x EBM	99 min	1x4NWP100202R0007	1,363.00
		4x4NWP100205R0001	4,060.00
UPS PowerValue 11RT G2 6 kVA	VFI online double conversion, 6000W, 0min (long supply), RS232, USB, COM slot	4NWP100150R0001	2,970.00
UPS PowerValue 11RT G2 6 kVA + 1 x EBM	10 min	1x4NWP100150R0001	2,970.00
		1x4NWP100152R0001	1,441.00
UPS PowerValue 11RT G2 6 kVA + 2 x EBM	28 min	1x4NWP100150R0001	2,970.00
		2x4NWP100152R0001	2,882.00
UPS PowerValue 11RT G2 6 kVA + 3 x EBM	49 min	1x4NWP100150R0001	2,970.00
		3x4NWP100152R0001	4,323.00
UPS PowerValue 11RT G2 6 kVA + 4 x EBM	74 min	1x4NWP100150R0001	2,970.00
		4x4NWP100152R0001	5,764.00
UPS PowerValue 11RT G2 10 kVA	VFI online double conversion, 10000W, 0min (long supply), RS232, USB, COM slot	4NWP100151R0001	4,159.00
UPS PowerValue 11RT G2 10 kVA + 1 x EBM	5 min	1x4NWP100151R0001	4,159.00
		1x4NWP100152R0001	1,441.00
UPS PowerValue 11RT G2 10 kVA + 2 x EBM	13 min	1x4NWP100151R0001	4,159.00
		2x4NWP100152R0001	2,882.00
UPS PowerValue 11RT G2 10 kVA + 3 x EBM	24 min	1x4NWP100151R0001	4,159.00
		3x4NWP100152R0001	4,323.00
UPS PowerValue 11RT G2 10 kVA + 4 x EBM	36 min	1x4NWP100151R0001	4,159.00
		4x4NWP100152R0001	5,764.00

UPS POWERVALUE 11/31T



Description	Battery supply time (for 75% load)	Code	Price (EUR)
UPS PowerValue 11/31T G2 10kVA B		4NWP100117R0021	6,243.00
UPS PowerValue 11/31T G2 10kVA B + 1 x EBM		1x4NWP100117R0021	6,243.00
		1x4NWP100119R0021	3,014.00
UPS PowerValue 11/31T G2 10kVA B + 2 x EBM		1x4NWP100117R0021	6,243.00
		2x4NWP100119R0021	6,028.00
UPS PowerValue 11/31T G2 10kVA B + 3 x EBM		1x4NWP100117R0021	6,243.00
		3x4NWP100119R0021	9,042.00
UPS PowerValue 11/31T G2 10kVA S		4NWP100117R0022	5,249.00
UPS PowerValue 11/31T G2 10kVA S + 1 x EBM		1x4NWP100117R0022	5,249.00
		1x4NWP100119R0021	3,014.00
UPS PowerValue 11/31T G2 10kVA S + 2 x EBM		1x4NWP100117R0022	5,249.00
		2x4NWP100119R0021	6,028.00
UPS PowerValue 11/31T G2 10kVA S + 3 x EBM		1x4NWP100117R0022	5,249.00
		3x4NWP100119R0021	9,042.00
UPS PowerValue 11/31T G2 10kVA B BF		4NWP100117R0023	6,640.00
UPS PowerValue 11/31T G2 10kVA B BF + 1 x EBM		1x4NWP100117R0023	6,640.00
		1x4NWP100119R0021	3,014.00
UPS PowerValue 11/31T G2 10kVA B BF + 2 x EBM		1x4NWP100117R0023	6,640.00
		2x4NWP100119R0021	6,028.00
UPS PowerValue 11/31T G2 10kVA B BF + 3 x EBM		1x4NWP100117R0023	6,640.00
		3x4NWP100119R0021	9,042.00
UPS PowerValue 11/31T G2 10kVA S BF		4NWP100117R0024	5,339.00
UPS PowerValue 11/31T G2 10kVA S BF + 1 x EBM		1x4NWP100117R0024	5,339.00
		1x4NWP100119R0021	3,014.00
UPS PowerValue 11/31T G2 10kVA S BF + 2 x EBM		1x4NWP100117R0024	5,339.00
		2x4NWP100119R0021	6,028.00
UPS PowerValue 11/31T G2 10kVA S BF + 3 x EBM		1x4NWP100117R0024	5,339.00
		3x4NWP100119R0021	9,042.00

UPS POWERVALUE 11/31T



Description	Code	Price (EUR)
UPS PowerValue 11/31/33T G2 20kVA B	4NWP100118R0021	9,035.00
UPS PowerValue 11/31/33T G2 20kVA B + 1 x EBM	1x4NWP100118R0021	9,035.00
	1x4NWP100119R0023	3,020.00
UPS PowerValue 11/31/33T G2 20kVA B + 2 x EBM	1x4NWP100118R0021	9,035.00
	2x4NWP100119R0023	6,040.00
UPS PowerValue 11/31/33T G2 20kVA B + 3 x EBM	1x4NWP100118R0021	9,035.00
	3x4NWP100119R0023	9,060.00
UPS PowerValue 11/31/33T G2 20kVA B + 4 x EBM	1x4NWP100118R0021	9,035.00
	4x4NWP100119R0023	12,080.00
UPS PowerValue 11/31/33T G2 20kVA S	4NWP100118R000222	7,288.00
UPS PowerValue 11/31/33T G2 20kVA S + 1 x EBM	1x4NWP100118R0022	7,288.00
	1x4NWP100119R0023	3,020.00
UPS PowerValue 11/31/33T G2 20kVA S + 2 x EBM	1x4NWP100118R0022	7,288.00
	2x4NWP100119R0023	6,040.00
UPS PowerValue 11/31/33T G2 20kVA S + 3 x EBM	1x4NWP100118R0022	7,288.00
	3x4NWP100119R0023	9,060.00
UPS PowerValue 11/31/33T G2 20kVA S + 4 x EBM	1x4NWP100118R0022	7,288.00
	4x4NWP100119R0023	12,080.00
UPS PowerValue 11/31/33T G2 20kVA B BF	4NWP100118R00023	9,433.00
UPS PowerValue 11/31/33T G2 20kVA B BF + 1 x EBM	1x4NWP100118R0023	9,433.00
	1x4NWP100119R0023	3,020.00
UPS PowerValue 11/31/33T G2 20kVA B BF + 2 x EBM	1x4NWP100118R0023	9,433.00
	2x4NWP100119R0023	6,040.00
UPS PowerValue 11/31/33T G2 20kVA B BF + 3 x EBM	1x4NWP100118R0023	9,433.00
	3x4NWP100119R0023	9,060.00
UPS PowerValue 11/31/33T G2 20kVA B BF + 4 x EBM	1x4NWP100118R0023	9,433.00
	4x4NWP100119R0023	12,080.00

PCS100 AVC, 150 kVA - 2.4 MVA Protects sensitive industrial and commercial loads from power quality issues

Product overview
ABB PCS100 AVC is a semiconductor-based system that protects sensitive industrial and commercial loads from voltage fluctuations. In addition to correcting voltage drops and fluctuations, it is designed to provide continuous voltage regulation and load voltage adjustments, as well as to optimally protect the system to which it is connected from power quality problems coming from the AC network. Standard load capacity of 200 kVA-2.4 MVA (higher powers are available upon request). PCS100 AVC has an efficiency of over 98%.

How does it work?
PCS100 AVC is a three-phase low voltage product that corrects voltage sags, phase angle errors, load imbalances and fluctuations while providing continuous voltage regulation. PCS100 AVC does not need an energy storage unit. It draws the energy required for voltage regulation from the grid.

User benefits
- Small size (installation space)
- High reliability
- High efficiency
- Low purchase cost
- Easy backup
- Easy maintenance

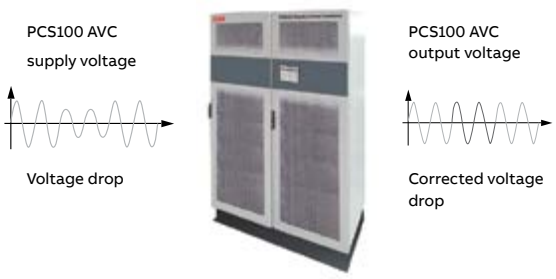
Specifications
- No energy storage system (battery etc.).
- It can correct voltage even under regenerative loads.
- High overload capacity
- Ethernet connection
- Modular structure
- Easy user control

How is the PCS100 AVC different from the alternatives?
- Small size (footprint)
- High reliability
- Integrated bypass
- Industrial quality
- Low cost of ownership
- Energy storage
- Easy maintenance
- High efficiency

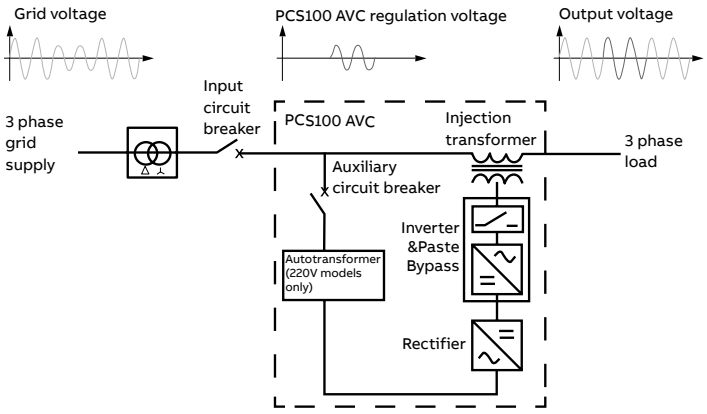
Performance

Correction performance	PCS100 AVC 40%
Correction of three-phase voltage sag to 100%	From 60% rated grid voltage
Correction of three-phase voltage sag to 90%	From 50% rated grid voltage
Correction of single-phase voltage sag to 100%	From 45% rated grid voltage

Overall performance
- Continuous correction of three-phase voltage fluctuations between 90% and 100%
- Full correction of three-phase voltage drops up to 30%
- Full correction of three-phase voltage drops up to 40%
- Correction of phase angle errors
- Correction of grid-induced voltage imbalances
- Reduction of flickers



