

ABB's comprehensive range of breakers and switches

The range of ABB breakers and switches ranks amongst the most extensive on the market with a full range of innovative solutions for various applications, helping to optimise resources, reduce energy costs, boost productivity.

- Air circuit breakers
- Molded case circuit breakers
- HRC fuse & fuse base
- Switch disconnecter fuse
- Switch disconnectors
- Changeover switches - manual & motorized
- Auto transfer switches
- Cable distribution cabinet - Kabeldon
- Fuse gear - easyline and inline (Fuse switch disconnecter)
- Switch disconnecter for DC and photovoltaic application
- MCCB for DC and photovoltaic application



SACE Emax 2

The all-in-one innovation



The world of electrical power distribution changes fast and major new trends such as renewables, energy storage and microgrids are now crowding onto the stage. These trends lead to new customer and application demands.

To meet these demands, ABB has now unveiled the innovative Emax 2 all-in-one, the evolution of the Emax 2 into a multi-functional platform that is able to manage the next generation of electrical distribution systems such as microgrids.

Emax 2 all-in-one is the first circuit breaker that meets new grid requirements. It enables a direct communication to the new energy management cloud-computing platform ABB Ability™ Energy and Asset Management.

Smart plug and play architecture makes Emax 2 all-in-one easy to use. Leveraging also unmatched electrical performances, Emax 2 sets a new circuit breaker benchmark for the needs of today and tomorrow.

SACE Emax 2, the all-in-one solution to manage "low-voltage distribution systems".

Efficiency

New advanced functionalities, together with Protection trip units, Communication and system devices contribute to make SACE Emax 2 the circuit breaker that maximizes efficiency in all low-voltage electrical installation.

Control

SACE Emax 2 circuit breaker is the first single device ready to manage all the dynamics of a low-voltage electrical installation.

Managing loads in any condition is now possible, thanks to Advanced Functionalities such as:

- **Power controller**

Patented algorithm to reduce the peak of power consumed, allowing savings on electricity bills.

- **Embedded ATS functions**

An automatic transfer system used in all applications, where continuity is essential and where there are multi-source supplies.

- **Synchro-reclosing**

Synchronization and automatic reconnection of the Microgrid to the main grid when the power is back.

- **Interface protection system and Interface Device**

Check of grid-connected operation that shall be immediately and automatically interrupted in case of outage of the distribution grid or when the voltage and frequency values of the grid itself are out of the range of values defined by the Distribution System Operator (DSO).

- **Adaptive protection**

Network changes recognition and automatic set of thresholds to guarantee protection and co-ordination in on-grid and off-grid conditions.

The SACE Tmax XT range at a glance

The world of circuit breaking and circuit protection in your hands



SACE Tmax XT1

Small, reliable, versatile. Your reliable partner for all standard applications.



NEW

SACE Tmax XT2

Compact yet powerful. It fits everywhere and is able to deal with all complex tasks.



SACE Tmax XT3

Small and experienced. For standard applications that need few efforts.



NEW

SACE Tmax XT4

A forward-thinking, multitasker. It finds solutions for all levels of complexity.



NEW

SACE Tmax XT5

Compact, extremely powerful and flexible. It shows the world what a circuit-breaker of the future can do, today.



NEW

SACE Tmax XT6

Built to last. It completes all assignments it has been entrusted with.



NEW

SACE Tmax XT7 / XT7 M

The ultimate choice. It deals with the most heavy-duty demands effortlessly.



Data and connectivity

SACE Tmax XT sets new standards in plant and energy management with remote access, monitoring, and control.



Performance and protection

Continuity of service and equipment protection – SACE Tmax XT sets standards when extreme breaking capacity is needed.



Local connection and Remote communication

Bluetooth connectivity, Ekip Connect software, and multiple protocols make commissioning and device settings effortless.



Electrical performances

SACE Tmax XT is designed and tested to meet any installation requirement, even the most critical ones.



Cloud connectivity

Ekip Com HUB enables cloud connectivity for full ABB Ability™ Energy and Asset Management services.



Safety and reliability

With a focus on safety and reliability, cutting-edge design and expert engineering set new industry standards.



Ease of use and installation

Simplified selection, versatile accessories, and intuitive design enable quick upgrades for any project.

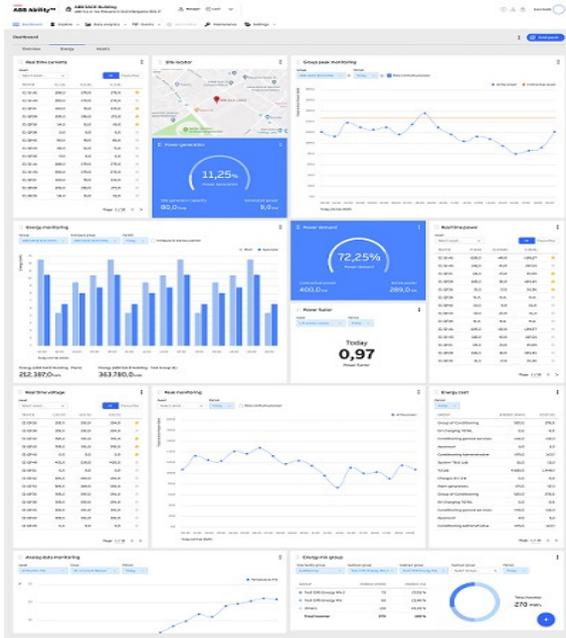
ABB Ability™ Energy Manager

Strike your sustainability and efficiency target

ABB Ability™ Energy Manager is the state-of-the-art cloud solution for monitoring and analyzing site equipment. This intuitive solution has the ability to optimize your site's electrical distribution system and other utilities, resulting in improved performance, efficiency and safety.

Through its scalable and flexible design, ABB Ability™ Energy Manager ensures comprehensive accessibility and is ready-to-use with low- and medium voltage electrical distribution as well as of water, gas or heating equipment.

Every facility has different energy needs and targets, which is why the ABB Ability™ Energy Manager uses configurable widgets to meet the needs of your organization. And you can define, compare and access relevant results with maximized efficiency.



Energy functionality



Group peak monitoring



Energy Performance Index (EnPI)



Power factor



Performance indicators



Reporting



Power quality



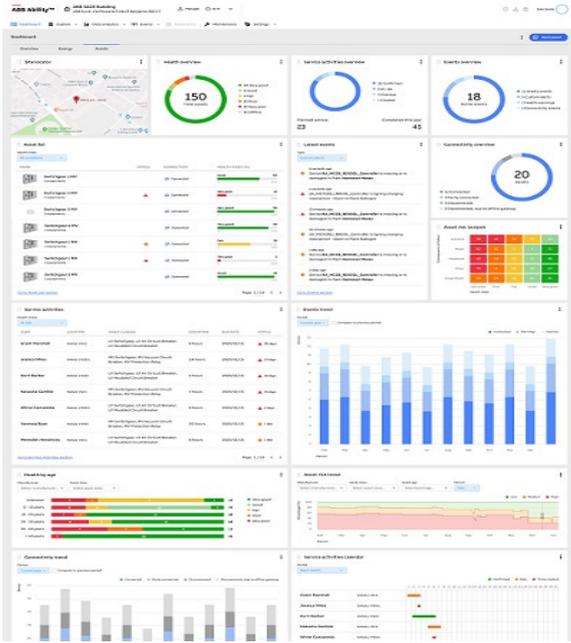
Alerts

ABB Ability™ Energy Manager is an innovative cloud-based energy management tool that gives you the power to monitor, analyze, control and optimize your electrical system reaching energy efficiency and sustainability goals.

It helps you to reduce energy costs, improve your energy efficiency and manage your carbon footprint, with high flexibility of application.

The energy manager and asset health add-ons can be purchased separately or together, depending on your needs. Monitoring can also be segmented down to individual pieces of equipment and/or sub-systems-such as an elevator, a single HVAC system, or a production line.

ABB Ability™ Asset Health



Every facility sets different asset performance targets, and that's why the ABB Ability™ Asset Health widgets can be customized for the specific needs of your business. And you can define, compare and access the most relevant results with maximized efficiency.



Condition monitoring
Granular visibility of your asset behavior in real-time for both LV and MV environments



Digital twin
Access asset data, documentation, historical data and more



Maintenance planning
Root-cause analysis of asset condition enables predictive maintenance



Events and notification
Set up alerts and notify key personnel remotely when an action needs to be taken



Health analysis
Get the full picture of your connected assets' health with clear categorizations for appropriate action, from "Very poor" (mostly failed, urgent action required) to "Very good" (as new, no action)



Reporting
Access a wide range of reports to gain a better understanding of how your assets are performing and identify any key trends

Predict function

Predictive Maintenance is a sophisticated algorithm that leverages real time inputs, and an analysis of the product's health conditions that considers:

- Age
- Installation date
- Environmental conditions
- Utilization conditions
- Maintenance activities
- Contact Wear

Moving from preventive to Predictive Maintenance, customers can reduce:

- Maintenance frequency
- Related costs
- Extend the life of electrical systems
- Ensure 24/7 continuous operations

Insights



Make better data-driven decisions



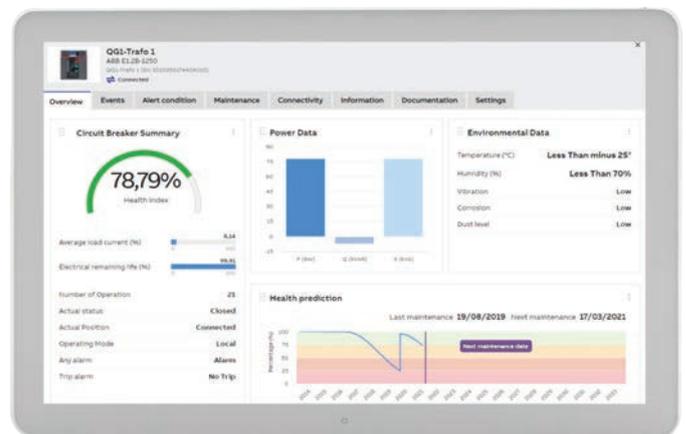
Remediate issues proactively



Improve availability and reliability



Reduce costs

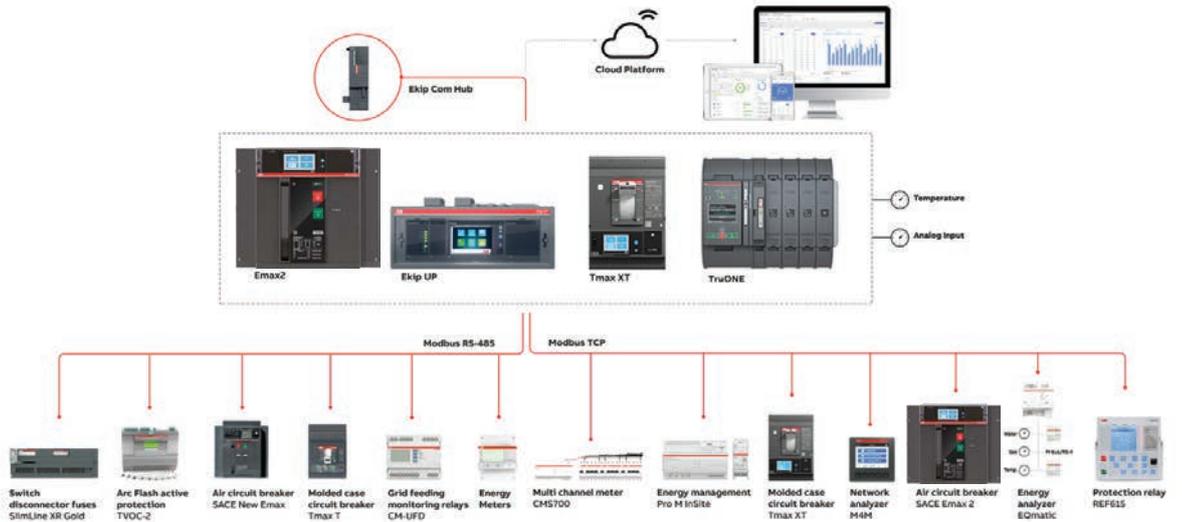


Architecture

Truly plug & play

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

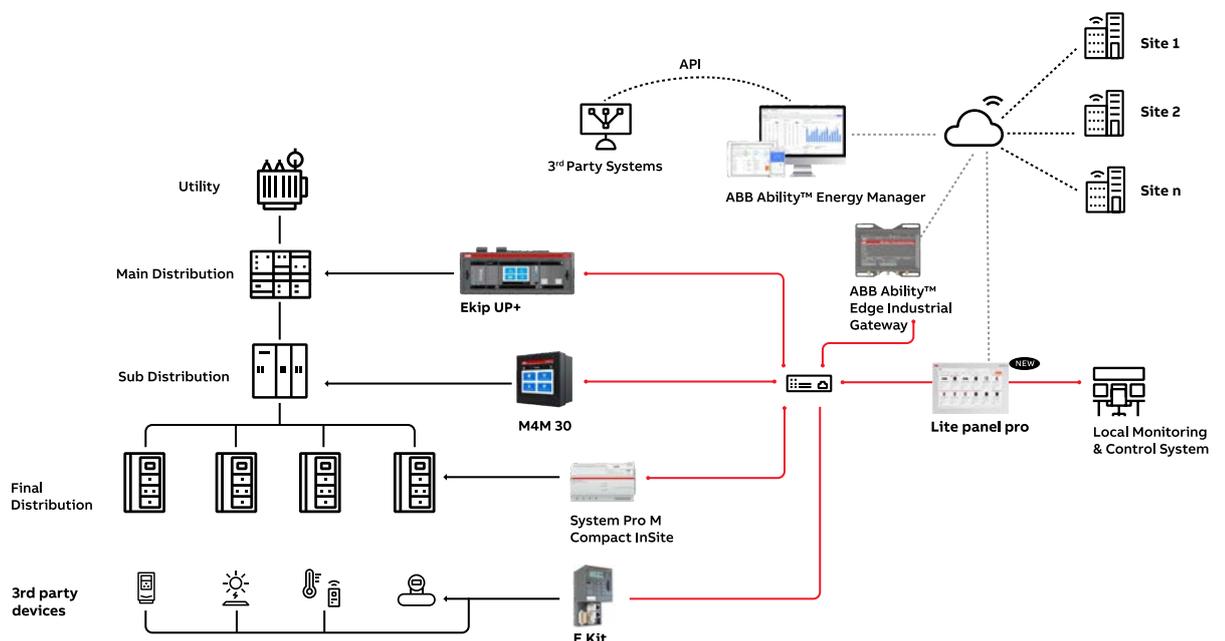
This dedicated cartridge-type communication module just needs to be inserted into the terminal box and connected to the internet.



External solution with ABB Ability™ Edge Industrial gateway and lite panel pro

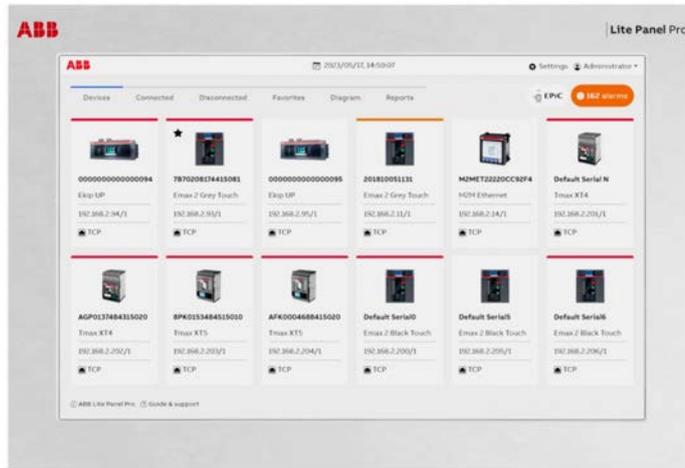
The ABB Ability™ Edge Industrial gateway module can be mounted on DIN-Rail to collect data throughout the system. You can also connect sensors to measure environmental

parameters (temperature, water, gas) via both analog and digital I/O. ABB Ability™ Edge Industrial gateway has enhanced connectivity functionalities, providing Wi-Fi or 3G/4G connectivity.



Lite panel pro **NEW**

One Panel, a multitude of features



12" touchscreen

Ease of use with large display in-line with market requirements



Energy efficiency granted by ABB Ability™ Energy Manager ready



Future-proof hardware supporting product evolution with new software-enabled functionalities



Versatile switchboard panel display able to monitor and control connected Low Voltage devices

Simplified commissioning Automatic scanning and identification of ABB devices*.

From Local Device Monitoring to Energy Management in the cloud



Integrated webserver
All HMI functionalities can be accessed remotely from any computer on the same network for a more convenient operation.



Reports
On-demand and scheduled reports are available (daily/weekly/monthly).



Single Line Diagram
Users can upload a single line diagram and tag connected devices to keep an eye on the whole switchboard.



Cloud ready
Provisioning of all connected devices to ABB Ability Energy Manager is possible directly from the panel, without the need for extra hardware (gateway).



Mobile ready
EpiC Mobile App is supported via the provided Wi-Fi dongle.



Local data storage
Data from connected field devices is saved onboard and available for user consultation at any time.



Third party device support via templates
Brownfield installations featuring non-ABB devices are supported using configurable device templates.



Protocol translator
Modbus RTU devices connected to the panel are rendered available for integration with 3rd party systems (e.g. SCADA, BMS) via Modbus TCP.

ABB Ability™ Enabled Products

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

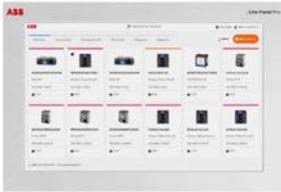
ABB Ability™ Energy and Asset Manager enables the collection of relevant information from the ABB devices installed in the low-voltage power distribution system.

These devices can be connected to the cloud-computing platform to share data with Emax 2 (equipped with Ekip Com Hub) or with ABB Ability™ Edge Industrial gateway via Modbus RS-485, Modbus TCP and Ekip Link.

| INFORMATION | | | | | | | | | | | COMMUNICATION | |
|-----------------------------------|------------------------------|-------|---------|----------|-------|--------|--------------|---------------|---------------------------|-----------------|--------------------------------|--|
| Family | Device | State | Current | Voltages | Power | Energy | Power factor | Power quality | Maintenance & Diagnostics | Load management | Analog or pulse/digital inputs | Protocol |
| Low voltage MCCB | Tmax XT | • | • | • | • | • | • | • | • | • | • | Modbus RS485, Modbus TCP, Ekip Com Hub |
| Low voltage ACB | Emax 2 | • | • | • | • | • | • | • | • | • | • | Modbus RS485, Modbus TCP, Ekip Com Hub |
| Digital units | Ekip UP+ | • | • | • | • | • | • | • | • | • | • | Modbus RS485, Modbus TCP, Ekip Com Hub |
| Low voltage switches and fusegear | TruONE ATS | • | • | • | • | • | • | • | • | • | • | Modbus RS485, Modbus TCP, Ekip Com Hub |
| | Slimline XR ITS 2.1 | • | • | • | • | • | • | • | • | • | • | Modbus RS485 |
| Digital inputs interface | Ekip signalling MODBUS TCP | • | | | | | | | | | • | Modbus TCP |
| Sub-Metering | EQ meters | | • | • | • | • | • | • | | | | Modbus RS485 |
| Power meters | M4M | | • | • | • | • | • | • | | | | Modbus RS485, Modbus TCP |
| Energy management | System pro M compact® InSite | • | • | • | • | • | • | • | | • | • | Modbus RS485, Modbus TCP |
| MV relays | 615 Series | • | • | • | • | • | • | • | • | • | • | Modbus TCP |
| MV condition monitoring | SWICOM | | | | | | | | • | | | Modbus TCP |

And many others to come... *Provided with dedicated accessories for communication and metering functions ** Only with ABB Ability EL gateway

ABB Ability™ Energy Manager and Asset Manager



| Overview | Order codes | Description | L.P. (₹) |
|------------------|-----------------------------|---|-------------------------------------|
| Hardware | 1SDA116751R1 | ABB Ability™ Edge Industrial gateway | |
| | 1SDA116752R1 | ABB Ability™ Edge Industrial gw 3G EU | |
| | 1SDA120717R1 | ABB E-kit | |
| | 1SDA082894R1 | Ekip Com Hub E1.2..E6.2 | |
| | 1SDA123321R1 | Lite Panel Pro | |
| | 1SDA114809R1 | Lite Panel | |
| | 1SDA082485R1 | Ekip Signalling Modbus TCP E1.2...E6.2 | |
| Accessories | 1SDA114038R1 | I/O additional module E-Hub 2.0 | |
| | 1SDA114039R1 | Wi-fi/Bluetooth antenna E-Hub 2.0 | |
| | 1SDA114040R1 | Cellular antenna E-Hub 2.0 | |
| | 1SDA114041R1 | Metal Mounting brackets E-Hub 2.0 | |
| | 1SDA114043R1 | Power Supply E-Hub 2.0 | |
| | Energy Manager Subscription | 1SDA116737R1 | ABB Ability™ EM Watching 1Y_VOUCHER |
| 1SDA116735R1 | | ABB Ability™ EM Watching 1Y_SUBSCRIPTION | |
| 1SDA116046R1 | | 1 extra device for ABB Ability™ 1 YR | |
| 1SDA116048R1 | | 25 extra device for ABB Ability™ 1 YR | Upon Request |
| 1SDA116047R1 | | 50 extra device for ABB Ability™ 1 YR | Upon Request |
| 1SDA116049R1 | | 100 extra device for ABB Ability™ 1 YR | Upon Request |
| 1SDA120031R1 | | Extra 1000 SMS for ABB Ability™ 1 YR | Upon Request |
| 1SDA120032R1 | | 15 extra users for ABB Ability™ 1 YR | Upon Request |
| 1SDA116060R1 | | Load Power Forecasting 1 YR | Upon Request |
| 1SDA120007R1 | | Upgrade to ABB Ability™ Energy Manager – Performing Add-on 1 YR | Upon Request |
| Multisite | 1SDA132425R1 | Asset-Health 1 YR | |
| | 1SDA118332R1 | ABB Ability™ Eenergy Manager Watching Multisite 1 YR - Voucher | |
| Multisite Add-On | 1SDA118334R1 | 1 extra site for ABB Ability™ Multisite Energy Manager 1YR | |
| | 1SDA118336R1 | 5 extra sites for ABB Ability™ Multisite Energy Manager 1 YR | |
| | 1SDA118338R1 | 10 extra sites for ABB Ability™ Multisite Energy Manager 1 YR | |
| | 1SDA118342R1 | 15 extra users for ABB Ability™ Multisite Energy Manager 1 YR | |
| | 1SDA116083R1 | ABB Ability™ EM Energy Simulator Multisite | |

ArTu K

Born certified

Fully checked and certified (IEC 60439-1 and IEC 61439-1 and 2 Standard) by an external independent organisation (Acea Lovag, CPRI & ERDA), the ArTu switchgear is a synonym of safety and quality. The certification is the fruit of severe tests carried out on the whole configuration, consisting of metalwork structures, circuit-breakers and busbar system.

The ArTu K series switchgear is ideal for primary distribution board, motor control center, power control center etc. upto 6300A with air and molded-case circuit-breakers and any internal segregations up to Form 4, and for floor-mounted secondary distribution switchgear with molded-case and modular circuit-breakers. The switchgear has been tested for Internal Arc (as per IEC 61641) and Seismic (as per IEC 60068).

Smart Low Voltage switchboard



The ArTu switchgear is noted for the following features:

- Integrated range of modular metalwork structures up to 6300 A with common accessories.
- Possibility of fulfilling all application requirements in terms of installation (floorstanding, modular and corner versions) and degree of protection (IP31, IP41, IP 42, IP54 & IP65).
- Maximum integration with modular apparatus and the molded-case and air circuit-breakers, so that additional drilling or adaptations are not required.
- Minimum switchgear assembly time, thanks to the simplicity of the kits, standardization of the small assembly items, self-supporting elements and the presence of clear reference points for assembly of the plates and panels – Segregations in kits up to Form 4.

The use and installation of the kits according to the instructions provided means that assembly and cabling times can be reduced to a minimum, for example, thanks to the reference points for positioning the panels and plates, and that respect of the insulation distances and the rated characteristics of the circuit-breakers are guaranteed.

Tmax XT circuit breakers

MCCB for power distribution & Generator Protection



| Type | I _n (40° C) [A] | U _e [V] | | Category | Release | I _{cu} (380 - 415 V AC) [kA] | | | | | | | | | | | |
|--------------|----------------------------|--------------------|-----|------------------------|---|---------------------------------------|----|----|----|----|----|-----|-----|-----|-----|---|------|
| | | AC | DC | | | 16 | 25 | 36 | 50 | 70 | 85 | 100 | 120 | 150 | 200 | | |
| XT1 | 160 | 690 | 500 | A | TMD/TMF | B | C | N | S | H | | | | | | | |
| | | | | | TMD/TMA Ekip Dip LS/I Ekip Dip LIG / Dip LSIG | | | | | | | | | | | | |
| XT2 | 160 | 690 | 500 | A | Ekip C Dip LSIG Ekip Touch LSIG / Hi-Touch Ekip Touch Measuring LSIG Ekip G Dip LS/I Ekip G Touch LSIG/ G Hi-Touch | | | N | S | H | | | | L | | V | |
| XT3 | 250 | 690 | 500 | A | TMD TMG | | | | | N | S | | | | | | |
| | | | | | TMD/TMA Ekip Dip LS/I Ekip Dip LIG / Dip LSIG | | | | | | | | | | | | |
| XT4 | 250 | 690 | 750 | A | Ekip C Dip LSIG Ekip Touch LSIG / Hi-Touch Ekip Touch Measuring LSIG Ekip G Dip LS/I Ekip G Touch LSIG/ G Hi-Touch | | | | | N | S | H | | L | | V | X |
| | | | | | TMD/TMA Ekip Dip LS/I Ekip Dip LIG / Dip LSIG | | | | | | | | | | | | |
| XT5 | 400 630 | 690 | 750 | B (500 A) A (630 A) | Ekip Dip LS/I Ekip Dip LIG / Dip LSIG Ekip Touch LSIG / Hi-Touch Ekip Touch Measuring LSIG Ekip G Dip LS/I Ekip G Touch LSIG/ G Hi-Touch | | | | | N | S | H | | L | | | V, X |
| | | | | | TMA Ekip Dip LS/I Ekip Dip LIG / Dip LSIG | | | | | | | | | | | | |
| XT6 | 630 800 | 690 | 750 | B (630A - 800 A) | Ekip Dip LS/I Ekip Dip LIG / Dip LSIG Ekip G Dip LS/I | | | | | N | S | H | | | | | |
| | | | | | Ekip Dip LS/I Ekip Dip LIG / Dip LSIG | | | | | | | | | | | | |
| XT7/ XT7M | 1000 1250 1600 | 690 | | B | Ekip Touch LSIG / Hi-Touch Ekip Touch Measuring LSIG Ekip G Dip LS/I Ekip G Touch LSIG/ G Hi-Touch | | | | | | S | H | | L | | | |

Trip Units

Thermal magnetic trip units

- TMF - Fixed thermal and fixed magnetic for power distribution
- TMD - Adjustable thermal (70-100% of I_n) and fixed magnetic (10 x I_n) for power distribution
- TMA - Adjustable thermal (70-100% of I_n) and adjustable magnetic (5-10 of I_n) for power distribution
- TMG - Adjustable thermal (70-100% of I_n) and low fixed magnetic (3 x I_n) for generator protection

Microprocessor based trip units

| | | | | | | | |
|----------------------------------|-----------------------------|--------------|-----------------------------|---|---|---|--|
| Ekip Dip LS/I Ekip G Dip LS/I | L = 0.40 - 1 I _n | Ekip Dip LIG | L = 0.40 - 1 I _n | Ekip Dip LSIG Ekip C Dip LSIG (XT2...XT6) | L = 0.4 - 1 I _n | Ekip Touch LSIG/ Touch measuring LSIG/ Hi-Touch LSIG Ekip G Touch LSIG/ G Hi-Touch LSIG | L = 0.4 - 1 I _n |
| | S = 1 - 10 I _n | | I = 1 - 10 I _n | | S = 1 - 10 I _n ⁽¹⁾ | | S = 0.6 - 10 I _n |
| | I = 1 - 10 I _n | | G = 0.2 - 1 I _n | | I = 1 - 10 I _n ⁽¹⁾ | | I = 1.5 - 10 I _n ⁽²⁾ |
| | | | | | G = 0.2 - 1 I _n ⁽¹⁾ | | G = 0.1 - 1 I _n |

Note :

L = Overload S = Short circuit I = Instantaneous short circuit G = Earth fault

⁽¹⁾ for XT7 Dip, S = 0.6 to 10 I_n, I = 1.5 to 15 I_n, G = 0.1 to 1 I_n

⁽²⁾ for XT7 Touch, I = 1.5 to 15 I_n, G = 0.1 to 1 I_n

For detailed information about trip units, refer technical catalogue.

Tmax XT power distribution circuit breakers

Protection: TMD/TMF

XT1/XT3

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| B | 18kA | 100% |
| C | 25kA | 100% |
| N | 36kA | 100% |

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|--------------------|
| S | 50kA | 100% ¹⁾ |
| H | 70kA | 100% ²⁾ |

TMD/TMF

| Frame | In (A) | Poles | B | | C | |
|---------|----------------|----------------|----------------|---------|----------------|---------|
| | | | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) |
| XT1 160 | 16 | 3 | 1SDA066799R1 | 11,010 | 1SDA080825R1 | 12,220 |
| | 20 | | 1SDA066800R1 | | 1SDA080826R1 | |
| | 25 | | 1SDA066801R1 | | 1SDA067391R1 | |
| | 32 | | 1SDA066802R1 | | 1SDA067392R1 | |
| | 40 | | 1SDA066803R1 ■ | | 1SDA067393R1 ■ | |
| | 50 | | 1SDA066804R1 ■ | | 1SDA067394R1 ■ | |
| | 63 | | 1SDA066805R1 ■ | | 1SDA067395R1 ■ | |
| | 80 | | 1SDA066806R1 ■ | | 1SDA067396R1 ■ | |
| | 100 | 1SDA066807R1 ■ | 1SDA067397R1 ■ | | | |
| | 125 | 1SDA066808R1 ■ | 1SDA067398R1 ■ | 19,100 | | |
| | 160 | 1SDA066809R1 ■ | 1SDA067399R1 ■ | 24,560 | | |
| | 16 | 4 | 1SDA066810R1 | 15,300 | 1SDA080840R1 | 17,530 |
| | 20 | | 1SDA066811R1 | | 1SDA080841R1 | |
| | 25 | | 1SDA066812R1 | | 1SDA067400R1 | |
| | 32 | | 1SDA066813R1 ■ | | 1SDA067401R1 ■ | |
| | 40 | | 1SDA066814R1 ■ | | 1SDA067402R1 ■ | |
| 50 | 1SDA066815R1 | | 1SDA067403R1 ■ | | | |
| 63 | 1SDA066816R1 ■ | | 1SDA067404R1 ■ | | | |
| 80 | 1SDA066817R1 ■ | | 1SDA067405R1 ■ | | | |
| 100 | 1SDA066818R1 ■ | 1SDA067406R1 ■ | | | | |
| 125 | 1SDA066888R1 ■ | 20,180 | 1SDA067409R1 ■ | 23,080 | | |
| 160 | 1SDA066821R1 ■ | 25,590 | 1SDA067410R1 ■ | 29,740 | | |



TMD / TMF

| Frame | In (A) | Poles | N | | S | | H | |
|---------|----------------|----------------|----------------|----------------|----------------|--------------|---------------|---------|
| | | | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) |
| XT1 160 | 16 | 3 | 1SDA080827R1* | 15,820 | 1SDA080830R1* | 16,480 | 1SDA080835R1* | 19,570 |
| | 20 | | 1SDA080828R1* | | 1SDA080831R1* | | 1SDA080836R1* | |
| | 25 | | 1SDA080829R1 | | 1SDA080832R1 | | 1SDA080837R1 | |
| | 32 | | 1SDA067411R1 | | 1SDA080833R1 ■ | | 1SDA080838R1 | |
| | 40 | | 1SDA067412R1 ■ | | 1SDA080834R1 ■ | | 1SDA080839R1 | |
| | 50 | | 1SDA067413R1 ■ | | 1SDA067431R1 | | 1SDA067449R1 | |
| | 63 | | 1SDA067414R1 ■ | | 1SDA067432R1 ■ | | 1SDA067450R1 | |
| | 80 | | 1SDA067415R1 ■ | | 1SDA067433R1 ■ | | 1SDA067451R1 | |
| | 100 | 1SDA067416R1 ■ | 1SDA067434R1 ■ | 1SDA067452R1 | | | | |
| | 125 | 1SDA067417R1 ■ | 21,150 | 1SDA067435R1 ■ | 23,280 | 1SDA067453R1 | 29,590 | |
| | 160 | 1SDA067418R1 ■ | 27,510 | 1SDA067436R1 ■ | 28,560 | 1SDA067454R1 | 33,760 | |
| | 16 | 4 | 1SDA080842R1* | 20,240 | 1SDA080845R1* | 24,110 | 1SDA080850R1* | 27,170 |
| | 20 | | 1SDA080843R1* | | 1SDA080846R1* | | 1SDA080851R1* | |
| | 25 | | 1SDA080844R1 ■ | | 1SDA080847R1 | | 1SDA080852R1 | |
| | 32 | | 1SDA067419R1 ■ | | 1SDA080848R1 | | 1SDA080853R1 | |
| | 40 | | 1SDA067420R1 ■ | | 1SDA080849R1 | | 1SDA080854R1 | |
| 50 | 1SDA067421R1 | | 1SDA067439R1 | | 1SDA067457R1 | | | |
| 63 | 1SDA067422R1 ■ | | 1SDA067440R1 ■ | | 1SDA067458R1 | | | |
| 80 | 1SDA067423R1 ■ | | 1SDA067441R1 | | 1SDA067459R1 | | | |
| 100 | 1SDA067424R1 ■ | 1SDA067442R1 ■ | 1SDA067460R1 | | | | | |
| 125 | 1SDA067427R1 ■ | 26,580 | 1SDA067445R1 ■ | 29,500 | 1SDA067463R1 | 34,980 | | |
| 160 | 1SDA067428R1 ■ | 32,490 | 1SDA067446R1 | 32,890 | 1SDA067464R1 | 36,990 | | |
| XT3 250 | 200 | 3 | 1SDA068058R1 ■ | 34,240 | 1SDA068220R1 ■ | 36,370 | | |
| | 250 | | 1SDA068059R1 ■ | 35,240 | 1SDA068221R1 ■ | 37,370 | | |
| XT3 250 | 200 | 4 | 1SDA068069R1 ■ | 38,860 | 1SDA068231R1 ■ | 41,840 | | |
| | 250 | | 1SDA068070R1 ■ | 39,860 | 1SDA068232R1 ■ | 42,840 | | |

*TMF trip unit

Note: ¹⁾ for XT1 Ics = 75% Icu and XT3 Ics = 50% Icu. ²⁾ for XT1 Ics = 50% Icu

■ Stock items

Tmax XT power distribution circuit breakers

Protection: TMD/TMA - 3 Pole

XT2/XT4/XT5/XT6

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |



TMD / TMA*

| TMD / TMA* | | | N | | S | | H | | |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------|--------|
| Frame | In (A) | Poles | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | |
| XT2 160 | 1.6 | 3 | 1SDA067000R1 | 18,700 | 1SDA067540R1 | 22,490 | 1SDA067584R1 | 28,890 | |
| | 2 | | 1SDA067001R1 | | 1SDA067541R1 | | 1SDA067585R1 | | |
| | 2.5 | | 1SDA067002R1 | | 1SDA067542R1 | | 1SDA067586R1 | | |
| | 3.2 | | 1SDA067003R1 | | 1SDA067543R1 | | 1SDA067587R1 | | |
| | 4 | | 1SDA067004R1 | | 1SDA067544R1 | | 1SDA067588R1 | | |
| | 5 | | 1SDA067005R1 | | 1SDA067545R1 | | 1SDA067589R1 | | |
| | 6.3 | | 1SDA067006R1 | | 1SDA067546R1 | | 1SDA067590R1 | | |
| | 8 | | 1SDA067007R1 | | 1SDA067547R1 | | 1SDA067591R1 | | |
| | 10 | | 1SDA067008R1 | | 1SDA067548R1 ■ | | 1SDA067592R1 | | |
| | 12.5 | | 1SDA067009R1 | | 1SDA067549R1 | | 1SDA067593R1 | | |
| | 16 | | 1SDA067010R1 ■ | | 1SDA067550R1 ■ | | 1SDA067594R1 | | |
| | 20 | | 1SDA067011R1 ■ | | 1SDA067551R1 | | 1SDA067595R1 | | |
| | 25 | | 1SDA067012R1 | | 1SDA067552R1 ■ | | 1SDA067596R1 | | |
| | 32 | | 1SDA067013R1 ■ | | 1SDA067553R1 ■ | | 1SDA067597R1 | | |
| | 40 | | 1SDA067014R1 ■ | | 1SDA067554R1 ■ | | 1SDA067598R1 | | 26,500 |
| | 50 | | 1SDA067015R1 | | 1SDA067555R1 ■ | | 1SDA067599R1 | | |
| 63 | 1SDA067016R1 ■ | 1SDA067556R1 ■ | 1SDA067600R1 ■ | | | | | | |
| 80 | 1SDA067017R1 | 1SDA067557R1 ■ | 1SDA067601R1 | | | | | | |
| 100 | 1SDA067018R1 ■ | 1SDA067558R1 ■ | 1SDA067602R1 ■ | | | | | | |
| 125 | 1SDA067019R1 ■ | 1SDA067559R1 ■ | 1SDA067603R1 ■ | 55,030 | | | | | |
| 160 | 1SDA067020R1 ■ | 1SDA067560R1 ■ | 1SDA067604R1 | 49,970 | | | | | |
| XT4 250 | 200 | 1SDA068090R1 ■ | 35,330 | 1SDA068310R1 ■ | 39,480 | 1SDA068343R1 | 56,420 | | |
| | 225 | 1SDA068091R1 | 38,330 | 1SDA068311R1 | 40,750 | 1SDA068344R1 | 56,420 | | |
| | 250 | 1SDA068092R1 ■ | 40,020 | 1SDA068312R1 ■ | 56,420 | 1SDA068345R1 ■ | 57,890 | | |
| | 320 | 1SDA100344R1 ■ | 41,920 | 1SDA100414R1 ■ | 48,870 | 1SDA100484R1 ■ | 63,930 | | |
| XT5 630 | 400 | 1SDA100345R1 ■ | 43,920 | 1SDA100415R1 ■ | 50,400 | 1SDA100485R1 ■ | 65,930 | | |
| | 500 | 1SDA100346R1 ■ | 54,900 | 1SDA100416R1 ■ | 62,000 | 1SDA100486R1 ■ | 79,780 | | |
| | 630 | 1SDA100347R1 ■ | 63,320 | 1SDA100417R1 ■ | 67,560 | 1SDA100487R1 ■ | 83,230 | | |
| XT6 800 | 800 | 1SDA100718R1 ■ | 83,880 | 1SDA100740R1 ■ | 91,970 | 1SDA100762R1 ■ | 96,000 | | |

* 40 A onwards

■ Stock items

Tmax XT power distribution circuit breakers

Protection: TMD/TMA - 4 Pole

XT2/XT4/XT5/XT6

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |



TMD / TMA*

| TMD / TMA* | | | N | | S | | H | |
|------------|----------------|----------------|----------------|----------------|----------------|---------|---------------|---------|
| Frame | In (A) | Poles | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) |
| XT2160 | 1.6 | 4 | 1SDA067021R1 | 26,020 | 1SDA067561R1 | 27,630 | 1SDA067605R1 | 37,040 |
| | 2 | | 1SDA067022R1 | | 1SDA067562R1 | | 1SDA067606R1 | |
| | 2.5 | | 1SDA067023R1 | | 1SDA067563R1 | | 1SDA067607R1 | |
| | 3.2 | | 1SDA067024R1 | | 1SDA067564R1 | | 1SDA067608R1 | |
| | 4 | | 1SDA067025R1 | | 1SDA067565R1 | | 1SDA067609R1 | |
| | 5 | | 1SDA067026R1 | | 1SDA067566R1 | | 1SDA067610R1 | |
| | 6.3 | | 1SDA067027R1 | | 1SDA067567R1 | | 1SDA067611R1 | |
| | 8 | | 1SDA067028R1 | | 1SDA067568R1 | | 1SDA067612R1 | |
| | 10 | | 1SDA067029R1 | | 1SDA067569R1 | | 1SDA067613R1 | |
| | 12.5 | | 1SDA067030R1 | | 1SDA067570R1 | | 1SDA067614R1 | |
| | 16 | | 1SDA067031R1 | | 1SDA067571R1 | | 1SDA067615R1 | |
| | 20 | | 1SDA067032R1 | | 1SDA067572R1 | | 1SDA067616R1 | |
| | 25 | | 1SDA067033R1 | | 1SDA067573R1 | | 1SDA067617R1 | |
| | 32 | | 1SDA067034R1 | | 1SDA067574R1 ■ | | 1SDA067618R1 | |
| | 40 | | 1SDA067035R1 | | 1SDA067575R1 | | 1SDA067619R1 | |
| | 50 | | 1SDA067036R1 | | 1SDA067576R1 | | 1SDA067620R1 | |
| 63 | 1SDA067037R1 ■ | 1SDA067577R1 ■ | 1SDA067621R1 | | | | | |
| 80 | 1SDA067038R1 | 1SDA067578R1 | 1SDA067622R1 | | | | | |
| 100 | 1SDA067039R1 ■ | 1SDA067579R1 ■ | 1SDA067623R1 | | | | | |
| 125 | 1SDA067042R1 ■ | 1SDA067582R1 ■ | 1SDA067626R1 | | | | | |
| 160 | 1SDA067043R1 ■ | 1SDA067583R1 ■ | 1SDA067627R1 | | | | | |
| XT4 250 | 200 | 1SDA068109R1 ■ | 1SDA068329R1 ■ | 1SDA068362R1 | | | | |
| | 225 | 1SDA068110R1 | 1SDA068330R1 | 1SDA068363R1 | | | | |
| | 250 | 1SDA068111R1 ■ | 1SDA068331R1 ■ | 1SDA068364R1 | | | | |
| | 320 | 1SDA100383R1 ■ | 1SDA100453R1 ■ | 1SDA100519R1 ■ | | | | |
| XT5 630 | 400 | 1SDA100385R1 ■ | 1SDA100455R1 ■ | 1SDA100521R1 ■ | | | | |
| | 500 | 1SDA100387R1 ■ | 1SDA100457R1 ■ | 1SDA100523R1 ■ | | | | |
| | 630 | 1SDA100389R1 ■ | 1SDA100459R1 ■ | 1SDA100525R1 ■ | | | | |
| XT6 800 | 800 | 1SDA100731R1 ■ | 1SDA100753R1 ■ | 1SDA100775R1 ■ | | | | |

* 40 A onwards

Tmax XT power distribution circuit breakers

Protection: LS/I

XT2/XT4/XT5/XT6

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |



Tmax XT is the latest generation MCCB up to 1600 A / 690V AC

- IEC 60947-2 certification
- Adjustable overload, selective short circuit/ Instantaneous Short circuit protection
- LEDs on the front provide information about protection tripped
- The trip unit records and stores trip history
- Switchable thermal memory
- Trip unit upgradable for advance protections
- Communication of MCCB status possible on Modbus RTU/TCP using Ekip Com STA Module
- Front connector allows the connection of Ekip TT and Ekip T&P for testing and programming

XT2 / XT4 / XT5 / XT6

| | | | N | | S | | H | |
|---------|--------|-------|---------------|----------|---------------|----------|---------------|----------|
| Frame | In (A) | Poles | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT2 160 | 10 | 3 | 1SDA067054R1 | 26,450 | 1SDA067800R1 | 31,180 | 1SDA067857R1 | 39,960 |
| | 25 | | 1SDA067055R1 | | 1SDA067801R1 | | 1SDA067858R1 | |
| | 63 | | 1SDA067056R1 | | 1SDA067802R1 | | 1SDA067859R1 | |
| | 100 | | 1SDA067057R1 | | 1SDA067803R1 | | 1SDA067860R1 | |
| | 160 | | 1SDA067058R1 | | 1SDA067804R1 | | 1SDA067861R1 | |
| XT4 250 | 250 | | 1SDA068126R1 | 45,320 | 1SDA068475R1 | 51,730 | 1SDA068515R1 | 59,200 |
| XT5 400 | 400 | | 1SDA100354R1 | 65,010 | 1SDA100424R1 | 67,370 | 1SDA100490R1 | 76,100 |
| XT5 630 | 630 | | 1SDA100355R1 | 70,720 | 1SDA100425R1 | 71,180 | 1SDA100491R1 | 83,270 |
| XT6 800 | 800 | 4 | 1SDA100719R1 | 86,270 | 1SDA100741R1 | 95,630 | 1SDA100763R1 | 1,15,260 |
| | 10 | | 1SDA067090R1 | | 1SDA067833R1 | | 1SDA067890R1 | |
| | 25 | | 1SDA067091R1 | | 1SDA067834R1 | | 1SDA067891R1 | |
| | 63 | | 1SDA067092R1 | | 1SDA067835R1 | | 1SDA067892R1 | |
| | 100 | | 1SDA067093R1 | | 1SDA067836R1 | | 1SDA067893R1 | |
| | 160 | | 1SDA067095R1 | 48,070 | 1SDA067838R1 | 53,950 | 1SDA067895R1 | 69,840 |
| XT4 250 | 250 | | 1SDA068147R1 | 65,140 | 1SDA068495R1 | 69,760 | 1SDA068535R1 | 79,900 |
| XT5 400 | 400 | | 1SDA100396R1 | 74,360 | 1SDA100466R1 | 87,730 | 1SDA100528R1 | 1,00,000 |
| XT5 630 | 630 | | 1SDA100397R1 | 82,070 | 1SDA100467R1 | 92,260 | 1SDA100529R1 | 1,22,440 |
| XT6 800 | 800 | | 1SDA100732R1 | 91,470 | 1SDA100754R1 | 1,17,020 | 1SDA060294R1 | 1,42,680 |

■ Stock items

Tmax XT power distribution circuit breakers

Protection: LIG

XT2/XT4/XT5/XT6

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |



Tmax XT is the latest generation product up to 1600 A / 690V AC

- IEC 60947-2 certification
- Adjustable overload, Instantaneous short circuit and Ground fault protection
- LEDs on the front provide information about protection tripped
- The trip unit records and stores trip history
- Switchable thermal memory
- Trip unit upgradable for advance protections
- Communication of MCCB status possible Modbus RTU/TCP using Ekip Com STA Module
- Front connector allows the connection of Ekip TT, Ekip T&P for testing and programming

Tmax XT Ekip LIG

| Ekip LIG | | |
|----------|--------|-------|
| Frame | In (A) | Poles |
| XT2 160 | 63 | 3 |
| | 100 | |
| | 160 | |
| XT4 250 | 250 | |
| XT5 630 | 400 | |
| | 630 | |
| XT6 800 | 800 | |
| XT7 1000 | 1000 | |

| N Version (Icu=Ics=36kA @ 415 V AC) | |
|--|----------|
| Ordering Code | L.P.(₹) |
| 1SDA100012R1 ■ | 39,100 |
| 1SDA100013R1 ■ | |
| 1SDA100014R1 ■ | |
| 1SDA100185R1 ■ | 53,860 |
| 1SDA100380R1 | 68,120 |
| 1SDA100381R1 | 75,860 |
| 1SDA100728R1 | 1,00,600 |

| S Version (Icu=Ics=50kA @ 415 V AC) | |
|--|--------------|
| Ordering Code | L.P.(₹) |
| 1SDA100042R1 ■ | 44,450 |
| 1SDA100043R1 ■ | |
| 1SDA100044R1 ■ | |
| 1SDA100215R1 ■ | 57,240 |
| 1SDA100450R1 | 70,090 |
| 1SDA100451R1 | 77,590 |
| 1SDA100750R1 | 1,14,270 |
| 1SDA100887R1 | Upon Request |

| H Version (Icu=Ics=70kA @ 415 V AC) | |
|--|--------------|
| Ordering Code | L.P.(₹) |
| 1SDA100072R1 ■ | 53,070 |
| 1SDA100073R1 ■ | |
| 1SDA100074R1 ■ | |
| 1SDA100245R1 ■ | 63,800 |
| 1SDA100516R1 | 95,170 |
| 1SDA100517R1 | 99,990 |
| 1SDA100772R1 | 1,37,740 |
| 1SDA100951R1 | Upon request |

Tmax XT Ekip LIG

| Ekip LIG | | |
|----------|--------|-------|
| Frame | In (A) | Poles |
| XT2 160 | 63 | 4 |
| | 100 | |
| | 160 | |
| XT4 250 | 250 | |
| XT5 630 | 400 | |
| | 630 | |
| XT6 800 | 800 | |
| XT7 1000 | 1000 | |

| N Version (Icu=Ics=36kA @ 415 V AC) | |
|--|----------|
| Ordering Code | L.P.(₹) |
| 1SDA100027R1 ■ | 46,680 |
| 1SDA100028R1 ■ | |
| 1SDA100029R1 ■ | |
| 1SDA100200R1 ■ | 61,620 |
| 1SDA100412R1 | 75,880 |
| 1SDA100413R1 | 92,520 |
| 1SDA100738R1 | 1,25,720 |

| S Version (Icu=Ics=50kA @ 415 V AC) | |
|--|--------------|
| Ordering Code | L.P.(₹) |
| 1SDA100057R1 ■ | 51,090 |
| 1SDA100058R1 ■ | |
| 1SDA100059R1 ■ | |
| 1SDA100230R1 ■ | 65,160 |
| 1SDA100482R1 | 83,660 |
| 1SDA100483R1 | 1,00,170 |
| 1SDA100760R1 | 1,34,890 |
| 1SDA101167R1 | Upon Request |

| H Version (Icu=Ics=70kA @ 415 V AC) | |
|--|--------------|
| Ordering Code | L.P.(₹) |
| 1SDA100087R1 ■ | 63,600 |
| 1SDA100088R1 ■ | |
| 1SDA100089R1 ■ | |
| 1SDA100260R1 ■ | 92,850 |
| 1SDA100544R1 | 1,62,470 |
| 1SDA100545R1 | 1,91,420 |
| 1SDA100782R1 | 1,79,640 |
| 1SDA101223R1 | Upon Request |

■ Stock items

Tmax XT power distribution circuit breakers

Protection: LSIG

XT2/XT4/XT5/XT6

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |



Tmax XT Ekip Dip LSIG*
(non-communicable)

| | | | N | S | H | | | |
|---------|--------|-------|---------------|----------|---------------|----------|---------------|----------|
| Frame | In (A) | Poles | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT2 160 | 10 | 3 | 1SDA100005R1 | 60,080 | 1SDA100035R1 | 63,860 | 1SDA100065R1 | 68,350 |
| | 25 | | 1SDA100006R1 | | 1SDA100036R1 | | 1SDA100066R1 | |
| | 63 | | 1SDA100007R1 | | 1SDA100037R1 | | 1SDA100067R1 | |
| | 100 | | 1SDA100008R1 | | 1SDA100038R1 | | 1SDA100068R1 | |
| | 160 | | 1SDA100009R1 | | 1SDA100039R1 | | 1SDA100069R1 | |
| XT4 250 | 250 | 3 | 1SDA100180R1 | 66,560 | 1SDA100210R1 | 69,870 | 1SDA100240R1 | 76,500 |
| | 320A | | 1SDA100361R1 | 84,120 | 1SDA100431R1 | 86,780 | 1SDA100497R1 | 1,00,550 |
| XT5 630 | 400A | 3 | 1SDA100362R1 | 86,120 | 1SDA100432R1 | 88,780 | 1SDA100498R1 | 1,02,550 |
| | 630A | | 1SDA100363R1 | 94,780 | 1SDA100433R1 | 96,800 | 1SDA100499R1 | 1,12,610 |
| XT6 800 | 800A | 3 | 1SDA100723R1 | 1,25,000 | 1SDA100745R1 | 1,32,020 | 1SDA100767R1 | 1,50,240 |
| XT2 160 | 10 | 4 | 1SDA100020R1 | 60,750 | 1SDA100050R1 | 69,110 | 1SDA100080R1 | 82,220 |
| | 25 | | 1SDA100021R1 | | 1SDA100051R1 | | 1SDA100081R1 | |
| | 63 | | 1SDA100022R1 | | 1SDA100052R1 | | 1SDA100082R1 | |
| | 100 | | 1SDA100023R1 | | 1SDA100053R1 | | 1SDA100083R1 | |
| | 160 | | 1SDA100024R1 | | 1SDA100054R1 | | 1SDA100084R1 | |
| XT4 250 | 250 | 4 | 1SDA100195R1 | 82,470 | 1SDA100225R1 | 83,640 | 1SDA100255R1 | 97,560 |
| | 320A | | 1SDA100403R1 | 94,740 | 1SDA100473R1 | 1,00,270 | 1SDA100535R1 | 1,25,460 |
| XT5 630 | 400A | 4 | 1SDA100404R1 | 96,740 | 1SDA100474R1 | 1,02,270 | 1SDA100536R1 | 1,13,280 |
| | 630A | | 1SDA100405R1 | 1,13,830 | 1SDA100475R1 | 1,18,700 | 1SDA100537R1 | 1,54,340 |
| XT6 800 | 800A | 4 | 1SDA100736R1 | 1,40,070 | 1SDA100758R1 | 1,52,020 | 1SDA100780R1 | 1,90,360 |

* Communication of status possible Modbus RTU/TCP using Ekip Com STA Module

XT2 / XT4 Ekip C Dip LSIG*
(Communication capable)

| | | | N | S | H | | | |
|---------|--------------|--------------|---------------|----------|---------------|----------|---------------|----------|
| Frame | In (A) | Poles | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT2 160 | 25 | 3 | 1SDX272178R1 | 66,010 | 1SDX356683R1 | 70,880 | 1SDX357425R1 | 76,260 |
| | 63 | | 1SDX268780R1 | 64,020 | 1SDX268791R1 | 69,970 | 1SDX268803R1 | 76,670 |
| | 100 | | 1SDX268782R1 | | 1SDX268793R1 | | 1SDX268805R1 | |
| | 160 | | 1SDX268781R1 | | 1SDX268795R1 | | 1SDX268807R1 | |
| 250 | 1SDX268811R1 | 1SDX268816R1 | 1SDX268820R1 | | | | | |
| XT2 160 | 25 | 4 | 1SDX356687R1 | 70,610 | 1SDX356691R1 | 73,560 | 1SDX357427R1 | 88,810 |
| | 63 | | 1SDX356689R1 | 69,390 | 1SDX356692R1 | 71,270 | 1SDX356709R1 | 80,560 |
| | 100 | | 1SDX356695R1 | | 1SDX356694R1 | | 1SDX356710R1 | |
| | 160 | | 1SDX356690R1 | | 1SDX356693R1 | | 1SDX356711R1 | |
| 250 | 1SDX356716R1 | 1SDX356717R1 | 1SDX356718R1 | | | | | |

* Communication of MCCB release data possible, refer Tmax XT accessories

■ Stock items

Tmax XT power distribution circuit breakers

Protection: LS/I, LSIG

- IEC 60947-2 certification
- Rating available upto 1600A
- Performance upto 100kA
- For motorized version consider XT7M & Motor operator

XT7

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| S | 50kA | 100% |
| H | 70kA | 100% |

XT7 Ekip Dip LS/I

| Frame | In (A) | Poles | S | | H | |
|-------|--------|-------|---------------|--------------|---------------|--------------|
| | | | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT7 | 800A | 3 | 1SDA100826R1 | Upon request | 1SDA100890R1 | Upon request |
| | 1000A | | 1SDA100827R1 | | 1SDA100891R1 | |
| | 1250A | | 1SDA100828R1 | | 1SDA100892R1 | |
| | 1600A | | 1SDA100829R1 | | 1SDA100893R1 | |
| XT7M | 800A | 3 | 1SDA101366R1 | Upon request | 1SDA101430R1 | Upon request |
| | 1000A | | 1SDA101367R1 | | 1SDA101431R1 | |
| | 1250A | | 1SDA101368R1 | | 1SDA101432R1 | |
| XT7 | 1600A | 3 | 1SDA101369R1 | Upon request | 1SDA101433R1 | Upon request |
| | 800A | | 1SDA101114R1 | | 1SDA101170R1 | |
| | 1000A | | 1SDA101115R1 | | 1SDA101171R1 | |
| XT7 | 1250A | 4 | 1SDA101116R1 | Upon request | 1SDA101172R1 | Upon request |
| | 1600A | | 1SDA101117R1 | | 1SDA101173R1 | |
| | 800A | | 1SDA101654R1 | | 1SDA101710R1 | |
| XT7M | 1000A | 4 | 1SDA101655R1 | Upon request | 1SDA101711R1 | Upon request |
| | 1250A | | 1SDA101656R1 | | 1SDA101712R1 | |
| | 1600A | | 1SDA101657R1 | | 1SDA101713R1 | |



XT7 Ekip Dip LSIG

| Frame | In (A) | Poles | S | | H | |
|-------|--------|-------|---------------|--------------|---------------|--------------|
| | | | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT7 | 800A | 3 | 1SDA100834R1 | Upon request | 1SDA100898R1 | Upon request |
| | 1000A | | 1SDA100835R1 | | 1SDA100899R1 | |
| | 1250A | | 1SDA100836R1 | | 1SDA100900R1 | |
| | 1600A | | 1SDA100837R1 | | 1SDA100901R1 | |
| XT7M | 800A | 3 | 1SDA101374R1 | Upon request | 1SDA101438R1 | Upon request |
| | 1000A | | 1SDA101375R1 | | 1SDA101439R1 | |
| | 1250A | | 1SDA101376R1 | | 1SDA101440R1 | |
| XT7 | 1600A | 3 | 1SDA101377R1 | Upon request | 1SDA101441R1 | Upon request |
| | 800A | | 1SDA101122R1 | | 1SDA101178R1 | |
| | 1000A | | 1SDA101123R1 | | 1SDA101179R1 | |
| XT7 | 1250A | 4 | 1SDA101124R1 | Upon request | 1SDA101180R1 | Upon request |
| | 1600A | | 1SDA101125R1 | | 1SDA101181R1 | |
| | 800A | | 1SDA101662R1 | | 1SDA101718R1 | |
| XT7M | 1000A | 4 | 1SDA101663R1 | Upon request | 1SDA101719R1 | Upon request |
| | 1250A | | 1SDA101664R1 | | 1SDA101720R1 | |
| | 1600A | | 1SDA101665R1 | | 1SDA101721R1 | |



Tmax XT switch disconnectors

SACE Tmax XT switch-disconnectors

- IEC 60947-3 certification utilization category
- These devices are mainly used as:
 - General disconnection devices in sub-switchboards;
 - Switching and insulation devices for lines, busbars or groups of apparatus;
 - Bus ties.
- Switch-disconnector must be protected on the supply side by a coordinated device which safeguards it against short-circuits.
- Able to withstand The dynamic, thermal and current stresses with the right Making capacity(Icm)



| Frame | In(A) | Icw kA (1s) | Poles | Ordering code | L.P.(₹) | Poles | Ordering code | L.P.(₹) |
|--------|-------|-------------|-------|---------------|--------------|-------|---------------|--------------|
| XT1D | 160 | 2 | 3 | 1SDA068208R1 | 13,460 | 4 | 1SDA068209R1 | 19,870 |
| XT3D | 250 | 3 | | 1SDA068210R1 | 29,510 | | 1SDA068211R1 | 35,250 |
| XT4D | 250 | 3.6 | | 1SDA068212R1 | 33,660 | | 1SDA068213R1 | 44,610 |
| XT5D | 400 | 3.6 | | 1SDA100546R1 | 48,830 | | 1SDA100548R1 | 52,620 |
| | 630 | 3.6 | | 1SDA100547R1 | 54,890 | | 1SDA100549R1 | 66,970 |
| XT6D | 800 | 15 | | 1SDA100784R1 | 65,680 | | 1SDA100786R1 | 1,14,130 |
| | 1000 | 20 | | 1SDA101906R1 | | | 1SDA101909R1 | |
| XT7D | 1250 | 20 | | 1SDA101907R1 | | | 1SDA101910R1 | |
| | 1600 | 20 | | 1SDA101908R1 | Upon request | | 1SDA101911R1 | Upon request |
| | 1000 | 20 | | 1SDA101912R1 | | | 1SDA101915R1 | |
| XT7D M | 1250 | 20 | | 1SDA101913R1 | | | 1SDA101916R1 | |
| | 1600 | 20 | | 1SDA101914R1 | 1SDA101917R1 | | | |

Tmax XT Power distribution circuit breakers

Breaking new grounds : Ekip Touch series

XT2 / XT4 (LCD display)



XT5 (Touch display)



- **Communication and connectivity:** Supports 7 onboard communication protocols :
Modbus RTU
Modbus TCP
Profibus
Profinet
Ethernet/IP
Devicenet
IEC61850
- **Digital upgrade:** Digital upgrading of measurements and protections using software package
- **Ease of use Interface:** LCD display for XT2/XT4 and Touch display for XT5. BLE (Bluetooth low energy enabled)
- **Commissioning:** The setting, testing and downloading of reports can be carried out directly from a smartphone, tablet or PC
- **Watchdog:** Tmax XT ensure high reliability thanks to an electronic circuit that periodically checks the continuity of the internal connections, such as the trip coil, rating plug and each current sensor (ANSI 74). In the event of an alarm, a message is shown on the display.
- **Internal over temperature protection:** Ekip Touch/ Ekip Touch measuring also features self-protection, which ensures the correct operation of the unit in overtemperatures (OT) inside the protection trip unit.
- **Maintenance features:**
Information of last 30 trips and 200 events.
No. of mechanical operations. Total operating time (in hours).
Contact wear and tear in %.
Date of maintenance operations performed.
Indication of maintenance operation needed.
Failure of circuit-breaker to open (ANSI 50BF)

Protections

- L,S,I & G protections
- Neutral protection
- 2nd instantaneous protection (2I)
- MCR (making current release) - Closing on short circuit protection
- Current unbalance
- Harmonic distortion
- 2nd time delayed over current protection (S2)
- Current thresholds
- ROCOF (Rate of change of frequency)
- Synchrocheck
- Residual current protection (Rc)



| Instantaneous measurements | | | Ekip Touch | Ekip Touch Measuring |
|------------------------------------|------------------------------------|---------|------------|----------------------|
| Currents (RMS) | L1, L2, L3, Ne | [A] | ● | ● |
| Ground fault current (RMS) | Ig | [A] | ● | ● |
| Measuring package | | | | |
| Phase-phase voltage (RMS) | U12, U23, U31 | [V] | ○ | ● |
| Phase-neutral voltage (RMS) | U1, U2, U3 | [V] | ○ | ● |
| Phase sequence | | | ○ | ● |
| Frequency | f | [Hz] | ○ | ● |
| Active power | P1, P2, P3, Ptot | [kW] | ○ | ● |
| Reactive power | Q1, Q2, Q3, Qtot | [kVAR] | ○ | ● |
| Apparent power | S1, S2, S3, Stot | [KVA] | ○ | ● |
| Power factor | PF1, PF2, PF3, PF total | | ○ | ● |
| Peak factor | total | | ○ | ● |
| Active energy | Ep total, Ep positive, Ep negative | [kWh] | ○ | ● |
| Reactive energy | Eq total, Ep positive, Ep negative | [kVARh] | ○ | ● |
| Apparent energy | Es total | [KVAh] | ○ | ● |

● Available as standard

○ Available as software package to be ordered via offline software activation or during the circuit-breaker ordering phase

Tmax XT Power distribution circuit breakers

Breaking new grounds : Ekip Touch series

| | | | | | | | | | | | |
|---------------------|-------------------|-------------------|---------------------|-----------------------|-------------------|----------------------|-------------|------------------|------------------------------|-------------------|------------------|
| | | | | | | | | | | | |
| Standard Protection | Standard Measures | Measuring Package | Voltage Protections | Frequency Protections | Power Protections | Adaptive Protections | Data Logger | Network Analyzer | Advanced Voltage Protections | ROCOF Protections | Power Controller |

| | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Ekip Touch | ● | ● | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Ekip Touch Measuring | ● | ● | ● | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Ekip G Touch | ● | ● | ● | ↑ | ↑ | ↑ | ● | ↑ | ↑ | ↑ | ↑ | ↑ |
| Ekip M Touch | ● | ● | ● | ● | ● | ↑ | ● | ↑ | ↑ | ↑ | ↑ | ↑ |
| Ekip Hi-Touch | ● | ● | ● | ● | ● | ↑ | ● | ● | ↑ | ↑ | ↑ | ↑ |
| Ekip G Hi-Touch | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ↑ |

● Available by default

↑ Updraggable

↑ Some functions available. Updraggable with the full package.

Ekip Touch LSIG

| | | | N | | S | | H | | |
|-------|----------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|--------------|
| Frame | Current rating | No. of poles | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | |
| XT2 | 100A | 3 | 1SDX048780R1 | | 1SDX048814R1 | | 1SDX048850R1 | | |
| | 160A | | 1SDX048781R1 | | 1SDX048815R1 | | 1SDX048851R1 | | |
| XT4 | 250A | | 1SDX049224R1 | | 1SDX049232R1 | | 1SDX049241R1 | | |
| | 320A | | 1SDX049830R1 | | 1SDX049906R1 | | 1SDX049982R1 | | |
| XT5 | 400A | | 1SDX049831R1 | | 1SDX049907R1 | | 1SDX049983R1 | | |
| | 630A | | 1SDX049857R1 | | 1SDX049933R1 | | 1SDX050009R1 | | |
| XT7 | 800A | | | | 1SDA100842R1 | | 1SDA100906R1 | | |
| | 1000A | | | | 1SDA100843R1 | | 1SDA100907R1 | | |
| | 1250A | | | | 1SDA100844R1 | | 1SDA100908R1 | | |
| | 1600A | | | Upon request | 1SDA100845R1 | Upon request | 1SDA100909R1 | Upon request | |
| XT2 | 100A | | 4 | 1SDX049027R1 | Upon request | 1SDX049055R1 | Upon request | 1SDX049083R1 | Upon request |
| | 160A | | | 1SDX049028R1 | | 1SDX049056R1 | | 1SDX049084R1 | |
| XT4 | 250A | 1SDX049268R1 | | | 1SDX049275R1 | | 1SDX049282R1 | | |
| | 320A | 1SDX049870R1 | | | 1SDX049946R1 | | 1SDX050022R1 | | |
| XT5 | 400A | 1SDX049871R1 | | | 1SDX049947R1 | | 1SDX050023R1 | | |
| | 630A | 1SDX049894R1 | | | 1SDX049970R1 | | 1SDX050046R1 | | |
| XT7* | 800A | | | | 1SDA101130R1 | | 1SDA101186R1 | | |
| | 1000A | | | | 1SDA101131R1 | | 1SDA101187R1 | | |
| | 1250A | | | | 1SDA101132R1 | | 1SDA101188R1 | | |
| | 1600A | | | | 1SDA101133R1 | | 1SDA101189R1 | | |

Ekip Touch measuring LSIG

| | | | N | | S | | H | | |
|-------|----------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|--------------|
| Frame | Current rating | No. of poles | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | Ordering code | L.P.(₹) | |
| XT2 | 100A | 3 | 1SDX048788R1 | | 1SDX048822R1 | | 1SDX048858R1 | | |
| | 160A | | 1SDX048789R1 | | 1SDX048823R1 | | 1SDX048859R1 | | |
| XT4 | 250A | | 1SDX049226R1 | | 1SDX049234R1 | | 1SDX049243R1 | | |
| | 320A | | 1SDX049836R1 | | 1SDX049912R1 | | 1SDX049988R1 | | |
| XT5 | 400A | | 1SDX049837R1 | | 1SDX049913R1 | | 1SDX049989R1 | | |
| | 630A | | 1SDX049859R1 | | 1SDX049935R1 | | 1SDX050011R1 | | |
| XT7 | 800A | | | | 1SDA100850R1 | | 1SDA100914R1 | | |
| | 1000A | | | | 1SDA100851R1 | | 1SDA100915R1 | | |
| | 1250A | | | | 1SDA100852R1 | | 1SDA100916R1 | | |
| | 1600A | | | Upon request | 1SDA100853R1 | Upon request | 1SDA100917R1 | Upon request | |
| XT2 | 100A | | 4 | 1SDX049035R1 | Upon request | 1SDX049063R1 | Upon request | 1SDX049091R1 | Upon request |
| | 160A | | | 1SDX049036R1 | | 1SDX049064R1 | | 1SDX049092R1 | |
| XT4 | 250A | 1SDX049268R1 | | | 1SDX049277R1 | | 1SDX049284R1 | | |
| | 320A | 1SDX049876R1 | | | 1SDX049952R1 | | 1SDX050028R1 | | |
| XT5 | 400A | 1SDX049877R1 | | | 1SDX049953R1 | | 1SDX050029R1 | | |
| | 630A | 1SDX049896R1 | | | 1SDX049972R1 | | 1SDX050048R1 | | |
| XT7* | 800A | | | | 1SDA101138R1 | | 1SDA101194R1 | | |
| | 1000A | | | | 1SDA101139R1 | | 1SDA101195R1 | | |
| | 1250A | | | | 1SDA101140R1 | | 1SDA101196R1 | | |
| | 1600A | | | | 1SDA101141R1 | | 1SDA101197R1 | | |

* for motorized version please contact nearest branch office

Tmax XT circuit breakers

MCCB for motor protection

| Type | I _n (40° C) [A] | U _e [V] | | Category | Release | I _{cu} (380 - 415 V AC) [kA] | | | | | | | | | | | |
|---------------|----------------------------|--------------------|-----|------------------------|--|---------------------------------------|----|----|----|----|----|-----|-----|-----|-----|------|--|
| | | AC | DC | | | 16 | 25 | 36 | 50 | 70 | 85 | 100 | 120 | 150 | 200 | | |
| XT1 | 160 | 690 | 500 | A | MF/MA | B | C | N | S | H | | | | | | | |
| XT2 | 160 | 690 | 500 | A | MF/MA Ekip M Dip I / Dip LIU Ekip M Touch LRIU | | | N | S | H | | | L | V | | | |
| XT3 | 250 | 690 | 500 | A | MF/MA | | | N | S | | | | | | | | |
| XT4 | 250 | 690 | 750 | A | MA Ekip M Dip I / Dip LIU Ekip M Touch LRIU | | | N | S | H | | | L | V | X | | |
| XT5 | 400 630 | 690 | 750 | B (500 A) A (630 A) | MA Ekip M Dip I / Dip LIU Ekip M Touch LRIU | | | N | S | H | | | L | | | V, X | |
| XT6 | 630 800 | 690 | 750 | B (630A - 800 A) | Ekip M Dip I / Dip LIU | | | N | S | H | | | | | | | |
| XT7 / XT7M | 1000 1250 1600 | 690 | | B | Ekip M Dip I Ekip M Touch LRIU | | | | S | H | | | L | | | | |

Trip Units

Magnetic trip units

- MF - Magnetic only trip unit with fixed magnetic thresholds for motor protection
- MA - Magnetic only trip unit with adjustable magnetic thresholds for motor protection

Microprocessor based electronic trip units

| Ekip M Dip I | | Ekip M Dip LIU | | Ekip M Touch LRIU | |
|-----------------------------|--|-----------------------------|--|--|--|
| I = 1 - 10 I _n | | I = 6 - 13 I _n | | I = 1.5 - 10 I _n ⁽¹⁾ | |
| L = 0.40 - 1 I _n | | L = 0.40 - 1 I _n | | L = 0.4 - 1 I _n | |
| U = On/Off | | U = On/Off | | U = On/Off | |
| R = 2 - 10 I _t * | | | | | |

L = Overload I = Instantaneous short circuit R = Blocked rotor

U = phase loss (U): With selector in ON position, circuit breaker trips if at least one current phase is lower than 0.1xI_n and at least a second one higher than 0.25xI_n;

Note: For detailed information about trip units, refer technical catalogue.

* Setting for rotor blockage - stall, refer technical catalogue.

⁽¹⁾ for XT7 Touch, I = 1.5 to 15 I_n, G = 0.1 to 1 I_n

Tmax XT motor distribution circuit breakers

Protection: Magnetic only and Microprocessor based short circuit protection MCCBs

XT2/XT4/XT5/XT6 XT3

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36kA | 100% |
| S | 50kA | 100% |
| H | 70kA | 100% |

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| N | 36KA | 100% |
| S | 50KA | 50% |



MF/MA*

| Frame | In (A) | Poles | N | | S | | H | | |
|---------|--------------|----------------|----------------|----------|----------------|----------|---------------|----------|--------|
| | | | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | |
| XT2 160 | 1 | 3 | 1SDA067044R1 | 19,130 | 1SDA067760R1 | 20,650 | 1SDA067770R1 | 23,200 | |
| | 2 | | 1SDA067045R1 | | 1SDA067761R1 | | 1SDA067771R1 | | |
| | 4 | | 1SDA067046R1 | | 1SDA067762R1 | | 1SDA067772R1 | | |
| | 8.5 | | 1SDA067047R1 | | 1SDA067763R1 ■ | | 1SDA067773R1 | | |
| | 12.5 | | 1SDA067048R1 ■ | | 1SDA067764R1 ■ | | 1SDA067774R1 | | |
| | 20 | | 1SDA067049R1 ■ | | 1SDA067765R1 ■ | | 1SDA067775R1 | | |
| | 32 | | 1SDA067050R1 ■ | | 1SDA067766R1 ■ | | 1SDA067776R1 | | |
| | 52 | | 1SDA067051R1 ■ | | 1SDA067767R1 ■ | | 1SDA067777R1 | | 22,280 |
| | 80 | | 1SDA067052R1 ■ | | 1SDA067768R1 ■ | | 1SDA067778R1 | | 22,280 |
| | 100 | | 1SDA067053R1 ■ | | 1SDA067769R1 ■ | | 1SDA067779R1 | | |
| XT3 250 | 160 | 3 | 1SDA076529R1 | 27,560 | 1SDA076530R1 ■ | 30,070 | 1SDA076535R1 | 38,350 | |
| | 200 | | 1SDA068071R1 | 23,210 | 1SDA068279R1 | 24,120 | | | |
| | 125 | | 1SDA068072R1 | | 1SDA068280R1 | | | | |
| | 160 | | 1SDA068073R1 | | 1SDA068281R1 | | | | |
| 200 | 1SDA068074R1 | 1SDA068282R1 ■ | 27,290 | | | | | | |
| XT4 250 | 200 | 3 | 1SDA068121R1 | 47,410 | 1SDA068440R1 ■ | 51,570 | 1SDA068450R1 | 62,440 | |
| | 320 | | 1SDA100364R1 | 46,130 | 1SDA100434R1 | 52,940 | 1SDA100500R1 | 64,200 | |
| XT5 630 | 400 | 3 | 1SDA100365R1 | 57,730 | 1SDA100435R1 | 53,440 | 1SDA100501R1 | 64,700 | |
| | 630 | | 1SDA100366R1 | | 1SDA100436R1 | 65,780 | 1SDA100502R1 | 83,980 | |

* 20 amps onwards

Ekip M Dip I

| Frame | In (A) | Poles | N | | S | | H | |
|---------|--------|-------|----------------|----------|----------------|----------|---------------|----------|
| | | | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT2 160 | 10 | 3 | 1SDA067059R1 | 25,880 | 1SDA067805R1 | 30,960 | 1SDA067862R1 | 33,380 |
| | 25 | | 1SDA067060R1 | | 1SDA067806R1 | | 1SDA067863R1 | |
| | 63 | | 1SDA067061R1 | | 1SDA067807R1 | | 1SDA067864R1 | |
| | 100 | | 1SDA067062R1 | | 1SDA067808R1 | | 1SDA067865R1 | |
| | 160 | | 1SDA067063R1 | | 1SDA067809R1 | | 1SDA067866R1 | |
| XT4 250 | 250 | 3 | 1SDA068131R1 ■ | 48,890 | 1SDA068480R1 ■ | 53,020 | 1SDA068520R1 | 63,440 |
| | 400 | | 1SDA100368R1 | 55,880 | 1SDA100438R1 ■ | 79,430 | 1SDA100504R1 | 1,12,420 |
| XT5 630 | 630 | 3 | 1SDA100369R1 | 69,060 | 1SDA100439R1 ■ | 98,200 | 1SDA100505R1 | 1,38,960 |
| | 800 | | 1SDA100725R1 | 92,160 | 1SDA100747R1 | 1,31,250 | 1SDA100769R1 | 1,82,870 |

■ Stock items

Tmax XT accessories

Accessories for Tmax MCCBs

Extended spreaded terminals - ES



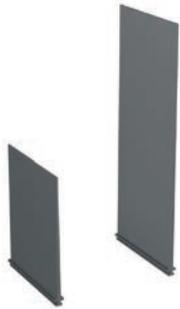
| Frame | Kit ES 6 pcs | L.P. (₹) | Kit ES 8 pcs | L.P. (₹) |
|-------|---------------------------------------|--------------|---------------------------------------|--------------|
| XT1 | 1SDA066891R1 ■ | 3,020 | 1SDA066892R1 ■ | 4,020 |
| XT2 | 1SDA066895R1 ■ | 4,100 | 1SDA066896R1 ■ | 4,990 |
| XT3 | 1SDA066899R1 ■ | 4,390 | 1SDA066900R1 ■ | 5,600 |
| XT4 | 1SDA066903R1 ■ | 5,060 | 1SDA066904R1 ■ | 6,340 |
| XT5 | 1SDA104738R1 (1/2 kit) ⁽¹⁾ | 3,560 | 1SDA104739R1 (1/2 kit) ⁽²⁾ | 4,720 |
| XT6 | 1SDA104740R1(1/2 Kit) ⁽¹⁾ | Upon request | 1SDA104741R1(1/2 Kit) ⁽²⁾ | Upon request |
| XT7 | 1SDA073979R1(1/2 Kit) ⁽¹⁾ | Upon request | 1SDA073980R1 (1/2 Kit) ⁽²⁾ | Upon request |

Note: Phase barrier supplied as standard with above copper spreaders.