Single line diagram



SHAPING A STRONGER AND MORE RELIABLE DISTRIBUTION NETWORK

ABB portfolio for medium voltage indoor applications

Table title








Main function	Vacuum Tubes	Embedded Type Vacuum Poles	Circuit Breakers / IEC indoor	Circuit Breakers / ANSI indoor	Circuit Breakers / Railways	Generator Circuit Breakers
Model	VS# / VG#	PT# / P# / OP#	VD4; VM1; Vmax; HD4	ADVAC; AMVAC	G-Series	VD4-G, ADVAC-G
Applicable Standard			IEC (GB; GOST)	ANSI	IEC; ANSI; GB; GOST	IEC; ANSI
Maximum Rated Voltage	40.5 kV	40.5 kV	40.5 kV	27 kV	27.5 kV	15 kV
Maximum Rated Current	3150A	3150A	4000A	3000A	2500A	4000A
Maximum Icc	63kA	50kA	63kA	63kA	31.5kA	63kA
Applications	It provides reliable electrical breaking capacity technology for the following: • Indoor/outdoor circuit breakers (CB) and disconnectors • Contactors • Switch disconnectors • Gas Insulated Switchgears	Key component containing vacuum tube technology for the following: • Indoor and Outdoor CBs • Contactors • Reclosers	Primary and secondary distribution protection ABB circuit breakers can be supplied to original equipment manufacturers (OEM) for incorporation into their own installations or for use in repair, retrofit and upgrade projects.	Primary distribution protection ABB circuit breakers can be supplied to original equipment manufacturers (OEM) for incorporation into their own installations or for use in repair, retrofit and upgrade projects.	Vacuum circuit breakers are designed to cover single-phase applications for railway power supply and the combination of a maintenance-free vacuum breaker, magnetic actuator and electronic controller.	ABB circuit breakers for generation, protection and control (generator, xfmr) can be supplied to original equipment manufacturers (OEM) for incorporation into their own installations or for use in repair, retrofit and upgrade projects. ABB circuit breakers are
Technology	Vacuum breaking	Solid dielectric insulated vacuum	Vacuum or gas breaking/Solid dielectric insulation/Front or side mechanism/ Spring or magnetic mechanism	Vacuum breaking / Solid dielectric insulation / Front mechanism / Spring or magnetic mechanism	Vacuum breaking / Magnetic mechanism	Vacuum breaking / Spring mechanism
Main features	• Compact and robust design • Reliability and longevity from state-of-the-art manufacturing processes • Silicone molding for maximum external dielectric strength • The most widely used switching technology worldwide for medium voltage • Eco-efficient and maintenance-free • Proven service with more than 2 million products in use	• High dielectric strength without further external measures • Optimal protection of the vacuum tube from moisture, dust and external damage • Suitable for all conceivable climatic conditions and site altitudes • Easy installation on circuit breakers • Maintenance free • Effective increase in dielectric strength without using greenhouse gases	The world's most successful range of MV vacuum and SF6 gas circuit breakers. • Full engineering and technical support • Proven reputation for reliability, performance and longevity • Customized products for local markets • Short lead times • Fast response • Vacuum tubes embedded or mounted in poles (VI) • Embedded type vacuum poles protect the breaker from impacts, dust accumulations and moisture	• ANSI's most successful MV vacuum CB series • Full engineering and technical support • Proven reputation for reliability, performance and longevity • Customized products for local markets • Short lead times • Fast response • Vacuum breakers embedded or mounted in poles • Embedded type vacuum poles protect the breaker from impacts, dust accumulations and moisture.	The GSx family (GSH II and GSR II) includes a suitable range of vacuum tubes designed to cover single-phase applications for railway power supply.	• The world's most compact MV vacuum generator circuit breaker • Full engineering and technical support • Type-tested in accordance with IEC/IEEE standard with two dedicated global logos • Proven reputation for reliability, performance and longevity • Customized products for local markets • Short lead times • Fast response • Vacuum breakers embedded or mounted in poles









Contactors	Enclosures and Kits	Air Insulated Switch-Disconnector	Gas Insulated Switch-Disconnector	Indoor and Outdoor Fuses	Circuit Breaker + Disconnector	Internal Disconnector & Earth Blades
VSC	PB range; Advanced; L-Frame	NAL/F; VersaRupter; C4; AM	GSec	CEF/CMF/CLC/CIL/ CXP/COL/ CXLP	HySec	OJ/OW/EK6
IEC	IEC; ANSI	IEC; ANSI; GOST; CSA	IEC; GB	IEC/ANSI	IEC	IEC
12 kV	38/ 40.5kV	36/38 kV	24 kV	40.5 kV	24 kV	40.5 kV
400A	4000A	1250A	800A	315A	630A	6000A
6kA	50kA	31.5kA	25kA	63kA (Breaking)	21kA	50kA (EK6); 80kA (OJ/OW)
Suitable for operation on alternating current; normally used to control loads that require a large number of operations or need to be switched frequently.	Pre-assembled units designed to accommodate ABB equipment and suitable for developing arc protected switchgears and designing cell retrofits or upgrades.	Fused or non-fused line switch-disconnectors for the following: • Cable divider and transformer switch • Motor switch (with CMF motor fuse) • Switching of capacitor banks • Local production panels • Line switchgear • Compact substation (kiosk) • Public and industrial application	Three-position gas-insulated switch disconnector: • Secondary distribution switchgear • Feeders, transformer protection and ring networks • Input/output panels combined with circuit breaker or fuse	• Protection of distribution transformers, motors, capacitor banks against overload currents • Backup, general purpose and complete range of fuses • Suitable for voltage transformers, contactors, compact switches and gas-insulated switchgears	Multifunctional devices including circuit breaker, line disconnector and earthing switch suitable for secondary distribution switchgears	• Switching off and on of electrical systems with visible and safe insulation gap for vertical and horizontal operation primary and secondary switchgear • Earthing of switchgears for primary distribution systems
Vacuum breaking with magnetic actuation	Not applicable	Air insulated	Gas insulate	Overload point / Thermal igniter	Vacuum breaking / Gas insulation	Air insulation
• Bistable permanent magnet actuator • SCO or DCO function: single or dual command operated by electric or mechanical interlock function • Limited power consumption • Compact size • Special VIs for motor switching • Up to 1,000,000 operations • Maintenance free • Fixed and withdrawable versions	• Compact size • Limited weight • With/without earth switch with making capacity • Upgrade old devices to new standards • Interlock availability • With or without cable compartment • Cartridge or floor drawer type	• Modular principle for wide functionality • Safe switching combination between disconnector and current limiting fuse • Double arc extinguishing system ensures effective load current breaking • Unique design provides high switching capacity • Highest electrical performance on the market • CSA and UL approved	• Three-position SF6 insulated switch disconnector (Line-Open-Earth) • Metal Partition • Interlocks to prevent incorrect operation • Separate places for insulation and earthing operations • Applicable in combination with fuses and circuit breakers • Wide range of plug-and-play accessories • Compactness only 375mm width • Maintenance-free with lifetime sealing • Maximum 5000 open-close operations • Integrated for voltage presence indication system • Cartridge or floor drawer type	• Combined voltage ratings for greater application flexibility • Integrated igniter pin with temperature control unit to prevent overheating at the installation site • Overload points control internal arc initiation and determine exceptional temperature performance • Embedded insurance data for long-term insurance recognition, • Low power losses and high current limitation extend insulation life • Independent capacitor fuse with high energy capacity	• Safe: mechanical interlocks for circuit breaker-line disconnector-grounding switch-panel door • Long life: 10,000 CO operations • Simple: CB, isolation and interlock functions in one device • Compact: 500 mm wide mounting panels • Class C2 for capacitive switching	• Instantaneous movement mechanism independent of the operator • Flexibility with a pre-assembled active part and corresponding, non-compressed earthing contacts provided • Compact design requiring minimal space • It can be operated manually or by motor.

SHAPING A STRONGER AND MORE RELIABLE DISTRIBUTION NETWORK

ABB portfolio for medium voltage indoor applications








Table title

Applications	Vacuum Tubes	Embedded Type Vacuum Poles	Circuit Breakers / IEC indoor	Circuit Breakers / ANSI indoor	Circuit Breakers / Railways	Generator Circuit Breakers
Primary distribution switchgear manufacturers			•	•	•	•
Secondary distribution switchgear manufacturers	•		•	•	•	
Compact substation manufacturers			•	•	•	
Metal-enclosed capacitor banks			•	•	•	
Motor manufacturers			•	•	•	
Power transformers			•	•	•	•
Distribution transformers			•	•	•	
MV switchgear (CB, contactor, etc.)	•	•				
Capacitors			•	•	•	
Generators			•	•	•	•
Machines			•	•	•	•









Contactors	Enclosures and Kits	Air Insulated Switch-Disconnector	Gas Insulated Switch-Disconnector	Indoor and Outdoor Fuses	Circuit Breaker + Disconnector	Internal Disconnector & Earth Blades
•	•	•		•		•
•		•	•	•	•	
•		•		•		•
•		•		•	•	
•				•		
						•
		•		•		
				•		
•				•	•	
						•
•				•		

DISTRIBUTION SOLUTIONS OUTDOOR MEDIUM VOLTAGE PRODUCTS

Global product offering for outdoor applications

ABB delivers a wide portfolio of medium voltage distribution solutions for outdoor applications, ranging from full-fledged substation breakers to fuse cutouts, through digital intelligent reclosers and sectionalizers ready to support the different needs of the smart grid of tomorrow.

Built to withstand the rigors of the most demanding environments, ABB outdoor medium voltage products provide value to our customers and partners by allowing energy to flow into their lives and businesses in a smarter, safer and more reliable way.

Product / Solution	Benefits and features
Substation circuit breakers	
R-MAG® Dead Tank Breaker 	ABB R-MAG® combines the unique benefits of vacuum interrupter technology with a state of the art magnetic actuator with limited moving parts. This field-proven design leads to higher operational safety, reliability and availability, eliminating maintenance activities on springs or motors in the operating mechanism. With simple open-close coils, an electronic controller and capacitors for energy storage, R-MAG® is capable of 10,000 full-load operations. The dead tank design allows housing of several ring core current transformers for protection and/or measurement purposes and an optional on-board protection relay for full solution flexibility. Configuration and customization are available to adapt this solution to the most complex substation environment, with a full range of 15 kV, 27 kV and 38 kV versions available with different footprints, up to 200 kV BIL and 40 kA.
OVB-SDB and OVB-VBF Live Tank Breakers 	ABB live tank circuit breakers are designed to bring together the superiority of vacuum interruption inside “sealed for life” poles, with the reliability of a long-life spring mechanism inside a weather-proof cabinet. Product robustness ensures high performance in stressful environments, while the simple design minimizes the number of spare parts and makes maintenance quick and easy. Several structure options are available to improve flexibility and reduce installation time; in particular, the telescopic structure option is useful when the circuit breaker height needs to be regulated on site. OVB-SDB is available up to 15 kV 2000 A and 25 kA. OVB-VBF is available in 24 kV, 36 kV and 40.5 kV versions up to 2500 A and 31.5 kA, to support the new challenging requirements of the future interconnected grid.

Product / Solution	Benefits and features
Outdoor auto-recloser	
GridShield® triple-single phase Recloser and OVR three phase Recloser   	With a full portfolio up to 38 kV and 16 kA, the GridShield® and OVR recloser families are ready for any challenge and geared to support the different needs of the grid of tomorrow. Performance of the high voltage unit is guaranteed even in heavy-polluted environment, thanks to the highest creepage distance on the market and the Hydrophobic Cycloaliphatic Epoxy (HCEP) material of the poles, shedding water and reducing the probability of flashover. State-of–the-art ABB vacuum interrupters and magnetic actuators, together with the absence of electronics in the high voltage unit, minimize downtime risk and reduces maintenance costs. GridShield® - The high voltage unit is modular and available in single tank and individual tank design for easy adaptation to any mounting condition and unique three- or single-phase tripping capabilities. To ensure seamless integration into the network and consistency in installed base, GridShield® is available with single and dual voltage sensing options and it can be paired with multiple recloser controllers: ABB RER620, SEL651-R, or Beckwith M-7679. OVR - This recloser is fully type-tested with RER615 Relion® intelligent electronic device, providing high-end relay features and offering IEC61850 native communication with GOOSE messaging capabilities and backward compatibility with Modbus, IEC60870-104 and DNP3.0 communication to connect to SCADA. This enables seamless integration into the network and advanced smart grid features, i.e. loop-control, feeder automation, sensitive earth fault, etc.