(1) Code is for 3 pcs, if required for both top & bottom side order 2 quantities

(2) Code is for 4 pcs, if required for both top & bottom side order 2 quantities

Separator - PB



| Frame | Description | 3 P - 4 pcs | L.P. (₹) | 4 P - 6 pcs | L.P. (₹) |
|---------|------------------|----------------|----------|--------------|----------|
| XT1-XT3 | PB 100mm XT1-XT3 | 1SDA066676R1 | 1,210 | 1SDA066681R1 | 1,770 |
| | PB 200mm XT1-XT3 | 1SDA066678R1 | 1,590 | 1SDA066683R1 | 2,310 |
| XT2-XT4 | PB 100mm XT2-XT4 | 1SDA066675R1 | 1,350 | 1SDA066680R1 | 2,020 |
| | PB 200mm XT2-XT4 | 1SDA066677R1 ■ | 2,020 | 1SDA066682R1 | 2,940 |
| XT5 | PB 100mm XT5 | 1SDA105002R1 | 1,490 | 1SDA105003R1 | 2,230 |
| | PB 200mm XT5 | 1SDA105004R1 | 2,230 | 1SDA105005R1 | 3,240 |
| XT6 | PB 100mm XT6 | 1SDA105010R1 | 1,530 | 1SDA105011R1 | 2,450 |
| | PB 200mm XT6 | 1SDA105012R1 | 2,640 | 1SDA105013R1 | 3,560 |

Rotary handle operating mechanism



| Frame | RHD | L.P. (₹) | RHE | L.P. (₹) |
|---------------------------|----------------|----------|----------------|----------|
| XT1-XT3 F/P (250mm rod) | 1SDA066475R1 ■ | 2,790 | 1SDA082810R1 ■ | 2,570 |
| XT1-XT3 F/P (500mm rod) | | | 1SDA066479R1 | 2,920 |
| XT2-XT4 F/P (250mm rod) | 1SDA069053R1 ■ | 3,320 | 1SDA082811R1 ■ | 3,370 |
| XT2-XT4 F/P (500mm rod) | | | 1SDA069055R1 | 3,740 |
| XT2-XT4 W | 1SDA066476R1 | 3,800 | 1SDA066480R1 ■ | 4,400 |
| XT2-XT4 F/P-Left Lateral | | | 1SDA069058R1 | 5,940 |
| XT2-XT4 F/P-Right Lateral | | | 1SDA069060R1 | 5,860 |
| XT5 F/P STAND. DIRECT | 1SDA104826R1 | 6,000 | 1SDA104843R1 | 5,800 |
| XT5 W STAND. DIRECT | 1SDA104828R1 | 6,960 | 1SDA104844R1 | 11,050 |
| XT6 F/P STAND. DIRECT | 1SDA104832R1 | 8,050 | 1SDA104853R1 | 12,050 |
| XT6 W STAND. DIRECT | 1SDA104834R1 | 12,050 | 1SDA104854R1 | 14,050 |
| XT7 F/W | 1SDA104838R1 | 17,260 | 1SDA104863R1 | 15,600 |

Note:- F/P: Fixed/Plug-in ; W: Withdrawable

Service releases

Shunt opening release - SOR



| Frame | Description | Uncabled | L.P. (₹) | Cabled | L.P. (₹) |
|------------|-----------------------------------|----------------|--------------|--------------|----------|
| XT1... XT4 | 24-30 V AC/DC F/P | 1SDA066314R1 ■ | | 1SDA066322R1 | |
| | 220...240 V ac-220...250 V DC F/P | 1SDA066317R1 ■ | 3,700 | 1SDA066325R1 | 5,620 |
| | 380-440 V ac F/P | 1SDA066318R1 | | 1SDA066326R1 | |
| | 24-30 V AC/DC W | - | | 1SDA066329R1 | |
| | 220...240 V ac-220...250 V DC W | - | | 1SDA066332R1 | 9,550 |
| | 380-440 V AC W | - | | 1SDA066333R1 | |
| XT5-XT6 | 110..240Vac-110..250Vdc F/P | 1SDA104926R1 | 7,020 | 1SDA104934R1 | 13,910 |
| XT5 | 110..240 Vac - 110..250 Vdc W | | | 1SDA104930R1 | 15,020 |
| XT6 | 110..240 Vac - 110..250 Vdc W | | | 1SDA104938R1 | 16,530 |
| XT7 | 220...240V AC/DC | 1SDA073674R1 | Upon request | - | |

Note: F/P: Fixed/Plug-in ; W: Withdrawable

■ Stock items

Tmax XT accessories



| Under voltage release - UVR | | | | | |
|-----------------------------|---------------------------------|----------------|--------------|----------------|----------|
| Frame | Description | Uncabled | L.P. (₹) | Cabled | L.P. (₹) |
| XT1....XT4 | 24-30 VAC/DC F/P | 1SDA066389R1 | | 1SDA066396R1 | |
| | 220-240Vac-220-250V DC F/P | 1SDA066392R1 ■ | 6,810 | 1SDA066399R1 ■ | 10,600 |
| | 380-440 V AC F/P | 1SDA066393R1 ■ | | 1SDA066400R1 | |
| | 24-30 VAC/DC W | | | 1SDA066403R1 | |
| | 220-240Vac-220-250V DC W | | | 1SDA066406R1 | 11,480 |
| XT5-XT6 | 380-440 V AC W | | | 1SDA066407R1 | |
| | 24V AC/DC F/P | 1SDA104941R1 | | 1SDA104955R1 | |
| | 220...240V AC-220...250V DC F/P | 1SDA104944R1 | 14,350 | 1SDA104958R1 | 16,230 |
| XT5 | 380...440V AC F/P | 1SDA104945R1 | | 1SDA104959R1 | |
| | 220..240 Vac - 220..250 Vdc W | | | 1SDA104951R1 | 17,360 |
| XT6 | 220..240 Vac - 220..250 Vdc W | | | 1SDA104965R1 | |
| XT7 | 220...240V AC/DC | 1SDA073700R1 | Upon Request | | |

Note: F/P: Fixed/Plug-in ; W:Withdrawable

Electrical signals

Auxiliary contact cabled-version - AUX - C

| Frame | Description | Ordering code | L.P. (₹) |
|-----------------------------------|---|--------------------------------------|----------------|
| XT1....XT4 | AUX-C 1Q+1SY 250V AC/DC XT1..XT4 F/P | 1SDA066431R1 ■ | 2,630 |
| | AUX-C 2Q+1SY 250VAC/DC XT1..XT4 F/P | 1SDA066433R1 ■ | 4,140 |
| | AUX-C 3Q+1SY 250VAC/DC XT2..XT4 F/P | 1SDA066434R1 ■ | 4,910 |
| | AUX-C 3Q+2SY 250VAC/DC XT2-XT4 F/P | 1SDA066436R1 | 6,010 |
| | AUX-C 2Q+2SY+1S51 250VAC/DC XT2-XT4 F/P | 1SDA066438R1 | 6,490 |
| | AUX-C 2Q 400V AC XT2-XT4 F/P | 1SDA066440R1 | 3,140 |
| | AUX-C 1Q+1SY 400Vac XT2-XT4 F/P | 1SDA066444R1 | 4,940 |
| | AUX-C 1Q+1SY 24Vdc XT1..XT4 F/P | 1SDA066446R1 ■ | 3,640 |
| | AUX-C 3Q+1SY 24VDC XT2..XT4 F/P | 1SDA066448R1 | 5,670 |
| | XT5-XT6 | AUX-C 1Q+1SY 250V AC/DC XT1..XT6 F/P | 1SDA066431R1 ■ |
| AUX-C 1Q + 1SY 400V AC/DC XT5 F/P | | 1SDA104784R1 | 9,560 |
| AUX-C 2Q 400V AC/DC XT5 F/P | | 1SDA104795R1 | 7,340 |
| AUX-C 3Q+1SY 24Vdc XT2..XT6 F/P | | 1SDA066448R1 | 5,670 |
| XT7 | AUX-C 3Q+1SY 250Vac/dc XT2..XT6 F/P | 1SDA066434R1 | 4,910 |
| | AUX 4Q 400V | 1SDA073750R1 | Upon request |
| | S51 250V | 1SDA073776R1 | |

Note : Q=Changeover contact;SY/S51= Trip indication contact ;F/P: Fixed/Plug-in ; W:Withdrawable

Auxiliary contact - AUX (Uncabled version)

| Frame | Description | Ordering code | L.P. (₹) |
|------------|----------------------------|----------------|----------|
| XT1....XT6 | AUX 1Q 250Vac/dc XT1...XT6 | 1SDA066422R1 ■ | 1,620 |
| | AUX 1Q 24Vdc XT1...XT6 | 1SDA066423R1 | 2,460 |

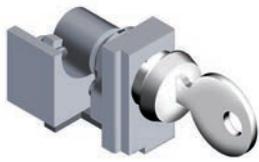
Bracket for fixing onto DIN-Rail

| Frame | Description | 3 Pole | | 4 Pole | |
|-------|--------------------------|---------------|----------|---------------|----------|
| | | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT1 | DIN50022 | 1SDA066652R1 | 2,650 | 1SDA066419R1 | 2,810 |
| | DIN50022 +RC Low 200 mm | | | 1SDA067134R1 | 3,090 |
| XT2 | DIN50022 +RC Sel/RC Inst | 1SDA067135R1 | 3,340 | 1SDA067135R1 | 3,340 |
| | DIN50022 | 1SDA080704R1 | 3,060 | 1SDA080325R1 | 3,060 |
| XT3 | DIN50022 | 1SDA066420R1 | 3,340 | 1SDA066421R1 | 3,340 |
| | DIN50022 +RC Sel/RC Inst | 1SDA067139R1 | 3,670 | | |
| XT4 | DIN50022 | 1SDA080326R1 | 3,060 | 1SDA080327R1 | 3,060 |



Tmax XT accessories

Key lock



| Key Lock - KLC | | | |
|----------------|--|---------------|--------------|
| Frame | Description | Ordering code | L.P. (₹) |
| | KLC XT1 RONIS Key Lock Diff.Key, Removable In Open Pos. | 1SDA066593R1 | |
| | KLC XT1 RONIS Key Lock Same Key Type A, Removable in Open Pos. | 1SDA066594R1 | |
| | KLC XT1 RONIS Key Lock Same Key Type B, Removable in Open Pos. | 1SDA066595R1 | |
| | KLC XT2-XT4 RONIS Key Lock Diff.Key, Removable In Open Pos. | 1SDA066599R1 | |
| XT1....XT4 | KLC XT2-XT4 RONIS Key Lock Same Key Type A, Removable in Open Pos. | 1SDA066600R1 | 3,330 |
| | KLC XT2-XT4 RONIS Key Lock Same Key Type B, Removable in Open Pos. | 1SDA066601R1 | |
| | KLC XT3 RONIS Key Lock Diff.Key, Removable In Open Pos. | 1SDA066605R1 | |
| | KLC XT3 RONIS Key Lock Same Key Type A, Removable in Open Pos. | 1SDA066606R1 | |
| | KLC XT3 RONIS Key Lock Same Key Type B, Removable in Open Pos. | 1SDA066607R1 | |
| | KLC XT5-XT6 RONIS Key Lock Diff.Key, Removable In Open Pos. | 1SDA105066R1 | |
| XT5-XT6 | KLC XT5-XT6 RONIS Key Lock Same Key Type A, Removable in Open Pos. | 1SDA105062R1 | 5,820 |
| | KLC XT5-XT6 RONIS Key Lock Same Key Type B, Removable in Open Pos. | 1SDA105063R1 | |
| | KLC XT7 RONIS Key Lock Diff.Key, Removable In Open Pos. | 1SDA105075R1 | |
| XT7 | KLC XT7 RONIS Key Lock Same Key Type A, Removable in Open Pos. | 1SDA105071R1 | Upon request |
| | KLC XT7 RONIS Key Lock Same Key Type B, Removable in Open Pos. | 1SDA105072R1 | |

| Key Lock for Rotary Handle & FLD - RHL | | | |
|--|---|---------------|----------|
| Frame | Description | Ordering code | L.P. (₹) |
| | RHL XT1...XT4 KEY LOCK RONIS Diff. Keys | 1SDA066617R1 | |
| XT1....XT4 | RHL XT1...XT4 KEY LOCK RONIS TYPE A | 1SDA066618R1 | 2,640 |
| | RHL XT1...XT4 KEY LOCK RONIS TYPE B | 1SDA066619R1 | |
| | RHL XT5 KEY LOCK RONIS Diff. Keys | 1SDA105081R1 | |
| XT5 | RHL XT5 KEY LOCK RONIS TYPE A | 1SDA105082R1 | |
| | RHL XT5 KEY LOCK RONIS TYPE B | 1SDA105083R1 | |
| | RHL XT6-XT7 KEY LOCK RONIS Diff. Keys | 1SDA105091R1 | 5,090 |
| XT6 - XT7 | RHL XT6-XT7 KEY LOCK RONIS TYPE A | 1SDA105086R1 | |
| | RHL XT6-XT7 KEY LOCK RONIS TYPE B | 1SDA105087R1 | |

| Key lock for motor operated- MOL | | | |
|----------------------------------|--|---------------|----------|
| Frame | Description | Ordering code | L.P. (₹) |
| | MOL-D XT1-XT3 KEY LOCK RONIS DIFF. KEY | 1SDA066623R1 | |
| XT1-XT3 | MOL-S XT1-XT3 KEY LOCK RONIS TYPE A | 1SDA066624R1 | |
| | MOL-S XT1-XT3 KEY LOCK RONIS TYPE B | 1SDA066625R1 | |
| | MOL-D XT2-XT4 KEY LOCK RONIS DIFF. KEY | 1SDA066629R1 | 5,620 |
| XT2-XT4 | MOL-S XT2-XT4 KEY LOCK RONIS TYPE A | 1SDA066630R1 | |
| | MOL-S XT2-XT4 KEY LOCK RONIS TYPE B | 1SDA066631R1 | |
| | MOL-D XT5-XT6 KEY LOCK RONIS DIFF. KEY | 1SDA105092R1 | |
| XT5-XT6 | MOL-S XT5-XT6 KEY LOCK RONIS TYPE A | 1SDA105093R1 | 9,860 |
| | MOL-S XT5-XT6 KEY LOCK RONIS TYPE B | 1SDA105095R1 | |

| Key Lock or Fixed Part- KLF | | | |
|-----------------------------|-------------------------------------|---------------|----------|
| Frame | Description | Ordering code | L.P. (₹) |
| | KL-D Ronis key lock different keys | 1SDA066298R1 | |
| XT2-XT4 | KL-S Ronis key lock Same key Type A | 1SDA066300R1 | 5,250 |
| | KL-D Ronis key lock different keys | 1SDA105109R1 | |
| XT5-XT6 | KL-S Ronis key lock Same key Type A | 1SDA105110R1 | 7,610 |

| IP54 Protection for rotary handle | | | |
|-----------------------------------|-------------------------|---------------|--------------|
| Frame | Description | Ordering code | L.P. (₹) |
| XT1....XT4 | IP54 Protection for RHE | 1SDA066587R1 | 3,430 |
| XT5 | IP54 Protection for RHD | 1SDA104876R1 | 24,760 |
| XT6 | IP54 Protection for RHD | 1SDA104877R1 | 27,240 |
| XT7 | IP54 Protection for RHD | 1SDA104878R1 | Upon Request |

Note : For other combinations of keylock, contact nearest sales office

Tmax XT accessories



| Pad Lock - PLL | | | | |
|----------------|---|---------------|----------|--------------|
| Frame | Description | Ordering code | L.P. (₹) | |
| XT1....XT4 | PLL XT1-XT3 REMOV.PADL.DEVICE OPEN PLUG | 1SDA066588R1 | | |
| | PLL XT1-XT3 PADLOCKS DEVICE OPEN | 1SDA066589R1 | | |
| | PLL XT2-XT4 PADLOCKS DEVICE OPEN | 1SDA066590R1 | | 2,470 |
| | PLL XT1-XT3 PADLOCKS DEVICE OP/CL | 1SDA066591R1 | | |
| | PLL XT2-XT4 PADLOCKS DEVICE OP/CL | 1SDA066592R1 | | |
| XT5-XT6 | PLL XT5 REM.PADLOCKS DEVICE OPEN | 1SDA105100R1 | | |
| | PLL XT5 PADLOCKS DEVICE OPEN | 1SDA105099R1 | | |
| | PLL XT5 PADLOCKS DEVICE OP/CL | 1SDA105098R1 | | |
| | PLL XT6 REM.PADLOCKS DEVICE OPEN | 1SDA105103R1 | | 6,430 |
| | PLL XT6 PADLOCKS DEVICE OPEN | 1SDA105102R1 | | |
| | PLL XT6 PADLOCKS DEVICE OP/CL | 1SDA105101R1 | | |
| XT7 | PLL XT7 PADLOCKS DEVICE OPEN | 1SDA105104R1 | | Upon Request |



| Low insulating terminal covers - LTC | | | | | |
|--------------------------------------|-------------|--------------|--------------|--------------|--------------|
| Frame | Description | 3 Pole-2 pcs | L.P. (₹) | 4 Pole-2 pcs | L.P. (₹) |
| XT1....XT4 | LTC XT1 | 1SDA066655R1 | 3,130 | 1SDA066656R1 | 3,790 |
| | LTC XT2 | 1SDA066657R1 | | 1SDA066659R1 | |
| | LTC XT3 | 1SDA066660R1 | 3,300 | 1SDA066661R1 | 4,220 |
| | LTC XT4 | 1SDA066662R1 | | 1SDA066663R1 | 4,820 |
| XT5 | LTC XT5 | 1SDA105018R1 | 4,480 | 1SDA105019R1 | 6,090 |
| XT6 | LTC XT6 | 1SDA105020R1 | 4,890 | 1SDA105021R1 | 6,720 |
| XT7 | LTC XT7 | 1SDA107475R1 | Upon request | 1SDA107476R1 | Upon request |



| High insulating terminal covers - HTC | | | | | |
|---------------------------------------|-------------|--------------|--------------|--------------|--------------|
| Frame | Description | 3 Pole-2 pcs | L.P. (₹) | 4 Pole-2 pcs | L.P. (₹) |
| XT1....XT4 | HTC XT1 | 1SDA066664R1 | 4,270 | 1SDA066665R1 | 5,890 |
| | HTC XT2 | 1SDA066666R1 | 4,840 | 1SDA066667R1 | 6,650 |
| | HTC XT3 | 1SDA066668R1 | 5,230 | 1SDA066669R1 | 7,280 |
| | HTC XT4 | 1SDA066670R1 | 5,830 | 1SDA066671R1 | 8,040 |
| XT7 | HTC XT7 | 1SDA105029R1 | Upon request | 1SDA105030R1 | Upon request |



| Mechanical interlock between circuit breakers | | | | |
|---|---|------------------------------|----------|--------------|
| Frame | Description | Ordering code | L.P. (₹) | |
| XT1....XT4 | MIR-HR XT1...XT4 MECH INTERLOCK HOR. 2 CB** | 1SDA066637R1 | | 20,480 |
| | MIR-VR XT1...XT4 MECH INTERLOCK VER. 2 CB** | 1SDA066638R1 | | |
| | MIR-P PLATE x XT1 F | 1SDA066639R1 | | |
| | MIR-P PLATE x XT2 F | 1SDA066641R1 | | 7,170 |
| | MIR-P PLATE x XT3 F | 1SDA066643R1 | | |
| XT5 | MIR-P PLATE x XT4 F | 1SDA066645R1 | | |
| | MIR-H XT5 MECH,LOCK REAR HO. 2 C.BREAKER | 1SDA105117R1 | | 38,500 |
| | MIR-V XT5 MECH,LOCK REAR VE. 2 C.BREAKER | 1SDA105119R1 | | |
| XT6 | MIR-P x XT5 F | 1SDA105122R1 | | 9,970 |
| | MIR-H XT6 MECH,LOCK REAR HO. 2 C.BREAKER | 1SDA105118R1 | | 48,500 |
| | MIR-V XT6 MECH,LOCK REAR HO. 2 C.BREAKER | 1SDA105120R1 | | |
| XT7 | MIR-P x XT6 F | 1SDA105126R1 | | 10,970 |
| | Cable Kit for Interlock XT7 | | | |
| | Cable Kit for Interlock XT7 | Contact nearest sales office | | Upon request |
| | Plate for Interlock XT7 | Plate for Interlock XT7 | | |

- Note : ** Following must be ordered to make the rear interlock.
1. A MIR-HR or MIR-VR
 2. A plate MIR-P for each circuit breaker to be interlocked
 3. Order 1 No. of frame and 2 Nos. of plate per interlocking set for XT1 ... XT6
 4. Order 2 Nos. of plate and 1 No. of Cable per interlocking set for XT7

Tmax XT accessories



| Motor operator with direct action - MOD | | | |
|---|-------------------------------|----------------|---------|
| Frame | Description | Ordering code | L.P.(₹) |
| XT1- XT3 | MOD XT1-XT3 24 V dc | 1SDA066457R1 | 36,800 |
| | MOD XT1-XT3 48...60 V dc | 1SDA066458R1 | |
| | MOD XT1-XT3 110...125 V ac/dc | 1SDA066459R1 | 31,640 |
| | MOD XT1-XT3 220...250 V ac/dc | 1SDA066460R1 ■ | |
| | MOD XT1-XT3 380...440 V ac | 1SDA066461R1 | 36,800 |
| | MOD XT1-XT3 480...525 V ac | 1SDA066462R1 | |



| Stored Energy Motor Operator - MOE, Stored energy motor operator with electronics - MOE-E | | | | | |
|---|---------------------|----------------|--------------|--------------|--------------|
| Frame | Description | MOE | L.P. (₹) | MOE-E | L.P. (₹) |
| XT2-XT4 | 24 V DC | 1SDA066463R1 | 52,430 | 1SDA066469R1 | 56,550 |
| | 220...250 V AC / DC | 1SDA066466R1 ■ | 45,170 | 1SDA066472R1 | |
| | 380...440 V AC | 1SDA066467R1 | 52,430 | 1SDA066473R1 | |
| XT5 | 220...250V AC/DC | 1SDA104885R1 | 64,500 | 1SDA104905R1 | 74,500 |
| XT6 | 220...250V AC/DC | 1SDA104895R1 | Upon request | 1SDA104915R1 | Upon request |



| Time delay device for under voltage release- UVD | | | |
|--|--------------------------------|---------------|--------------|
| Frame | Description | Ordering code | L.P. (₹) |
| XT1....XT6 | UVD XT1...XT6 24...30 Vac/dc | 1SDA051357R1 | 58,140 |
| | UVD XT1...XT6 220...250 Vac/dc | 1SDA101982R1 | |
| XT7 | UVD 24/30 Vac/dc | 1SDA038316R1 | Upon request |
| | UVD 220...250 Vac/dc | 1SDA038320R1 | request |



Automation transfer switch - ATS

Automatic transfer switch

| Frame | Description | Ordering code | L.P. (₹) |
|---------------------------------|-------------|---------------|--------------|
| XT2-XT4/ XT5- XT7/ E1.2-E6.2 | ATS021 | 1SDA065523R1 | Upon request |
| | ATS022 | 1SDA065524R1 | |

Note : ATS will be used along with either two motorized ACB or MCCBs with required interlocking and changeover base plate as per the requirement.



| Residual current devices | | 3 Pole | | 4 Pole | |
|--------------------------|------------------|---------------|----------|---------------|--------------|
| Frame | Description | Ordering code | L.P. (₹) | Ordering code | L.P. (₹) |
| XT1 | RC Inst x XT1 | 1SDA067122R1 | 33,790 | 1SDA067124R1 | 39,100 |
| | RC Sel x XT1 | 1SDA067123R1 | | 1SDA067125R1 | |
| | RC Sel 200 x XT1 | | | 1SDA067121R1 | |
| XT2 | RC Sel x XT2 | | 83,740 | 1SDA067126R1 | 71,470 |
| | RC Inst x XT3 | 1SDA067127R1 | | 1SDA067129R1 | 90,060 |
| XT3 | RC Sel x XT3 | 1SDA067128R1 | 93,030 | 1SDA067130R1 | 99,100 |
| | RC B Type x XT3 | | | 1SDA067132R1 | 1,39,850 |
| | RC Sel x XT5 | | | 1SDA105131R1 | Upon request |

Accessories for electronic trip units

| Frame | Description | Ordering code | L.P. (₹) |
|---------|---|---------------|--------------|
| XT2-XT4 | EKIP COM RTU for XT2-XT4 Ekip C Dip F/P | 1SDA122799R1 | Upon request |
| | EKIP COM RTU for XT2-XT4 Ekip C Dip W | 1SDA122800R1 | |
| | KIT x CONNECTION Vaux 24Vdc XT2-XT4 F/P | 1SDA066980R1 | |
| | KIT x CONNECTION Vaux 24Vdc XT2-XT4 W | 1SDA066981R1 | |

Note:- F/P: Fixed/Plug-in ; W: Withdrawable



Test and configuration unit

| Frame | Description | Ordering code | L.P. (₹) |
|-----------|------------------------|---------------|----------|
| XT2 - XT7 | Ekip TT Trip test unit | 1SDA066988R1 | 10,500 |

■ Stock items

Tmax XT conversion kit

Plug-in Kit



Fixed part of a plug-in circuit-breaker

+



Fixed circuit-breaker

+



Moving part of a plug-in circuit-breaker

+



Connectors*

=



Plug-in circuit-breaker

Drawout Kit



Fixed part of a withdrawable circuit-breaker

+



Fixed circuit-breaker

+



Moving part of a withdrawable circuit-breaker

+



Frontal accessory FLD**

=



Withdrawable circuit-breaker

Plug-in and drawout conversion

| Frame | Description | 3 Pole | L.P. (₹) | 4 Pole | L.P. (₹) |
|---------|---------------------|--------------|--------------|--------------|--------------|
| XT1 | Plug-in moving part | 1SDA066276R1 | 6,850 | 1SDA066277R1 | 9,490 |
| | Plug-in fixed part | 1SDA068183R1 | 12,570 | 1SDA068185R1 | 17,860 |
| XT2 | Plug-in moving part | 1SDA066278R1 | 7,640 | 1SDA066279R1 | 10,360 |
| | Plug-in fixed part | 1SDA068187R1 | 13,740 | 1SDA068190R1 | 19,500 |
| XT3 | Plug-in moving part | 1SDA066280R1 | 9,470 | 1SDA066281R1 | 11,650 |
| | Plug-in fixed part | 1SDA068192R1 | 14,150 | 1SDA068194R1 | 20,520 |
| XT4 | Plug-in moving part | 1SDA066282R1 | 11,100 | 1SDA066283R1 | 15,110 |
| | Plug-in fixed part | 1SDA068196R1 | 15,290 | 1SDA068198R1 | 21,170 |
| XT5 400 | Plug-in moving part | 1SDA104707R1 | Upon Request | 1SDA104708R1 | Upon Request |
| | Plug-in fixed part | 1SDA104668R1 | | 1SDA104672R1 | |
| XT5 630 | Plug-in moving part | 1SDA104709R1 | Upon Request | 1SDA104710R1 | Upon Request |
| | Plug-in fixed part | 1SDA104676R1 | | 1SDA104679R1 | |
| XT2 | Drawout moving part | 1SDA066284R1 | 12,620 | 1SDA066285R1 | 17,860 |
| | Drawout fixed part | 1SDA068200R1 | 28,170 | 1SDA068202R1 | 38,810 |
| XT4 | Drawout moving part | 1SDA066286R1 | 14,380 | 1SDA066287R1 | 19,500 |
| | Drawout fixed part | 1SDA068204R1 | 29,570 | 1SDA068206R1 | 41,030 |
| XT5 400 | Drawout moving part | 1SDA104711R1 | Upon Request | 1SDA104712R1 | Upon Request |
| | Drawout fixed part | 1SDA104682R1 | | 1SDA104686R1 | |
| XT5 630 | Drawout moving part | 1SDA104713R1 | Upon Request | 1SDA104714R1 | Upon Request |
| | Drawout fixed part | 1SDA104690R1 | | 1SDA104693R1 | |
| XT6 | Drawout moving part | 1SDA104715R1 | Upon Request | 1SDA104716R1 | Upon Request |
| | Drawout fixed part | 1SDA104696R1 | | 1SDA104699R1 | |
| XT7 | Drawout moving part | 1SDA104702R1 | Upon Request | 1SDA104704R1 | Upon Request |
| | Drawout fixed part | 1SDA104717R1 | | 1SDA104718R1 | |

Note:

* For plugin MCCB with electrical accessories, connectors to be ordered

(1) For withdrawable MCCB with shunt opening and undervoltage release dedicated connectors are available

** FLD or rotary handle or motor operator is mandatory to select for a drawout MCCB

Connectors



| Description | Ordering code | L.P. (₹) |
|---|-----------------------------|----------|
| Socket-plug panel connector with 3PINS (XT1...XT4) | 1SDA066409R1 | 2,110 |
| Socket-plug panel connector with 6PINS (XT1...XT4) | 1SDA066410R1 | 4,050 |
| Socket-plug panel connector with 9PINS (XT1...XT4) | 1SDA066411R1 | 6,100 |
| Socket-plug panel connector with 15PINS (XT1...XT4) | 1SDA066412R1 | 10,030 |
| Socket-plug connector of moving part 12PINS (XT2...XT4) | 1SDA066413R1 | 10,810 |
| Socket-plug connector of fixed part 12PINS (XT2...XT4) | 1SDA066414R1 | |
| Connector 4th pole SOR-PS-SOR (XT2...XT4) | 1SDA066415R1 ⁽¹⁾ | 2,100 |
| Connector 4th pole UVR (XT2...XT4) | 1SDA066418R1 ⁽¹⁾ | 1,930 |
| Connector 4th pole YO (XT5) | 1SDA104968R1 ⁽¹⁾ | 2,150 |
| Connector 4th pole YU (XT5) | 1SDA104970R1 ⁽¹⁾ | 1,980 |

AIR CIRCUIT-BREAKERS

SACE Formula Air

Simplicity and safety, up to 50kA

Formula Air is an ideal solution for main installation requirements, from distribution switchboards to onboard compartments. This comprehensive range offers the most suitable solution for each specific set of requirements. Easy to use Formula Air products are also easy to order.

Possibility to change, on site, the orientation of the rear terminals from horizontal to vertical or vice versa which allows adaptability to accommodate last minutes changes busbar design.

Front terminals are available for breakers up to 1600A in fixed vesion to have switchboard with compact dimensions.

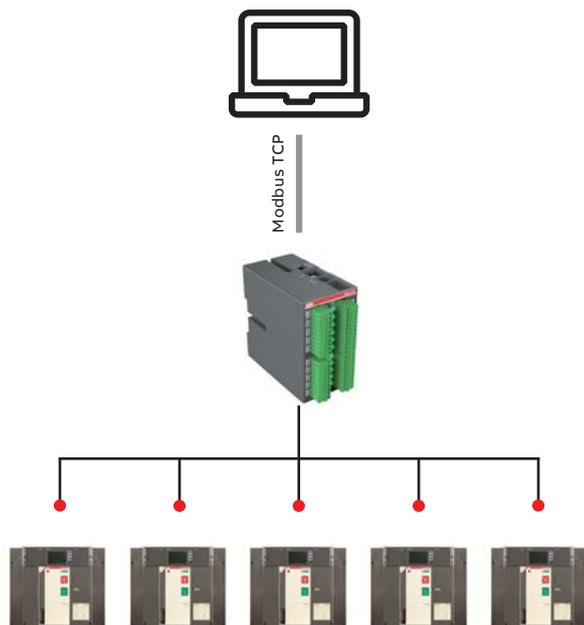
With High Mechanical and electrical life Formula Air circuit breakers offer high longevity to the installation.

The ACBs are available in 3 sizes up to 4000A with performance level up to 50kA which are equipped with Ek 1 and Ek 2 trip units.



Ratings available

| Frame | 630A | 800A | 1000A | 1250A | 1600A | 2000A | 2500A | 3200A | 4000A |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|
| FA1 | • | • | • | • | • | | | | |
| FA2 | | | | | • | • | | | |
| FA4 | | | | | | | • | • | • |



Communication made easy. Formula Air circuit breakers can communicate the status on Modbus TCP protocol through a Ekip signalling 10k signalling module. It can control up to 5 ACBs and communicate status of 5 breakers.

Protection releases

| Parameters | EK 1 - LI | EK1- L SIG | EK2-LSIG |
|--|-----------|------------|----------|
| Neutral protection | • | • | • |
| Switchable thermal memory | • | • | • |
| Graphical display with current metering | | | • |
| Closing on short-circuit (MCR) | | | • |
| Start-up function | | | • |
| Instantaneous earth fault (G-ANSI 50N) | | | • |
| Current unbalance protection | | | • |
| Watchdog function | • | • | • |
| Contact wear Indication | | | • |
| Display of No. of operation | | | • |
| Display of last maintenance date | | | • |
| Zone Selectivity for S & G protections | | | • |
| Display of 20 trip history & 100 events | | | • |
| Test function | • | • | • |
| Download breaker maintenance data from ACB | • | • | • |

SACE Formula Air

Product details

- Range from 630A to 4000A in 3 frame sizes and 2 types of protection release
- $I_{cu} = I_{cs} = I_{cw}/1 \text{ sec} = 50\text{kA}$ at 440V
- Available in fixed and draw out versions
- Trip history - Last 20 trip history and Last 100 events with time stamping
- Switchable thermal memory
- Fully rated neutral with built-in protection
- Terminal orientation changeable at site for ease of termination
- New push-in type accessory terminal box
- Clear marking of accessory cabinet and terminal box for easy identification
- Interchangeable protection units

Draw - out version

| Pole | Current Rating (In) | I _{cu} /I _{cw} (1s) kA @ 415V | CB/Frame | EK1 LI | EK1 LSIG | EK2 LSIG |
|------|---------------------|---|----------|-----------|-----------|-----------|
| | | | | MDO | MDO | MDO |
| | | | | HR/VR | HR/VR | HR/VR |
| 3P | 800A | 50/50kA | FA1 | 2,84,380 | 2,89,880 | 3,03,880 |
| | 1000A | 50/50kA | FA1 | 2,93,920 | 2,99,420 | 3,13,420 |
| | 1250A | 50/50kA | FA1 | 3,25,290 | 3,30,790 | 3,44,790 |
| | 1600A | 50/50kA | FA1 | 3,74,660 | 3,80,160 | 3,94,160 |
| | 1600A | 50/50kA | FA2 | 3,79,750 | 3,85,250 | 3,99,250 |
| | 2000A | 50/50kA | FA2 | 5,05,720 | 5,11,220 | 5,25,220 |
| | 2500A | 50/50kA | FA4 | 6,24,990 | 6,30,490 | 6,44,490 |
| | 3200A | 50/50kA | FA4 | 7,56,280 | 7,61,780 | 7,75,780 |
| | 4000A | 50/50kA | FA4 | 9,30,710 | 9,36,210 | 9,50,210 |
| 4P | 800A | 50/50kA | FA1 | 3,56,550 | 3,62,050 | 3,76,050 |
| | 1000A | 50/50kA | FA1 | 3,80,390 | 3,85,890 | 3,99,890 |
| | 1250A | 50/50kA | FA1 | 4,14,700 | 4,20,200 | 4,34,200 |
| | 1600A | 50/50kA | FA1 | 4,47,640 | 4,53,140 | 4,67,140 |
| | 1600A | 50/50kA | FA2 | 4,64,200 | 4,69,700 | 4,83,700 |
| | 2000A | 50/50kA | FA2 | 6,19,450 | 6,24,950 | 6,38,950 |
| | 2500A | 50/50kA | FA4 | 7,59,220 | 7,64,720 | 7,78,720 |
| | 3200A | 50/50kA | FA4 | 9,26,710 | 9,32,210 | 9,46,210 |
| | 4000A | 50/50kA | FA4 | 11,91,220 | 11,96,720 | 12,10,720 |

Fixed version

| Pole | Current Rating (In) | I _{cu} /I _{cw} (1s) kA @ 415V | CB/Frame | EK1 LI | EK1 LSIG | EK2 LSIG |
|------|---------------------|---|----------|-----------|-----------|-----------|
| | | | | MF | MF | MF |
| | | | | F-HR/VR | F-HR/VR | F-HR/VR |
| 3P | 800A | 50/50kA | FA1 | 2,06,850 | 2,12,350 | 2,26,350 |
| | 1000A | 50/50kA | FA1 | 2,24,410 | 2,29,910 | 2,43,910 |
| | 1250A | 50/50kA | FA1 | 2,56,570 | 2,62,070 | 2,76,070 |
| | 1600A | 50/50kA | FA1 | 2,77,920 | 2,83,420 | 2,97,420 |
| | 1600A | 50/50kA | FA2 | 2,87,420 | 2,92,920 | 3,06,920 |
| | 2000A | 50/50kA | FA2 | 3,77,960 | 3,83,460 | 3,97,460 |
| | 2500A | 50/50kA | FA4 | 4,59,260 | 4,64,760 | 4,78,760 |
| | 3200A | 50/50kA | FA4 | 6,63,930 | 6,69,430 | 6,83,430 |
| | 4000A | 50/50kA | FA4 | 8,22,310 | 8,27,810 | 8,41,810 |
| 4P | 800A | 50/50kA | FA1 | 2,61,710 | 2,67,210 | 2,81,210 |
| | 1000A | 50/50kA | FA1 | 2,82,640 | 2,88,140 | 3,02,140 |
| | 1250A | 50/50kA | FA1 | 3,20,990 | 3,26,490 | 3,40,490 |
| | 1600A | 50/50kA | FA1 | 3,60,900 | 3,66,400 | 3,80,400 |
| | 1600A | 50/50kA | FA2 | 3,77,880 | 3,83,380 | 3,97,380 |
| | 2000A | 50/50kA | FA2 | 4,96,330 | 5,01,830 | 5,15,830 |
| | 2500A | 50/50kA | FA4 | 5,88,270 | 5,93,770 | 6,07,770 |
| | 3200A | 50/50kA | FA4 | 8,18,100 | 8,23,600 | 8,37,600 |
| | 4000A | 50/50kA | FA4 | 10,20,940 | 10,26,440 | 10,40,440 |

1) MF : Manually operated fixed breaker with Micro-processor release - 4 NO + 4 NC Aux. contact as standard (FA1..FA4)

2) MDO : Manually operated drawout breakers with Micro-processor releases - 4 NO + 4 NC Aux. contact as standard (FA1...FA4)

SACE Formula Air

Accessories

| Description | Order Code | List Price (₹) |
|--|--------------|----------------|
| ELECTRICAL ACCESSORIES | | |
| CONVERSION KIT FROM MDO to EDO FA1 | | 78,260 |
| CONVERSION KIT FROM MDO to EDO FA2_FA4 | | 78,260 |
| (Comprises of Closing Coil, Opening Coil & Motor Operator) Specify the coil voltages while ordering Conversion Kit | | |
| UNDER VOLTAGE RELEASE FA | ** | 10,400 |
| SHUNT OPENING COIL FA | ** | 9,940 |
| SHUNT Closing COIL FA | ** | 9,940 |
| MOTOR OPERATOR FA1 | ** | 58,380 |
| MOTOR OPERATOR FA2-FA4 | ** | 58,380 |
| Open/closed auxiliary contacts- AUX 15Q 400V FA1 # | 1SDA085090R1 | 28,390 |
| Open/closed auxiliary contacts - AUX 6Q FA2/FA4 | 1SDA080532R1 | 20,440 |
| MECHANICAL ACCESSORIES | | |
| MECH.OPERATION COUNTER FA1 | 1SDA085094R1 | 11,350 |
| MECH.OPERATION COUNTER FA2-FA4 | 1SDA080540R1 | 11,350 |
| KEY LOCK IN OPEN POS. DIFF. KEYS FA1 | 1SDA085095R1 | 7,400 |
| KEY LOCK IN OPEN POS. DIFF. KEYS FA2-FA4 | 1SDA080541R1 | 7,400 |
| KEY LOCK IN OPEN POS. SAME KEYS FA1 | 1SDA085096R1 | 7,400 |
| KEY LOCK IN OPEN POS. SAME KEYS FA2-FA4 | 1SDA080542R1 | 7,400 |
| KEYLOCK IN RACK - IN/TEST/RACK -OUT POS. Diff Keys FA1 | 1SDA085104R1 | 9,200 |
| KEYLOCK IN RACK - IN/TEST/RACK -OUT POS. Diff Keys FA2-FA4 | 1SDA080550R1 | 9,200 |
| KEYLOCK IN RACK - IN/TEST/RACK -OUT POS. Same Keys FA1 | 1SDA085105R1 | 9,200 |
| KEYLOCK IN RACK - IN/TEST/RACK -OUT POS. Same Keys FA2-FA4 | 1SDA080551R1 | 9,200 |
| Protection for Opening and Closing Push Button FA1 | 1SDA085115R1 | 2,240 |
| Protection for Opening and Closing Push Button FA2-FA4 | 1SDA080561R1 | 2,240 |
| IP 54 Cover FA1 | 1SDA085118R1 | 16,260 |
| IP 54 Cover (Diff Keys) FA2-FA4 | 1SDA080568R1 | 16,260 |
| MODULE | | |
| Ek SUPPLY 110-240VAC/DC FA | 1SDA080584R1 | 20,020 |

Note:

- All fixed parts are supplied as HR-HR configuration, however, it can be converted to HR/VR configuration
- All fixed ACBs are considered with rear HR-HR Terminals which can be converted to HR/VR configuration as per requirement
- All ACBs are suitable for floor mounting
- To arrive at the disconnecter (MS Version) price, please reduce the LP of breakers with LI release by ₹15,000/- and add the price of the Aux. contact, if required. Safety shutter is inbuilt as standard in the fixed part.
- All requirement of Electrically operated ACBs (FA1-FA4 frame) with required control voltage will be factory fitted with Shunt Opening Coil, Shunt Closing Coil, Motor Operator as standard supply.
- ATO (Assembly to order), ACB with accessories fitment can be supplied from the factory fitted while ordering to ABB.

** Price considered is for 240V, for other voltages, please contact the nearest sales office

For FA1 below material needs to be considered with AUX 15Q
 Plate for fixed - floor mounted - 1SDA079783R1
 Plate for withdrawable - 1SDA079784R1

SACE Formula DSP P1-P4

Performance made simple



The new SACE FORMULA DSP family consists of four frames (P1, P2, P3 and P4) reaching up to 160A, 250A, 630A and 800A respectively. The four frames are available with thermal-magnetic trip units to cover the most common AC and DC fields. Availability of most requested accessories guarantees the possibility to fulfil the main applications needs.



Easy to install

Click-in fixing for accessories to guarantee time saving and fast installations.



Simplified selection

Availability of a short list of codes enables simplified product selection and easy ordering.



Quality

ABB long experience in molded-case circuit breakers design is a guarantee of quality.



Sustainability

Compliance with the international regulations of product materials and environmental health and safety.



- Compliance to IEC 60947-2 standards
- Offering from 40A to 800A in 4 frame sizes
- Available upto 50kA performance levels (Icu = Ics)
- Circuit breakers for AC and DC applications
- Double insulation
- Isolation behaviour
- Positive operation
- Accessories covering the main standard applications and needs

Power distribution protection

| Field of application | Trip Unit | L – Overload Protection | | | | | | | | I – Short-circuit Protection | | | | | |
|-------------------------------|-----------|-------------------------|----|----|-----|-----|-----|-----|-----|------------------------------|-----|-------------------|-----|---------------------|--|
| | | Current Threshold | | | | | | | | Trip Time | | Current Threshold | | Trip Time | |
| Power Distribution Protection | TMD | 70% to 100% x In | | | | | | | | Fixed | | Fixed | | Fixed instantaneous | |
| | TMA | 70% to 100% x In | | | | | | | | Fixed | | 70% to 100% x In | | Fixed instantaneous | |
| | In [A] | 40 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 320 | 400 | 630 | 800 | | |
| TMD | P1 | • | • | • | • | • | • | | | | | | | | |
| | P2 | | | | | | | • | • | | | | | | |
| TMA | P3 | | | | | | | | | • | • | • | | | |
| | P4 | | | | | | | | | | | | | • | |

SACE Formula DSP P1-P4

Molded case circuit breaker

Breaking capacity at 415VAC

| | Icu | Ics (Icu) |
|---|------|-----------|
| B | 18kA | 100% |
| C | 25kA | 100% |
| N | 36kA | 100% |
| S | 50kA | 100% |

| TMD/TMA | | B | | C | | N | | S | | |
|---------|-----|-------|---------------|--------------|---------------|----------|---------------|----------|---------------|----------|
| Frame | In | Poles | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) |
| P1 160 | 40 | 3P | 1SDA116207R1 | 9,240 | 1SDA116231R1 | 9,410 | 1SDA116255R1 | 12,500 | | |
| | 63 | | 1SDA116209R1 | | 1SDA116233R1 | | 1SDA116257R1 | | | |
| | 80 | | 1SDA116210R1 | | 1SDA116234R1 | | 1SDA116258R1 | | | |
| | 100 | | 1SDA116211R1 | 1SDA116235R1 | 1SDA116259R1 | | | | | |
| | 125 | | 1SDA116212R1 | 11,670 | 1SDA116236R1 | 13,650 | 1SDA116260R1 | | 14,110 | |
| | 160 | | 1SDA116213R1 | 13,340 | 1SDA116237R1 | 17,710 | 1SDA116261R1 | | 18,790 | |
| P2 250 | 200 | | | | 1SDA116325R1 | 23,960 | 1SDA116337R1 | 27,120 | | |
| | 250 | | | | 1SDA116326R1 | 27,860 | 1SDA116338R1 | 30,100 | | |
| P3 630 | 320 | | | | | | 1SDA116371R1 | 38,830 | 1SDA116380R1 | 41,770 |
| | 400 | | | | | | 1SDA116372R1 | 38,830 | 1SDA116381R1 | 41,770 |
| P4 800 | 630 | | | | | | 1SDA116373R1 | 50,380 | 1SDA116382R1 | 52,630 |
| | 800 | | | | | | 1SDA116398R1 | 80,270 | 1SDA116401R1 | 90,120 |

| TMD/TMA | | B | | C | | N | | S | | |
|---------|-----|-------|---------------|--------------|---------------|----------|---------------|----------|---------------|----------|
| Frame | In | Poles | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) | Ordering Code | L.P. (₹) |
| P1 160 | 40 | 4P | 1SDA116218R1 | 12,230 | 1SDA116242R1 | 13,110 | 1SDA116266R1 | 15,710 | | |
| | 63 | | 1SDA116220R1 | | 1SDA116244R1 | | 1SDA116268R1 | | | |
| | 80 | | 1SDA116221R1 | | 1SDA116245R1 | | 1SDA116269R1 | | | |
| | 100 | | 1SDA116222R1 | 1SDA116246R1 | 1SDA116270R1 | | | | | |
| | 125 | | 1SDA116225R1 | 14,340 | 1SDA116249R1 | 16,960 | 1SDA116273R1 | | 18,150 | |
| | 160 | | 1SDA116226R1 | 18,220 | 1SDA116250R1 | 21,670 | 1SDA116274R1 | | 22,780 | |
| P2 250 | 200 | | | | 1SDA116333R1 | 29,980 | 1SDA116345R1 | 33,350 | | |
| | 250 | | | | 1SDA116334R1 | 33,980 | 1SDA116346R1 | 36,480 | | |
| P3 630 | 320 | | | | | | 1SDA116377R1 | 48,320 | 1SDA116386R1 | 52,410 |
| | 400 | | | | | | 1SDA116378R1 | 48,320 | 1SDA116387R1 | 52,410 |
| P4 800 | 630 | | | | | | 1SDA116379R1 | 62,060 | 1SDA116388R1 | 69,050 |
| | 800 | | | | | | 1SDA116400R1 | 86,630 | 1SDA116403R1 | 1,01,830 |

SACE Formula DSP P1-P4

Accessories



Terminals (supplied with phase barrier)

| Size | Type | 6 pcs (kit for 3p) | L.P (₹) | 8 pcs (kit for 4p) | L.P (₹) |
|------|--|-----------------------------|---------|-----------------------------|---------|
| P1 | ES Extended spread front terminals 47mm | 1SDA116501R1 | 2,040 | 1SDA116502R1 | 2,730 |
| P2 | ES Extended spread front terminals 70mm | 1SDA116505R1 | 2,780 | 1SDA116506R1 | 3,550 |
| P3 | ES Extended spread front terminals 80mm | 1SDA116509R1 | 5,490 | 1SDA116510R1 | 7,300 |
| P4 | EF Extended front terminals 70mm (1/2 kit) | 1SDA104736R1 ⁽¹⁾ | 5,760 | 1SDA104737R1 ⁽²⁾ | 7,300 |

(1) Code is for 3 pcs, if required for both top & bottom side order 2 quantities

(2) Code is for 4 pcs, if required for both top & bottom side order 2 quantities



Auxiliary contacts - AUX

| Size | Type | 24V DC | L.P (₹) | 250V AC | L.P (₹) |
|-------|-------------|--------------|---------|--------------|---------|
| P1-P4 | AUX Q or SY | 1SDA116439R1 | 2,000 | 1SDA116440R1 | 1,260 |

Service releases

| Size | Voltages | SOR | L.P (₹) | UVR | L.P (₹) |
|-------|-------------------------------|--------------|---------|--------------|---------|
| P1-P2 | 24-30V AC/DC | 1SDA116448R1 | 2,880 | 1SDA116454R1 | 4,560 |
| | 110...127V AC / 110...125V DC | 1SDA116445R1 | 2,690 | 1SDA116452R1 | 4,440 |
| | 220...240V AC / 220...250V DC | 1SDA116447R1 | 2,690 | 1SDA116453R1 | |
| | UVR 380-440V AC | | | 1SDA116455R1 | |
| P3-P4 | 24...30 VAC/DC | 1SDA116461R1 | 4,300 | 1SDA116467R1 | 9,420 |
| | 110...127 VAC - 110...125 VDC | 1SDA116459R1 | 4,300 | 1SDA116464R1 | |
| | 220...240 VAC - 220...250 VDC | | | | |
| | 380...440 VAC | | | 1SDA116468R1 | |



Rotary handles

| Size | Type | RHD | L.P (₹) | RHE | L.P (₹) |
|-------|---------------|--------------|---------|--------------|---------|
| P1-P2 | Rotary Handle | 1SDA116477R1 | 2,100 | 1SDA116483R1 | 2,050 |
| P3 | Rotary Handle | 1SDA116478R1 | 4,730 | 1SDA116485R1 | 4,340 |
| P4 | Rotary Handle | 1SDA116480R1 | 6,460 | 1SDA116488R1 | 8,460 |



Locking arrangement - Padlock / Keylock

| Size | Type | Padlock | L.P (₹) | Keylock* | L.P (₹) |
|-------|---------------------|--------------|---------|--------------|---------|
| P1-P2 | Locking arrangement | 1SDA116491R1 | 2,000 | 1SDA066617R1 | 2,690 |
| P3 | Locking arrangement | 1SDA116493R1 | 3,650 | 1SDA105081R1 | 5,190 |
| P4 | Locking arrangement | 1SDA116495R1 | 5,030 | 1SDA105091R1 | |

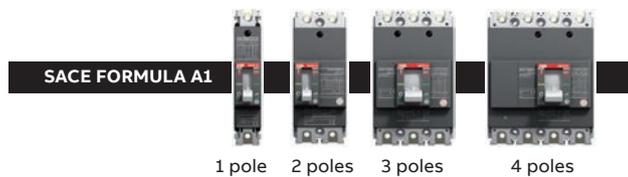
* Keylock mounted on mechanism of RHE on MCCB or on RHD

Formula DSA Molded case circuit breaker

New low voltage molded case circuit breakers up to 630A

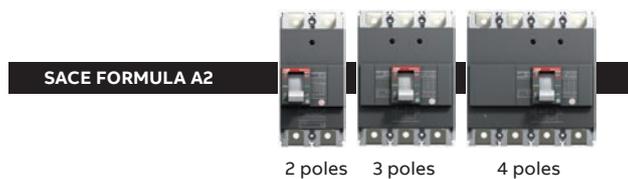
General characteristics

- Conforms to IEC 60947-2
- Fixed thermal magnetic release throughout the range
- Compact dimensions
- Common range of accessories
- Available in 1P, 2P, 3P & 4 pole versions
- Line-load reversibility
- Suitable for DC application till 250Vdc
- Operation voltage till 550VAC, insulation voltage of 690VAC and impulse voltage of 6KV



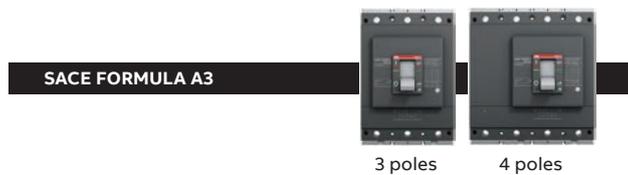
FORMULA A1

- Rated current, In 15...125A
- 1, 2, 3, 4 pole versions
- Icu = 10, 18, 25, 36KA



FORMULA A2

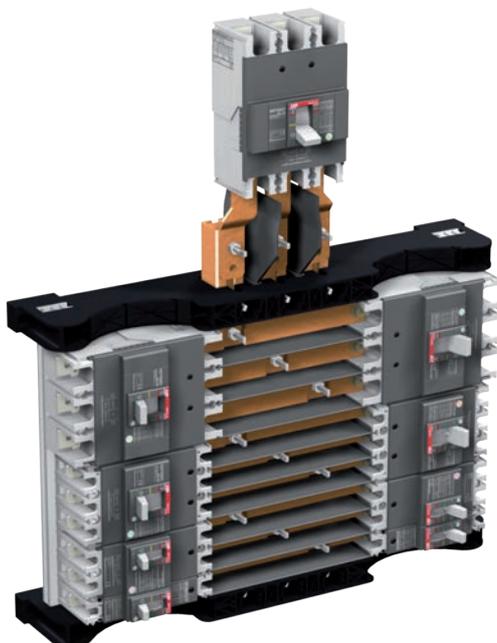
- Rated current, In 125...250A
- 2, 3, 4 pole versions
- Icu = 18, 25, 36KA



FORMULA A3

- Rated current, In 320...630A
- 3, 4 pole versions
- Icu = 36, 50KA

FORMULA link system



- FORMULA link in accordance with IEC 61439 Standard
- FORMULA link is a component of a power distribution system which divides the main power supply over different users
- The FORMULA link is characterised on the supply side by a main circuit-breaker which protects the whole distribution system, and on the load side by smaller sized circuit-breakers, dedicated to the individual users
- FORMULA link assembly for total discrimination between upstream and downstream devices

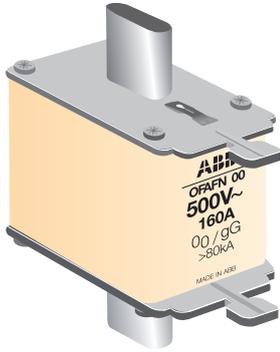
FORMULA link - Electrical characteristics

| FORMULA link frame | [A] | 250 | 400 | 630/800 |
|---|------|-------|-------|---------|
| Incoming breaker | | A2 | A3 | T6 |
| Outgoing breaker | | A1 | A1-A2 | A1-A2 |
| Rated operational voltage 50/60 Hz | [V] | 550AC | 550AC | 550AC |
| Rated insulation voltage | [V] | 690AC | 690AC | 690AC |
| Rated short time withstand current (1s) | [KA] | 30 | 40 | 40 |

OFAF HRC fuse links and base, DIN-type

DIN -type fuse links, gG, 500 V, 80 kA

The ordering code includes one fuse link, the delivery batch is according to the column.



| Fuse size | Rated current In (A) | Description | Delivery batch [pcs] | Ordering code | L.P. (₹) |
|-----------|----------------------|--------------|----------------------|-------------------|----------|
| 000 | 2 | OFAFN000GG2 | 6 | 1SCA107747R1001 ■ | 500 |
| | 6 | OFAFN000GG6 | 6 | 1SCA107748R1001 ■ | |
| | 10 | OFAFN000GG10 | 6 | 1SCA107749R1001 ■ | |
| | 16 | OFAFN000GG16 | 6 | 1SCA107750R1001 ■ | |
| | 20 | OFAFN000GG20 | 6 | 1SCA107751R1001 ■ | |
| | 25 | OFAFN000GG25 | 6 | 1SCA107751R1002 ■ | |
| | 32 | OFAFN000GG32 | 6 | 1SCA107752R1001 ■ | |
| 00 | 63 | OFAFN000GG63 | 6 | 1SCA107753R1001 ■ | 810 |
| | 6 | OFAFN00GG6 | 6 | 1SCA107754R1001 | |
| | 10 | OFAFN00GG10 | 6 | 1SCA107755R1001 | |
| | 16 | OFAFN00GG16 | 6 | 1SCA107756R1001 | |
| | 20 | OFAFN00GG20 | 6 | 1SCA107757R1001 | |
| | 25 | OFAFN00GG25 | 6 | 1SCA107758R1001 | |
| | 32 | OFAFN00GG32 | 6 | 1SCA107759R1001 ■ | |
| | 50 | OFAFN00GG50 | 6 | 1SCA107760R1001 ■ | |
| | 63 | OFAFN00GG63 | 6 | 1SCA107761R1001 ■ | |
| | 80 | OFAFN00GG80 | 6 | 1SCA107762R1001 ■ | |
| | 100 | OFAFN00GG100 | 6 | 1SCA107763R1001 ■ | |
| 0 | 125 | OFAFN00GG125 | 6 | 1SCA107764R1001 ■ | 1,530 |
| | 160 | OFAFN00GG160 | 6 | 1SCA107765R1001 ■ | |
| 0 | 160 | OFAF0H160 | 3 | 1SCA022627R3170 | 1,530 |
| | 200 | OFAF0H200 | 3 | 1SCA022629R5140 ■ | |
| 1 | 32 | OFAFN1GG32 | 6 | 1SCA107766R1001 | 1,160 |
| | 50 | OFAFN1GG50 | 6 | 1SCA107767R1001 | 1,050 |
| | 63 | OFAFN1GG63 | 6 | 1SCA107768R1001 | |
| | 80 | OFAFN1GG80 | 6 | 1SCA107769R1001 | |
| | 100 | OFAFN1GG100 | 6 | 1SCA107770R1001 | |
| | 125 | OFAFN1GG125 | 6 | 1SCA107771R1001 | 1,080 |
| | 160 | OFAFN1GG160 | 6 | 1SCA107772R1001 ■ | |
| | 200 | OFAFN1GG200 | 3 | 1SCA107773R1001 ■ | |
| 2 | 250 | OFAFN1GG250 | 3 | 1SCA107774R1001 ■ | 1,660 |
| | 100 | OFAFN2GG100 | 3 | 1SCA107775R1001 | |
| | 125 | OFAFN2GG125 | 3 | 1SCA107776R1001 | |
| | 250 | OFAFN2GG250 | 3 | 1SCA107778R1001 | |
| | 315 | OFAFN2GG315 | 3 | 1SCA107779R1001 ■ | |
| 3 | 400 | OFAFN2GG400 | 3 | 1SCA107780R1001 ■ | 2,730 |
| | 315 | OFAFN3GG315 | 3 | 1SCA107781R1001 | |
| | 500 | OFAFN3GG500 | 3 | 1SCA107783R1001 ■ | |
| | 630 | OFAFN3GG630 | 3 | 1SCA107784R1001 ■ | |
| 4 | 800 | OFAFN3GG800 | 3 | 1SCA107785R1001 ■ | 2,850 |
| | 1250 | OFAF4H1250 | 1 | 1SCA022627R7830 | 2,960 |
| 4a | 1250 | OFAF4AH1250 | 1 | 1SCA022637R4360 | 49,190 |



| Fuse size | Rated current In (A) | Description | Ordering code | L.P. (₹) |
|-----------|----------------------|-------------|-------------------|----------|
| 00 | 160 | | 1SCA833001R2001 ■ | 620 |
| 1 | 250 | Fuse Base - | 1SCA833001R2002 ■ | 1,240 |
| 2 | 400 | DIN type | 1SCA833001R2003 ■ | 2,110 |
| 3 | 630 | | 1SCA833001R2004 ■ | 2,800 |

■ Stock items

OFF HRC fuse links and base, BS-type

BS -type fuse links, gG, 415 V, 80 kA

The type code includes one fuse link, but the delivery batch is according to the column.



| Fuse size | Rated current In [A] | Description | Delivery batch [pcs] | Ordering code | L.P. (₹) |
|-------------------------------------|----------------------|-------------|----------------------|-------------------|----------|
| Offset blade tag fuse link | | | | | |
| F1 | 2 | OFFNF1GG2 | 10 | 1SCA107786R1001 ■ | 150 |
| | 4 | OFFNF1GG4 | 10 | 1SCA107787R1001 ■ | |
| | 6 | OFFNF1GG6 | 10 | 1SCA107788R1001 ■ | |
| | 10 | OFFNF1GG10 | 10 | 1SCA107789R1001 ■ | |
| | 16 | OFFNF1GG16 | 10 | 1SCA107790R1001 ■ | |
| | 20 | OFFNF1GG20 | 10 | 1SCA107791R1001 ■ | |
| | 25 | OFFNF1GG25 | 10 | 1SCA107792R1001 ■ | |
| | 32 | OFFNF1GG32 | 10 | 1SCA107793R1001 ■ | 160 |
| Offset bolted tag fuse link | | | | | |
| A2 | 6 | OFFNA2GG6 | 10 | 1SCA107795R1001 | 230 |
| | 10 | OFFNA2GG10 | 10 | 1SCA107796R1001 | |
| | 16 | OFFNA2GG16 | 10 | 1SCA107798R1001 | |
| | 20 | OFFNA2GG20 | 10 | 1SCA107827R1001 | |
| | 25 | OFFNA2GG25 | 10 | 1SCA107800R1001 | |
| | 32 | OFFNA2GG32 | 10 | 1SCA107801R1001 ■ | |
| A3 | 40 | OFFNA3GG40 | 10 | 1SCA107803R1001 ■ | 290 |
| | 50 | OFFNA3GG50 | 10 | 1SCA107804R1001 | |
| | 63 | OFFNA3GG63 | 10 | 1SCA107805R1001 ■ | |
| A4 | 50 | OFFNA4GG50 | 10 | 1SCA107806R1001 | 560 |
| | 63 | OFFNA4GG63 | 10 | 1SCA107807R1001 | |
| | 80 | OFFNA4GG80 | 10 | 1SCA107808R1001 | |
| | 100 | OFFNA4GG100 | 10 | 1SCA107809R1001 ■ | |
| | 125 | OFFNA4GG125 | 10 | 1SCA107810R1001 ■ | |
| Central bolted tag fuse link | | | | | |
| B1 | 50 | OFFNB1GG50 | 10 | 1SCA107811R1001 | 660 |
| | 63 | OFFNB1GG63 | 10 | 1SCA107812R1001 | |
| | 80 | OFFNB1GG80 | 10 | 1SCA107813R1001 | |
| | 100 | OFFNB1GG100 | 10 | 1SCA107814R1001 | |
| B2 | 125 | OFFNB2GG125 | 10 | 1SCA107816R1001 | 880 |
| | 160 | OFFNB2GG160 | 5 | 1SCA107817R1001 ■ | |
| | 200 | OFFNB2GG200 | 5 | 1SCA107818R1001 ■ | |
| B3 | 250 | OFFNB3GG250 | 1 | 1SCA107819R1001 ■ | 1,530 |
| | 315 | OFFNB3GG315 | 1 | 1SCA107820R1001 | 1,650 |
| B4 | 400 | OFFNB4GG400 | 1 | 1SCA107822R1001 | 1,950 |
| C1 | 400 | OFFNC1GG400 | 1 | 1SCA107823R1001 | 3,750 |
| C2 | 500 | OFFNC2GG500 | 1 | 1SCA107824R1001 | 4,260 |
| C2 | 630 | OFFNC2GG630 | 1 | 1SCA107825R1001 | |
| C3 | 800 | OFFNC3GG800 | 1 | 1SCA107826R1001 | |



| Fuse size | Rated current In [A] | Description | Delivery batch [pcs] | Ordering code | L.P. (₹) |
|-----------|----------------------|--------------|----------------------|-------------------|----------|
| F1 | 20 | Control Fuse | 100 | 1SYN833001R2005 ■ | 220 |
| | 32 | Base | 100 | 1SYN833001R2009 ■ | 280 |

OESA/OS switch disconnecter fuse, DIN-type

DIN type

32 - 800A SDF supplied with shaft and handle, Mechanism at the end of the switch fuse



| Rated current In [A] | Poles | Recommend Fuse size | Description | Ordering code | L.P. (₹) | |
|----------------------|---|-------------------------|-------------------|-------------------|-------------------|-------|
| 32 | 2 | 000/ 00 | OESA0032D2 | 1SYN790290P0492 | 3,330 | |
| 63 | | | OESA0063D2 | 1SYN790290P0496 | 4,450 | |
| 100 | | 00 | OESA00100D2 | 1SYN790290P0508 | 7,850 | |
| 125 | | | OESA125D2 | 1SYN790290P0511 | 10,470 | |
| 160 | | OESA00160D2 | 1SYN790290P0503 | 11,900 | | |
| 200 | | 0 | OS200D02P | 1SCA022759R9220 | 15,320 | |
| 250 | | 0-1 | OS250D02P | 1SCA022760R0170 | 18,580 | |
| 315 | | 0-2 | OS315D02P | 1SYN833040R2012 | 22,900 | |
| 400 | | | OS400D02P | 1SCA022811R2740 | 26,210 | |
| 630 | | 3 | OS630D02P | 1SCA107745R1001 | 44,640 | |
| 800 | | | OS800D02P | 1SCA022837R2650 | 52,580 | |
| 1250 | | 4 | OS1250D02P | 1SCA114051R1001 | Upon request | |
| 32 | | 3 | 000/ 00 | OESA00-32 | 1SYN790290P0493 ■ | 3,670 |
| 63 | | | | OESA 00-63 | 1SYN790290P0497 ■ | 5,010 |
| 100 | 00 | | OESA00100 | 1SYN790290P0509 ■ | 9,430 | |
| 125 | | | OESA 00125 | 1SYN790290P0500 ■ | 12,640 | |
| 160 | OESA00-160 | | 1SYN790290P0504 ■ | 13,520 | | |
| 200 | 0 | | OS200D03P | 1SYN022709R9500 ■ | 17,740 | |
| 250 | 0-1 | | OS250D03P | 1SYN022719R0090 | 21,260 | |
| 315 | 0-2 | | OS315D03P | 1SYN953046P3001 ■ | 27,700 | |
| 400 | | | OS400D03P | 1SYN022719R0250 ■ | 31,740 | |
| 630 | 3 | | OS630D03P | 1SYN022825R2830 ■ | 49,070 | |
| 800 | | | OS800D03P | 1SYN022825R4880 ■ | 54,200 | |
| 1250 | 4 | | OS1250D03P | 1SCA105475R1001 | Upon request | |
| 32 | TPN Neutral in mechanism (Wrapped) | | 000/ 00 | OESA0032N ■ | 1SYN790290P0494 | 3,490 |
| 63 | | | | OESA0063N ■ | 1SYN790290P0498 | 4,710 |
| 100 | | 00 | OESA00100N ■ | 1SYN790290P0499 | 7,790 | |
| 125 | | | OESA00125N ■ | 1SYN790290P0501 | 13,350 | |
| 160 | | OESA00160N ■ | 1SYN790290P0505 | 14,920 | | |
| 200 | | 0 | OS200D03N3P | 1SYN022749R8710 ■ | 19,190 | |
| 250 | | 0-1 | OS250D03N3P | 1SYN022749R9430 ■ | 22,330 | |
| 315 | | 0-2 | OS315D03N3P | 1SYN953047P3001 ■ | 29,380 | |
| 400 | | | OS400D03N3P | 1SYN022753R9320 ■ | 33,090 | |
| 630 | | 3 | OS630D03N3P | 1SYN100858R1001 ■ | 54,820 | |
| 800 | | | OS800D03N3P | 1SYN100859R1001 ■ | 61,430 | |
| 1250 | | 4 | OS1250D03N3P | 1SCA107932R1001 | Upon request | |
| 32 | | 4 (Solid Neutral) | 000/ 00 | OESA 00-32A4 | 1SYN790290P0495 | 4,140 |
| 63 | | | | OESA 00-63A4 | 1SYN790290P0507 ■ | 5,570 |
| 100 | 00 | | OESA00100A4 | 1SYN790290P0510 | 9,200 | |
| 125 | | | OESA00125A4 | 1SYN790290P0502 | 14,720 | |
| 160 | OESA 00-160A4 | | 1SYN790290P0506 | 15,980 | | |
| 200 | 0 | | OS200D04N2P | 1SYN022709R9680 | 22,960 | |
| 250 | 0-1 | | OS250D04N2P | 1SYN022719R2380 | 26,430 | |
| 315 | 0-2 | | OS315D04N2P | 1SYN953048P3001 ■ | 33,330 | |
| 400 | | | OS400D04N2P | 1SYN022719R2460 ■ | 36,550 | |
| 630 | 3 | | OS630D04N2P | 1SYN022825R4290 ■ | 61,800 | |
| 800 | | | OS800D04N2P | 1SYN022825R5180 ■ | 70,880 | |
| 1250 | 4 | | OS1250D04N2P | 1SCA105248R1001 | Upon request | |

Notes:
4th pole of all SFU's are 100% rated and are in the switched neutral (SN) version.

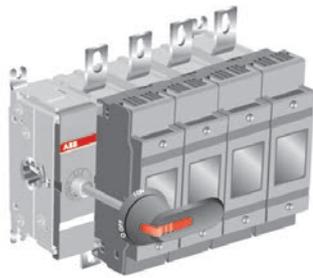
- Contact our nearest sales office:
- For mechanism in between poles configuration
 - For motorized switch disconnecter fuse requirement
 - For 4th pole with fuse protection
 - For Switch disconnecter fuse with direct mounting handle

OESA/OS switch disconnecter fuse, BS-type

BS

32 - 800A SDF supplied with shaft and handle

Mechanism at the end of the switch fuse



| Rated current In [A] | Poles | Recommend Fuse size | Description | Ordering code | L.P. (₹) |
|----------------------|-------|---------------------|--------------|-------------------|--------------|
| 32 | 2 | A2 | OESA32G2 | 1SYN790290P0512 | 2,950 |
| 63 | | A3 | OESA63G2 | 1SYN790290P0516 | 4,320 |
| 100 | | A4 | OESA100G2 | 1SYN790290P0520 | 8,470 |
| 125 | | | OESA125G2 | 1SYN790290P0524 | 9,770 |
| 160 | | B2 | OESA160B2 | 1SYN790290P0528 | 11,280 |
| 200 | | B1-B2 | OS200B02P | 1SCA022769R7820 | 16,370 |
| 250 | | B1-B3 | OS250B02P | 1SCA022769R9440 | 17,880 |
| 315 | | B1-B4 | OS315B02P | 1SCA022817R3450 | 22,780 |
| 400 | | | OS400B02P | 1SCA022813R7220 | 24,070 |
| 630 | | C1-C2 | OS630B02P | 1SCA113529R1001 | 43,400 |
| 800 | | C1-C3 | OS800B02P | 1SCA022837R6480 | 50,820 |
| 1250 | | D1 | OS1250B02P | 1SCA114070R1001 | Upon request |
| 32 | 3 | A2 | OESA32G1 | 1SYN790290P0513 | 3,560 |
| 63 | | A3 | OESA63G1 | 1SYN790290P0517 ■ | 4,830 |
| 100 | | A4 | OESA100G1 | 1SYN790290P0521 ■ | 9,280 |
| 125 | | | OESA125G1 | 1SYN790290P0525 | 11,750 |
| 160 | | B2 | OESA160B3 | 1SYN790290P0529 | 12,810 |
| 200 | | B1-B2 | OS200B03P | 1SYN022709R9330 | 15,750 |
| 250 | | B1-B3 | OS250B03P | 1SYN022750R6660 | 19,350 |
| 315 | | B1-B4 | OS315B03P | 1SYN022719R0680 | 27,510 |
| 400 | | | OS400B03P | 1SYN022719R0840 | 28,570 |
| 630 | | C1-C2 | OS630B03P | 1SYN022825R5850 | 49,610 |
| 800 | | C1-C3 | OS800B03P | 1SYN022825R7550 | 61,430 |
| 1250 | | D1 | OS1250B03P | 1SCA105250R1001 | Upon request |
| 32 | TPN | A2 | OESA32G1N ■ | 1SYN790290P0514 ■ | 3,830 |
| 63 | | A3 | OESA63G1N ■ | 1SYN790290P0518 ■ | 5,110 |
| 100 | | A4 | OESA100G1N ■ | 1SYN790290P0522 ■ | 10,160 |
| 125 | | | OESA125G1N ■ | 1SYN790290P0526 ■ | 12,870 |
| 160 | | B2 | OESA160B3N ■ | 1SYN790290P0530 | 13,750 |
| 200 | | B1-B2 | OS200B03N3P | 1SYN022750R0620 ■ | 19,150 |
| 250 | | B1-B3 | OS250B03N3P | 1SYN022750R8010 ■ | 22,700 |
| 315 | | B1-B4 | OS315B03N3P | 1SYN022753R8940 | 28,210 |
| 400 | | | OS400B03N3P | 1SYN022753R9160 | 31,860 |
| 630 | | C1-C2 | OS630B03N3P | 1SYN100860R1001 | 55,240 |
| 800 | | C1-C3 | OS800B03N3P | 1SYN100861R1001 | 61,880 |
| 1250 | | D1 | OS1250B03N3P | 1SCA107936R1001 | Upon request |
| 32 | 4 | A2 | OESA32G4 | 1SYN790290P0515 | 4,210 |
| 63 | | A3 | OESA63G4 | 1SYN790290P0519 | 5,620 |
| 100 | | A4 | OESA100G4 | 1SYN790290P0523 | 13,200 |
| 125 | | | OESA125G4 ■ | 1SYN790290P0527 | 15,150 |
| 160 | | B2 | OESA160B4 | 1SYN790290P0531 | 16,900 |
| 200 | | B1-B2 | OS200B04N2P | 1SYN022709R9410 | 23,610 |
| 250 | | B1-B3 | OS250B04N2P | 1SYN022750R7800 | 27,080 |
| 315 | | | OS315B04N2P | 1SYN022719R2710 | 34,800 |
| 400 | | B1-B4 | OS400B04N2P | 1SYN022719R2890 | 38,520 |
| 630 | | C1-C2 | OS630B04N2P | 1SYN022825R6230 | 65,270 |
| 800 | | C1-C3 | OS800B04N2P | 1SYN022825R8010 | 73,430 |
| 1250 | | D1 | OS1250B04N2P | 1SCA105469R1001 | Upon request |

Note:
4th pole of all SFU's are 100% rated and are in the switched neutral (SN) version.

- Contact our nearest sales office:
- For 1250A switch disconnecter fuse requirement
 - For mechanism in between poles configuration
 - For motorized switch disconnecter fuse requirement
 - For 4th pole with fuse protection

■ Stock items

Accessories for OESA/OS switch disconnecter fuse, 32..800 A



Phase barriers

| Frame | Pole | Height (mm) | Description | Ordering code | L.P. (₹) |
|-------------|------|-------------|-------------|----------------|----------|
| OS200...400 | 3 | 100 | PB100 low | 1SDA054970R1 ■ | 1,650 |
| | 4 | 100 | PB100 low | 1SDA054971R1 ■ | 2,350 |



Auxiliary contacts

| Frame | Contact function | Description | Ordering Code | L.P. (₹) |
|---|------------------|-------------|-------------------|----------|
| OESA 32...160 | 1NO+1NC | OESAZX 15 | 1SYN790290P0532 | 800 |
| | 2NO+2NC | OESAZX 16 | 1SYN790290P0533 | 1,520 |
| OS200...800 | 1NO | OA1G10 | 1SCA022353R4970 | 830 |
| | 1NC | OA3G01 | 1SCA022456R7410 | 920 |
| Screw mounting to the left side of the switch | | OEA28 | 1SCA022714R8810 ■ | 1,090 |

Note: OEA 28 has to be order along with 200 & 250A TPN switch only

Fuse monitor

| Frame | Rated voltage [Vac] | Description | Ordering code | L.P. (₹) |
|-------------|---------------------|-------------|-----------------|----------|
| OS200...800 | 100...260 | OFS260 | 1SCA022716R0180 | 11,060 |
| | 380...690 | OFS690 | 1SCA022715R9920 | 11,310 |



Wrapped neutral link

| Frame | Description | Ordering code | L.P. (₹) |
|---------------|-------------|-----------------|----------|
| OESA32...63 | OESAZX87 | 1SYN790290P0534 | 730 |
| OESA100 | OESAZX 86/1 | 1SYN790290P0535 | 1,270 |
| OESA125...160 | OESAZX86 | 1SYN790290P0536 | 1,390 |
| OS200...250 | OXN250 | 1SCA022752R9950 | 6,300 |
| OS315...400 | OXN400 | 1SCA022770R3060 | 16,440 |
| OS630...800 | OXN800S | 1SCA022831R4880 | 18,840 |



Handle adaptor

| Frame | Description | Ordering code | L.P. (₹) |
|-----------------|-------------|-----------------|----------|
| OHB145...OHB175 | OHBZX200 | 1SCA125960R1001 | 1,880 |

Handles

| Frame | Description | Ordering code | L.P. (₹) |
|---------------|-------------|-------------------|----------|
| OESA32...63 | YASDB51 | 1SYN790290P0537 | 1,170 |
| OESA100...160 | YASDB10 | 1SYN790290P0538 | 1,740 |
| OS200...250 | OHB80J6 | 1SCA022381R0240 ■ | 2,270 |
| OS315...400 | OHB145J12 | 1SCA022381R2110 | 2,920 |
| OS630...800 | OHB175J12 | 1SCA022381R2450 | 3,290 |



Shaft

| Frame | Description | Ordering code | L.P. (₹) |
|-----------------|-------------|-----------------|----------|
| OESA/OS32...250 | OXP6X210 | 1SCA022295R6080 | 610 |
| OS315...400 | OXP12X250 | 1SCA022325R6980 | 1,210 |
| OS630...800 | OXP12X280 | 1SCA022137R5140 | 1,500 |



Fuse covers for OESA switch disconnecter fuse

| Frame | Type | Description | Ordering code | L.P. (₹) |
|-----------|------|-------------|-----------------|----------|
| 32...63 | DIN | | 1SYN833035R2012 | 140 |
| 32...63 | BS | Fuse cover | 1SYN833036R2012 | 140 |
| 100...160 | DIN | | 1SYN833037R2012 | 150 |

Note: Ordering code mentioned above for fuse cover is per piece

■ Stock items

OT Plus Switch disconnectors NEW

One giant leap to progress



OTG3...100G2-3BS



OTG3...100G2-4BSN2



OT100...160G3-3BS



OT63...100G2-3DS



OT63...100G2-4DSN2



OT100...160G3-3DS

Front operated switch disconnectors, base and DIN-rail mounting with screw terminals.

Including padlockable direct mounted handle, and protected terminal clamps

Power Distribution <415VAC

| Rated current In [A] | Pole | Frame size | Description | Ordering code | L.P.(₹) |
|----------------------|------|------------|---------------|-----------------|--------------|
| 63 | 3 | G2 | OT63G2-3BS | 1SCA162548R1001 | Upon request |
| 80 | | G2 | OT80G2-3BS | 1SCA162549R1001 | |
| 100 | | G2 | OT80G2-3BS | 1SCA162547R1001 | |
| 100 | | G3 | OT100G3-3BS | 1SCA162507R1001 | |
| 125 | | G3 | OT125G3-3BS | 1SCA162521R1001 | |
| 160 | 4 | G3 | OT160G3-3BS | 1SCA162522R1001 | Upon request |
| 63 | | G2 | OT63G2-4BSN2 | 1SCA162559R1001 | |
| 80 | | G2 | OT80G2-4BSN2 | 1SCA162561R1001 | |
| 100 | | G2 | OT100G2-4BSN2 | 1SCA162557R1001 | |
| 100 | | G3 | OT100G3-4BSN2 | 1SCA162513R1001 | |
| 125 | | G3 | OT125G3-4BSN2 | 1SCA162526R1001 | |
| 160 | | G3 | OT160G3-4BSN2 | 1SCA162528R1001 | |

Motor loads <415VAC

| Rated current In [A] | Pole | Frame size | Description | Ordering code | L.P.(₹) |
|----------------------|------|------------|---------------|-----------------|--------------|
| 63 | 3 | G2 | OT63G2-3BS | 1SCA162548R1001 | Upon request |
| 80 | | G2 | OT80G2-3BS | 1SCA162549R1001 | |
| 100 | | G3 | OT100G3-3BS | 1SCA162507R1001 | |
| 125 | | G3 | OT125G3-3BS | 1SCA162521R1001 | |
| 63 | | 4 | G2 | OT63G2-4BSN2 | |
| 80 | G2 | | OT80G2-4BSN2 | 1SCA162561R1001 | |
| 100 | G3 | | OT100G3-4BSN2 | 1SCA162513R1001 | |
| 125 | G3 | | OT125G3-4BSN2 | 1SCA162526R1001 | |

Door mounted switch disconnectors, with screw terminals

Including protected terminal clamps IP20 from front. External operating handle and shaft are not included.