Product / Solution	Benefits and features
Load break switches and sectionalizers	
Sectos SF6 Automatic Overhead Line Switch Disconnector 	ABB Sectos is an SF6 gas insulated, pole-mounted automatic overhead line loadbreaker used in electricity distribution networks. The main active part is enclosed in a stainless steel SF6 tank and the state-of-the-art operating mechanism is sealed to guarantee reliable operation even in the most demanding climatic conditions including corrosive atmospheres, snow, and ice. The optional integrated earthing switch with making capacity guarantees fast and reliable earthing of the cable or line, while the main contacts in open position satisfy the isolation requirements of disconnector standards for additional safety during power line work. The Sectos offering ranges from basic manual unit to a tele-controlled fully-automated motorized version with REC615 Relion® relay, current and voltage measurements and SCADA integration to support grid modernization and FDIR concept (Fault Detection, Isolation, Restoration). It is available with NXB version up to 24 kV, NXA up to 36 kV, 630 A, nominal and breaking current, and 50 kA making capacity. ABB is also able to provide the unique NXBD design up to 24 kV, a three-way load break switch also available with earthing switches to implement powerful smart-grid logic in complex networks where limited physical dimensions and investment are key constraints.
NPS Air Switch Disconnector 	ABB NPS is a modular air insulated load break switch that provides a visible break of main contacts, used in medium voltage overhead lines to disconnect or sectionalize feeders and branches. Modularity minimizes logistics and storage costs, allowing late customization and integration, while ensuring simple and fast maintenance or replacement of parts, e.g. the arching chamber. Robust mechanical construction together with the different insulator materials available (epoxy resin, porcelain, silicon), ensures reliability in all weather conditions and in different installation positions. In order to guarantee full flexibility, the NPS offering ranges from the basic manual unit to a fully-automated motorized version with earthing switches, current measurement, SCADA integration and other smart grid features. Available ratings are up to 36 kV, 630 A nominal current and breaking capacity ranging from 16 A up to 630 A, depending on the application.

DISTRIBUTION SOLUTIONS OUTDOOR MEDIUM VOLTAGE PRODUCTS

Global product offering for outdoor applications

Product / Solution	Benefits and features
Breaker-mounted electronic sectionalizer	
AutoLink And Wi-AutoLink Electronic Sectionalizer  	The electronic sectionalizer is an isolating device designed to improve the service continuity of overhead distribution networks. This smart device automatically isolates the faulted grid section when a permanent fault occurs; in such case, the units can be re-set without the need for special tools and quickly put back in service. In the event of a temporary fault, the electronic sectional disconnector allows the upstream recloser or recloser to correct the fault without isolating the circuit. The application on any interchangeable fused breaker base, together with the flexibility in configuration, makes this solution ideal for replacing coordination fuses on lateral lines with rated currents above 3 A. ABB solutions are fully self-powered and do not require additional auxiliary power. The status LED provides important information about the status of the device. While AutoLink is available in single-phase and three-phase mechanically-ganged versions, WiAutoLink has onboard advanced electronics with data storage capabilities (failure records, operation time, temperature, etc.) and a reliable wireless communication which allows single, bi-phase and three-phase operation. The 15 kV, 27 kV and 38 kV versions up to 170 kV BIL, 200 A and 8 kA are available in three standard fully configurable models to minimize inventory needs. A load break option is also available to ensure safe manual opening under load conditions.

Product / Solution	Benefits and features
Fuse Cutouts and normal disconnectors	
Fuse Cutout 	ABB fuse cutouts are used on overhead distribution systems to provide safe and reliable overcurrent protection and visible break as indication of fuse operation. The full portfolio includes an interchangeable (ICX) design, a non-interchangeable (NCX) ABB proprietary design with double venting capability, and a load break version (LBU). Porcelain, silicone rubber, and polymer concrete insulators are available for a full offering up to 38 kV and 200 kV BIL, 100 A and 200 A fused and 300 A disconnect blade. ABB fuse cutouts are designed to perform without fail even in stressful environments, including extreme cold/hot, heavy pollution and Disconnectors.
DCD single phase disconnect switch 	The hook stick operated disconnect switch is used for sectionalizing or isolating circuits on electrical distribution networks up to 38 kV and 900 A, providing a clear and safe visible break. The ABB DCD is available with porcelain or polymer insulators and it is flexible for different mounting configurations.
RBD bypass disconnector 	Using the same technology of the DCD, the ABB RBD provides a quick and easy means of bypassing and disconnecting reclosers or other equipment, allowing quick system reconfigurations to work on any device without interrupting service. It is available up to 38 kV and 900 A continuous current.
SID and LSID disconnector 	The ABB SID is a single insulator disconnect based on the cutout design, available with different insulator options up to 38 kV and 900 A continuous current. The LSID version includes a self- contained load break chamber capable of interrupting up to 600 A.
ITD inline tension disconnect switch 	The hook stick operated disconnect switch is used to manually disconnect de-energized or parallel circuits of overhead distribution lines up to 38 kV, 200 kV BIL and 900 A continuous current. The special design of the ABB ITD allows installation directly on the line under mechanical tension, saving space and additional installation time and material.

Product / Solution	Benefits and features
Accessories	
Instrument transformers and sensors 	ABB has the most comprehensive portfolio of instrument transformers and sensors available. They are used as important accessories for the correct operation of some outdoor products, measurement signals (i.e. current and voltage for measurement purposes) or auxiliary power. The hydrophobic surface properties of HCEP ensure highly reliable performance in wet or humid environments. All instrument transformers and sensors are designed and manufactured according to IEC, ANSI, GB, GOST, etc. standards to achieve superior performance according to the latest technology. A variety of CTs and PTs are available to cover all medium voltage applications in any voltage class range. Sensors have advantages in terms of weight and ease of installation, superior safety and reliability and improved efficiency by decreasing power consumption and energy costs
Communication with Arctic wireless connectivity 	The Arctic family offers secure and cost-effective wireless connectivity for all industrial and utility applications, ranging from enabling the industrial Internet of Things to remote real-time grid auto- mation. As the backbone for communication, the Arctic family utilizes wireless cellular networks, making it possible to combine the products into secure and cost-effective wireless communication systems with global coverage. The Arctic products allow accessing and managing any remote asset from a central location, allowing remote firmware update or configuration.
Control Cabinets 	ABB's smart control cabinets are based on standardized ready-to-be-deployed solutions applicable to switch disconnectors and reclosers, that can be used for both new installations and to upgrade or retrofit existing assets. ABB's comprehensive range of communication gateways and wireless controllers are part of the offering when basic remote control and monitoring is needed. In the most challenging environments and applications, advanced measurements and leading-edge earth-fault detection and protection functionalities are enabled by ABB's proven fault detection algorithms supported by ABB's Relion® protection relays and RIO600 remote I/O unit.

Product / Solution	Benefits and features
Customer support and service	
Spare parts, upgrades and retrofits	A wide range of spare parts is available to service the ABB installed base and support an ex- tended product life. Thanks to the modular design of the products, technology upgrades (i.e., new relay versions, retrofit of components or parts) are easily available upon request to improve performances during the product's lifetime.
Service support and commissioning	Present in more than 100 countries worldwide, ABB ranks as one of the largest service support providers globally. ABB can offer basic maintenance services, spare part replacement and repair, and support through commissioning and configuration of products to ensure a seamless customer experience.
Training	ABB training and learning centers offer a wide range of courses from the basics of operation and maintenance of equipment in our portfolio to advanced training on repairs, spare parts replacement or Relion® relay configuration for different smart grid scenarios. With a deep knowledge of products and solutions, users can be in full control of their installed base and are also able to use ABB products more safely and efficiently

OUTDOOR LIVE TANK CIRCUIT BREAKERS
OVB-VBF outdoor vacuum circuit breaker up to 40.5kV



Description
OVB-VBF live tank circuit breakers have been developed for outdoor use in distribution systems up to 24/36/40.5 kV. It offers a reliable and long-lasting solution thanks to its spring mechanism inside the harsh weather-resistant cabinet and superior ABB vacuum pole technology that is maintenance-free.
Please ask for **price.**

General technical characteristics		
Standard		IEC 62271-100
Rated voltage	(kV)	40.5
Rated insulation voltage	(kV)	40.5
Power frequency withstand voltage	(kV /min)	31
Lightning impulse voltage	(kV peak)	200
Operating frequency	(Hz)	50-60
Rated current	(Amps)	2500
Symmetrical short circuit tripping current	(kA r.m.s)	31.5
Short time withstand current (3s)	(kA r.m.s)	31.5 Asymmetric
Breaking capacity	(% DC Component t=45ms)	35
Short circuit making current	(kA peak)	80
Work sequence		0-0.3sec- CO - 3 Min - CO & CO-15sec- CO

VACUUM CIRCUIT BREAKER FOR RAILWAY APPLICATIONS
FSKII+ outdoor vacuum circuit breaker for railway applications



Description
The FSK II+ is a single or two-phase outdoor breaker with magnetic actuator for railway applications. ABB's FSKII+ vacuum breaker features proven magnetic actuator and electronic controller technology that is robust, reliable and basically maintenance-free, eliminating various moving parts.
Please ask for **price.**

General technical characteristics	
Rated voltage	27.5 kV
Rated current	1250/1600 A - 2000/2500 A
Frequency	50 (60) Hz
Phase number	1 or 2
Short circuit breaking current	8...25 k A
Short circuit making current	50...63 k A
Short time withstand current	25 k A, 3 s
Power frequency withstand voltage	105 kV
Lightning impulse withstand voltage	250 kV
Open/Close time	≤ 45 /≤ 65 ms
Electrical strength (Under load)	20.000
Mechanical strength	Class M2, 10,000

ELECTRONIC SECTIONALIZERS
Autolink family



Description
The electronic sectionalizer is an isolating device designed to improve the service continuity of overhead distribution networks.
This smart device automatically isolates the faulted grid section when a permanent fault occurs; in such case, the units can be re-set without the need for special tools and quickly put back in service. In the event of a temporary fault, the electronic sectional disconnector allows the upstream recloser or recloser to correct the fault without isolating the circuit.
Please get a price offer.