Power Distribution <415VAC

| Rated current In [A] | Pole | Frame size | Description | Ordering code | L.P.(₹) |
|----------------------|------|------------|---------------|-----------------|--------------|
| 63 | 3 | G2 | OT63G2-3DS | 1SCA162567R1001 | Upon request |
| 80 | | G2 | OT80G2-3DS | 1SCA162569R1001 | |
| 100 | | G2 | OT100G2-3DS | 1SCA162565R1001 | |
| 100 | | G3 | OT100G3-3DS | 1SCA162515R1001 | |
| 125 | | G3 | OT125G3-3DS | 1SCA162531R1001 | |
| 160 | 4 | G3 | OT160G3-3DS | 1SCA162532R1001 | Upon request |
| 63 | | G2 | OT63G2-4DSN2 | 1SCA162568R1001 | |
| 80 | | G2 | OT80G2-4DSN2 | 1SCA162570R1001 | |
| 100 | | G2 | OT100G2-4DSN2 | 1SCA162566R1001 | |
| 100 | | G3 | OT100G3-4DSN2 | 1SCA162518R1001 | |
| 125 | | G3 | OT125G3-4DSN2 | 1SCA162535R1001 | |
| 160 | | G3 | OT160G3-4DSN2 | 1SCA162536R1001 | |

Motor loads <415VAC

| Rated current In [A] | Pole | Frame size | Description | Ordering code | L.P.(₹) |
|----------------------|------|------------|---------------|-----------------|--------------|
| 63 | 3 | G2 | OT63G2-3DS | 1SCA162567R1001 | Upon request |
| 80 | | G2 | OT80G2-3DS | 1SCA162569R1001 | |
| 100 | | G3 | OT100G3-3DS | 1SCA162515R1001 | |
| 125 | | G3 | OT125G3-3DS | 1SCA162531R1001 | |
| 63 | | 4 | G2 | OT63G2-4DSN2 | |
| 80 | G2 | | OT80G2-4DSN2 | 1SCA162570R1001 | |
| 100 | G3 | | OT100G3-4DSN2 | 1SCA162518R1001 | |
| 125 | G3 | | OT125G3-4DSN2 | 1SCA162535R1001 | |

OT switch disconnectors



Front operated switch-disconnectors with direct knob type handle

| Rated current In [A] | Pole | Description | Ordering code | L.P.(₹) | Pole | Description | Ordering code | L.P.(₹) |
|----------------------|------|-------------|-------------------|---------|------|-------------|-----------------|---------|
| 16 | | OT16F3 | 1SCA104811R1001 | 1,700 | | OT16F4N2 | 1SCA104829R1001 | 2,110 |
| 25 | | OT25F3 | 1SCA104857R1001 ■ | 1,770 | | OT25F4N2 | 1SCA104886R1001 | 2,210 |
| 40 | | OT40F3 | 1SCA104902R1001 | 2,010 | | OT40F4N2 | 1SCA104932R1001 | 2,490 |
| 63 | 3 | OT63F3 | 1SCA105332R1001 | 2,170 | 4 | OT63F4N2 | 1SCA105365R1001 | 2,920 |
| 80 | | OT80F3 | 1SCA105798R1001 | 4,280 | | OT80F4N2 | 1SCA105413R1001 | 5,350 |
| 100 | | OT100F3 | 1SCA105004R1001 | 5,880 | | OT100F4N2 | 1SCA105018R1001 | 7,360 |
| 125 | | OT125F3 | 1SCA105033R1001 | 6,020 | | OT125F4N2 | 1SCA105051R1001 | 7,500 |

Door mounted switch-disconnectors with snap on and screw type mounting Handle for screw and snap on mounting to be ordered separately



| Rated current In [A] | Pole | Description | Ordering code | L.P.(₹) | Pole | Description | Ordering code | L.P.(₹) |
|----------------------|------|-------------|-------------------|---------|------|-------------|-----------------|---------|
| 16 | | OT16FT3 | 1SCA104838R1001 ■ | 1,870 | | OT16FT4N2 | 1SCA105711R1001 | 2,320 |
| 25 | | OT25FT3 | 1SCA104884R1001 | 2,310 | | OT25FT4N2 | 1SCA104900R1001 | 2,890 |
| 40 | | OT40FT3 | 1SCA104940R1001 ■ | 2,770 | | OT40FT4N2 | 1SCA104956R1001 | 3,460 |
| 63 | 3 | OT63FT3 | 1SCA105382R1001 | 3,820 | 4 | OT63FT4N2 | 1SCA105393R1001 | 4,780 |
| 80 | | OT80FT3 | 1SCA105431R1001 | 4,710 | | OT80FT4N2 | 1SCA105499R1001 | 5,880 |
| 100 | | OT100FT3 | 1SCA105023R1001 | 7,840 | | OT100FT4N2 | 1SCA105031R1001 | 9,780 |
| 125 | | OT125FT3 | 1SCA105060R1001 | 9,990 | | OT125FT4N2 | 1SCA105066R1001 | 12,520 |

OT switch disconnector accessories 16..160 A

Screw mounting, hole distance 36 mm

Padlockable with max. 3 padlocks, IP65, hole distance 36/48 mm, NEMA 1, 3R, 12



Accessories for OT 16..125 F, OT63...100G2-BS, OT30...160G3-BS

| Frame | Description | Ordering code | L.P. (₹) |
|-------------------------------|--------------|---------------|----------|
| OT 16..125F, OT63...100G2-BS, | Black | OHBS2AJ | 880 |
| OT30...160G3-BS | Red - yellow | OHYS2AJ | 1050 |

Accessories for OT 16..125 FT OT63...100G2-DS, OT30...160G3-DS

| Frame | Description | Ordering code | L.P. (₹) |
|--------------------------------|--------------|---------------|----------|
| OT 16..125FT, OT63...100G2-DS, | Black | OHBS2RJ | 1,020 |
| OT30...160G3-DS | Red - yellow | OHYS2RJ | 1,120 |

Note:

For any different arrangement, kindly contact our nearest sales office.

Shafts

Suitable for all the switches in this section, OT16...125F OT63...100G2-BS, OT30...160G3-BS



| Frame | Description | Ordering code | L.P. (₹) |
|------------------------------|-------------|-------------------|----------|
| OT16...125F OT63...100G2-BS, | OXS6X130 | 1SCA101655R1001 ■ | 700 |
| OT30...160G3-BS | | | |

■ Stock items

OT switch disconnectors

Front operated switch-disconnectors

OT 16A-3200A switch disconnector supplied with extended shaft and IP 65 pistol type handle



Contact our nearest sales office:

- For Door mounted switch disconnector
- For different configuration of Shaft and Handle (selector type)
- For 6 & 8 pole switch disconnector requirement
- 1 pole switch disconnector also available on request



Note:

Contact our nearest sales office

- For requirement of motorized isolators
- For mechanism in between poles configuration
- For switch disconnector with direct mounted handle
- For side operated switches

| Rated current In [A] | Poles | Description | Ordering code | L.P. (₹) | |
|----------------------|------------|-----------------|-------------------|-----------------|-------|
| 160 | 2 | OT160EV02P | 1SCA120508R1001 | 8,990 | |
| 200 | | OT200E02P | 1SCA022751R1400 | 9,540 | |
| 250 | | OT250E02P | 1SCA022735R2500 | 11,770 | |
| 315 | | OT315E02P | 1SCA022866R5590 | 13,530 | |
| 400 | | OT400E02P | 1SCA022741R7210 | 18,240 | |
| 630 | | OT630E02P | 1SCA022866R5670 | 22,860 | |
| 800 | | OT800E02P | 1SCA022835R4830 | 28,220 | |
| 1000 | | OT1000E02P | 1SCA105795R1001 | 61,020 | |
| 1250 | | OT1250E02P | 1SCA106136R1001 | 74,600 | |
| 1600 | | OT1600E02P | 1SCA106142R1001 | 1,01,300 | |
| 2000 | | OT2000E02P | 1SCA120025R1001 | 1,26,600 | |
| 2500 | | OT2500E02P | 1SCA113956R1001 | 1,58,250 | |
| 3200 | OT3200E02P | 1SCA128581R1001 | 2,27,890 | | |
| 4000 | OT4000E02P | 1SCA128595R1001 | 2,65,870 | | |
| 16 | 3 | OT16F3 | 1SYN104811R1001 ■ | 3,180 | |
| 25 | | OT25F3 | 1SYN104857R1001 ■ | 3,220 | |
| 40 | | OT40F3 | 1SYN104902R1001 ■ | 3,340 | |
| 63 | | OT63F3 | 1SYN105332R1001 ■ | 3,370 | |
| 80 | | OT80F3 | 1SYN105798R1001 ■ | 5,400 | |
| 100 | | OT100F3 | 1SYN105004R1001 ■ | 7,200 | |
| 125 | | OT125F3 | 1SYN105033R1001 ■ | 7,330 | |
| 160 | | OT160G03P | 1SCA135139R1001 | 9,300 | |
| 160 | | OT160EV03P | 1SCA120514R1001 ■ | 9,950 | |
| 200 | | OT200E03P | 1SCA022712R0800 ■ | 10,910 | |
| 250 | | OT250E03P | 1SCA022710R0100 ■ | 13,960 | |
| 315 | | OT315E03P | 1SCA022718R8510 ■ | 19,170 | |
| 400 | | OT400E03P | 1SCA022718R8780 ■ | 21,430 | |
| 630 | | OT630E03P | 1SCA022718R8940 ■ | 25,090 | |
| 800 | | OT800E03P | 1SCA022718R9410 ■ | 31,340 | |
| 1000 | | OT1000E03P | 1SCA022860R5930 ■ | 60,180 | |
| 1250 | | OT1250E03P | 1SCA022860R6230 ■ | 78,280 | |
| 1600 | | OT1600E03P | 1SCA022860R6580 ■ | 1,06,330 | |
| 2000 | | OT2000E03P | 1SCA108036R1001 | 1,37,870 | |
| 2500 | | OT2500E03P | 1SCA104972R1001 ■ | 1,87,230 | |
| 3200 | | OT3200E03P | 1SCA128481R1001 | 2,57,790 | |
| 4000 | | OT4000E03P | 1SCA124848R1001 | 2,83,830 | |
| 16 | | 4 | OT16F4N2 | 1SYN104829R1001 | 3,410 |
| 25 | | | OT25F4N2 | 1SYN104886R1001 | 3,560 |
| 40 | OT40F4N2 | | 1SYN104932R1001 ■ | 3,630 | |
| 63 | OT63F4N2 | | 1SYN105365R1001 | 4,140 | |
| 80 | OT80F4N2 | | 1SYN105413R1001 ■ | 7,090 | |
| 100 | OT100F4N2 | | 1SYN105018R1001 ■ | 7,630 | |
| 125 | OT125F4N2 | | 1SYN105051R1001 ■ | 7,870 | |
| 160 | OT160G04P | | 1SCA135140R1001 | 12,770 | |
| 160 | OT160EV04P | | 1SCA120521R1001 ■ | 13,960 | |
| 200 | OT200E04P | | 1SCA022713R4930 ■ | 14,260 | |
| 250 | OT250E04P | | 1SCA022710R0520 ■ | 16,270 | |
| 315 | OT315E04P | | 1SCA022719R1730 ■ | 21,660 | |
| 400 | OT400E04P | | 1SCA022719R1810 ■ | 23,090 | |
| 630 | OT630E04P | | 1SCA022719R2030 ■ | 29,790 | |
| 800 | OT800E04P | | 1SCA022719R2110 ■ | 35,230 | |
| 1000 | OT1000E04P | | 1SCA022860R6150 | 80,950 | |
| 1250 | OT1250E04P | | 1SCA022860R6310 | 99,870 | |
| 1600 | OT1600E04P | | 1SCA022860R6740 | | |
| 2000 | OT2000E04P | | 1SCA108038R1001 | | |
| 2500 | OT2500E04P | | 1SCA105140R1001 | Upon request | |
| 3200 | OT3200E04P | | 1SCA128482R1001 | Upon request | |
| 4000 | OT4000E04P | | 1SCA124856R1001 | Upon request | |

■ Stock items

OT switch disconnector accessories



Handles

| Frame | Description | Ordering code | L.P. (₹) |
|---------------|-------------|-------------------|----------|
| OT16...125 | OHB45J6 | 1SCA022380R8770 ■ | 1,400 |
| OT160...250 | OHB65J6 | 1SCA022380R9660 ■ | 1,900 |
| OT315...400 | OHB95J12 | 1SCA022381R0830 | 2,080 |
| OT630...800 | OHB125J12 | 1SCA022381R1560 ■ | 2,250 |
| OT1000...4000 | OHB274J12 | 1SCA115920R1001 ■ | 6,650 |



Shaft

| Frame | Description | Ordering code | L.P. (₹) |
|---------------|-------------|-------------------|----------|
| OT16...125 | EXP6X170 | 1SCA108224R1001 ■ | 510 |
| OT160...250 | EXP6X210 | 1SCA022295R6080 | 610 |
| OT315...800 | EXP12X185 | 1SCA022325R6710 | 920 |
| OT1000...4000 | EXP12X280 | 1SCA022137R5140 | 1,500 |



Auxiliary contact

| Frame | Contact function | Description | Ordering code | L.P. (₹) |
|----------------|------------------|-------------|-------------------|----------|
| OT16...4000 | 1NO | OA1G10 | 1SCA022353R4970 ■ | 830 |
| OT16...125 | 1NC | OA1G01 | 1SCA022353R4890 ■ | 830 |
| OT160EV...4000 | 1NC | OA3G01 | 1SCA022456R7410 ■ | 920 |



Phase barrier

| Frame | Poles | Description | Ordering code | L.P. (₹) |
|---------------|-------|-------------|-----------------|----------|
| OT160...OT800 | 3 | PB100 low | 1SDA054970R1 | 1,650 |
| OT160...OT800 | 4 | PB100 low | 1SDA054971R1 | 2,350 |
| OT1000...2500 | 3 & 4 | OTB1600/6 | 1SCA100768R1001 | 5,980 |
| OT3200...4000 | 3 & 4 | OTB4000/6 | 1SCA129040R1001 | 5,720 |



Mechanical interlock mechanism

(Prevents one switch from closing to ON-position, if the other is not in OFF-position)

| Frame | Shaft distance [mm] | Description | Ordering code | L.P. (₹) |
|--------------|---------------------|-------------|-----------------|----------|
| OT16...125 | 100 | OTZW24 | 1SCA022639R5610 | 3,040 |
| OT160...250 | 190 | OTZW10 | 1SCA022431R5280 | 3,690 |
| OT315...400 | 250 | OETLZW14 | 1SCA022077R3410 | 9,370 |
| OT315...800 | 300 | OETLZW3 | 1SCA022049R0380 | 9,340 |
| OT315...4000 | 500 | OETLZW15 | 1SCA022081R9340 | 10,860 |



Terminal shrouds snap-on mounting, transparent

For 3-pole switches

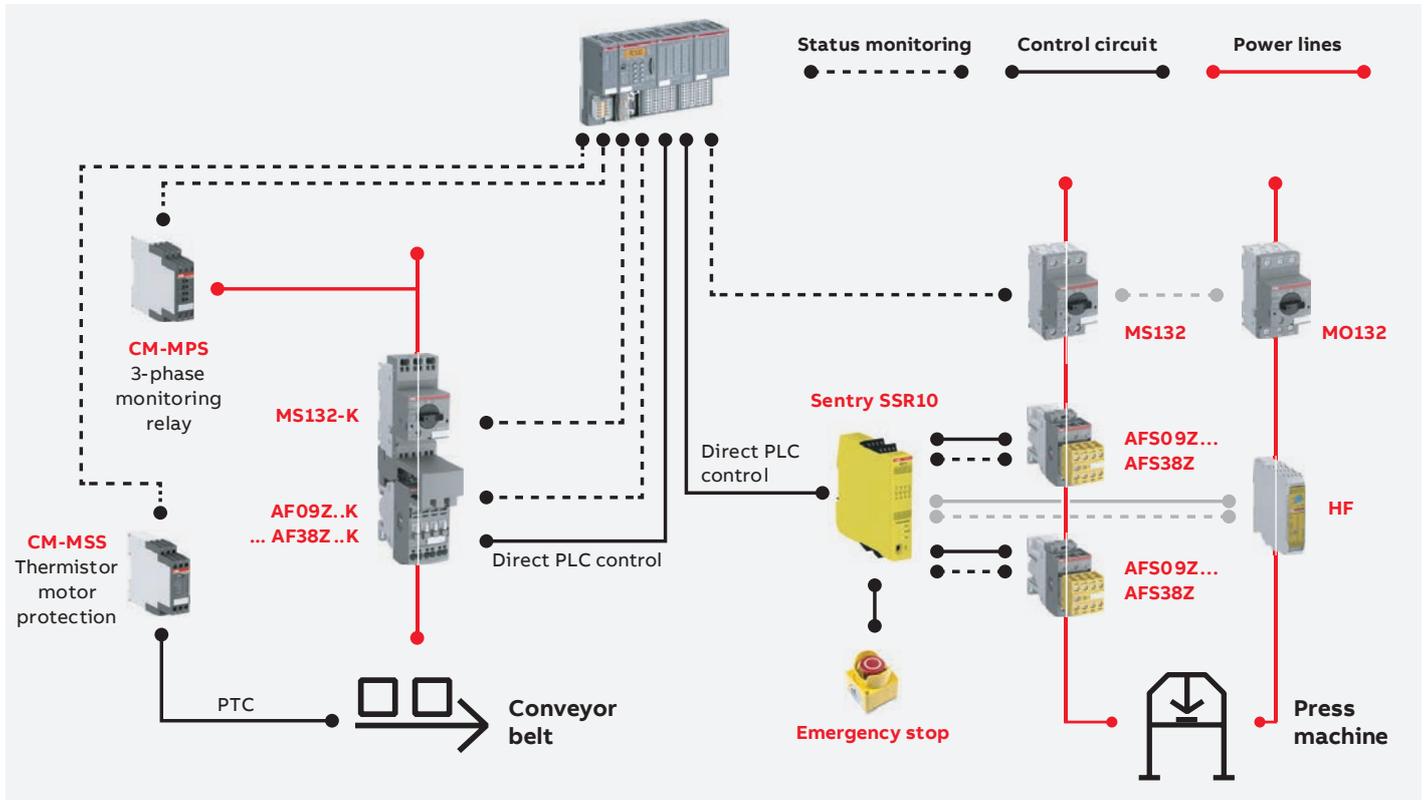
| Frame | Description | Ordering code | L.P. (₹) |
|----------------|-------------|-------------------|----------|
| OT 16...40F3 | OTS40T3 | 1SCA105317R1001 | 550 |
| OT63...80F3 | OTS63T3 | 1SCA022353R6750 ■ | 400 |
| OT 100...125F3 | OTS125T3 | 1SCA022379R9680 | 800 |

Note:

For requirement of terminal shrouds for higher current rating, contact our nearest sales office

Enhanced solutions

Get robust protection with enhanced safety, control and monitoring



Safety and protection

Enhanced safety and protection for solutions with higher specification requirements.

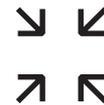
- Integration in machine manufacturer's systems complying with main standards EN ISO 13849, EN 62061 and IEC / EN 61508
- Trouble-free and economic operation of machines and installations, thanks to the monitoring of all important parameters in your three-phase network
- Prevent overheating, overload and insufficient cooling. Irregularities are signaled early to avoid plant downtime



Speed up your projects

Reduce time in planning, designing, assembly and delivery of custom panels to market.

- Use the same starters in Europe, Asia and North America as one contactor coil now handles 100 V – 250 V AC / DC, 50 / 60 Hz
- Push-in Spring allows you to insert both ferruled and rigid cables without the need to use any tools, boosting your productivity like never before
- With more than 1800 tested and validated co-ordination tables available in the SOC tool, you can quickly and easily choose the right ABB solution



Space-saving

Space is usually very limited for control panels, but our compact solutions are designed to easily fit into your application.

- Motor starters can be controlled directly by PLC thanks to AF contactor versions with low consumption coil, external or built-in PLC interface. No need for interface relays, which requires extra space
- Motor starters up to 3 kW / 3 hp require 90 % less space thanks to ABB's HF electronic compact starter. At just 22.5 mm width, it still provides motor starting functionalities with embedded protection and safety

Advanced solutions

Get ahead with intelligent, predictive operations, thanks to integrated data and advanced connectivity



Universal motor controller UMC100.3



Novolink modules for AF contactors



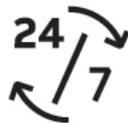
Softstarter PTSX



Integrated and future ready

Data and precise measurements accessible via flexible communication options ensure reliable operations and efficient energy management. Adapt to future needs without big investments.

- The UMC100.3 is compatible with more communication protocols than any other motor controller. This allows you to have software that enables predictive maintenance and acts as an intelligent data hub



Continuous operation

Detect problems earlier and prevent plant stand-stills with integrated protection functions as well as extensive diagnostic and status information.

- Protect your motors at all times with the UMC100.3, even if your control or communication system (Ethernet or Fieldbus) breaks down
- Softstarters help increase your motors lifetime by protecting it from electrical stress. Starting currents are easily optimized to your load, application and motor size



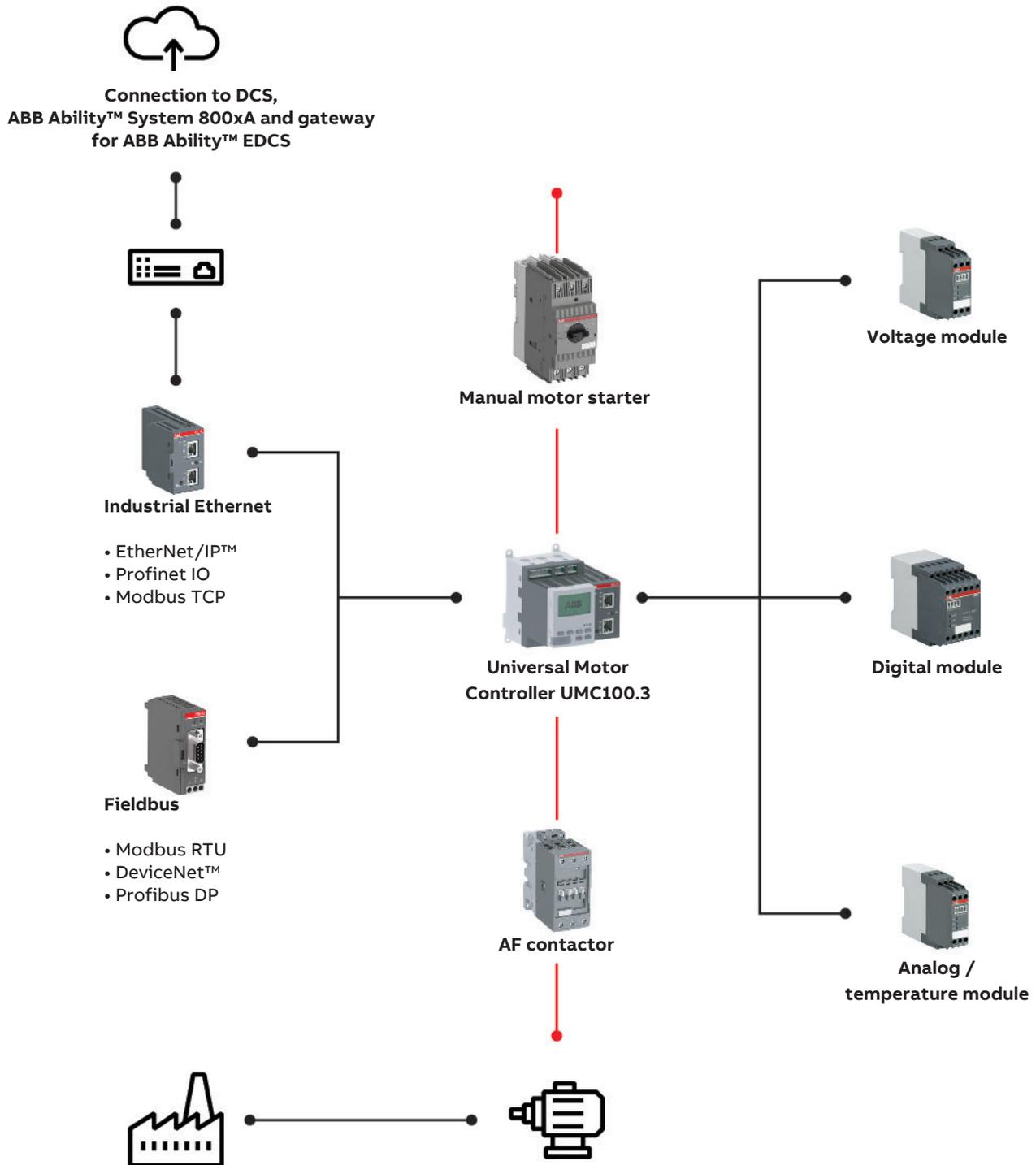
Speed up your project

Design, commissioning, and maintenance are easy, cutting costs and saving you time. ABB's flexible designs allow you to have a tailor-made solution.

- With the UMC100.3, simple software configuration means that you are always in control. Parameters can be set via quality FDI-based software or directly using the operating panel
- Reduce your installation time and panel size by having all features you need built into your softstarter

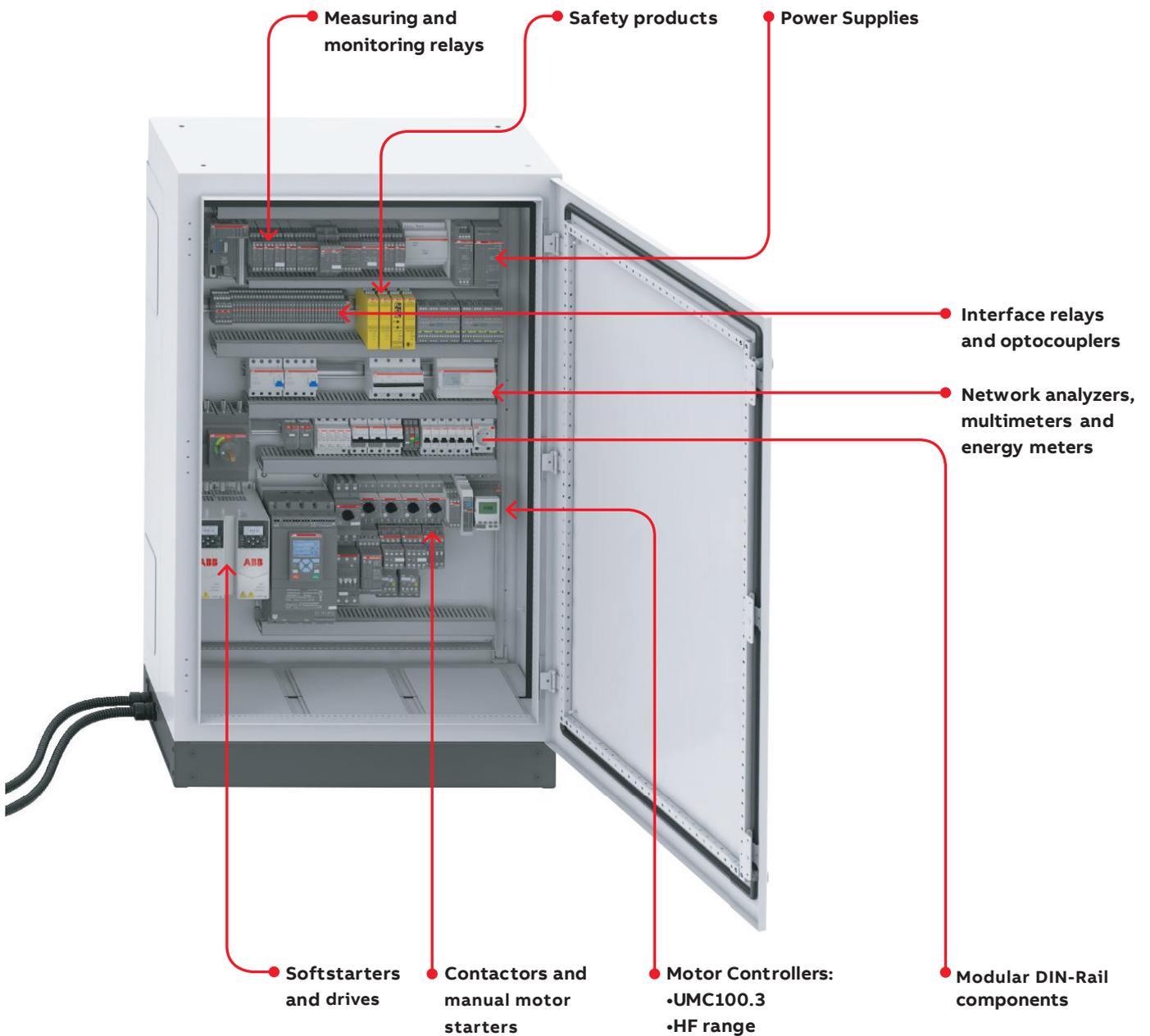
Advanced solutions

UMC100.3 application examples



Complete solutions for control panels

ABB's broad portfolio offers all you need for your application, at every level.



Smart Communication Card NEW

A piece of cloud for everyone



Digitalization is not the future – it is there.

Introducing Smart Communication Card to enable connecting your devices to the ABB Ability™ Energy & Assets Manager and third party cloud-based portals.

Connect your devices to ABB Ability™ and other cloud-based platforms by selecting one of multiple options including MQTT, https, OPC UA.

Speed up your project with user-friendly web-based tool to configure and commission the Novolink Communication Card.

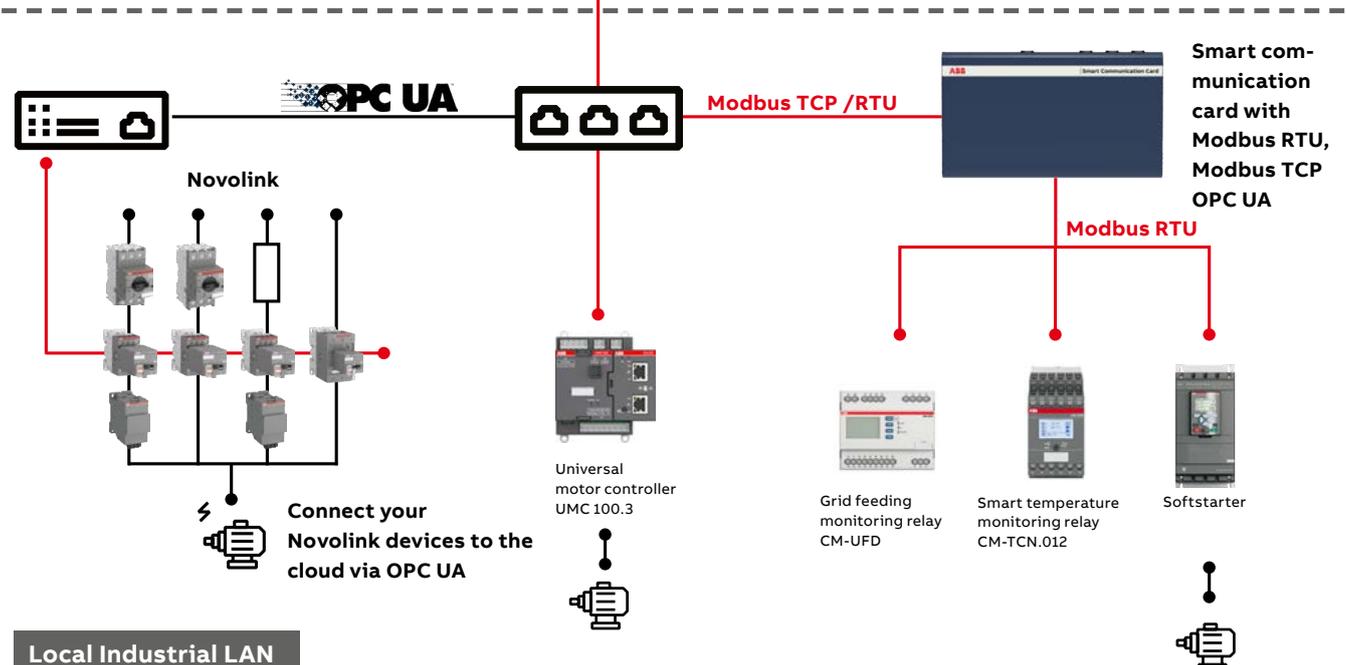
IT co-operate Compliant
Secure access



ABB Ability™ Energy and Asset Manager Or
third party cloud bases systems



Smart Communication card supports
https /MQTT /OPC UA To connect your devices
in ABB Ability< EAM and 3rd party platforms



M Mini contactor relay

MCRA/MCRC



4 pole - AC operated

| Contact configuration | Coil Voltage | Type code reference | Ordering code | L.P.(₹) | Coil Voltage | Type code reference | Ordering code | L.P. (₹) |
|-----------------------|--------------|---------------------|-----------------|--------------|--------------|---------------------|-----------------|--------------|
| 4NO | 24 | MCRA040AT1 | 1SAH102013R9900 | Upon request | 24 | MCRC040ATD | 1SAH100006R9900 | Upon request |
| 3NO 1NC | 24 | MCRA031AT1 | 1SAH102034R9900 | | 24 | MCRC031ATD | 1SAH100016R9900 | |
| 2NO 2NC | 24 | MCRA022AT1 | 1SAH220438R9900 | | 24 | MCRC022ATD | 1SAH100026R9900 | |
| 4NO | 110..115 | MCRA040ATJ | 1SAH100003R9900 | | 110 | MCRC040ATWJ | 1SAH220407R9900 | |
| 3NO 1NC | 110..115 | MCRA031ATJ | 1SAH100013R9900 | | 110 | MCRC031ATWJ | 1SAH220406R9900 | |
| 2NO 2NC | 110..115 | MCRA022ATJ | 1SAH100023R9900 | | 77..143 | MCRC022ATWJ | 1SAH107171R9900 | |
| 4NO | 220..240 | MCRA040ATN | 1SAH100004R9900 | | 220 | MCRC040ATWN | 1SAH220404R9900 | |
| 3NO 1NC | 220..240 | MCRA031ATN | 1SAH100014R9900 | | 220 | MCRC031ATWN | 1SAH220403R9900 | |
| 2NO 2NC | 220..240 | MCRA022ATN | 1SAH100024R9900 | | 220 | MCRC022ATWN | 1SAH220402R9900 | |

Auxiliary contact blocks for mini contactors

Ordering details

| For contactor types | Auxiliary contacts | Type | Ordering code | L.P.(₹) |
|---|--------------------|-----------|-----------------|--------------|
| Front mounted instantaneous auxiliary contact blocks | | | | |
| MC1 and MC2 variants | 1NO + 1NC | MACN211AT | 1SAL100999R9906 | Upon request |
| | 2NO | MACN202AT | 1SAL100998R9906 | |
| | 3NO + 1NC | MACN431AT | 1SAL100995R9906 | |
| | 2NO + 2NC | MACN422AT | 1SAL100996R9906 | |
| | 1NO + 3NC | MACN413AT | 1SAL100997R9906 | |
| Side mounted instantaneous auxiliary contact block | | | | |
| MC1 and MC2 variants | 1NO | MACL110AT | 1SAL100560R9906 | Upon request |
| | 1NC | MACL101AT | 1SAL100561R9906 | |

| For contactor types | Rated control circuit voltage | Type | Ordering code | L.P.(₹) |
|--|-------------------------------|---------|-----------------|--------------|
| Surge suppressors for contactor coils | | | | |
| MC1 and MC2 variants | 24-48 V AC / DC | MP0DAE4 | 1SAL100536R9906 | Upon request |
| | 50-127 V AC / DC | MP0DAE5 | 1SAL204848R9906 | |
| | 130-250 V AC / DC | MP0DAE6 | 1SAL204849R9906 | |

| For contactor types | Rated control circuit voltage | Time range | Type | Ordering code | L.P.(₹) |
|--------------------------|-------------------------------|-----------------|------------|-----------------|--------------|
| Electronic timers | | | | | |
| MC1 and MC2 variants | 24-250 V AC / DC | 0.5 ... 60 sec. | MREBC10AC2 | 1SAL100541R9906 | Upon request |
| | | 0.2 ... 24 sec. | MREBC20AC2 | 1SAL100542R9906 | |

Auxiliary contactors



Standard control contactors

| No. of contacts | Contact configuration | | Type code reference | Ordering code | L.P.(₹) | Type code reference | Ordering code | L.P.(₹) |
|-----------------|-----------------------|----|---------------------|-------------------|---------|---------------------|-------------------|---------|
| | NO | NC | | | | | | |
| 4 | 2 | 2 | N22E ** | 1SBH141001R□□22 ■ | 1,890 | NL22E ** | 1SBH143001R□□22 ■ | 2,840 |
| 4 | 3 | 1 | N31E ** | 1SBH141001R□□31 ■ | | NL31E ** | 1SBH143001R□□31 ■ | |
| 4 | 4 | 0 | N40E ** | 1SBH141001R□□40 ■ | | NL40E ** | 1SBH143001R□□40 ■ | |

| No. of contacts | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|-----------------|-----------------------|----|---------------------|-------------------|---------|
| | NO | NC | | | |
| 4 | 2 | 2 | NX22E | 1SBH901074R□□22 ■ | 1,730 |
| 4 | 3 | 1 | NX31E | 1SBH901074R□□31 ■ | |
| 4 | 4 | 0 | NX40E | 1SBH901074R□□40 ■ | |

Wide band AC / DC operated

| No. of contacts | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|-----------------|-----------------------|----|---------------------|-------------------|---------|
| | NO | NC | | | |
| 4 | 2 | 2 | NF22E ** | 1SBH137001R□□22 ■ | 3,420 |
| 4 | 3 | 1 | NF31E ** | 1SBH137001R□□31 ■ | |
| 4 | 4 | 0 | NF40E ** | 1SBH137001R□□40 ■ | |

Wide band low power consumption

| Type code reference # | Ordering code | L.P.(₹) |
|-----------------------|-----------------|---------|
| | | |
| NFZ31E ** | 1SBH136001R□□31 | |
| NFZ40E ** | 1SBH136001R□□40 | |

Refer coil voltage & codes mentioned below.

#Allows direct control by PLC output ≥ 24 V DC 500 mA

Coil voltages and codes

N & NX range (AC operated)

| Voltage | Voltage | Code |
|-------------|-------------|-------|
| V - 50Hz | V - 60Hz | □□ |
| 24 | 24 | 8 1 ■ |
| 110 | 110 ... 120 | 8 4 ■ |
| 220 ... 230 | 230 ... 240 | 8 0 ■ |
| 400 ... 415 | 415 ... 440 | 8 6 ■ |

NL (DC operated)

| Voltage V DC | Code |
|--------------|-------|
| □□ | □□ |
| 24 | 8 1 ■ |
| 48 | 8 3 ■ |
| 110 | 8 6 ■ |
| 220 | 8 8 ■ |

NF range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|-------|
| V 50/60 Hz | V DC | □□ |
| 24...60 | 20...60 | 1 1 ■ |
| 48...130 | 48...130 | 1 2 ■ |
| 100...250 | 100...250 | 1 3 ■ |
| 250...500 | 250...500 | 1 4 ■ |

NFZ range (AC/DC operated)

| Voltage V 50/60 Hz | Voltage V DC | Code |
|--------------------|--------------|------|
| □□ | □□ | □□ |
| - | 12...20 | 2 0 |
| 24...60 | 20...60 | 2 1 |
| 48...130 | 48...130 | 2 2 |
| 100...250 | 100...250 | 2 3 |

■ Stock items

3 pole contactors: AX09...AX370 : AC operated



AX09



AX95



AX185



AX370

AX Contactor

AX contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and built-in auxiliary contact
- Control circuit: AC operated
- Add-on auxiliary contact blocks for front or side mounting and a wide range of accessories

Contactors: 3-pole – AC operated

| AC1 duty Amps | AC3 rating at 415V | | Auxiliary contacts | Type code | Ordering code | L.P.(₹) | |
|------------------|--------------------|------|--------------------|-----------|---------------|-------------------|----------|
| | Amps | kW | | | | | |
| 22 | 9 | 4 | 1NO | - | AX09-30-10 | 1SBL901074R□□10 ■ | 1,520 |
| 22 | 9 | 4 | - | 1NC | AX09-30-01 | 1SBL901074R□□01 ■ | 1,520 |
| 25 | 12 | 5.5 | 1NO | - | AX12-30-10 | 1SBL911074R□□10 ■ | 1,700 |
| 25 | 12 | 5.5 | - | 1NC | AX12-30-01 | 1SBL911074R□□01 ■ | 1,700 |
| 27 | 18 | 9 | 1NO | - | AX18-30-10 | 1SBL921074R□□10 ■ | 1,990 |
| 27 | 18 | 9 | - | 1NC | AX18-30-01 | 1SBL921074R□□01 ■ | 1,990 |
| 32 | 25 | 11 | 1NO | - | AX25-30-10 | 1SBL931074R□□10 ■ | 2,720 |
| 32 | 25 | 11 | - | 1NC | AX25-30-01 | 1SBL931074R□□01 ■ | 2,720 |
| 55 | 32 | 15 | 1NO | - | AX32-30-10 | 1SBL281074R□□10 ■ | 5,700 |
| 55 | 32 | 15 | - | 1NC | AX32-30-01 | 1SBL281074R□□01 ■ | 5,700 |
| 60 | 40 | 18.5 | 1NO | - | AX40-30-10 | 1SBL321074R□□10 ■ | 8,730 |
| 60 | 40 | 18.5 | - | 1NC | AX40-30-01 | 1SBL321074R□□01 ■ | 8,730 |
| 100 | 50 | 25 | 1NO | 1NC | AX50-30-11 | 1SBL351074R□□11 ■ | 11,180 |
| 115 | 65 | 30 | 1NO | 1NC | AX65-30-11 | 1SBL371074R□□11 ■ | 15,200 |
| 125 | 80 | 37 | 1NO | 1NC | AX80-30-11 | 1SBL411074R□□11 ■ | 19,270 |
| 145 | 96 | 45 | 1NO | 1NC | AX95-30-11 | 1SFL431074R□□11 ■ | 23,290 |
| 160 | 115 | 55 | 1NO | 1NC | AX115-30-11 | 1SFL981074R□□11 ■ | 29,170 |
| 190 | 150 | 75 | 1NO | 1NC | AX150-30-11 | 1SFL991074R□□11 ■ | 37,940 |
| 250 | 185 | 90 | 1NO | 1NC | AX185-30-11 | 1SFL491074R□□11 ■ | 47,470 |
| 275 | 205 | 110 | 1NO | 1NC | AX205-30-11 | 1SFL501074R□□11 ■ | 51,600 |
| 400 | 265 | 132 | 1NO | 1NC | AX260-30-11 | 1SFL547074R□□11 ■ | 74,560 |
| 500 | 305 | 160 | 1NO | 1NC | AX300-30-11 | 1SFL587074R□□11 ■ | 82,100 |
| 600 | 370 | 200 | 1NO | 1NC | AX370-30-11 | 1SFL607074R□□11 ■ | 1,04,260 |

Note: Complete the contactor code by replacing □□ with desired coil voltages as per above table.

Coil voltages and codes AX range

| Voltage | Voltage | Code |
|-------------|-------------|-------|
| □□ V - 50Hz | □□ V - 60Hz | □□ |
| 24 | 24 | 8 1 ■ |
| 110 | 110 | 8 4 ■ |
| 220 ... 230 | 220 ... 230 | 8 0 ■ |
| 400 ... 415 | 400 ... 415 | 8 6 ■ |

■ Stock items

3 pole contactors: AC operated



Contactors: 3-pole – AC operated

| AC1duty Amps | AC3 rating at 415V | | | Auxiliary contacts | Type code | Ordering code | L.P.(₹) | |
|-----------------|--------------------|------|------|--------------------|-----------|---------------|-------------------|--------|
| | Amps | hP | kW | | | | | |
| 25 | 9 | 5.5 | 4 | 1NO | - | A09-30-10 ** | 1SBL141001R□□10 ■ | 1,740 |
| 25 | 9 | 5.5 | 4 | - | 1NC | A09-30-01 ** | 1SBL141001R□□01 ■ | 1,740 |
| 27 | 12 | 7.5 | 5.5 | 1NO | - | A12-30-10 ** | 1SBL161001R□□10 ■ | 1,980 |
| 27 | 12 | 7.5 | 5.5 | - | 1NC | A12-30-01 ** | 1SBL161001R□□01 ■ | 1,960 |
| 30 | 17 | 12.5 | 7.5 | 1NO | - | A16-30-10 ** | 1SBL181001R□□10 ■ | 2,330 |
| 30 | 17 | 12.5 | 7.5 | - | 1NC | A16-30-01 ** | 1SBL181001R□□01 ■ | 2,310 |
| 45 | 26 | 15 | 11 | 1NO | - | A26-30-10 ** | 1SBL241001R□□10 ■ | 3,170 |
| 45 | 26 | 15 | 11 | - | 1NC | A26-30-01 ** | 1SBL241001R□□01 ■ | 3,170 |
| 55 | 32 | 20 | 15 | 1NO | - | A30-30-10 ** | 1SBL281001R□□10 ■ | 6,360 |
| 55 | 32 | 20 | 15 | - | 1NC | A30-30-01 ** | 1SBL281001R□□01 ■ | 6,360 |
| 60 | 37 | 30 | 18.5 | 1NO | - | A40-30-10 ** | 1SBL321001R□□10 ■ | 9,480 |
| 60 | 37 | 30 | 18.5 | - | 1NC | A40-30-01 ** | 1SBL321001R□□01 ■ | 9,480 |
| 100 | 50 | 40 | 25 | - | - | A50-30-00 ** | 1SBL351001R□□00 ■ | 12,400 |
| 115 | 65 | 50 | 37 | - | - | A63-30-00 ** | 1SBL371001R□□00 ■ | 17,430 |
| 125 | 75 | 60 | 40 | - | - | A75-30-00 ** | 1SBL411001R□□00 ■ | 21,870 |
| 145 | 96 | 70 | 55 | 1NO | 1NC | A95-30-11** | 1SFL431001R□□11 ■ | 29,060 |
| 160 | 110 | 75 | 59 | 1NO | 1NC | A110-30-11** | 1SFL451001R□□11 ■ | 36,240 |
| 250 | 145 | 100 | 75 | 1NO | 1NC | A145-30-11** | 1SFL471001R□□11 ■ | 45,390 |
| 275 | 185 | 115 | 90 | 1NO | 1NC | A185-30-11** | 1SFL491001R□□11 ■ | 57,220 |

Complete the contactor type code by replacing ** with desired coil voltage, AF contactors have advanced electronic coil interface with wideband AC/DC coil

Coil voltages and codes:

A09 ... A185 range

| Voltage | Voltage | Code |
|--------------|--------------|-------|
| □□□ V - 50Hz | □□□ V - 60Hz | □□ |
| 24 | 24 | 8 1 ■ |
| 110 | 110 ... 120 | 8 4 ■ |
| 220 ... 230 | 230 ... 240 | 8 0 ■ |
| 400 ... 415 | 415 ... 440 | 8 6 ■ |

Note: For non-standard coil voltage, other than this contact us for price.

4 pole contactors: AC operated



Contactors: 4-pole (AC operated)

| Rating at 415V AC1 Amps | Main contact arrangement | | Auxiliary contacts | | Type code reference | Ordering code | L.P.(₹) |
|----------------------------|-----------------------------|-----|--------------------|-----|---------------------|-------------------|--------------|
| 25 | 4NO | - | - | - | A09-40-00 ** | 1SBL141201R□□00 ■ | 2,530 |
| 30 | 4NO | - | - | - | A16-40-00 ** | 1SBL181201R□□00 ■ | 2,700 |
| 45 | 4NO | - | - | - | A26-40-00 ** | 1SBL241201R□□00 ■ | 4,730 |
| 70 | 4NO | - | - | - | A45-40-00** | 1SBL331201R□□00 ■ | 13,000 |
| 100 | 4NO | - | - | - | A50-40-00** | 1SBL351201R□□00 ■ | 18,900 |
| 125 | 4NO | - | - | - | A75-40-00** | 1SBL411201R□□00 ■ | 25,140 |
| 800 | 4NO | - | 1NO | 1NC | EK550-40-11 ** | SK827041 - □□ ■ | Upon request |
| 1000 | 4NO | - | 1NO | 1NC | EK1000-40-11 ** | SK827044 - □□ | Upon request |
| 25 | 2NO | 2NC | - | - | A09-22-00 ** | 1SBL141501R□□00 ■ | 2,930 |
| 30 | 2NO | 2NC | - | - | A16-22-00 ** | 1SBL181501R□□00 ■ | 3,110 |
| 45 | 2NO | 2NC | - | - | A26-22-00 ** | 1SBL241501R□□00 ■ | 5,920 |
| 70 | 2NO | 2NC | - | - | A45-22-00** | 1SBL331501R□□00 | 18,200 |
| 125 | 2NO | 2NC | - | - | A75-22-00** | 1SBL411501R□□00 | 28,800 |

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltages and codes:

A09 ... A 75 range

| Voltage | Voltage | Code |
|-------------|-------------|------|
| V - 50Hz | V - 60Hz | □□ |
| 24 | 24 | 8 1 |
| 110 | 110 ... 120 | 8 4 |
| 220 ... 230 | 230 ... 240 | 8 0 |
| 400 ... 415 | 415 ... 440 | 8 6 |

Note: For non-standard coil voltage, other than this contact us for price.

Coil voltages and codes: EK550 ... EK1000

| Voltage | Voltage | Code |
|----------------|----------------|-------|
| □□□ V - 50Hz | □□□ V - 60Hz | □□ |
| - | 110 | A E |
| 110 | 120 | A F |
| 220 ... 230 | * | A L ■ |
| 230 ... 240 | - | A M |
| 400 ... 415 | - | A R |

3 pole contactors AL range: DC operated



AL contactors

| AC 1 duty Amps | AC3 rating at 415V | | Auxiliary contacts | Type code reference | Ordering code | L.P.(₹) |
|-------------------|--------------------|-----|--------------------|------------------------|---------------|-------------------------|
| | Amps | hP | | | | |
| 25 | 9 | 5 | 4 | 1NO - | AL9-30-10 | 1SBL143001R□□10 ■ 3,070 |
| 25 | 9 | 5 | 4 | - 1NC | AL9-30-01 | 1SBL143001R□□01 ■ 3,090 |
| 27 | 12 | 7.5 | 5.5 | 1NO - | AL12-30-10 | 1SBL163001R□□10 3,340 |
| 27 | 12 | 7.5 | 5.5 | - 1NC | AL12-30-01 | 1SBL163001R□□01 3,400 |
| 30 | 17 | 10 | 7.5 | 1NO - | AL16-30-10 | 1SBL183001R□□10 ■ 4,030 |
| 30 | 17 | 10 | 7.5 | - 1NC | AL16-30-01 | 1SBL183001R□□01 4,030 |
| 45 | 26 | 20 | 11 | 1NO - | AL26-30-10 | 1SBL243001R□□10 ■ 5,880 |
| 45 | 26 | 20 | 11 | - 1NC | AL26-30-01 | 1SBL243001R□□01 5,880 |
| 55 | 32 | 25 | 15 | 1NO - | AL30-30-10 | 1SBL283001R□□10 11,660 |
| 55 | 32 | 25 | 15 | - 1NC | AL30-30-01 | 1SBL283001R□□01 11,660 |
| 60 | 37 | 30 | 18.5 | 1NO - | AL40-30-10 | 1SBL323001R□□10 14,420 |
| 60 | 37 | 30 | 18.5 | - 1NC | AL40-30-01 | 1SBL323001R□□01 14,420 |

Coil voltages and codes: AL

| Voltage | Code |
|--|-------|
|  V DC | □□ |
| 24 | 8 1 |
| 110 | 8 6 ■ |
| 220 | 8 8 |

Other voltages: contact nearest ABB sales office.

Contactors for DC circuit switching: AC/DC operated

| Coil | Current ratings at 440V DC | | | Type code reference | Ordering code | L.P.(₹) |
|------|----------------------------|------|------|---------------------|-----------------|--------------|
| | DC-1 | DC-3 | DC-5 | | | |
| AC | 100A | 85A | 50A | GA75-10-11 ** | 1SBL411025R□□11 | Upon request |
| DC | 100A | 85A | 50A | GAE75-10-11 ** | 1SBL419025R□□11 | |

Complete the contactor type code by replacing ** with desired coil voltage

| Coil | Current ratings at 1000V DC | | Type code reference | Ordering code | L.P.(₹) |
|-------|-----------------------------|--|---------------------|-----------------|--------------|
| | DC-1 L/R 1 ms | | | | |
| AC/DC | 275A | | GAF185-10-11 | 1SFL497025R□□11 | Upon request |
| | 450A | | GAF300-10-11 | 1SFL557025R□□11 | |
| | 700A | | GAF460-10-11 | 1SFL597025R□□11 | |
| | 1050A | | GAF750-10-11 | 1SFL637025R□□11 | |
| | 1250A | | GAF1250-10-11 | 1SFL647025R□□11 | |
| | 1650A | | GAF1650-10-11 | 1SFL677025R□□11 | |
| | 2050A | | GAF2050-10-11 | 1SFL707025R□□11 | |

For DC3, DC5 ratings refer technical catalog

Coil voltages and codes:

GA 75

| Voltage | Voltage | Code |
|--------------|--------------|------|
| □□□ V - 50Hz | □□□ V - 60Hz | □□ |
| 24 | 24 | 8 1 |
| 110 | 110 ... 120 | 8 4 |
| 220 ... 230 | 230 ... 240 | 8 0 |
| 400 ... 415 | 415 ... 440 | 8 6 |

Coil voltages and codes:

GAE 75

| Voltage | Code |
|------------|------|
| □□□ V d.c. | □□ |
| 12 | 8 0 |
| 24 | 8 2 |
| 42 | 8 1 |
| 110 | 8 6 |
| 240 | 8 9 |

Coil voltages and codes:

GAF range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|------|
| V 50/60 Hz | V DC | □□ |
| - | 24...60 | 6 8 |
| 48...130 | 48...130 | 6 9 |
| 100...250 | 100...250 | 7 0 |
| 250...500 | 250...500 | 7 1 |

Accessories for contactors



Auxiliary contact block

| Description | Mounting on contactors | Contact configuration | | Type code reference | Ordering code | L.P.(₹) | | |
|---|--|-----------------------|----------------|---------------------|-------------------|---------|-----------|-------------------|
| | | NO | NC | | | | | |
| Front mounted single pole add-on blocks | A9...A110 AL9...AL40, TAL9...TAL40 N,NL &UA | 1NO | - | CA5-10 | 1SBN010010R1010 ■ | 300 | | |
| | | - | 1NC | CA5-01 | 1SBN010010R1001 ■ | 300 | | |
| | | 4NO | - | CA5-40 E | 1SBN010040R1040 | 1,340 | | |
| | | 3NO | 1NC | CA5-31 E | 1SBN010040R1031 | | | |
| | | 2NO | 2NC | CA5-22 E | 1SBN010040R1022 ■ | | | |
| | | 4NC | CA5-04 E | 1SBN010040R1004 | | | | |
| | A9...A75, AL9...AL40, TAL9...TAL40, N, NL & UA 16..75 | 1NO | 1NC | CAL5-11 | 1SBN010020R1011 ■ | 1000 | | |
| Side mounted 2 pole add-on blocks | A95...A185, UA95...UA110, AF400...AF2050 | 1NO | 1NC | CAL18-11 | 1SFN010720R1011 ■ | 1,160 | | |
| | | A145...A185 | AF400...AF2050 | 1NO | 1NC | | CAL18-11B | 1SFN010720R3311 ■ |
| | | | | 1NO | 1NC | | CAL19-11 | 1SFN010820R1011 ■ |
| | | | AF205...AF370 | 1NO | 1NC | | CAL19-11B | 1SFN010820R3311 |

Auxiliary contact blocks for EK range of contactors:

| Description | Mounting on contactors | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|---|------------------------|-----------------------|-----|---------------------|---------------|---------|
| | | NO | NC | | | |
| Side mounting Two pole auxiliary contact blocks | EK110 ... EK1000 | 1NO | 1NC | CAL16-11A | SK829002-A ■ | 1,170 |
| | | 1NO | 1NC | CAL16-11B | SK829002-B ■ | |
| | | 1NO | 1NC | CAL16-11C | SK829002-C | |
| | | 1NO | 1NC | CAL16-11D | SK829002-D | |

* Refer technical catalogue for proper selection.

■ Stock items

Accessories for contactors



Auxiliary contact block

| Description | Mounting on contactors | Contact configuration | | Type code reference | Ordering code | L.P. (₹) |
|---|-------------------------|-----------------------|-----------------|---------------------|-------------------|----------|
| | | NO | NC | | | |
| Front mounted single pole add-on blocks | AX09...AX150, NX 4-pole | 1NO | - | CA5X-10 | 1SBN019010R1010 ■ | 290 |
| | | - | 1NC | CA5X-01 | 1SBN019010R1001 ■ | 290 |
| Front mounted Four pole add-on blocks | AX09...AX150, NX 4-pole | 2NO | 2NC | CA5X-22E | 1SBN019040R1022 ■ | 1,020 |
| | | 3NO | 1NC | CA5X-31E | 1SBN019040R1031 | |
| | | 4NO | - | CA5X-40E | 1SBN019040R1040 | |
| | | - | 4NC | CA5X-04E | 1SBN019040R1004 | |
| | | 1NO | 1NC | CAL5X-11 | 1SBN019020R1011 ■ | |
| Side mounted 2 pole add-on blocks | AX09...AX80, NX 4-pole | 1NO | 1NC | CAL5X-11 | 1SBN019020R1011 ■ | 920 |
| | AX95...AX205 | 1NO | 1NC | CAL18X-11 | 1SBN019820R1011 ■ | 930 |
| | | 1NO | 1NC | CAL18X-11B | 1SBN019820R3311 ■ | |
| | AX260...AX370 | 1NO | 1NC | CAL19-11 | 1SBN010820R1011 | 1,160 |
| 1NO | 1NC | CAL19-11B | 1SBN010820R3311 | | | |

Surge suppressors



| For contactor types | Voltage range | Type code reference | Ordering code | L.P. (₹) |
|--|------------------|---------------------|-------------------|----------|
| AL9...AL40, TAL9...TAL40, NL | 12...32 DC | RT5/32 | 1SBN050020R1000 ■ | 1,200 |
| | 25...65 DC | RT5/65 | 1SBN050020R1001 | |
| | 50...90 DC | RT5/90 | 1SBN050020R1002 | |
| | 77...150 DC | RT5/150 | 1SBN050020R1003 ■ | |
| | 150...264 DC | RT5/264 | 1SBN050020R1004 | |
| A9...A110, AL9...AL40, TAL9...TAL40, N/NL AX09...AX150 | 24...50V AC/DC | RV5/50 | 1SBN050010R1000 | 1,200 |
| | 50...133V AC/DC | RV5/133 | 1SBN050010R1001 | |
| | 110...250V AC/DC | RV5/250 | 1SBN050010R1002 | |
| | 250...440V AC/DC | RV5/440 | 1SBN050010R1003 | |
| A9...A40, N AX09...AX40 | 24...50V AC | RC5-1/50 | 1SBN050100R1000 | 1,200 |
| | 50...133V AC | RC5-1/133 | 1SBN050100R1001 | |
| | 110...250V AC | RC5-1/250 | 1SBN050100R1002 ■ | |
| | 250...440V AC | RC5-1/440 | 1SBN050100R1003 ■ | |
| A45...A110 AX50...AX150 | 24...50V AC | RC5-2/50 | 1SBN050200R1000 | 1,200 |
| | 50...133V AC | RC5-2/133 | 1SBN050200R1001 | |
| | 110...250V AC | RC5-2/250 | 1SBN050200R1002 ■ | |
| A145...A185, AX185...AX205 | 250...440 | RC5-2/440 | 1SBN050200R1003 ■ | 1,660 |
| | 250...440 | RC5-3/440 | 1SBN050300R1003 ■ | |
| EK550...EK1000 | 48...110V/AC | RC-EH 800/110 | SK829007-C | 5,080 |
| | 220...600V/AC | RC-EH 800/600 | SK829007-D | |

■ Stock items

Accessories for contactors



VM5-1



VM300

Mechanical interlocks

| For contactor types | Description | Type code reference | Ordering code | L.P.(₹) |
|-------------------------------------|--|---------------------|-------------------|---------|
| A9...A40, AL9...AL40 AX09...AX40 | Horizontal Mechanical Interlock | VM5-1 | 1SBN030100R1000 ■ | 800 |
| A9...A40, AL9...AL40 AX09...AX40 | Horizontal Mechanical & Electrical Interlock with 2NC contacts | VE5-1 | 1SBN030110R1000 ■ | 1180 |
| A30...A110 AX50...AX115 | Horizontal Mechanical & Electrical Interlock with 2NC contacts | VE5-2 | 1SBN030210R1000 ■ | 2290 |
| A95...A185, AX185...AX205 | Horizontal with 2NC contacts | VM300H | 1SFN034700R1000 | 4780 |
| EK110...EK150 | Horizontal Mechanical Interlock | VH145 | SK829071-A | 6,440 |
| EK175...EK210 | Horizontal Mechanical Interlock | VH300 | SK829071-B | 7,460 |
| AF116...AF146 and AF190...AF205 | Horizontal Mechanical Interlock | VM140/190 | 1SFN034403R1000 ■ | 4,920 |
| AF190, AF205 and AF265 ... AF370 | Horizontal Mechanical Interlock | VM205/265 | 1SFN035203R1000 ■ | 4,890 |
| AF116...AF370 AX260...AX370 | Horizontal Mechanical Interlock | VM19 | 1SFN030300R1000 | 5150 |

Note: Refer technical catalogue for proper selection.

Mechanical latching units description

For converting standard contactors into latched contactors. The WB75-A block contains a mechanical latching device with electromagnetic impulse unlatching (AC or DC) or manual unlatching.

Ordering details



| For contactors | Rated control circuit voltage U _c | | Type | Ordering code | L.P.(₹) |
|----------------|--|-----------|--------|-----------------|---------|
| | V 50 Hz or DC | V 60 Hz | | | |
| N, NL, A9-A75 | 24 | 24...28 | WB75-A | FPTN372726R1001 | 8,810 |
| | 220...230 | 220...255 | WB75-A | FPTN372726R1006 | 8,810 |

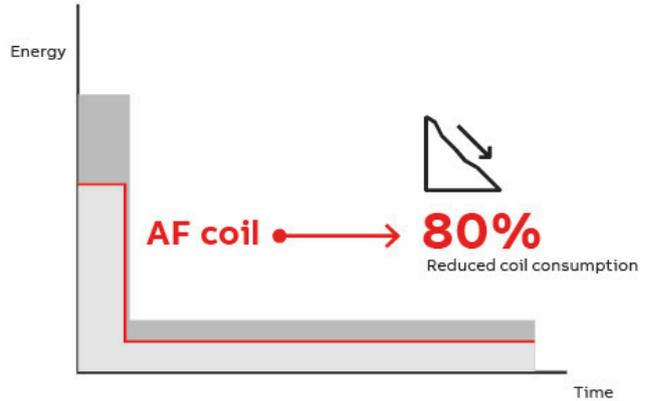


| For contactors | Rated control circuit voltage U _c | Time ranges | Delay type | Auxiliary contacts | Type | Ordering code | L.P.(₹) |
|-------------------|--|------------------|------------|--------------------|-----------|-----------------|---------|
| Separate mounting | 24-240 V AC 24-48 V DC | 0.05s - 100 h | ON-delay | 1C/O | CT-ERC.12 | 1SVR508100R0000 | 3,200 |
| | | | ON-delay | 2C/O | CT-ERC.22 | 1SVR508100R0100 | 6,330 |
| | | | OFF-delay | 1C/O | CT-AHC.12 | 1SVR508110R0000 | 3,740 |
| | | | OFF-delay | 2C/O | CT-AHC.22 | 1SVR508110R0100 | 6,770 |

Contactors: Wide band AC/DC operated AF technology



Conventional AC coil

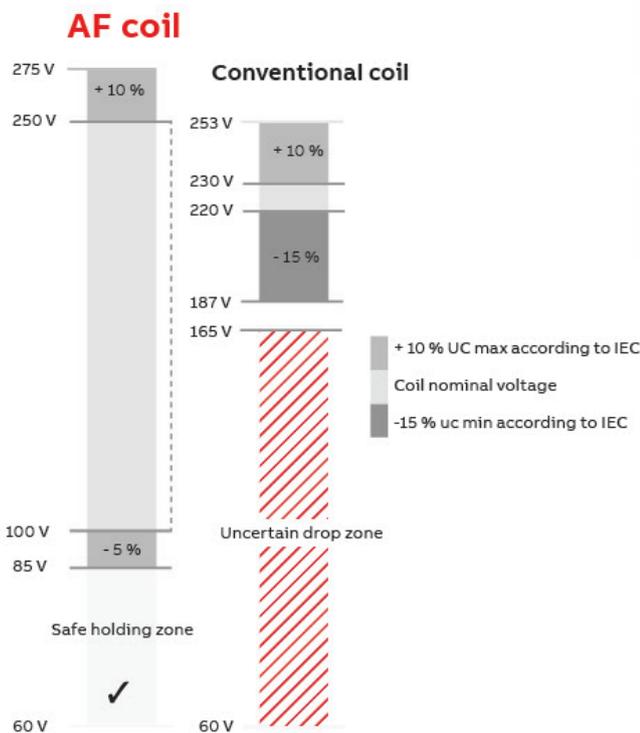


Reliable in all networks

The electronic system within the AF contactor continuously monitor the current and voltage apply to the coil. The contactor is safely operated in an always optimized condition and hum free.

Reduced coil consumption

AF coil and energy consumption is reduced up to 80%. This allows a reduction of the temperature rise, the size of control transformers and size of cabinets.



Wide control voltage range

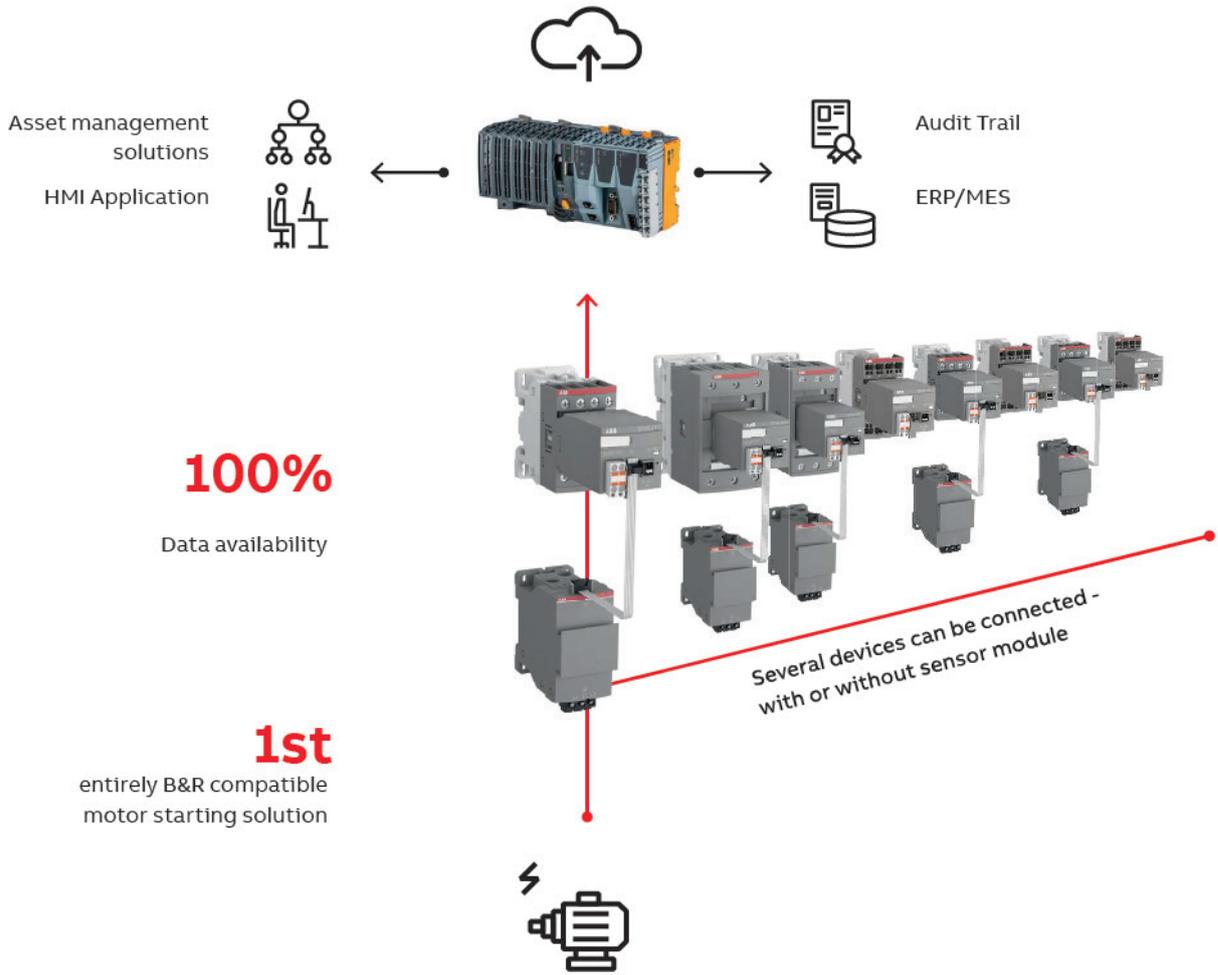
With conventional contactor technology, different contactors are needed for different network voltages. Thanks to the wide operating range of the AF contactor, it can operate just as well in Europe as in Asia or North America. The core coil of the AF contactor range covers 100-250 V AC / DC, 50 / 60 Hz.



Built-in surge suppression

With conventional contactor technology, it is recommended to use an external surge suppressor, an accessory that could cost as much as half of the contactor. With the AF technology, the surges are handled by the contactor and never reach the control circuit. One less product and one less complication to worry about.

INTRODUCING **NEW**
Novolink™ – smart function and sensor modules
for AF contactors
 Integrated into the B&R X20 system



Engineering efficiency - only two configurable components cover a wide range of applications, reducing devices where otherwise auxiliary devices are needed.



Preventive machine maintenance uses live data from relevant motor parameters



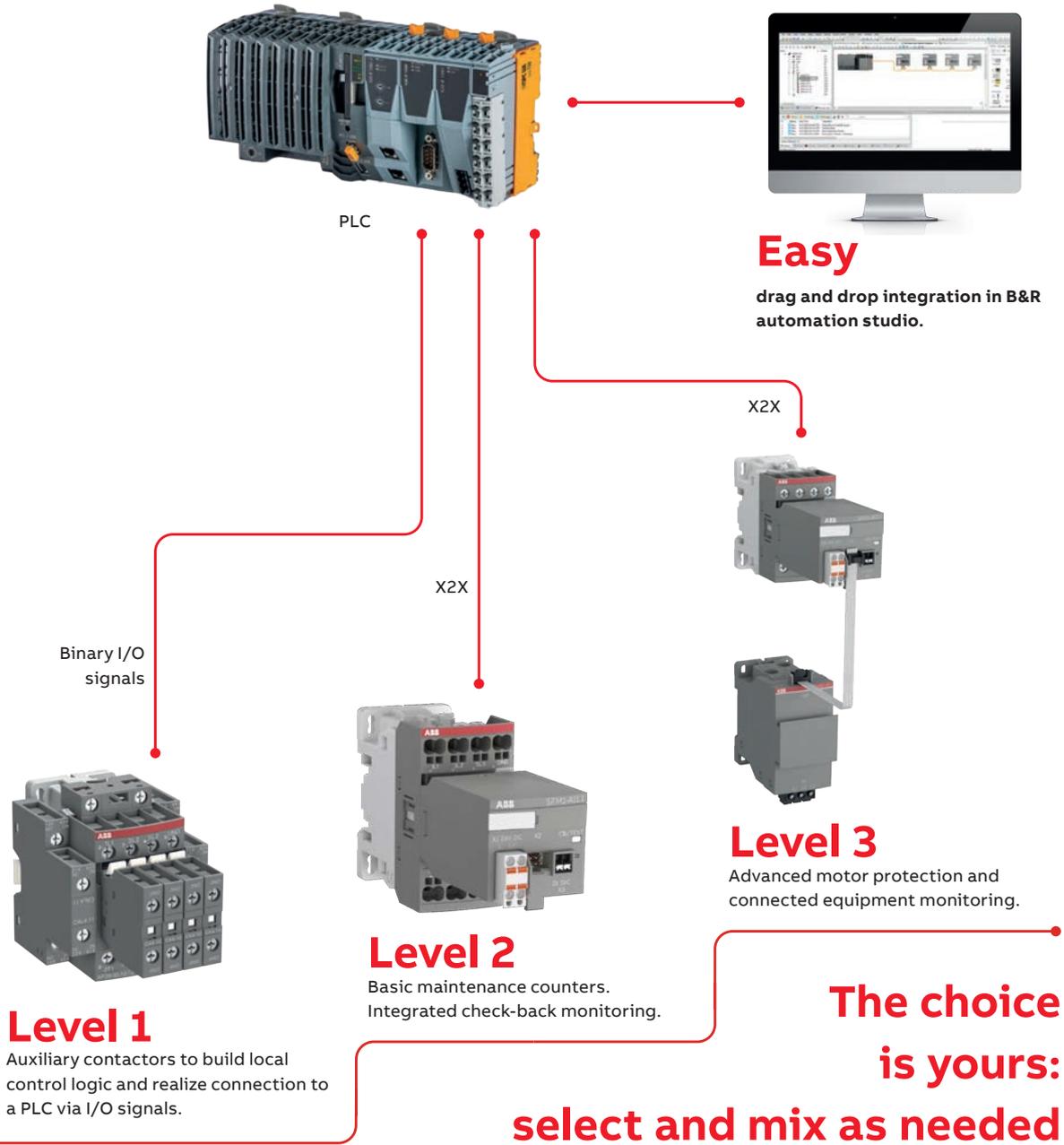
Digitalization allows remote contactor control and condition monitoring



Speed of installation
 Reduction of control side wiring. Integration of multiple functions into one device. Reduction of required PLC I/O signals.

Digitalize one of the best motor starting portfolios on the market

You have the choice



Ordering details

| Type | Description | Order code | L.P.(₹) |
|--------------------|---|-----------------|--------------|
| SFM-CAB-RJTB.1-500 | Connection cable RJ45 - X20 Terminal Block of X20BT9400, 5m | 1SVM823000R0500 | |
| SFM-CAB-S.1-50 | Connection cable SFM to Sensor 0.5m | 1SVM811000R0050 | |
| SFM-CAB-S.1-25 | Connection cable SFM to Sensor 0.25m | 1SVM811000R0025 | Upon request |
| SCV10-40.1 | Current – Voltage Sensor | 1SVM320010R0000 | |
| SFM1-A11.1 | Advanced Function Module with X2X | 1SVM120012R0000 | |

3 pole contactors AF range: Wide band AC/DC operated

AF contactors are built in with:

- Universal coil operable on wide band AC / DC voltages
- Surge suppressors
- Low power consumption coil



| AC1duty Amps | AC3 rating at 415V | | Auxiliary contacts | Type code | Ordering code | L.P.(₹) | |
|-----------------|--------------------|------|--------------------|-----------|----------------|-------------------|----------|
| | Amps | hP | | | | | kW |
| 25 | 9 | 5.5 | 4 | 1NO - | AF09-30-10-□□ | 1SBL137001R□□10 ■ | 4,080 |
| | | | | - 1NC | AF09-30-01-□□ | 1SBL137001R□□01 ■ | 4,080 |
| 28 | 12 | 7.5 | 5.5 | 1NO - | AF12-30-10-□□ | 1SBL157001R□□10 ■ | 4,560 |
| | | | | - 1NC | AF12-30-01-□□ | 1SBL157001R□□01 ■ | 4,560 |
| 30 | 18 | 12.5 | 7.5 | 1NO - | AF16-30-10-□□ | 1SBL177001R□□10 ■ | 5,660 |
| | | | | - 1NC | AF16-30-01-□□ | 1SBL177001R□□01 ■ | 5,660 |
| 45 | 26 | 15 | 11 | - - | AF26-30-00-□□ | 1SBL237001R□□00 ■ | 7,130 |
| 50 | 32 | 20 | 18 | - - | AF30-30-00-□□ | 1SBL277001R□□00 ■ | 14,810 |
| 50 | 38 | 25 | 18.5 | - - | AF38-30-00-□□ | 1SBL297001R□□00 ■ | 17,130 |
| 70 | 40 | 30 | 18.5 | - - | AF40-30-00-□□ | 1SBL347001R□□00 ■ | 17,870 |
| 100 | 53 | 40 | 22 | - - | AF52-30-00-□□ | 1SBL367001R□□00 ■ | 20,890 |
| 105 | 65 | 50 | 30 | - - | AF65-30-00-□□ | 1SBL387001R□□00 ■ | 23,970 |
| 125 | 80 | 60 | 37 | - - | AF80-30-00-□□ | 1SBL397001R□□00 ■ | 29,130 |
| 130 | 96 | 70 | 45 | - - | AF96-30-00-□□ | 1SBL407001R□□00 ■ | 35,660 |
| 160 | 116 | 75 | 55 | 1NO 1NC | AF116-30-11-□□ | 1SFL427001R□□11 ■ | 42,550 |
| 200 | 140 | 100 | 75 | 1NO 1NC | AF140-30-11-□□ | 1SFL447001R□□11 ■ | 46,920 |
| 225 | 146 | 100 | 75 | 1NO 1NC | AF146-30-11-□□ | 1SFL467001R□□11 ■ | 49,170 |
| 275 | 190 | 120 | 90 | 1NO 1NC | AF190-30-11-□□ | 1SFL487002R□□11 ■ | 59,310 |
| 350 | 205 | 150 | 110 | 1NO 1NC | AF205-30-11-□□ | 1SFL527002R□□11 ■ | 62,940 |
| 400 | 265 | 175 | 140 | 1NO 1NC | AF265-30-11-□□ | 1SFL547002R□□11 ■ | 75,490 |
| 500 | 305 | 215 | 160 | 1NO 1NC | AF305-30-11-□□ | 1SFL587002R□□11 ■ | 91,830 |
| 600 | 370 | 270 | 200 | 1NO 1NC | AF370-30-11-□□ | 1SFL607002R□□11 ■ | 1,16,110 |
| 600 | 400 | 300 | 220 | 1NO 1NC | AF400-30-11** | 1SFL577001R□□11 ■ | 1,19,280 |
| 700 | 460 | 340 | 250 | 1NO 1NC | AF460-30-11** | 1SFL597001R□□11 ■ | 1,56,320 |
| 800 | 580 | 470 | 355 | 1NO 1NC | AF580-30-11** | 1SFL617001R□□11 ■ | 2,53,820 |
| 1050 | 750 | 570 | 425 | 1NO 1NC | AF750-30-11** | 1SFL637001R□□11 ■ | |
| 1260 | - | - | - | 1NO 1NC | AF1250-30-11** | 1SFL647001R□□11 ■ | |
| 1350 | 860 | - | 500 | 1NO 1NC | AF1350-30-11** | 1SFL657001R□□11 ■ | |
| 1650 | 1050 | - | 600 | 1NO 1NC | AF1650-30-11** | 1SFL677001R□□11 ■ | |
| 2050 | - | - | - | 1NO 1NC | AF2050-30-11** | 1SFL707001R□□11 ■ | |
| 2650 | - | - | - | 1NO 1NC | AF2650-30-11** | 1SFL667001R□□11 ■ | |
| 2850 | - | - | - | 1NO 1NC | AF2850-30-11** | 1SFL687001R□□11 ■ | |

Upon request

Complete the contactor type code by replacing ** with desired coil voltage, AF contactors have advanced electronic coil interface with wideband AC/DC coil

Coil voltages and codes:

New AF09...AF370 range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|-------|
| V 50/60 Hz | V DC | □□ |
| 24...60 | 20...60 | 1 1 ■ |
| 48...130 | 48...130 | 1 2 ■ |
| 100...250 | 100...250 | 1 3 ■ |
| 250...500 | 250...500 | 1 4 ■ |

AF400...AF1250 range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|-------|
| V 50/60 Hz | V DC | □□ |
| - | 24...60 | 6 8 |
| 48...130 | 48...130 | 6 9 |
| 100...250 | 100...250 | 7 0 ■ |
| 250...500 | 250...500 | 7 1 ■ |

AF1350...AF2850 range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|------|
| V 50/60 Hz | DC | □□ |
| 100...250 | 100...250 | 7 0 |

Note: For non-standard coil voltage, other than this, contact us for price.
Refer Page 82 and Page 83 for accessories

4 pole contactors: Wide band AC/DC operated

New AF Contactors: 4 pole – AC / DC Operated

| Rating at 415V AC1 Amps | Main contact arrangement | | Auxiliary contacts | | Type code reference | Ordering code | L.P.(₹) |
|----------------------------|--------------------------|-----|--------------------|---|---------------------|-------------------|---------|
| 25 | 2NO | 2NC | - | - | AF09-22-00-□□ | 1SBL137501R□□00 | 5,400 |
| 30 | 2NO | 2NC | - | - | AF16-22-00-□□ | 1SBL177501R□□00 ■ | 6,730 |
| 45 | 2NO | 2NC | - | - | AF26-22-00-□□ | 1SBL237501R□□00 | 10,120 |
| 55 | 2NO | 2NC | - | - | AF38-22-00-□□ | 1SBL297501R□□00 | 21,100 |
| 70 | 2NO | 2NC | - | - | AF40-22-00-□□ | 1SBL347501R□□00 | 28,860 |
| 125 | 2NO | 2NC | - | - | AF80-22-00-□□ | 1SBL397501R□□00 | 37,610 |

4 pole contactors: Wide band AC/DC operated

| Rating at 415V AC1 Amps | Main contact arrangement | | Auxiliary contacts | | Type code reference | Ordering code | L.P.(₹) |
|----------------------------|--------------------------|---|--------------------|---|---------------------|-------------------|----------|
| 25 | 4NO | - | - | - | AF09-40-00-□□ | 1SBL137201R□□00 ■ | 4,090 |
| 30 | 4NO | - | - | - | AF16-40-00-□□ | 1SBL177201R□□00 | 5,260 |
| 45 | 4NO | - | - | - | AF26-40-00-□□ | 1SBL237201R□□00 | 7,750 |
| 55 | 4NO | - | - | - | AF38-40-00-□□ | 1SBL297201R□□00 ■ | 16,480 |
| 70 | 4NO | - | - | - | AF40-40-00-□□ | 1SBL347201R□□00 | 25,150 |
| 100 | 4NO | - | - | - | AF52-40-00-□□ | 1SBL367201R□□00 ■ | 26,170 |
| 125 | 4NO | - | - | - | AF80-40-00-□□ | 1SBL397201R□□00 | 32,960 |
| 160 | 4NO | - | - | - | AF116-40-00 | 1SFL427102R□□00 | 49,850 |
| 200 | 4NO | - | - | - | AF140-40-00 | 1SFL447102R□□00 | 56,590 |
| 275 | 4NO | - | - | - | AF190-40-00 | 1SFL487102R□□00 ■ | 77,220 |
| 350 | 4NO | - | - | - | AF205-40-00 | 1SFL527102R□□00 ■ | 92,080 |
| 400 | 4NO | - | - | - | AF265-40-00 | 1SFL547102R□□00 ■ | 1,10,410 |
| 500 | 4NO | - | - | - | AF305-40-00 | 1SFL587102R□□00 ■ | 1,39,820 |
| 525 | 4NO | - | - | - | AF370-40-00 | 1SFL607102R□□00 ■ | 1,55,980 |

Coil voltages and codes: New AF range (AC/DC operated)

| Voltage | Voltage | Code |
|------------|-----------|-------|
| V 50/60 Hz | V DC | □□ |
| 24...60 | 20...60 | 1 1 ■ |
| 48...130 | 48...130 | 1 2 ■ |
| 100...250 | 100...250 | 1 3 ■ |
| 250...500 | 250...500 | 1 4 ■ |

■ Stock items

Contactors for special application - capacitors switching



Contactors for capacitor switching: 3 pole – AC operated:

| kVAR Rating at 415V | Auxiliary contacts | Type code reference | Ordering code | L.P.(₹) |
|---|--------------------|---------------------|-------------------|---------|
| Type UA..RA with in-built damping resistors: | | | | |
| 12.5 | 1NO | UA16-30-10RA ** | 1SBL181024R□□10 ■ | 3,760 |
| 22 | 1NO | UA26-30-10RA ** | 1SBL241024R□□10 ■ | 6,380 |
| 30 | 1NO | UA30-30-10RA** | 1SBL281024R□□10 ■ | 7,320 |
| 40 | -- | UA50-30-00RA | 1SBL350024R□□00 ■ | 20,610 |
| 50 | -- | UA63-30-00RA** | 1SBL371024R□□00 ■ | 22,160 |
| 60 | -- | UA75-30-00RA** | 1SBL411024R□□00 ■ | 25,660 |
| 70 | -- | UA95-30-00RA** | 1SFL431024R□□00 ■ | 26,840 |
| 80 | -- | UA110-30-00RA** | 1SFL451024R□□00 ■ | 32,710 |

Type UA..RA with in-built damping resistors

Complete the contactor type code by replacing ** with desired coil voltage.