General technical characteristics		
Rated current	A	<200 A
Maximum voltage	kV	38 kV
Frequency	Hz	50-60
Current range	A	5 - 200 A adjustable
Number of trips	-	Adjustable between 1-4
Inrush current detection method	-	Harmonic analysis
Inrush current type (Detected)	-	Symmetric and Asymmetric
Inrush current detection time	-	<1 period
Dead bus detection	mA	Adjustable between 200 and 700
Dead bus detection time	msec	Max. 80
Total opening time	sec	<0.1
Maximum operation time (for single-phase and three-phase applications)	sec	<0.5
Memory reset time	sec	Adjustable from 10 to 300 seconds
Minimum operating current value	A	Minimum requirement: 3A
isolation level	kV	110
Short circuit withstand current (1 second)	kA sym	4
Short circuit withstand current (peak)	kA	10
Operating temperature range (guaranteed up to 200A)	°C	-40 to +55
LED		Flashing LED for status indication
Software update		MS Windows Desktop App
Maximum altidute		3000 m
Protection class (IP)		IP68
Environmental compliance		RoHS, WEEE

OUTDOOR MEDIUM VOLTAGE EQUIPMENT
OVR Three-phase reclosing vacuum breaker



Description
Reclosers have two main functions in distribution systems: reliability and fault current protection. Reclosers are often used to improve reliability, mainly due to three benefits: reclosing capacity, single phase reclosing and automatic loop circuit applications.
Please ask for **price.**

General technical characteristics		
Parameters		OVR-15 / OVR-27 / OVR-38
Current breaking environment		Vacuum
Insulation material		HCEP
Actuator type		Magnetic
Boiler		Stainless steel
Current detection technology (three phases separately)		Internal current transformer
Voltage detection technology (three phases separately)		Resistive voltage divider
Load and grid voltage detection		Yes
Operating temperature range	°C	-40°C... +55°C
Rated maximum voltage	kV	15.5 / 27 / 38
Lightning impulse withstand voltage (BIL)	kV	110
Rated continuous (normal) current	A	630 / 1000 / 1200
Short time short-circuit withstand current	kA (3s)	12.5 / 12.5 / 16
Symmetrical short circuit breaking current	kA	12.5 / 12.5 / 16
Symmetrical short circuit making current	kAp	32.5 / 32.5 / 41.6
Frequency	Hz	50/60
Work sequence		O-0.2s-CO-2s-CO-2s-CO
Mechanical strength under rated load	Ops	10000
Maximum number of openings	n	4
Standards		IEC 62271-111-2012 IEEE C37.60-2012 (dual logo standard)
Pollution level - IEC 60815		Very harsh conditions
Controller (IED)		RER615

OUTDOOR MEDIUM VOLTAGE EQUIPMENT
SECTOS three-phase outdoor disconnector
Sectos NXA



Description
NXA or B is a pole-mountable SF6 gas insulated smart disconnector suitable for both conventional overhead lines and BLX type lines and specially designed for use in modern, distribution automation systems. The NXA or B ensures reliable maintenance-free operation even in the harshest climatic and environmental conditions, such as salty environments, corrosive industrial pollution, snow and ice.
Please ask for **price.**

		NXA 36
Isolation level		
Rated voltage	kV	36
Withstand voltage at power frequency, 60 seconds (wet)		
– Phase to earth	kV	70
– Insulation range	kV	80
Lightning impulse voltage		
– Phase to earth	kV	170
– Insulation range	kV	195
Current values		
Electrical endurance class		E2/E3
Rated current	A	630
Active load breaking current	A	630/400
Number of load breaking CO		50/400
Closed circuit breaking current	A	630
Cable charging current breaking capacity	A	40
Earth fault tripping current	A	175
Short circuit values		
Short time short-circuit withstand current (3 s)	kA	12.5
Peak withstand current, Idyn, peak	kA	31.5
Short circuit making current	kA	31.5/25
Number of short circuit closing		3/5
Protection class		IPX7
Creepage distance between insulators	mm	960
Mechanical strength (Number of CO)		5000
Operating temperature range		-40 ...+60
SF6 Gas pressure (+20)	bar(abs)	1.5
Weight	kg	99

INDOOR MEDIUM VOLTAGE EQUIPMENT
VD4 indoor vacuum circuit breakers (fixed)
VD4 breaker 36kV, 4000A, up to 50kA



Description

VD4 circuit breakers are used in power distribution systems for control and protection of cables, overhead lines, transformer and distribution substations, motors, transformers, generators and capacitor banks. VD4 circuit breakers are available in fixed and withdrawable versions with front mechanism. The withdrawable version is available for ABB UniGear ZS1, ZS2, ZS3.2 and UniSec switchgears and for PowerCube/Powerbloc enclosures. VD4 circuit breakers comply with IEC 62271-100 Standards and the standards of advanced industrialized countries.

Fixed VD4/P breakers

Rated voltage	Pole distance	Rated current	Breaking capacity	Type	Code	Price (EUR)	Estimated delivery
12 kV	150	630	16	VD4 12.06.16 P150	1VCF337111R1121	Request price	6-8 weeks
12 kV	150	1250	16	VD4 12.12.16 P150	1VCF337111R1321	Request price	6-8 weeks
12 kV	150	630	20	VD4 12.06.20 P150	1VCF337111R1131	Request price	6-8 weeks
12 kV	150	1250	20	VD4 12.12.20 P150	1VCF337111R1331	Request price	6-8 weeks
12 kV	150	630	25	VD4 12.06.25 P150	1VCF337111R1141	Request price	6-8 weeks
12 kV	150	1250	25	VD4 12.12.25 P150	1VCF337111R1341	Request price	6-8 weeks
12 kV	210	2000	25	VD4 12.20.25 P210	1VCF337111R1542	Request price	6-8 weeks
12 kV	210	2500	25	VD4 12.25.25 P210	1VCF337111R1642	Request price	6-8 weeks
12 kV	150	630	31.5	VD4 12.06.32 P150	1VCF337111R1151	Request price	6-8 weeks
12 kV	150	1250	31.5	VD4 12.12.32 P150	1VCF337111R1351	Request price	6-8 weeks
12 kV	210	2000	31.5	VD4 12.20.32 P210	1VCF337111R1552	Request price	6-8 weeks
12 kV	210	2500	31.5	VD4 12.25.32 P210	1VCF337111R1652	Request price	6-8 weeks
12 kV	210	1250	40	VD4 12.12.40 P210	1VCF337111R1362	Request price	6-8 weeks
12 kV	210	2000	40	VD4 12.20.40 P210	1VCF337111R1562	Request price	6-8 weeks
12 kV	210	2500	40	VD4 12.25.40 P210	1VCF337111R1662	Request price	6-8 weeks
12 kV	275	3150	40	VD4 12.32.40 P275	1VCF337111R1763	Request price	6-8 weeks
17.5 kV	150	630	25	VD4 17.06.25 P150	1VCF337113R1141	Request price	6-8 weeks
17.5 kV	150	1250	25	VD4 17.12.25 P150	1VCF337113R1341	Request price	6-8 weeks
17.5 kV	210	2000	25	VD4 17.20.25 P210	1VCF337113R1542	Request price	6-8 weeks
17.5 kV	275	2500	25	VD4 17.25.25 P275	1VCF337113R1643	Request price	6-8 weeks
17.5 kV	275	3150	25	VD4 17.32.25 P275	1VCF337113R1743	Request price	6-8 weeks
24 kV	210	630	25	VD4 24.06.25 P210	1VCF337114R0142	Request price	6-8 weeks
24 kV	210	1250	25	VD4 24.12.25 P210	1VCF337114R0342	Request price	6-8 weeks
24 kV	275	2000	25	VD4 24.20.25 P275	1VCF337114R0543	Request price	6-8 weeks
24 kV	275	2500	25	VD4 24.25.25 P275	1VCF337114R0643	Request price	6-8 weeks
36	275	1250	20	VD4 36.12.20 P275	1VCF337115R0333	14,400.00	6-8 weeks
36	275	1250	25	VD4 36.12.25 P275	1VCF337115R0343	15,120.00	6-8 weeks
36	275	1250	31,5	VD4 36.12.32 P275	1VCF337115R0353	15,840.00	6-8 weeks
36	275	1600	20	VD4 36.16.20 P275	1VCF337115R0433	19,440.00	6-8 weeks
36	275	1600	25	VD4 36.16.25 P275	1VCF337115R0443	20,880.00	6-8 weeks
36	275	1600	31,5	VD4 36.16.32 P275	1VCF337115R0453	22,320.00	6-8 weeks
36	275	2000	20	VD4 36.20.20 P275	1VCF337115R0533	20,880.00	6-8 weeks
36	275	2000	25	VD4 36.20.25 P275	1VCF337115R0543	22,320.00	6-8 weeks
36	275	2000	31,5	VD4 36.20.32 P275	1VCF337115R0553	24,120.00	6-8 weeks
36	275	2500	20	VD4 36.25.20 P275	1VCF337115R0633	25,560.00	6-8 weeks
36	275	2500	25	VD4 36.25.25 P275	1VCF337115R0643	27.000.00	6-8 weeks
36	275	2500	31,5	VD4 36.25.32 P275	1VCF337115R0653	29,160.00	6-8 weeks

Standard accessories for fixed VD4 breakers		
Shunt opening release	Request price	6-8 weeks
Closing release	Request price	6-8 weeks
Undervoltage release	Request price	6-8 weeks
15 aux. contact (fig.34 vd4/p/w/us)	Request price	6-8 weeks
Motor operator	Request price	6-8 weeks
Spring loaded/unloaded signal	Request price	6-8 weeks
On/off push button cover	Request price	6-8 weeks

INDOOR MEDIUM VOLTAGE EQUIPMENT
VD4 indoor vacuum circuit breakers (withdrawable)
VD4 breaker 36kV, 4000A, up to 50kA

Withdrawable VD4/P breaker							
Rated voltage	**Pole distance**	**Rated current**	**Breaking capacity**	**Type**	**Code**	**Price (EUR)**	**Estimated delivery**
12 kV	150	630	25	VD4/P 12.06.25 P150	1VCF337121R1141	Request price	6-8 weeks
12 kV	150	1250	25	VD4/P 12.12.25 P150	1VCF337121R1341	Request price	6-8 weeks
12 kV	210	2000	25	VD4/P 12.20.25 P210	1VCF337121R1542	Request price	6-8 weeks
12 kV	275	2500	25	VD4/P 12.25.25 P275	1VCF337121R1643	Request price	6-8 weeks
12 kV	150	630	31.5	VD4/P 12.06.32 P150	1VCF337121R1151	Request price	6-8 weeks
12 kV	150	1250	31.5	VD4/P 12.12.32 P150	1VCF337121R1351	Request price	6-8 weeks
12 kV	210	2000	31.5	VD4/P 12.20.32 P210	1VCF337121R1552	Request price	6-8 weeks
12 kV	275	2500	31.5	VD4/P 12.25.32 P275	1VCF337121R1653	Request price	6-8 weeks
12 kV	275	2500	40	VD4/P 12.25.40 P275	1VCF337121R1663	Request price	6-8 weeks
12 kV	275	3150	40	VD4/P 12.32.40 P275	1VCF337121R1763	Request price	6-8 weeks
17.5 kV	150	630	25	VD4/P 17.06.25 P150	1VCF337123R1141	Request price	6-8 weeks
17.5 kV	150	1250	25	VD4/P 17.12.25 P150	1VCF337123R1341	Request price	6-8 weeks
17.5 kV	275	2500	25	VD4/P 17.25.25 P275	1VCF337123R1643	Request price	6-8 weeks
24 kV	210	630	25	VD4/P 24.06.25 P210	1VCF337124R0142	Request price	6-8 weeks
24 kV	210	1250	25	VD4/P 24.12.25 P210	1VCF337124R0342	Request price	6-8 weeks
24 kV	275	2500	25	VD4/P 24.25.25 P275	1VCF337124R0643	Request price	6-8 weeks
36 kV	275	1250	25	VD4/W 36.12.25 P275	1VCF337135R0343	17,100.00	6-8 weeks
36 kV	275	2000	25	VD4/W 36.20.25 P275	1VCF337135R0543	25,200.00	6-8 weeks
36 kV	275	1250	31.5	VD4/W 36.12.32 P275	1VCF337135R0353	18,300.00	6-8 weeks
36 kV	275	2000	31.5	VD4/W 36.20.32 P275	1VCF337135R0553	26,600.00	6-8 weeks