Peak current $\hat{I} \leq 100$ times the rms current

| kVAR rating at 415V | Max peak current \hat{I} | Auxiliary contacts fitted | | Type | Ordering code | L.P.(₹) |
|---------------------|----------------------------|---------------------------|----|-------------|-------------------|---------|
| | | NO | NC | | | |
| kvar | kA | | | | | |
| 12.5 | 1.8 | 1 | 0 | UA16-30-10 | 1SBL181022R□□10 ■ | 3,300 |
| 20 | 3 | 1 | 0 | UA26-30-10 | 1SBL241022R□□10 ■ | 4,090 |
| 27.5 | 33.5 | 1 | 0 | UA30-30-10 | 1SBL281022R□□10 ■ | 7,020 |
| 33 | 5 | 0 | 0 | UA50-30-00 | 1SBL351022R□□00 ■ | 16,070 |
| 45 | 6.5 | 0 | 0 | UA63-30-00 | 1SBL371022R□□00 ■ | 16,910 |
| 50 | 7.5 | 0 | 0 | UA75-30-00 | 1SBL411022R□□00 ■ | 20,210 |
| 65 | 9.3 | 1 | 1 | UA95-30-11 | 1SFL431022R□□11 ■ | 25,360 |
| 75 | 10.5 | 1 | 1 | UA110-30-11 | 1SFL451022R□□11 ■ | 32,480 |

Single step - Peak current $\hat{I} \leq 30$ times the RMS current

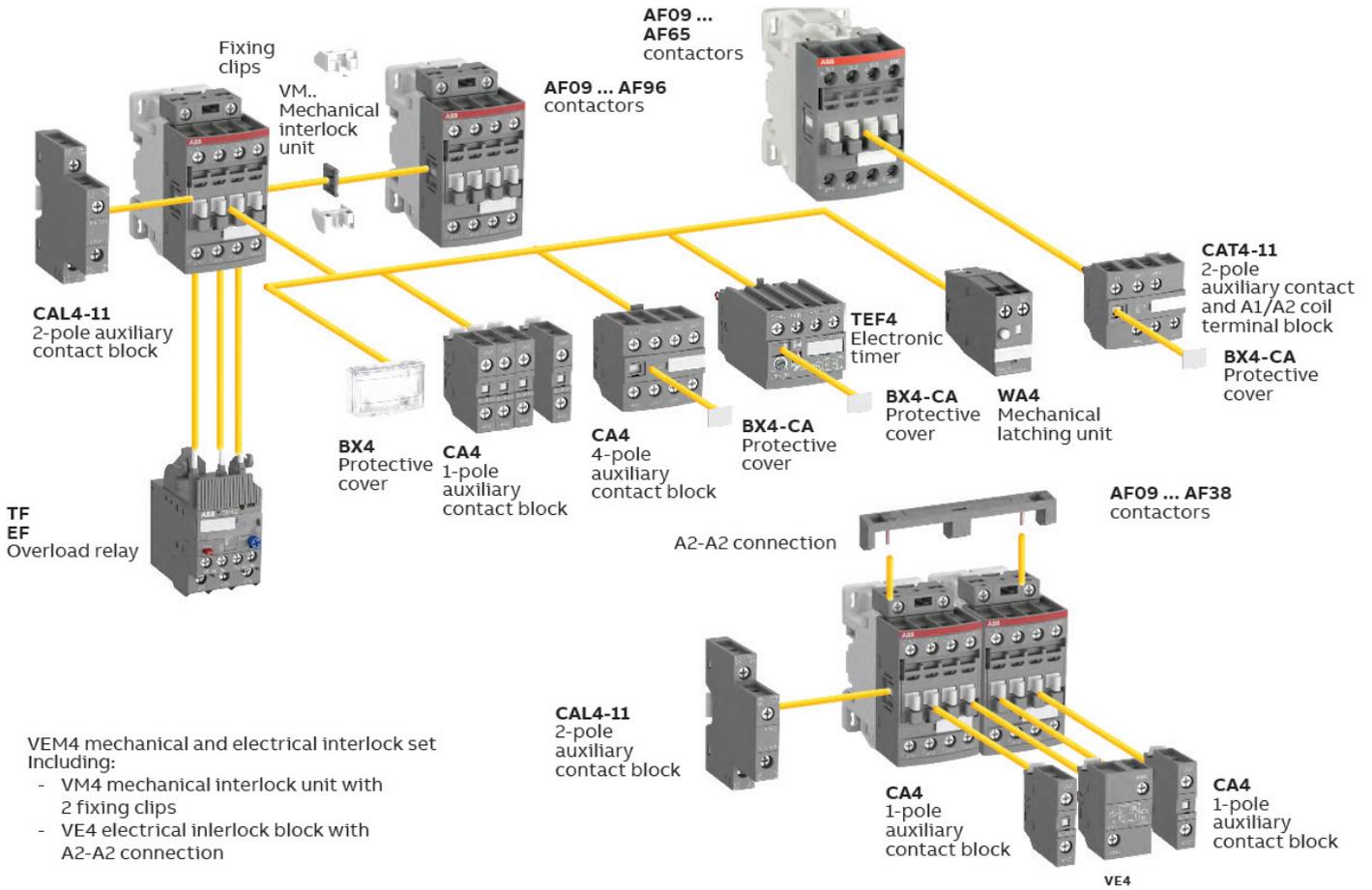
| kVAR Rating at 415V | Type code | Ordering code | L.P.(₹) |
|---------------------|---------------|-------------------|--------------|
| 60 | A95-30-11** | 1SFL431001R□□11 ■ | 29,330 |
| 70 | A110-30-11** | 1SFL451001R□□11 ■ | 35,910 |
| 90 | A145-30-11** | 1SFL471001R□□11 ■ | 45,810 |
| 110 | A185-30-11** | 1SFL491001R□□11 ■ | 58,260 |
| 130 | AF205-30-11** | 1SFL527002R□□11 ■ | 64,130 |
| 145 | AF265-30-11** | 1SFL547002R□□11 ■ | 76,920 |
| 165 | AF305-30-11** | 1SFL587002R□□11 ■ | 93,560 |
| 200 | AF370-30-11** | 1SFL607002R□□11 ■ | 1,18,300 |
| 210 | AF400-30-11** | 1SFL577001R□□11 ■ | 1,21,530 |
| 240 | AF460-30-11** | 1SFL597001R□□11 ■ | 1,59,270 |
| 285 | AF580-30-11** | 1SFL617001R□□11 ■ | 2,53,820 |
| 400 | AF750-30-11** | 1SFL637001R□□11 ■ | Upon request |

Coil voltages and codes UA...RA & UA

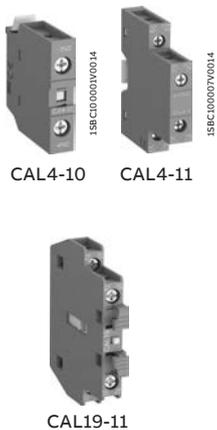
| Voltage | Voltage | Code |
|-------------|-------------|-------|
| V - 50Hz | V - 60Hz | □□ |
| 24 | 24 | 8 1 ■ |
| 110 | 110 ... 120 | 8 4 ■ |
| 220 ... 230 | 230 ... 240 | 8 0 ■ |
| 400 ... 415 | 415 ... 440 | 8 6 ■ |

■ Stock items

Accessories for AF contactors



Accessories for AF contactors



Auxiliary contact block

| Description | Mounting on contactors | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|------------------------------------|------------------------|-----------------------|-----|---------------------|-------------------|---------|
| | | NO | NC | | | |
| Front mounted 1 pole add-on blocks | AF09....AF96 / NF | 1NO | - | CA4-10 | 1SBN010110R1010 ■ | 320 |
| | | - | 1NC | CA4-01 | 1SBN010110R1001 ■ | 320 |
| Front mounted 4 pole add-on blocks | AF09....AF80 / NF | 4NO | - | CA4-40E | 1SBN010140R1040 ■ | 1,360 |
| | | 3NO | 1NC | CA4-31E | 1SBN010140R1031 ■ | 1,360 |
| | | 2NO | 2NC | CA4-22E | 1SBN010140R1022 ■ | 1,360 |
| | | - | 4NC | CA4-04E | 1SBN010140R1004 ■ | 1,360 |
| Side mounted 2 pole add-on blocks | AF09....AF96 / NF | 1NO | 1NC | CAL4-11 | 1SBN010120R1011 ■ | 890 |
| | AF96...AF370 | 1NO | 1NC | CAL19-11 | 1SFN010820R1011 ■ | 1,160 |
| | | 1NO | 1NC | CAL19-11B | 1SFN010820R3311 ■ | |

* Refer technical catalogue for proper selection.

Accessories for AF contactors



Mechanical interlocks

| Description | For contactor types | Type Code reference | Ordering code | L.P.(₹) |
|--|----------------------------------|---------------------|-----------------|---------|
| Horizontal Mechanical Interlock | AF09...AF38 | VM4 | 1SBN030105T1000 | 940 |
| Horizontal Mechanical & Electrical Interlock | AF09...AF38 | VEM4 | 1SBN030111R1000 | 1,670 |
| Horizontal Mechanical Interlock | AF40...AF96 | VM96-4 | 1SBN033405T1000 | 3,410 |
| Horizontal Mechanical Interlock | AF116...AF146 and AF190, AF205 | VM140/190 | 1SFN034403R1000 | 4,920 |
| Horizontal Mechanical Interlock | AF190, AF205 and AF265 ... AF370 | VM205/265 | 1SFN034403R1000 | 4,920 |
| Horizontal Mechanical Interlock | AF116...AF370 | VM19 | 1SFN030300R1000 | 5,150 |

Note: Refer technical catalogue for proper selection.

Ordering details



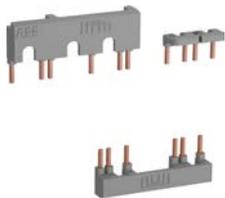
| For contactors | Rated control circuit voltage Uc | Type | Ordering code | L.P.(₹) |
|-------------------------------|----------------------------------|-----------|-----------------|---------|
| NF(Z),AF(Z)09....38,AF40...65 | 24V DC | WA4-10 | 1SBN040100R1010 | 3,510 |
| NF(Z),AF(Z)09....38,AF40...65 | 24-60V50/60HZ-DC | WA4-11 | 1SBN040100R1011 | 3,510 |
| NF(Z),AF(Z)09....38,AF40...65 | 48-130V50/60HZ-DC | WA4-12 | 1SBN040100R1012 | 3,510 |
| NF(Z),AF(Z)09....38,AF40...65 | 100-250V50/60HZ-DC | WA4-13 | 1SBN040100R1013 | 3,510 |
| NF(Z),AF(Z)09....38,AF40...65 | 250-500V50/60HZ-DC | WA4-14 | 1SBN040100R1014 | 3,510 |
| AF80....96 | 24-60V50/60HZ-DC | WA4-96-11 | 1SBN040200R1011 | 3,510 |
| AF80....96 | 48-130V50/60HZ-DC | WA4-96-12 | 1SBN040200R1012 | 3,510 |
| AF80....96 | 100-250V50/60HZ-DC | WA4-96-13 | 1SBN040200R1013 | 3,510 |
| AF80....96 | 250-500V50/60HZ-DC | WA4-96-14 | 1SBN040200R1014 | 3,510 |

Electronic timers



| For contactor types | Time delay range selected by switch | Delay type | Auxiliary contacts | Type | Ordering code | L.P.(₹) |
|---------------------|-------------------------------------|------------|--------------------|----------|-----------------|---------|
| AF09 ... AF96 | 0.1...1 s | ON-delay | 1NO + 1NC | TEF4-ON | 1SBN020112R1000 | 9,170 |
| | 1...10 s | OFF-delay | 1NO + 1NC | TEF4-OFF | 1SBN020114R1000 | 8,720 |
| | 10...100 s | | | | | |

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.



Connecting links with manual motor starters

| For contactor types | Used with | Type | Ordering code | L.P.(₹) |
|---------------------|--|---------|-----------------|---------|
| AF09 ... AF16 | MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25 | BEA16-4 | 1SBN081306T1000 | 670 |
| AF26 ... AF30 | MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10 | BEA26-4 | 1SBN082306T1000 | 760 |
| | MS116-20 ... MS116-32, MS132-12 ... MS132-32 | BEA38-4 | 1SBN082306T2000 | 830 |

Connection sets for reversing contactors

| For contactor types | Type | Ordering code | L.P.(₹) |
|---------------------|---------|-----------------|---------|
| AF09 ... AF16 | BER16-4 | 1SBN081311R1000 | 1,660 |
| AF26 ... AF30 | BER38-4 | 1SBN082311R1000 | 2,250 |
| AF40 ... AF65 | BER65-4 | 1SBN083411R1000 | 2,680 |
| AF80 ... AF96 | BER96-4 | 1SBN083911R1000 | 4,650 |

Connection sets for star-delta starting

| For contactor types | Type | Ordering code | L.P.(₹) |
|---------------------|---------|-----------------|---------|
| AF09 ... AF16 | BEY16-4 | 1SBN081313R2000 | 2,300 |
| AF26 ... AF30 | BEY38-4 | 1SBN082713R2000 | 3,510 |
| AF40 ... AF65 | BEY65-4 | 1SBN083413R2000 | 4,550 |
| AF80 ... AF96 | BEY96-4 | 1SBN083913R2000 | 5,820 |

AFC contactors for AC control applications **NEW**

Flexible and safe

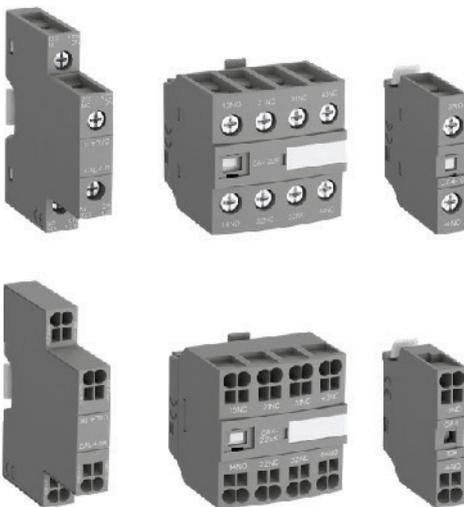
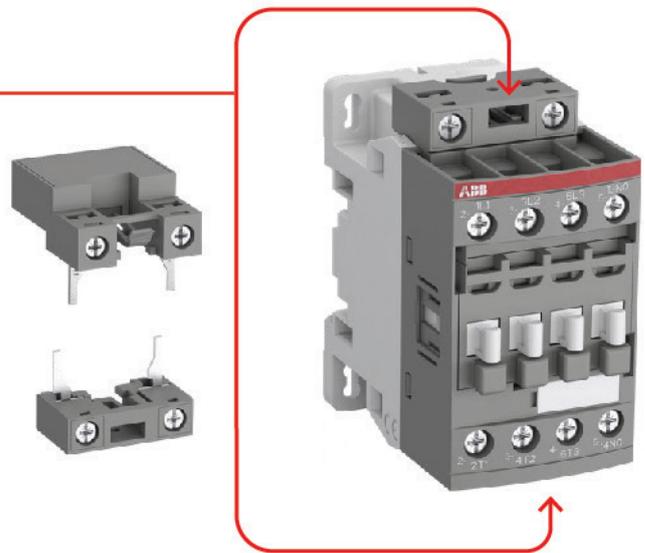
Part of the AF platform

AFC contactors are an extension of the AF platform. Sharing same footprint and having equivalent electrical performance, installation design and maintenance are easier and faster. Protection devices (manual motor starters, overloads relays), accessories (auxiliary contacts, electronic timers, ...) and connection kits (direct-on-line, reversing, start delta) are common to the entire platform.



Great flexibility for coil terminal access and surge suppressor

AFC contactors offer free choice of coil terminal access from top, bottom or front. Surge suppressor can be mounted from top or bottom.



Compatible and easy to use accessories

1-pole, 2-pole and 4-pole auxiliary contact blocks (front or side mounted) are available with screw and Push-in Spring terminals: They can be mounted on every contactor of the AF platform, whatever its terminal connection type.



Easy, fast and secure starters assembly

The AF contactor range is perfect for motor starting applications and for solutions where space is limited. You can create any motor starting type and save assembly time with a complete range of accessories and connection sets.



Protect from overload in all conditions

Select thermal overload relays (trip class 10) or electronic overload relays (trip class 10E, 20E, 30E in the same product) to protect your motors against overload and phase failure.

AFC contactors: AC operated NEW



Contactors: 3-pole – AC operated

| AC1 duty Amps | AC3 rating at 415V | | | Auxiliary contacts | | Type code | Ordering code | L.P.(₹) |
|---------------|--------------------|------|------|--------------------|-----|----------------|-------------------|--------------|
| | Amps | hP | kW | | | | | |
| 25 | 9 | 5.5 | 4 | 1NO | - | AFC09-30-10 ** | 1SBL131001R□□10 ■ | Upon request |
| 25 | 9 | 5.5 | 4 | - | 1NC | AFC09-30-01 ** | 1SBL131001R□□01 ■ | |
| 28 | 12 | 7.5 | 5.5 | 1NO | - | AFC12-30-10 ** | 1SBL151001R□□10 ■ | |
| 28 | 12 | 7.5 | 5.5 | - | 1NC | AFC12-30-01 ** | 1SBL151001R□□01 ■ | |
| 30 | 17 | 12.5 | 7.5 | 1NO | - | AFC16-30-10 ** | 1SBL171001R□□10 ■ | |
| 30 | 17 | 12.5 | 7.5 | - | 1NC | AFC16-30-01 ** | 1SBL171001R□□01 ■ | |
| 45 | 26 | 15 | 11 | - | - | AFC26-30-00 ** | 1SBL231001R□□00 ■ | |
| 50 | 32 | 20 | 15 | - | - | AFC30-30-00 ** | 1SBL271001R□□00 ■ | |
| 50 | 37 | 30 | 18.5 | - | - | AFC40-30-00 ** | 1SBL291001R□□00 ■ | |

Contactors: 4-pole (AC operated)

| Rating at 415V AC1 Amps | Main contact arrangement | Auxiliary contacts | | | Type code reference | Ordering code | L.P.(₹) |
|-------------------------|--------------------------|--------------------|---|---|---------------------|-------------------|--------------|
| 25 | 4NO | - | - | - | AFC09-40-00 ** | 1SBL131201R□□00 ■ | Upon request |
| 30 | 4NO | - | - | - | AFC16-40-00 ** | 1SBL171201R□□00 ■ | |
| 45 | 4NO | - | - | - | AFC26-40-00 ** | 1SBL231201R□□00 ■ | |
| 55 | 4NO | - | - | - | AFC38-40-00** | 1SBL291201R□□00 ■ | |
| 25 | 2NO | 2NC | - | - | AFC09-22-00 ** | 1SBL131501R□□00 ■ | |
| 30 | 2NO | 2NC | - | - | AFC16-22-00 ** | 1SBL171501R□□00 ■ | |
| 45 | 2NO | 2NC | - | - | AFC26-22-00 ** | 1SBL231501R□□00 ■ | |
| 55 | 2NO | 2NC | - | - | AFC38-22-00** | 1SBL291501R□□00 ■ | |

Auxiliary contactors

| No. of contacts | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|-----------------|-----------------------|----|---------------------|-------------------|--------------|
| | NO | NC | | | |
| 4 | 2 | 2 | NFC22E ** | 1SBH131001R□□22 ■ | Upon request |
| 4 | 3 | 1 | NFC31E ** | 1SBH131001R□□31 ■ | |
| 4 | 4 | 0 | NFC40E ** | 1SBH131001R□□40 ■ | |
| 8 | 4 | 4 | NFC44E ** | 1SBH131001R□□44 ■ | |
| 8 | 5 | 3 | NFC53E ** | 1SBH131001R□□53 ■ | |
| 8 | 6 | 2 | NFC62E ** | 1SBH131001R□□62 ■ | |
| 8 | 7 | 1 | NFC71E ** | 1SBH131001R□□71 ■ | |
| 8 | 8 | 0 | NFC80E ** | 1SBH131001R□□80 ■ | |

Coil voltages and codes: AFC09 ... AFC38/NFC range

| Voltage | Voltage | Code |
|-------------|-------------|------|
| □□ V - 50Hz | □□ V - 60Hz | □□ |
| 24 | 24 | 8 1■ |
| 110 | 110 ... 120 | 8 4■ |
| 220 ... 230 | 230 ... 240 | 8 0■ |
| 400 ... 415 | 415 ... 440 | 8 6■ |

Note: For non-standard coil voltage, other than this contact us for price.



Powerful light switching made easy

ESB and EN installation contactors



ABB's hum-free installation contactor designs offer a wide range of ratings from 16 A to 100 A. With an innovative AC/DC coil design that eliminates hum, a broad selection of common accessories as well as manual and automatic versions, ESB..N contactors cover all your needs in both domestic and residential applications. Find out more at abb.com/lowvoltage



ESB and EN Installation contactors



Hum-free operation



Tool-free to save time



More choice,
less inventory



Comprehensive solution



Optimum interface



Easy to install



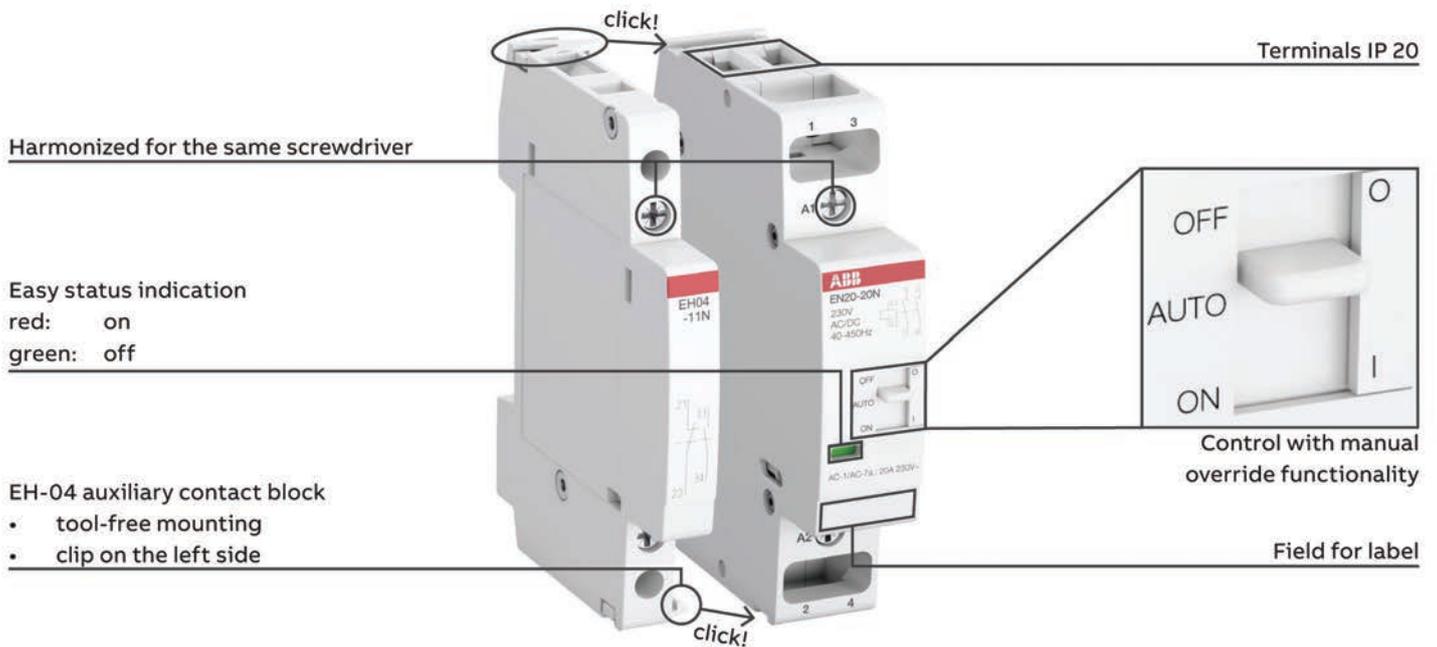
Group mounting
saves space



Global
availability



Easy identification



ESB and EN Installation contactors

ABB's installation contactor range comes with a host of features to make installation and maintenance easier. A mechanical indicator shows the status in green or red color to make system diagnostics quicker. Some speciality types also feature a manual override functionality with a toggle switch providing independent control. Accessories such as auxiliaries, space holders, as well as safety covers can be mounted tool-free onto the contactor.

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|--|-------------------------------------|--|--------------|----------------|---------|
|  | 1 | 24 | ESB16-20N-01 | 1SBE11111R0120 | 3,970 |
|  | 1 | 230 | ESB16-20N-06 | 1SBE11111R0620 | 3,970 |
|  | 1 | 24 | ESB16-02N-01 | 1SBE11111R0102 | 4,170 |
|  | 1 | 230 | ESB16-02N-06 | 1SBE11111R0602 | 4,170 |
|  | 1 | 24 | ESB16-11N-01 | 1SBE11111R0111 | 4,050 |
|  | 1 | 230 | ESB16-11N-06 | 1SBE11111R0611 | 4,050 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|---|-------------------------------------|--|--------------|----------------|---------|
|  | 1 | 24 | ESB20-20N-01 | 1SBE12111R0120 | 4,410 |
|  | 1 | 230 | ESB20-20N-06 | 1SBE12111R0620 | 4,410 |
|  | 1 | 24 | ESB20-02N-01 | 1SBE12111R0102 | 4,600 |
|  | 1 | 230 | ESB20-02N-06 | 1SBE12111R0602 | 4,600 |
|  | 1 | 24 | ESB20-11N-01 | 1SBE12111R0111 | 4,450 |
|  | 1 | 230 | ESB20-11N-06 | 1SBE12111R0611 | 4,450 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|--|-------------------------------------|--|--------------|----------------|---------|
|  | 2 | 24 | ESB25-40N-01 | 1SAE23111R0140 | 4,490 |
|  | 2 | 230 ... 240 | ESB25-40N-06 | 1SAE23111R0640 | 4,490 |
|  | 2 | 24 | ESB25-04N-01 | 1SAE23111R0104 | 4,650 |
|  | 2 | 230 ... 240 | ESB25-04N-06 | 1SAE23111R0604 | 4,650 |
|  | 2 | 24 | ESB25-22N-01 | 1SAE23111R0122 | 4,650 |
|  | 2 | 230 ... 240 | ESB25-22N-06 | 1SAE23111R0622 | 4,650 |
|  | 2 | 24 | ESB25-31N-01 | 1SAE23111R0131 | 4,650 |
|  | 2 | 230 ... 240 | ESB25-31N-06 | 1SAE23111R0631 | 4,650 |
|  | 2 | 24 | ESB25-13N-01 | 1SAE23111R0113 | 4,650 |
|  | 2 | 230 ... 240 | ESB25-13N-06 | 1SAE23111R0613 | 4,650 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|---|-------------------------------------|--|--------------|----------------|---------|
|  | 3 | 24 | ESB40-40N-01 | 1SAE34111R0140 | 8,270 |
|  | 3 | 230 | ESB40-40N-06 | 1SAE34111R0640 | 8,270 |
|  | 3 | 24 | ESB40-22N-01 | 1SAE34111R0122 | 8,400 |
|  | 3 | 230 | ESB40-22N-06 | 1SAE34111R0622 | 8,400 |
|  | 3 | 24 | ESB40-31N-01 | 1SAE34111R0131 | 8,400 |
|  | 3 | 230 | ESB40-31N-06 | 1SAE34111R0631 | 8,400 |
|  | 3 | 24 | ESB40-30N-01 | 1SAE34111R0130 | 7,950 |
|  | 3 | 230 | ESB40-30N-06 | 1SAE34111R0630 | 7,950 |
|  | 3 | 24 | ESB40-20N-01 | 1SAE34111R0120 | 7,950 |
|  | 3 | 230 | ESB40-20N-06 | 1SAE34111R0620 | 7,670 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|--|-------------------------------------|--|--------------|----------------|---------|
|  | 3 | 24 | ESB63-40N-01 | 1SAE35111R0140 | 10,770 |
|  | 3 | 230 | ESB63-40N-06 | 1SAE35111R0640 | 10,770 |
|  | 3 | 230 | ESB63-31N-06 | 1SAE35111R0631 | 11,060 |
|  | 3 | 230 | ESB63-30N-06 | 1SAE35111R0630 | 10,480 |
|  | 3 | 24 | ESB63-20N-01 | 1SAE35111R0120 | 10,300 |
|  | 3 | 230 | ESB63-20N-06 | 1SAE35111R0620 | 10,300 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P.(₹) |
|---|-------------------------------------|--|---------------|----------------|---------|
|  | 6 | 24 | ESB100-40N-01 | 1SAE66111R0140 | 36,810 |
|  | 6 | 230 | ESB100-40N-06 | 1SAE66111R0640 | 36,810 |
|  | 3 | 24 | ESB100-20N-01 | 1SAE36111R0120 | 35,240 |
|  | 3 | 230 | ESB100-20N-06 | 1SAE36111R0620 | 35,240 |

ESB and EN Installation contactors

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P. (₹) |
|--|-------------------------------------|--|-------------|-----------------|----------|
|  | 1 | 24 | EN20-20N-01 | 1SBE122111R0120 | 6,200 |
| | | 230 | EN20-20N-06 | 1SBE122111R0620 | |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P. (₹) |
|---|-------------------------------------|--|-------------|-----------------|----------|
|  | 2 | 24 | EN25-40N-01 | 1SAE232111R0140 | 18,500 |
| | | 230 ... 240 | EN25-40N-06 | 1SAE232111R0640 | 18,880 |
|  | 2 | 24 | EN25-31N-01 | 1SAE232111R0131 | 19,020 |
| | | 230 ... 240 | EN25-31N-06 | 1SAE232111R0631 | 19,020 |
|  | 2 | 230 ... 240 | EN25-30N-06 | 1SAE232111R0630 | 16,510 |

| Main contacts | Width in number of modular spacings | Rated control circuit voltage ⁽¹⁾ V AC / DC | Type | Ordering code | L.P. (₹) |
|--|-------------------------------------|--|-------------|-----------------|----------|
|  | 3 | 24 | EN40-40N-01 | 1SAE342111R0140 | 18,950 |
| | | 230 | EN40-40N-06 | 1SAE342111R0640 | 18,950 |
|  | 3 | 24 | EN40-31N-01 | 1SAE342111R0131 | 19,110 |
| | | 230 | EN40-31N-06 | 1SAE342111R0631 | 19,110 |
|  | 3 | 230 | EN40-30N-06 | 1SAE342111R0630 | 16,960 |
|  | 3 | 230 | EN40-20N-06 | 1SAE342111R0620 | 16,510 |

Auxiliary contact blocks

| Auxiliary contacts | Suitable for | Type | Ordering code | L.P. (₹) |
|--|--|----------|-----------------|----------|
| Single packaging | | | | |
|  | ESB16..N, ESB20..N, ESB25..N, ESB40..N, ESB63..N, ESB100..N, EN20..N, EN25..N, EN40..N | EH04-11N | 1SAE901901R1011 | 1,450 |
| | | EH04-20N | 1SAE901901R1020 | 1,450 |

Distant piece

| Suitable for | Type | Ordering code | L.P. (₹) |
|---|---------|-----------------|----------|
| Single packaging | | | |
| ESB25..N, ESB40..N, ESB63..N, EN25..N, EN40..N, ESB100..N, EN100..N | ESB-DIS | GHE3201902R0001 | 270 |

Mini contactors



Mini contactors with screw connection:

| AC1 duty Amps | AC3 rating at 415V | | | Auxiliary contacts | |
|------------------|--------------------|-----|-----|--------------------|-----|
| | Amps | hP | kW | | |
| 16A | 9 | 5.5 | 4 | 1NO | - |
| 16A | 9 | 5.5 | 4 | - | 1NC |
| 20A | 12 | 7.5 | 5.5 | 1NO | - |
| 20A | 12 | 7.5 | 5.5 | - | 1NC |

3 pole - AC operated

| Type code reference | Ordering code | L.P.(₹) |
|---------------------|-------------------|---------|
| B06-30-10 ** | GJL1211001R□10□ ■ | 1,750 |
| B06-30-01 ** | GJL1211001R□01□ ■ | |
| B07-30-10 ** | GJL1311001R□10□ ■ | 1,900 |
| B07-30-01 ** | GJL1311001R□01□ ■ | |

3 pole - DC operated

| Type code reference | Ordering code | L.P.(₹) |
|---------------------|-------------------|---------|
| BC6-30-10 ** | GJL1213001R□10□ ■ | 2,400 |
| BC6-30-01 ** | GJL1213001R□01□ ■ | |
| BC7-30-10 ** | GJL1313001R□10□ ■ | 2,600 |
| BC7-30-01 ** | GJL1313001R□01□ ■ | |

Complete the contactor type code by replacing ** with desired coil voltage

Mini reversing contactors with screw connection:

| AC1 duty Amps | AC3 rating at 415V | | | Auxiliary contacts | |
|------------------|--------------------|-----|-----|--------------------|-----|
| | Amps | hP | kW | | |
| 16A | 9 | 5.5 | 4 | 1NO | - |
| 16A | 9 | 5.5 | 4 | - | 1NC |
| 20A | 12 | 7.5 | 5.5 | 1NO | - |
| 20A | 12 | 7.5 | 5.5 | - | 1NC |

3 pole - AC operated

| Type code reference | Ordering code | L.P.(₹) |
|---------------------|-------------------|---------|
| VB06-30-10 ** | GJL1211901R□10□ □ | 5,140 |
| VB06-30-01 ** | GJL1211901R□01□ □ | 5,140 |
| VB07-30-10 ** | GJL1311901R□10□ □ | 5,420 |
| VB07-30-01 ** | GJL1311901R□01□ □ | 5,420 |

3 pole - DC operated

| Type code reference | Ordering code | L.P.(₹) |
|---------------------|-------------------|---------|
| VBC6-30-10 ** | GJL1213901R□10□ □ | 5,370 |
| VBC6-30-01 ** | GJL1213901R□01□ □ | 5,370 |
| VBC7-30-10 ** | GJL1313901R□10□ □ | 5,760 |
| VBC7-30-01 ** | GJL1313901R□01□ □ | 5,760 |

Complete the contactor type code by replacing ** with desired coil voltage

Mini contactors are also available in 4 pole (4NO / 2NO + 2NC)

Mini auxiliary contactor 4 pole with screw connection

| Control circuit | Contact configuration | | Type code reference | Ordering code | L.P.(₹) |
|-----------------|-----------------------|-----|---------------------|---------------------|---------|
| | NO | NC | | | |
| AC | 2NO | 2NC | K6-22Z** | GJH1211001R□22□ □ | 1,900 |
| | 3NO | 1NC | K6-31Z ** | GJH1211001R□31□ □ ■ | |
| | 4NO | - | K6-40E ** | GJH1211001R□40□ □ | |
| DC | 2NO | 2NC | KC6-22Z** | GJH1213001R□22□ □ ■ | 2,430 |
| | 3NO | 1NC | KC6-31Z ** | GJH1213001R□31□ □ | |
| | 4NO | - | KC6-40E ** | GJH1213001R□40□ □ | |

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltage for mini contactors

| AC | Code | DC | Code |
|-------------|-----------|-------------|-----------|
| 50-60Hz | □□ | DC V | □□ |
| 24 | 0 ... 1 ■ | 24 | 0 ... 1 ■ |
| 48 | 0 ... 3 | 110 ... 125 | 0 ... 4 ■ |
| 110 ... 127 | 8 ... 4 ■ | 220 ... 240 | 0 ... 5 |
| 220 ... 240 | 8 ... 0 ■ | | |
| 380 ... 415 | 8 ... 5 | | |

Auxiliary contact blocks for mini contactors

Ordering details

| For contactor types | Auxiliary contacts | Type | Ordering code | L.P.(₹) |
|---|--------------------|----------|-----------------|---------|
| Front mounted instantaneous auxiliary contact blocks | | | | |
| B6-, B7-30-10, BC6-, BC7-30-10 | 1NO + 1NC | CAF6-11M | GJL1201330R0003 | 1,020 |
| VB6, VB7, VBC6, VBC7, VB6A, VB7A | 2NO | CAF6-20M | GJL1201330R0007 | |
| VBC6A, VBC7A | 2NC | CAF6-02M | GJL1201330R0011 | |
| Side mounted instantaneous auxiliary contact block | | | | |
| B6-, B7-30-10, BC6-, BC7-30-10 | 1NO + 1NC | CA6-11M | GJL1201317R0003 | 1,030 |

■ Stock items

DOL and star delta starters



Direct on line starter:

| Rating at 415V 50Hz | | Back-up Fuse rating (A) | Type code reference | Ordering code | L.P.(₹) |
|---------------------|------|-------------------------|---------------------|-------------------|---------|
| HP | kW | | | | |
| 0.25 | 0.18 | 4A | MA-0.25 ** | 1SYN140318R□□25 | 4,570 |
| 0.50 | 0.37 | 4A | MA-0.50 ** | 1SYN140318R□□05 | 4,570 |
| 0.75 | 0.52 | 6A | MA-0.75 ** | 1SYN140318R□□75 | 4,570 |
| 1.00 | 0.75 | 6A | MA-1.00 ** | 1SYN140318R□□10 ■ | 4,570 |
| 1.50 | 1.10 | 10A | MA-1.50 ** | 1SYN140318R□□15 | 4,570 |
| 2.00 | 1.50 | 10A | MA-2.00 ** | 1SYN140318R□□20 ■ | 4,570 |
| 3.00 | 2.20 | 16A | MA-3.00 ** | 1SYN140318R□□30 ■ | 4,570 |
| 5.00 | 3.70 | 25A | MA-5.00 ** | 1SYN140318R□□50 ■ | 4,570 |
| 7.50 | 5.50 | 32A | MA-7.50 ** | 1SYN16018R□□75 ■ | 4,570 |
| 10.00 | 7.50 | 32A | MA-10.00 ** | 1SYN180318R□□10 ■ | 4,940 |



Fully automatic Star Delta starter:

| Rating at 415V 50Hz | | Type code reference | Ordering code | L.P.(₹) |
|---------------------|----------|---------------------|-------------------|---------|
| HP | kW | | | |
| 12.5 | 12.5/9.3 | SDA-12.5 ** | 1SYN184322R□□00 ■ | 17,890 |
| 15 | 15/11 | SDA-15 ** | 1SYN242322R□□00 ■ | 19,460 |
| 20 | 20/15 | SDA- 20 ** | 1SYN244322R□□00 ■ | 22,550 |
| 25 | 25/18.5 | SDA-25 ** | 1SYN246322R□□00 | 23,490 |
| 30 | 30/22 | SDA-30 ** | 1SYN282322R□□00 | 28,380 |
| 35 | 35/26 | SDA-35 ** | 1SYN284322R□□00 | 31,490 |
| 40 | 40/30 | SDA-40 ** | 1SYN322322R□□00 | 38,210 |
| 50 | 50/37 | SDA-50 ** | 1SYN352342R□□00 | 46,320 |
| 60 | 60/45 | SDA-60 ** | 1SYN372342R□□00 | 59,570 |
| 75 | 75/55 | SDA-75 ** | 1SYN412342R□□00 | 69,810 |

Complete the starter type code by replacing the ** with the desired coil voltage.

| Voltage | Code |
|--------------------|-------|
| □□□ | □□ |
| 220 ... 230 V coil | 3 8 |
| 400 ... 415 V coil | 8 6 ■ |

DOL Starter with IP65 enclosure

4KE 7.5KW 415V, IP65 compact plastic enclosure with double insulation



| Description | Ordering code | L.P.(₹) |
|-----------------------------------|-----------------|---------|
| DRAS09-29P 4.0 kW 415V, 415V coil | 1SBK104035R2900 | 9,500 |
| DRAS12-29P 5.5 kW 415V, 415V coil | 1SBK114035R2900 | 10,220 |
| DRAS16-29P 7.5 kW 415V, 415V coil | 1SBK124035R2900 | 13,720 |

Note: T16 OLR to be ordered separately.

Manual motor starter

With thermal and electromagnetic protection



MS116 Manual motor starters with short circuit, overload and phase loss protection

| Rated power 415V KW | Ie current setting range Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|------------------------|------------------------------------|------------------------------------|------------|-------------------|----------|
| 0.03 | 0.10 ... 0.16 | 50 | MS116-0.16 | 1SAM250000R1001 ■ | 4,690 |
| 0.06 | 0.16 ... 0.25 | 50 | MS116-0.25 | 1SAM250000R1002 ■ | 4,690 |
| 0.09 | 0.25 ... 0.40 | 50 | MS116-0.4 | 1SAM250000R1003 ■ | 4,690 |
| 0.12 | 0.40 ... 0.63 | 50 | MS116-0.63 | 1SAM250000R1004 ■ | 5,450 |
| 0.25 | 0.63 ... 1.00 | 50 | MS116-1.0 | 1SAM250000R1005 ■ | 5,400 |
| 0.55 | 1.00 ... 1.60 | 50 | MS116-1.6 | 1SAM250000R1006 ■ | 5,410 |
| 0.75 | 1.60 ... 2.50 | 50 | MS116-2.5 | 1SAM250000R1007 ■ | 5,410 |
| 1.5 | 2.50 ... 4.00 | 50 | MS116-4.0 | 1SAM250000R1008 ■ | 5,670 |
| 2.2 | 4.00 ... 6.30 | 50 | MS116-6.3 | 1SAM250000R1009 ■ | 5,670 |
| 4.0 | 6.30 ... 10.0 | 50 | MS116-10 | 1SAM250000R1010 ■ | 5,840 |
| 5.5 | 8.00 ... 12.0 | 25 | MS116-12 | 1SAM250000R1012 ■ | 6,640 |
| 7.5 | 10.0 ... 16.0 | 16 | MS116-16 | 1SAM250000R1011 ■ | 7,030 |
| 9.0 | 16.0 ... 20.0 | 15 | MS116-20 | 1SAM250000R1013 ■ | 7,480 |
| 12.5 | 20.0 ... 25.0 | 15 | MS116-25 | 1SAM250000R1014 ■ | 8,080 |
| 15.5 | 25.0 ... 32.0 | 10 | MS116-32 | 1SAM250000R1015 ■ | 15,010 |



MS132 Manual motor starters with short circuit, overload and phase loss protection

| Rated power 415V KW | Ie current setting range Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|------------------------|------------------------------------|------------------------------------|------------|-------------------|----------|
| 0.03 | 0.10 ... 0.16 | 100 | MS132-0.16 | 1SAM350000R1001 | 6,150 |
| 0.06 | 0.16 ... 0.25 | 100 | MS132-0.25 | 1SAM350000R1002 ■ | 6,150 |
| 0.09 | 0.25 ... 0.40 | 100 | MS132-0.4 | 1SAM350000R1003 ■ | 6,150 |
| 0.12 | 0.40 ... 0.63 | 100 | MS132-0.63 | 1SAM350000R1004 ■ | 7,030 |
| 0.25 | 0.63 ... 1.00 | 100 | MS132-1.0 | 1SAM350000R1005 ■ | 7,080 |
| 0.55 | 1.00 ... 1.60 | 100 | MS132-1.6 | 1SAM350000R1006 ■ | 7,290 |
| 0.75 | 1.60 ... 2.50 | 100 | MS132-2.5 | 1SAM350000R1007 ■ | 7,290 |
| 1.5 | 2.50 ... 4.00 | 100 | MS132-4.0 | 1SAM350000R1008 ■ | 7,460 |
| 2.2 | 4.00 ... 6.30 | 100 | MS132-6.3 | 1SAM350000R1009 ■ | 7,550 |
| 4.0 | 6.30 ... 10.0 | 100 | MS132-10 | 1SAM350000R1010 ■ | 7,950 |
| 5.5 | 8.00 ... 12.0 | 100 | MS132-12 | 1SAM350000R1012 ■ | 9,290 |
| 7.5 | 10.0 ... 16.0 | 100 | MS132-16 | 1SAM350000R1011 ■ | 10,730 |
| 9.0 | 16.0 ... 20.0 | 100 | MS132-20 | 1SAM350000R1013 ■ | 11,350 |
| 12.5 | 20.0 ... 25.0 | 50 | MS132-25 | 1SAM350000R1014 ■ | 11,670 |
| 15.5 | 25.0 ... 32.0 | 50 | MS132-32 | 1SAM350000R1015 ■ | 20,130 |



MS165 manual motor starters with short circuit, overload and phase loss protection

| Ie current setting range Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|---------------------------------|---------------------------------|----------|-------------------|----------|
| 10 ... 16 | 100 | MS165-16 | 1SAM451000R1011 | 18,240 |
| 14 ... 20 | 100 | MS165-20 | 1SAM451000R1012 | 19,070 |
| 18 ... 25 | 100 | MS165-25 | 1SAM451000R1013 | 19,540 |
| 23 ... 32 | 100 | MS165-32 | 1SAM451000R1014 ■ | 20,950 |
| 30 ... 42 | 50 | MS165-42 | 1SAM451000R1015 ■ | 22,560 |
| 40 ... 54 | 50 | MS165-54 | 1SAM451000R1016 ■ | 27,940 |
| 52 ... 65 | 50 | MS165-65 | 1SAM451000R1017 ■ | 29,430 |
| 62 ... 73 | - | MS165-73 | 1SAM451000R1018 | 31,510 |
| 70 ... 80 | - | MS165-80 | 1SAM451000R1019 | 32,410 |

■ Stock items

Manual motor starter

With thermal and electromagnetic protection

MO132 Manual motor starters with short circuit protection only



| Rated power 415V KW | Rated operational current Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|------------------------|----------------------------------|------------------------------------|------------|-------------------|----------|
| 0.03 | 0.16 | 100 | MO132-0.16 | 1SAM360000R1001 | 6,350 |
| 0.06 | 0.25 | 100 | MO132-0.25 | 1SAM360000R1002 | 6,350 |
| 0.09 | 0.40 | 100 | MO132-0.4 | 1SAM360000R1003 | 6,350 |
| 0.12 | 0.63 | 100 | MO132-0.63 | 1SAM360000R1004 | 7,160 |
| 0.25 | 1.0 | 100 | MO132-1.0 | 1SAM360000R1005 ■ | 7,190 |
| 0.55 | 1.6 | 100 | MO132-1.6 | 1SAM360000R1006 ■ | 7,190 |
| 0.75 | 2.5 | 100 | MO132-2.5 | 1SAM360000R1007 ■ | 7,190 |
| 1.5 | 4.0 | 100 | MO132-4.0 | 1SAM360000R1008 ■ | 7,530 |
| 2.2 | 6.3 | 100 | MO132-6.3 | 1SAM360000R1009 ■ | 7,530 |
| 4.0 | 10 | 100 | MO132-10 | 1SAM360000R1010 ■ | 7,930 |
| 5.5 | 12 | 100 | MO132-12 | 1SAM360000R1012 ■ | 8,420 |
| 7.5 | 16 | 100 | MO132-16 | 1SAM360000R1011 ■ | 9,000 |
| 9.0 | 20 | 100 | MO132-20 | 1SAM360000R1013 ■ | 10,030 |
| 12.5 | 25 | 50 | MO132-25 | 1SAM360000R1014 ■ | 10,370 |
| 15.5 | 32 | 50 | MO132-32 | 1SAM360000R1015 ■ | 20,010 |

MO165 Manual motor starters with short circuit protection only



| Rated operational current Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|----------------------------------|---------------------------------|----------|-------------------|----------|
| 16 | 100 | MO165-16 | 1SAM461000R1011 | 18,190 |
| 20 | 100 | MO165-20 | 1SAM461000R1012 | 19,100 |
| 32 | 100 | MO165-32 | 1SAM461000R1014 ■ | 20,230 |
| 42 | 50 | MO165-42 | 1SAM461000R1015 | 20,460 |
| 54 | 50 | MO165-54 | 1SAM461000R1016 ■ | 22,340 |
| 65 | 50 | MO165-65 | 1SAM461000R1017 | 23,210 |
| 73 | 30 | MO165-73 | 1SAM461000R1018 | 26,810 |
| 80 | 30 | MO165-80 | 1SAM461000R1019 | 29,400 |

MS132-T circuit breakers for transformer protection

Description

MS132-T Circuit breakers for transformer protection are electro-mechanical protection devices specially designed to protect control transformers on the primary side.

The short-circuit current setting is fixed to 20 times the operating current to handle the high inrush current generated by transformers.



| Ie current setting range Amp | S/C Icu breaking capacity kA | Type | Ordering code | L.P. (₹) |
|---------------------------------|---------------------------------|-------------|-------------------|----------|
| 0.10 ... 0.16 | 100 | MS132-0.16T | 1SAM340000R1001 | 7,390 |
| 0.16 ... 0.25 | 100 | MS132-0.25T | 1SAM340000R1002 | 7,390 |
| 0.25 ... 0.40 | 100 | MS132-0.4T | 1SAM340000R1003 | 7,390 |
| 0.40 ... 0.63 | 100 | MS132-0.63T | 1SAM340000R1004 | 8,040 |
| 0.63 ... 1.00 | 100 | MS132-1.0T | 1SAM340000R1005 | 8,100 |
| 1.00 ... 1.60 | 100 | MS132-1.6T | 1SAM340000R1006 | 8,480 |
| 1.60 ... 2.50 | 100 | MS132-2.5T | 1SAM340000R1007 | 8,480 |
| 2.50 ... 4.00 | 100 | MS132-4.0T | 1SAM340000R1008 ■ | 8,520 |
| 4.00 ... 6.30 | 100 | MS132-6.3T | 1SAM340000R1009 ■ | 8,650 |
| 6.30 ... 10.0 | 100 | MS132-10T | 1SAM340000R1010 ■ | 9,230 |
| 8.00 ... 12.0 | 100 | MS132-12T | 1SAM340000R1012 | 10,190 |
| 10.0 ... 16.0 | 100 | MS132-16T | 1SAM340000R1011 ■ | 10,190 |
| 16.0 ... 20.0 | 100 | MS132-20T | 1SAM340000R1013 | 12,300 |
| 20.0 ... 25.0 | 50 | MS132-25T | 1SAM340000R1014 | 12,330 |

■ Stock items

Manual motor starter

MS116, MS132, MO132, MS165 and MO165

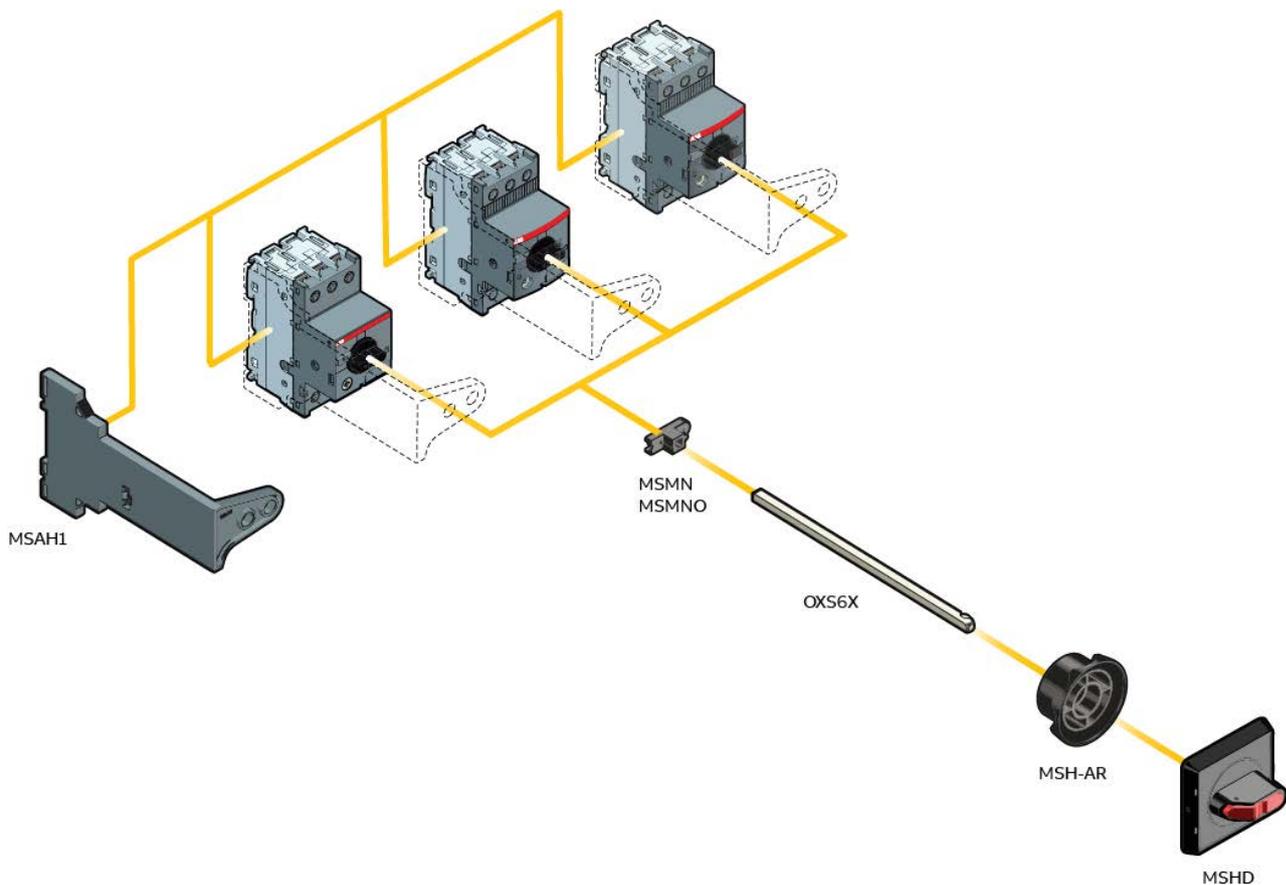
General accessories

Description

With this solution of door coupling rotary mechanism, it is possible to operate a Manual Motor Starter in the back of a switch cabinet from outside. The door coupling mechanism prevents opening of the door of a switch cabinet with the Manual Motor Starter in ON position. The complete mechanism includes handle, shaft, driver, shaft alignment ring and shaft supporter. All accessories fit for 6 mm shafts with a maximum length of 180 mm. The degree of protection for handles MSHD is IP64.

Ordering details

| Frame | Description | Type | Ordering code | L.P.(₹) |
|--------------|---|-----------|-----------------|---------|
| | SHAFT - Shaft diameter 6 mm. Shaft extension for door coupling driver | OXS6X130 | 1SCA101655R1001 | 730 |
| MS116 | MSHD - Handle | MSHD-LB1 | 1SAM201920R1001 | 1,960 |
| MS132 | | MSHD-LY2 | 1SAM201920R1002 | 1,960 |
| MO132 | | MSHD-LTB3 | 1SAM201920R1011 | 1,960 |
| MS165 | | MSHD-LTY3 | 1SAM201920R1012 | 1,960 |
| MO165 | MSMN- Driver | MSMN4 | 1SAM101923R0002 | 280 |
| | | MSMNO5 | 1SAM101923R0012 | 280 |
| | MSH-AR Shaft alignment ring | MSH-AR | 1SAM201920R1000 | 330 |
| MS116, MS132 | MSAH1-Shaft supporter | MSAH1 | 1SAM201909R1021 | 1,310 |



■ Stock items

Manual motor starter

Accessories for MS116, MS132, MO132, MS132-T, MS165, MO165



AA1-24

| Suitable for | Rated voltage | Type | Ordering code | L.P.(₹) |
|---|-----------------------------|---------|-------------------|---------|
| MS116, MS132, MO132, MS132-T MS165 MO165 | Shunt trip | | | |
| | 20 ... 24 | AA1-24 | 1SAM201910R1001 | 5,220 |
| | 110 | AA1-110 | 1SAM201910R1002 ■ | 5,220 |
| | 200-240 | AA1-230 | 1SAM201910R1003 ■ | 5,220 |
| | 350-415 | AA1-400 | 1SAM201910R1004 | 5,220 |
| | Undervoltage release | | | |
| | 24 | UA1-24 | 1SAM201904R1001 | 4,280 |
| | 110 | UA1-110 | 1SAM201904R1004 | 4,280 |
| | 230 | UA1-230 | 1SAM201904R1005 | 4,280 |
| | 415 | UA1-415 | 1SAM201904R1007 | 4,280 |



HKF1-11

| Suitable for | Aux contacts | Type | Ordering code | L.P.(₹) |
|---|--|---------|-------------------|---------|
| MS116, MS132, MO132, MS132-T MS165 MO165 | Auxiliary contacts – mountable on the front | | | |
| | 1NO+1NC | HKF1-11 | 1SAM201901R1001 ■ | 1,020 |
| | 2 NO | HKF1-20 | 1SAM201901R1002 ■ | 1,020 |
| | 1NO | HKF1-10 | 1SAM201901R1003 ■ | 650 |
| | 1NC | HKF1-01 | 1SAM201901R1004 ■ | 650 |
| | Auxiliary contacts – mountable on the right | | | |
| | 1NO+1NC | HK1-11 | 1SAM201902R1001 ■ | 1,400 |
| | 2 NO | HK1-20 | 1SAM201902R1002 ■ | 1,400 |
| | 2 NC | HK1-02 | 1SAM201902R1003 ■ | 1,400 |



SK1-11

CK1-11

| Suitable for | Aux contacts | Type | Ordering code | L.P.(₹) |
|--|--|----------|-------------------|---------|
| MS116, MS132, MO132, MS 165 MO 165 MS132-T MS132 MS132-T MS165 | Signalling contacts | | | |
| | 1NO+1NC | SK1-11** | 1SAM201903R1001 ■ | 1,920 |
| | 2 NO | SK1-20** | 1SAM201903R1002 ■ | 1,920 |
| | 2 NC | SK1-02** | 1SAM201903R1003 | 1,920 |
| | Short circuit Signalling contacts | | | |
| | 1NO+1NC | CK1-11# | 1SAM301901R1001 ■ | 2,690 |
| | 2 NO | CK1-20# | 1SAM301901R1002 ■ | 2,690 |
| | 2 NC | CK1-02# | 1SAM301901R1003 | 2,690 |

**for tripped alarm, max 2 piece

#for short-circuit alarm, max. 2 pieces

Thermal overload relays



TA25, TA42 and TA75 relays

| Relay range in Amps | Direct mounting on contactors | Type code reference | Ordering code | L.P.(₹) |
|--|-------------------------------|---------------------|-------------------|---------|
| 0.1 ... 0.16 | | TA25DU 0.16M | 1SAZ211201R2005 ■ | 2,390 |
| 0.16 ... 0.25 | | TA25DU 0.25M | 1SAZ211201R2009 ■ | 2,390 |
| 0.25 ... 0.4 | | TA25DU 0.4M | 1SAZ211201R2013 ■ | 2,390 |
| 0.4 ... 0.63 | | TA25DU 0.63M | 1SAZ211201R2017 ■ | 2,390 |
| 0.63 ... 1.0 | | TA25DU 1.0M | 1SAZ211201R2021 ■ | 2,430 |
| 1.0 ... 1.4 | | TA25DU 1.4M | 1SAZ211201R2023 ■ | 2,430 |
| 1.3 ... 1.8 | | TA25DU 1.8M | 1SAZ211201R2025 ■ | 2,430 |
| 1.7 ... 2.4 | A9...A40 | TA25DU 2.4M | 1SAZ211201R2028 ■ | 2,430 |
| 2.2 ... 3.1 | AX9...AX40 | TA25DU 3.1M | 1SAZ211201R2031 ■ | 2,430 |
| 2.8 ... 4.0 | AL9...AL40 | TA25DU 4.0M | 1SAZ211201R2033 ■ | 2,430 |
| 3.5 ... 5.0 | TAL9...TAL40 | TA25DU 5.0M | 1SAZ211201R2035 ■ | 2,430 |
| 4.5 ... 6.5 | | TA25DU 6.5M | 1SAZ211201R2038 ■ | 2,430 |
| 6.0 ... 8.5 | | TA25DU 8.5M | 1SAZ211201R2040 ■ | 2,430 |
| 7.5 ... 11.0 | | TA25DU 11M | 1SAZ211201R2043 ■ | 2,470 |
| 10.0 ... 14.0 | | TA25DU 14M | 1SAZ211201R2045 ■ | 2,470 |
| 13.0 ... 19.0 | | TA25DU 19M | 1SAZ211201R2047 ■ | 3,000 |
| 18.0 ... 25.0 | | TA25DU 25M | 1SAZ211201R2051 ■ | 3,000 |
| 24.0 ... 32.0 | | TA25DU 32M | 1SAZ211201R2053 ■ | 3,000 |
| TA42DU | | | | |
| 18.0 ... 25.0 | A30, A40, | TA42DU 25 | 1SAZ311201R2001 ■ | 4,710 |
| 22.0 ... 32.0 | AX32...AX40 | TA42DU 32 | 1SAZ311201R2002 ■ | 5,120 |
| 29.0 ... 42.0 | AL30, AL40, TAL30, TAL 40 | TA42DU 42 | 1SAZ311201R2003 ■ | 5,220 |
| TA75DU | | | | |
| 22 ... 32 | | TA75DU 32 | 1SAZ321201R2002 ■ | 5,910 |
| 29 ... 42 | | TA75DU 42 | 1SAZ321201R2003 ■ | 7,080 |
| 36 ... 52 | A50...A75 | TA75DU 52 | 1SAZ321201R2004 ■ | 7,220 |
| 45 ... 63 | AX50...AX80 | TA75DU 63 | 1SAZ321201R2005 ■ | 7,480 |
| 60 ... 80 | | TA75DU 80 | 1SAZ321201R2006 ■ | 8,030 |
| TA80DU | | | | |
| 29 ... 42 | | TA80DU-42M | 1SAZ331201R2003 ■ | 8,880 |
| 36 ... 52 | A95...A110, | TA80DU-52M | 1SAZ331201R2004 ■ | 8,880 |
| 45 ... 63 | AX95...AX150 | TA80DU-63M | 1SAZ331201R2005 ■ | 8,880 |
| 60 ... 80 | | TA80DU-80M | 1SAZ331201R2006 ■ | 9,560 |
| TA25/TA42/TA75/TA80/TA110/TA200 are direct operated relays with trip class 10A | | | | |
| TA110DU | | | | |
| 65.0 ... 90.0 A | A95...A110, | TA110DU-90M | 1SAZ411201R2001 | 14,370 |
| 80.0 ... 110.0 A | AX95...AX150 | TA110DU-110M | 1SAZ411201R2002 | 15,600 |
| TA200DU | | | | |
| 66 ... 90 | | TA200DU-90 | 1SAZ421201R1001 ■ | 16,530 |
| 80 ... 110 | | TA200DU-110 | 1SAZ421201R1002 ■ | 17,910 |
| 100 ... 135 | A145...A185 | TA200DU-135 | 1SAZ421201R1003 ■ | 19,110 |
| 110 ... 150 | AX185...AX205 | TA200DU-150 | 1SAZ421201R1004 ■ | 20,820 |
| 130 ... 175 | AF190, AF205 | TA200DU-175 | 1SAZ421201R1005 ■ | 21,660 |
| 150 ... 200 | | TA200DU-200 | 1SAZ421201R1006 ■ | 22,650 |

Accessories

| | | | | |
|--------------------------|------------------------|---------|-------------------|-------|
| Independent Mounting Kit | TA25DU0.16..25A | DB25/25 | 1SAZ201108R0001 ■ | 560 |
| | TA25DU32 | DB25/32 | 1SAZ201108R0002 | 1,220 |
| | TA42DU, TA75DU, TA80DU | DB80 | 1SAZ301110R0001 ■ | 5,340 |
| | TA110DU, TA200DU | DB200 | 1SAZ401110R0001 ■ | 5,520 |

■ Stock items

Thermal overload relays



T16



TF42

T16 Relays

| Relay range in Amps | Direct mounting on contactors | Type code reference | Ordering code | L.P. (₹) |
|---------------------|-------------------------------|---------------------|-------------------|--------------|
| 0.10 ... 0.13 | | T16-0.13 | 1SAZ711201R1005 | |
| 0.13 ... 0.17 | | T16-0.17 | 1SAZ711201R1008 | |
| 0.17 ... 0.23 | | T16-0.23 | 1SAZ711201R1009 | |
| 0.23 ... 0.31 | | T16-0.31 | 1SAZ711201R1013 | |
| 0.31 ... 0.41 | | T16-0.41 | 1SAZ711201R1014 | |
| 0.41 ... 0.55 | | T16-0.55 | 1SAZ711201R1017 | |
| 0.55 ... 0.74 | | T16-0.74 | 1SAZ711201R1021 | |
| 0.74 ... 1.00 | | T16-1.0 | 1SAZ711201R1023 | |
| 1.00 ... 1.30 | | T16-1.3 | 1SAZ711201R1025 | Upon request |
| 1.30 ... 1.70 | B6/BC6 | T16-1.7 | 1SAZ711201R1028 | |
| 1.70 ... 2.30 | B7/BC7 | T16-2.3 | 1SAZ711201R1031 | |
| 2.30 ... 3.10 | VB6/VBC6 | T16-3.1 | 1SAZ711201R1033 | |
| 3.10 ... 4.20 | VB7/VBC7 | T16-4.2 | 1SAZ711201R1035 | |
| 4.20 ... 5.70 | AS/ASL | T16-5.7 | 1SAZ711201R1038 ■ | |
| 5.70 ... 7.60 | DOL starter | T16-7.6 | 1SAZ711201R1040 | |
| 7.60 ... 10.0 | IP65 | T16-10 | 1SAZ711201R1043 | |
| 10.0 ... 13.0 | | T16-13 | 1SAZ711201R1045 | |
| 13.0 ... 16.0 | | T16-16 | 1SAZ711201R1047 | |
| 16.0 ... 20.0 | | | | |
| 20.0 ... 24.0 | | | | |
| 24.0 ... 29.0 | | | | |
| 29.0 ... 35.0 | | | | |
| 35.0 ... | | | | |
| 38.0/40.0 | | | | |

TF42 Relays

| Direct mounting on contactors | Type code reference | Ordering code | L.P. (₹) |
|-------------------------------|---------------------|-------------------|--------------|
| | TF42-0.13 | 1SAZ721201R1005 | |
| | TF42-0.17 | 1SAZ721201R1008 | |
| | TF42-0.23 | 1SAZ721201R1009 | |
| | TF42-0.31 | 1SAZ721201R1013 | |
| | TF42-0.41 | 1SAZ721201R1014 | |
| | TF42-0.55 | 1SAZ721201R1017 | |
| | TF42-0.74 | 1SAZ721201R1021 | |
| | TF42-1.0 | 1SAZ721201R1023 | |
| | TF42-1.3 | 1SAZ721201R1025 | |
| | TF42-1.7 | 1SAZ721201R1028 ■ | |
| | TF42-2.3 | 1SAZ721201R1031 ■ | |
| AF09...AF38 | TF42-3.1 | 1SAZ721201R1033 ■ | Upon request |
| AFC09...AFC38 | TF42-4.2 | 1SAZ721201R1035 ■ | |
| | TF42-5.7 | 1SAZ721201R1038 ■ | |
| | TF42-7.6 | 1SAZ721201R1040 ■ | |
| | TF42-10 | 1SAZ721201R1043 | |
| | TF42-13 | 1SAZ721201R1045 ■ | |
| | TF42-16 | 1SAZ721201R1047 ■ | |
| | TF42-20 | 1SAZ721201R1049 | |
| | TF42-24 | 1SAZ721201R1051 | |
| | TF42-29 | 1SAZ721201R1052 | |
| | TF42-35 | 1SAZ721201R1053 | |
| | TF42-38 | 1SAZ721201R1055 | |

■ Stock items

Thermal overload relays



TF65

TF65/TF96/TF140 Relay

| Relay range in Amps | Direct mounting on contactors | Type code reference | Ordering code | L.P. (₹) |
|---------------------|-------------------------------|---------------------|-----------------|--------------|
| 22.0...28.0 | AF40, AF52, AF65 AFC40 | TF65-28 | 1SAZ811201R1001 | Upon request |
| 25.0...33.0 | | TF65-33 | 1SAZ811201R1002 | |
| 30.0...40.0 | | TF65-40 | 1SAZ811201R1003 | |
| 36.0...47.0 | | TF65-47 | 1SAZ811201R1004 | |
| 44.0...53.0 | | TF65-53 | 1SAZ811201R1005 | |
| 50.0...60.0 | | TF65-60 | 1SAZ811201R1006 | |
| 57.0...67.0 | | TF65-67 | 1SAZ811201R1007 | |
| 40.0...51.0 | AF80, AF96 | TF96-51 | 1SAZ911201R1001 | |
| 48.0...60.0 | | TF96-60 | 1SAZ911201R1002 | |
| 57.0...68.0 | | TF96-68 | 1SAZ911201R1003 | |
| 65.0...78.0 | | TF96-78 | 1SAZ911201R1004 | |
| 75.0...87.0 | | TF96-87 | 1SAZ911201R1005 | |
| 84.0...96.0 | TF96-96 | 1SAZ911201R1006 | | |
| 66...90 | AF116, AF140 | TF140DU-90 | 1SAZ431201R1001 | |
| 80...110 | | TF140DU-110 | 1SAZ431201R1002 | |
| 100...135 | | TF140DU-135 | 1SAZ431201R1003 | |
| 110...142 | | TF140DU-142 | 1SAZ431201R1004 | |

For AF190 and AF205 use TA200DU OLR

| Description | Type | Ordering code | L.P. (₹) |
|--------------------------------|-------|-------------------|--------------|
| Separate mounting kit | DB16E | 1SAX101110R0001 ■ | Upon request |
| Separate mounting kit | DB42 | 1SAZ701902R0001 ■ | |
| Separate mounting kit for TF65 | DB65 | 1SAZ801901R1001 | |
| Separate mounting kit for TF96 | DB96 | 1SAZ901901R1001 | |

Electronic overload relays and suitable contactors

| | | | | | | | | |
|------------------------|----------------------------|------------------|---------------------|---------------|------------------------|------------------------|------------------|-------------------------|
| Suitable for Contactor | A9 ... A16 TAL9...TAL16 | A26 ... A40 | A50 ... A75 | A95, A110 | AF190, AF205 | | | |
| EOLR | AL9 ... AL16 | AL30 ... AL40 | E16DU | E45DU | E80DU | E140DU | EF205 | |
| Suitable for Contactor | AF400, | AF580, | AF1350, | B6/BC6 | | | | |
| EOLR | AF460 | AF750 | AF1650 | B7/BC7 | | | | |
| Suitable for Contactor | AF09 ... AF16 | AF26, AF38 | AF40, AF52, AF65 | AF80, AF96 | AF116, AF140, AF146 | AF265, AF305, AF370 | AF400, AF460, | AF580, AF750, AF1250 |
| EOLR | EF19 | EF45 | EF65 | EF96 | EF146 | EF370 | EF460 | EF750 |

■ Stock items

Electronic overload relays class 10, 20, 30



Electronic overload relays

Trip class 10, 20, 30 selectable

| Setting range | Trip class | Type | Ordering code | L.P.(₹) | |
|---------------|--------------------------------|--------------------------------|-------------------|-----------------|-----------------|
| 0.1... 0.32A | Selectable 10E, 20E and 30E | E16DU 0.32 | 1SAX111001R1101 | 12,830 | |
| 0.3 ... 1.0A | | E16DU 1.0 | 1SAX111001R1102 | 12,950 | |
| 0.8 ... 2.7A | | E16DU 2.7 | 1SAX111001R1103 ■ | 12,830 | |
| 1.9 ... 6.3A | | E16DU 6.3 | 1SAX111001R1104 ■ | 14,050 | |
| 5.7... 18.9A | | E16DU 18.9 | 1SAX111001R1105 ■ | 14,310 | |
| 9 ... 30A | | E45DU 30 | 1SAX211001R1101 ■ | 18,080 | |
| 15 ... 45A | | E45DU 45 | 1SAX211001R1102 ■ | 19,690 | |
| 27 ... 80A | | E80DU 80 | 1SAX311001R1101 ■ | 25,860 | |
| 50 ... 140A | | E140DU 140 | 1SAX321001R1101 ■ | 31,130 | |
| 63 ... 210A | | EF205-210 | 1SAX531001R1101 | Upon request | |
| 115 ... 380A | | EF370-380 | 1SAX611001R1101 | | |
| 150 ... 500A | | EF460 | 1SAX721001R1101 ■ | | |
| 250 ... 800A | | EF750 | 1SAX821001R1101 | | |
| 375 ... 1250A | | E1250DU 375 - 1250 A | 1SFA739001R1000 | | |
| 0.10...0.32A | | Selectable 10E, 20E and 30E | EF19-0.32 | | 1SAX121001R1101 |
| 0.30...1.00A | | | EF19-1.0 | 1SAX121001R1102 | |
| 0.80...2.70A | EF19-2.7 | | 1SAX121001R1103 ■ | | |
| 1.90...6.30A | EF19-6.3 | | 1SAX121001R1104 ■ | | |
| 5.70...18.9A | EF19-18.9 | | 1SAX121001R1105 ■ | | |
| 9.00...30.0A | EF45-30 | | 1SAX221001R1101 ■ | | |
| 15.0...45.0A | EF45-45 | | 1SAX221001R1102 ■ | | |
| 25...70A | EF65-70 | | 1SAX331001R1101 ■ | | |
| 36...100A | EF96-100 | | 1SAX341001R1101 ■ | | |
| 54...150A | EF146-150 | | 1SAX351001R1101 ■ | | |
| 63 ... 210A | EF205-210 | | 1SAX531001R1101 ■ | | |
| 115 ... 380A | EF370-380 | | 1SAX611001R1101 ■ | | |
| 150 ... 500A | EF460 | | 1SAX721001R1101 | | |
| 250 ... 800A | EF750 | | 1SAX821001R1101 | | |

Accessories

| Description | Type | Ordering code | L.P.(₹) |
|------------------------------|--------|-------------------|---------|
| Separate mounting kit | DB16E | 1SAX101110R0001 | 4,150 |
| Separate mounting kit - EF19 | DB19EF | 1SAX101910R1001 ■ | 4,190 |
| Separate mounting kit - EF45 | DB45EF | 1SAX201910R0001 ■ | 6,700 |
| Separate mounting kit | DB45E | 1SAX201110R1001 | 6,700 |
| Separate mounting kit | DB80E | 1SAX301110R1001 ■ | 8,340 |
| Separate mounting kit | DB140E | 1SAX301110R1002 | 12,050 |

For suitable contactors refer page no. 101

■ Stock items

Push-in Spring solution

Complete range, complete efficiency

The Push-in Spring motor starting solution products provide you with a range of benefits.



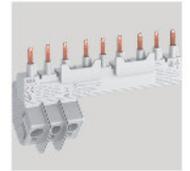
2-in-1
Benefit from both Push-in mode and Spring mode and use ferruled cables or cables without ferrules in the same terminal.



Tool-free connecting links
100% tool-free mounting connecting links.



Compatible with screw range
Mount accessories for control circuits on the screw range up to 45 kW AC-3 400 V on manual motor starters and up to 45 kW AC-3 400 V, 130 A AC-1 on contactors.



Tool-free busbars
Parallel connection of manual motor starters without the need for tools (also certified for UL Type E/ Type F applications)



Just one tool for everything
You only need a 3 mm screwdriver in Spring mode as well as for de-wiring the complete solution.



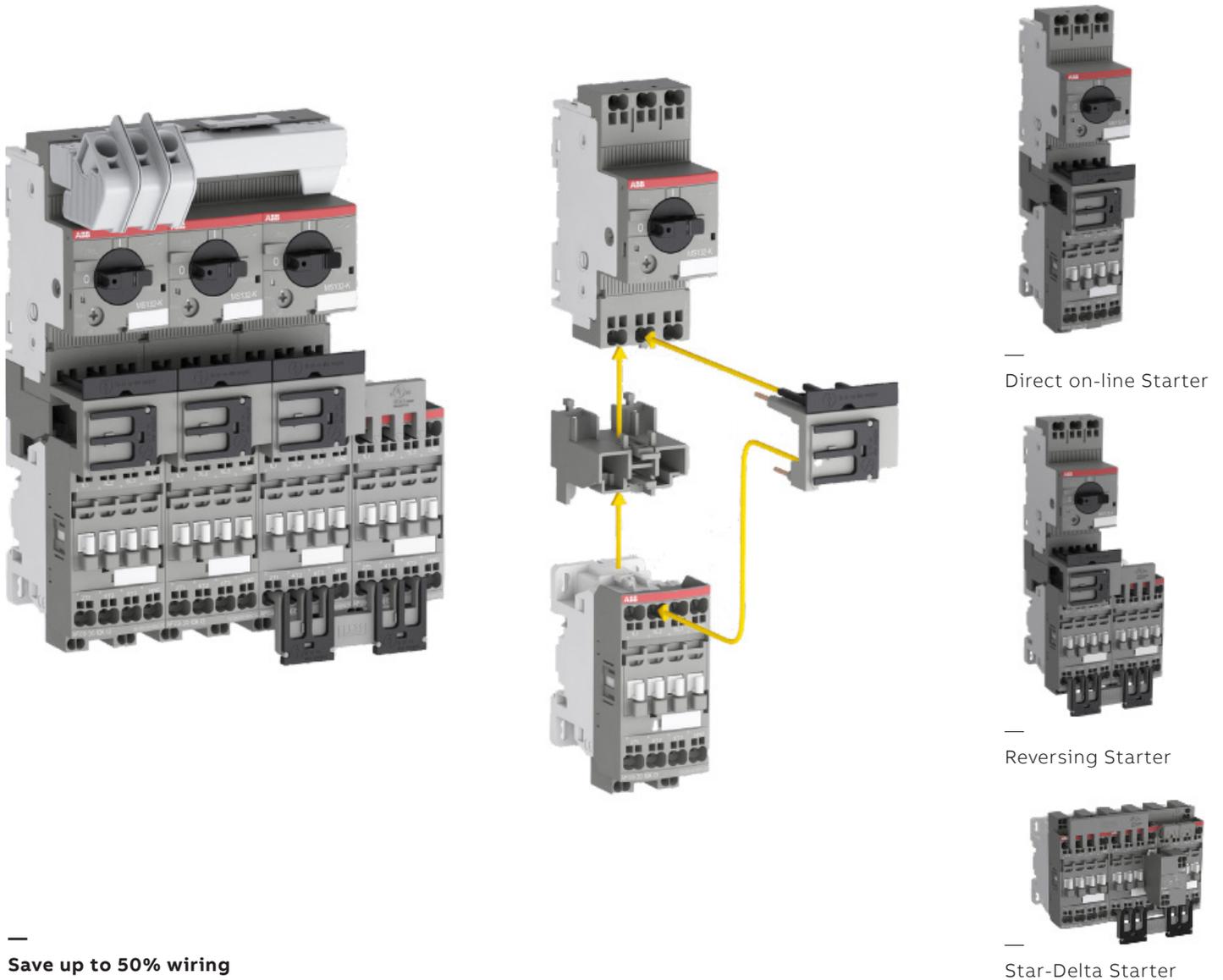
Higher connecting capacity
The solution ranges up to 18.5 kW 400 V AC-3 and 50 A AC-1 (25 hp 480 V and 45 A 600 V general use).

Just push it!

NEW

The next evolution in motor starter solutions is here.

So up to 18.5 kW, one push is all you need!

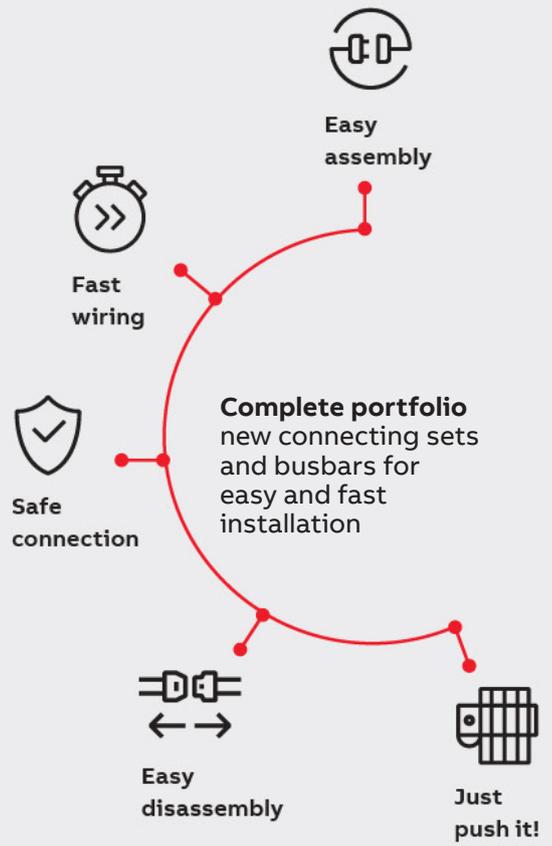


Save up to 50% wiring time with Push-in Spring compared to conventional spring solutions. And the connections are just as reliable. So for speed, ease and reliability, just push it.

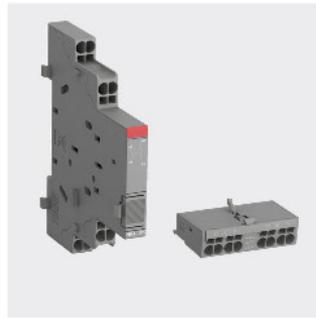
NEW

Benefits / Features

- Fast and intuitive wiring
- Tool-free mounting
- Vibration & shock proof
- Robust design for higher up-time
- Future proof connection technology
- Terminals accessible from the front
- One-hand mounting
- 2-in-1 Push-in / Spring
- Higher connection capacity
- No mounting plate required for starters
- Enabled for automated wiring



CA4..K, CAL4-11K 1, 2 and 4 pole auxiliary contacts



HK1-K, HKF1-K auxiliary contacts



SK1-K and SK1-ARK signaling contacts



PS1...-65K busbars for 2, 3, 4 or 5 manual motor starters



TS1-M3-K terminal spacer for UL Type E/F combination motor controllers



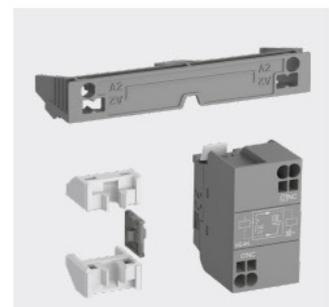
BEA16-4KF and BEA38-4KF connecting links with manual motor starters



BER16-4KF and BER38-4KF connecting links for reversing starters



BEY16-4KF and BEY38-4KF connection sets for Star-Delta starters



VEM4K electrical and mechanical interlock

15BC100.44550201

Softstarters portfolio

Overview



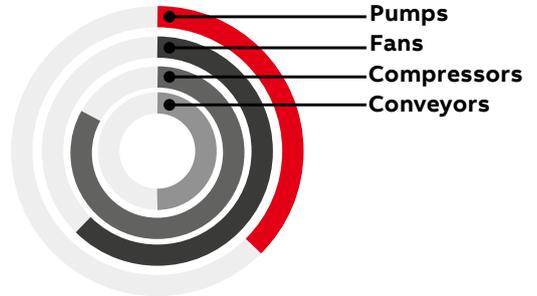
PSR - The compact range

PSR is our most compact softstarter with basic benefits and values. PSR can handle up to 100 starts per hour. Suitable for small motors.

Current: 3 A... 105 A

Main voltage: 208 V... 600 V

Application features



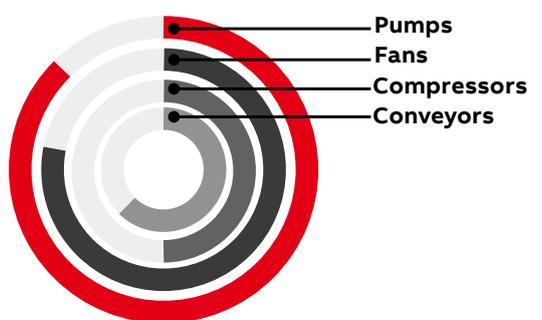
PSE - The efficient range

The new generation PSE is a true general purpose softstarter. It's a perfect balance between high starting capacity and cost efficiency. Now featuring built-in fieldbus communication.

Current: 18 A... 370 A

Main voltage: 208 V... 600 V

Application features



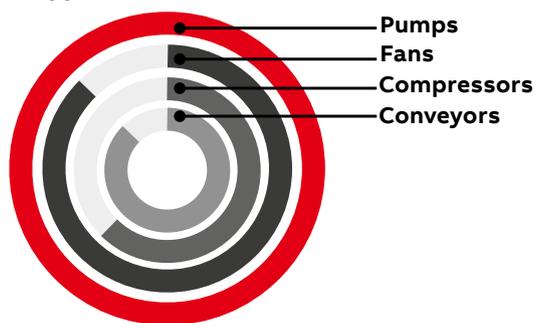
PSTX - The advanced range

PSTX is the most complete alternative for any motor starting application. Featuring built-in Modbus and anybus modules that support all major communication protocols.

Current: 30 A... 1250 A

Main voltage: 208 V... 690 V

Application features



Softstarters

Motor starting matters

ABB softstarters offering consists of three ranges, covering every need. The products help you secure motor reliability, improve installation efficiency and increase application productivity.

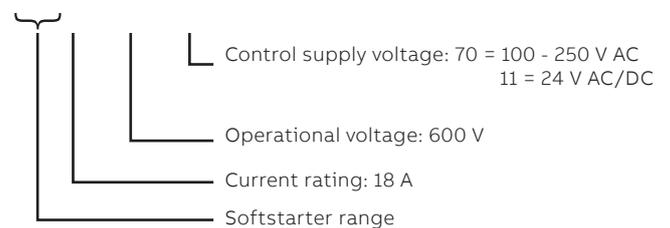


| PSR – The compact range | PSE – The efficient range | PSTX – The advanced range |
|--|---|--|
| <ul style="list-style-type: none"> • When soft start and stop benefits and values are requested • When operating a small motor • When up to 100 starts per hour are requested | <ul style="list-style-type: none"> • When there is limited space • When common softstarter functions and protections are needed • When communication is needed | <ul style="list-style-type: none"> • When full control and motor protection is needed • When an advanced softstarter with an extensive functionality is needed • When motor is connected inside delta or in 690 V |

| PSR | PSE | PSTX | • Standard, O Optional, - Not available |
|-----|----------------|----------------|---|
| • | • | • | Built-in by-pass |
| - | - | • | Inside delta connection |
| - | • | • | Coated PCBs |
| - | • | • | Display and keypad, |
| - | • | • | Torque control / Pump control |
| - | • | • | Settable current limit function |
| - | • | • | Electronic motor overload protection |
| - | - | • | PTC input for motor protection |
| - | - | • | Phase imbalance protection |
| - | - | • | Phase reversal protection |
| - | • | • | Locked rotor protection |
| - | • | • | Thyristor overtemperature protection |
| - | • | • | Underload protection |
| - | - | • | UV/OV protection |
| - | - | • | Programmable warning functions |
| - | • | • | Analog output |
| O | • ¹ | • ¹ | FieldBus communication |
| - | O | • | Event log |
| - | O | • ² | External keypad |
| - | - | • | Motor heating |
| - | - | • | Pump cleaning |
| - | - | • | Limp mode |
| - | - | • | Network diagnostics |

1 - built in Modbus-RTU
2 - detachable key pad

PSR18 - 600 -70



Softstarters

PSR - The compact range



- Rated operational current: 3...105 A
- Operational voltage: 208...600 V AC
- Wide rated control supply voltage: 100...240 V AC, 50/60 Hz or 24 V AC/DC
- Two-phase controlled
- Soft start and soft stop with voltage ramp

- Built-in bypass for energy saving and easy installation
- Fieldbus communication with fieldbus plug adapter and the fieldbus plug

PSR3 ... PSR105

Rated operational voltage U_e, 208-600 V AC
Rated control supply voltage, U_s, 100 - 240 V AC



| 415V Pe kW" | IEC Max rated operational I _e A | Type | Order code | L.P. (₹) |
|-------------|--|---------------|-----------------|----------|
| 1.5 | 3.9 | PSR3-600-70 | 1SFA896103R7000 | 18,520 |
| 3 | 6.8 | PSR6-600-70 | 1SFA896104R7000 | 21,160 |
| 4 | 9 | PSR9-600-70 | 1SFA896105R7000 | 24,070 |
| 5.5 | 12 | PSR12-600-70 | 1SFA896106R7000 | 28,570 |
| 7.5 | 16 | PSR16-600-70 | 1SFA896107R7000 | 34,920 |
| 11 | 25 | PSR25-600-70 | 1SFA896108R7000 | 38,570 |
| 15 | 30 | PSR30-600-70 | 1SFA896109R7000 | 50,310 |
| 18.5 | 37 | PSR37-600-70 | 1SFA896110R7000 | 63,230 |
| 22 | 45 | PSR45-600-70 | 1SFA896111R7000 | 69,260 |
| 30 | 60 | PSR60-600-70 | 1SFA896112R7000 | 91,820 |
| 37 | 72 | PSR72-600-70 | 1SFA896113R7000 | 1,14,050 |
| 45 | 85 | PSR85-600-70 | 1SFA896114R7000 | 1,28,740 |
| 55 | 105 | PSR105-600-70 | 1SFA896115R7000 | 1,40,390 |

For rated control supply voltage, U_s, 24 V Dc replace R7000 by R1100

PSE - The efficient range



- Rated operational current: 18...370 A
- Operational voltage: 208...600 V AC
- Wide rated control supply voltage: 100...250 V AC, 50/60 Hz
- Voltage ramp and torque control for both start and stop
- Two-phase controlled, Current limit and Kick-start
- Built-in bypass for energy saving and easy installation

- External keypad rated IP66 (Type 1, 4X,12) as an option
- **NEW** Built-in Modbus-RTU communication for monitoring and control
- Fieldbus communication with fieldbus plug adapter and the fieldbus plug
- Analog output for display of motor current
- Electronic overload, underload and locked rotor protection

PSE18 ... PSE370

Normal starts, Class 10, In-Line

Rated operational voltage U_e, 208-600 V AC
Rated control supply voltage, U_s, 100 - 240 V AC

| 415V Pe kW | IEC Max rated operational I _e A | Type | Order code | L.P. (₹) |
|------------|--|-----------------|-----------------|----------|
| 7.5 | 18 | PSE18-600-70 | 1SFA897101R7000 | 81,360 |
| 11 | 25 | PSE25-600-70 | 1SFA897102R7000 | 82,560 |
| 15 | 30 | PSE30-600-70 | 1SFA897103R7000 | 87,610 |
| 18.5 | 37 | PSE37-600-70 | 1SFA897104R7000 | 97,320 |
| 22 | 45 | PSE45-600-70 | 1SFA897105R7000 | 1,00,500 |
| 30 | 60 | PSE60-600-70 | 1SFA897106R7000 | 1,16,480 |
| 37 | 72 | PSE72-600-70 | 1SFA897107R7000 | 1,27,130 |
| 45 | 85 | PSE85-600-70 | 1SFA897108R7000 | 1,42,630 |
| 55 | 106 | PSE105-600-70 | 1SFA897109R7000 | 1,61,630 |
| 75 | 143 | PSE142-600-70 | 1SFA897110R7000 | 1,89,460 |
| 90 | 171 | PSE170-600-70 | 1SFA897111R7000 | 2,29,570 |
| 110 | 210 | PSE210-600-70-1 | 1SFA897112R7001 | 2,83,610 |
| 132 | 250 | PSE250-600-70-1 | 1SFA897113R7001 | 3,43,370 |
| 160 | 300 | PSE300-600-70-1 | 1SFA897114R7001 | 3,86,810 |
| 200 | 370 | PSE370-600-70-1 | 1SFA897115R7001 | 4,22,360 |

For accessories consult

Softstarters

PSTX - The advanced range



- Rated operational current: 30 to 1250 A
- Three-phase controlled
- Operational voltage: 208 – 690 VAC
- Wide rated control supply voltage: 100 – 250 V, 50/60 Hz (inside-delta: 2160 A)
- Both in-line and inside-delta connection
- Coated circuit boards protecting from dust, moist and corrosive atmosphere
- Detachable keypad rated IP66 (4X outdoor)
- Built-in bypass for energy saving and easy installation
- Built-in Modbus RTU for monitoring and control
- Support for all major communication protocols
- Analog output for measurement of current, voltage, power factor etc.

PSTX30 ... PSTX370

Normal starts, class 10, in-line, ordering details

Rated operational voltage U_e , 208-600 V

Rated control supply voltage U_s , 100-250 V AC, 50/60 Hz



| 415V P_e kW | IEC Max rated operational I _e A | Type | Ordering code | L.P. (₹) |
|------------------|--|-----------------|-----------------|--------------|
| 15 | 30 | PSTX30-600-70 | 1SFA898103R7000 | |
| 18.5 | 37 | PSTX37-600-70 | 1SFA898104R7000 | |
| 22 | 45 | PSTX45-600-70 | 1SFA898105R7000 | |
| 30 | 60 | PSTX60-600-70 | 1SFA898106R7000 | |
| 37 | 72 | PSTX72-600-70 | 1SFA898107R7000 | |
| 45 | 85 | PSTX85-600-70 | 1SFA898108R7000 | |
| 55 | 106 | PSTX105-600-70 | 1SFA898109R7000 | |
| 75 | 143 | PSTX142-600-70 | 1SFA898110R7000 | |
| 90 | 171 | PSTX170-600-70 | 1SFA898111R7000 | |
| 110 | 210 | PSTX210-600-70 | 1SFA898112R7000 | |
| 132 | 250 | PSTX250-600-70 | 1SFA898113R7000 | Upon request |
| 160 | 300 | PSTX300-600-70 | 1SFA898114R7000 | |
| 200 | 370 | PSTX370-600-70 | 1SFA898115R7000 | |
| 250 | 470 | PSTX470-600-70 | 1SFA898116R7000 | |
| 315 | 570 | PSTX570-600-70 | 1SFA898117R7000 | |
| 400 | 720 | PSTX720-600-70 | 1SFA898118R7000 | |
| 450 | 840 | PSTX840-600-70 | 1SFA898119R7000 | |
| 560 | 1050 | PSTX1050-600-70 | 1SFA898120R7000 | |
| 710 | 1200 | PSTX1250-600-70 | 1SFA898121R7000 | |

For 690 V, contact nearest sales office

For inside-delta, contact nearest sales office

Soft starter communication accessories

| For communication protocol | Type | Ordering code | L.P. (₹) |
|----------------------------|------------------|-----------------|--------------|
| Profibus | AB-PROFIBUS-1 | 1SFA899300R1001 | |
| Devicenet | AB-DEVICENET-1 | 1SFA899300R1002 | |
| Modbus-RTU | AB-MODBUS-RTU-1 | 1SFA899300R1003 | |
| EtherNet/IP (1-port) | AB-ETHERNET-IP-1 | 1SFA899300R1005 | Upon request |
| EtherNet/IP (2-port) | AB-ETHERNET-IP-2 | 1SFA899300R1006 | |
| Modbus TCP (1-port) | AB-MODBUS-TCP-1 | 1SFA899300R1007 | |
| Modbus TCP (2-port) | AB-MODBUS-TCP-2 | 1SFA899300R1008 | |
| Profinet (2-port) | AB-PROFINET-2 | 1SFA899300R1010 | |



EtherNet/IP (2-port)
Modbus TCP (2-port)
Profinet (2-port)



EtherNet/IP (1-port)
Modbus TCP (1-port)



Profibus
Modbus-RTU

Softstarters benefits and features



SECURE MOTOR RELIABILITY

Increase your motors' lifetime...

With ABB softstarters, starting currents are easily optimized to your load, application and motor size.

...by protecting it from electrical stresses.

Over ten motor protection features are included to keep your motor safe from overloads and network irregularities.

| Softstarter features | PSR | PSE | PSTX |
|---|-----|-----|------|
| Current limit | - | ● | ● |
| Current limit ramp and dual current limit | - | - | ● |
| Electronic motor overload protection | - | ● | ● |
| Dual overload protection | - | - | ● |
| Underload protection | - | ● | ● |
| Power factor underload protection | - | - | ● |
| Locked rotor protection | - | ● | ● |
| Current/Voltage imbalance protection | - | - | ● |
| Phase reversal protection | - | - | ● |
| Customer defined protection | - | - | ● |
| Motor heating | - | - | ● |
| PTC/PT100 input for motor protection | - | - | ● |
| Overvoltage/undervoltage protection | - | - | ● |
| Earth-fault protection | - | - | ● |

● = standard, ○ = option, - = not available



IMPROVE INSTALLATION EFFICIENCY

Reduce your installation time and panel size...

ABB softstarters are easy to install, thanks to their compact design and many built-in features.

...by having everything that you need built in.

Built-in bypass saves energy and space while reducing heat generation: a complete motor starting solution in one unit designed and verified by ABB.

| Softstarter features | PSR | PSE | PSTX |
|----------------------------------|-----|-----|------|
| Built-in bypass | ● | ● | ● |
| Inside-delta connection possible | - | - | ● |
| Graphical display and keypad | - | ● | ● |
| Detachable keypad | - | - | ● |
| Motor runtime and start count | - | - | ● |
| Programmable warning functions | - | - | ● |
| Diagnostics | - | - | ● |
| Overload time-to-trip | - | - | ● |
| Overload time-to-cool | - | - | ● |
| Analog output | - | ● | ● |
| Fieldbus communication | ○ | ● | ● |
| Event log | - | ○ | ● |
| Multiple languages | - | - | 17 |
| Electricity metering | - | - | ● |

● = standard, ○ = option, - = not available



INCREASE APPLICATION PRODUCTIVITY

Reduce the number of production stops...

ABB softstarters reduce mechanical stress on your application which increases uptime.

...by letting the softstarter do more than just starting.

Torque control, pump cleaning, motor break and many more features enables you to use your process to its full potential.

| Softstarter features | PSR | PSE | PSTX |
|--------------------------------------|-----|-----|------|
| Torque control | - | ● | ● |
| Torque limit | - | - | ● |
| Coated PCBA | - | ● | ● |
| Limp mode | - | - | ● |
| Jog with slow speed forward/ reverse | - | - | ● |
| Dynamic brake | - | - | ● |
| Stand still brake | - | - | ● |
| Sequence start | - | - | ● |
| Full voltage start | - | - | ● |
| Kick start | - | ● | ● |
| Automatic pump cleaning | - | - | ● |

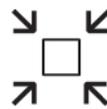
● = standard, ○ = option, - = not available

M mini contactors and contactor relays **NEW**

Reliability, always



The M contactors range is a performance-dimension optimized solution for all the purposes. Its high reliability, even in extreme conditions, combined to the small sizes and the safe connections lead to easy design and compact panels.



Space-saving

Small dimensions for big projects

The M range devices are a great solution when high performances are needed but the space is limited. The small dimensions of the products and the possibility to mount them side by side will maximize the cost efficiency of the cabinets without making compromises.



Reliability in extreme conditions

Made for all the applications

The technology used in the design of the contactors and the wide set of variants available guarantee reliability of operation with heavy working conditions as well. Instability of the network, high altitude and extreme temperatures will not be a limit anymore.



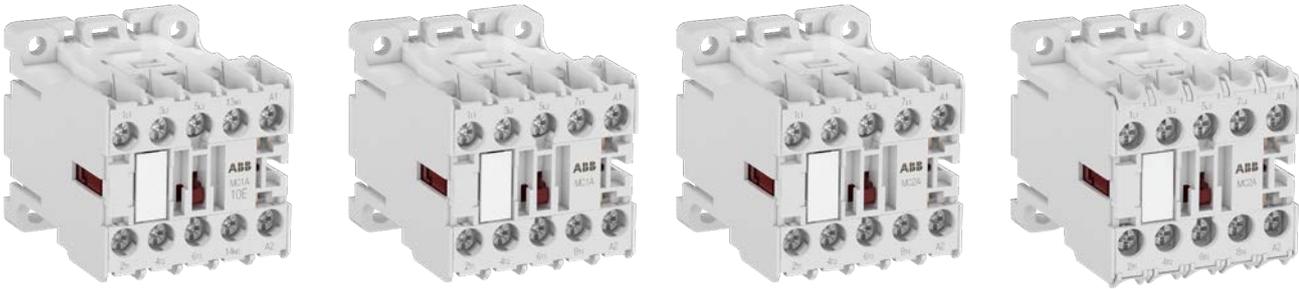
Optimum interface

Never without a solution

A wide set of coils is provided for matching all the requirements: pure AC or DC for very fast switching, with low energy consumption for direct control by PLC and with extended operating limits to face voltage fluctuations. A complete offer for realizing your projects.

M Mini contactors with screw connection

NEW



3 pole - AC operated

| AC1 duty Amps | hP | kW | Aux. Contacts | Coil Voltage | Type code reference | Ordering code | L.P.(₹) | Coil Voltage | Type code reference | Ordering code | L.P.(₹) |
|---------------|-----|-----|---------------|--------------|---------------------|-----------------|--------------|---------------|---------------------|-----------------|--------------|
| 20A | 5 | 4 | 1NO | 24 | MC1A310AT1 | 1SAL102617R9901 | | 12 | MC1C310ATB | 1SAL100210R9901 | |
| 20A | 5 | 4 | 1NC | 24 | MC1A301AT1 | 1SAL102638R9901 | | 12 | MC1C301ATB | 1SAL100220R9901 | |
| 20A | 5 | 4 | 1NO | 110..115 | MC1A310ATJ | 1SAL100213R9901 | | 24 | MC1C310ATD | 1SAL100216R9901 | |
| 20A | 5 | 4 | 1NC | 110..115 | MC1A301ATJ | 1SAL100223R9901 | | 24 | MC1C301ATD | 1SAL100226R9901 | |
| 20A | 5 | 4 | 1NO | 220..240 | MC1A310ATN | 1SAL100214R9901 | | 24 with Diode | MC1C310ATDD | 1SAL113312R9901 | |
| 20A | 5 | 4 | 1NC | 220..240 | MC1A301ATN | 1SAL100224R9901 | Upon request | 24 with Diode | MC1C301ATDD | 1SAL113328R9901 | Upon request |
| 20A | 7.5 | 5.5 | 1NO | 24 | MC2A310AT1 | 1SAL103577R9902 | | 12 | MC2C310ATB | 1SAL103588R9902 | |
| 20A | 7.5 | 5.5 | 1NC | 24 | MC2A301AT1 | 1SAL103569R9902 | | 12 | MC2C301ATB | 1SAL103589R9902 | |
| 20A | 7.5 | 5.5 | 1NO | 110..115 | MC2A310ATJ | 1SAL103573R9902 | | 24 | MC2C310ATD | 1SAL103584R9902 | |
| 20A | 7.5 | 5.5 | 1NC | 110..115 | MC2A301ATJ | 1SAL103565R9902 | | 24 | MC2C301ATD | 1SAL103580R9902 | |
| 20A | 7.5 | 5.5 | 1NO | 220..240 | MC2A310ATN | 1SAL103574R9902 | | 24 with Diode | MC2C310ATDD | 1SAL101926R9902 | |
| 20A | 7.5 | 5.5 | 1NC | 220..240 | MC2A301ATN | 1SAL103566R9902 | | 24 with Diode | MC2C301ATDD | 1SAL101955R9902 | |

4 pole - AC operated

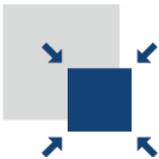
| AC1 duty Amps | hP | kW | Main Pole | Coil Voltage | Type code reference | Ordering code | L.P.(₹) | Coil Voltage | Type code reference | Ordering code | L.P.(₹) |
|---------------|-----|-----|-----------|--------------|---------------------|-----------------|--------------|--------------|---------------------|-----------------|--------------|
| 20A | 5 | 4 | 4NO | 24 | MC1A400AT1 | 1SAL102986R9901 | | 24 | MC1C400ATWD | 1SAL220344R9901 | |
| 20A | 5 | 4 | 2NO+2NC | 24 | MC1AB00AT1 | 1SAL103007R9901 | | 24 | MC1CB00ATWD | 1SAL220345R9901 | |
| 20A | 5 | 4 | 4NO | 110..115 | MC1A400ATJ | 1SAL100363R9901 | | 110 | MC1C400ATWJ | 1SAL220342R9901 | |
| 20A | 5 | 4 | 2NO+2NC | 110..115 | MC1AB00ATJ | 1SAL100373R9901 | | 110 | MC1CB00ATWJ | 1SAL220343R9901 | |
| 20A | 5 | 4 | 4NO | 220..240 | MC1A400ATN | 1SAL100364R9901 | | 220 | MC1C400ATWN | 1SAL220340R9901 | |
| 20A | 5 | 4 | 2NO+2NC | 220..240 | MC1AB00ATN | 1SAL100374R9901 | Upon request | 220 | MC1CB00ATWN | 1SAL220341R9901 | Upon request |
| 20A | 7.5 | 5.5 | 4NO | 24 | MC2A400AT1 | 1SAL101645R9902 | | 24 | MC2C400ATWD | 1SAL101961R9902 | |
| 20A | 7.5 | 5.5 | 2NO+2NC | 24 | MC2AB00AT1 | 1SAL101648R9902 | | 24 | MC2CB00ATWD | 1SAL101965R9902 | |
| 20A | 7.5 | 5.5 | 4NO | 110..115 | MC2A400ATJ | 1SAL116184R9902 | | 110 | MC2C400ATWJ | 1SAL101963R9902 | |
| 20A | 7.5 | 5.5 | 2NO+2NC | 110..115 | MC2AB00ATJ | 1SAL110548R9902 | | 110 | MC2CB00ATWJ | 1SAL101967R9902 | |
| 20A | 7.5 | 5.5 | 4NO | 220..240 | MC2A400ATN | 1SAL116177R9902 | | 220 | MC2C400ATWN | 1SAL100445R9902 | |
| 20A | 7.5 | 5.5 | 2NO+2NC | 220..240 | MC2AB00ATN | 1SAL135699R9902 | | 220 | MC2CB00ATWN | 1SAL101968R9902 | |

Electronic compact starters: HF range

A compact solution with great functionality

ABB's electronic compact starter, up to 3 kW / 400 V, is a 22.5 mm wide product. Even though it is compact, it has, direct-on-line, reversed starting, motor overload

protection, and emergency stop all included. It is well suited for paper machines, conveyors or machine tools.



Space saving
Up to 90% less space required



Safety and protection
Integrated safety function



Easy to install
Up to 75% reduced time in wiring

HF range

| Type | Ordering code | L.P.(₹) |
|------------------|-----------------|---------|
| HF0.6-DOL-24VDC | 1SAT112000R1011 | 31,520 |
| HF2.4-DOL-24VDC | 1SAT122000R1011 | 31,520 |
| HF9-DOL-24VDC | 1SAT142000R1011 | 31,520 |
| HF0.6-ROL-24VDC | 1SAT115000R1011 | 34,670 |
| HF2.4-ROL-24VDC | 1SAT125000R1011 | 34,670 |
| HF9-ROL-24VDC | 1SAT145000R1011 | 34,670 |
| HF0.6-DOLE-24VDC | 1SAT113000R1011 | 38,880 |
| HF2.4-DOLE-24VDC | 1SAT123000R1011 | 38,880 |
| HF9-DOLE-24VDC | 1SAT143000R1011 | 38,880 |
| HF0.6-ROLE-24VDC | 1SAT116000R1011 | 42,030 |
| HF2.4-ROLE-24VDC | 1SAT126000R1011 | 42,030 |
| HF9-ROLE-24VDC | 1SAT146000R1011 | 42,030 |
| HF9-R-VDC-24VDC | 1SAT144000R1011 | 32,570 |

Limit switches



ABB limit switches are the easiest reliable way to convert mechanical movements into electrical signals. Use our wide offer to match your application.



Reliable in extreme conditions

Ready for anything

Plastic or metal casing limit switches are designed to operate in the most difficult environments. A high degree of protection up to IP67 and the positive contact opening, guarantee reliable operation.



Continuous operation

Keep your installation running 24 hours a day

Limit switches secure your uptime. Their high mechanical durability can handle up to 30 million operations with contacts that are mechanically linked to actuators.



Easy to install

Easy to use

Limit switches are easy to install and to use, thanks to their three different types of electrical connections and cable length, in order to satisfy every design specifications.

Limit switches

LS2..

Compact

30 mm width - Pre-wired

IP67 - Plastic casing - Double insulation

IP67 - Metal casing



LS3..

Standard

30 mm width - Cable inlet

IP65 - Plastic casing - Double insulation

IP66 - Metal casing



LS4..

Standard reinforced

40 mm width - Cable inlet

IP65 - Plastic casing - Double insulation

IP66 - Metal casing



Pilot devices

Pilot Devices Offering

ABB Pilot Devices offer both modular and compact range of pushbuttons. Both feature the same front-of-panel design and appear consistent when combined.

Modular range, features a wide range of operators that can be combined with high flexibility. The unique snap-on design promotes simple and fast assembly.

Compact range features an all-in-one construction and rugged design for added simplicity and ease of installation.



Modular range

Technical data compact range

| Standard and approvals | |
|------------------------|--|
| IEC / EN 60947-1 | Low-voltage switchgear and controlgear - Part 1: General rules |
| IEC / EN 60947-5-1 | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices |
| IEC / EN 60947-5-5 | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| IEC / EN 60073 | Basic and safety principles for man-machine |
| IEC / EN 60529 | Degrees of protection provided by enclosures (IP Code) |
| EN 50013 | Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches |
| DIN 40050-9 | Road vehicles; degrees of protection (IP-code); protection against foreign objects; water and contact; electrical equipment |
| UL 508 | Industrial control equipment |
| CSA C22.2 No 14 | Industrial control equipment |

Environmental data

Degrees of protection

| Pilot device: | IEC/EN DIN | UL/CSA |
|-----------------|----------------------|---------------------------|
| Pushbutton | IP66, IP67 and IP69K | Type 1, 3R, 4, 4X, 12, 13 |
| Selector switch | IP66, IP67 and IP69K | Type 1, 3R, 4, 4X, 12, 13 |
| Pilot light | IP66, IP67 and IP69K | Type 1, 3R, 4, 4X, 12, 13 |
| Emergency stops | IP66, IP67 and IP69K | Type 1, 3R, 4, 4X, 12, 13 |
| Terminals | IP20 | |

Temperature

| | |
|--------------------------------------|---------------|
| Ambient temperature during operation | -25 to +70 °C |
| Storage temperature | -40 to +85 °C |

Technical data

Cable connections

| Operator | Cable terminal |
|---|--|
| Pushbutton Selector switch Emergency stop | Plus-minus Pozidriv No. 2 Connectable area: min. 1 x 0.5 mm ² /1 x AWG22 max. 2 x 1.5 mm ² /2 x AWG14 |
| Tightening torque | |
| Operators, M22 | Min. 2 Nm / Max. 2.3 Nm |
| Pushbutton and selector switch | Cable terminals M3, 0.8 Nm |
| Pilot light | Cable terminals M3.5, 0.9 Nm |
| Emergency stop | Cable terminals M3, 0.8 Nm |

Electrical data

Electrical ratings

Contacts

Ratings as per IEC 60947-5-1

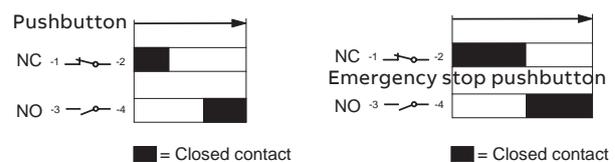
| | | |
|--|-----------|-------|
| Rated insulation voltage, U _i | 300 V | |
| Rated thermal current, I _{th} | 5 A | |
| Rated operational current, I _e utilization category AC-15 | at: 240 V | 1 A |
| Rated operational current, I _e utilization category DC-13, | at: 24 V | 0.3 A |
| | at: 125 V | 0.2 A |

Ratings as per UL, CSA, NEMA

| | C300 AC | R300 DC |
|---------------------------|---|------------------|
| Rated insulation voltage | 250 V | 250 V |
| Rated thermal current | 2.5 A | 1 A |
| Rated operational current | at: 120 V 1.5 A at: 125 V 0.75 A at: 240 V at: 250 V | 0.22 A 0.11 A |

Short circuit protection

| | |
|-------------------------|--------|
| Max. fuse at 1 kA | gG 10A |
| Make-and-break contacts | |



LEDs (for both compact and modular)

Service life for LED's means number of service hours until the brightness has been reduced down 50 %. Service life: 50 000 h

| | |
|-----------------------|--|
| White LEDs | x=0.31 Y=3.2 means the position of color in the ICI Chromaticity Diagram |
| Over voltage on LEDs | 10 % over voltage is acceptable without affecting the service life |
| Voltage peaks on LEDs | Voltage peaks up to 1000 V Current peaks up to 500 mA during a few msec |
| Gloaming light | All integrated LEDs have a function built-in to cut leakage currents |

Mechanical data

Mechanical life

| | |
|--------------------------------|--------------------|
| Pushbuttons, selector switches | 500,000 operations |
| Emergency stop pushbutton | 50,000 operations |

Pilot devices

Compact range

Order example:

Ex 1: Type CP1-10 ■-10, to order color red replace ■ with R: CP1-10 R-10

Ex 2: Ordering code 1SFA619100R101 □ To order color red replace □ with 1: 1SFA619100R1011 ■

| Color codes | | | | | | | |
|-----------------|-------|---------|----------|--------|---------|---------|--------|
| | Red ● | Green ● | Yellow ● | Blue ● | White ○ | Black ● | Grey ● |
| Type ■ | R | G | Y | L | W | B | U |
| Ordering code □ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



Non-illuminated flush Push-button with black plastic bezel

| Non-illuminated flush pushbutton | | | | |
|----------------------------------|-------------|-----------|------------------|---------|
| | Type | Pack size | Ordering code | L.P.(₹) |
| Momentary | | | | |
| 1 NO | CP1-10 □-10 | 1 X 10 | 1SFA619100R101 □ | 155 |
| 2 NO | CP1-10 □-20 | 1 X 10 | 1SFA619100R102 □ | 237 |
| 1 NC | CP1-10 □-01 | 1 X 10 | 1SFA619100R104 □ | 155 |
| 2 NC | CP1-10 □-02 | 1 X 10 | 1SFA619100R105 □ | 237 |
| 1 NO+1 NC | CP1-10 □-11 | 1 X 10 | 1SFA619100R107 □ | 237 |
| Maintained | | | | |
| 1 NO | CP2-10 □-10 | 1 X 10 | 1SFA619101R101 □ | 227 |
| 2 NO | CP2-10 □-20 | 1 X 10 | 1SFA619101R102 □ | 258 |
| 1 NC | CP2-10 □-01 | 1 X 10 | 1SFA619101R104 □ | 217 |
| 2 NC | CP2-10 □-02 | 1 X 10 | 1SFA619101R105 □ | 258 |
| 1 NO+1 NC | CP2-10 □-11 | 1 X 10 | 1SFA619101R107 □ | 279 |



Non-illuminated extended Push-button with black plastic bezel

| Non-illuminated extended pushbutton | | | | |
|-------------------------------------|-------------|-----------|------------------|---------|
| | Type | Pack size | Ordering code | L.P.(₹) |
| Momentary | | | | |
| 1 NO | CP3-10 ■-10 | 1 X 10 | 1SFA619102R101 □ | 176 |
| 2 NO | CP3-10 ■-20 | 1 X 10 | 1SFA619102R102 □ | 258 |
| 1 NC | CP3-10 ■-01 | 1 X 10 | 1SFA619102R104 □ | 196 |
| 2 NC | CP3-10 ■-02 | 1 X 10 | 1SFA619102R105 □ | 258 |
| 1 NO+1 NC | CP3-10 ■-11 | 1 X 10 | 1SFA619102R107 □ | 279 |
| Maintained | | | | |
| 1 NO | CP4-10 ■-10 | 1 X 10 | 1SFA619103R101 □ | 227 |
| 2 NO | CP4-10 ■-20 | 1 X 10 | 1SFA619103R102 □ | 258 |
| 1 NC | CP4-10 ■-01 | 1 X 10 | 1SFA619103R104 □ | 227 |
| 2 NC | CP4-10 ■-02 | 1 X 10 | 1SFA619103R105 □ | 268 |
| 1 NO+1 NC | CP4-10 ■-11 | 1 X 10 | 1SFA619103R107 □ | 299 |

Pilot devices

Compact range



Pilot light with integrated LED

| Type | Pack size | Ordering code | L.P.(₹) |
|----------------------|-----------|-------------------|---------|
| 6.3V, DC | | | |
| CL2-506R | 1 X 10 | 1SFA619403R5061 ■ | |
| CL2-506G | 1 X 10 | 1SFA619403R5062 ■ | 289 |
| CL2-506iY | 1 X 10 | 1SFA619403R5060 ■ | |
| CL2-506L | 1 X 10 | 1SFA619403R5064 ■ | 588 |
| CL2-506C | 1 X 10 | 1SFA619403R5068 ■ | 309 |
| CL2-506A | 1 X 10 | 1SFA619403R5069 ■ | 279 |
| 12V, DC | | | |
| CL2-501R | 1 X 10 | 1SFA619403R5011 ■ | |
| CL2-501G | 1 X 10 | 1SFA619403R5012 ■ | 289 |
| CL2-501iY | 1 X 10 | 1SFA619403R5010 ■ | |
| CL2-501L | 1 X 10 | 1SFA619403R5014 ■ | 588 |
| CL2-501C | 1 X 10 | 1SFA619403R5018 ■ | 299 |
| CL2-501A | 1 X 10 | 1SFA619403R5019 ■ | 279 |
| 24VAC/DC | | | |
| CL2-502R | 1 X 10 | 1SFA619403R5021 | |
| CL2-502G | 1 X 10 | 1SFA619403R5022 | 268 |
| CL2-502iY | 1 X 10 | 1SFA619403R5020 | |
| CL2-502L | 1 X 10 | 1SFA619403R5024 | 351 |
| CL2-502C | 1 X 10 | 1SFA619403R5028 | 268 |
| CL2-502A | 1 X 10 | 1SFA619403R5029 | |
| 48-60 VAC/ DC | | | |
| CL2-507R | 1 X 10 | 1SFA619403R5071 | |
| CL2-507G | 1 X 10 | 1SFA619403R5072 | 258 |
| CL2-507iY | 1 X 10 | 1SFA619403R5070 | |
| CL2-507L | 1 X 10 | 1SFA619403R5074 | 485 |
| CL2-507C | 1 X 10 | 1SFA619403R5078 | 258 |
| CL2-507A | 1 X 10 | 1SFA619403R5079 | |
| 110-130 V, AC | | | |
| CL2-513R | 1 X 10 | 1SFA619403R5131 | |
| CL2-513G | 1 X 10 | 1SFA619403R5132 | 289 |
| CL2-513iY | 1 X 10 | 1SFA619403R5130 | |
| CL2-513L | 1 X 10 | 1SFA619403R5134 | 567 |
| CL2-513C | 1 X 10 | 1SFA619403R5138 | 289 |
| CL2-513A | 1 X 10 | 1SFA619403R5139 | |

Pilot light with integrated LED

| Type | Pack size | Ordering code | L.P.(₹) |
|--|-----------|-----------------|---------|
| 110-130 V, DC | | | |
| CL2-515R | 1 X 10 | 1SFA619403R5151 | |
| CL2-515G | 1 X 10 | 1SFA619403R5152 | 289 |
| CL2-515iY | 1 X 10 | 1SFA619403R5150 | |
| CL2-515L | 1 X 10 | 1SFA619403R5154 | 546 |
| CL2-515C | 1 X 10 | 1SFA619403R5158 | 289 |
| CL2-515A | 1 X 10 | 1SFA619403R5159 | |
| 220 V, DC | | | |
| CL2-520R | 1 X 10 | 1SFA619403R5201 | |
| CL2-520G | 1 X 10 | 1SFA619403R5202 | 289 |
| CL2-520iY | 1 X 10 | 1SFA619403R5200 | |
| CL2-520L | 1 X 10 | 1SFA619403R5204 | 546 |
| CL2-520C | 1 X 10 | 1SFA619403R5208 | 289 |
| CL2-520A | 1 X 10 | 1SFA619403R5209 | |
| 230 V, AC | | | |
| CL2-523R | 1 X 10 | 1SFA619403R5231 | |
| CL2-523G | 1 X 10 | 1SFA619403R5232 | 289 |
| CL2-523iY | 1 X 10 | 1SFA619403R5230 | |
| CL2-523L | 1 X 10 | 1SFA619403R5234 | 588 |
| CL2-523C | 1 X 10 | 1SFA619403R5238 | 289 |
| CL2-523A | 1 X 10 | 1SFA619403R5239 | |
| 380 -415 V, AC | | | |
| CL2-542R | 1 X 10 | 1SFA619403R5421 | |
| CL2-542G | 1 X 10 | 1SFA619403R5422 | 299 |
| CL2-542iY | 1 X 10 | 1SFA619403R5420 | |
| CL2-542L | 1 X 10 | 1SFA619403R5424 | 588 |
| CL2-542C | 1 X 10 | 1SFA619403R5428 | 299 |
| CL2-542A | 1 X 10 | 1SFA619403R5429 | |
| Rated voltage 230 V AC with 60 V anti-inductive voltage | | | |
| CL2-623R | 1 X 10 | 1SFA619403R6231 | |
| CL2-623G | 1 X 10 | 1SFA619403R6232 | 330 |
| CL2-623iY | 1 X 10 | 1SFA619403R6230 | |
| CL2-623L | 1 X 10 | 1SFA619403R6234 | 598 |
| CL2-623C | 1 X 10 | 1SFA619403R6238 | 330 |

■ Stock items

Pilot devices

Compact range



Non-illuminated black selector switch with plastic bezel

| Selector switch | | | | |
|-------------------------------------|--------------|-----------|-----------------|----------|
| | Type | Pack size | Ordering code | L.P. (₹) |
| Maintained / Two-positions | | | | |
| 1 NO | C2SS1-10B-10 | 1 X 10 | 1SFA619200R1016 | 392 |
| 2 NO | C2SS1-10B-20 | 1 X 10 | 1SFA619200R1026 | 423 |
| 1 NC | C2SS1-10B-01 | 1 X 10 | 1SFA619200R1046 | 392 |
| 2 NC | C2SS1-10B-02 | 1 X 10 | 1SFA619200R1056 | 440 |
| 1 NO+1 NC | C2SS1-10B-11 | 1 X 10 | 1SFA619200R1076 | |
| Maintained / Two-positions | | | | |
| 1 NO | C2SS2-10B-10 | 1 X 10 | 1SFA619201R1016 | 392 |
| 2 NO | C2SS2-10B-20 | 1 X 10 | 1SFA619201R1026 | 423 |
| 1 NC | C2SS2-10B-01 | 1 X 10 | 1SFA619201R1046 | 392 |
| 2 NC | C2SS2-10B-02 | 1 X 10 | 1SFA619201R1056 | 440 |
| 1 NO+1 NC | C2SS2-10B-11 | 1 X 10 | 1SFA619201R1076 | |
| Momentary / Two-positions | | | | |
| 1 NO | C2SS3-10B-10 | 1 X 10 | 1SFA619202R1016 | 371 |
| 2 NO | C2SS3-10B-20 | 1 X 10 | 1SFA619202R1026 | 423 |
| 1 NC | C2SS3-10B-01 | 1 X 10 | 1SFA619202R1046 | 371 |
| 2 NC | C2SS3-10B-02 | 1 X 10 | 1SFA619202R1056 | 433 |
| 1 NO+1 NC | C2SS3-10B-11 | 1 X 10 | 1SFA619202R1076 | |
| Maintained / Three-positions | | | | |
| 2 NO | C3SS1-10B-20 | 1 X 10 | 1SFA619210R1026 | 433 |
| 2 NC | C3SS1-10B-02 | 1 X 10 | 1SFA619210R1056 | |
| 1 NO+1 NC | C3SS1-10B-11 | 1 X 10 | 1SFA619210R1076 | |
| Momentary / Three-positions | | | | |
| 2 NO | C3SS2-10B-20 | 1 X 10 | 1SFA619211R1026 | 433 |
| 2 NC | C3SS2-10B-02 | 1 X 10 | 1SFA619211R1056 | |
| 1 NO+1 NC | C3SS2-10B-11 | 1 X 10 | 1SFA619211R1076 | |
| Momentary / Three-positions | | | | |
| 2 NO | C3SS3-10B-20 | 1 X 10 | 1SFA619212R1026 | 433 |
| 2 NC | C3SS3-10B-02 | 1 X 10 | 1SFA619212R1056 | |
| 1 NO+1 NC | C3SS3-10B-11 | 1 X 10 | 1SFA619212R1076 | |



Non-illuminated emergency stop pushbutton, 30 mm



Non-illuminated emergency stop pushbutton, 40 mm

| Emergency stop pushbutton | | | | |
|-------------------------------------|---------|--------------|-------------------|---------|
| Description | Type | Pack size | Ordering code | L.P.(₹) |
| • Twist release | | | | |
| 1 NC | ∅ 30 mm | CE3T-10R-01 | 1SFA619500R1041 ■ | 279 |
| 2 NC | ∅ 30 mm | CE3T-10R-02 | 1SFA619500R1051 | 361 |
| 1NO+1NC | ∅ 30 mm | CE3T-10R-11 | 1SFA619500R1071 | 340 |
| Pull release | | | | |
| 2 NC | ∅ 30 mm | CE3P-10R-02 | 1SFA619501R1051 | 340 |
| 1NO+1NC | ∅ 30 mm | CE3P-10R-11 | 1SFA619501R1071 | 412 |
| Key release: Ronis 455, key code 71 | | | | |
| 2 NC | ∅ 30 mm | CE3K1-10R-02 | 1SFA619502R1051 | 1,080 |
| 1NO+1NC | ∅ 30 mm | CE3K1-10R-11 | 1SFA619502R1071 | |
| Twist release | | | | |
| 1 NC | ∅ 40 mm | CE4T-10R-01 | 1SFA619550R1041 ■ | 289 |
| 2 NC | ∅ 40 mm | CE4T-10R-02 | 1SFA619550R1051 ■ | 382 |
| 1NO+1NC | ∅ 40 mm | CE4T-10R-11 | 1SFA619550R1071 ■ | |
| Pull release | | | | |
| 2 NC | ∅ 40 mm | CE4P-10R-02 | 1SFA619551R1051 ■ | 382 |
| 1NO+1NC | ∅ 40 mm | CE4P-10R-11 | 1SFA619551R1071 | |
| Key release: Ronis 455, key code 71 | | | | |
| 2 NC | ∅ 40 mm | CE4K1-10R-02 | 1SFA619552R1051 | 1,144 |
| 1NO+1NC | ∅ 40 mm | CE4K1-10R-11 | 1SFA619552R1071 | |

Pilot devices

Compact range



Non-illuminated machine stop pushbutton, pull release, 30 mm



Non-illuminated machine stop pushbutton, push release, 30 mm

| Machine stop | | | | | |
|-----------------|-------------------------------------|-----------|-----------------|---------|--|
| Description | Type | Pack size | Ordering code | L.P.(₹) | |
| • | Twist release | | | | |
| 1NO+1NC Ø 30 mm | CE3T-10B-11 | 1 | 1SFA619500R1076 | 354 | |
| | Pull release | | | | |
| 1NO+1NC Ø 30 mm | CE3P-10B-11 | 1 | 1SFA619501R1076 | 812 | |
| | Key release: Ronis 455, Key code 71 | | | | |
| 1NO+1NC Ø 30 mm | CE3K1-10B-11 | 1 | 1SFA619502R1076 | 1,134 | |
| | Twist release | | | | |
| 1NO+1NC Ø 40 mm | CE4T-10B-11 | 1 | 1SFA619550R1076 | 354 | |
| | Pull release | | | | |
| 1NO+1NC Ø 40 mm | CE4P-10B-11 | 1 | 1SFA619551R1076 | 812 | |
| | Key release: Ronis 455, Key code 71 | | | | |
| 1NO+1NC Ø 40 mm | CE4K1-10B-11 | 1 | 1SFA619552R1076 | 1,134 | |

| Buzzer | | | | | | |
|------------------------------------|--------------|------------------|----------|-----------|-----------------|---------|
| Description | Sound output | Rated current mA | Type | Pack size | Ordering code | L.P.(₹) |
| Rated voltage 24 V, AC/DC | | | | | | |
| ● Black | Continuous | 40 | CB1-620B | 1 | 1SFA619600R6206 | 1,607 |
| ● Black | Pulsation | 48 | CB1-630B | 1 | 1SFA619600R6306 | |
| Rated voltage 230 V, AC | | | | | | |
| ● Black | Continuous | 40 | CB1-623B | 1 | 1SFA619600R6236 | 1,607 |
| ● Black | Pulsation | 40 | CB1-633B | 1 | 1SFA619600R6336 | |
| Rated voltage 110-130 V, DC | | | | | | |
| ● Black | Continuous | 15 | CB1-622B | 1 | 1SFA619600R6226 | 1,607 |
| ● Black | Pulsation | 15 | CB1-632B | 1 | 1SFA619600R6326 | |
| Rated voltage 110-130 V, AC | | | | | | |
| ● Black | Continuous | 40 | CB1-621B | 1 | 1SFA619600R6216 | 1,607 |
| ● Black | Pulsation | 45 | CB1-631B | 1 | 1SFA619600R6316 | |



| Assembled compact emergency stop enclosures | | | | | |
|--|------------|-----------|-----------------|---------|--|
| Description | Type | Pack size | Ordering code | L.P.(₹) | |
| 1-seat plastic enclosure (yellow) | | | | | |
| ■ □ Twist release. Red button 2 NC | CEPY1-1001 | 1 | 1SFA619821R1001 | 4,924 | |
| ■ □ Pull release. Red button 2 NC | CEPY1-1002 | 1 | 1SFA619821R1002 | | |
| Emergency stop enclosure with shroud | | | | | |
| ■ □ Twist release. Red button 2 NC | CEPY1-2002 | 1 | 1SFA619821R2002 | 5,274 | |
| ■ □ Pull release. Red button 2 NC | CEPY1-2001 | 1 | 1SFA619821R2001 | | |
| 1-seat plastic enclosure with black mushroom pushbutton (dark grey) | | | | | |
| ■ □ Twist release. Black button 1 NO + 1 NC | CEP1-1001 | 1 | 1SFA619811R1001 | 3,976 | |
| ■ □ Pull release. Black button 1 NO + 1 NC | CEP1-1002 | 1 | 1SFA619811R1002 | 2,225 | |
| Machine stop enclosure with shroud | | | | | |
| ■ □ Twist release. Black button 1 NO + 1 NC | CEP1-2001 | 1 | 1SFA619811R2001 | 4,368 | |
| ■ □ Pull release. Black button 1 NO + 1 NC | CEP1-2002 | 1 | 1SFA619811R2002 | 2,606 | |



■ Stock items

Pilot devices

Technical data modular range

| Standard and approvals | |
|------------------------|--|
| IEC / EN 60947-1 | Low-voltage switchgear and controlgear - Part 1: General rules |
| IEC / EN 60947-5-1 | Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices |
| IEC / EN 60947-5-5 | Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function |
| IEC / EN 60073 | Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators |
| IEC / EN 60529 | Degrees of protection provided by enclosures (IP Code) |
| EN 50013 | Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches |
| UL 508 | Industrial control equipment |
| CSA C22.2 No 14 | Industrial control equipment |

| Environmental data | | |
|-------------------------------------|----------------|-----------------------------|
| Degrees of protection | | |
| Operators | IEC/EN | UL/CSA |
| Pushbutton | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Double pushbutton | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Mushroom | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Emergency stop | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Selector switch | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Key operated selector switch | IP 66 | Type 1, 3R, 4, 4X, 12 |
| Toggle switch | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Extreme duty pushbutton | - | Type 1, 3R, 4, 4X |
| Reset button | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Joystick | IP 66, 67, 69K | Type 1, 4X (indoor), 12, 13 |
| Pilot lights | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Buzzer | IP 65 | Type 4X |
| Potentiometer | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Contact block and transformer block | IP 20 | - |
| Plastic enclosures | IP 66 | Type 1, 3R, 4, 4X, 12, 13 |
| Metallic enclosures | IP 66, 67, 69K | - |

| Temperature | |
|--------------------------------------|---------------|
| Ambient temperature during operation | -25 to +70 °C |
| Storage temperature | -40 to +85 °C |

| Technical data | |
|--|--|
| Terminals | |
| Plus-minus Pozidriv No.2 screw with DIN-washer | |
| Connectable area | min. 1 x 0.5 mm ² AWG 20 max. 2 x 2.5 mm ² /2 x AWG14 |

| Tightening torque | |
|---|-------------------------|
| Operators, M22 | Min. 2 Nm / Max. 2.3 Nm |
| Cable terminals | 0.9 Nm |
| Recommended maximum number of blocks: 6 | |

| Electrical data | |
|--|-----------------------|
| Standards contact blocks | |
| Mechanical endurance | 10 million operations |
| Self-cleaning contacts of silver, NC contact with positive opening. At voltages and currents below 24 V and 5.6 mA, we recommend our micro switch blocks or as an alternative, gold plated contacts. | |

| Ratings as per IEC 60947-5-1 | | |
|--|-----------|--------|
| Rated insulation voltage, U _i | 690 V | |
| Rated thermal current, I _{th} | 10 A | |
| Rated operational current, I _e utilization category AC 15, | at: 120 V | 8 A |
| | at: 230 V | 6 A |
| | at: 400 V | 4 A |
| | at: 690 V | 2 A |
| Rated operational current, I _e utilization category DC 13, | at: 24 V | 5 A |
| | at: 125 V | 1.1 A |
| | at: 250 V | 0.55 A |

| Ratings as per UL, CSA, NEMA | | | | |
|------------------------------|-----------|---------|-----------|--------|
| | A600 AC | Q600 DC | | |
| Rated insulation voltage | 600 V | 600 V | | |
| Rated thermal current | 10 A | 2.5 A | | |
| Rated operational current | at: 120 V | 6 A | at: 125 V | 0.55 A |
| | at: 240 V | 3 A | at: 250 V | 0.27 A |
| | at: 480 V | 1.5 A | at: 480 V | 0.10 A |
| | at: 600 V | 1.2 A | at: 600 V | 0.10 A |

| | |
|---------------------------------|---------------|
| Contact resistance | < 25 mΩ |
| Compulsory function test | at: 5V, 16 mA |

| Micro switch block / ratings as per IEC 60947-5-1 | | |
|--|-----------|-------|
| Rated insulation voltage, U _i | 125 V | |
| Rated thermal current, I _{th} | 3 A | |
| Rated operational current, I _e utilization category AC 14, | at: 125 V | 0.5 A |
| | at: 24 V | 0.3 A |
| Rated operational current, I _e utilization category DC 13, | at: 24 V | 0.1 A |
| Rated operational current, I _e utilization category DC 12, | at: 24 V | 0.1 A |
| Minimum switching capacity | 3 V DC | 1 mA |

| Ratings as per UL 508 | | |
|-----------------------|----------|-------|
| | 125 V AC | 3 A |
| | 60 V DC | 0.2 A |
| | 48 V DC | 0.1 A |

| Short circuit protection | |
|---|--------|
| Max. fuse at 1 kA | gG 16A |
| Note: LEDs see technical data compact range | |

| Mechanical data | |
|---|----------------------|
| Mechanical life | |
| Pushbuttons, momentary mushroom | 2 million operations |
| Selector switches. Present standard (no operation of center contact) | 500,000 operations |
| With operation of center contact | 250,000 operations |
| | 150,000 operations |
| Maintained mushroom, pushbutton, key operated selector switch and double pushbutton | 500,000 operations |
| Emergency stop | 100,000 operations |
| Toggle switch | 1 million operations |

Pilot devices

Modular range

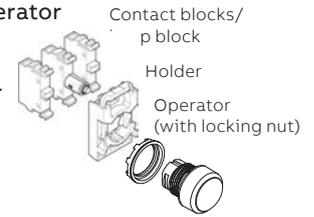


Modular product features

- Widest range of integrated LEDs on the market
- Parts of Range IP 66, 67, 69K
- All range & UL Type 1, 3R, 4, 4X, 12, 13
- Snap-on feature reduces installation time
- Quick release contact holder
- Several bezel colors
- Unique low energy solutions, including wiping action

How to order standard operators:

- Non-illuminated operator + holder
- + contact block(s)
- Illuminated operator + holder
- + contact block(s)
- + lamp block



*Only for illuminated operator

How to order Bezel:

| Bezel options | Type | Ordering code |
|---------------|---------|-------------------|
| Black plastic | MPX-10X | 1SFA611 10X R1XXX |

Color codes

| | Red ● | Green ● | Yellow ● | Blue ● | White ○ | Black ● | Grey ● |
|-----------------|-------|---------|----------|--------|---------|---------|--------|
| Type ■ | R | G | Y | L | W | B | U |
| Ordering code □ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Ordering example:

Ex 1: Type MP1-10 ■, to order color red replace ■ with R: MP1-10R

Ex 2: Ordering code 1SFA611100R1001 n, to order color red replace □ with 1: 1SFA619100R1001

Operator : Flush button Non-illuminated push button

| | Type | Pack size | Ordering code | L.P. (₹) |
|------------|----------|-----------|------------------|----------|
| Momentary | MP1-10 ■ | 1 X 10 | 1SFA611100R100 □ | 83 |
| Maintained | MP2-10 ■ | 1 X 10 | 1SFA611101R100 □ | 124 |

Operator : Extended button Non-illuminated push button

| | | | | |
|------------|----------|--------|------------------|-----|
| Momentary | MP3-10 ■ | 1 X 10 | 1SFA611102R100 □ | 124 |
| Maintained | MP4-10 ■ | 1 X 10 | 1SFA611103R100 □ | 124 |

Color codes

| | Red ● | Green ● | Yellow ● | Blue ● | White ○ | Black ● | Grey ● | Amber ● |
|-----------------|-------|---------|----------|--------|---------|---------|--------|---------|
| Type ■ | R | G | Y | L | W | B | U | AN |
| Ordering code □ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

| | Type | Pack size | Ordering code | L.P. (₹) |
|---|----------|-----------|------------------|----------|
| Operator : Flush button illuminated push button | | | | |
| Momentary | MP1-11 ■ | 1 X 10 | 1SFA611100R110 □ | 114 |
| | MP1-11AN | 1 X 10 | 1SIN611100R1109 | 114 |
| Maintained | MP2-11 ■ | 1 X 10 | 1SFA611101R110 □ | 145 |
| | MP2-11AN | 1 X 10 | 1SIN611101R1109 | |
| Operator : Extended button illuminated push button | | | | |
| Momentary | MP3-11 ■ | 1 X 10 | 1SFA611102R110 □ | |
| | MP3-11AN | 1 X 10 | 1SIN611102R1109 | |
| Maintained | MP4-11 ■ | 1 X 10 | 1SFA611103R110 □ | 145 |
| | MP4-11AN | 1 X 10 | 1SIN611103R1109 | |

Note:

1. Integrated LED block to be considered from MLBL range of suitable voltage from page no. 109

Separate holder

| | | | | |
|--------------------------------------|---------|--------|-------------------|----|
| Holders for three blocks | MCBH-00 | 1 X 10 | 1SFA611605R1100 | 42 |
| Contact blocks only (without holder) | | | | |
| 1 NO | MCB-10 | 1 X 10 | 1SFA611610R1001 ■ | 93 |
| 1 NC | MCB-01 | 1 X 10 | 1SFA611610R1010 ■ | 93 |



Blocks and holder

■ Stock items

Pilot devices

Modular range



LED lamp block with built-in leakage current protection

| Operator : Pilot lights | | | | | |
|---------------------------------|-----------|-----------|-------------------|---------|-----|
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | ML1-100R | 1 X 10 | 1SFA611400R1001 ■ | 93 | |
| ● Green | ML1-100G | 1 X 10 | 1SFA611400R1002 ■ | | |
| ● Yellow | ML1-100Y | 1 X 10 | 1SFA611400R1003 ■ | | |
| ● Blue | ML1-100L | 1 X 10 | 1SFA611400R1004 | | |
| ○ White | ML1-100W | 1 X 10 | 1SFA611400R1005 | | |
| ● Amber | ML1-100AN | 1 X 10 | 1SIN611400R1009 | | |
| Separate holder | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| Holdings for three blocks | MCBH-00 | 1 X 10 | 1SFA611605R1100 ■ | 42 | |
| Lamp blocks with integrated LED | | | | | |
| Rated voltage 24 V, AC/DC | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | MLBL-01R | 1 X 10 | 1SFA611621R1011 ■ | 196 | |
| ● Green | MLBL-01G | 1 X 10 | 1SFA611621R1012 ■ | | |
| ● Yellow | MLBL-01YN | 1 X 10 | 1SIN611621R1013 | | |
| ● Blue | MLBL-01L | 1 X 10 | 1SFA611621R1014 ■ | | 454 |
| ○ White | MLBL-01W | 1 X 10 | 1SFA611621R1015 ■ | | 217 |
| ● Amber | MLBL-01A | 1 X 10 | 1SFA611621R1016 | | |
| Rated voltage 110-130 V, AC | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | MLBL-04R | 1 X 10 | 1SFA611621R1041 | 196 | |
| ● Green | MLBL-04G | 1 X 10 | 1SFA611621R1042 | | |
| ● Yellow | MLBL-04YN | 1 X 10 | 1SIN611621R1043 | | |
| ● Blue | MLBL-04L | 1 X 10 | 1SFA611621R1044 | | 433 |
| ○ White | MLBL-04W | 1 X 10 | 1SFA611621R1045 | | 220 |
| ● Amber | MLBL-04A | 1 X 10 | 1SFA611621R1046 | | |
| Rated voltage 110-130 V, DC | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | MLBL-05R | 1 X 10 | 1SFA611621R1051 | 196 | |
| ● Green | MLBL-05G | 1 X 10 | 1SFA611621R1052 | | |
| ● Yellow | MLBL-05YN | 1 X 10 | 1SIN611621R1053 | | |
| ● Blue | MLBL-05L | 1 X 10 | 1SFA611621R1054 | | 454 |
| ○ White | MLBL-05W | 1 X 10 | 1SFA611621R1055 | | 217 |
| ● Amber | MLBL-05A | 1 X 10 | 1SFA611621R1056 | | |
| Rated voltage 220 V, DC | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | MLBL-06R | 1 X 10 | 1SFA611621R1061 | 196 | |
| ● Green | MLBL-06G | 1 X 10 | 1SFA611621R1062 | | |
| ● Yellow | MLBL-06YN | 1 X 10 | 1SIN611621R1063 | | |
| ● Blue | MLBL-06L | 1 X 10 | 1SFA611621R1064 | | 443 |
| ○ White | MLBL-06W | 1 X 10 | 1SFA611621R1065 | | 196 |
| ● Amber | MLBL-06A | 1 X 10 | 1SFA611621R1066 | | |
| Rated voltage 230 V, AC | | | | | |
| | Type | Pack size | Ordering code | L.P.(₹) | |
| ● Red | MLBL-07R | 1 X 10 | 1SFA611621R1071 | 196 | |
| ● Green | MLBL-07G | 1 X 10 | 1SFA611621R1072 ■ | | |
| ● Yellow | MLBL-07YN | 1 X 10 | 1SIN611621R1073 | | |
| ● Blue | MLBL-07L | 1 X 10 | 1SFA611621R1074 ■ | | 443 |
| ○ White | MLBL-07W | 1 X 10 | 1SFA611621R1075 | | 196 |
| ● Amber | MLBL-07A | 1 X 10 | 1SFA611621R1076 | | |

Note: 48 V AC/DC, 60 V AC/DC, 380 V AC and 415 V AC L.P.(₹)S will be available upon request

■ Stock items

Pilot devices

Modular range



| Operator : Emergency stop pushbutton | | | | |
|--------------------------------------|----------------------------------|-----------|-------------------|---------|
| | Type | Pack size | Ordering code | L.P.(₹) |
| ● | Ø 30 mm / Non-illuminated | | | |
| Twist release | MPET3-10R | 1 | 1SFA611520R1001 | 536 |
| Pull release | MPEP3-10R | 1 | 1SFA611521R1001 | |
| Key release code 71/Ronis 455 | MPEK3-11R | 1 | 1SFA611522R1101 | |
| Key release code 72/ Ronis 421 | MPEK3-12R | 1 | 1SFA611522R1201 | 1,020 |
| Key release code 73/ Ronis 3433-E | MPEK3-13R | 1 | 1SFA611522R1301 | |
| | Ø 40 mm / Non-illuminated | | | |
| Twist release | MPET4-10R | 1 | 1SFA611523R1001 | 464 |
| Pull release | MPEP4-10R | 1 | 1SFA611524R1001 | 969 |
| Key release code 71/Ronis 455 | MPEK4-11R | 1 | 1SFA611525R1101 | 989 |
| Key release code 72/ Ronis 421 | MPEK4-12R | 1 | 1SFA611525R1201 | |
| Key release code 73/ Ronis 3433-E | MPEK4-13R | 1 | 1SFA611525R1301 | |
| | Ø 60 mm / Non-illuminated | | | |
| Twist release | MPMT4-10R | 1 | 1SFA611513R1001 | 824 |
| Pull release | MPMP4-10R | 1 | 1SFA611514R1001 | 670 |
| | Ø 40 mm / Illuminated | | | |
| Twist release | MPMT3-11R | 1 | 1SFA611510R1101 ■ | 783 |
| Pull release | MPMP3-11R | 1 | 1SFA611511R1101 | 639 |
| | Ø 60 mm / Illuminated | | | |
| Twist release | MPMT4-11R | 1 | 1SFA611513R1101 | 1,082 |
| Pull release | MPMP4-11R | | 1SFA611514R1101 | 855 |

Refer holder and contact block configuration for standard operator from page no. 110



| Operator : Machine stop pushbutton | | | | |
|------------------------------------|----------------|-----------|-----------------|---------|
| | Type | Pack size | Ordering code | L.P.(₹) |
| ● | Ø 30 mm | | | |
| Twist release | MPET3-10B | 1 | 1SFA611520R1006 | 546 |
| Pull release | MPEP3-10B | 1 | 1SFA611521R1006 | |
| Key release | MPEK3-10B | 1 | 1SFA611522R1106 | |
| | Ø 40 mm | | | |
| Twist release | MPET4-10B | 1 | 1SFA611523R1006 | 546 |
| Pull release | MPEP4-10B | 1 | 1SFA611524R1006 | |

Refer holder and contact block configuration for standard operator from page no. 110



| Operator : Double pushbutton | | | | |
|------------------------------|--|-----------|-----------------|---------|
| | Type | Pack size | Ordering code | L.P.(₹) |
| ● Upper ● Lower | Extended lower button / Non-illuminated | | | |
| I / O | MPD13-11B | 1 | 1SFA611142R1106 | 567 |
| START / STOP | MPD15-11B | 1 | 1SFA611144R1106 | |
| ● Upper ● Lower | Extended lower button / Illuminated | | | |
| I / O | MPD13-11C | 1 | 1SFA611142R1108 | 845 |
| START / STOP | MPD15-11C | 1 | 1SFA611144R1108 | |
| ● Upper ● Lower | ○ Upper Extended lower button / ● Lower Non-illuminated | | | |
| I / O | MPD17-11B | 1 | 1SFA611146R1106 | 567 |

Refer holder and contact block configuration for standard operator

■ Stock items

Pilot devices

Modular range



Operator: non-illuminated black two-position selector switch

| Type | Pack size | Ordering code | L.P.(₹) |
|--|-----------|-----------------|---------|
| Maintained / Short handle | | | |
| M2SS1-10B | 1 | 1SFA611200R1006 | 371 |
| Maintained / Short handle | | | |
| M2SS2-10B | 1 | 1SFA611201R1006 | 371 |
| Momentary / Short handle, spring return from C to B | | | |
| M2SS3-10B | 1 | 1SFA611202R1006 | 382 |
| Maintained / Long handle | | | |
| M2SS4-10B | 1 | 1SFA611203R1006 | 1,103 |
| Maintained / Long handle | | | |
| M2SS5-10B | 1 | 1SFA611204R1006 | 1,103 |
| Momentary / Long handle, spring return from C to B | | | |
| M2SS6-10B | 1 | 1SFA611205R1006 | 1,123 |

Refer holder and contact block configuration for standard operator

Operator: non-illuminated black three-position selector switch

| Type | Pack size | Ordering code | L.P.(₹) |
|---|-----------|-----------------|---------|
| Maintained / Short handle | | | |
| M3SS1-10B | 1 | 1SFA611210R1006 | 371 |
| Momentary / Short handle, spring return from A to B and C to B | | | |
| M3SS2-10B | 1 | 1SFA611211R1006 | 382 |
| Momentary / Short handle, spring return from C to B | | | |
| M3SS3-10B | 1 | 1SFA611212R1006 | 382 |
| Momentary / Short handle, spring return from A to B | | | |
| M2SS7-10B | 1 | 1SFA611216R1006 | 382 |
| Maintained / Long handle | | | |
| M3SS4-10B | 1 | 1SFA611213R1006 | 1,103 |
| Momentary / Long handle, spring return from A to B and C to B | | | |
| M3SS5-10B | 1 | 1SFA611214R1006 | 1,123 |
| Momentary / Long handle, spring return from C to B | | | |
| M3SS6-10B | 1 | 1SFA611215R1006 | 1,401 |
| Momentary / Long handle, spring return from A to B | | | |
| M2SS8-10B | 1 | 1SFA611217R1006 | 1,030 |

Refer holder and contact block configuration for standard operator

Operator: non-illuminated black three-position selector switch with operation of center position

| Type | Pack size | Ordering code | L.P.(₹) |
|---------------------|-----------|-----------------|---------|
| Short handle | | | |
| M3SSC1-10B | 1 | 1SFA611250R1006 | 402 |
| M3SSC2-10B | 1 | 1SFA611251R1006 | |
| M3SSC3-10B | 1 | 1SFA611252R1006 | |
| M3SSC7-10B | 1 | 1SFA611256R1006 | |
| Long handle | | | |
| M3SSC4-10B | 1 | 1SFA611253R1006 | 1,164 |
| M3SSC5-10B | 1 | 1SFA611254R1006 | |
| M3SSC6-10B | 1 | 1SFA611255R1006 | |

Refer holder and contact block configuration for standard operator

Pilot devices

Modular range

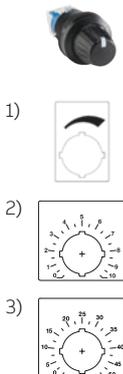


| Operator : Key operated selector switch | | | | | |
|---|--|--|-----------|-----------------|---------|
| | Type | | Pack size | Ordering code | L.P.(₹) |
| ● | Maintained / Two positions (The key can be removed in both position) | | | | |
| 71/Ronis 455 | M2SSK1-101 | | 1 | 1SFA611280R1001 | 855 |
| 72/Ronis 421 | M2SSK1-102 | | 1 | 1SFA611280R1002 | |
| 73/Ronis 3433-E | M2SSK1-103 | | 1 | 1SFA611280R1003 | |
| Random selection*) | M2SSK1-104 | | 1 | 1SFA611280R1004 | |
| | Maintained / Two positions (The key can be removed in position B only) | | | | |
| 71/Ronis 455 | M2SSK2-101 | | 1 | 1SFA611281R1001 | 845 |
| 72/Ronis 421 | M2SSK2-102 | | 1 | 1SFA611281R1002 | |
| 73/Ronis 3433-E | M2SSK2-103 | | 1 | 1SFA611281R1003 | |
| Random selection*) | M2SSK2-104 | | 1 | 1SFA611281R1004 | |
| | Momentary / Two positions, spring return from C to B (The key can be removed in position B only) | | | | |
| 71/Ronis 455 | M2SSK3-101 | | 1 | 1SFA611282R1001 | 938 |
| 72/Ronis 421 | M2SSK3-102 | | 1 | 1SFA611282R1002 | |
| 73/Ronis 3433-E | M2SSK3-103 | | 1 | 1SFA611282R1003 | |
| Random selection*) | M2SSK3-104 | | 1 | 1SFA611282R1004 | |

Refer holder and contact block configuration for standard operator

| Operator : Key operated selector switch | | | | | |
|---|--|--|-----------|-----------------|---------|
| | Type | | Pack size | Ordering code | L.P.(₹) |
| ● | Maintained / Three positions (The key can be removed in both position) | | | | |
| 71/Ronis 455 | M3SSK1-101 | | 1 | 1SFA611283R1001 | 855 |
| 72/Ronis 421 | M3SSK1-102 | | 1 | 1SFA611283R1002 | |
| 73/Ronis 3433-E | M3SSK1-103 | | 1 | 1SFA611283R1003 | |
| Random selection*) | M3SSK1-104 | | 1 | 1SFA611280R1004 | |
| | Maintained / Three positions (The key can be removed in position B only) | | | | |
| 71/Ronis 455 | M3SSK2-101 | | 1 | 1SFA611284R1001 | 855 |
| 72/Ronis 421 | M3SSK2-102 | | 1 | 1SFA611284R1002 | |
| 73/Ronis 3433-E | M3SSK2-103 | | 1 | 1SFA611284R1003 | |
| Random selection*) | M3SSK2-104 | | 1 | 1SFA611284R1004 | |
| | Momentary / Three positions, spring return from C to B (The key can be removed in position B only) | | | | |
| 71/Ronis 455 | M3SSK3-101 | | 1 | 1SFA611285R1001 | 938 |
| 72/Ronis 421 | M3SSK3-102 | | 1 | 1SFA611285R1002 | |
| 73/Ronis 3433-E | M3SSK3-103 | | 1 | 1SFA611285R1003 | |
| Random selection*) | M3SSK3-104 | | 1 | 1SFA611285R1004 | |

Refer holder and contact block configuration for standard operator



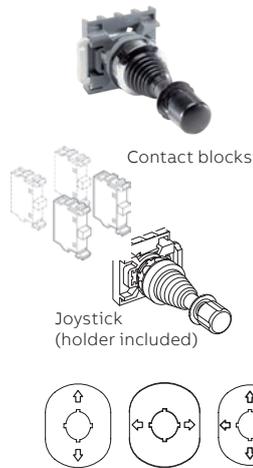
| Potentiometer | | | | | |
|---------------|-----------------------|--|-----------|-----------------|---------|
| | Type | | Pack size | Ordering code | L.P.(₹) |
| ● | with resistor 5 kohm | | | | |
| Black plastic | MT-105B | | 1 | 1SFA611410R1056 | 4,502 |
| ● | with resistor 10 kohm | | | | |
| Black plastic | MT-110B | | 1 | 1SFA611410R1106 | 4,502 |
| ● | with resistor 50 kohm | | | | |
| Black plastic | MT-150B | | 1 | 1SFA611410R1506 | 5,068 |

| Toggle switch* | | | | | |
|----------------|------------------------------|--|-----------|-----------------|---------|
| | Type | | Pack size | Ordering code | L.P.(₹) |
| ● | Maintained / Two-positions | | | | |
| Black plastic | MTS1-10B | | 1 | 1SFA611300R1006 | 804 |
| ● | Momentary / Three-positions | | | | |
| Black plastic | MTS2-10B | | 1 | 1SFA611301R1006 | 1,041 |
| ● | Maintained / Three-positions | | | | |
| Black plastic | MTS3-10B | | 1 | 1SFA611302R1006 | 804 |

Pilot devices

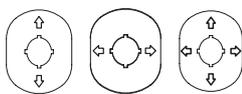
Modular range

• Joystick (holder included)
+ contact blocks



Joystick (holder included)

Contact blocks



Micro switch block



Micro switch block



Extreme duty pushbutton



Reset pushbutton



Accessories



Mounting tool

Protective cover

30 mm adaptor

Membrane of silicon rubber

| Joystick | | | | |
|--|-----------|---------------|-----------------|-------|
| Type | Pack size | Ordering code | L.P.(₹) | |
| Maintained | | | | |
| 2 - position | MJS1-60B | 1 | 1SFA611701R6006 | 4,357 |
| 4 - position | MJS5-60B | 1 | 1SFA611705R6006 | 4,790 |
| Spring return | | | | |
| 2 - position | MJS2-60B | 1 | 1SFA611702R6006 | 4,357 |
| 4 - position | MJS6-60B | 1 | 1SFA611706R6006 | 4,790 |
| Maintained / Latching function | | | | |
| 2 - position | MJS7-60B | 1 | 1SFA611707R6006 | 4,790 |
| 4 - position | MJS11-60B | 1 | 1SFA611711R6006 | 5,540 |
| Spring return / Latching function | | | | |
| 2 - position | MJS8-60B | 1 | 1SFA611708R6006 | 4,790 |
| 4 - position | MJS12-60B | 1 | 1SFA611712R6006 | 5,532 |

| Legend plates for joystick | | | | |
|----------------------------|-----------|---------------|-----------------|-----|
| Type | Pack size | Ordering code | L.P.(₹) | |
| 2 - position | MA6-1240 | 1 | 1SFA611930R1240 | |
| 2 - position | MA6-1241 | 1 | 1SFA611930R1241 | 382 |
| 4 - position | MA6-1242 | 1 | 1SFA611930R1242 | |

Refer holder and contact block configuration for standard operator

| Micro switch blocks | | | | |
|---------------------|---------|-----------|-----------------|---------|
| Description | Type | Pack size | Ordering code | L.P.(₹) |
| 1 NO | MCBL-10 | 1 | 1SFA611612R1010 | |
| 1 NC | MCBL-01 | 1 | 1SFA611612R1001 | 680 |

| Extreme duty pushbutton | | | | |
|---------------------------|-----------|---------------|------------------|-------|
| Type | Pack size | Ordering code | L.P.(₹) | |
| For Ø 30 mm mounting hole | | | | |
| ● ● ● | KP6-40 ■ | 1 | 1SFA616105R400 □ | 1,824 |

Refer contact block configuration for standard operator

| Reset pushbutton | | | | |
|-----------------------------------|------------|---------------|------------------|-----|
| Type | Pack size | Ordering code | L.P.(₹) | |
| With shaft | | | | |
| ● ○ | KPR3-100 ■ | 1 | 1SFA616162R100 □ | 577 |
| Without shaft | | | | |
| ● ○ | KPR1-100 ■ | 1 | 1SFA616160R100 □ | 443 |
| Accessories: Shaft (black) | | | | |
| ● ○ | KA1-8046 | 1 | 1SFA616920R8046 | 186 |

| Accessories | | | | |
|--------------------------------------|-----------|---------------|-----------------|-----|
| Type | Pack size | Ordering code | L.P.(₹) | |
| Mounting tool | MA1-8015 | 1 | 1SFA611920R8015 | 412 |
| Membrane of silicone flush button | KA1-8052 | 1 | 1SFA611920R8052 | 270 |
| Membrane of silicone extended button | KA1-8002 | 1 | 1SFA611920R8002 | 485 |
| Locking nut | MA1-8019 | 1 | 1SFA611920R8019 | 309 |

*Spacer is needed when legendplates are not used in plastic enclosures

Pilot devices

Enclosures



Empty enclosures



Shroud



DIN-rail adaptor

Empty plastic enclosures for modular and compact range

| Description | Type | Pack size | Ordering code | L.P.(₹) |
|--|----------|-----------|-----------------|---------|
| ■ □ 1-seat | MEPY1-0 | 1 | 1SFA611821R1000 | 2,297 |
| ■ □ 1-seat | MEP1-0 | 1 | 1SFA611811R1000 | 2,256 |
| ■ □ 2-seat | MEP2-0 | 1 | 1SFA611812R1000 | 2,081 |
| ■ □ 3-seat | MEP3-0 | 1 | 1SFA611813R1000 | 2,946 |
| ■ □ 4-seat | MEP4-0 | 1 | 1SFA611814R1000 | 3,987 |
| ■ □ 6-seat | MEP6-0 | 1 | 1SFA611816R1000 | 6,067 |
| Shroud for modular range push button operator | | | | |
| ■ Yellow | MA1-8053 | 1 | 1SFA611920R8053 | 670 |
| ■ Grey | MA1-8128 | 1 | 1SFA611920R8128 | 1,937 |
| Empty enclosures for compact range | | | | |
| ■ □ Yellow/Light grey | CEPY1-0 | 1 | 1SFA619821R1000 | 1,957 |
| ■ □ Dark grey/Light grey | CEP1-0 | 1 | 1SFA619811R1000 | 1,607 |
| Shroud for compact range push buttons | | | | |
| ■ Yellow | CA1-8053 | 1 | 1SFA619920R8053 | 423 |
| ■ Grey | CA1-8054 | 1 | 1SFA619920R8054 | 423 |
| DIN-Rail adaptor | | | | |
| DIN-Rail adaptor | MA1-8131 | 1 | 1SFA611920R8131 | 1,164 |

Electronic products and relays

The product range



Time relays, CT range

Four ranges of electronic timers provide timing functions for all applications: the CT-X immersing market range timers offers 1c/o version in 17.5 mm housing; CT-D range with a width of just 17.5 mm offers compact yet an effective solution for the building segment ; the CT-C range, the ideal solution for several applications; the CT-S range has both screw and push-in type of connection terminals and is ideally suited for universal use. The CT range has a wide variety of timing functions (from ON or OFF delay to star-delta changeover). The time relays are available with output relays, solid-state outputs and precise direct time adjustment.