Standard accessories for withdrawable VD4/P breakers		
Shunt opening release	Request price	6-8 weeks
Closing release	Request price	6-8 weeks
Undervoltage release	Request price	6-8 weeks
15 aux. contact (fig.34 vd4/p/w/us)	Request price	6-8 weeks
Drawer position contact	Request price	6-8 weeks
Motor operator	Request price	6-8 weeks
Spring loaded/unloaded signal	Request price	6-8 weeks
On/off push button cover	Request price	6-8 weeks
Door locking mechanism with drawer	Request price	6-8 weeks
L=3M 58 pins plug-socket	Request price	6-8 weeks

INDOOR MEDIUM VOLTAGE EQUIPMENT
HD4 gas-insulated circuit breakers
HD4 circuit breakers 40.5kV, 3600A, up to 50kA



Description
HD4 circuit breakers are used to protect power distribution lines, distribution substations, motors, transformers, capacitor banks. HD4 circuit breakers are available in fixed and withdrawable versions with front and side mechanism. The HD4 series circuit breakers provide the advantages of the “autopuffer” arc damping technique, already used in high voltage, also for medium voltage.

Fixed HD4/P breaker

Rated voltage	Pole distance	Rated current	Breaking capacity	Type	Code	Price (EUR)	Estimated delivery
12 kV	230	630	16	HD4/R 12.06.16 P230	1VCF348111R0122	Request price	6-8 weeks
12 kV	230	1250	16	HD4/R 12.12.16 P230	1VCF348111R0322	Request price	6-8 weeks
36 kV	350	630	16	HD4/R 36.06.16 P350	1VCF348115R0124	Request price	6-8 weeks
36 kV	350	1250	16	HD4/R 36.12.16 P350	1VCF348115R0324	Request price	6-8 weeks

Fixed HD4 breaker with front mechanism

Rated voltage	Pole distance	Rated current	Breaking capacity	Type	Code	Price (EUR)	Estimated delivery
12 kV	150	630	16	HD4 12.06.16 P150	1VCF307111R0121	Request price	6-8 weeks
12 kV	150	1250	16	HD4 12.12.16 P150	1VCF307111R0321	Request price	6-8 weeks
12 kV	150	630	25	HD4 12.06.25 P150	1VCF307111R0141	Request price	6-8 weeks
12 kV	150	1250	25	HD4 12.12.25 P150	1VCF307111R0341	Request price	6-8 weeks
12 kV	210	2000	25	HD4 12.20.25 P210	1VCF347111R0542	Request price	6-8 weeks
12 kV	210	2500	25	HD4 12.25.25 P275	1VCF347111R0644	Request price	6-8 weeks
12 kV	150	630	31,5	HD4 12.06.32 P150	1VCF307111R0151	Request price	6-8 weeks
12 kV	150	1250	31,5	HD4 12.12.32 P150	1VCF307111R0351	Request price	6-8 weeks
12 kV	210	2000	31,5	HD4 12.20.32 P210	1VCF347111R0552	Request price	6-8 weeks
12 kV	210	2500	31,5	HD4 12.25.32 P275	1VCF347111R0654	Request price	6-8 weeks
17.5 kV	150	630	25	HD4 17.06.25 P210	1VCF307113R0142	Request price	6-8 weeks
17.5 kV	150	1250	25	HD4 17.12.25 P210	1VCF307113R0342	Request price	6-8 weeks
17.5 kV	210	2000	25	HD4 17.20.25 P210	1VCF347113R0542	Request price	6-8 weeks
17.5 kV	275	2500	25	HD4 17.25.25 P275	1VCF347113R0644	Request price	6-8 weeks
17.5 kV	275	3150	25	HD4 17.32.25 P275	1VCF347113R0744	Request price	6-8 weeks
24 kV	210	630	25	HD4 24.06.25 P210	1VCF307114R0142	Request price	6-8 weeks
24 kV	210	1250	25	HD4 24.12.25 P210	1VCF307114R0342	Request price	6-8 weeks
24 kV	275	2000	25	HD4 24.20.25 P275	1VCF347114R0544	Request price	6-8 weeks
24 kV	275	2500	25	HD4 24.25.25 P275	1VCF347114R0644	Request price	6-8 weeks
36	275	1250	25	HD4 36.12.25 P275	1VCF347115R0344	Request price	6-8 weeks
36	275	1250	31,5	HD4 36.12.32 P275	1VCF347115R0354	Request price	6-8 weeks
36	275	1600	25	HD4 36.16.25 P275	1VCF347115R0444	Request price	6-8 weeks
36	275	1600	31,5	HD4 36.16.32 P275	1VCF347115R0454	Request price	6-8 weeks
36	275	2000	20	HD4 36.20.20 P275	1VCF347115R0534	Request price	6-8 weeks
36	275	2000	25	HD4 36.20.25 P275	1VCF347115R0544	Request price	6-8 weeks
36	275	2000	31,5	HD4 36.20.32 P275	1VCF347115R0554	Request price	6-8 weeks
36	275	2500	20	HD4 36.25.20 P275	1VCF347115R0634	Request price	6-8 weeks
36	275	2500	25	HD4 36.25.25 P275	1VCF347115R0644	Request price	6-8 weeks
36	275	2500	31,5	HD4 36.25.32 P275	1VCF347115R0654	Request price	6-8 weeks

INDOOR MEDIUM VOLTAGE EQUIPMENT
HD4 gas-insulated circuit breakers
HD4 circuit breakers 40.5kV, 3600A, up to 50kA

Withdrawable HD4/P breaker							
Rated voltage	**Pole distance**	**Rated current**	**Breaking capacity**	**Type**	**Code**	**Price (EUR)**	**Estimated delivery**
12 kV	150	630	25	HD4/P 12.06.25 P150	1VCF307121R0141	Request price	6-8 weeks
12 kV	150	1250	25	HD4/P 12.12.25 P150	1VCF307121R0341	Request price	6-8 weeks
12 kV	210	2000	25	HD4/P 12.20.25 P210	1VCF347181R0542	Request price	6-8 weeks
12 kV	275	2500	25	HD4/P 12.25.25 P275	1VCF347181R0644	Request price	6-8 weeks
12 kV	150	630	31,5	HD4/P 12.06.32 P150	1VCF307121R0151	Request price	6-8 weeks
12 kV	150	1250	31,5	HD4/P 12.12.32 P150	1VCF307121R0351	Request price	6-8 weeks
12 kV	210	2000	31,5	HD4/P 12.20.32 P210	1VCF347181R0552	Request price	6-8 weeks
12 kV	275	2500	31,5	HD4/P 12.25.32 P275	1VCF347181R0654	Request price	6-8 weeks
12 kV	275	2500	40	HD4/P 12.25.40 P275	1VCF347181R0664	Request price	6-8 weeks
12 kV	275	3150	40	HD4/P 12.32.40 P275	1VCF347181R0764	Request price	6-8 weeks
17.5 kV	150	630	25	HD4/P 17.06.25 P150	1VCF307123R0141	Request price	6-8 weeks
17.5 kV	150	1250	25	HD4/P 17.12.25 P150	1VCF307123R0341	Request price	6-8 weeks
17.5 kV	275	2500	25	HD4/P 17.25.25 P275	1VCF347183R0644	Request price	6-8 weeks
24 kV	210	630	25	HD4/P 24.06.25 P210	1VCF307124R0142	Request price	6-8 weeks
24 kV	210	1250	25	HD4/P 24.12.25 P210	1VCF307124R0342	Request price	6-8 weeks
24 kV	275	2500	25	HD4/P 24.25.25 P275	1VCF347184R0644	Request price	6-8 weeks
36 kV	275	1250	25	HD4/W 36.12.25 P275	1VCF347175R0344	Request price	6-8 weeks
36 kV	275	2000	25	HD4/W 36.20.25 P275	1VCF347175R0544	Request price	6-8 weeks
36 kV	275	1250	31,5	HD4/W 36.12.32 P275	1VCF347175R0354	Request price	6-8 weeks
36 kV	275	2000	31,5	HD4/W 36.20.32 P275	1VCF347175R0554	Request price	6-8 weeks

Standard accessories for fixed HD4 breakers		
Shunt opening release	Request price	6-8 weeks
Closing release	Request price	6-8 weeks
Undervoltage release	Request price	6-8 weeks
Auxiliary contact 5 NO	Request price	6-8 weeks
Motor operator	Request price	6-8 weeks
Spring loaded/unloaded signal	Request price	6-8 weeks
On/off push button cover	Request price	6-8 weeks
Close button locking mechanism	Request price	6-8 weeks

INDOOR MEDIUM VOLTAGE EQIPMENT
CONVAC medium voltage vacuum contactors
CONVAC



Description

The medium voltage ConVac contactor operates on alternating current and is normally used to control devices that require a large number of switching sequences. The ConVac contactor has an electromagnetic actuator that acts in harmony with the contacts inside the vacuum tube, guaranteeing a long and reliable mechanical life. ConVac has individual poles that improve both dielectric performance and mechanical strength. ConVac contactors are available in versions suitable for electrical or mechanical interlocking. For versions with withdrawable fuse, you can request a separate price.

Fixed type ConVac contactor

Rated voltage	Rated current	Locking type	Supply voltage	Type	Code	Price (EUR)	Estimated delivery
7.2 kV	400A	SCO	110...130 V	Convac 7,2KV 400A 110/130V Standard Performance	1VCF340131R2000	7,200.00	6-8 weeks
7.2 kV	400A	SCO	110...130 V	Convac 7,2KV 400A 110/130V High Performance	1VCF340141R2000	8,500.00	6-8 weeks
12 kV	400A	SCO	110...130 V	Convac 12KV 400A 110/130V Standard Performance	1VCF340132R2000	9,360.00	6-8 weeks
12 kV	400A	SCO	110...130 V	Convac 12KV 400A 110/130V High Performance	1VCF340142R2000	10,900.00	6-8 weeks

DISTRIBUTION AUTOMATION
Global product offering

ABB delivers a full range of genuine IEC 61850 protection and control products, including substation automation. ABB's IEC 61850 compliant solutions offer a unified user experience for operating power distribution systems from the secondary substation level up to the main control center level.

ABB distribution automation products are built to withstand the rigors of the most demanding environments including marine and offshore, industrial facilities such as mines and paper and petrochemical plants, as well as utilities in urban and rural locations.

Relion series and supporting products



601 provides basic protection and control for feeder and motor applications. It is very compact, easy to install and engineer, having a built-in test function. The use is convenient with basic settings and an alphanumerical display. It has a very wide auxiliary voltage range with a universal power supply module, reducing the variants needed. The relay is offered with an optional galvanic communication module including several protocols. 603 is a current transformer powered numerical feeder protection relay including overcurrent and earth-fault protection. It is designed for applications where auxiliary power is not available or cannot be guaranteed, thereby making it an ideal choice for installation at remote locations. The relay is primarily used in ring main units and secondary distribution switchgear within distribution networks.

Relion® 605 series



Relion® 611 series provides protection and control for the most typical applications including feeder, voltage and motor protection as well as a dedicated relay for high-impedance based differential protection. The relays are compact, easy to install and efficient to engineer with a matrix type of configuration. The relays are convenient to use due to the alphanumerical display and Web browser-based user interface. The withdrawable-unit design enables easier testing and speeds up maintenance activities. The communication capabilities of the relay ensure seamless system level integration.

Relion® 611 series



The Relion® REX615 series provides protection and control for a complete range of applications including feeder, line differential, transformer differential, voltage, bus differential, capacitor bank, motor differential, generator differential and interconnection protection as well as on-load tap changer. REX615 series offers a high functionality level in a compact format. With the REX615 Wide version, the wider case of the relay allows a large number of digital inputs and outputs and enables control of several circuit breakers. Flexible engineering is enabled using the graphical application configuration functionality, and all relevant information including a single line diagram view is provided to the end user via the local graphical display. The relays offer easily settable state-of-the-art earth-fault protection. The integrated ARC flash protection enables detection of arc faults in the busbar, circuit breaker and cable compartments.
The withdrawable-unit design enables easier testing and speeds up maintenance activities. The communication capabilities of the relays include a wide range of communication protocols and interfaces ensuring seamless system level integration. The 615 series is well prepared for digital switchgears and substations, with IEC 61850 Edition 1 and Edition 2 support, horizontal GOOSE messaging, redundant Ethernet communication including HSR and PRP protocols, and process bus according to IEC 61850-9-2 LE providing sampled measured values.

Relion® REX615 series

Relion series and supporting products



REX640

The REX640 is a powerful all-in-one protection and control relay for use in advanced power distribution and generation applications, offering unmatched flexibility over its lifetime. The enclosure-independent and color touch local HMI offers an innovative user interface that provides information about process status in a clear and user-friendly way that is not visible. The pages on the local HMI can be customized according to specific needs.
The REX640 comes with a comprehensive set of basic functions as standard. However, it is possible to configure the product to meet specific installation needs by including any of the optional application packages in a single REX640 relay. Using the relevant application package(s), it can be used in protection applications ranging from a simple feeder to large power transformer and synchronous machine applications. The REX640 also offers several application packages for extended control functions such as automatic synchronization for generators, Petersen coil controller and on-load tap changer controller for transformers.
The IEC61850 standard is one of the core values of the REX640. It offers full support for horizontal GOOSE communication and also for sending and receiving process bus value streams according to IEC61850-9-2LE. With PRP or HSR redundancy protocols, the availability of communication-based information can be assured. The modular design and freely configurable functionality of the REX640, together with extensive hardware capabilities, form a unique combination to meet even the most demanding requirements.



RIO600

RIO600 Remote I/O unit is designed to expand the digital and analog I/O of ABB's Relion® protection relays, provide I/O for the station automation device COM600 and in Grid Automation applications. The unit allows maximum I/O flexibility and provides seamless IEC 61850 connectivity between the substation binary and analogue signals. Compared to a traditional fully hard-wired substation, a solution using RIO600 helps in simplifying and decreasing the wiring inside the substation by digitizing the hardwired signals.
RIO600 enables accurate current and voltage measurements from the medium-voltage network utilizing ABB's light weight sensor technology. Based on the measured values, RIO600 gives directional fault passage indication and reports it to the upper level system using Modbus TCP or IEC 61850 GOOSE communication. RIO600 also enables power flow and power quality monitoring.
With state-of-the-art multi-frequency admittance (MFA) based earth fault indication also high-ohmic transient and intermittent type of earth faults can be reliably detected, even in compensated and isolated networks.

Engineering and test tools



PCM600

An easy-to-handle tool providing versatile functionalities required throughout the life cycle of ABB's Relion® protection and control relays in transmission and distribution applications. PCM600 is IEC 61850 certified, which simplifies relay engineering and enables information exchange with other IEC 61850 compliant tools.
The hierarchical presentation model that reflects the real system topology allows you to efficiently view and edit information about your power system.
PCM600 provides efficient functionality for parameter setting, application configuration and communication engineering. With an intuitive and well-structured user interface PCM600 offers easy-to-use configuration capabilities for I/O mapping and signal mapping. The user interface, workflow and the IEC 61850 based data model in PCM600 are designed according to the same philosophy as the relay itself, ensuring smooth and seamless integration between the tool and the IEDs. PCM600 features facilities for engineering of IEC 61850 communication between bay and station levels and bay-to-bay GOOSE messaging for station-wide interlocking and control of parallel transformers.



RTB615

Relay test box for 615 series plug-in units. The 615 series relays can be withdrawn from its original case and inserted to RTB615 for testing. The test box supports periodical relay testing and commissioning of new or retrofit installations. It can also be used for demonstration or training purposes and as a support during the engineering phase. All the analog inputs and binary input and output interfaces of the relay are readily available on the RTB615 front plate to connect to the secondary injection device, for example, Omicron or Megger.



FT switches

ABB Flexitest™ switches, types FT-1 (10 pole, rear connected), FT-1F (10 pole, front connected), FT-1X (10 pole, extended terminals, rear connected), FT-14 (14 pole, rear connected), and associated Test Plugs, provide a safe, simple, fast and reliable method to isolate, test, and service installed equipment without disturbing the system. FT-19R, FT-19RX, FT-19RS, and FT-22RS Flexitest switch assemblies for rack and switchboard mounting also permit convenient isolation of switchboard relays, meters, and instruments allowing quick and easy multi-circuit testing by any conventional test method.
These assemblies utilize FT-1 and/or FT-14 switches, depending on customers requirements.

Arc fault protection



REA system

A fast and selectively operating arc fault mitigation system for air-insulated low voltage and medium voltage switchgears to protect human lives, prevent or reduce asset damage and allow smooth power restoration. REA arc fault protection is based on optical detection of the intense light of an arc fault or on detection of light secured with detection of simultaneous phase or neutral overcurrent.
On detection of an arc fault, the REA system trips via high speed trip outputs in less than 2.5 ms all circuit breakers that feed the fault zone. The uses two types of optical sensors for detecting light: a non-shielded, bare fiber sensor that detects light along its entire length and lens type point sensors with typically one sensor installed per switchgear compartment. The REA 101 main module can operate as a stand-alone device or in combination with other REA 101 modules. Extension modules of type REA 103 or REA 107 allow the number of sensor fibers and/or lens-type sensors to be increased to extend the area of protection. Extension module type REA 105 has also fast trip outputs allowing protection schemes with increased selectivity to be created.

Communication tools



Arctic

ARC600
The wireless controller ARC600 is a compact, all-in-one device for) remote monitoring and control of secondary substations, network disconnectors, switch disconnectors and ring main units (RMU) in distribution networks. The controller allows the monitoring and control system, such as SCADA, to wirelessly monitor and control field devices over the wireless cellular network.
ARR600
The wireless I/O Gateway ARR600 provides wireless monitoring and control of field devices via cellular network from a central site or control center. The devices offer industrial quality connectivity for the IEC 60870 and Modbus based protocols. Field applications can be connected and controlled via on-board digital and analog I/Os. Wireless I/O Gateway ARR600 exhibits integrated communication capability and seamless integration to the SCADA systems.
ARG600
The wireless gateway ARG600 provides monitoring and control of field devices over a wireless cellular network from a central location. The gateway offers industrial quality connectivity for IEC 60870 and Modbus-based protocols, in addition to TCP/IP-based protocols.
ARM600
The M2M gateway ARM600 is a communication server, VPN concentrator and firewall. It is the interface between the central monitoring and control system (SCADA) and remote Arctic gateways and controllers. The ARM600 includes a device management application, Arctic Patrol, which features advanced condition monitoring and allows remote management of Arctic gateways and controllers.

Grid Automation solutions



RER620

RER620, a dedicated recloser relay perfectly aligned for the protection, control, measurement, and supervision of utility distribution feeders and industrial power systems. RER620 provides protection for overhead lines and cable feeders in distribution substations. It can be applied for protection and control of grounded and ungrounded distribution systems. Offering time and instantaneous overcurrent, negative sequence overcurrent, phase discontinuity, breaker failure, embedded loop control performing automatic loop restoration functions (commonly accepted as a means to significantly improve circuit reliability and to provide more effective system operation), and voltage metering and protection.



REC615/RER615

REC615 and RER615 provide optimal functionality to enhance grid reliability with a wide range of protection functionality, remote control and monitoring, fault indication and power quality analysing functionality. The provided range of standard network communication protocols ensures seamless integration in the overall grid control system. REC615 is suitable for a wide variety of power distribution networks, which can include distributed power generation, secondary equipment such as medium voltage disconnectors, switches and ring main units. RER615 is designed as recloser controller in medium voltage secondary distribution systems, including radial, looped and meshed distribution networks, with or without distributed power generation.



Control Cabinets

ABB's smart control cabinets are based on standardized ready-to-be-deployed solutions. There are cabinet variants for both overhead line and underground cable networks. The control cabinet offerings are applicable to overhead line equipment such as switch disconnectors and reclosers and range from basic monitoring and remote control of switch disconnectors, to advanced earth-fault detection and leading-edge protection functionality for the reclosers.
For applications where only remote control and monitoring is needed, our comprehensive range of communication gateways and wireless controllers are found in the offering. Even the most demanding types of earth-faults can be detected or even isolated with ABB's proven fault detection algorithms supported by ABB's Relion® protection relays and RIO600 remote I/O unit. To minimize the outage time and improve SAIDI and SAIFI values, control cabinets bring online monitoring possibilities of the of the primary devices, i.e., disconnectors, load-break switches, circuit breakers and reclosers and the RMU's switches and circuit breakers. The control cabinet offering is suitable both for new installations and for retrofitting to existing assets.