Measuring and monitoring relays, CM range

State-of-the-art monitors for single and three-phase systems. Monitoring of: voltage, current, frequency, power factor (motor load), thermistors, temperature, liquid level, insulation resistance, and grid feeding. ABB has one of the world's widest product ranges of measuring and monitoring relays. The CM range is a key product line of the EPR range.



Power supplies, CP range

Modern power supply units are a vital component in most areas of energy management and automation technology. As your global partner in this area, ABB pays close attention to corresponding requirements. Innovation is the key to the substantial enlargement of our power supply product range. ABB offers four different product lines for single and three-phase supplies, output voltages 5/12/24 and 48 VDC in plastic and metal enclosure, as well as various accessories.



Interface relays and optocouplers, CR range and R600

Interface relays and optocouplers are widely used in various industrial applications. As an interface, they link the controller, e.g. PLC (programmable logic controller), PC or field bus systems to the sensor/actuator level. Here, they have various functions: switching AC or DC loads with different resistive, inductive and capacitive parts, switching voltages from a few mV up to 250 V, switching currents from a few mA up to 16 A, amplification of weak control signals, electrical isolation of control and load circuits, and signal multiplying.



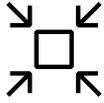
Temperature monitoring relays CM-TCS & CM-TCN

Monitor overtemperature, undertemperature, or temperatures between two threshold values (window monitoring) with PT100 sensor. As soon as the temperature falls below or exceeds the threshold value, the output relays change their positions according to the configured functionality and the front-face LEDs display the current status. Regardless of the selected configuration, the device is monitoring its measuring circuit for interrupted wires or short circuits.

CT-X Time Relays **NEW**

CT-X The Immerging Market Range

Space savings



Cost effective solution



- 22% space savings compared to other time relays
- 1 c/o versions in 17.5 mm wide housing
- 75% less order codes which leads to a stock resuction compared to other ranges
- Giving you te confidence of world-wide sourcing - no matter where you build, install or operate your equipment
- LED for status indication
- Pre-and fine adjustment of the timing range

- **CT-ERX.14 (ON-delay)**
- **CT-AHX.14 (OFF-delay)**
- **CT-SDX.25 (Stat-Delta)**



| Function | Rated control supply voltage | Time Range | Output | Type | Ordering code | L.P. (₹) |
|------------------------|----------------------------------|---------------|-------------|-----------|-----------------|--------------|
| Time relay, ON-delay | 240 VAC, 50Hz 24 V DC/AC, 50Hz | 0.3 s to 30 h | 1 CO | CT-ERX.14 | 1SVR507100R2000 | Upon Request |
| Time relay, OFF-delay | 242 VAC, 50Hz 24 V DC/AC, 50Hz | 0.3 s to 30 h | 1 CO | CT-AHX.14 | 1SVR507110R2000 | |
| Time relay, star-delta | 241 VAC, 50Hz 24 V DC/AC, 50Hz | 3 s to 120 s | 1 NO + 1 NO | CT-SDX.25 | 1SVR507210R4100 | |

ABB CT-C Product Portfolio



CT-MFC.12

2CDC251030V0018



CT-ERC.22

2CDC251029V0018

*Control input with voltage-related triggering_No triggering

Ordering details

| Timing function | Rated control supply voltage | Time ranges | Control input | Output | Type | Order code | LP.(₹) |
|----------------------------------|------------------------------|-----------------------|---------------|-------------------------|-------------------------|-----------------|--------|
| Multi ¹⁾ | 12-240 V AC/DC | 7 (0.05 s-100 h) | * | Solid Sate | CT-MKC.31 | 1SVR508010R1300 | 4,300 |
| Multi ¹⁾ | 24-240 V AC 24-48 V DC | | * | 1C/O | CT-MFC.12 | 1SVR508020R0000 | 3,920 |
| Multi ¹⁾ | 12-240 V AC/DC | | * | 2C/O | CT-MFC.21 | 1SVR508020R1100 | 10,920 |
| Dual ²⁾ | 24-240 V AC 24-48 V DC | 7 (0.05 s-10 min) | - | 1C/O | CT-ARC.12 | 1SVR508120R0000 | 4,300 |
| ON-delay | 24-240 V AC 24-48 V DC | 7 (0.05 s-100 h) | - | 1C/O | CT-ERC.12 | 1SVR508100R0000 | 3,200 |
| | | | - | 2C/O | CT-ERC.22 | 1SVR508100R0100 | 6,330 |
| OFF-delay | | | - | 1C/O | CT-AHC.12 | 1SVR508110R0000 | 3,740 |
| | | | - | 2C/O | CT-AHC.22 | 1SVR508110R0100 | 6,770 |
| Impulse-ON Flasher ³⁾ | | | * | CT-VWC.12 | 1SVR508130R0000 | 5,670 | |
| | | | * | 1C/O | CT-EBC.12 | 1SVR508150R0000 | 4,150 |
| Pulse generator | 24-240 V AC 24-48 V DC | 2x7 (0.05 s-100 h) | - | | CT-TGC.12 ⁴⁾ | 1SVR508160R0000 | 6,830 |
| | | - | 2C/O | CT-TGC.22 ⁴⁾ | 1SVR508160R0100 | 8,210 | |
| Star-delta changeover | | 2x7 (0.05 s-100 h) | * | 2N/O | CT-SDC.22 ⁵⁾ | 1SVR508211R0100 | 4,300 |
| | | * | | CT-SAC.22 ⁶⁾ | 1SVR508210R0100 | 4,450 | |

¹⁾ Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Flasher starting with ON, Flasher starting with OFF, Pulse former

²⁾ OFF-delay without aux. voltage (True OFF-delay), True Impulse-OFF

³⁾ Flasher starting with ON, Flasher starting with OFF

⁴⁾ ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h

⁵⁾ Transition time 50 ms fixed

⁶⁾ Transition time adjustable

ABB CT-S Product Portfolio



| Type | Rated control supply voltage | Time range | Ordering code | L.P. (₹) |
|------------|------------------------------|--------------------|-----------------|----------|
| CT-MFS.21S | 24-240 V AC/DC | 10 (0.05 s- 300 h) | 1SVR730010R0200 | 15,840 |

CT-ERS.22: ON-delay (accumulative), 2 c/o

| Type | Rated control supply voltage | Time range | Ordering code | L.P. (₹) |
|------------|------------------------------|--------------------|-----------------|----------|
| CT-ERS.22S | 24-48 V DC, 24-240 V AC | 10 (0.05 s- 300 h) | 1SVR730100R3300 | 9,720 |

Electronic products and relays

Measuring and monitoring relays



Single and three phase monitoring relays for phase failure detection

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|--------|--|----------------------------|-----------------|---------|
| CM-PBE | 3x380-440 V AC, 220-240 V AC | With neutral monitoring | 1SVR550881R9400 | 7,910 |
| CM-PBE | 3x380-440 V AC | Without neutral monitoring | 1SVR550882R9500 | 7,910 |



Single and three phase monitoring relays for over / undervoltage and phase failure detection

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|--------|--|----------------------------|-------------------|---------|
| CM-PVE | 3x320-460 V AC, 185-265 V AC | With neutral monitoring | 1SVR550870R9400 ■ | 7,680 |
| CM-PVE | 3x320-460 V AC | Without neutral monitoring | 1SVR550871R9500 | 7,680 |



Three phase monitoring relays for phase sequence monitoring and phase failure detection

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|----------|--|--|-----------------|---------|
| CM-PFS.S | 3x200-500 V AC | | 1SVR730824R9300 | 5,840 |



Three phase monitoring relays for over and undervoltage with adjustable threshold values

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|------------|--|--|-----------------|---------|
| CM-PVS.31P | 3x160-300 V AC | | 1SVR740794R1300 | 26,610 |
| CM-PVS.31S | | | 1SVR730794R1300 | 21,960 |
| CM-PVS.41P | 3x300-500 V AC | | 1SVR740794R3300 | 28,430 |
| CM-PVS.41S | | | 1SVR730794R3300 | 23,690 |



Three phase monitoring relays for phase unbalance

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|------------|--|--|-----------------|---------|
| CM-PAS.31P | 3x160-300 V AC | | 1SVR740774R1300 | 25,320 |
| CM-PAS.31S | | | 1SVR730774R1300 | 21,960 |
| CM-PAS.41P | 3x300-500 V AC | | 1SVR740774R3300 | 25,320 |
| CM-PAS.41S | | | 1SVR730774R3300 | 21,960 |



Multi-functional three phase monitoring relays (phase failure detection, phase sequence monitoring, overvoltage, undervoltage, phase unbalance)

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|------------|--|--|-------------------|---------|
| CM-MPS.11P | 3x90-170 V AC | | 1SVR740885R1300 | 26,350 |
| CM-MPS.11S | | | 1SVR730885R1300 | 24,570 |
| CM-MPS.21P | 3x180-280 V AC | With interrupted neutral monitoring | 1SVR740885R3300 | 25,460 |
| CM-MPS.21S | | | 1SVR730885R3300 | 24,180 |
| CM-MPS.41S | 3x300-500 V AC | Without interrupted neutral monitoring | 1SVR730884R3300 ■ | 10,710 |

Electronic products and relays

Measuring and monitoring relays

Three phase monitoring relays



Multi-functional three phase monitoring relays, automatic phase sequence correction and separate monitoring of over and undervoltage (window monitoring) configurable

| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|------------|--|--|-----------------|---------|
| CM-MPS.23P | 3x180-280 V AC | With interrupted neutral monitoring | 1SVR740885R4300 | 32,300 |
| CM-MPS.23S | | | 1SVR730885R4300 | 28,440 |
| CM-MPS.43P | 3x300-500 V AC | Without interrupted neutral monitoring | 1SVR740884R4300 | 31,160 |
| CM-MPS.43S | | | 1SVR730884R4300 | 25,790 |

Multi-functional three phase monitoring relays, automatic phase sequence correction and separate monitoring of over and undervoltage (window monitoring) configurable



| Type | Rated control supply voltage = measuring voltage | | Ordering code | L.P.(₹) |
|------------|--|--|-------------------|---------|
| CM-MPN.52P | 3x350-580 V AC | | 1SVR760487R8300 | 35,460 |
| CM-MPN.52S | | | 1SVR750487R8300 | 30,120 |
| CM-MPN.62P | 3x450-720 V AC | | 1SVR760488R8300 | 35,460 |
| CM-MPN.62S | | | 1SVR750488R8300 | 31,160 |
| CM-MPN.72P | 3x530-820 V AC | | 1SVR760489R8300 | 35,460 |
| CM-MPN.72S | | | 1SVR750489R8300 ■ | 31,160 |

Insulation monitors for unearthed supply systems



| Type | Nominal voltage Un of the distribution system to be monitored | Rated control supply voltage | Ordering code | L.P.(₹) |
|---------------|---|------------------------------|-------------------|----------|
| CM-IWS.1P | 0-250 V AC / 0-300 V DC | 24-240 V AC/DC | 1SVR740660R0100 | 40,630 |
| CM-IWS.1S | | | 1SVR730660R0100 ■ | 39,130 |
| CM-IWS.2P | 0-400 V AC | 24-240 V AC/DC | 1SVR740670R0200 | 36,000 |
| CM-IWS.2S | | | 1SVR730670R0200 ■ | 32,160 |
| CM-IWN.1P | 0-400 V AC / 0-600 V DC | 24-240 V AC/DC | 1SVR760660R0200 | 1,02,240 |
| CM-IWN.1S | | | 1SVR750660R0200 | 74,430 |
| Coupling unit | | | | |
| CM-IVN.S | Passive device, no control supply voltage needed | 0-690 V AC / 0-1000 V DC | 1SVR750669R9400 ■ | 38,930 |
| CM-IVN.P | | | 1SVR760669R9400 | 47,390 |

Thermistor motor protection relays



| Type | Rated control supply voltage | | Ordering code | L.P.(₹) |
|------------|------------------------------|--|-------------------|---------|
| CM-MSE | 24 V AC | | 1SVR550805R9300 | 8,650 |
| | 110-130 V AC | | 1SVR550800R9300 ■ | 6,590 |
| | 220-240 V AC | | 1SVR550801R9300 ■ | 8,650 |
| CM-MSS.12S | 24 V AC/DC | | 1SVR730700R0100 | 10,990 |
| CM-MSS.12P | 24 V AC/DC | | 1SVR740700R0100 | 11,600 |
| CM-MSS.13S | 110-130 V AC/220-240 V AC | | 1SVR730700R2100 | 10,350 |
| CM-MSS.13P | 110-130 V AC/220-240 V AC | | 1SVR740700R2100 | 11,600 |
| CM-MSS.22S | 24 V AC/DC | | 1SVR730700R0200 | 11,050 |
| CM-MSS.22P | 24 V AC/DC | | 1SVR740700R0200 | 12,700 |
| CM-MSS.23S | 110-130 V AC/220-240 V AC | | 1SVR730700R2200 | 11,050 |
| CM-MSS.23P | 110-130 V AC/220-240 V AC | | 1SVR740700R2200 | 12,700 |

■ Stock items

Electronic products and relays

Pluggable interface relays



CR-M



CR-M

Ordering details - CR-M range without LED

Ordering details - CR-M range with LED

| Version | Outputs | Type | Ordering code | L.P.(₹) | Outputs | Type | Ordering code | L.P.(₹) | | |
|----------|-----------------|-----------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------|-------------------|-------|
| 12 V DC | 2 c/o (SPDT) | CR-M012DC2 | 1SVR405611R4000 | 920 | 2 c/o (SPDT) | CR-M012DC2L | 1SVR405611R4100 | 920 | | |
| 24 V DC | | CR-M024DC2 | 1SVR405611R1000 ■ | 920 | | CR-M024DC2L | 1SVR405611R1100 ■ | 940 | | |
| 48 V DC | | CR-M048DC2 | 1SVR405611R6000 | 920 | | CR-M048DC2L | 1SVR405611R6100 | 970 | | |
| 60 V DC | | CR-M060DC2 | 1SVR405611R4200 | 920 | | CR-M060DC2L | 1SVR405611R4300 | 970 | | |
| 110 V DC | | CR-M110DC2 | 1SVR405611R8000 ■ | 1,020 | | CR-M110DC2L | 1SVR405611R8100 | 1,100 | | |
| 125 V DC | | CR-M125DC2 | 1SVR405611R8200 | 1,020 | | CR-M125DC2L | 1SVR405611R8300 | 1,100 | | |
| 220 V DC | | CR-M220DC2 | 1SVR405611R9000 | 960 | | CR-M220DC2L | 1SVR405611R9100 | 1,140 | | |
| 24 V AC | | CR-M024AC2 | 1SVR405611R0000 | 960 | | CR-M024AC2L | 1SVR405611R0100 | 1,090 | | |
| 48 V AC | | CR-M048AC2 | 1SVR405611R5000 | 960 | | CR-M048AC2L | 1SVR405611R5100 | 990 | | |
| 110 V AC | | CR-M110AC2 | 1SVR405611R7000 | 960 | | CR-M110AC2L | 1SVR405611R7100 | 1,090 | | |
| 120 V AC | | CR-M120AC2 | 1SVR405611R2000 | 960 | | CR-M120AC2L | 1SVR405611R2100 | 1,100 | | |
| 230 V AC | | CR-M230AC2 | 1SVR405611R3000 ■ | 1,070 | | CR-M230AC2L | 1SVR405611R3100 | 1,150 | | |
| 12 V DC | | 4 c/o (SPDT) | CR-M012DC4 | 1SVR405613R4000 | | 920 | 4 c/o (SPDT) | CR-M012DC4L | 1SVR405613R4100 | 1,170 |
| 24 V DC | | | CR-M024DC4 | 1SVR405613R1000 ■ | | 920 | | CR-M024DC4L | 1SVR405613R1100 ■ | 1,170 |
| 48 V DC | | | CR-M048DC4 | 1SVR405613R6000 | | 970 | | CR-M048DC4L | 1SVR405613R6100 | 1,170 |
| 60 V DC | | | CR-M060DC4 | 1SVR405613R4200 | | 930 | | CR-M060DC4L | 1SVR405613R4300 | 1,040 |
| 110 V DC | CR-M110DC4 | | 1SVR405613R8000 ■ | 1,070 | CR-M110DC4L | 1SVR405613R8100 ■ | | 1,290 | | |
| 125 V DC | CR-M125DC4 | | 1SVR405613R8200 ■ | 1,080 | CR-M125DC4L | 1SVR405613R8300 | | 1,290 | | |
| 220 V DC | CR-M220DC4 | | 1SVR405613R9000 ■ | 1,130 | CR-M220DC4L | 1SVR405613R9100 ■ | | 1,370 | | |
| 24 V AC | CR-M024AC4 | | 1SVR405613R0000 | 1,080 | CR-M024AC4L | 1SVR405613R0100 | | 1,290 | | |
| 48 V AC | CR-M048AC4 | | 1SVR405613R5000 | 1,010 | CR-M048AC4L | 1SVR405613R5100 | | 1,290 | | |
| 110 V AC | CR-M110AC4 | | 1SVR405613R7000 ■ | 1,080 | CR-M110AC4L | 1SVR405613R7100 | | 1,290 | | |
| 120 V AC | CR-M120AC4 | | 1SVR405613R2000 | 1,080 | CR-M120AC4L | 1SVR405613R2100 | | 1,170 | | |
| 230 V AC | CR-M230AC4 | | 1SVR405613R3000 ■ | 1,130 | CR-M230AC4L | 1SVR405613R3100 ■ | | 1,360 | | |



CR-M4SS

Ordering details - CR-M range accessories

| Version | Type | Ordering code | L.P.(₹) |
|-----------------------------|---------|-------------------|---------|
| Standard socket for 2 c/o | CR-M2SS | 1SVR405651R1000 ■ | 580 |
| Standard socket for 2/4 c/o | CR-M4SS | 1SVR405651R3000 ■ | 620 |
| Plastic holder | CR-MH | 1SVR405659R1000 ■ | 90 |
| Metal holder | CR-MH1 | 1SVR405659R1100 ■ | 80 |

Electronic products and relays

Pluggable interface relays



Ordering details - CR-MX range with LED

Ordering details - CR-MX range with Integrated LED & Test Button

| Version | Outputs | Type | Ordering code | L.P.(₹) | Outputs | Type | Ordering code | L.P.(₹) |
|----------|--------------------------|--------------|-------------------|---------|--------------------------|---------------|-------------------|---------|
| 12 V DC | | CR-MX012DC2L | 1SVR405631R4100 | 390 | | CR-MX012DC2LT | 1SVR405641R4100 | 490 |
| 24 V DC | | CR-MX024DC2L | 1SVR405631R1100 ■ | 420 | | CR-MX024DC2LT | 1SVR405641R1100 ■ | 510 |
| 48 V DC | | CR-MX048DC2L | 1SVR405631R6100 | 460 | | CR-MX048DC2LT | 1SVR405641R6100 | 530 |
| 110 V DC | 2 c/o (SPDT), 250 V, 7 A | CR-MX110DC2L | 1SVR405631R8100 ■ | 420 | 2 c/o (SPDT), 250 V, 7 A | CR-MX110DC2LT | 1SVR405641R8100 ■ | 530 |
| 220 V DC | | CR-MX220DC2L | 1SVR405631R9100 | 760 | | CR-MX220DC2LT | 1SVR405641R9100 | 830 |
| 24 V AC | | CR-MX024AC2L | 1SVR405631R0100 ■ | 390 | | CR-MX024AC2LT | 1SVR405641R0100 ■ | 530 |
| 110 V AC | | CR-MX110AC2L | 1SVR405631R7100 | 390 | | CR-MX110AC2LT | 1SVR405641R7100 | 560 |
| 230 V AC | | CR-MX230AC2L | 1SVR405631R3100 ■ | 460 | | CR-MX230AC2LT | 1SVR405641R3100 ■ | 590 |
| | | | | | | | | |
| 12 V DC | | CR-MX012DC4L | 1SVR405633R4100 | 460 | | CR-MX012DC4LT | 1SVR405643R4100 | 560 |
| 24 V DC | | CR-MX024DC4L | 1SVR405633R1100 ■ | 480 | | CR-MX024DC4LT | 1SVR405643R1100 ■ | 580 |
| 48 V DC | | CR-MX048DC4L | 1SVR405633R6100 | 490 | | CR-MX048DC4LT | 1SVR405643R6100 | 590 |
| 110 V DC | 4 c/o (SPDT), 250 V, 5 A | CR-MX110DC4L | 1SVR405633R8100 ■ | 490 | 4 c/o (SPDT), 250 V, 5 A | CR-MX110DC4LT | 1SVR405643R8100 ■ | 600 |
| 220 V DC | | CR-MX220DC4L | 1SVR405633R9100 | 820 | | CR-MX220DC4LT | 1SVR405643R9100 | 950 |
| 24 V AC | | CR-MX024AC4L | 1SVR405633R0100 ■ | 490 | | CR-MX024AC4LT | 1SVR405643R0100 ■ | 600 |
| 110 V AC | | CR-MX110AC4L | 1SVR405633R7100 ■ | 530 | | CR-MX110AC4LT | 1SVR405643R7100 ■ | 620 |
| 230 V AC | | CR-MX230AC4L | 1SVR405633R3100 ■ | 530 | | CR-MX230AC4LT | 1SVR405643R3100 ■ | 620 |



CR-MX with Base and Holder

Ordering details - Accessories* - CR-MX range

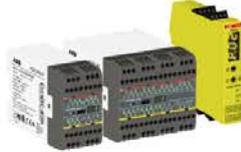
| Version | Type | Ordering code | L.P.(₹) |
|---------------------------------------|----------|-------------------|---------|
| For 2 c/o (SPDT) contacts, black | CR-M2SFB | 1SVR405651R1400 ■ | 230 |
| For 2 or 4 c/o (SPDT) contacts, black | CR-M4SFB | 1SVR405651R3400 ■ | 290 |
| Metal holder | CR-MH1 | 1SVR405659R1100 ■ | 80 |

■ Stock items

Magne magnetic lock
to keep doors and hatches
locked during a process



**Pluto programmable safety controller,
Vital safety controller and Sentry safety relays**
for flexible monitoring of safety devices



Smile emergency stop button
to safely stop machinery in hazardous
situations



Orion light guards
for a production friendly
safety detection



Knox safety lock
for safe locking of doors



JSDH4 three-position device
for safe and ergonomic
inspection and troubleshooting



**LineStrong pull wire
emergency stop switch**
for easy access of emergency stop
function

ABB safety

Sentry safety relays

| Expansion | Safety devices | Test/Reset | Safety relay outputs | Timer function | Feature | Power supply |
|--|---|---|---|--|---------------------------|-------------------------------------|
| Expansion of safety controller outputs | 1 channel 2 channels with equivalent contacts 2 channels with antivalent contacts OSSD outputs / PNP outputs Contact mats, bumpers and safety edges ^{c)} Two-hand devices | Manual reset (all models have auto reset) Start/Test | 3 NO + 1 NC 4 NO 2 NO + 2 delayed/delayable NO 4 NO + 1 NC | Off-delay 0.5 s Off-delay 1.5 s Advanced timer functions 0 – 999 s ^{d)} | configurable with display | 85-265 VAC / 120-375 VDC +24 VDC |



| | | | | | | Type | Ordering code | L.P.(₹) |
|----|-------------|---|---|---------|---|------------------------|-----------------|---------|
| a) | ● b) | ● | ● | | | ● BSR10 | 2TLA010040R0000 | 18,650 |
| | | | | | | ● BSR10P | 2TLA010040R0001 | 19,520 |
| a) | ● b) | ● | ● | | | ● BSR11 | 2TLA010040R0200 | 18,650 |
| | | | | | | ● BSR11P | 2TLA010040R0201 | 19,520 |
| a) | | | | ● | | ● BSR23 ^{e)} | 2TLA010041R0600 | 16,250 |
| | | | | | | ● BSR23P ^{e)} | 2TLA010041R0601 | 16,990 |
| ● | ● ● ● | ● | ● | | | ● SSR10 | 2TLA010050R0000 | 22,910 |
| | | | | | | ● SSR10P | 2TLA010050R0001 | 23,960 |
| ● | ● | ● | ● | | | ● SSR10M | 2TLA010050R0100 | 28,960 |
| | | | | | | ● SSR10MP | 2TLA010050R0101 | 30,520 |
| | | ● | ● | | | ● SSR20 | 2TLA010051R0000 | 25,140 |
| | | | | | | ● SSR20P | 2TLA010051R0001 | 26,300 |
| | | ● | ● | | | ● SSR20M | 2TLA010051R0100 | 32,120 |
| | | | | | | ● SSR20MP | 2TLA010051R0101 | 33,840 |
| ● | ● ● ● | ● | ● | ● | | ● SSR32 | 2TLA010052R0400 | 36,580 |
| | | | | | | ● SSR32P | 2TLA010052R0401 | 38,500 |
| ● | ● ● ● | ● | ● | | ● | ● SSR42 | 2TLA010053R0400 | 36,580 |
| | | | | | | ● SSR42P | 2TLA010053R0401 | 38,280 |
| ● | ● ● ● | ● | ● | ● ● ● ● | ● | ● TSR10 | 2TLA010060R0000 | 29,400 |
| | | | | | | ● TSR10P | 2TLA010060R0001 | 30,750 |
| ● | ● ● ● | ● | ● | ● ● | | ● TSR20 | 2TLA010061R0000 | 29,400 |
| | | | | | | ● TSR20P | 2TLA010061R0001 | 31,020 |
| ● | ● | ● | ● | ● ● | | ● TSR20M | 2TLA010061R0100 | 28,960 |
| | | | | | | ● TSR20MP | 2TLA010061R0101 | 30,310 |
| | ● ● ● ● ● ● | ● | ● | ● ● ● ● | ● | ● USR10 | 2TLA010070R0000 | 34,900 |
| | | | | | | ● USR10P | 2TLA010070R0001 | 36,510 |
| | ● ● ● ● ● ● | ● | ● | ● ● ● ● | ● | ● USR22 | 2TLA010070R0400 | 48,700 |
| | | | | | | ● USR22P | 2TLA010070R0401 | 50,920 |

^{a)} These models can also be used for expansion of Pluto safe transistor outputs (-24 VDC)

^{b)} No monitoring of two-channel fault, i.e. max Category 3 without fault exclusion.

^{c)} The safety relay detects a short-circuit, not a change in resistance.

^{d)} Off-delay, On-delay, Time bypass or Time reset.

^{e)} BSR23 must be monitored by another device in order to reach higher than Category 1/PL c according to EN ISO 13849-1, for example a safety relay, safety PLC or an Orion light guard (EDM function).



Safety controller

| DYNlink circuits | Maximum DYNlink devices | Safe outputs | Type | Order code | L.P.(₹) |
|------------------|-------------------------|--------------|---------|-----------------|---------|
| 1 | 30 | 2 NO | Vital 1 | 2TLA020052R1000 | 44,340 |

ABB safety

Programmable safety controller

| Safety bus | Failsafe outputs ^{a)} | Failsafe inputs (max) ^{b)} | Analog inputs (max) ^{b)} | Fast counter inputs (max) ^{b)} | StatusBus inputs (max) ^{b)} | Non-failsafe outputs (max) ^{b)} | Width mm | Type | Ordering code | L.P.(₹) |
|------------|--------------------------------|-------------------------------------|-----------------------------------|---|--------------------------------------|--|----------|-------------------------|-----------------|----------|
| No | 4 | 16 | 1 ^{c)} | | 4 | 8 | 45 | Pluto S20 | 2TLA020070R4700 | 1,12,560 |
| | 6 | 40 | 3 ^{c)} | | 4 | 16 | 90 | Pluto S46 | 2TLA020070R1800 | 1,59,910 |
| Yes | | 22 | 1 ^{c)} | | 4 | 8 | 45 | Pluto B22 ^{e)} | 2TLA020070R4800 | 1,07,380 |
| | 2 | 4 | | | 2 | 2 | 45 | Pluto O2 ^{f)} | 2TLA020070R8500 | 97,150 |
| | 4 | 16 | 1 ^{c)} | | 4 | 8 | 45 | Pluto A20 ^{g)} | 2TLA020070R4500 | 1,53,900 |
| | | | | | | | | Pluto B20 | 2TLA020070R4600 | 1,41,540 |
| | | | 4 ^{d)} + 1 ^{c)} | | 4 | 8 | 45 | Pluto D20 | 2TLA020070R6400 | 1,88,500 |
| | 6 | 40 | 3 ^{c)} | | 4 | 16 | 90 | Pluto B46 | 2TLA020070R1700 | 1,88,500 |
| | | 39 | 8 ^{d)} | 4 | 4 | 15 | 90 | Pluto D45 | 2TLA020070R6600 | 2,29,950 |



^{a)} Failsafe outputs

2 failsafe outputs:

- 2 independent individually safe potential free relay outputs (Q0 and Q1) with 3 contacts each

4 failsafe outputs:

- 2 independent individually safe potential free relay outputs (Q0 and Q1)
- 2 independent individually safe transistor outputs (-24 VDC) (Q2 and Q3)

6 failsafe outputs:

- 2 independent individually safe potential free relay outputs (Q0 and Q1)
- 2 independent individually safe potential free relay outputs with common supply (Q4 and Q5)
- 2 independent individually safe transistor outputs (-24 VDC) (Q2 and Q3)

^{b)} -The number of failsafe inputs available decreases with the number of used non-failsafe outputs, analog inputs, fast counter inputs and StatusBus inputs.

- The number of analogue inputs available decreases with the number of used fast counter inputs.
 - The number of non-failsafe outputs available decreases with the number of StatusBus inputs used.
- Check the Pluto hardware manual for more information.

^{c)} 0-27 V analog inputs

^{d)} 0-10 V/4-20 mA (high resolution) analog inputs

^{e)} Expansion model with failsafe inputs and no failsafe outputs.

^{f)} Expansion model with 2 failsafe outputs with 3 contacts each. Also possible to use as stand-alone unit.

^{g)} Model with current monitoring

Gateway for communication

| Fieldbus | Ethernet | Type | Ordering code | L.P.(₹) |
|-------------|----------|----------|-----------------|---------|
| CANopen | | GATE-C2 | 2TLA020071R8100 | 46,200 |
| DeviceNet | | GATE-D2 | 2TLA020071R8200 | 54,830 |
| PROFIBUS-DP | | GATE-P2 | 2TLA020071R8000 | 54,830 |
| EtherCAT | X | GATE-EC | 2TLA020071R9100 | 69,750 |
| Ethernet/IP | X | GATE-EIP | 2TLA020071R9000 | 68,830 |
| Modbus TCP | X | GATE-MT | 2TLA020071R9400 | 69,750 |
| PROFINET | X | GATE-PN | 2TLA020071R9300 | 69,750 |



Safety and process locks

Switches

| Material (body) | Positions for pilot devices | Manual unlock | Type | Ordering code | L.P.(₹) |
|-----------------|-----------------------------|---------------|----------|-----------------|----------|
| Die cast | 4 | Yes | GKey4 RU | 2TLA050304R0002 | 1,20,510 |



Mounting plate with front handle

| Type of handle | Material (mounting plates and sliding bolt) | Type | Ordering code | L.P.(₹) |
|----------------|---|-----------|-----------------|---------|
| Sliding | Die cast | FHS GKey4 | 2TLA050310R0032 | 38,390 |

Accessories - Rear handle and spring loaded catch

| Type of handle | Material | Description | Type | Ordering code | L.P.(₹) |
|----------------|----------|--------------|---------------|-----------------|---------|
| Sliding | Die cast | Rear handle | RHS GKey MKey | 2TLA050040R0510 | 3,980 |
| | | Spring catch | SCS GKey MKey | 2TLA050040R0511 | |

Safety light curtains/Grids

| Detection (Resolution mm) | Protected height mm | Type (Transmitter + receiver) | Ordering code | L.P.(₹) |
|---------------------------|---------------------|-------------------------------|-----------------|----------|
| Finger (14) | 150 | Orion1-4-14-015-B | 2TLA022300R0000 | 1,10,650 |
| | 450 | Orion1-4-14-045-B | 2TLA022300R0200 | 1,97,570 |
| | 750 | Orion1-4-14-075-B | 2TLA022300R0400 | 2,79,080 |
| | 1050 | Orion1-4-14-105-B | 2TLA022300R0600 | 3,58,780 |
| | 1200 | Orion1-4-14-120-B | 2TLA022300R0700 | 3,99,830 |
| | 1050 | Orion1-4-14-105-E | 2TLA022301R0600 | 4,44,540 |
| | 1200 | Orion1-4-14-120-E | 2TLA022301R0700 | 4,88,330 |
| Hand (30) | 1500 | Orion1-4-14-150-E | 2TLA022301R0900 | 5,85,760 |
| | 450 | Orion1-4-30-045-B | 2TLA022302R0200 | 1,44,600 |
| | 750 | Orion1-4-30-075-B | 2TLA022302R0400 | 1,86,510 |
| | 1050 | Orion1-4-30-105-B | 2TLA022302R0600 | 2,29,320 |
| | 1200 | Orion1-4-30-120-B | 2TLA022302R0700 | 2,53,980 |
| | 1500 | Orion1-4-30-150-B | 2TLA022302R0900 | 2,96,040 |
| | 1800 | Orion1-4-30-180-B | 2TLA022302R1100 | 3,41,060 |
| | 1050 | Orion1-4-30-105-E | 2TLA022303R0600 | 3,14,280 |
| | 1200 | Orion1-4-30-120-E | 2TLA022303R0700 | 3,39,450 |
| | 1500 | Orion1-4-30-150-E | 2TLA022303R0900 | 4,05,140 |
| 1800 | Orion1-4-30-180-E | 2TLA022303R1100 | 4,71,920 | |



**Note:- for other variants please contact Local Sales of ABB.



Orion 2 Base/Extended

| Detection | Protected height mm | Type (Transmitter + receiver) | Ordering code | L.P.(₹) |
|-----------|---------------------|-------------------------------|-----------------|----------|
| Body | 900 (4 beams) | Orion2-4-K2-090-B | 2TLA022304R0200 | 1,57,640 |
| | 1200 (4 beams) | Orion2-4-K4-120-B | 2TLA022304R0300 | 1,75,120 |
| Body | 500 (2 beams) | Orion2-4-K2-050-E | 2TLA022305R0000 | 1,37,420 |
| | 800 (3 beams) | Orion2-4-K2-080-E | 2TLA022305R0100 | 1,61,060 |
| | 900 (4 beams) | Orion2-4-K2-090-E | 2TLA022305R0200 | 1,81,300 |
| | 1200 (4 beams) | Orion2-4-K2-120-E | 2TLA022305R0300 | 2,01,410 |



Orion 3 Base/Extended

| Detection | Protected height mm | Active or passive Part | Type | Ordering code | L.P.(₹) |
|-----------|---------------------|------------------------|--------------------|-----------------|----------|
| Body | 500 (2 beams) | Active part | Orion3-4-K1C-050-B | 2TLA022306R0000 | 78,210 |
| | | Passive part | Orion3-4-M1C-050 | 2TLA022306R1000 | 30,230 |
| | 800 (3 beams) | Active part | Orion3-4-K2C-080-B | 2TLA022306R0100 | 1,02,780 |
| | | Passive part | Orion3-4-M2C-080 | 2TLA022306R1100 | 41,580 |
| Body | 900 (4 beams) | Active part | Orion3-4-K2C-090-B | 2TLA022306R0200 | 1,12,600 |
| | | Passive part | Orion3-4-M2C-090 | 2TLA022306R1300 | 45,340 |
| | 1200 (4 beams) | Active part | Orion3-4-K2C-120-B | 2TLA022306R0300 | 1,19,770 |
| | | Passive part | Orion3-4-M2C-120 | 2TLA022306R1400 | 57,450 |
| Body | 500 (2 beams) | Active part | Orion3-4-K1C-050-E | 2TLA022307R0000 | 1,00,870 |
| | | Passive part | Orion3-4-M1C-050 | 2TLA022306R1000 | 30,230 |
| | 800 (3 beams) | Active part | Orion3-4-K2C-080-E | 2TLA022307R0100 | 1,23,170 |
| | | Passive part | Orion3-4-M2C-080 | 2TLA022306R1100 | 41,580 |
| | 900 (4 beams) | Active part | Orion3-4-K2C-090-E | 2TLA022307R0200 | 1,33,350 |
| | | Passive part | Orion3-4-M2C-090 | 2TLA022306R1300 | 45,340 |
| | 1200 (4 beams) | Active part | Orion3-4-K2C-120-E | 2TLA022307R0300 | 1,46,210 |
| | | Passive part | Orion3-4-M2C-120 | 2TLA022306R1400 | 57,450 |

**Note:- for other variants please contact Local Sales of ABB.



Safeball JSTD1

| Types of switches | Cable length | Type | Ordering code | L.P.(₹) |
|-------------------|--------------|---------|-----------------|---------|
| 1 NO + 1 NC | 2 m | JSTD1-A | 2TLA020007R3000 | 19,630 |
| | 0.2 m | JSTD1-B | 2TLA020007R3100 | 15,930 |
| | 10 m | JSTD1-C | 2TLA020007R3200 | 23,900 |
| 2 NO | 0.2 m | JSTD1-E | 2TLA020007R3400 | 15,590 |

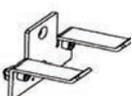


Two-hand control devices JSTD25

| Extra feature | Connector male | Type | Ordering code | L.P.(₹) |
|---|----------------|---------|-----------------|---------|
| None | M12-5 | JSTD25F | 2TLA020007R6000 | 56,010 |
| | M12-8 | JSTD25H | 2TLA020007R6300 | 66,320 |
| Pre-mounted Smile 10 EK emergency stop button | M12-8 | JSTD25K | 2TLA020007R6900 | 75,760 |

Accessories

| Description | Type | Ordering code | L.P.(₹) |
|--|---------------|-----------------|---------|
| Mounting bracket for JSTD1 with orientation possibility (ball joint) | JSM C5 | 2TLA020007R0900 | 7,920 |
| Suspension shelf for JSTD25F/H/K | JSM C7 | 2TLA020007R1200 | 8,440 |
| coat for Safeball | Safeball coat | 2TLA020007R1900 | 4,220 |



Three positional safety device Complete list of JSHD4 models



| Top Part Buttons and LEDs | Bottom part Feature | ID | Connection | Anti-tamper | Type | Ordering code | L.P.(₹) |
|------------------------------|---|----|--------------------------------------|-------------|--------------|-----------------|---------|
| JSHD4-1 | Use your own cable | AA | Cable gland and 5 screw connections | | JSHD4-1-AA | 2TLA019995R0000 | 39,190 |
| No LEDs No buttons | Cost-effective and quick connection | AC | M12-5 male | | JSHD4-1-AC | 2TLA019995R0100 | 44,050 |
| JSHD4-2 | Cost-effective and robust | AB | Cannon 12 male pins | | JSHD4-2-AB | 2TLA019995R0200 | 55,940 |
| | Use your own cable, full pin connection | AJ | Cable gland and 16 screw connections | ● | JSHD4-2-AJ-A | 2TLA019995R1100 | 75,660 |
| | Replacement of old units* | AK | Cannon 12 male pins | | JSHD4-2-AK | 2TLA019995R4800 | 53,500 |

HD5 ordering information



| Emergency stop with LED | Home position sensor | Motion sensor | LED flashlight | Connector | Two top | Type | Ordering code | L.P.(₹) |
|-------------------------|----------------------|---------------|----------------|-----------|---------|-----------|-----------------|----------|
| No | No | No | No | M23-12 | No | HD5-S-102 | 2TLA023001R0000 | 91,860 |
| | | | | | Yes | HD5-S-104 | 2TLA023001R0200 | 1,08,060 |
| Yes | Yes | Yes | Yes | M23-19 | Yes | HD5-S-111 | 2TLA023001R0100 | 1,62,080 |

HD5 accessories



| Description | Suitable for | Type | Ordering code | L.P.(₹) |
|--|---------------|---------------|-----------------|---------|
| Active holder (for home position sensor) | All models | HD5-M-001 | 2TLA920509R0001 | 6,530 |
| Passive holder | All models | HD5-M-002 | 2TLA920509R0002 | 5,400 |
| 10 m cable with M23-12 female connector | HD5-S-102/104 | JSD-TK10-12 | 2TLA930051R0000 | 50,650 |
| 5 m cable with M23-12 female connector | HD5-S-102/104 | JSD-TK5-12 | 2TLA930050R0000 | 38,720 |
| 10 m spiral cable with M23-12 female connector | HD5-S-102/104 | JSD-TK100S-12 | 2TLA930034R0000 | 92,780 |

Emergency Stop Sign Panel mounting



| IP rating | Depth | Connection type | Type of safety signal | Feature | Type | Ordering code | L.P.(₹) |
|-----------------------------|-------|--------------------------|-----------------------|-----------------------|-------------------|-----------------|---------|
| IP65 | 26 mm | 1 x M12-5 male | DYNlink 2 NC | Status LED | Smile 11 EAR Tina | 2TLA030050R0100 | 15,140 |
| | | | | Status LED | Smile 11 EAR | 2TLA030051R0100 | 13,160 |
| Button IP65, connector IP20 | 53 mm | Removable terminal block | 2 NC | Status LED, StatusBus | INCA 1 EC Tina | 2TLA030054R1400 | 17,690 |
| | | | | Status LED | INCA 1 | 2TLA030054R0100 | 14,150 |

ABB safety

Emergency Stop Button External mounting



| Description | Type of safety signal | Connection type | Feature | Type | Ordering code | L.P.(₹) |
|--|-----------------------|--|--------------------------|----------------------|-----------------|---------|
| Compact size Plastic housing IP65 | DYNlink | 1 m cable from bottom 1 x M12-5 male 1 x M12-5 male 2 x M12-5 male | Status LED | Smile 10 EA Tina | 2TLA030050R0400 | 15,280 |
| | | | Status LED | Smile 11 EA Tina | 2TLA030050R0000 | 14,700 |
| | | | Status LED, StatusBus | Smile 11 EC Tina | 2TLA030050R0900 | 16,120 |
| | | | Status LED | Smile 12 EA Tina | 2TLA030050R0200 | 15,990 |
| Plastic housing IP66, IP67 and IP69K | 2 NC | 1 m cable from bottom 1 m leads from bottom 1 x M12-5 male 2 x M12-5 male | Status LED | Smile 10 EA | 2TLA030051R0400 | 13,310 |
| | | | - | Smile 10 EK | 2TLA030051R0600 | 9,910 |
| | | | Status LED | Smile 11 EA | 2TLA030051R0000 | 12,740 |
| | | | Status LED | Smile 12 EA | 2TLA030051R0200 | 14,000 |
| Plastic housing IP66, IP67 and IP69K | 2 NC* | 2 x M20 conduits | - | CEPY1-1002 (Compact) | 1SFA619821R1002 | 5,020 |
| | | | With shroud | CEPY1-2002 (Compact) | 1SFA619821R2002 | 5,380 |
| Metal housing IP67 and IP69K | 2 NO + 2 NC | 3 x M20 conduits | Status LED | EStrongZ LED | 2TLA050220R0222 | 38,150 |
| | | | - | EStrongZ | 2TLA050220R0020 | 34,480 |

* Can be adapted to DYNlink with Tina

Emergency stop grab wire safety switch



| IP rating | Material | E-stop button | Contacts | Max. wire length (m) | | Feature | Type | Ordering code | L.P.(₹) |
|-------------|--------------------------------|---------------|-------------|----------------------|---------|------------|---------------|-----------------|---------------|
| | | | | 1 unit | 2 units | | | | |
| IP67 | Yellow die cast aluminum alloy | No | 2 NO + 2 NC | 30 | 50 | - | LineStrong1 | 2TLA050200R0030 | 25,260 |
| | | | | 60 | 80 | - | LineStrong2 | 2TLA050202R0332 | 36,030 |
| | | Yes | 2 NO + 4 NC | 100 | 125 | Left hand | LineStrong3L | 2TLA050206R0332 | 45,730 |
| | | | | | | Right hand | LineStrong3R | 2TLA050208R0332 | 45,730 |
| | | | | | | 200 | 325 | Both sides | LineStrong3D |
| IP67, IP69K | Stainless steel 316 | Yes | 2 NO + 4 NC | 100 | 125 | - | LineStrong2Z | 2TLA050202R0322 | 74,830 |
| | | | | | | Left hand | LineStrong3LZ | 2TLA050206R0322 | 87,310 |
| | | | | | | Right hand | LineStrong3RZ | 2TLA050208R0322 | 87,310 |
| | | | | | | 200 | 325 | Both sides | LineStrong3DZ |

Safety bumper -ASB

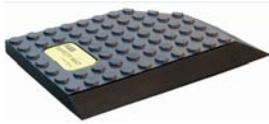


| Overtravel ^{a)} mm | Description | Material | Type | Ordering code | L.P.(₹) |
|-----------------------------|--|-------------------|---------------------------------|-----------------|--------------|
| 60 | 60x100 mm bumper. Length in m needs to be specified on order. | Imitation leather | Bumper ASB 60-100 black/ yellow | 2TLA076200R0500 | Upon request |
| 120 | 100x200 mm bumper. Length in m needs to be specified on order. | Imitation leather | Bumper ASB 100-200 black/yellow | 2TLA076200R0600 | |
| 180 | 150x300 mm bumper. Length in m needs to be specified on order. | Imitation leather | Bumper ASB 150-300 black/yellow | 2TLA076200R0700 | |
| 240 | 200x400 mm bumper. Length in m needs to be specified on order. | Imitation leather | Bumper ASB 200-400 black/yellow | 2TLA076200R0800 | |

^{a)} 60% of bumper height at 10 mm/s

Production cost and cables

| Description | Type | Ordering code | L.P.(₹) |
|---|------------------------|-----------------|--------------|
| Bumpers production cost, including aluminum rail and cables | Bumper production cost | 2TLA076200R0000 | Upon request |



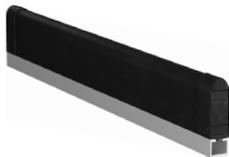
Safety mat ASK – standard sizes

| Size mm | Description | Connectors | Type | Ordering code | L.P.(₹) |
|-----------|---|----------------------------|----------------------------------|-----------------|--------------|
| 750x1000 | 750x1000 safety mat with molded ramp rail and two 5 m cables | 1x M8 male 1x M8 female | Safety mat ASK T4 750x1000mm | 2TLA076310R1000 | Upon request |
| 1000x1000 | 1000x1000 safety mat with molded ramp rail and two 5 m cables | 1x M8 male 1x M8 female | Safety mat ASK T4 1000x1000mm | 2TLA076310R1100 | |
| 1000x1500 | 1000x1500 safety mat with molded ramp rail and two 5 m cables | 1x M8 male 1x M8 female | Safety mat ASK T4 1000x1500mm | 2TLA076310R1200 | |

Safety mat ASK – custom sizes

| Description | Connectors | Type | Ordering code | L.P.(₹) |
|---|----------------------------|----------------------------------|-----------------|--------------|
| Base price for custom made safety mat with molded ramp rail | – | Safety mat ASK CM T4, base price | 2TLA076301R0200 | Upon request |
| Order code for size (m2) and two 5 m cables. Specify dimensions (width x length in mm) in text. | 1x M8 male 1x M8 female | Safety mat ASK CM T4 | 2TLA076301R0600 | |

Safety edge TT



| Overtravel mm | Description | Material | Type | Ordering code | L.P.(₹) |
|---------------|--|----------|--------------------------|-----------------|--------------|
| 15 | 30 mm high safety edge with 25-14 aluminum rail. Length in m needs to be specified on order. | TPE | Safety edge TT 25-30 TPE | 2TLA076025R3010 | Upon request |
| 22.7 | 45 mm high safety edge with 25-14 aluminum rail. Length in m needs to be specified on order. | TPE | Safety edge TT 25-45 TPE | 2TLA076025R4510 | |

Production cost and cables

| Length of cables m | Description | Type | Ordering code | L.P.(₹) |
|--------------------|---|---|-----------------|--------------|
| 2.5 | Production cost with a 2,5 m cable in each end. | Safety edge production cost 2,5m cable | 2TLA076010R0100 | Upon request |
| 5 | Production cost with a 5 m cable in each end. | Safety edge production cost 5,0m cable | 2TLA076010R0500 | |
| 10 | Production cost with a 10 m cable in each end. | Safety edge production cost 10,0m cable | 2TLA076010R1000 | |

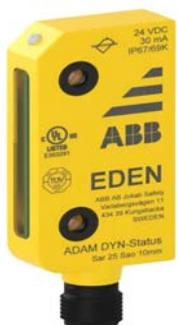
Eden sensors

Eva



| Code description | Code level | Type | Ordering code | L.P.(₹) |
|--|------------|------------------|-----------------|---------|
| General code. (Eva is interchangeable) | Low level | Eva General code | 2TLA020046R0800 | 3,250 |
| Unique code. (Prevents defeat/fraud) | High level | Eva Unique code | 2TLA020046R0900 | 5,520 |

Adam



| Type of safety controller | Status Bus | Info signal | Local reset | Series connection | Connector male | Type | Ordering code | L.P.(₹) |
|--|------------|-----------------|-------------|-------------------|----------------|-----------------------|-----------------|---------|
| Pluto | x | x ¹⁾ | x | x | M12-5 | Adam DYN-Status M12-5 | 2TLA020051R5200 | 12,140 |
| Pluto or Vital | | x | | x | M12-5 | Adam DYN-Info M12-5 | 2TLA020051R5100 | 10,690 |
| | | | x | x | M12-5 | Adam DYN-Reset M12-5 | 2TLA020051R5300 | 14,150 |
| OSSD compatible (incl. Pluto and Sentry) | | x | | | M12-5 | Adam OSSD-Info M12-5 | 2TLA020051R5400 | 9,210 |
| | | | x | | M12-5 | Adam OSSD-Reset M12-5 | 2TLA020051R5600 | 12,490 |
| | | x | x | x | M12-8 | Adam OSSD-Reset M12-8 | 2TLA020051R5900 | 15,290 |

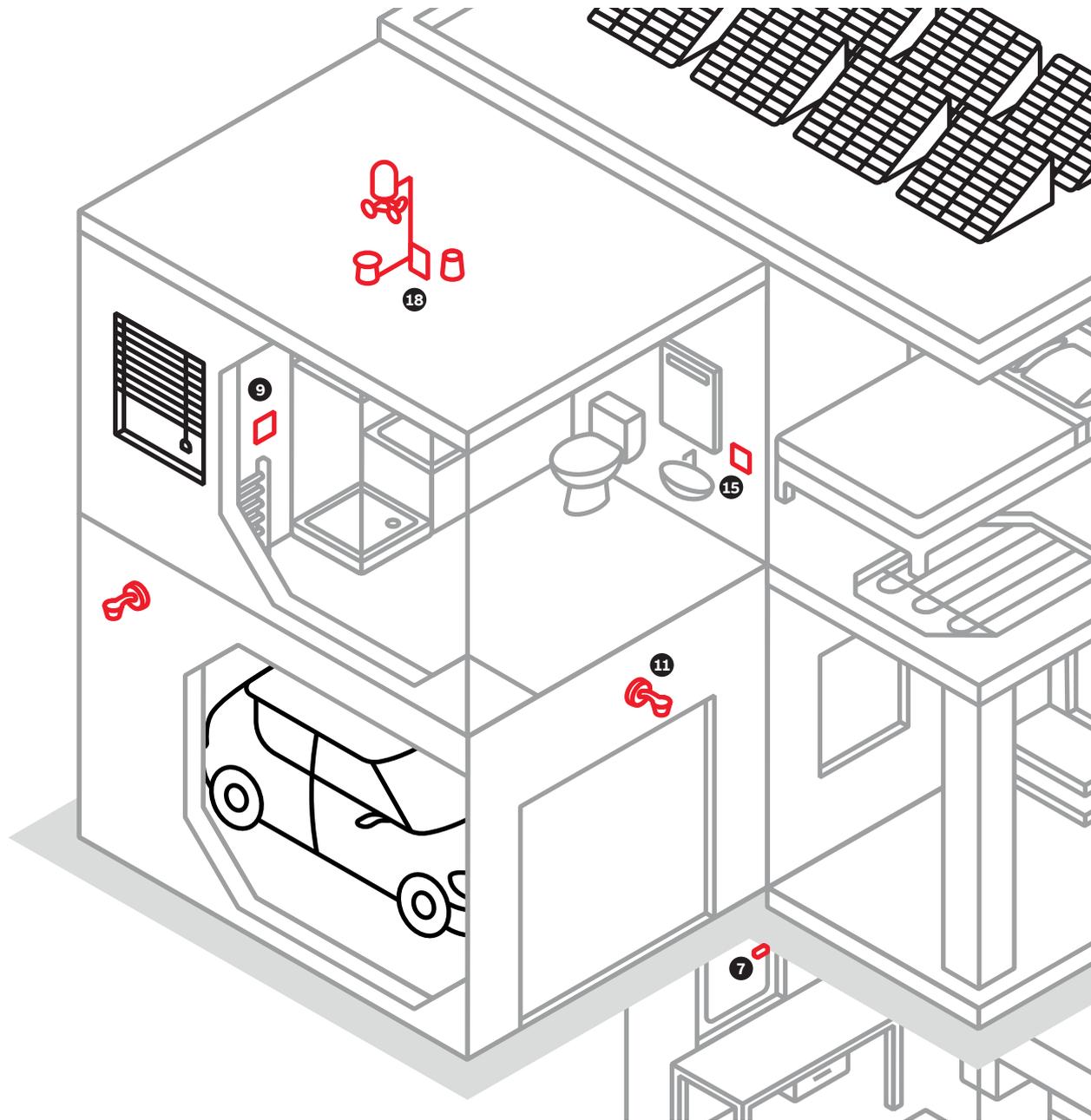
MKey ordering information

| Locking function | Material housing | Material head | Holding force | Special feature | Type | Ordering code | L.P.(₹) |
|-------------------------------|------------------|-----------------|---------------|----------------------------|---------------------|-----------------|---------|
| — | Plastic | Plastic | 12 N | | MKey5 | 2TLA050003R0100 | 7,520 |
| | | | 40 N | | MKey5+ | 2TLA050003R0101 | 8,320 |
| | Stainless steel | 12 N | | MKey5 SSH | 2TLA050003R0110 | 10,640 | |
| | | 40 N | | MKey5+ SSH | 2TLA050003R0111 | 11,800 | |
| — | Stainless steel | Stainless steel | 12 N | IP69K | MKey5Z | 2TLA050003R0120 | 30,600 |
| | | | 40 N | IP69K | MKey5+Z | 2TLA050003R0121 | 34,760 |
| | Die cast | Die cast | 1800 N | | MKey9M 24VDC | 2TLA050009R0112 | 40,980 |
| | | | 2000 N | | MKey8M 24VDC | 2TLA050013R0132 | 57,070 |
| Safety lock (power to unlock) | Plastic | Stainless steel | 1800 N | | MKey9 24VDC | 2TLA050007R0112 | 38,170 |
| | | | | No key supplied | MKey9 24VDC, No Key | 2TLA050007R0012 | 37,300 |
| | Die cast | Die cast | 2000 N | | MKey8 24VDC | 2TLA050011R0132 | 52,840 |
| | | | | With escape release button | MKey8ER 24VDC | 2TLA050015R0132 | 75,140 |
| | Stainless steel | Stainless steel | 2000 N | IP69K | MKey8Z 24VDC | 2TLA050011R0122 | 83,340 |



Electrical installation solutions for buildings

A world of advantages

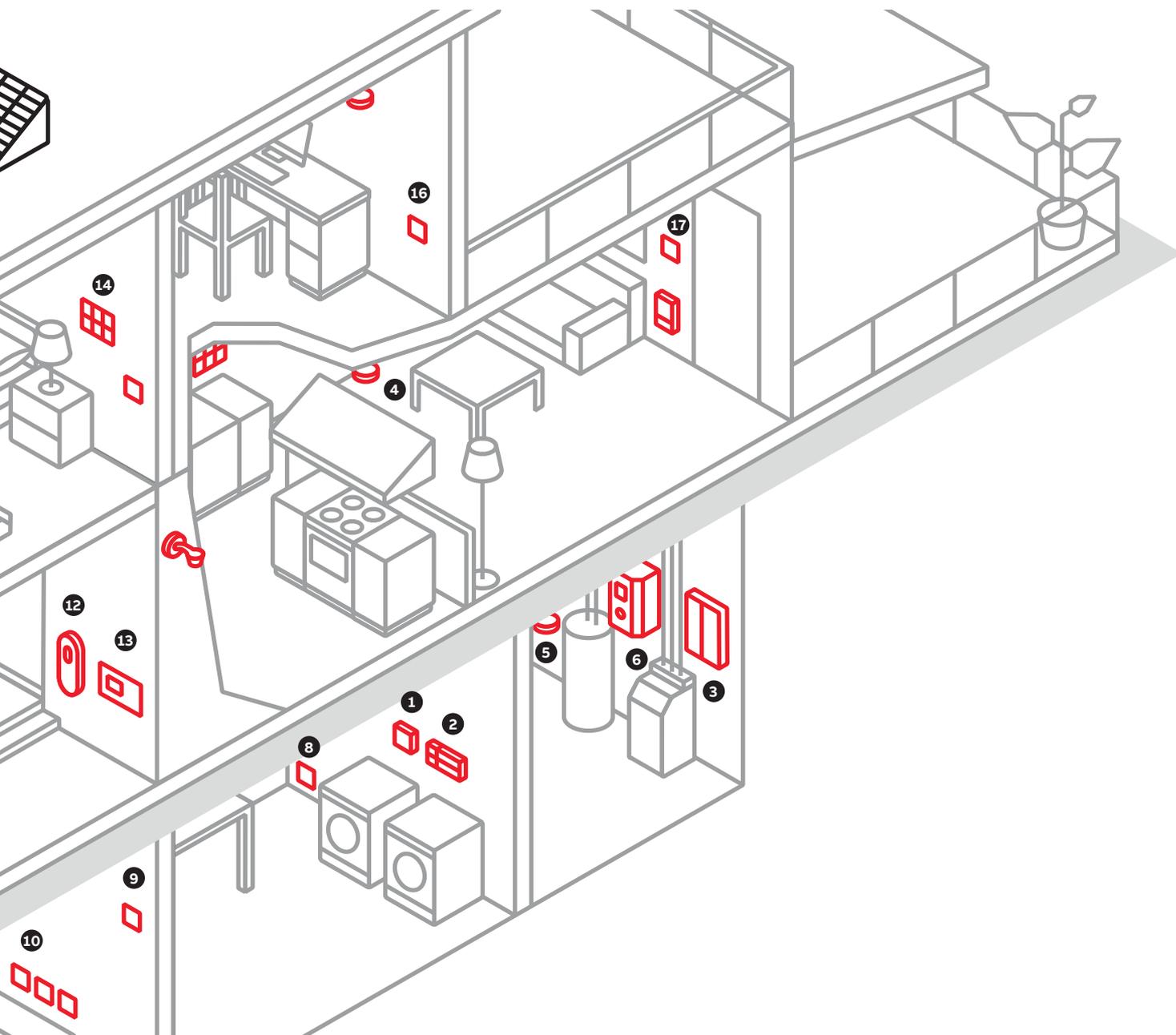


1. Safety switch
2. Energy meter
3. Small and home distributor
4. Smoke detectors
5. Movement detectors
6. Photovoltaic inverter
7. CO₂ indoor air sensor
8. Switches and socket outlets

9. Room temperature controller with venetian blind control unit
10. Busch-DigitalRadio
11. Movement detector
12. Access control systems
13. Burglar alarm systems
14. ABB i-bus® KNX touch panel
15. Safety socket outlets
16. Communications socket outlets

Electrical installation solutions for buildings

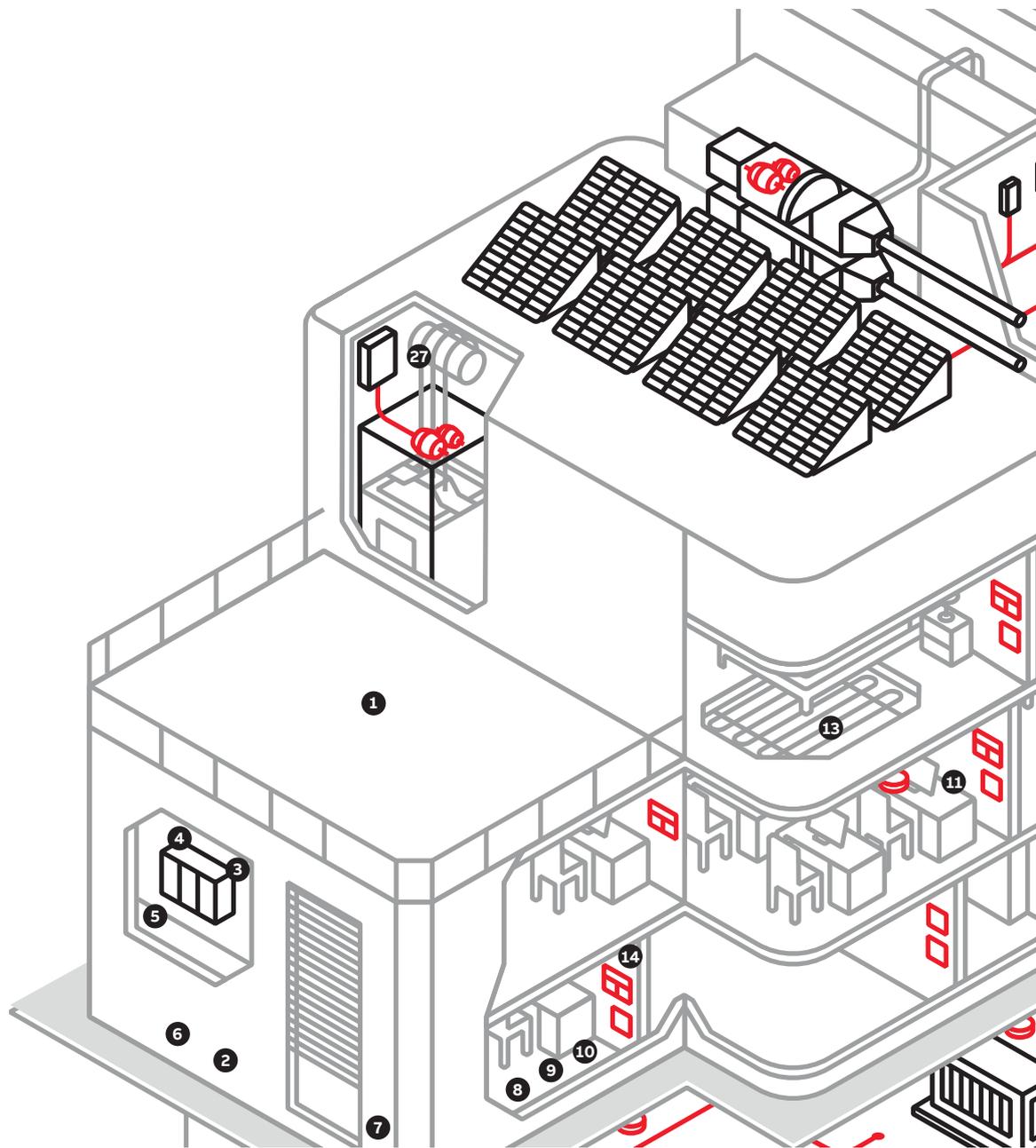
A world of advantages



- 17. Switches and socket outlets for outdoor and wet areas
- 18. Weather sensor unit

Electrical installation solutions for buildings

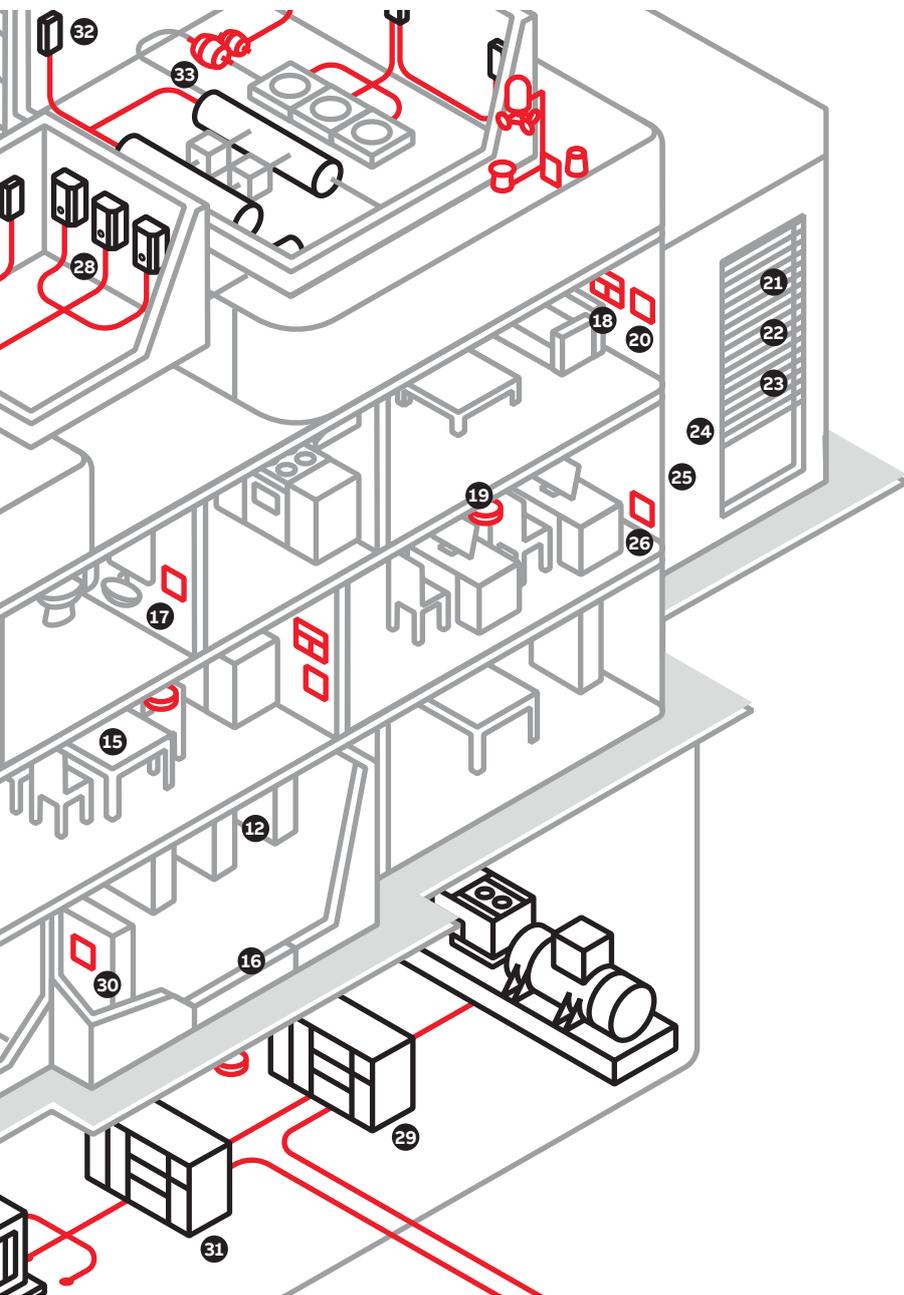
A world of advantages



1. Lightning protection
2. Circuit breakers
3. Central battery systems
4. Cable ties and accessories
5. Cable connections
6. Distributors
7. Energy meter
8. Industrial connectors
9. Terminal blocks
10. Push-button
11. Non-metallic, flexible cable ducts
12. Cable duct, cable ties
13. Protection relay
14. AC & DC switches in housing
15. Bus modules
16. Overvoltage protection devices
17. Earth-fault relay
18. Door communication

Electrical installation solutions for buildings

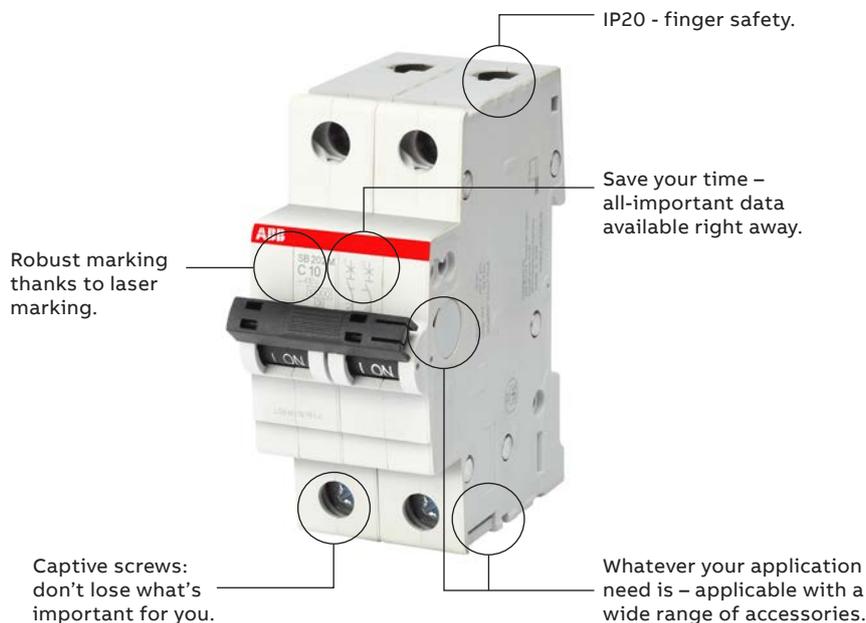
A world of advantages



- 19. Emergency lighting
- 20. Timers
- 21. Electrical and grounding connections
- 22. Safety components
- 23. Electrical distribution systems
- 24. Motor starter combinations, soft starters
- 25. Energy distribution unit
- 26. Cable connections & accessories
- 27. EMC safety switch
- 28. DC load-break switches
- 29. Tmax XT power circuit breaker
- 30. OT load-break switches
- 31. XLP safety load-break switch
- 32. Safety switches for aeration or air-conditioning systems
- 33. HVAC controls

Miniature Circuit Breaker SB200 M

The details make the difference 



Technical Features

General data

| | |
|--|--|
| Standards | IS/IEC 60898-1 |
| Poles | B: 1P, 1P+N, 2P C: 1P, 2P, 3P, 4P, 1P+N, 3P+N D: 1P, 2P, 3P, 4P |
| Rated short-circuit capacity (I _{cn}) | 10 kA |
| Tripping characteristics | B, C, D |
| Reference temperature for tripping characteristics | 30°C |
| Energy limiting class (B-,C- Curve) | 3 |
| Rated voltage U _e | 1P : 240/415 V AC 1P + N : 240 V AC 2...4P : 415 V AC 3P + N : 415 V AC |
| Rated current I _n | B: 6, 10, 16, 20, 25, 32, 40 A C&D: 0,5, 1, 1,6, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 A |
| Rated frequency | 50/60 Hz |
| Max. Power frequency recovery voltage (U _{max}) | 1P: 264 V AC; 60V DC; 1P+N:264 V AC; 60V DC; 2...4P : 457 V AC; 2P: 120V DC; 3P+N: 457 V AC; 120V DC; |
| Min. operating voltage | 12 V AC |
| Rated insulation voltage U _i acc. to IEC/EN 60664-1 | 250 V AC (phase to ground) , 440 V AC (phase to phase) |
| Rated impulse withstand voltage U _{imp} . (1.2/50µs) | 4 kV (test voltage 6.2kV at sea level, 5kV at 2000m) |
| Dielectric test voltage | 2 kV (50 / 60Hz, 1 min.) |
| Overvoltage category | III |
| Pollution degree | 3 |
| Electrical endurance | I _n < 32A: 20.000 ops.(AC), I _n ≥ 32A: 10.000 ops.(AC); 1.000 ops. (DC); 1 cycle (2s - ON, 13s - OFF, I _n ≤ 32A), 1 cycle (2s - ON, 28s - OFF, I _n >32A) |

MCB SB200 M

B characteristic



SB201 M B 16

SB200 M B characteristic

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

Applications: residential and commercial.

Standard: IS/IEC 60898-1

Icn=10 kA

SB201 M B

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 1P | 6 | SB201 M-B6 | 1SYS271012R0065 ■ | 12 | 419 |
| | 10 | SB201 M-B10 | 1SYS271012R0105 ■ | 12 | 419 |
| | 16 | SB201 M-B16 | 1SYS271012R0165 ■ | 12 | 419 |
| | 20 | SB201 M-B20 | 1SYS271012R0205 ■ | 12 | 419 |
| | 25 | SB201 M-B25 | 1SYS271012R0255 ■ | 12 | 419 |
| | 32 | SB201 M-B32 | 1SYS271012R0325 ■ | 12 | 419 |
| | 40 | SB201 M-B40 | 1SYS271012R0405 ■ | 12 | 820 |

SB201 M B NA

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|----------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 1P+N | 6 | SB201 M-B6 NA | 1SYS271112R0065 ■ | 6 | 1,270 |
| | 10 | SB201 M-B10 NA | 1SYS271112R0105 ■ | 6 | 1,270 |
| | 16 | SB201 M-B16 NA | 1SYS271112R0165 ■ | 6 | 1,270 |
| | 20 | SB201 M-B20 NA | 1SYS271112R0205 ■ | 6 | 1,270 |
| | 25 | SB201 M-B25 NA | 1SYS271112R0255 ■ | 6 | 1,270 |
| | 32 | SB201 M-B32 NA | 1SYS271112R0325 ■ | 6 | 1,270 |
| | 40 | SB201 M-B40 NA | 1SYS271112R0405 ■ | 6 | 2,070 |

SB202 M B

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 2P | 6 | SB202 M-B6 | 1SYS272012R0065 ■ | 6 | 1,260 |
| | 10 | SB202 M-B10 | 1SYS272012R0105 ■ | 6 | 1,260 |
| | 16 | SB202 M-B16 | 1SYS272012R0165 ■ | 6 | 1,260 |
| | 20 | SB202 M-B20 | 1SYS272012R0205 ■ | 6 | 1,260 |
| | 25 | SB202 M-B25 | 1SYS272012R0255 ■ | 6 | 1,260 |
| | 32 | SB202 M-B32 | 1SYS272012R0325 ■ | 6 | 1,260 |
| | 40 | SB202 M-B40 | 1SYS272012R0405 ■ | 6 | 2,020 |

MCB SB200 M

C characteristic



SB201 M C 16

SB200 M C characteristic

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

Applications: residential and commercial.

Standard: IS/IEC 60898-1

Icn=10 kA

SB201 M C

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 1P | 0.5 | SB201 M-C0.5 | 1SYS271012R0984 | 12 | 700 |
| | 1 | SB201 M-C1 | 1SYS271012R0014 | 12 | 700 |
| | 1.6 | SB201 M-C1.6 | 1SYS271012R0974 | 12 | 700 |
| | 2 | SB201 M-C2 | 1SYS271012R0024 | 12 | 610 |
| | 3 | SB201 M-C3 | 1SYS271012R0034 | 12 | 610 |
| | 4 | SB201 M-C4 | 1SYS271012R0044 | 12 | 610 |
| | 6 | SB201 M-C6 | 1SYS271012R0064 ■ | 12 | 419 |
| | 10 | SB201 M-C10 | 1SYS271012R0104 ■ | 12 | 419 |
| | 16 | SB201 M-C16 | 1SYS271012R0164 ■ | 12 | 419 |
| | 20 | SB201 M-C20 | 1SYS271012R0204 ■ | 12 | 419 |
| | 25 | SB201 M-C25 | 1SYS271012R0254 ■ | 12 | 419 |
| | 32 | SB201 M-C32 | 1SYS271012R0324 ■ | 12 | 419 |
| | 40 | SB201 M-C40 | 1SYS271012R0404 | 12 | 820 |
| | 50 | SB201 M-C50 | 1SYS271012R0504 | 12 | 820 |
| 63 | SB201 M-C63 | 1SYS271012R0634 | 12 | 820 | |

SB201 M C NA

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-------------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 1P+N | 0.5 | SB201 M-C0.5 NA | 1SYS271112R0984 | 6 | 2,100 |
| | 1 | SB201 M-C1 NA | 1SYS271112R0014 | 6 | 2,100 |
| | 1.6 | SB201 M-C1.6 NA | 1SYS271112R0974 | 6 | 2,100 |
| | 2 | SB201 M-C2 NA | 1SYS271112R0024 | 6 | 1,840 |
| | 3 | SB201 M-C3 NA | 1SYS271112R0034 | 6 | 1,840 |
| | 4 | SB201 M-C4 NA | 1SYS271112R0044 | 6 | 1,840 |
| | 6 | SB201 M-C6 NA | 1SYS271112R0064 ■ | 6 | 1,270 |
| | 10 | SB201 M-C10 NA | 1SYS271112R0104 ■ | 6 | 1,270 |
| | 16 | SB201 M-C16 NA | 1SYS271112R0164 ■ | 6 | 1,270 |
| | 20 | SB201 M-C20 NA | 1SYS271112R0204 ■ | 6 | 1,270 |
| | 25 | SB201 M-C25 NA | 1SYS271112R0254 ■ | 6 | 1,270 |
| | 32 | SB201 M-C32 NA | 1SYS271112R0324 ■ | 6 | 1,270 |
| | 40 | SB201 M-C40 NA | 1SYS271112R0404 ■ | 6 | 2,070 |
| | 50 | SB201 M-C50 NA | 1SYS271112R0504 ■ | 6 | 2,070 |
| 63 | SB201 M-C63 NA | 1SYS271112R0634 ■ | 6 | 2,070 | |

■ Stock items

MCB SB200 M

C characteristic



SB202 M C 16

SB202 M C

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 2P | 0.5 | SB202 M-C0.5 | 1SYS272012R0984 | 6 | 1,950 |
| | 1 | SB202 M-C1 | 1SYS272012R0014 | 6 | 1,950 |
| | 1.6 | SB202 M-C1.6 | 1SYS272012R0974 | 6 | 1,950 |
| | 2 | SB202 M-C2 | 1SYS272012R0024 | 6 | 1,790 |
| | 3 | SB202 M-C3 | 1SYS272012R0034 | 6 | 1,790 |
| | 4 | SB202 M-C4 | 1SYS272012R0044 | 6 | 1,790 |
| | 6 | SB202 M-C6 | 1SYS272012R0064 ■ | 6 | 1,260 |
| | 10 | SB202 M-C10 | 1SYS272012R0104 ■ | 6 | 1,260 |
| | 16 | SB202 M-C16 | 1SYS272012R0164 ■ | 6 | 1,260 |
| | 20 | SB202 M-C20 | 1SYS272012R0204 ■ | 6 | 1,260 |
| | 25 | SB202 M-C25 | 1SYS272012R0254 ■ | 6 | 1,260 |
| | 32 | SB202 M-C32 | 1SYS272012R0324 ■ | 6 | 1,260 |
| | 40 | SB202 M-C40 | 1SYS272012R0404 ■ | 6 | 2,020 |
| | 50 | SB202 M-C50 | 1SYS272012R0504 ■ | 6 | 2,020 |
| | 63 | SB202 M-C63 | 1SYS272012R0634 ■ | 6 | 2,020 |

SB203 M C

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 3P | 0.5 | SB203 M-C0.5 | 1SYS273012R0984 | 4 | 3,010 |
| | 1 | SB203 M-C1 | 1SYS273012R0014 | 4 | 3,010 |
| | 1.6 | SB203 M-C1.6 | 1SYS273012R0974 | 4 | 3,010 |
| | 2 | SB203 M-C2 | 1SYS273012R0024 | 4 | 2,750 |
| | 3 | SB203 M-C3 | 1SYS273012R0034 | 4 | 2,750 |
| | 4 | SB203 M-C4 | 1SYS273012R0044 | 4 | 2,750 |
| | 6 | SB203 M-C6 | 1SYS273012R0064 ■ | 4 | 2,070 |
| | 10 | SB203 M-C10 | 1SYS273012R0104 ■ | 4 | 2,070 |
| | 16 | SB203 M-C16 | 1SYS273012R0164 ■ | 4 | 2,070 |
| | 20 | SB203 M-C20 | 1SYS273012R0204 ■ | 4 | 2,070 |
| | 25 | SB203 M-C25 | 1SYS273012R0254 ■ | 4 | 2,070 |
| | 32 | SB203 M-C32 | 1SYS273012R0324 ■ | 4 | 2,070 |
| | 40 | SB203 M-C40 | 1SYS273012R0404 ■ | 4 | 3,160 |
| | 50 | SB203 M-C50 | 1SYS273012R0504 ■ | 4 | 3,160 |
| | 63 | SB203 M-C63 | 1SYS273012R0634 ■ | 4 | 3,160 |

MCB SB200 M

C characteristic

SB203M C NA

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 3P+N | 0.5 | SB203 M-C0.5 NA | 1SYS273112R0984 | 3 | 4,450 |
| | 1 | SB203 M-C1 NA | 1SYS273112R0014 | 3 | 4,450 |
| | 1.6 | SB203 M-C1.6 NA | 1SYS273112R0974 | 3 | 4,450 |
| | 2 | SB203 M-C2 NA | 1SYS273112R0024 | 3 | 3,910 |
| | 3 | SB203 M-C3 NA | 1SYS273112R0034 | 3 | 3,910 |
| | 4 | SB203 M-C4 NA | 1SYS273112R0044 | 3 | 3,910 |
| | 6 | SB203 M-C6 NA | 1SYS273112R0064 ■ | 3 | 2,810 |
| | 10 | SB203 M-C10 NA | 1SYS273112R0104 ■ | 3 | 2,810 |
| | 16 | SB203 M-C16 NA | 1SYS273112R0164 ■ | 3 | 2,810 |
| | 20 | SB203 M-C20 NA | 1SYS273112R0204 ■ | 3 | 2,810 |
| | 25 | SB203 M-C25 NA | 1SYS273112R0254 ■ | 3 | 2,810 |
| | 32 | SB203 M-C32 NA | 1SYS273112R0324 ■ | 3 | 2,810 |
| | 40 | SB203 M-C40 NA | 1SYS273112R0404 ■ | 3 | 3,970 |
| | 50 | SB203 M-C50 NA | 1SYS273112R0504 ■ | 3 | 3,970 |
| | 63 | SB203 M-C63 NA | 1SYS273112R0634 ■ | 3 | 3,970 |



SB204 M C 16

SB204 M C

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 4P | 0.5 | SB204 M-C0.5 | 1SYS274012R0984 | 3 | 4,220 |
| | 1 | SB204 M-C1 | 1SYS274012R0014 | 3 | 4,220 |
| | 1.6 | SB204 M-C1.6 | 1SYS274012R0974 | 3 | 4,220 |
| | 2 | SB204 M-C2 | 1SYS274012R0024 | 3 | 3,700 |
| | 3 | SB204 M-C3 | 1SYS274012R0034 | 3 | 3,700 |
| | 4 | SB204 M-C4 | 1SYS274012R0044 | 3 | 3,700 |
| | 6 | SB204 M-C6 | 1SYS274012R0064 ■ | 3 | 2,660 |
| | 10 | SB204 M-C10 | 1SYS274012R0104 ■ | 3 | 2,660 |
| | 16 | SB204 M-C16 | 1SYS274012R0164 ■ | 3 | 2,660 |
| | 20 | SB204 M-C20 | 1SYS274012R0204 ■ | 3 | 2,660 |
| | 25 | SB204 M-C25 | 1SYS274012R0254 ■ | 3 | 2,660 |
| | 32 | SB204 M-C32 | 1SYS274012R0324 ■ | 3 | 2,660 |
| | 40 | SB204 M-C40 | 1SYS274012R0404 ■ | 3 | 4,070 |
| | 50 | SB204 M-C50 | 1SYS274012R0504 ■ | 3 | 4,070 |
| | 63 | SB204 M-C63 | 1SYS274012R0634 ■ | 3 | 4,070 |

■ Stock items

MCB SB200 M

D characteristic



SB202 M D 16

SB200 M D characteristic

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

Applications: residential and commercial.

Standard: IS/IEC 60898-1

Icn=10 kA

SB201 M D

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-----------------|---------------|--------------|
| | | Type code | Order code | | |
| 1P | 0.5 | SB201 M-D0,5 | 1SYS271012R0981 | 12 | 810 |
| | 1 | SB201 M-D1 | 1SYS271012R0011 | 12 | 810 |
| | 1.6 | SB201 M-D1,6 | 1SYS271012R0971 | 12 | 810 |
| | 2 | SB201 M-D2 | 1SYS271012R0021 | 12 | 710 |
| | 3 | SB201 M-D3 | 1SYS271012R0031 | 12 | 710 |
| | 4 | SB201 M-D4 | 1SYS271012R0041 | 12 | 710 |
| | 6 | SB201 M-D6 | 1SYS271012R0061 | 12 | 580 |
| | 10 | SB201 M-D10 | 1SYS271012R0101 | 12 | 580 |
| | 16 | SB201 M-D16 | 1SYS271012R0161 | 12 | 580 |
| | 20 | SB201 M-D20 | 1SYS271012R0201 | 12 | 580 |
| | 25 | SB201 M-D25 | 1SYS271012R0251 | 12 | 580 |
| | 32 | SB201 M-D32 | 1SYS271012R0321 | 12 | 580 |
| | 40 | SB201 M-D40 | 1SYS271012R0401 | 12 | 980 |
| | 50 | SB201 M-D50 | 1SYS271012R0501 | 12 | 980 |
| | 63 | SB201 M-D63 | 1SYS271012R0631 | 12 | 980 |

SB202 M D

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-----------------|---------------|--------------|
| | | Type code | Order code | | |
| 2P | 0.5 | SB202 M-D0.5 | 1SYS272012R0981 | 6 | 2,310 |
| | 1 | SB202 M-D1 | 1SYS272012R0011 | 6 | 2,310 |
| | 1.6 | SB202 M-D1.6 | 1SYS272012R0971 | 6 | 2,310 |
| | 2 | SB202 M-D2 | 1SYS272012R0021 | 6 | 2,030 |
| | 3 | SB202 M-D3 | 1SYS272012R0031 | 6 | 2,030 |
| | 4 | SB202 M-D4 | 1SYS272012R0041 | 6 | 2,030 |
| | 6 | SB202 M-D6 | 1SYS272012R0061 | 6 | 1,450 |
| | 10 | SB202 M-D10 | 1SYS272012R0101 | 6 | 1,450 |
| | 16 | SB202 M-D16 | 1SYS272012R0161 | 6 | 1,450 |
| | 20 | SB202 M-D20 | 1SYS272012R0201 | 6 | 1,450 |
| | 25 | SB202 M-D25 | 1SYS272012R0251 | 6 | 1,450 |
| | 32 | SB202 M-D32 | 1SYS272012R0321 | 6 | 1,450 |
| | 40 | SB202 M-D40 | 1SYS272012R0401 | 6 | 2,380 |
| | 50 | SB202 M-D50 | 1SYS272012R0501 | 6 | 2,380 |
| | 63 | SB202 M-D63 | 1SYS272012R0631 | 6 | 2,380 |

MCB SB200 M

D characteristic



SB203 M D 16

SB203 M D

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------|-----------------|---------------|--------------|
| | | Type code | Order code | | |
| 3P | 0.5 | SB203 M-D0.5 | 1SYS273012R0981 | 4 | 3,570 |
| | 1 | SB203 M-D1 | 1SYS273012R0011 | 4 | 3,570 |
| | 1.6 | SB203 M-D1.6 | 1SYS273012R0971 | 4 | 3,570 |
| | 2 | SB203 M-D2 | 1SYS273012R0021 | 4 | 3,130 |
| | 3 | SB203 M-D3 | 1SYS273012R0031 | 4 | 3,130 |
| | 4 | SB203 M-D4 | 1SYS273012R0041 | 4 | 3,130 |
| | 6 | SB203 M-D6 | 1SYS273012R0061 | 4 | 2,360 |
| | 10 | SB203 M-D10 | 1SYS273012R0101 | 4 | 2,360 |
| | 16 | SB203 M-D16 | 1SYS273012R0161 | 4 | 2,360 |
| | 20 | SB203 M-D20 | 1SYS273012R0201 | 4 | 2,360 |
| | 25 | SB203 M-D25 | 1SYS273012R0251 | 4 | 2,360 |
| | 32 | SB203 M-D32 | 1SYS273012R0321 | 4 | 2,360 |
| | 40 | SB203 M-D40 | 1SYS273012R0401 | 4 | 3,730 |
| | 50 | SB203 M-D50 | 1SYS273012R0501 | 4 | 3,730 |
| 63 | SB203 M-D63 | 1SYS273012R0631 | 4 | 3,730 | |

SB204 M D

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------|-----------------|---------------|--------------|
| | | Type code | Order code | | |
| 4P | 0.5 | SB204 M-D0.5 | 1SYS274012R0981 | 3 | 3,920 |
| | 1 | SB204 M-D1 | 1SYS274012R0011 | 3 | 3,920 |
| | 1.6 | SB204 M-D1.6 | 1SYS274012R0971 | 3 | 3,920 |
| | 2 | SB204 M-D2 | 1SYS274012R0021 | 3 | 4,120 |
| | 3 | SB204 M-D3 | 1SYS274012R0031 | 3 | 4,120 |
| | 4 | SB204 M-D4 | 1SYS274012R0041 | 3 | 4,120 |
| | 6 | SB204 M-D6 | 1SYS274012R0061 | 3 | 3,280 |
| | 10 | SB204 M-D10 | 1SYS274012R0101 | 3 | 3,280 |
| | 16 | SB204 M-D16 | 1SYS274012R0161 | 3 | 3,280 |
| | 20 | SB204 M-D20 | 1SYS274012R0201 | 3 | 3,280 |
| | 25 | SB204 M-D25 | 1SYS274012R0251 | 3 | 3,280 |
| | 32 | SB204 M-D32 | 1SYS274012R0321 | 3 | 3,280 |
| | 40 | SB204 M-D40 | 1SYS274012R0401 | 3 | 4,310 |
| | 50 | SB204 M-D50 | 1SYS274012R0501 | 3 | 4,310 |
| 63 | SB204 M-D63 | 1SYS274012R0631 | 3 | 4,310 | |

Miniature Circuit Breaker SB200 DC

Right product for right application

The range impresses with its performance, approvals and high in-built short-circuit breaking capacity for

DC application. Can be used in SP version at 250V DC and DP version upto 500V DC.

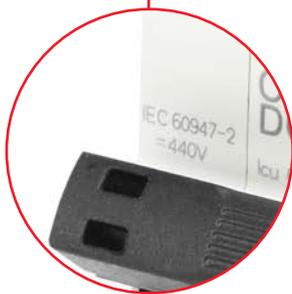
Polarity marking.



IP20 - finger safety.

Captive screws: don't lose what's important for you.

Approvals and standard.



Whatever your application need is – applicable with a wide range of accessories.





**State-of-the-art design
(Aesthetics & Ergonomics)**

Elegant in appearance and the knob is designed for easy operation.



Laser marking

All printing of the SB200 MCBs, like the approvals on the product identification, are printed by a laser. The laser printing ensures a friction, scratch and solvent resistant marking on the MCBs. Easy identification of the products in case of maintenance or replacement, due to safe laser printing.



Housing cover with fire retardant material

High performance 100% recyclable plastic material with fire retardant, high melting point, low water absorption & high dielectric strength properties. ABB is taking care of the environment... with the latest generation of thermoplastics, it is possible to recycle the MCBs – especially the thermoplastic housing material can be re-used. SB200 is 100% free of halogens.



IP20 protection

IP20 - finger safe terminals. The System pro M compact® MCBs are equipped with 25 mm² cage terminals, suitable for both cable and pin type busbar upto 10 sqmm.



Labelling area

Provision for providing label enables easy identification and polarity marking of circuit during installation, operation & maintenance.



Accessories mountable

Wide range of add-on accessories having 30 different types of accessories. Max. possibility of mounting: 4 different accessories on the right side and 1 on the left side ensures highest flexibility of functions. Universal contact, motorised unique accessory like mechanical tripping devices available only with ABB.

MCB SB200 DC

C characteristic

SB200 DC characteristic

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

Applications: residential, commercial and industrial.

Standard: IS/IEC 60947-2

I_{cn}=6 kA



SB201 C 6 DC

SB201 DC C

| Number of poles | Rated current In A | Order details | | Standard pack | Unit L.P. (₹) |
|-----------------|--------------------|---------------|-----------------|---------------|---------------|
| | | Type code | Order code | | |
| 1P | 1.6 | SB201-C1.6DC | 1SYS251067R0974 | 12 | 1,320 |
| | 2 | SB201-C2DC | 1SYS251067R0024 | 12 | 1,320 |
| | 3 | SB201-C3DC | 1SYS251067R0034 | 12 | 1,320 |
| | 4 | SB201-C4DC | 1SYS251067R0044 | 12 | 1,320 |
| | 6 | SB201-C6DC | 1SYS251067R0064 | 12 | 1,080 |
| | 10 | SB201-C10DC | 1SYS251067R0104 | 12 | 1,080 |
| | 16 | SB201-C16DC | 1SYS251067R0164 | 12 | 1,080 |
| | 20 | SB201-C20DC | 1SYS251067R0204 | 12 | 1,080 |
| | 25 | SB201-C25DC | 1SYS251067R0254 | 12 | 1,080 |
| | 32 | SB201-C32DC | 1SYS251067R0324 | 12 | 1,080 |
| | 40 | SB201-C40DC | 1SYS251067R0404 | 12 | 1,380 |
| | 50 | SB201-C50DC | 1SYS251067R0504 | 12 | 1,380 |
| | 63 | SB201-C63DC | 1SYS251067R0634 | 12 | 1,380 |

SB202 DC



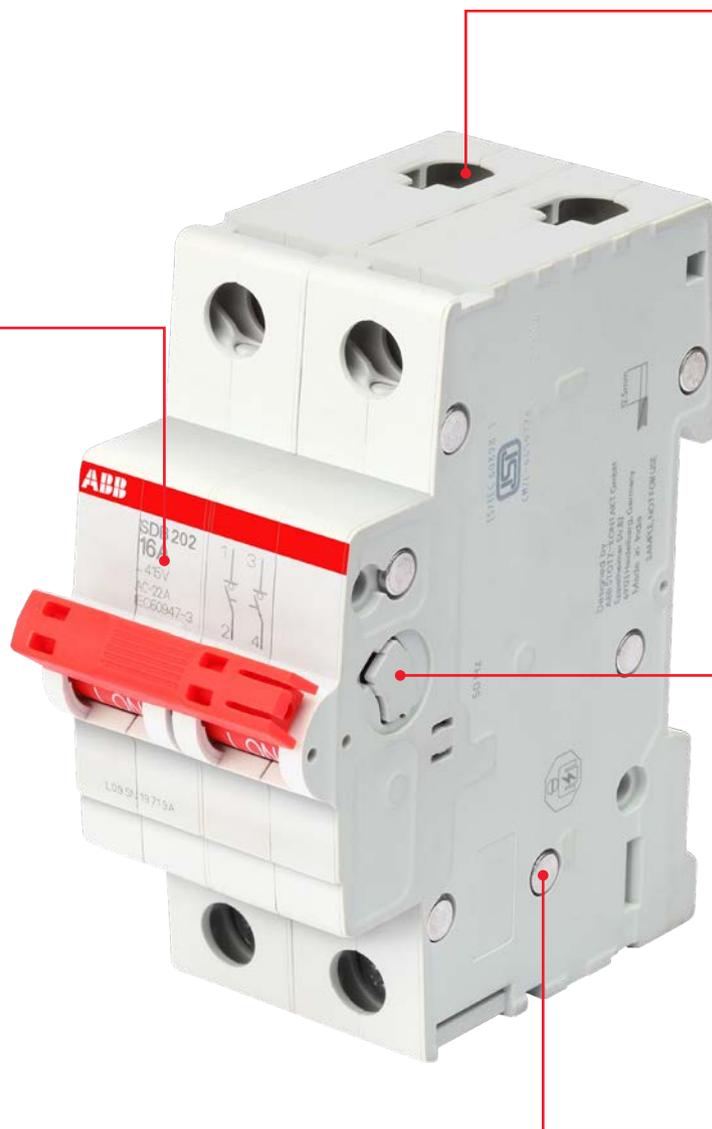
SB202 C 10 DC

| Number of poles | Rated current In A | Order details | | Standard pack | Unit L.P. (₹) |
|-----------------|--------------------|---------------|-----------------|---------------|---------------|
| | | Type code | Order code | | |
| 2P | 1.6 | SB202-C1.6DC | 1SYS252067R0974 | 6 | 2,800 |
| | 2 | SB202-C2DC | 1SYS252067R0024 | 6 | 2,800 |
| | 3 | SB202-C3DC | 1SYS252067R0034 | 6 | 2,800 |
| | 4 | SB202-C4DC | 1SYS252067R0044 | 6 | 2,800 |
| | 6 | SB202-C6DC | 1SYS252067R0064 | 6 | 2,270 |
| | 10 | SB202-C10DC | 1SYS252067R0104 | 6 | 2,270 |
| | 16 | SB202-C16DC | 1SYS252067R0164 | 6 | 2,270 |
| | 20 | SB202-C20DC | 1SYS252067R0204 | 6 | 2,270 |
| | 25 | SB202-C25DC | 1SYS252067R0254 | 6 | 2,270 |
| | 32 | SB202-C32DC | 1SYS252067R0324 | 6 | 2,270 |
| | 40 | SB202-C40DC | 1SYS252067R0404 | 6 | 3,070 |
| | 50 | SB202-C50DC | 1SYS252067R0504 | 6 | 3,070 |
| | 63 | SB202-C63DC | 1SYS252067R0634 | 6 | 3,070 |

Switch Disconnecter SDB200

The details make the difference

Easy product coding – easy identification:
basic technical information already integrated into the name.



IP20 - finger safety.

Fully compatible with all System pro M devices and accessories.

Patented housing design:
Environment-friendly and performance-optimized.



Patented housing design

By using state-of-the-art housing material, ABB is taking care of the environment. With the latest generation of halogen-free thermoplastics for SDB200, it is possible to recycle the switch disconnectors completely without environmental pollution. The material works for the stability.



Highest performance

With a rated voltage of 253/440 V AC, a rated conditional short-circuit current of 25 kA, terminals with protection from misconnection, a “Real CPI” switching position display, as well as full compatibility with all MCB accessories, the SDB200 is unique in its field of application. SDB200 complies with IEC/EN 60947-3.



IP20 protection

IP20 - finger safe terminals. The System pro M compact® MCBs are equipped with 25 mm² cylinder lift twin terminals, a well-proven and reliable technology - designed for sophisticated industrial use. The cross wiring can be easily done by inserting the System pro M compact® busbars into the rear terminal part and then the incoming wires into the front part of the terminal.



Laser printing

All labels on the SDB200, as the approvals on the dome, technical details and the product identification, are printed by a laser. The laser printing ensures a friction, scratch and solvent resistant marking on the switch disconnectors for easy identification in case of maintenance or replacement. For control and acceptance procedure, it is important to see all markings also in the mounted position.



ISI and CE marking

In addition to the International standards and markings IEC, the product is certified as per latest Indian Standards (ISI)



Wide range of accessories

SDB200 is fully compatible to the complete range of System pro M compact accessories like:

- Auxiliary contacts, to be mounted on the left side, the right side or bottom fitting
- Shunt trips
- Undervoltage release
- Motor operating devices

Switch Disconnecter

SDB200



SDB203 16 A

SDB202

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 2P | 40 | SDB202/40 | 1SYD272115R0040 ■ | 6 | 920 |
| | 63 | SDB202/63 | 1SYD272115R0063 ■ | 6 | 1,190 |

SDB203

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 3P | 40 | SDB203/40 | 1SYD273115R0040 ■ | 4 | 1,560 |
| | 63 | SDB203/63 | 1SYD273115R0063 ■ | 4 | 1,830 |

SDB204

| Number of poles | Rated current In A | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|---------------|-------------------|---------------|--------------|
| | | Type code | Order code | | |
| 4P | 40 | SDB204/40 | 1SYD274115R0040 ■ | 3 | 1,940 |
| | 63 | SDB204/63 | 1SYD274115R0063 ■ | 3 | 2,140 |

Note: Standard packing quantity for SDB switch Disconnecter: DP-6 Nos, TP-4 Nos, FP-3 Nos.

E200



E201

E200

| Number of poles | Rated current In A | Order details | | Standard pack | Unit L.P. (₹) |
|-----------------|--------------------|---------------|------------|---------------|---------------|
| | | Type code | Order code | | |

Double pole

| | | | | | |
|----|-----|-----------|-----------------|---|-------|
| 2P | 80 | E202/80r | 2CDE282001R0080 | 1 | 1,640 |
| | 100 | E202/100r | 2CDE282001R0100 | 1 | 2,580 |
| | 125 | E202/125r | 2CDE282001R0125 | 1 | 2,660 |

Triple pole

| | | | | | |
|----|-----|-----------|-----------------|---|-------|
| 3P | 80 | E203/80r | 2CDE283001R0080 | 1 | 2,760 |
| | 100 | E203/100r | 2CDE283001R0100 | 1 | 3,010 |
| | 125 | E203/125r | 2CDE283001R0125 | 1 | 3,360 |

Four pole

| | | | | | |
|----|-----|-----------|-----------------|---|-------|
| 4P | 80 | E204/80r | 2CDE284001R0080 | 1 | 3,100 |
| | 100 | E204/100r | 2CDE284001R0100 | 1 | 3,290 |
| | 125 | E204/125r | 2CDE284001R0125 | 1 | 3,680 |

Change over switch



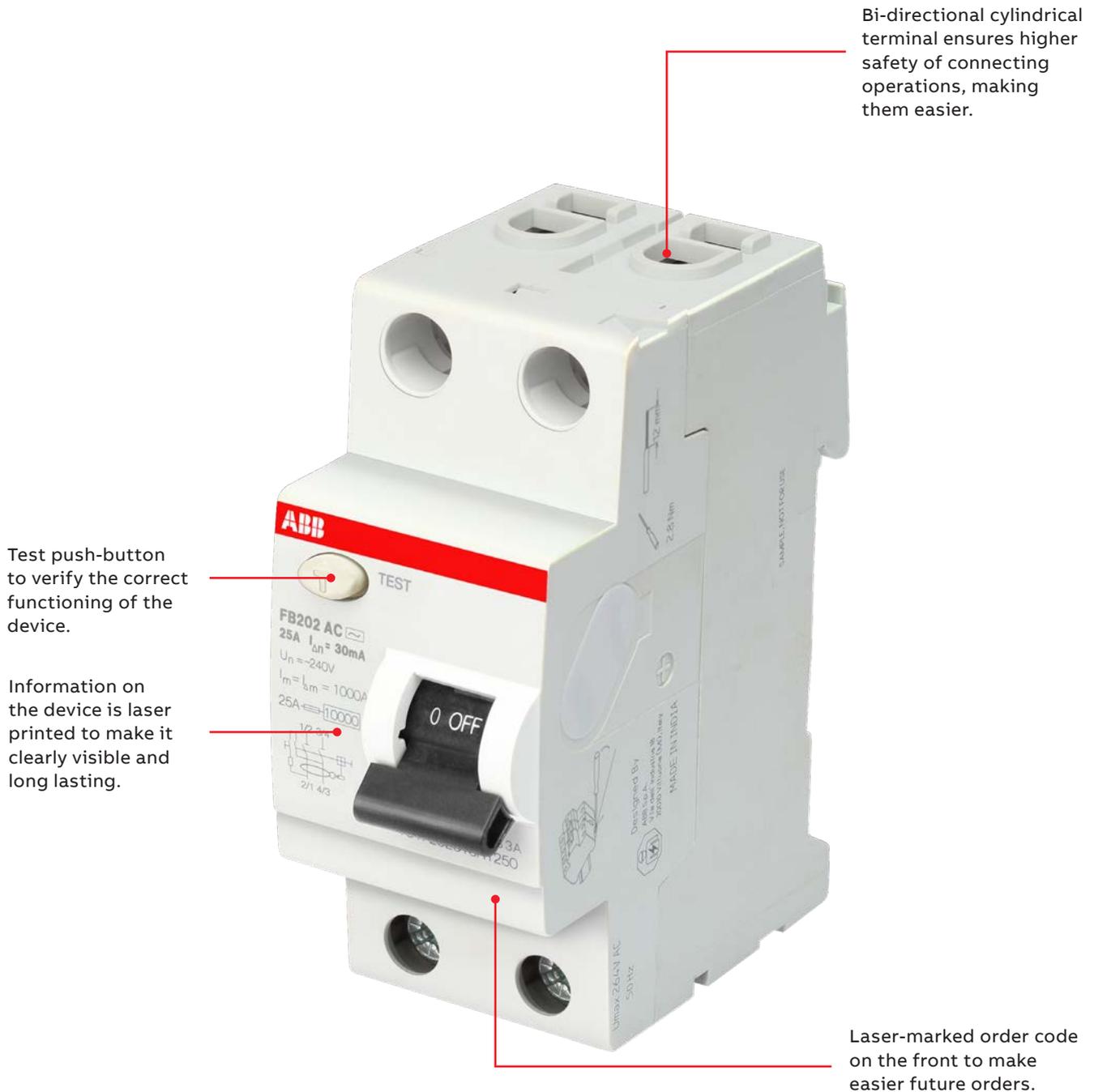
E213

| Description | Ordering code | Unit L.P. (₹) |
|--|-----------------|---------------|
| E213-16-002, double pole change over switch, 16 A (I-II) | 2CCA703045R0001 | 3,740 |
| E213-25-002, double pole change over switch, 25 A (I-II) | 2CCA703046R0001 | 4,650 |
| E214-16-202, group switch, 16 A (I-O-II) | 2CCA703030R0001 | 4,200 |
| E214-25-202, group switch, 25 A (I-O-II) | 2CCA703031R0001 | 4,710 |

■ Stock items

Residual Current Circuit Breaker FB200

A range designed to ensure efficiency and protection





ISI and CE marking

In addition to the international standards and markings IEC, the product is certified as per latest Indian Standards (ISI).



High performance

- Rated breaking capacity and rated residual breaking capacity laser printed on the device:
I_m=I_{Δm}= 1000 mA
- Co-ordination with a 63 A rated current with conditional short-circuit capacity I_{nc}=10000 A.



Accessories mountable

Wide range of add-on accessories having 30 different types of accessories. Max. possibility of mounting: 4 different accessories on the right side and 1 on the left side ensures highest flexibility of functions. Universal contact, motorised unique accessory like mechanical tripping devices available only with ABB.



Termination

The availability of two terminals offers different connection solutions, thanks to the possibility to connect two independent cables in the same device: the second terminal can be used for an auxiliary circuit or for the supply of devices with small section cables without connecting them together with the main circuit.



Auto reclosing

The FB200 can be coupled with the auto reclosing unit F2C-ARH in order to ensure continuity of service for the whole installation of your home, avoiding lack of supply.



Dual termination

Two terminals are available, the fore one for cables up to 25 mm², the back one for cables up to 10 mm² or for busbars.

RCCB FB200 and F200 higher rating

AC  type

FB200 AC and F200 type function: protection against the effects of sinusoidal alternating earth fault currents; protection against indirect contacts and additional protection against direct contacts (with $I_{\Delta n}=30$ mA).

Application: residential, commercial, industrial.

Standard: IEC/EN 61008-1; IEC/EN 61008-2-1

Marking: according to EN 61008-1; EN 61008-2-1

FB202 AC



FB202 AC

| Number of poles | Rated current In A | Residual rated current (mA) | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------------------|------------------|-------------------|---------------|--------------|
| | | | Type code | Order code | | |
| 2P | 25 | 30 | FB202 AC-25/0.03 | 1SYF202015R1250 ■ | 1 | 4,410 |
| | 25 | 100 | FB202 AC-25/0.1 | 1SYF202015R2250 ■ | 1 | 4,630 |
| | 25 | 300 | FB202 AC-25/0.3 | 1SYF202015R3250 | 1 | 4,650 |
| | 40 | 30 | FB202 AC-40/0.03 | 1SYF202015R1400 ■ | 1 | 5,070 |
| | 40 | 100 | FB202 AC-40/0.1 | 1SYF202015R2400 ■ | 1 | 5,300 |
| | 40 | 300 | FB202 AC-40/0.3 | 1SYF202015R3400 | 1 | 5,460 |
| | 63 | 30 | FB202 AC-63/0.03 | 1SYF202015R1630 ■ | 1 | 5,980 |
| | 63 | 100 | FB202 AC-63/0.1 | 1SYF202015R2630 ■ | 1 | 6,180 |
| | 63 | 300 | FB202 AC-63/0.3 | 1SYF202015R3630 | 1 | 6,300 |

F202 AC

| Number of poles | Rated current In A | Residual rated current (mA) | Order details | | Standard pack | Unit L.P. (₹) |
|-----------------|--------------------|-----------------------------|------------------|-----------------|---------------|---------------|
| | | | Type code | Order code | | |
| 2P | 80 | 30 | F202 AC-80/0.03 | 2CSF202005R1800 | 1 | 16,490 |
| | 80 | 100 | F202 AC-80/0.1 | 2CSF202005R2800 | 1 | 16,330 |
| | 80 | 300 | F202 AC-80/0.3 | 2CSF202005R3800 | 1 | 16,330 |
| | 100 | 30 | F202 AC-100/0.03 | 2CSF202005R1900 | 1 | 14,780 |
| | 100 | 100 | F202 AC-100/0.1 | 2CSF202005R2900 | 1 | 15,470 |
| | 100 | 300 | F202 AC-100/0.3 | 2CSF202005R3900 | 1 | 16,750 |

FB204 AC



FB204 AC

| Number of poles | Rated current In A | Residual rated current (mA) | Order details | | Standard pack | Unit MRP (₹) |
|-----------------|--------------------|-----------------------------|------------------|-------------------|---------------|--------------|
| | | | Type code | Order code | | |
| 4P | 25 | 30 | FB204 AC-25/0.03 | 1SYF204015R1250 | 1 | 5,860 |
| | 25 | 100 | FB204 AC-25/0.1 | 1SYF204015R2250 | 1 | 6,140 |
| | 25 | 300 | FB204 AC-25/0.3 | 1SYF204015R3250 | 1 | 6,370 |
| | 40 | 30 | FB204 AC-40/0.03 | 1SYF204015R1400 ■ | 1 | 5,980 |
| | 40 | 100 | FB204 AC-40/0.1 | 1SYF204015R2400 ■ | 1 | 6,020 |
| | 40 | 300 | FB204 AC-40/0.3 | 1SYF204015R3400 ■ | 1 | 6,420 |
| | 63 | 30 | FB204 AC-63/0.03 | 1SYF204015R1630 ■ | 1 | 6,790 |
| | 63 | 100 | FB204 AC-63/0.1 | 1SYF204015R2630 ■ | 1 | 7,270 |
| | 63 | 300 | FB204 AC-63/0.3 | 1SYF204015R3630 ■ | 1 | 7,340 |

F204 AC

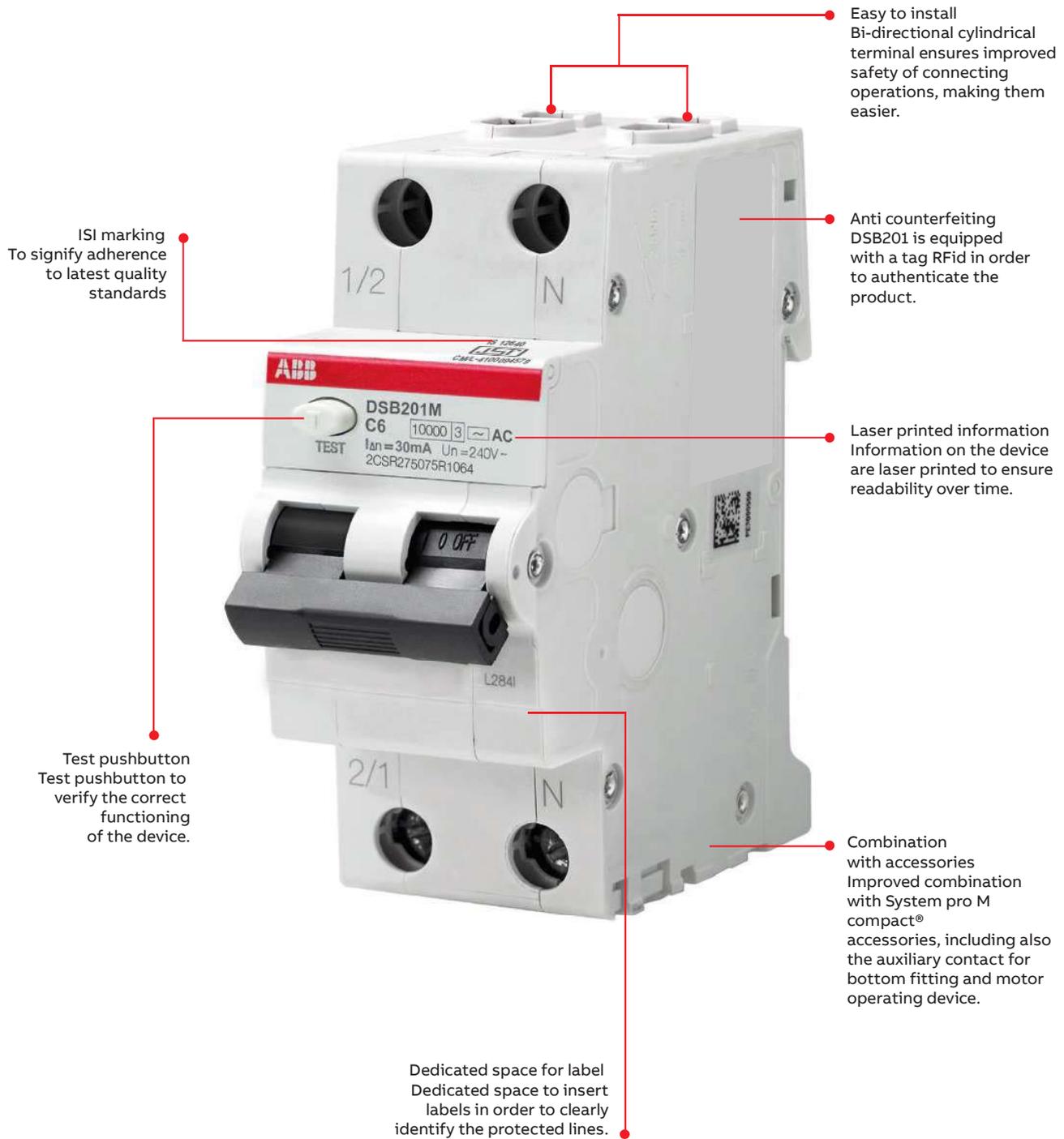
| Number of poles | Rated current In A | Residual rated current (mA) | Order details | | Standard pack | Unit L.P. (₹) |
|-----------------|--------------------|-----------------------------|------------------|-----------------|---------------|---------------|
| | | | Type code | Order code | | |
| 4P | 80 | 30 | F204 AC-80/0.03 | 2CSF204005R1800 | 1 | 17,480 |
| | 80 | 100 | F204 AC-80/0.1 | 2CSF204005R2800 | 1 | 18,270 |
| | 80 | 300 | F204 AC-80/0.3 | 2CSF204005R3800 | 1 | 18,470 |
| | 100 | 30 | F204 AC-100/0.03 | 2CSF204005R1900 | 1 | 17,770 |
| | 100 | 100 | F204 AC-100/0.1 | 2CSF204005R2900 | 1 | 19,780 |
| | 100 | 300 | F204 AC-100/0.3 | 2CSF204005R3900 | 1 | 19,290 |
| | 125 | 30 | F204 AC-125/0.03 | 2CSF204001R1950 | 1 | Upon request |
| | 125 | 100 | F204 AC-125/0.1 | 2CSF204001R2950 | 1 | |
| | 125 | 300 | F204 AC-125/0.3 | 2CSF204001R3950 | 1 | |

■ Stock items



RCBO DSB201 M

Compact solutions for a complete protection



Residual current circuit breaker with overcurrent protection

RCBO - DSB201M series AC Type ( marked)



DSB201M 1P+N

Features

- Product Standard : IS 12640 (Part 2) : 2016, IEC 61009-1
- Type (wave form of the earth leakage sensed) : AC
- Tripping characteristic : C
- Poles : 2 Poles, 2 Modules
- Rated Current In (A) : 6, 10, 16, 20, 25, 32, 40
- Rated sensitivity IΔn (mA): 30, 100, 300
- Rated frequency (Hz) : 50
- Rated voltage Un (V) : 240 V
- Operating voltage of circuit test Ut (V) : 110
- Breaking capacity, Icn (A) acc. to IEC 61009 : 10 kA
- Rated Impulse withstand Voltage : 4 kV
- Electrical life (operations) : 10000
- Mechanical life (operations) : 20000
- Ambient temperature (with daily average ≤ +35°C) : -25...+55°C
- Auxiliary devices : Compatible

RCBO 10kA AC Type - DSB201M

| Number of poles / module | Description | Current rating (A) | Residual rated current (mA) | Pack unit (Pc) | Ordering code | Unit L.P. (₹) |
|--------------------------|--------------------|--------------------|-----------------------------|----------------|-------------------|---------------|
| 1P+N / 2 module | DSB201 M C6 AC30 | 6 | 30 | 1 | 2CSR275075R1064 | 6,540 |
| | DSB201 M C10 AC30 | 10 | 30 | 1 | 2CSR275075R1104 | 6,540 |
| | DSB201 M C16 AC30 | 16 | 30 | 1 | 2CSR275075R1164 | 6,540 |
| | DSB201 M C20 AC30 | 20 | 30 | 1 | 2CSR275075R1204 | 6,540 |
| | DSB201 M C25 AC30 | 25 | 30 | 1 | 2CSR275075R1254 ■ | 6,540 |
| | DSB201 M C32 AC30 | 32 | 30 | 1 | 2CSR275075R1324 | 7,090 |
| | DSB201 M C40 AC30 | 40 | 30 | 1 | 2CSR275075R1404 ■ | 8,430 |
| | DSB201 M C6 AC100 | 6 | 100 | 1 | 2CSR275075R2064 | 7,350 |
| | DSB201 M C10 AC100 | 10 | 100 | 1 | 2CSR275075R2104 | 7,350 |
| | DSB201 M C16 AC100 | 16 | 100 | 1 | 2CSR275075R2164 | 7,350 |
| | DSB201 M C20 AC100 | 20 | 100 | 1 | 2CSR275075R2204 | 7,350 |
| | DSB201 M C25 AC100 | 25 | 100 | 1 | 2CSR275075R2254 ■ | 7,350 |
| | DSB201 M C32 AC100 | 32 | 100 | 1 | 2CSR275075R2324 | 7,610 |
| | DSB201 M C40 AC100 | 40 | 100 | 1 | 2CSR275075R2404 ■ | 8,900 |
| | DSB201 M C6 AC300 | 6 | 300 | 1 | 2CSR275075R3064 | 7,090 |
| | DSB201 M C10 AC300 | 10 | 300 | 1 | 2CSR275075R3104 | 7,090 |
| | DSB201 M C16 AC300 | 16 | 300 | 1 | 2CSR275075R3164 | 7,090 |
| | DSB201 M C20 AC300 | 20 | 300 | 1 | 2CSR275075R3204 | 7,090 |
| | DSB201 M C25 AC300 | 25 | 300 | 1 | 2CSR275075R3254 | 7,090 |
| | DSB201 M C32 AC300 | 32 | 300 | 1 | 2CSR275075R3324 | 7,350 |
| | DSB201 M C40 AC300 | 40 | 300 | 1 | 2CSR275075R3404 | 8,670 |

Residual current circuit breaker with overcurrent protection

Factory Fitted RCBO DSB202M and DSB204M AC Type



DSB204M 

Features

- Product Standard : IS 12640 (Part 2) : 2016, IEC 61009-1
- Type (wave form of the earth leakage sensed) : AC
- Tripping characteristic : C
- Poles : 2 Pole 4 Module, 4 Pole 8 Module
- Rated Current I_n (A) : 25, 40, 63
- Rated sensitivity $I_{\Delta n}$ (mA): 30, 100, 300
- Rated frequency (Hz) : 50
- Rated voltage U_n (V) : 240 V
- Operating voltage of circuit test U_t (V) : 110
- Breaking capacity, I_{cn} (A) acc. to IEC 61009 : 10 kA
- Rated Impulse withstand Voltage : 4 kV
- Electrical life (operations) : 10000
- Mechanical life (operations) : 20000
- Ambient temperature (with daily average $\leq +35^\circ\text{C}$) : $-25\dots+55^\circ\text{C}$
- Auxiliary devices : Compatible

DSB202M 10kA AC Type Double Pole

| Number of poles/Module | Description | Current rating (A) | Residual rated current (mA) | Pack unit (Pc) | Ordering code | Unit L.P. (₹) |
|------------------------|---------------------|--------------------|-----------------------------|----------------|-----------------|---------------|
| 2 Pole / 4 Module | DSB202M AC-C25/0.03 | 25 | 30 | 1 | 2CSR272027R1254 | 5,600 |
| | DSB202M AC-C25/0.1 | 25 | 100 | 1 | 2CSR272027R2254 | 6,970 |
| | DSB202M AC-C25/0.3 | 25 | 300 | 1 | 2CSR272027R3254 | 7,080 |
| | DSB202M AC-C40/0.03 | 40 | 30 | 1 | 2CSR272027R1404 | 6,980 |
| | DSB202M AC-C40/0.1 | 40 | 100 | 1 | 2CSR272027R2404 | 7,710 |
| | DSB202M AC-C40/0.3 | 40 | 300 | 1 | 2CSR272027R3404 | 7,930 |
| | DSB202M AC-C63/0.03 | 63 | 30 | 1 | 2CSR272027R1634 | 8,340 |
| | DSB202M AC-C63/0.1 | 63 | 100 | 1 | 2CSR272027R2634 | 8,910 |
| | DSB202M AC-C63/0.3 | 63 | 300 | 1 | 2CSR272027R3634 | 9,080 |

DSB204M 10kA AC Type Four Pole

| Number of poles/Module | Description | Current rating (A) | Residual rated current (mA) | Pack unit (Pc) | Ordering code | Unit L.P. (₹) |
|------------------------|---------------------|--------------------|-----------------------------|----------------|-----------------|---------------|
| 4 Pole / 8 Module | DSB204M AC-C25/0.03 | 25 | 30 | 1 | 2CSR274027R1254 | 7,550 |
| | DSB204M AC-C25/0.1 | 25 | 100 | 1 | 2CSR274027R2254 | 8,510 |
| | DSB204M AC-C25/0.3 | 25 | 300 | 1 | 2CSR274027R3254 | 8,770 |
| | DSB204M AC-C40/0.03 | 40 | 30 | 1 | 2CSR274027R1404 | 7,910 |
| | DSB204M AC-C40/0.1 | 40 | 100 | 1 | 2CSR274027R2404 | 8,470 |
| | DSB204M AC-C40/0.3 | 40 | 300 | 1 | 2CSR274027R3404 | 8,650 |
| | DSB204M AC-C63/0.03 | 63 | 30 | 1 | 2CSR274027R1634 | 9,350 |
| | DSB204M AC-C63/0.1 | 63 | 100 | 1 | 2CSR274027R2634 | 9,640 |
| | DSB204M AC-C63/0.3 | 63 | 300 | 1 | 2CSR274027R3634 | 9,790 |

Residual current circuit breaker with overcurrent protection

RCBO - DSB201M series A Type ( marked)



DSB201M 1P+N

Features

- Product Standard : IS 12640 (Part 2) : 2016, IEC 61009-1
- Type (wave form of the earth leakage sensed) : A
- Tripping characteristic : C
- Poles : 2 Poles, 2 Modules
- Rated Current In (A) : 6, 10, 16, 20, 25, 32, 40
- Rated sensitivity IΔn (mA): 30, 100, 300
- Rated frequency (Hz) : 50
- Rated voltage Un (V) : 240 V
- Operating voltage of circuit test Ut (V) : 110
- Breaking capacity, Icn (A) acc. to IEC 61009 : 10 kA
- Rated Impulse withstand Voltage : 4 kV
- Electrical life (operations) : 10000
- Mechanical life (operations) : 20000
- Ambient temperature (with daily average ≤ +35°C) : -25...+55°C
- Auxiliary devices : Compatible

RCBO 10kA A Type - DSB201M

| Number of poles / module | Description | Current rating (A) | Residual rated current (mA) | Pack unit (Pc) | Ordering code | Unit L.P. (₹) |
|--------------------------|--------------------|--------------------|-----------------------------|-----------------|-----------------|---------------|
| 1P+N / 2 module | DSB201M A-C6/0.03 | 6 | 30 | 1 | 2CSR275475R1064 | 9,580 |
| | DSB201M A-C10/0.03 | 10 | 30 | 1 | 2CSR275475R1104 | 9,580 |
| | DSB201M A-C16/0.03 | 16 | 30 | 1 | 2CSR275475R1164 | 9,580 |
| | DSB201M A-C20/0.03 | 20 | 30 | 1 | 2CSR275475R1204 | 9,580 |
| | DSB201M A-C25/0.03 | 25 | 30 | 1 | 2CSR275475R1254 | 9,580 |
| | DSB201M A-C32/0.03 | 32 | 30 | 1 | 2CSR275475R1324 | 9,910 |
| | DSB201M A-C40/0.03 | 40 | 30 | 1 | 2CSR275475R1404 | 10,120 |
| | DSB201M A-C6/0.1 | 6 | 100 | 1 | 2CSR275475R2064 | 12,100 |
| | DSB201M A-C10/0.1 | 10 | 100 | 1 | 2CSR275475R2104 | 12,100 |
| | DSB201M A-C16/0.1 | 16 | 100 | 1 | 2CSR275475R2164 | 12,100 |
| | DSB201M A-C20/0.1 | 20 | 100 | 1 | 2CSR275475R2204 | 12,100 |
| | DSB201M A-C25/0.1 | 25 | 100 | 1 | 2CSR275475R2254 | 12,100 |
| | DSB201M A-C32/0.1 | 32 | 100 | 1 | 2CSR275475R2324 | 13,660 |
| | DSB201M A-C40/0.1 | 40 | 100 | 1 | 2CSR275475R2404 | 13,920 |
| | DSB201M A-C6/0.3 | 6 | 300 | 1 | 2CSR275475R3064 | 11,860 |
| | DSB201M A-C10/0.3 | 10 | 300 | 1 | 2CSR275475R3104 | 11,860 |
| | DSB201M A-C16/0.3 | 16 | 300 | 1 | 2CSR275475R3164 | 11,860 |
| | DSB201M A-C20/0.3 | 20 | 300 | 1 | 2CSR275475R3204 | 11,860 |
| | DSB201M A-C25/0.3 | 25 | 300 | 1 | 2CSR275475R3254 | 11,860 |
| | DSB201M A-C32/0.3 | 32 | 300 | 1 | 2CSR275475R3324 | 13,390 |
| DSB201M A-C40/0.3 | 40 | 300 | 1 | 2CSR275475R3404 | 13,660 | |

Solution for unwanted tripping - AP-R type (high immunity) RCCB / RCBO

The ABB range of AP-R anti-disturbance residual current circuit-breakers and blocks was designed to overcome the problem of unwanted tripping due to overvoltages of atmospheric or operation origin.

The electronic circuit in these devices can distinguish between temporary leakage caused by disturbances on the mains and permanent leakage due to actual faults, only breaking the circuit in the latter case.

AP-R residual current circuit-breakers and blocks have a slight delay into the tripping time, but this does not compromise the safety limits set by the Standards in force (release time at $2 I_{\Delta n} = 150$ ms).

Compared with standard type breakers, AP-R residual current breakers are therefore characterised, for any given sensibility, by:

- Higher residual trip current
- Tripping time delay
- Better resistance to overvoltages, harmonics and impulse disturbances

Guaranteeing conventional residual current protection, their installation in the electrical circuit therefore allows any unwanted tripping to be avoided in domestic and industrial systems in which service continuity is essential.

This delay makes the AP-R residual current devices especially suited for installations involving motor starters/variable speed drives, fluorescent lamps or IT/electronic equipment.

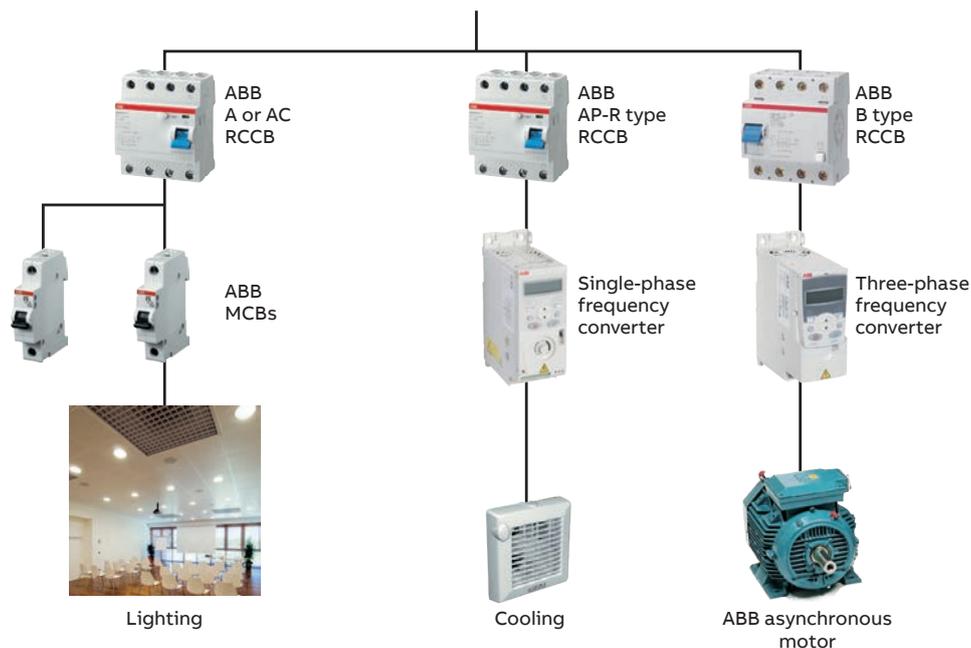
The use of multiple electronic reactors for the supply of fluorescent lamps instead generates permanent leakage currents and inrush currents that can cause nuisance tripping of a standard residual current circuit breaker.

IT system loads and other electronic equipment (e.g. dimmers, computers, inverters) with capacitive input filters connected between the phases and ground can also generate permanent earth leakage currents whose sum may provoke the nuisance tripping of a standard residual current circuit breaker. For these situations, the AP-R breakers allow a greater number of devices to be connected to the installation.

Frequency converters include a rectifier section and an inverter section.

In case of fault within a single-phase frequency converter AP-R type RCDs provide complete protection, because an earth fault occurring downstream the inverter, produces an earth fault current with multi-frequency shape with high amount of harmonics.

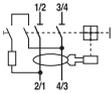
While, in case of fault within a three-phase frequency converter, B type RCDs ensure complete protection because in case of insulation fault between the rectifier and the inverter or downstream the inverter we can have a smooth DC earth fault current.



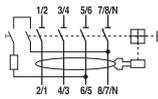
Residual Current Devices: AP-R (high immunity)



F202A



F204A



RCCB - F200 series APR type (high immunity)

Function: protection against the effects of sinusoidal alternating and direct pulsating earth fault currents, providing the best compromise between safety and continuity in the service, thanks to the resistance to unwanted trippings; protection against indirect contacts and additional protection against direct ($I_{\Delta n}=30$ mA) contacts.

Application: residential, commercial, industrial

Standard: IEC/EN 61008

Marking: according to EN 61008

RCCB - F200 series

| Number of poles | Description | Current rating (A) | Residual rated current (mA) | Packing | Ordering code | Unit L.P. (₹) |
|-----------------|----------------------|--------------------|-----------------------------|---------|-----------------|---------------|
| 2 Pole | F202 A-25/0.03 AP-R | 25 | 30 | 1 | 2CSF202401R1250 | 9,880 |
| | F202 A-40/0.03 AP-R | 40 | 30 | 1 | 2CSF202401R1400 | 10,400 |
| | F202 A-63/0.03 AP-R | 63 | 30 | 1 | 2CSF202401R1630 | 12,560 |
| | F202 A-80/0.03 AP-R | 80 | 30 | 1 | 2CSF202401R1800 | 17,410 |
| | F202 A-100/0.03 AP-R | 100 | 30 | 1 | 2CSF202401R1900 | 19,480 |
| 4 Pole | F204 A-25/0.03 AP-R | 25 | 30 | 1 | 2CSF204401R1250 | 12,150 |
| | F204 A-40/0.03 AP-R | 40 | 30 | 1 | 2CSF204401R1400 | 12,480 |
| | F204 A-63/0.03 AP-R | 63 | 30 | 1 | 2CSF204401R1630 | 14,180 |
| | F204 A-80/0.03 AP-R | 80 | 30 | 1 | 2CSF204401R1800 | 21,280 |
| | F204 A-100/0.03 AP-R | 100 | 30 | 1 | 2CSF204401R1900 | 23,440 |
| | F204 A-125/0.03 AP-R | 125 | 30 | 1 | 2CSF204401R1950 | Upon Request |

RCBO - DS200 series APR type (high immunity)

Function: protection against the effects of sinusoidal alternating and direct pulsating earth fault currents, providing an optimal compromise between safety and continuity of service, thanks to the resistance to unwanted tripping; protection against indirect contact and additional protection against direct ($I_{\Delta n}=30$ mA) contact; protection and isolation of resistive and inductive loads.

Application: residential, commercial, industrial

Standard: IEC/EN 61009

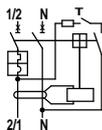
$I_{cn}=10$ kA

RCBO APR type - DS200 series

| Number of poles / module | Description | Current rating (A) | Residual rated current (mA) | Packing | Ordering code | Unit L.P. (₹) |
|--------------------------|--------------------|--------------------|-----------------------------|-----------------|-----------------|---------------|
| 1P + N / 2 module | DS201 M C6 APR30 | 6 | 30 | 1 | 2CSR275480R1064 | 11,280 |
| | DS201 M C10 APR30 | 10 | 30 | 1 | 2CSR275480R1104 | 11,280 |
| | DS201 M C16 APR30 | 16 | 30 | 1 | 2CSR275480R1164 | 11,280 |
| | DS201 M C20 APR30 | 20 | 30 | 1 | 2CSR275480R1204 | 11,280 |
| | DS201 M C25 APR30 | 25 | 30 | 1 | 2CSR275480R1254 | 11,280 |
| | DS201 M C32 APR30 | 32 | 30 | 1 | 2CSR275480R1324 | 11,660 |
| | DS201 M C40 APR30 | 40 | 30 | 1 | 2CSR275480R1404 | 11,890 |
| | DS201 M C6 APR100 | 6 | 100 | 1 | 2CSR275480R2064 | 14,240 |
| | DS201 M C10 APR100 | 10 | 100 | 1 | 2CSR275480R2104 | 14,240 |
| | DS201 M C16 APR100 | 16 | 100 | 1 | 2CSR275480R2164 | 14,240 |
| | DS201 M C20 APR100 | 20 | 100 | 1 | 2CSR275480R2204 | 14,240 |
| | DS201 M C25 APR100 | 25 | 100 | 1 | 2CSR275480R2254 | 14,240 |
| | DS201 M C32 APR100 | 32 | 100 | 1 | 2CSR275480R2324 | 16,070 |
| | DS201 M C40 APR100 | 40 | 100 | 1 | 2CSR275480R2404 | 16,390 |
| | DS201 M C6 APR300 | 6 | 300 | 1 | 2CSR275480R3064 | 13,940 |
| | DS201 M C10 APR300 | 10 | 300 | 1 | 2CSR275480R3104 | 13,940 |
| | DS201 M C16 APR300 | 16 | 300 | 1 | 2CSR275480R3164 | 13,940 |
| | DS201 M C20 APR300 | 20 | 300 | 1 | 2CSR275480R3204 | 13,940 |
| | DS201 M C25 APR300 | 25 | 300 | 1 | 2CSR275480R3254 | 13,940 |
| | DS201 M C32 APR300 | 32 | 300 | 1 | 2CSR275480R3324 | 15,750 |
| DS201 M C40 APR300 | 40 | 300 | 1 | 2CSR275480R3404 | 16,070 | |



DS201M APR-1P+N



System pro M

Accessories for MCB's-SB200M/S200M,
RCCB's- FB200/F200, Switch Disconnecter-
SDB200/E200, RCBO DS200M, DSB201M,
DSB202M and DSB204M



Thanks to the variety of control and monitoring accessories which enable you to build different monitoring control logics of the protection devices.



S2C-H6...
Auxiliary
contact



S2C-S/H6R
Signal/auxiliary
contacts



S3C-A
Shunt trip



S2C-UA
Under voltage
release



S2C-OVP
Over voltage
release



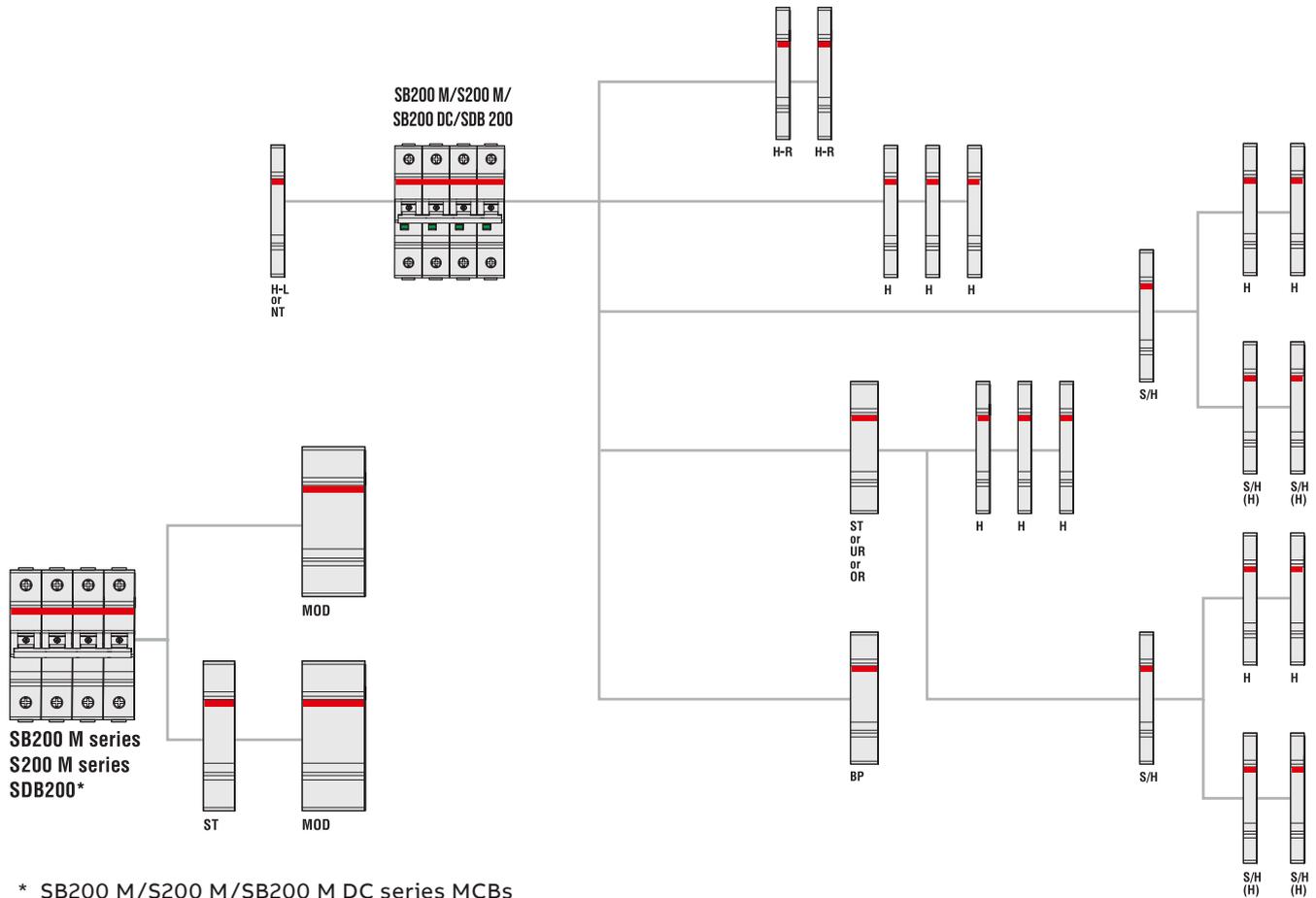
S3C-MOD24
Motor operating
device



S2C-BP
Mechanical
tripping device

System pro M

Accessories for MCB's-SB200M/SB200 DC/S200M, Switch Disconnecter SDB200/E200

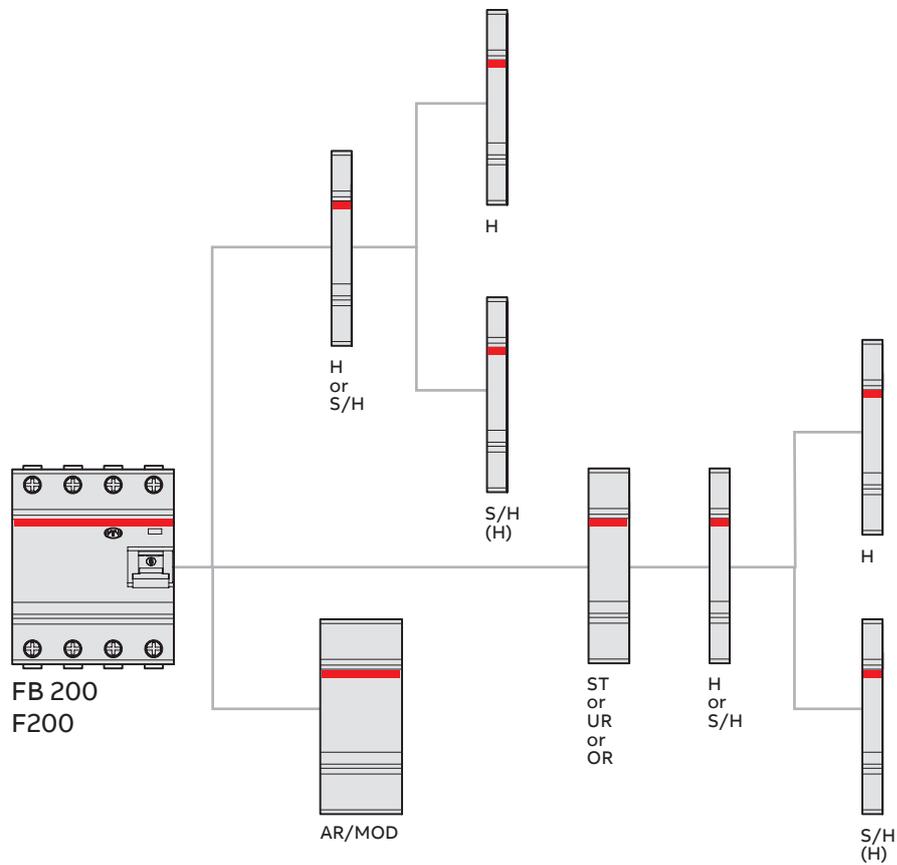


* SB200 M/S200 M/SB200 M DC series MCBs and SDB200 switch disconnectors up to 3P or 2P+ST can be coupled with MOD-S

| | | |
|---------|--|-------------|
| H | Auxiliary contact | S2C-H6R |
| H-R | Auxiliary contact | S2C-H6-...R |
| S/H | Signal/Auxiliary contact | S2C-S/H6R |
| S/H (H) | Signal/Auxiliary contact used as auxiliary contact | S2C-S/H6R |
| ST | Shunt trip | S3C-A... |
| UR | Undervoltage release | S2C-UA |
| OR | Overvoltage release | S2C-OVP |
| H-L | Auxiliary contact to be mounted on the left | S2C-H...L |
| BP | Mechanical tripping device | S2C-BP |
| NT | Switched neutral | S2C-Nt |

System pro M

Accessories for RCCB's FB200 and F200

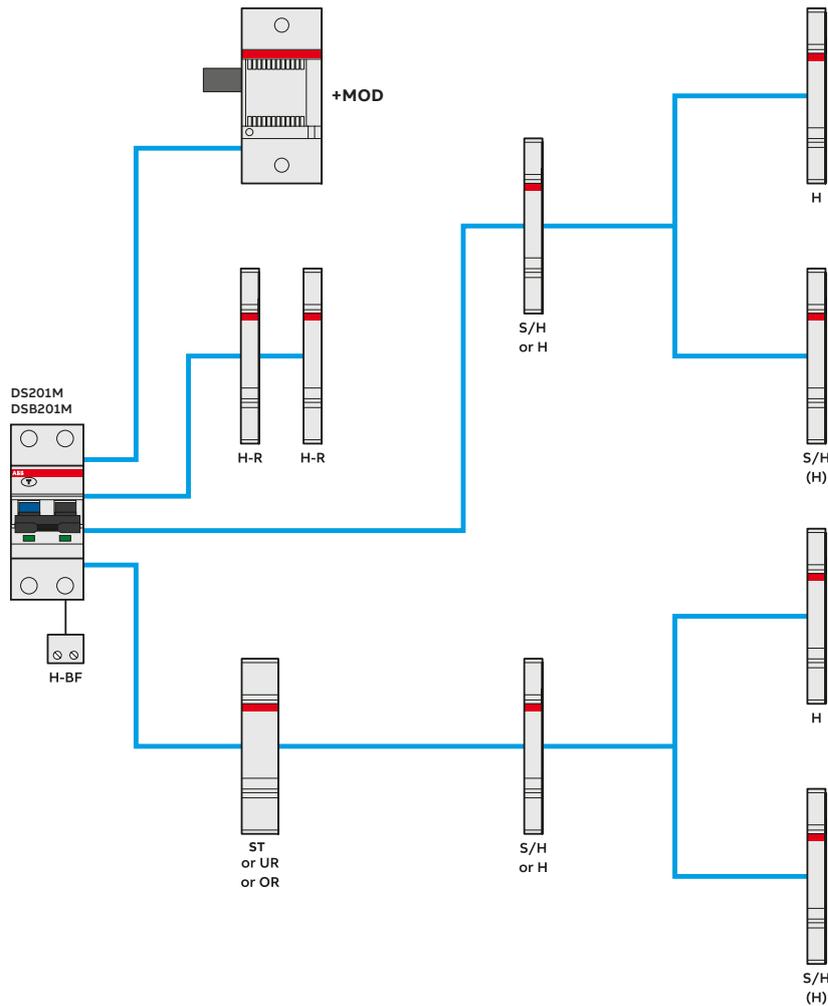


| | | |
|---------|--|------------|
| H | Auxiliary contact | S2C-H6R |
| S/H | Signal/Auxiliary contact | S2C-S/H6R |
| S/H (H) | Signal/Auxiliary contact used as auxiliary contact | S2C-S/H6R |
| UR | Undervoltage release | S2C-UA |
| OR | Overvoltage release | S2C-OVP |
| AR | Auto reclosing unit | F3C-AR... |
| MOD | Motor operating device | S3C-MOD... |
| ST | Shunt trip | S3C-A... |

Auxiliary elements and accessories for MCBs and RCDs

Selection tables

Combination of auxiliary elements with DS201M and DSB201M



| | | |
|---------|--|-------------------|
| H | Auxiliary contact | S2C-H6R |
| H-R | Auxiliary contact | S2C-H6-xxR |
| S/H | Signal / auxiliary contact | S2C-S/H6R |
| S/H (H) | Signal / auxiliary contact used as auxiliary contact | S2C-S/H6R |
| ST | Shunt trip | S3C-A... |
| UR | Undervoltage release | S2C-UA |
| OR | Overvoltage release | S2C-OVP |
| H-BF | Auxiliary contact for bottom fitting (only DS201 (2019)) | S2C-H01 / S2C-H10 |
| MOD | Motor operating device (for DS201 (2019)) | S3C-MOD... |
| MOD | Motor operating device (for DS201 and DS202C) | S3C-MOD... |

Accessories

for SB200 M/SB200 DC, switch disconnecter
SDB200/E200 RCBO DS201M and DSB201M



SA 1

Locking device for MCBs and switches

Prevents unauthorised or dangerous operation of the operating lever. An adaptor makes it possible to block the operating lever whether switched ON or OFF. The lever is blocked with a padlock having a cross bar section of 3 or, as the case may be, 6 mm max. For multipole devices, one lock may be fitted per pole.

The lock adaptor can be used for all MCBs of the SB200M, SB200 DC, switch disconnecter SDB200, RCBO DS201M, DSB201M and E200.



SA 2

| Description | Order details | | Standard pack | Unit L.P. (₹) |
|---|---------------|-----------------|---------------|---------------|
| | Type code | Order code | | |
| Locking Device 3mm | SA 1 | GJF1101903R0001 | 10 | 820 |
| Lock Adaptor 6mm | SA 1E | GJF1101903R0004 | 10 | 800 |
| Padlock with 2 keys | SA 2 | GJF1101903R0002 | 10 | 2,610 |
| Padlock, identical locking with 2 keys | SA 2 i | GJF1109999R0001 | 10 | 1,990 |
| Lock adaptor incl. padlock with 3 keys in transparent box | SA 3 | GJF1101903R0003 | 10 | 2,480 |

Auxiliary elements for

MCB's SB200M/SB200 DC/S200M, switch disconnector SDB200, RCCB-FB200/F200, RCBO-DS201M and DSB201M



2C5C400465F0201

S2C-S/H6R

Signal/auxiliary contacts:

Signal contacts indicate if a device trips due to a failure (overcurrent/short-circuit for MCBs and RCBOs; earth fault for RCCBs and RCBOs). Auxiliary contacts indicate the position of the contacts, independent if a failure occurred or the device was operated manually.

S2C-S/H6R:

Choice through a selector between signal and auxiliary contact.

S2C-H6R and S2C-HxxR:

Auxiliary contacts with contact configuration according to the following table. All right-side mounted contacts are suitable for MCBs, RCDs, switch disconnectors SDB200 according the "Selection tables" which are displayed at the beginning of chapter 4.



2C5C400465F0201

S2C-H6...

S2C-HxxL:

Auxiliary contacts with contact configuration according to the following table. These contacts are left-side mounted and fit to SB200 MCBs and switch disconnectors SDB200 according to the "Selection tables". Especially when using a motor operating device, this is a possibility to add a contact as the right side mounted ones do not fit within this combination.

| Description | Bbn 4016779 | Order details | | Standard pack | Unit L.P. (₹) |
|--------------------------------------|----------------|---------------|-------------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Signal contact/ auxiliary switch 1CO | 563819 | S2C-S/H6R | 2CDS200922R0001 ■ | 1 | 2,340 |
| Auxiliary contact 1CO | 563826 | S2C-H6R | 2CDS200912R0001 ■ | 1 | 1,300 |
| Auxiliary contact 1NO/1NC | 697941 | S2C-H6-11R | 2CDS200946R0001 ■ | 1 | 1,330 |
| Auxiliary contact 2NO | 697958 | S2C-H6-20R | 2CDS200946R0002 | 1 | 1,340 |
| Auxiliary contact 2NC | 697965 | S2C-H6-02R | 2CDS200946R0003 | 1 | 1,340 |

Auxiliary contacts mounting on the left side

| Description | Bbn 4016779 | Order details | | Standard pack | Unit L.P. (₹) |
|----------------------------|----------------|---------------|-----------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Auxiliary contact 1 NO/1NC | 648820 | S2C-H11L | 2CDS200936R0001 | 1 | 1,500 |
| Auxiliary contact 2 NO | 648837 | S2C-H20L | 2CDS200936R0002 | 1 | 1,470 |
| Auxiliary contact 2 NC | 648844 | S2C-H02L | 2CDS200936R0003 | 1 | 1,470 |

Auxiliary elements for MCBs, RCDs, AFDDs and Switch Disconnectors



S3C-A1



S3C-A2

Shunt trips

Function: remote opening of the device when a voltage is applied. Suitable for MCBs SB200 series, Switch Disconnector SDB200 RCCBs FB200, F200, RCBOs DSB200, DS200 series.

Shunt trips use a coil like MCBs for tripping. To trip a shunt, it is necessary to choose the right voltage and make sure the corresponding I_{bmax} (as mentioned in the table above) is provided by the power supply used. If the power supply can provide higher currents the shunt trip will reduce the current to I_{bmax} due to its internal resistance.

As soon as the shunt trips, the contact inside is open – the electrical circuit is disconnected even if the shunt trip is still powered on. The free-tripping mechanism of the shunt trip allows a restart of the MCB only after the shunt trip gets no external release signal anymore.

Auxiliary contacts mounting on the left side

| Rated voltage | Bbn 4016779 | Order details | | Standard pack | Unit L.P. (₹) |
|------------------------------|----------------|---------------|-----------------|---------------|------------------|
| | EAN | Type code | Order code | | |
| AC/DC 12...110 V | 116625 | S3C-A1 | 2CDS200982R0001 | 1 | 5,490 |
| AC 110...415 V/DC110...250 V | 116663 | S3C-A2 | 2CDS200982R0002 | 1 | |

Auxiliary elements for

MCB's SB200M, SB200 DC, switch disconnecter SDB200/E200, RCCB FB200, F200, RCBO DS201M and DSB201M



2CSS400385F0201

S2C-UA

Undervoltage releases

Function: protection of the load in the event of a voltage drop (between 70% and 35% of its rated value); positive safety (devices tripping when the voltage is disconnected) emergency stop by means of a button. Suitable for MCBs SB200 series, RCCBs FB200 series and RCBOs DS201M, DSB201M, SDB200 switch disconnectors series.

| Rated voltage | Bbn 8012542 | Order details | | Standard pack | Unit L.P. (₹) |
|---------------|----------------|---------------|-------------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| 12V DC | 839705 | S2C-UA 12 DC | 2CSS200911R0001 | 1 | 7,480 |
| 24V AC | 839804 | S2C-UA 24 AC | 2CSS200911R0002 | 1 | |
| 24V DC | 896401 | S2C-UA 24 DC | 2CSS200911R0007 | 1 | |
| 48V AC | 839903 | S2C-UA 48 AC | 2CSS200911R0003 | 1 | |
| 48V DC | 896500 | S2C-UA 48 DC | 2CSS200911R0008 | 1 | |
| 110V AC | 840008 | S2C-UA 110 AC | 2CSS200911R0004 ■ | 1 | |
| 110V DC | 896609 | S2C-UA 110 DC | 2CSS200911R0009 | 1 | |
| 230V AC | 840107 | S2C-UA 230 AC | 2CSS200911R0005 ■ | 1 | |
| 230V DC | 896708 | S2C-UA 230 DC | 2CSS200911R0010 | 1 | |
| 400V AC | 840206 | S2C-UA 400 AC | 2CSS200911R0006 | 1 | |

Overvoltage release

Function: monitoring voltage between the neutral and phase; when an overvoltage reaches the threshold value, the OVP device causes the tripping of the associated MCB or RCCB. Suitable for MCBs of the SB200 series up to 63 A, and RCCBs of the FB200 series up to 100 A and RCBOs DS201M, DSB201M Suitable for SDB200 switch disconnectors series.

| Description | Bbn 8012542 | Order details | | Standard pack | Unit L.P. (₹) |
|--|----------------|---------------|-----------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Overvoltage release (max. tripping voltage AC: 275V) | 748137 | S2C-OVP1 | 2CSS200910R0005 | 1/5 | 8,910 |
| Overvoltage release (max. tripping voltage AC: 290V) | 952039 | S2C-OVP2 | 2CSS200993R0005 | 1/5 | |



2CSS400055F0201

S2C-Nt

Hand operated neutral left side mounted

| S2C-Nt | | |
|------------------------|-----------------|-------------------|
| Rated current | A | max. 40 |
| Terminal | mm ² | 10; cage terminal |
| Tightening torque | Nm | 1.2 |
| Dimensions (H x D x W) | mm | 85 x 69 x 8.8 |

Hand operated neutral

The hand operated neutral has to be mounted to the left side of the MCB and be snapped onto the DIN-Rail. It is used for measuring duties where the neutral conductor must be in the open position. Due to the special design of the handle - when switching ON the MCB - the neutral will make before the MCB is closed. Suitable for SDB200 switch disconnecter series. The S2C - Nt is not to switch with a tool (screwdriver).

| Description | Bbn 4016779 | Order details | | Standard pack | Unit L.P. (₹) |
|-------------|----------------|---------------|-----------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Max 40A | 647625 | S2C-Nt | 2CDS200918R0001 | 1 | 1,340 |

Accessories

Rotary operating mechanism for SB200M



S2C-DH

Rotary operating mechanism (usable just with SB200/S200 devices)

For the actuation of 2-, 3- or 4pole miniature circuit-breakers in closed distribution boards for driveaxles of 5 or 6 mm² (square)

| Description | Bbn 4012233 | Order details | | Standard pack | Unit L.P. (₹) |
|----------------------------|----------------|---------------|-----------------|------------------|------------------|
| | EAN | Type code | Order code | | |
| Rotary operating mechanism | 57960 5 | S2C-DH | GHS2001901R0003 | 1 | Upon request |

Note: S2C-DH cannot be used on DS200

Handles

Handle IP 65, 65 x 65 mm, padlockable with max. 3 padlocks (bail diameter 5 - 8 mm), door interlock in ON-position, adjustable*



OH

| Color | Suitable for switches | Bbn 4012233 | Order details | | Standard pack | Unit L.P. (₹) |
|------------|--------------------------|----------------|---------------|-----------------|------------------|------------------|
| | | EAN | Type code | Order code | | |
| Black | OT16...40F | 40978 8 | OHBS2AJ | 1SCA105213R1001 | 1 | Upon request |
| Yellow-red | OT16...40F | 41226 9 | OHYS2AJ | 1SCA105296R1001 | 1 | |
| Silver | OT16...40F | 41199 6 | OHSS2AJ | 1SCA105278R1001 | 1 | |
| Grey | OT16...40F | 41186 6 | OHGS2AJ | 1SCA105265R1001 | 1 | |

Handle IP 65, 65 x 65 mm, padlockable with max. 3 padlocks (bail diameter 5 - 8 mm), door interlock in ON-position



OXS6X

| Color | Suitable for switches | Bbn 4012233 | Order details | | Standard pack | Unit L.P. (₹) |
|------------|--------------------------|----------------|---------------|-----------------|------------------|------------------|
| | | EAN | Type code | Order code | | |
| Black | OT16...40F | 41140 8 | OHBS2AJ1 | 1SCA105215R1001 | 1 | Upon request |
| Yellow-red | OT16...40F | 41227 6 | OHYS2AJ1 | 1SCA105297R1001 | 1 | |
| Silver | OT16...40F | 41210 8 | OHSS2AJ1 | 1SCA105279R1001 | 1 | |
| Grey | OT16...40F | 41187 3 | OHGS2AJ1 | 1SCA105266R1001 | 1 | |

* OH_2_J enables selection of MCB behavior when opening panel door (remain switched on or switch off).
OH_2_J1 will cause MCB to switch off when opening panel door.