Distribution Automation solutions



SUE 3000

The SUE 3000 High Speed Transfer Device guarantees an optimum safeguarding of energy supply.
The device ensures the continued supply to the consumer through automatic transferring to a stand-by feeder and protects the subsidiary process from expensive stoppage times. Furthermore, through the possibility of manually-initiated transfers – for targeted clearings, for example – the operation of the installation is considerably simplified. In conjunction with conventional circuit- breakers and protection devices total transfer times in the range of less than 100 ms will be achieved (counting from the occurrence of the fault in the main feeder until the circuit-breaker of the standby feeder is closed).
For smooth operation of motor-driven consumers, a transfer in this range will usually be sufficient and non-critical.
For demanding applications requiring transfer systems that provide transfer times within 1 ½ cycle the SUE 3000 can be extended with additional components and performance-enhancing features, to create the High Speed Transfer System (HSTS). This system with optimized medium voltage circuit breaker VM1-T and switchbay protection and control unit REF542plus, achieves transfer times of 30 ms.
This result in a transfer time that permits sensitive industrial processes to continue in operation without any interruption.



cPMS/PML630

A comprehensive, freely-configurable load-shedding device that protects industrial and utility power networks with multiple power sources and critical loads against power outages and blackouts. It responds to power network disturbances and loss of available power by cutting off loads in a fast, accurate and selective manner and in the process, ensuring availability of power supply for critical loads. Such an action results in the least possible interruption to the duration and frequency of production downtime in an industrial deployment and power outage in a power distribution network.
Besides fast load-shedding, it also supports load-shedding based on power source overloading, power demand violation, frequency and manual actions. The execution of the application is aided by inputs and outputs exchanged with protection relays compliant to the IEC 61850 standard. It provides full engineering flexibility with an automated application configuration. The detachable local HMI includes a high resolution display provides all relevant information to the end user. In addition, the device includes programmable push buttons

Retrofits

Relay retrofit program



Relay retrofit program(RRP) focuses on the smooth and controlled replacement of existing protection relays with modern protection and control IEDs. The program includes all the devices, accessories, hardware and software tools and documentation (manuals) needed for a timely scheduled and controlled execution of retrofit projects. The various phases of the retrofit project can be accurately scheduled and timely executed to minimize downtime of the production or power distribution processes. Further, the relay retrofit program can be used to improve the protection system by implementing new functionality, such as arc fault protection, and by enhancing the horizontal and vertical transfer of information.



PCMU

The Pre-Configured Matching Unit (PCMU) represents the best choice to replace ABB legacy relays. It ensures a reliable, seamless upgrade due to the risk reduction only a wire-like solution can provide. It also offers the lowest possible cost of installation in the market by using the existing wiring and connecting it to the wire-like terminals. Additionally the time to update drawings after installation is virtually eliminated since no changes in wiring are required. ABB's PCMUs are the best choice for to replace ABB legacy relays such as MSOC, DPU, DPU200, TPU2000, IMPRS, and Pro*Star.



REF615R

REF615R is a dedicated feeder Protection relay. perfectly aligned for protection, control, measurement, and supervision of utility substations and industrial power systems. The 19 inch rack mount form of ABB's Relion® REF615 utilizes the same form and fit as the DPU2000R relay and provides exact wire-alike matching rear terminals, making the REF615R the ideal solution for upgrading to the industry's latest technologies. Engineered from the ground up, the 615 series has been designed to unleash the full potential of the IEC 61850 standard for communication and interoperability of substation automation devices while providing Modbus and DNP simultaneously in one standard configuration.
Some SCADA integration work may be required when replacing the DPU2000R.

Service



Life cycle services

ABB offers full support for all protection and control relays throughout their entire life cycle. Our extensive life cycle services include, customer support, maintenance and modernization, in order to ensure safe, reliable and cost effective protection solutions with predictable maintenance costs.
Our maintenance services range from preventive maintenance, developed to ensure reliable operation for aging protection equipment, to spare parts, refurbished spare devices and repair service. Our spare parts service ensures only genuine spare parts are supplied, and not only for the latest but also for protection relays as old as 40 years. An alternative to sending the relay for repair is ordering a refurbished spare device, which is also an ecological choice.
Modernization offers a cost-effective and smooth upgrade of your entire protection and control system, without having to replace the entire switchgear. By updating or replacing the protection relays, the switchgear lifetime can be significantly extended. Modernization also ensures your protection and control system meets the latest standards and represents the latest technology. ABB's modernization services include software updates, product upgrades, replacements (retrofits) and also recycling, making it an economical and environmentally friendly choice.



Trainings

Distribution Automation training and learning centers offer a wide range of courses: from the basics of the relay operation to the detailed learning of the modern medium voltage protection and control products. By knowing devices and equipment you are able to use them more efficiently and also receive more specific information from your network.

DIGITAL UNIGEAR
Innovative solution for MV switchgear

Digital UniGear is a switchgear solution developed to meet the key requirements of the future: flexibility, greater process efficiency, lower cost of operation, maximum integration, reliability and safety.





UNIGEAR ZS1 & UNIGEAR ZS2 Primary Air Insulated Metal Clad (LSC2B) Switchgear

Unigear ZS1 & Unigear ZS2 provide ease of operation with a user-friendly interface.

Unigear ZS1 & ZS2 combine powerful solutions and innovative components based on ABB's latest technology. Unigear ZS1 & ZS2 is a metal-enclosed medium voltage metal-clad (LSC2B) switchgear suitable for indoor installation. Its configuration is simple and the selection of the right mechanisms and instruments for specific applications does not require special solutions.

UniGear ZS1 & ZS2 switchgear has been subjected to all tests of international (IEC) standards. UniGear ZS1 & ZS2 switchgear is equipped with all the necessary locks and accessories to ensure the highest level of safety and reliability for both plant and personnel.



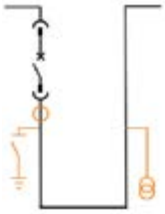
UNIGEAR ZS1& ZS2
Standard configurations

Switchgear with vacuum breaker



Vacuum circuit breaker
Current transformer
Earth blade
ABB REX615 multifunction protection relay

Coupling and busbar raising switchgear with vacuum breaker



Vacuum circuit breaker
Current transformer
Voltage transformer
Earth blade
ABB REX615 multifunction protection relay

Instrument switchgear



Voltage transformer
Earth blade

Switchgear with vacuum contactor



Vacuum contactor
Current transformer
Earth blade
ABB REX615 multifunction protection relay
Fuse

—

Unigear ZS1 switchgear up to 24kV list price

	Description	Estimated delivery time	Price (EUR)
 Unigear ZS1 24kV	Unigear ZS1 17.5 kV 25kA 630A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 630A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 25kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 40kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 50kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 25kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 40kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 50kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 24 kV 25kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 24 kV 25kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 24 kV 31.5kA 1250A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 24 kV 31.5kA 2500A switchgear with vacuum circuit breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 25kA 630A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 25kA 1250A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 630A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 1250A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 40kA 1250A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 50kA 1250A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 25kA 2500A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 31.5kA 2500A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 40kA 2500A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5 kV 50kA 2500A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 24 kV 25kA 1250A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 24 kV 25kA 2500A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 24 kV 31.5kA 1250A coupling and busbar raising panel with vacuum breaker	28 weeks	Request price
	Unigear ZS1 24 kV 31.5kA 2500A coupling and busbar raising switchgear with vacuum breaker	28 weeks	Request price
	Unigear ZS1 17.5kV 31.5kA instrument switchgear	28 weeks	Request price
	Unigear ZS1 17.5kV 40kA instrument switchgear	28 weeks	Request price
	Unigear ZS1 17.5kV 50kA instrument switchgear	28 weeks	Request price
	Unigear ZS1 24kV 31.5kA instrument switchgear	28 weeks	Request price
	Unigear ZS1 17.5 kV 25-50kA 400A vacuum contactor switchgear	28 weeks	Request price

—

Unigear ZS2 switchgear up to 36kV list price

	Description	Estimated delivery time	Price (EUR)
 Unigear ZS2 36kV	Unigear ZS2 36 kV 16-31.5kA 1250A switchgear with vacuum breaker	28 weeks	37.000.00
	Unigear ZS2 36 kV 16-31.5kA 2500A switchgear with vacuum breaker	28 weeks	52.000.00
	Unigear ZS2 36 kV 16-31.5kA 3150A switchgear with vacuum breaker	28 weeks	63.000.00
	Unigear ZS2 36 kV 16-31.5kA 1250A coupling and busbar raising panel with vacuum breaker	28 weeks	58.000.00
	Unigear ZS2 36 kV 16-31.5kA 2500A coupling and busbar raising panel with vacuum breaker	28 weeks	77.000.00
	Unigear ZS2 36 kV 16-31.5kA 3150A coupling and busbar raising panel with vacuum breaker	28 weeks	91.000.00
	Unigear ZS1 36kV 31.5kA instrument switchgear	28 weeks	31.000.00

RELION® PROTECTION AND CONTROL
Enhanced grid reliability

The Relion® product family offers the original IEC 61850 product range for the protection, control, measurement and monitoring of power systems.

In order to provide solutions that are interoperable and unaffected by future changes, the Relion series products are designed to implement key features of the IEC 61850 standard. By using these products, you can benefit from ABB's advanced technology, global application experience and experienced support network.

Relion technology is leading the way in the field of protection and control in power systems. Our products are continuously developed to meet market requirements and are driven by our high-level experience in the development of successful protection and control relays.
Relion products implement the highlights of the IEC 61850 standard and demonstrate the ability to operate a wide range of communication tasks, such as sending horizontal GOOSE messages, working with other equipment and systems compliant with this standard. Communication also works seamlessly with the manufacturer's other products in compliance with the IEC 61850 standard.

—
01 Relion's Interactive Selection Guide (ISG) helps you choose the most suitable type of protection relay for your application. Relion ISG is available at: http://abb.relionisg.com





	605 series	611 series
Applications		
Feeder protection and control	■	■
Motor protection and control	■	■
Transformer protection and control		
Generator protection and control		
Voltage protection and control		■
Line differential protection and control		
Line distance protection		
Feeder compartment control		
Busbar protection		■
Phase measurement		
Self-energized feeder protection	■	
Capacitor bank protection and control		
Breaker protection		
Railway protection		
Key features		
Auxiliary supply	Self-powered or auxiliary supply (AC/DC)	Auxiliary supply (AC/DC)
Analog input	Conventional or sensor	Conventional
Enclosure type	Fixed	Removable plug-in unit
Display	4-line display 8 programmable LEDs	4-line display 8 programmable LEDs
Control - Command	On/off button	On/off button
Programming interface	Display PCM600 software configuration	Display PCM600 software configuration Web browser
Communication protocols	Modbus RTU IEC60870-5-103	Modbus TCP/IP serial IEC 61850
Additional functionality		
Additional input/output		Optional I/O card depends on product version RIO600

*Please ask Contact Center for price information.
Contact center no: +90 850 333 1 222

ABB also offers a range of complementary products to accelerate power system automation in substations.

— 01 RIO600

— 02 COM600 series

The RIO600 is a unit that can be used to increase the number of input/output points on the relay (IEC 61850 communication protocol).

The COM600 series combines user interface, communication gateway and automation platform functions in a single physical unit to accelerate substation operation and data management.