Axle extension

Type and order numbers are for one piece. For selector type handles. Shaft diameter 6 mm.

| Length | Suitable for switches | Bbn 4012233 | Order details | | Standard pack | Unit L.P. (₹) |
|--------|--------------------------|----------------|---------------|-----------------|------------------|------------------|
| | | EAN | Type code | Order code | | |
| 85 | OT16...40F | 36571 8 | OXS6X85 | 1SCA101647R1001 | 10 | Upon request |
| 105 | OT16...40F | 42411 8 | OXS6X105 | 1SCA108043R1001 | 10 | |
| 120 | OT16...40F | 36578 7 | OXS6X120 | 1SCA101654R1001 | 10 | |
| 130 | OT16...40F | 36577 0 | OXS6X130 | 1SCA101655R1001 | 10 | |
| 160 | OT16...40F | 36580 0 | OXS6X160 | 1SCA101656R1001 | 10 | |
| 180 | OT16...40F | 36583 1 | OXS6X180 | 1SCA101659R1001 | 10 | |
| 250 | OT16...40F | 36584 8 | OXS6X250 | 1SCA101660R1001 | 10 | |
| 330 | OT16...40F | 36585 5 | OXS6X330 | 1SCA101661R1001 | 10 | |

Motor operating and auto-reclosing device for MCBs, RCDs and Switch Disconnectors



Motor operating devices

Function: S3C-MOD, allow the remote control (opening or closing) of the coupled device. Suitable for SB200 series MCBs and SDB200 switch disconnectors, FB200, F200 RCCBs, RCBOs DS201M and DSB201M. F2-125A Suitable for F200 125A RCCBs

| Description | Bbn 8012542 | Order details | | Standard pack | Unit L.P. (₹) |
|---|----------------|------------------|-----------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Motor Operating Device, 24-48 V AC/DC | 539254 | S3C-MOD24 | 2CSS201998R0033 | 1 | Upon request |
| Motor Operating Device, 110-240 V AC | 539353 | S3C-MOD230 | 2CSS202998R0033 | 1 | |
| Motor operating device for F200 125A RCCB | 020721 | F2-125A-24V-CM4 | 2CSF200997R1214 | 1 | |
| Motor operating device for F200 125A RCCB | 600626 | F2-125A-230V-CM4 | 2CSF200997R1205 | 1 | |



Auto-reclosing units

Function: Auto-reclosing units are used to automatically operate the reclosing of the associated device in case of unwanted tripping. Suitable for F200 series up to 100 A and F200 B type up to 63 A

| Description | Bbn 8012542 | Order details | | Standard pack | Unit L.P. (₹) |
|--|----------------|---------------|-----------------|---------------|---------------|
| | EAN | Type code | Order code | | |
| Auto-reclosing unit, 24-48 V AC/DC | 539452 | F3C-AR24 | 2CSF201998R0034 | 1 | Upon request |
| Auto-reclosing unit, 110-240 V AC | 539551 | F3C-AR230 | 2CSF202998R0034 | 1 | |
| Auto-reclosing unit, 110-240 V AC, with 30s waiting time | 539650 | F3C-AR230 D | 2CSF203998R0034 | 1 | |

Auxiliary elements for MCB's S800 series



S800-AUX

Auxiliary contact

| Description | Order details | Packing | Ordering code | Unit L.P. (₹) |
|-------------------|---------------|---------|-------------------|---------------|
| Auxiliary contact | S800-AUX | 1 | 2CCS800900R0011 ■ | 4,560 |



S800-AUX/ALT

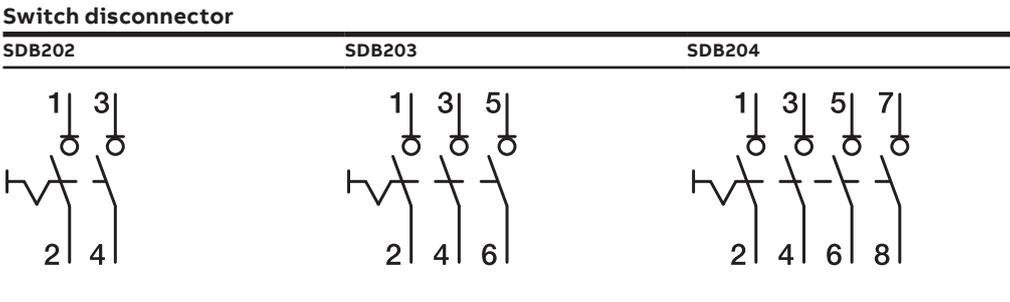
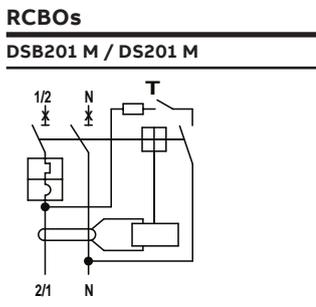
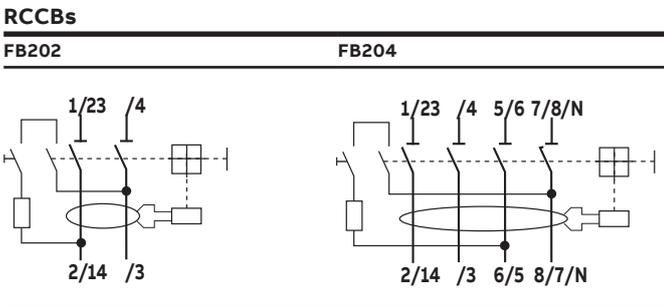
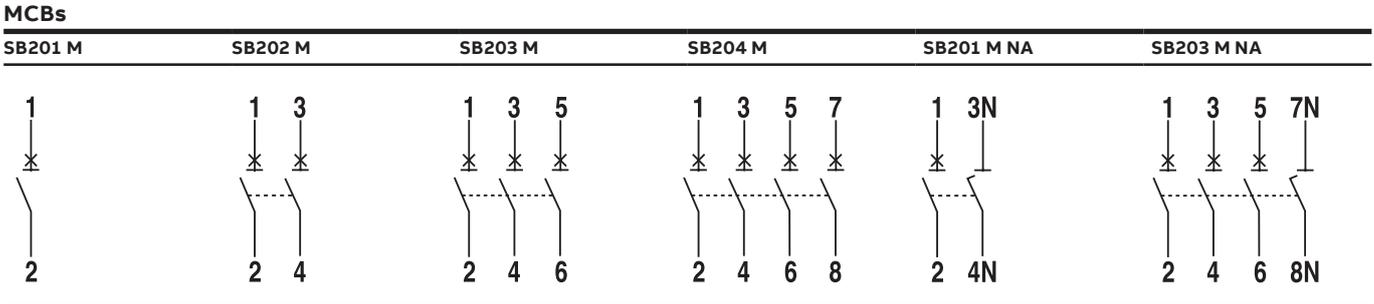
Combined auxiliary and signal contact

| Description | Order details | Packing | Ordering code | Unit L.P. (₹) |
|--------------------------|---------------|---------|-----------------|---------------|
| Auxiliary/signal contact | S800-AUX/ALT | 1 | 2CCS800900R0021 | 5,450 |

■ Stock items

Wiring diagram

System Pro M



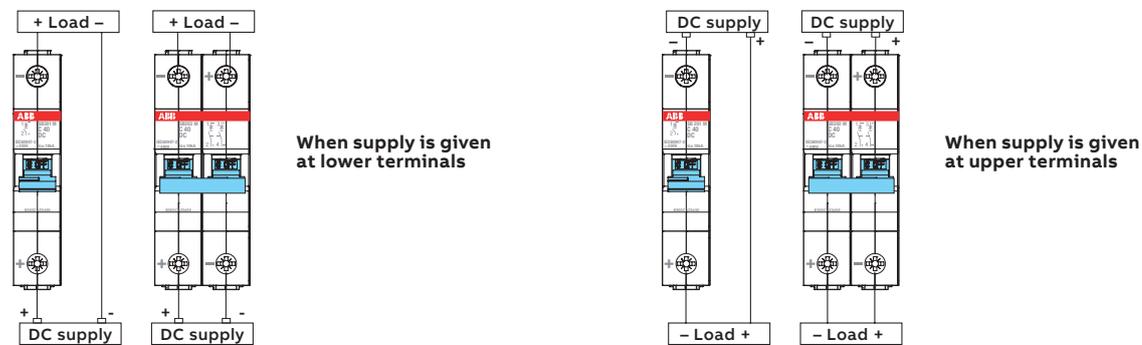
Wiring diagram

SB200 DC

Example for permissible voltages between the conductors depending on the number of poles and circuit layout:

| | | | | | |
|--------------------------------------|-------|-----------------|-----------------|-----------------|-----------------|
| voltage between conductors | U_n | 250 V- | 500 V- | 500 V- | 500 V- |
| voltage between conductors and earth | U_n | 250 V- | 250 V- | 500 V- | 250 V- |
| MCB | | 1-pole SB200 DC | 2-pole SB200 DC | 2-pole SB200 DC | 2-pole SB200 DC |
| supply from below | | | | | |
| supply from above | | | | | |

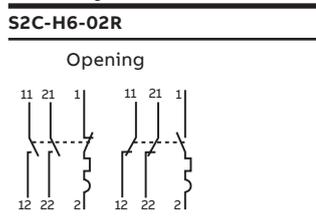
Supply and load connections



Auxiliary elements

| S2C-S/H6R | | | S2C-H6R | | S2C-H-11R | | S2C-H6-20R | |
|------------------------|-------------------|----------------|---------------------------|-------------------|---------------------------|-------------------|---------------------------|-------------------|
| Used as signal contact | Automatic opening | Manual opening | Used as auxiliary contact | Automatic opening | Used as auxiliary contact | Automatic opening | Used as auxiliary contact | Automatic opening |
| | | | | | | | | |

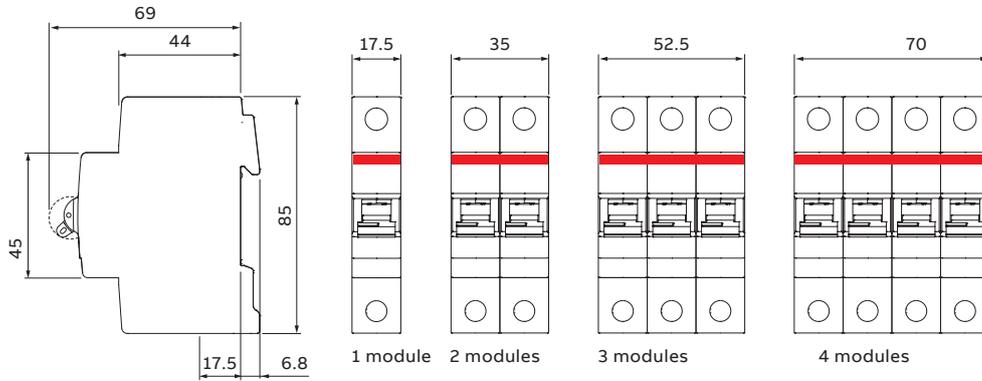
Auxiliary elements



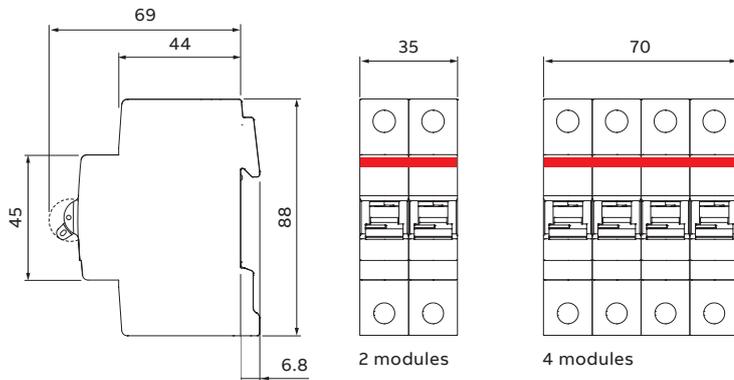
Overall dimensions

System Pro M

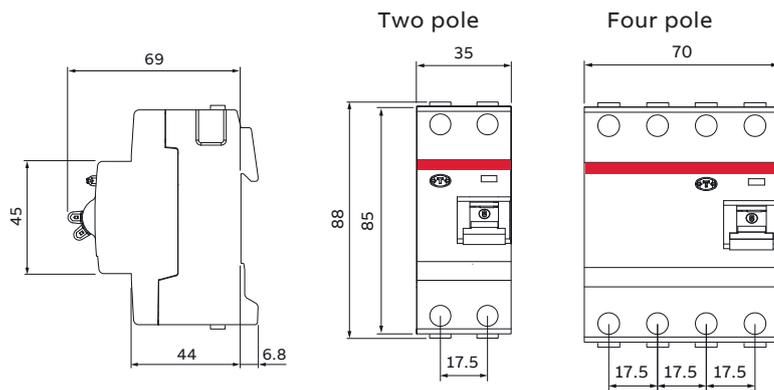
MCB SB200 M and Switch disconnecter SDB200



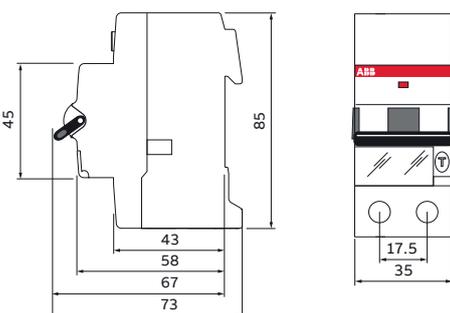
MCB SB200 DC



RCCB FB200

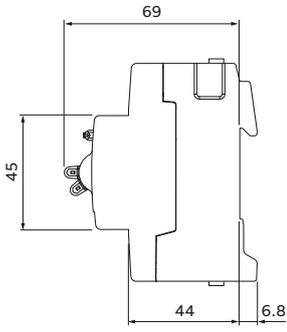


RCBO DS201 M / DSB201 M

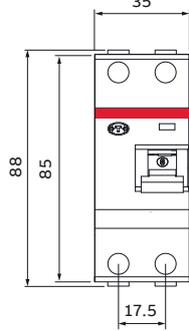


Overall dimensions

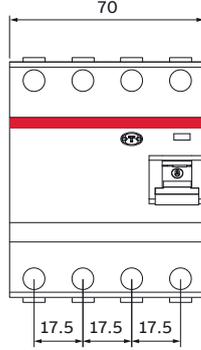
RCCB - (F200)



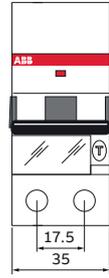
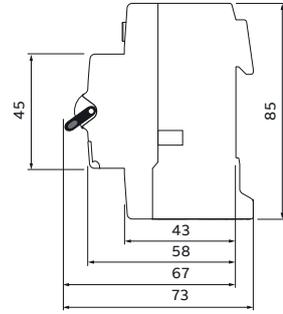
Two pole



Four pole



RCBO (DS200)



AFDD

Arc Fault Detection Device

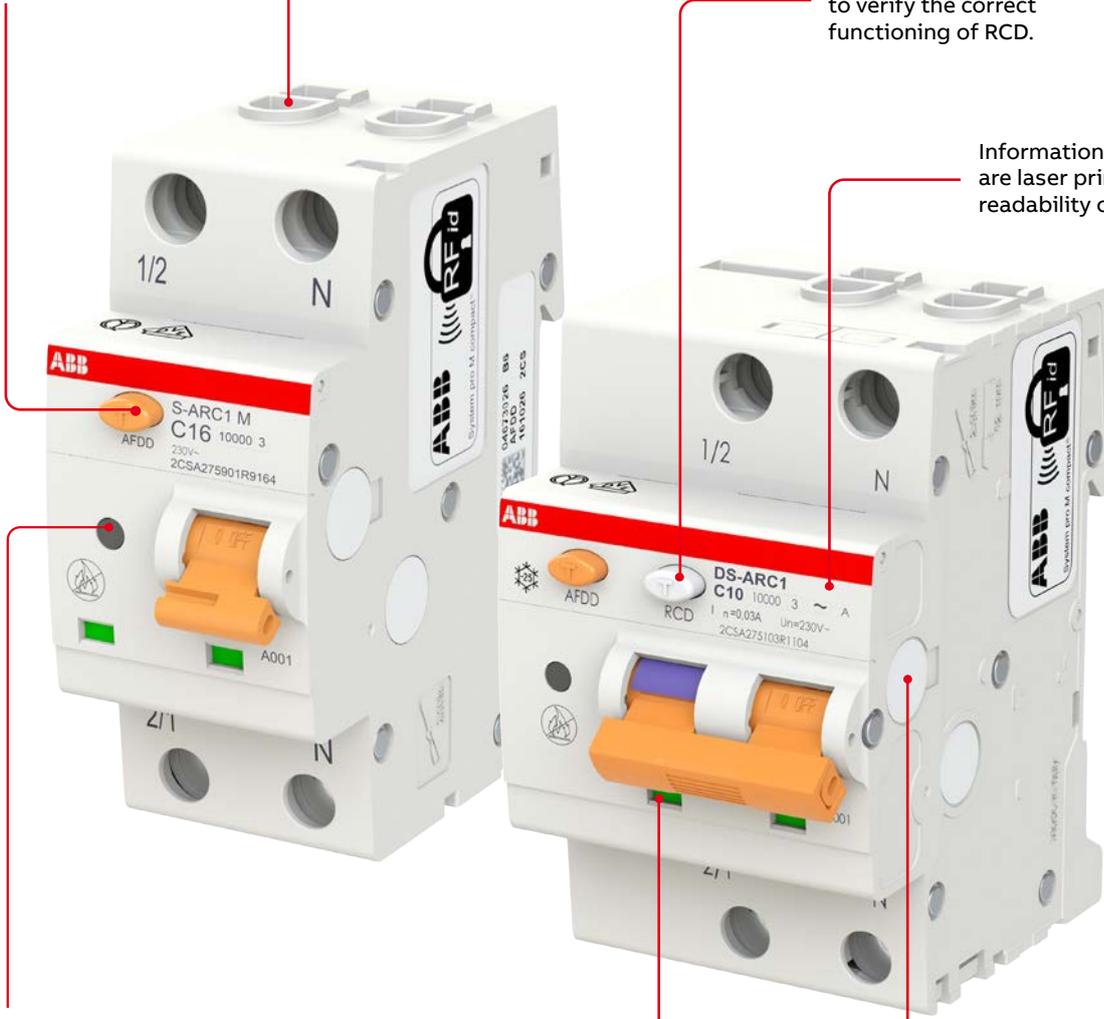
NEW

Test pushbutton to verify the correct functioning of the arc fault detection device.

Twin terminals for separate feeding with busbar and cables. Connection possible both from top and bottom side.

White test pushbutton to verify the correct functioning of RCD.

Information on the device are laser printed to ensure readability over time.



LED troubleshooting indicator to monitor the operation of the AFDD and give indication of the cause of the trip.

To always know the status of the contacts (red: closed; green: open).

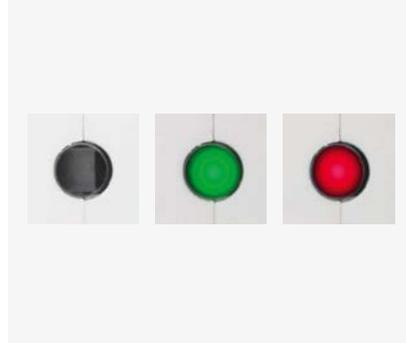
Platform suitable for combination with System pro M compact® accessories.



LED for easy troubleshooting

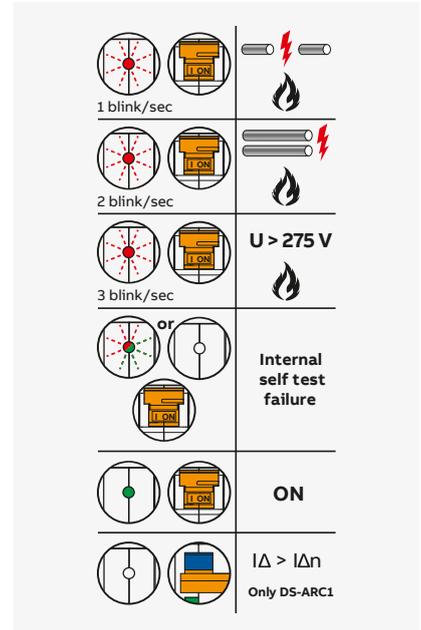
LED to monitor the correct working conditions of the device and have an easier troubleshooting in case of trip. Consequently the downtime for maintenance can be reduced.

- Toggle ON: GREEN LED
- Toggle OFF: LED OFF
- Different indications after the trip, after reclosing the toggle
- Possibility to recall in memory the last tripping due to arc fault and overvoltage



| LED color | Blink/sec | Signalling duration | Cause of trip |
|--------------|-----------|---------------------|---------------------------------------|
| Green | | Permanent | Manual trip, manual test, overcurrent |
| Red blinking | 1 | 5 sec | Series arc |
| Red blinking | 2 | 5 sec | Parallel arc |
| Red blinking | 3 | 5 sec | Over voltage |

In case of internal self test failure, the led can switch off or start blinking green/red alternatively.



Dedicated sticker for LED

Dedicated sticker that summarizes the LED function is present in addition to the instructions sheet.



Double slot terminals

Fail-safe terminals to avoid improper connection. Two slots of different dimensions (25 mm² and 10 mm²) available to allow the connection both with cables and busbars. Connection possible both from top and bottom side. Standard System pro M compact® clip ensures a stable fixing on DIN rail and easy and fast mounting and dismount-



Compatibility with busbars

A quick and easy installation is possible in one step using a standard ABB System pro M compact® busbar: no additional cables required for the wiring.



All information on the device

Main technical information are laser-printed on the front and left side of product to ensure long readability.

AFDD

NEW

S-ARC1 M and DS-ARC1 M, B and C characteristic



S-ARC1 M

S-ARC1 M, B and C characteristics

Function: protection of end user single-phase circuits against short-circuit currents, overload, earth arc faults, parallel arc faults and series arc faults.

Application: residential, commercial

Standard: IEC 62606; EN 62606; IEC 60898-1; EN 60898-1

Icn = 6kA, 10kA

S-ARC1 M - B Characteristics 10kA

| Number of poles | Current rating (A) | Bbn 8012542 EAN | Type code | Ordering code | Pack unit pc. | Unit L.P. (₹) |
|-----------------|--------------------|-----------------|--------------|-----------------|---------------|---------------|
| 1P+N | 6 | 374312 | S-ARC1 M B6 | 2CSA275901R9065 | 1 | Upon request |
| | 10 | 342113 | S-ARC1 M B10 | 2CSA275901R9105 | 1 | |
| | 13 | 342014 | S-ARC1 M B13 | 2CSA275901R9135 | 1 | |
| | 16 | 342212 | S-ARC1 M B16 | 2CSA275901R9165 | 1 | |
| | 20 | 341215 | S-ARC1 M B20 | 2CSA275901R9205 | 1 | |
| | 25 | 341413 | S-ARC1 M B25 | 2CSA275901R9255 | 1 | |
| | 32 | 341314 | S-ARC1 M B32 | 2CSA275901R9325 | 1 | |
| | 40 | 339915 | S-ARC1 M B40 | 2CSA275901R9405 | 1 | |

S-ARC1 M - C Characteristics 10kA

| Number of poles | Current rating (A) | Bbn 8012542 EAN | Type code | Ordering code | Pack unit pc. | Unit L.P. (₹) |
|-----------------|--------------------|-----------------|--------------|-----------------|---------------|---------------|
| 1P+N | 6 | 339816 | S-ARC1 M C6 | 2CSA275901R9064 | 1 | Upon request |
| | 10 | 339717 | S-ARC1 M C10 | 2CSA275901R9104 | 1 | |
| | 13 | 339618 | S-ARC1 M C13 | 2CSA275901R9134 | 1 | |
| | 16 | 340416 | S-ARC1 M C16 | 2CSA275901R9164 | 1 | |
| | 20 | 340317 | S-ARC1 M C20 | 2CSA275901R9204 | 1 | |
| | 25 | 340218 | S-ARC1 M C25 | 2CSA275901R9254 | 1 | |
| | 32 | 340119 | S-ARC1 M C32 | 2CSA275901R9324 | 1 | |
| | 40 | 340010 | S-ARC1 M C40 | 2CSA275901R9404 | 1 | |

DS-ARC1 M, B and C characteristics

Function: protection of end user single-phase circuits against short-circuit currents, overload, earth arc faults, parallel arc faults, series arc faults, earth faults currents. (with IΔn=30 mA).

Application: residential, commercial

Standard: IEC/EN 62606; IEC/EN 61009-1; IEC/EN 61009-2-1

Icn = 6kA, 10kA

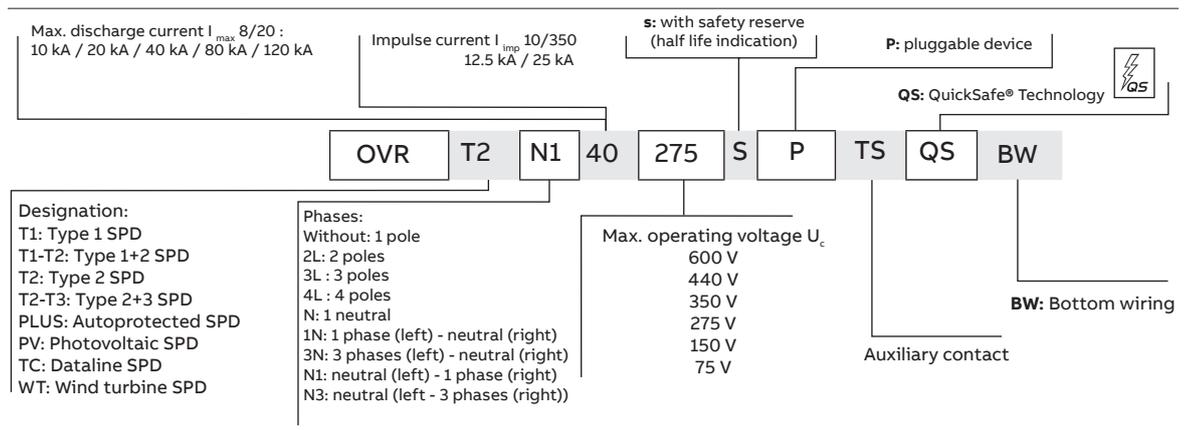
DS-ARC1 M - A type 10kA

| Number of poles | Characteristics | Current rating (A) | Bbn 8012542 EAN | Type code | Ordering code | Pack unit pc. | Unit L.P. (₹) |
|-----------------|-----------------|--------------------|-----------------|-------------------|-----------------|---------------|---------------|
| 1P+N | B | 6 | 734710 | DS-ARC1 M B6 A30 | 2CSA275103R1065 | 1 | Upon request |
| | | 10 | 733812 | DS-ARC1 M B10 A30 | 2CSA275103R1105 | 1 | |
| | | 13 | 734611 | DS-ARC1 M B13 A30 | 2CSA275103R1135 | 1 | |
| | | 16 | 733713 | DS-ARC1 M B16 A30 | 2CSA275103R1165 | 1 | |
| | | 20 | 734512 | DS-ARC1 M B20 A30 | 2CSA275103R1205 | 1 | |
| 1P+N | C | 6 | 734314 | DS-ARC1 M C6 A30 | 2CSA275103R1064 | 1 | Upon request |
| | | 10 | 733416 | DS-ARC1 M C10 A30 | 2CSA275103R1104 | 1 | |
| | | 13 | 748113 | DS-ARC1 M C13 A30 | 2CSA275103R1134 | 1 | |
| | | 16 | 611011 | DS-ARC1 M C16 A30 | 2CSA275103R1164 | 1 | |
| | | 20 | 748014 | DS-ARC1 M C20 A30 | 2CSA275103R1204 | 1 | |



DS-ARC1

Surge protection devices - OVR QuickSafe®



Type 1+2 - MOV + GDT or spark gap technology

Type 1+2 surge protective devices can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Three pole + neutral (Pluggable)

| Description | Max. continuous operating voltage U_c (V) | "I imp in kA (10/350us wave)" | "I max in kA (8/20us wave)" | Pole | No. of modules | Ordering code | Unit L.P. (₹) |
|--------------------------------|---|-------------------------------|-----------------------------|------|----------------|-------------------|---------------|
| OVR T1-T2 3N 100-255 P TS | 255 | 25 | 60 | 3+1 | 8 | 2CTB812111R2300 | 1,93,740 |
| OVR T1-T2 3N 25-440s P QS | 440 | 25 | - | 3+1 | 8 | 2TAM214100R4810 | 1,41,870 |
| OVR T1-T2 3N 25-440s P QS TS | 440 | 25 | - | 3+1 | 8 | 2TAM214100R4811 | 1,49,280 |
| OVR T1-T2 3N 12.5-275s P QS | 275 | 12.5 | 80 | 3+1 | 4 | 2CTB815710R1900 ■ | 34,130 |
| OVR T1-T2 3N 12.5-275s P TS QS | 275 | 12.5 | 80 | 3+1 | 4 | 2CTB815710R0700 | 39,270 |
| OVR T1-T2 3N 12.5-440s P QS | 440 | 12.5 | 80 | 3+1 | 4 | 2CTB815710R4800 | 40,960 |
| OVR T1-T2 3N 12.5-440s P TS QS | 440 | 12.5 | 80 | 3+1 | 4 | 2CTB815710R3600 | 47,090 |



OVR T1-T2

Type 2 - Metal oxide varistor

Type 2 surge protective devices can be installed at the sub-distribution switch board for protection of electrical installation and equipment against indirect lightning and switching surges.

Single pole (Pluggable)

| Description | Max. continuous operating voltage U_c (V) | I max in kA (8/20us wave) | No. of Modules | Ordering code | Unit L.P. (₹) |
|------------------------|---|---------------------------|----------------|-------------------|---------------|
| OVR T2 40-275 P QS | 275 | 40 | 1 | 2CTB803871R2300 ■ | 5,770 |
| OVR T2 40-275s P QS | 275 | 40 | 1 | 2CTB815704R1200 | 8,570 |
| OVR T2 40-275 P TS QS | 275 | 40 | 1 | 2CTB803871R1700 | 7,360 |
| OVR T2 40-440 P QS | 440 | 40 | 1 | 2CTB803871R1200 | 5,900 |
| OVR T2 40-440s P QS | 440 | 40 | 1 | 2CTB815704R4100 | 8,130 |
| OVR T2 80-275s P QS | 275 | 80 | 1 | 2CTB815708R1200 | 8,830 |
| OVR T2 80-275s P TS QS | 275 | 80 | 1 | 2CTB815708R0000 | 10,880 |
| OVR T2 80-440s P QS | 440 | 80 | 1 | 2CTB815708R4100 | 8,000 |
| OVR T2 80-440s P TS QS | 440 | 80 | 1 | 2CTB815708R2900 | 10,030 |



OVR Type 2

■ Stock items

Surge protection devices (OVR)



OVR Type 2

Single pole + neutral (Pluggable)

| Description | Max. continuous operating voltage U _c (V) | I max in kA (8/20us wave) | No. of Modules | Ordering code | Unit L.P. (₹) |
|---------------------------|--|---------------------------|----------------|-------------------|---------------|
| OVR T2 1N 40-275 P QS | 275 | 40 | 2 | 2CTB803972R1100 ■ | 12,290 |
| OVR T2 1N 40-275s P QS | 275 | 40 | 2 | 2CTB815704R1400 | 15,500 |
| OVR T2 1N 40-275 P TS QS | 275 | 40 | 2 | 2CTB803972R0500 | 13,970 |
| OVR T2 1N 40-275s P TS QS | 275 | 40 | 2 | 2CTB815704R0200 | 16,970 |
| OVR T2 1N 40-350 P QS | 350 | 40 | 2 | 2CTB803982R1100 | 13,290 |
| OVR T2 1N 40-350 P TS QS | 350 | 40 | 2 | 2CTB803982R0500 | 15,090 |
| OVR T2 1N 80-275s P QS | 275 | 80 | 2 | 2CTB815708R1400 | 16,340 |
| OVR T2 1N 80-275s P TS QS | 275 | 80 | 2 | 2CTB815708R0200 | 18,020 |

Three pole + neutral (Pluggable)



OVR Type 2

| Description | Max. continuous operating voltage U _c (V) | I max in kA (8/20us wave) | No. of modules | Ordering code | Unit L.P. (₹) |
|---------------------------|--|---------------------------|----------------|-------------------|---------------|
| OVR T2 3N 40-275 P QS | 275 | 40 | 4 | 2CTB803973R1100 ■ | 21,030 |
| OVR T2 3N 40-275s P QS | 275 | 40 | 4 | 2CTB815704R2000 | 29,960 |
| OVR T2 3N 40-275 P TS QS | 275 | 40 | 4 | 2CTB803973R0500 | 26,760 |
| OVR T2 3N 40-275s P TS QS | 275 | 40 | 4 | 2CTB815704R0800 | 35,120 |
| OVR T2 3N 40-350 P QS | 350 | 40 | 4 | 2CTB803983R1100 | 22,720 |
| OVR T2 3N 40-350 P TS QS | 350 | 40 | 4 | 2CTB803983R0500 | 34,080 |
| OVR T2 3N 40-440 P QS | 440 | 40 | 4 | 2CTB803973R1400 | 21,640 |
| OVR T2 3N 40-440 P TS QS | 440 | 40 | 4 | 2CTB803973R1500 | 27,090 |
| OVR T2 3N 40-440s P TS QS | 440 | 40 | 4 | 2CTB815704R3700 | 63,210 |
| OVR T2 3N 80-275s P QS | 275 | 80 | 4 | 2CTB815708R2000 | 31,320 |
| OVR T2 3N 80-275s P TS QS | 275 | 80 | 4 | 2CTB815708R0800 | 37,310 |
| OVR T2 3N 80-440s P QS | 440 | 80 | 4 | 2CTB815708R4900 | 27,330 |
| OVR T2 3N 80-440s P TS QS | 440 | 80 | 4 | 2CTB815708R3700 | 33,000 |

Surge arrester for data line protection (Pluggable)

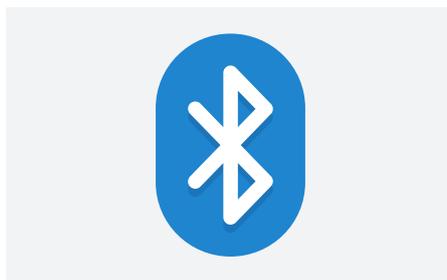
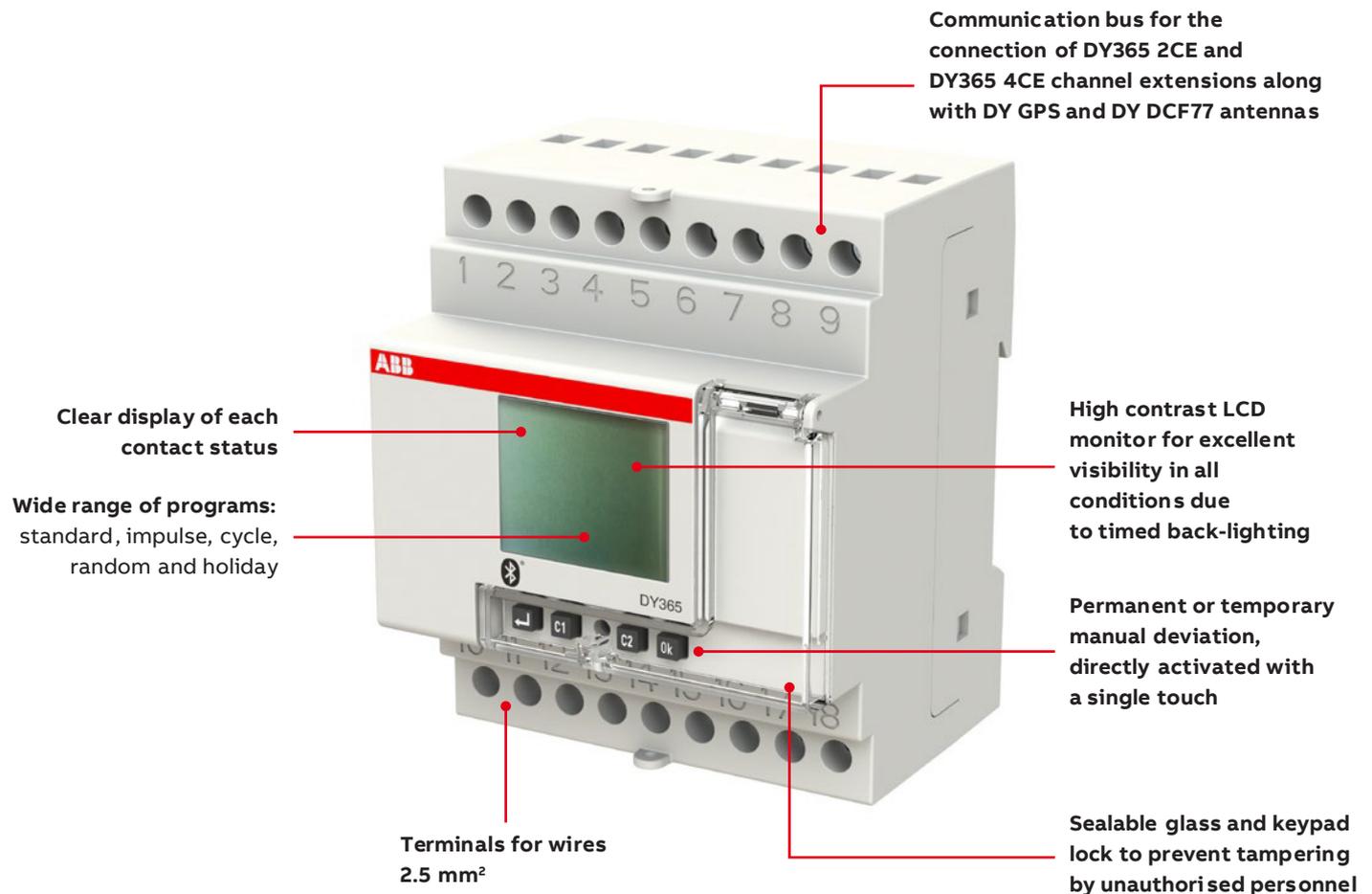


OVR SL

| Description | Max. continuous operating voltage U _c (V) | I max in kA (8/20us wave) | Width | Ordering code | Unit L.P. (₹) |
|-------------|--|---------------------------|-------|-----------------|---------------|
| OVR SL06 | 7.79 V | 10 kA | 7mm | 7TCA085400R0360 | Upon request |
| OVR SL15 | 16.7 V | 10 kA | 7mm | 7TCA085400R0361 | |
| OVR SL30 | 36.7 V | 10 kA | 7mm | 7TCA085400R0363 | |
| OVR SL50 | 56.7 V | 10 kA | 7mm | 7TCA085400R0364 | |
| OVR SLTN | 296 V | 10 kA | 7mm | 7TCA085400R0323 | |

DBT Timer digital time switches

An ideal range for automating the functions of the installation



Wide range of programs: standard, impulse, cycle, random and holiday

- Permanent or temporary manual deviation, directly activated with a single touch
- LCD Display with back-lighting
- Up to 900 storable events
- Up to 400 pre-defined cities coordinates
- Accuracy of ± 0.5 seconds/24h
- Switching solar time/daylight saving time

Bluetooth communication combined with the DBT Timer App available for Android and iOS ensure smart configuration and quick visualization. This functionality also allows to transfer programs from one device to another simply using the Smartphone.

Time synchronization via DY DCF77 or DY GPS antennas. The DY DCF77 antenna receives scheduled messages transmitted by the atomic clock installed c/o Mainflingen (Germany), near Frankfurt. Thanks to this signal, the time switches are automatically set to: hour, date and proper daylight saving time. The DY GPS antenna receives time from the Global Positioning System, providing an accurate location and time information for an unlimited number of people in all weathers, day or night, anywhere in the world.

DBT Timer digital time switches

An ideal range for automating the functions of the installation



DW1

Digital weekly time switch - DW

DW1 and DW2 are weekly digital time switches with 1 and 2 channels, respectively. They allow exclusion of the normal weekly program in every week with the same mode.

| Description | Ordering code | Unit L.P. (₹) |
|--|-----------------|---------------|
| DW weekly digital time switches-DW1, 1 channel | 2CSM222531R1000 | 13,450 |
| DW weekly digital time switches-DW2, 2 channel | 2CSM222521R1000 | 21,030 |



DWA1

Digital weekly astronomical time switch - DWA

The astronomical switches DWA1 and DWA2, respectively, with 1 and 2 channels, automatically control lighting circuits depending on the time of sunrise and sunset, greatly increasing energy efficiency. The programming is in fact based on a mathematical algorithm able to calculate the time of the rising and setting of the sun in a certain location for each day of the year. Once powered the device, simply insert date, time, geographical coordinates and time zone so that it is ready to work. These settings can also be automatically defined using the DBT Timer App. The installation of astronomical digital time switches is particularly useful when using a twilight switch with external sensor is not recommended because it may be subject to malfunctions caused by air pollution, excessive brightness or vandalism. DWA1 and DWA2 are also indicated for the control of public lighting, shop windows of shops, neon signs, monuments, facades, illuminated fountains.

| Description | Ordering code | Unit L.P. (₹) |
|---|-----------------|---------------|
| DWA twilight astronomical switches DWA-1, 1 channel | 2CSM222511R1000 | 29,140 |
| DWA twilight astronomical switches DWA-2, 2 channel | 2CSM222501R1000 | 36,370 |



TL1

TL1 Pole

TL Line modular twilight switches

TL1 twilight switch allows to switch ON and switch OFF lighting devices according to a scheduled level of the ambient light. It is used in combination with an external sensor to detect if the ambient light is higher or lower than the set level. A switching delay prevents them from operating unnecessarily when the light intensity suddenly changes (e.g. lightning, moving vehicles, etc.). The TL1 twilight switch 1 channel is preset with a 10 LUX from factory and it is equipped with 2 signalling LEDs that indicate the setpoint value and display the status of the contact. The operating instructions are printed on the side of the product.

| Description | Ordering code | Unit L.P. (₹) |
|--|-----------------|---------------|
| TL1 modular twilight switches 1 channel with external sensor TL1 | 2CSM229921R1341 | 12,010 |
| TL1 pole twilight switches, installation on the pole/wall TL1 Pole | 2CSM229911R1341 | 11,170 |



AD1CO-15m

AG Timer electro-mechanical time switches

These analog timers are designed for installation on DIN-Rail. They control circuit opening and closing according to the scheduled program. Available both on daily and weekly versions and equipped with a 16 A contact. They can be set on the scheduled program or on the permanent ON-OFF function. The AD1NO-R-15m, AD1CO-R-15m, AW1CO-R-120m, AD1CO-R-30m, AW1CO-R-210m versions are equipped with a built-in battery, charged by the network voltage, which allows the devices to maintain the set time also in case of long (up to 150 h) power supply failures. The products fit applications such as control of lighting systems of shops or commercial buildings, heating and ventilation systems as well as control of automatic irrigation systems of private or external gardens.

| Description | Ordering code | Unit L.P. (₹) |
|---|-------------------|---------------|
| AD1CO Daily time switch, running reserve 1NO/1NC, AD1CO-R-15m | 2CSM208151R1000 ■ | 5,900 |

Control and automation components

| Description | Ordering code | Unit L.P. (₹) |
|--|-----------------|---------------|
| E 232-230 staircase lighting time-delay switches, Staircase lighting time-delay switches are usually operated by pushbuttons, often fitted with a glow lamp. Switches are designed for a glow lamp current of up to 150 mA and thus perfectly suitable for installations in multi-storey buildings. | 2CDE110000R0501 | 8,340 |
| The E 232-230 staircase lighting time-delay switch includes an electro-mechanical timer with a synchronous motor drive to ensure high operational safety in whatever mounting position. The time range is adjustable in increments of 15 seconds from 1 to seven minutes. Resettable after 30 seconds. | 2CDE110003R0511 | 10,830 |



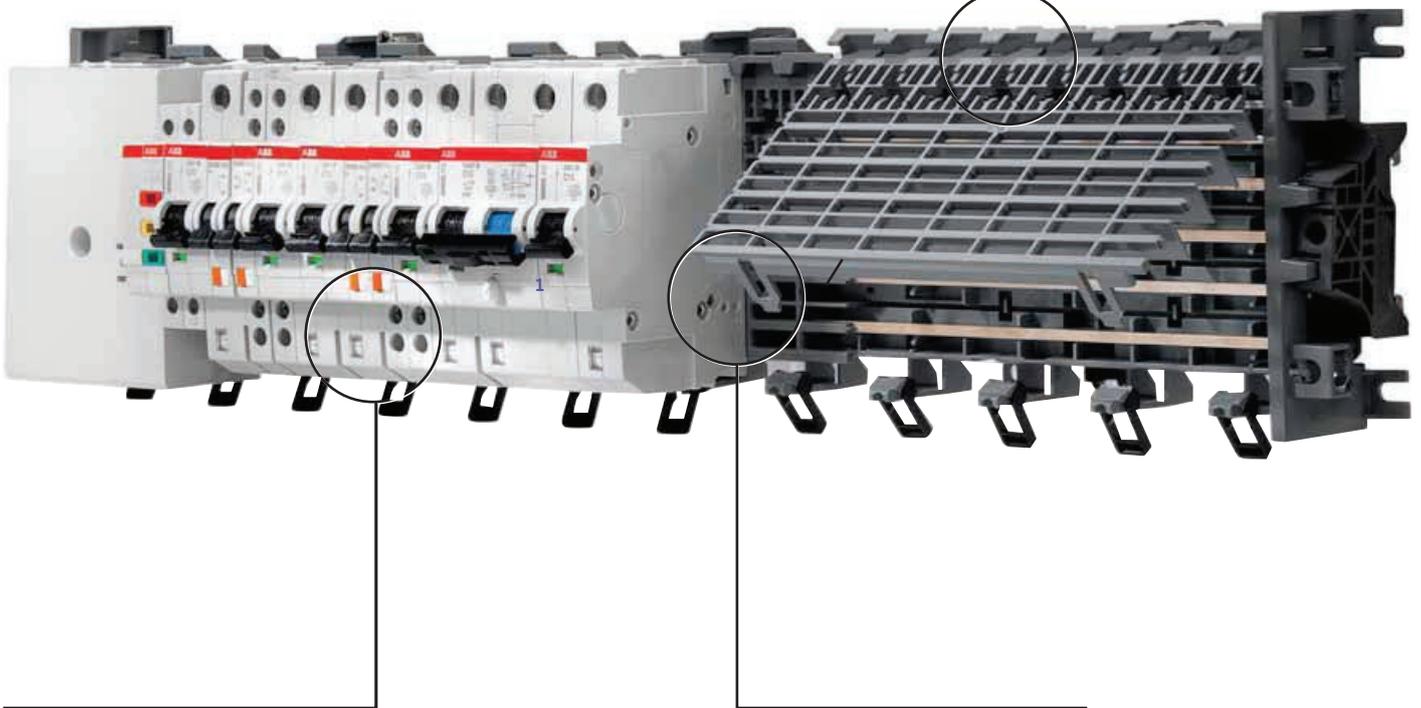
E200

■ Stock items

SMISLINE TP plug-in system

Changes have never been easier

SMISLINE TP ensures that load-free devices and components can be snapped on and off under voltage without the need for additional personal protective equipment to guard against electrical hazards.

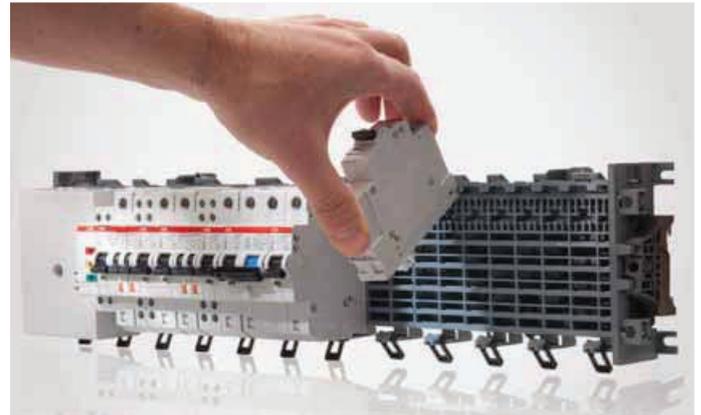
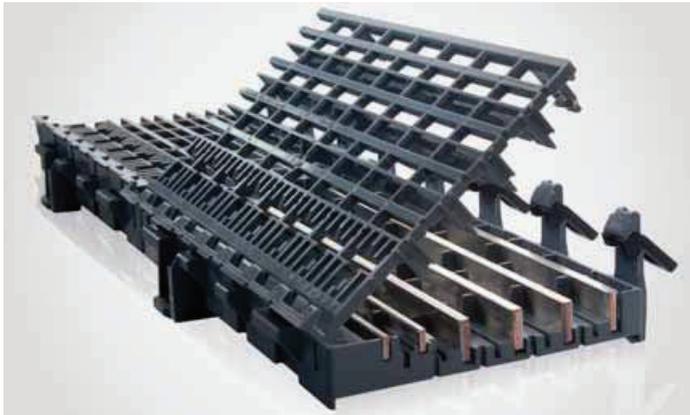


It opens up to completely new prospects for you when it comes to installation, operation and flexibility.

The world's first pluggable socket system.

SMISSLINE TP plug-in system

Changes have never been easier



Even safer: protection against electrical hazards

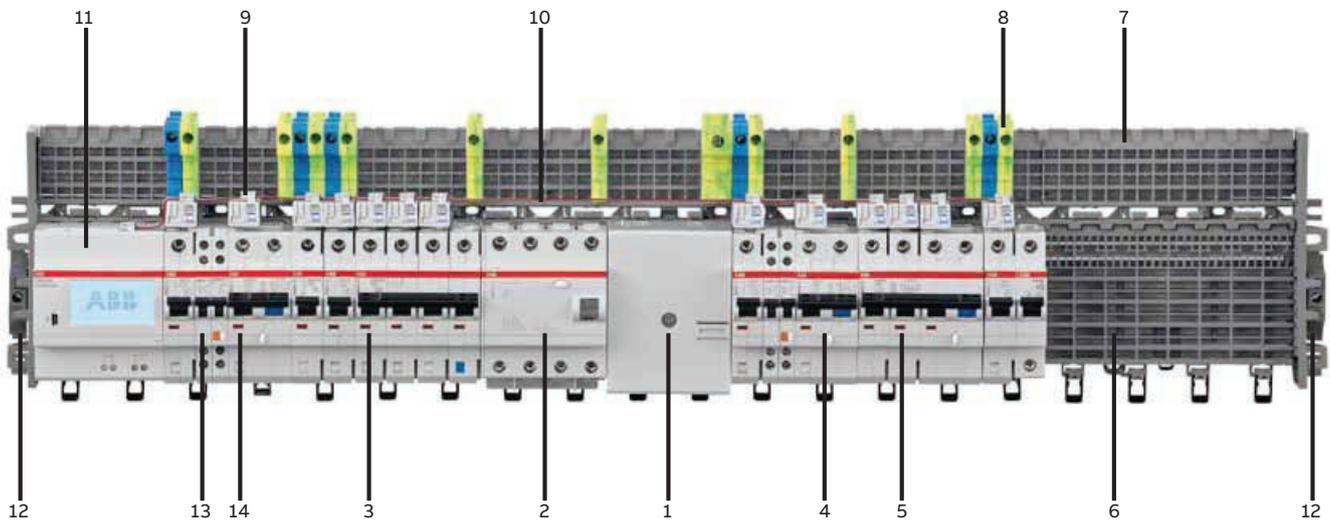
We have upgraded our unique SMISSLINE socket system even further through the addition of a pioneering innovation. With the new SMISSLINE TP system, components can now be plugged in or unplugged load-free without any risk from electrical current running through the body.

The SMISSLINE TP pluggable socket system is completely fingersafe (IP2XB) – when devices are plugged in and unplugged, the system is always touch-proof. This means that SMISSLINE TP prevents any danger to personnel from switching arcs or accidental arcing.

Even more flexible: make additions and changes during on-going operation

Pluggable devices can be added and changed quickly, safely and simply during on-going operation. And this can be done without any need for personal protective equipment.

This means that you benefit from more flexibility, savings on installation and maintenance – and improved safety. SMISSLINE TP provides greater availability and operating safety than conventional systems.



- | | | |
|------------------------------------|---|----------------------|
| 1 Supply terminal | 6 Socket IP20 | 11 Control unit CMS |
| 2 Surge arrester OVR404 | 7 Additional socket IP20 | 12 Socket end piece |
| 3 Miniature circuit breaker S403NP | 8 Terminals | 13 Auxiliary contact |
| 4 RCBO FS401 | 9 Sensor for current measurement system | 14 Signal contact |
| 5 RCBO FS403 | 10 Cable Bus system CMS | |

ELR, Earth leakage relay - (DIN & front panel mountable)



Front panel residual current relays are electronic devices used in combination with an external toroidal transformer. They are according to the protection standard IEC/EN 60947-2 Annex-M. The sensitivity can be set from 0.03 A to 30 A, while the tripping time from 0 to 5 seconds. Residual current relays are available in versions 48x48 mm, 72x72 mm, and 96x96 mm. The Fail Safe function is available for versions ELR48P, ELR72P and ELR96P: the contacts switch when there is no auxiliary power. The ELR96PF version is equipped with Fail Safe function, fault memory LED, and a frequency filter, that ensure continuity of service in the presence of harmonics. ELR96PD has (in addition to these functions) a digital display for an instantaneous view of the residual current $I_{\Delta n}$.

| Description | Operating voltage | Pack | Ordering code | Unit L.P. (₹) |
|-------------|------------------------------|------|-----------------|---------------|
| ELR48P | 110 V a.c./d.c. - 230 V a.c. | 1 | 2CSG252211R1202 | |
| ELR48V24P | 24-48 V a.c./d.c. | 1 | 2CSG452211R1202 | |
| ELR72 | 110 V a.c./d.c. - 230 V a.c. | 1 | 2CSG252120R1202 | |
| ELR72V24 | 24-48 V a.c./d.c. | 1 | 2CSG452120R1202 | |
| ELR72P | 110-230-400 V a.c. | 1 | 2CSG152424R1202 | |
| ELR72V24P | 24-48 V a.c./d.c. | 1 | 2CSG452424R1202 | Upon request |
| ELR96 | 110-230-400 V a.c. | 1 | 2CSG152130R1202 | |
| ELR96V24 | 24-48 V a.c./d.c. | 1 | 2CSG452130R1202 | |
| ELR96P | 110-230-400 V a.c. | 1 | 2CSG152434R1202 | |
| ELR96V24P | 24-48 V a.c./d.c. | 1 | 2CSG452434R1202 | |
| ELR96PF | 110-230-400 V a.c. | 1 | 2CSG152435R1202 | |
| ELR96PD | 110-230-400 V a.c. | 1 | 2CSG152436R1202 | |

RD3, residual current relays - (DIN-Rail mountable)

The RD3 family of electronic residual current relays provides residual current protection and monitoring functions according to IEC/EN 60947-2:2006 annex M and can be used in conjunction with all S 200 automatic devices and Tmax range moulded case devices up to T5, for industrial installations.

The RD3 residual current relays can provide status indications through two output contacts.



| Description | Operating voltage | Pack | Ordering code | Unit L.P. (₹) |
|-------------|-------------------|------|-----------------|---------------|
| RD3-48 | 12-48 a.c./d.c. | 1 | 2CSJ201001R0001 | |
| RD3 | 230-400 a.c. | 1 | 2CSJ201001R0002 | |
| RD3M-48 | 12-48 a.c./d.c. | 1 | 2CSJ202001R0001 | Upon request |
| RD3M | 230-400 a.c. | 1 | 2CSJ202001R0002 | |
| RD3P-48 | 12-48 a.c./d.c. | 1 | 2CSJ203001R0001 | |
| RD3P | 230-400 a.c. | 1 | 2CSJ203001R0002 | |

Toroidal transformers

| Description | Toriod useful diameter (mm) | Min. measurable current (mA) | Max. rated current ¹ (A) | Max. capacity ² (A) | Pack | Ordering code | Unit L.P. (₹) |
|-------------|-----------------------------|------------------------------|-------------------------------------|--------------------------------|------|-----------------|---------------|
| TRM | 29 (modular version) | 30 | 65 | 160 | 1 | 2CSM029000R1211 | |
| TR1 | 35 | 30 | 75 | 250 | 1 | 2CSG035100R1211 | |
| TR2 | 60 | 30 | 85 | 400 | 1 | 2CSG060100R1211 | |
| TR3 | 80 | 100 | 160 | 800 | 1 | 2CSG080100R1211 | |
| TR4 | 110 | 100 | 250 | 1,250 | 1 | 2CSG110100R1211 | |
| TR4/A | 110 (openable version) | 300 | 250 | 1,250 | 1 | 2CSG110200R1211 | Upon request |
| TR160 | 160 | 300 | 400 | 2,000 | 1 | 2CSG160100R1211 | |
| TR160A | 160 (openable version) | 500 | 400 | 2,000 | 1 | 2CSG160200R1211 | |
| TR5 | 210 | 300 | 630 | 3,200 | 1 | 2CSG210100R1211 | |
| TR5/A | 210 (openable version) | 500 | 630 | 3,200 | 1 | 2CSG210200R1211 | |

¹ Shows toroidal transformers selection for use with ELR according to IEC/EN 60947-2 Annex M in combination with MCBs S200 range and MCCBs Tmax range upto T5

² Shows the technical features of the toroidal transformers





ABB Energy Efficiency Portfolio

Metering solutions from basic to advanced

Single function and Multi-function Metering solutions

ABB analog and digital single and multi-function instruments easily allow the monitoring of all the simplest electrical parameters.

Basic Metering solutions

On top of the simplest measurements, ABB basic Multi-function meters also monitor Energy and Power. They are available with option for Modbus communication.



M1A

M1V



M1M 11



M1M 10



EQ meters
D series



EQ meters
B series



M1M 12



M1M DS

Intermediate Metering solutions

Intermediate level solutions offer a wider range of measurements - including THD, Individual Harmonics and Unbalances - and functionalities - such as I/O, Timers, RTC and Alarms as optional choice.

Advanced Metering solutions

M4M suits all power monitoring needs: from high-accuracy energy efficiency monitoring of electrical parameters to complete power quality analysis through advanced KPIs via cloud.



EQ meters D series



EQ meters A series



M1M 15



M1M 20B



M1M 30B



M1M 20



M1M 30



M4M 2X



SCU - 200



SCU-100 InSite Pro (CMS)



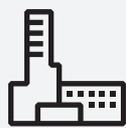
M4M 20



M4M 30

Measurement made simple

Making difference with M1M range of meters in sub-distribution switchboards.



Commercial Buildings



Industrial Plants



Public Buildings

Measurement made simple

Value proposition

Simple to use

- Intuitive visualization of the parameters on the bright LED display
- Enhanced clarity in data reading and device configuration

Easy choice

- Maximum 2 steps to select the correct product for your application

Easy to install and stock

- Compact product design and optimized volumetric weight of packaging
- No tools required for product mounting, thanks to mounting clips

System integration

- Remote monitoring in any Modbus RTU supervision system thanks to the optional RS485 port



M1M DS

Your benefits



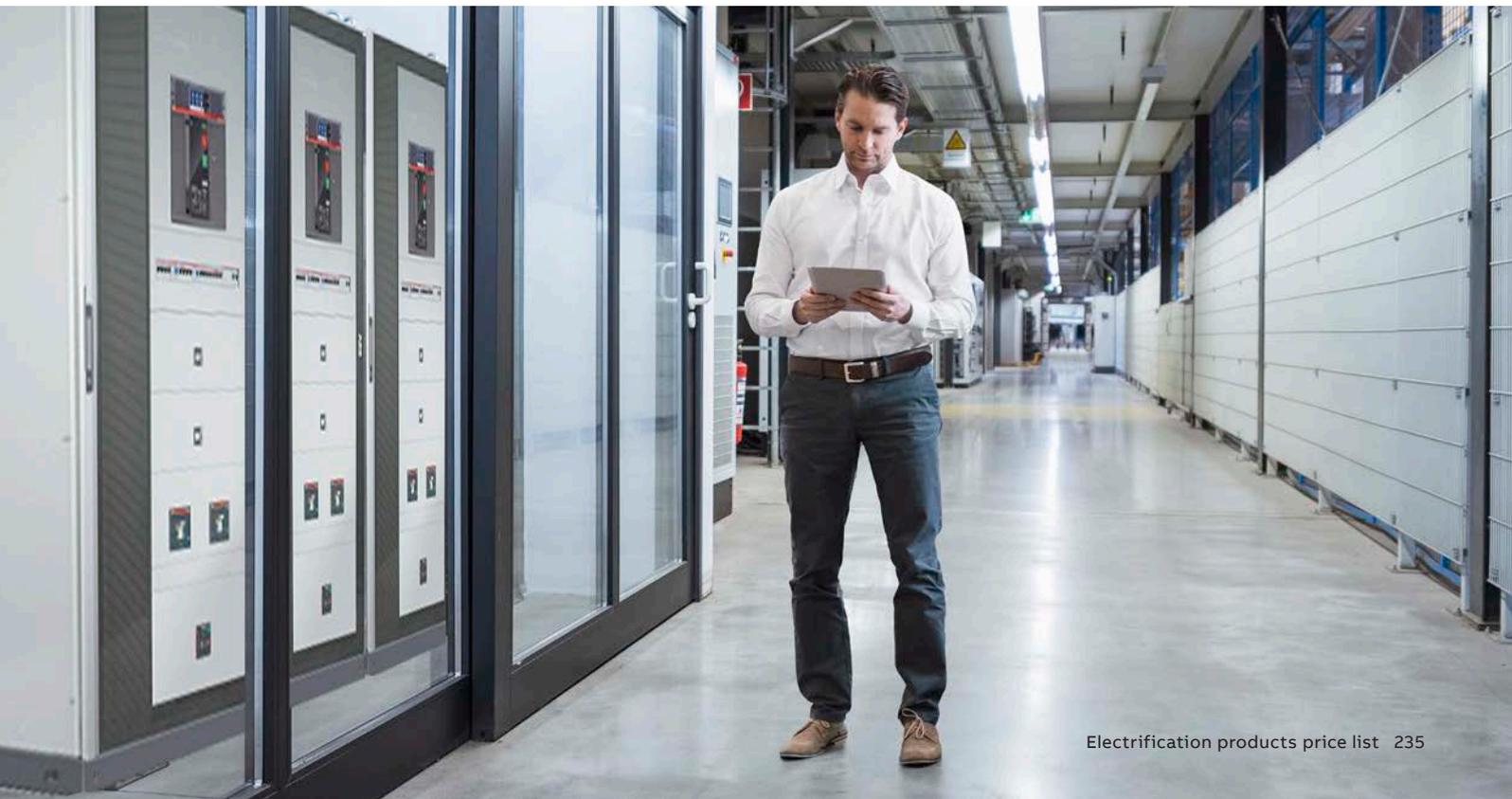
For distributors

- Save space needed for internal stock
- Fast selection of the correct product for your orders
- Handle a minimum set of order codes



For panel builders

- Reduce the time needed for meter installation on the panel
- Fast selection of the correct product for your application
- Increase the number of projects covered with the same product



Technical features



| Product type | | Single Function and Multi-function meters M1M | | | |
|---------------|--|---|-----------------|------------------|--------------------|
| Product range | | M1A 1-1 Ammeter | M1A 3-1 Ammeter | M1A 3-05 Ammeter | M1V 1-1 Voltmeter |
| Mounting | | Front panel | Front panel | Front panel | Front panel |
| Standards | IEC 62053-21/22 | # | # | # | # |
| | IEC 61557-12 PMD | - | - | - | - |
| | IEC 61000 4-2, 4-3, 4-4, 4-6, 4-8, 4-11 | - | - | - | - |
| | IEC 61010-1 | ■ | ■ | ■ | ■ |
| HMI | Display | LED | LED | LED | LED |
| Measurement | Accuracy Class | Class 1 | Class 1 | Class 0.5 | Class 1 |
| | Auxiliary Power Supply (80 - 300V AC/DC, L-N) | ■ | ■ | ■ | ■ |
| | Voltage measurement range | - | - | - | 300V Max. AC (L-N) |
| | Current Measurement range | 50mA - 6A | 50mA - 6A | 50mA - 6A | - |
| | Measurement via CT (.../1A or .../5A) | ■ | ■ | ■ | - |
| | Measurement via Rogowski coils | - | - | - | - |
| | Sample per cycle | 32 | 32 | 32 | 32 |
| Real-time | Current (I), Voltage (U, V), f | I | I | I | V |
| | Active Power (P), PF | - | - | - | - |
| | Reactive (Q), Apparent (S) Power | - | - | - | - |
| | Timers | - | - | - | - |
| Energy | Active energy | - | - | - | - |
| | Reactive, apparent energy | - | - | - | - |
| | 4 quadrants energy (import/export) | - | - | - | - |
| Power Quality | THD | - | - | - | - |
| | Harmonics | - | - | - | - |
| | Unbalances | - | - | - | - |
| | Neutral current | - | - | - | - |
| Logging | Alarms | - | - | - | - |
| | Complex alarms with logics | - | - | - | - |
| | Min/max/demand | - | - | - | - |
| | Flash memory | - | - | - | - |
| | RTC | - | - | - | - |
| | Graphs visualization | - | - | - | - |
| HMI | Homepage and favourite page | - | - | - | - |
| | Password protection | ■ | ■ | ■ | ■ |
| Communication | Standard I/O | - | - | - | - |
| | Additional I/O | - | - | - | - |
| | M-bus | - | - | - | - |
| | Modbus RTU | - | - | - | - |
| | Modbus TCP/IP | - | - | - | - |
| | Profibus DP-V0 | - | - | - | - |
| | BACnet/IP | - | - | - | - |
| | Bluetooth | - | - | - | - |
| | Automatic integration in System pro M compact® InSite | - | - | - | - |
| | Automatic integration in ABB Ability™ Energy and Asset Manager | - | - | - | - |
| | InSite-bus flat cable | - | - | - | - |

Calibration document included in the product packaging.

M1 Single Function Measurement Devices

M1A, M1V and M1M 11

Ordering codes



M1A

M1A

M1A is a digital ammeter for Current measurement, providing the measurement of the single-phase or three-phase Current and allowing easy replacement of different analog meters.

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | - | M1A 1-1 Ammeter 1Ph | 1SYG235145R4051 ■ | 0.19 | 1 | 1,720 |
| Class 1 | - | M1A 3-1 Ammeter 3Ph | 1SYG235135R4051 ■ | 0.19 | 1 | 2,630 |
| Class 0.5 | - | M1A 3-05 Ammeter 3Ph | 1SYG234905R4051 ■ | 0.19 | 1 | 3,100 |



M1V

M1V

M1V is a digital voltmeter for Voltage (and Frequency) measurement, providing the measurement of the single-phase or three-phase Voltage as well as Frequency (for 3Ph Voltmeter) and allowing easy replacement of different analogue meters.

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | - | M1V 1-1 Volt Meter 1Ph | 1SYG233965R4051 ■ | 0.19 | 1 | 1,720 |
| Class 1 | - | M1V 3-1 Volt Meter 3Ph | 1SYG233955R4051 ■ | 0.19 | 1 | 2,630 |
| Class 0.5 | - | M1V 3-05 Volt Meter 3Ph | 1SYG233695R4051 ■ | 0.19 | 1 | 3,100 |

M1M 11

M1M 11 is a digital kWh meter for energy measurement, providing the measurement of the single-phase and three-phase energy consumption.



M1M 11

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|----------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | Modbus RTU RS485 | M1M 11-1 kWh Meter Modbus | 1SYG233685R4051 ■ | 0.22 | 1 | 8,760 |
| Class 0.5 | Modbus RTU RS485 | M1M 11-05 kWh Meter Modbus | 1SYG232395R4051 ■ | 0.22 | 1 | 8,870 |

M1M Multi-function Measurement Devices

M1M 10, M1M 12 and M1M DS

Ordering codes



M1M 10

M1M 10

M1M 10 is a VAF meter for basic electrical system monitoring, providing the measurement of the main single-phase and three-phase electrical parameters and allowing easy replacement of different analogue meters.

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | - | M1M 10-1 | 1SYG235081R4051 ■ | 0.3 | 1 | 3,060 |



M1M 12

M1M 12

M1M 12 is a Multi-function meter, providing what is needed to monitor the electrical system and allowing statistical metering of active energy consumption.

M1M 12 product range includes option with built-in communication protocol (Modbus RTU) through RS485 communication port, allowing easy integration with Modbus supervision systems.

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | - | M1M 12-1 | 1SYG207591R4051 ■ | 0.3 | 1 | 9,880 |
| Class 1 | Modbus RTU RS485 | M1M 12-1 Modbus | 1SYG207581R4051 ■ | 0.3 | 1 | 10,940 |



M1M DS

M1M DS

M1M DS is a digital dual source meter for the measurement of basic electrical parameters along with power parameters for two source measurement such as EB/DG.

| Accuracy Class | Communication protocol and interface | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 0.5 | - | M1M DS-05 | 1SYG232385R4051 ■ | 0.21 | 1 | 8,480 |
| Class 0.5 | Modbus RTU RS485 | M1M DS-05 Modbus | 1SYG232375R4051 ■ | 0.21 | 1 | 8,750 |

M1M Power Meters

Introducing the new ABB power meter ranges M1M 15, M1M 20B, M1M 30B, M1M 20 and M1M 30 an easy solution for any standard application in buildings and industry.

M1M 15, M1M 20B, M1M 30B, M1M 20 and M1M 30 are the new ABB ranges of power meters, offering exactly what is needed to monitor the electrical system and analyze the power quality in a single device.

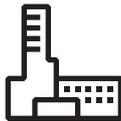
The new M1M power meters offer allows to easily and cost-effectively cover the main submetering and power quality monitoring requirements in commercial and industrial buildings, either small or mid-/large-sized, e.g. inside power factor correction boards, motor control center or sub-distribution switchboards.

ABB's complete multifunction meters product line, now including M1M 15, M1M 20B, M1M 30B, M1M 20

and M1M 30 ranges, are capable to cover all needs, from basic electrical parameters measurement to advanced power quality analysis.

ABB's power meters are simple to use, with a common and intuitive user experience from installation to operations, allowing to fully exploit the reliable, IEC-compliant measurements.

Thanks to their connectivity capabilities, M1M can get leverage on the integration in ABB scalable energy and asset management solutions to monitor, optimize and control the complete electrical system, such as System pro M compact® InSite and ABB Ability™ Energy and Asset Manager cloud-computing platform.



Commercial Buildings



Industrial Plants



Public Buildings



M1M 15



M1M 20B



M1M 30B



M1M 20



M1M 30

Measurement made simple

The complete M1M range, offering all the measurement features required for basic power quality monitoring and submetering in a single power meter; making measurement simple.



—
Complete offer

ABB meters to cover all needs

Select in maximum 2 steps the right and most competitive power meter to cover all basic electrical system measurement needs. Thanks to integrated functionalities and communication protocols, the same product version fits an increased number of projects and wide applications range.



—
Easy to use

Common user experience

Common and intuitive menu structure all over the different ranges on clear and large backlit LCD/LED displays, helping to reduce the time needed to operate the power meters. Feedback on correct operations and quick reactivity on the system events are ensured by alarms icons and frontal LEDs on all product versions.



—
Easy to install

Optimized installation process

Compact power meters, ensuring a very limited footprint inside the panel, provide a common, vertical disposition of the terminals for easy wiring of cables directly from the sides. No special tool is required for product mounting, thanks to mounting clips.



—
Energy Efficiency

Reliable and accurate measurement

Complete set of measurement functionalities, from Multi-function meters to intermediate power meters, compliant with accuracy standard IEC 61557-12 to allow improving energy efficiency of the electrical system. Remote communication on main communication protocol, Modbus RTU and Modbus TCP/IP.

— Your benefits

For distributors

- Reduce selection time of the correct product, thanks to reduced range complexity
- Manage a limited number of order codes from a single supplier
- Save space needed for internal stock
- Have the product on stock when needed and reduce delivery time

For panel builders

- 1 supplier only for all measurement products covering a wide range of projects
- Increase competitiveness in projects
- Reduce time needed for product selection, thanks to simple range composition
- Reduce time for installation and operations
- Minimum space requirements in the panel

Technical features



| Product type | | Power meters M1M | | |
|-----------------------|--|---------------------------------------|--|--|
| Product range | | M1M 15 | M1M 20B-1 | M1M 20B-05 |
| Mounting | | Front panel | Front panel | Front panel |
| Standards | IEC 62053-21/22 | ■ | ■ | ■ |
| | IEC 61557-12 PMD | ■ | - | - |
| | IEC 61000 4-2, 4-3, 4-4, 4-6, 4-8, 4-11 | ■ | ■ | ■ |
| | IEC 61010-1 | ■ | ■ | ■ |
| HMI | Display | LED | LED | LED |
| | Accuracy Class | Class 1 | Class 1 | Class 0.5 |
| Measurement | Auxiliary Power Supply (L-N) | 100-230 V AC/DC ±15% | 80-300V AC/DC | 80-300V AC/DC |
| | Current Measurement range | 50mA - 6A | 50mA - 6A | 50mA - 6A |
| | Voltage measurement range | 80-265 VAC (L-N) 138-458 VAC (L-L) | 300V Max. AC (L-N) 80-515V AC (L-L) | 300V Max. AC (L-N) 80-515V AC (L-L) |
| | Measurement via CT (.../1A or .../5A) | ■ | ■ | ■ |
| | Measurement via Rogowski coils | - | - | - |
| | Sample per cycle | 128 | 128 | 128 |
| Real-time | Current (I), Voltage (U, V), f | ■ | ■ | ■ |
| | Active Power (P), PF | ■ | ■ | ■ |
| | Reactive (Q), Apparent (S) Power | ■ | ■ | ■ |
| | Timers | ■ | - | - |
| Energy | Active energy | ■ | ■ | ■ |
| | Reactive, Apparent energy | ■ | ■ | ■ |
| | 4 quadrants energy (import/export) | - | Delivered, Received | Delivered, Received |
| | Multi-tariffs | - | - | - |
| Power Quality | THD | - | ■ | ■ |
| | Individual Harmonics | - | - | - |
| | Unbalances | - | ■ | ■ |
| | Neutral current | - | Calculated | Calculated |
| | Phasors, waveforms | - | - | - |
| Logging | Alarms | - | - | - |
| | Complex alarms with logics | - | - | - |
| | Min/max/demand | - | - | - |
| | Flash memory | - | - | - |
| | RTC | - | - | - |
| HMI | Graphs visualization | - | - | - |
| | Homepage and favourite page | - | - | - |
| Communication | Password protection | ■ | ■ | ■ |
| | Standard I/O | - | - | - |
| | Additional I/O | - | - | - |
| | M-bus | - | - | - |
| | Modbus RTU | ■ | ■ | ■ |
| | Modbus TCP/IP | - | - | - |
| | Profibus DP-V0 | - | - | - |
| | BACnet/IP | - | - | - |
| | Bluetooth | - | - | - |
| | Automatic integration in System pro M compact® InSite | ■ | ■ | ■ |
| | Automatic integration in ABB Ability™ Energy and Asset Manager | ■ | ■ | ■ |
| InSite-bus flat cable | - | - | - | |

Calibration document included in the product packaging.



| M1M 20B-02 | M1M 30B-05 | M1M 30B-02 | M1M 20 | M1M 30 |
|--|--|--|--|--|
| Front panel | Front panel | Front panel | Front panel | Front panel |
| ■ | ■ | ■ | ■ | ■ |
| - | - | - | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| LED | LED | LED | LCD | LCD |
| Class 0.2 | Class 0.5 | Class 0.2 | Class 1/Class 0.5 (IO Version) | Class 1/Class 0.5 (IO Version) |
| 80-300V AC/DC | 80-300V AC/DC | 80-300V AC/DC | 100-230 V AC/DC ±15% | 100-230 V AC/DC ±15% |
| 50mA - 6A | 50mA - 6A | 50mA - 6A | 50mA - 6A | 50mA - 6A |
| 300V Max. AC (L-N) 80-515V AC (L-L) | 300V Max. AC (L-N) 80-515V AC (L-L) | 300V Max. AC (L-N) 80-515V AC (L-L) | 80-265 VAC (L-N) 138-458 VAC (L-L) | 80-265 VAC (L-N) 138-458 VAC (L-L) |
| ■ | ■ | ■ | ■ | ■ |
| - | - | - | - | - |
| 128 | 128 | 128 | 128 | 128 |
| ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| - | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| Delivered, Received | Delivered, Received, Total, Net, Last cleared | Delivered, Received, Total, Net, Last cleared | ■ | ■ |
| - | - | - | - | - |
| ■ | ■ | ■ | ■ | ■ |
| - | 31st | 31st | - | 40th |
| ■ | ■ | ■ | - | ■ |
| Calculated | Calculated | Calculated | Calculated | Calculated |
| - | - | - | - | - |
| - | - | - | 15 | 15 |
| - | - | - | - | - |
| - | ■ | ■ | - | Basic |
| - | - | - | - | ■ |
| - | ■ | ■ | - | ■