—
01



—
02







	REX615 Standard	REX615 Wide	REX640
	Auxiliary supply (AC/DC)	Auxiliary supply (AC/DC)	Auxiliary supply (AC/DC)
	Conventional or sensor	Conventional or sensor	Conventional or sensor
	Removable plug-in unit	Removable plug-in unit	External display
	8-line display and dedicated graphic display 11 programmable LEDs (2-color)	10-line display and dedicated graphic display 11 programmable LEDs (2-color)	30 programmable LEDs (3-color)
	On/off button 4 programmable buttons	On/off button 16 programmable buttons	On/off button 16 programmable buttons
	Display PCM600 software configuration Web browser	Display PCM software configuration Web browser	Display PCM600 software configuration Web browser
	Modbus TCP/IP serial IEC 61850 Profibus DPV1 adapter Ethernet redundancy PRP and HSR DNP3 TCP/IP serial IEC 60870-5-103 Pros. busbar (IEC 61850-9-2 LE) IEC 60870-5-104	Modbus TCP/IP/serial IEC 61850 Ethernet redundancy PRP and HSR DNP3 TCP/IP serial IEC 60870-5-103 Pros. busbar (IEC 61850-9-2 LE) IEC 60870-5-104	Modbus TCP/IP/serial IEC 61850 Ethernet redundancy PRP and HSR DNP3 TCP/IP serial IEC 60870-5-103 Pros. busbar (IEC 61850-9-2 LE) IEC 60870-5-104
	Arc fault protection (optional)	Arc fault protection (optional)	Arc fault protection (optional)
	Optional I/O card depends on product version RIO600	Optional I/O card depends on product version RIO600	Optional I/O cards depends on product version RIO600

DISTRIBUTION AUTOMATION PRODUCTS

Description	Type	Code	Price (EUR)
Busbar Protection Relay (High Impedance) • 4 CT inputs • 4 digital inputs, 6 digital outputs • 3 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REB611	REB611HBAADC1NN11G	3,226.00
Multiple Feeder Protection and Control Relay • 7 CT, 6 VT inputs • 11 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, IEC103, IEC104, DNP3.0 protokol desteği	REC615	HBCGAGNNEBLBHDD21G	5,911.00
Line Differential Protection Relay • 4 CT, 5 VT inputs • 16 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_1B7D	6,389.00
Simple Overcurrent Protection Relay • 4 CT inputs • 4 digital inputs, 6 digital outputs • 1 RS485 communication port, Modbus protocol support	REF601	REF601BF446DF1NK	1,720.00
Overcurrent Protection Relay • 4 CT, 4 VT inputs • 10 digital inputs, 6 digital outputs • 1 RJ45 communication (HSR/PRP), 1 RJ45 service port • IEC61850, Modbus protocol support	REF611	REF611HBBABC1AA21G	2,896.00
Feeder Management Relay • 4 CT, 5 VT inputs • 16 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_10SB	5,137.00
Feeder Management Relay • 4 CT, 5 VT inputs • 32 digital inputs, 14 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Wide	REX615_16GL	6,387.00
Generator Protection Relay • 7 CT, 5 VT inputs • 12 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_1EGG	5,880.00
Motor Protection Relay • 4 CT inputs • 4 digital inputs, 6 digital outputs • 3 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REM611	REM611HBAADC1NN11G	2,760.00
Motor Protection Relay • 4 CT, 5 VT inputs • 16 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_1EGL	4,802.00
Motor Protection Relay • 7 CT, 5 VT inputs • 28 digital inputs, 18 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Wide	REX615_1EH7	7,159.00

DISTRIBUTION AUTOMATION PRODUCTS

Description	Type	Code	Price (EUR)
Recloser Control Relay • 4 CT, 3 VT inputs • 14 digital inputs, 13 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, IEC104 protocol support	RER615	HBRAAAANEDLBFAE11G	5,597.00
Transformer Protection Relay • 7 CT, 5 VT inputs • 12 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_1EGN	5,770.00
Transformer Protection Relay • 8 CT, 6 VT inputs • 16 digital inputs, 17 digital outputs, 2 RTD inputs, 1 mA input • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Wide	REX615_1EHC	6,970.00
Voltage Protection relay • 5 VT inputs • 4 digital inputs, 6 digital outputs • 1 RJ45 communication (HSR/PRP), 1 RJ45 service port • IEC61850, Modbus protocol support	REU611	REU611HBAABC1NN11G	2,543.00
Voltage Protection Relay • 5 VT inputs • 12 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_10J5	3,790.00
Capacitor Bank Protection Relay • 7 CT, 5 VT inputs • 12 digital inputs, 10 digital outputs • 2 LC, 1 RJ45 communication (HSR/PRP supported), 1 RJ45 service port • IEC61850, Modbus protocol support	REX615 Standard	REX615_1EH3	5,860.00
Multi-Application Protection and Control Relay • 12 CT inputs, 8 VT inputs • 42 Digital inputs, 34 Digital outputs • 2 LC & 1 RJ45 Communication Port (HSR/PRP) • IEC61850 & Modbus Communication Protocol	REX640	REX640_103Y	14,358.00

SAFERING & SAFEPLUS
Secondary gas-insulated RMUs

SafeRing and SafePlus offer a similar operator panel and interface for the user.

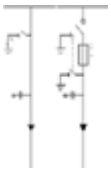
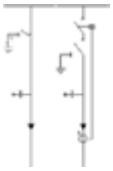
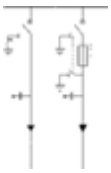
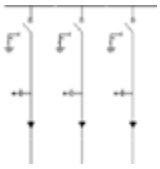
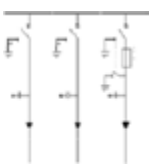
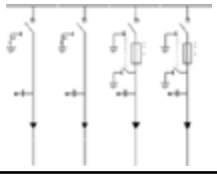
ABB SafeRing and SafePlus RMUs offer a complete solution for secondary distribution systems.
Both products are housed in a stainless steel tank with all live points completely enclosed, providing constant atmospheric conditions. This makes them virtually maintenance-free, while ensuring a high level of safety and robustness.
SafeRing and SafePlus modules with fused or relay-controlled breakers are used for transformer protection.

SafeRing is expandable so that additional units can be added later. It is also compatible with SafePlus. SafePlus, with its unique flexibility and expandability, offers suitable solutions for fully modular or semi-modular configurations.



SAFERING
Compact RMU standard configurations

—
Standard Configurations

		DeV	• De - Direct cable connection unit combined with earth blade. • V - Vacuum Breaker module with earth knife. • 2 units in a common gas tank
		DeF	• De - Direct cable connection unit combined with earth blade • F - fused disconnector and earth blade unit • 2 units in a common gas tank
		CV	• C – Switch disconnector with earth blade • V - Unit with vacuum breaker - with earth blade • 2 units in a common gas tank
		CF	• C - Switch disconnector with earth blade • F - fused disconnector and earth blade unit • 2 units in a common gas tank
		CCC	• 3 x C- Switch disconnector with earth blade • In a common gas tank
		CCV	• 2 x C- Switch disconnector with earth blade • V - Unit with vacuum breaker - with earth blade • In a common gas tank
		CCF	• 2 x C- Switch disconnector with earth blade • F - fused disconnector and earth blade unit • In a common gas tank
		CCVV	• 2 x C- Switch disconnector with earth blade • 2 x V - Unit with vacuum breaker - with earth blade • In a common gas tank
		CCFF	• 2 x C- Switch disconnector with earth blade • 2 x F - fused disconnector and earth blade unit • In a common gas tank

COMPACT RMUs
Monoblock standard configuration list price

Description	Type	Estimated delivery time	Price (EUR)
SafeRing type CCF 12kV , 630A ,21kA ,95 BIL ,50Hz	CCF	24 – 28 weeks	14,400.00
SafeRing type CCFF 12kV , 630A ,21kA ,95 BIL ,50Hz	CCFF	24 – 28 weeks	21,500.00
SafeRing type CCCF 12kV , 630A ,21kA ,95 BIL ,50Hz	CCCF	24 – 28 weeks	17,800.00
SafeRing type CCV 12kV , 630A ,21kA ,95 BIL ,50Hz	CCV	24 – 28 weeks	28,100.00
SafeRing type CCCV 12kV , 630A ,21kA ,95 BIL ,50Hz	CCCV	24 – 28 weeks	33,200.00
SafeRing type CCVV 12kV , 630A ,21kA ,95 BIL ,50Hz	CCVV	24 – 28 weeks	39,300.00
SafeRing type CCF 36kV , 630A ,20kA ,95 BIL ,50Hz	CCF	24 – 28 weeks	36,600.00
SafeRing type CCV 36kV , 630A ,20kA ,95 BIL ,50Hz	CCV	24 – 28 weeks	43,200.00

SAFEPLUS
Modular RMU



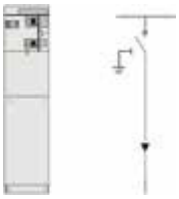


SafePlus is a modular, compact switching system suitable for distribution systems up to 36 kV. Thanks to SafePlus' inherent flexibility, it can be expanded with additional units, offering a suitable solution for fully modular and semi-modular configurations. Thanks to SafePlus, which can be used in combination with SafeRing, ABB's standard RMU solution, it offers customized solutions for 12/24/36 kV distribution systems. SafePlus and SafeRing have similar operator interface and operation procedure for the user. SafePlus is a system that provides stable atmospheric conditions, with all live points enclosed in a fully enclosed stainless steel tank.

This makes them virtually maintenance-free, while ensuring a high level of safety and robustness. Optionally, an external busbar kit can also be used to provide full modularity. The external busbar kit must be installed on site. The busbar kit provides a fully insulated and shielded modular tank structure, ensuring high durability and minimal impact from environmental conditions. SafePlus is suitable for transformer protection applications with fused disconnector unit or relay controlled breaker unit.



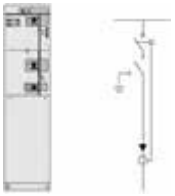
De - Direct cable connection unit combined with earth blade 630A rated current, 25kA 3(s) short circuit withstand



C - Earth blade switch disconnector 630A rated current, 25kA 3(s) short circuit withstand



F - Fused disconnector and earth blade unit 200A rated current, 5kA 1(s) short circuit withstand



V - Vacuum Breaker unit with earth blade 200A / 630A rated current, 21kA 3(s) short circuit withstand

Description	Type	Estimated delivery time	Price (EUR)
SafePlus type CCF Modular RMU 12kV,25kA min,50Hz	CCF	24 – 28 weeks	18.300,00
SafePlus type CCV Modular RMU 12kV, 25kA min,50Hz	CCV	24 – 28 weeks	36.000,00
SafePlus type CCF Modular RMU 36kV,25kA min,50Hz	CCF	24 – 28 weeks	38.000,00
SafePlus type CCV Modular RMU 36kV, 25kA min,50Hz	CCV	24 – 28 weeks	54.800,00

ABB Elektrik Sanayi A.Ş.
Hilltown Ofis
Aydınevler Mahallesi
Siteler Yolu No: 1A / 7
34854 Maltepe, İstanbul Türkiye
Tel : +90 216 528 22 00

ABB Customer Contact Center
Tel : +90 850 333 1 222
Fax : +90 850 333 1 225
E-mail : contact.center@tr.abb.com

Low Voltage Technical Support
tr-agteknikdestek@abb.com

www.abb.com.tr

Note:
ABB reserves the right to make technical changes or modify the contents of this document without prior notice. Mutually agreed specifications will apply to purchase orders. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. This price list includes our prices effective as of 2026. The prices in this document are recommended resale prices.

We reserve the copyright of this document and related subject matter and the images used herein. Any copying, third party use or exploitation of the content - in whole or in part - without the written permission of ABB is prohibited.

© Copyright 2026 ABB
All rights reserved.

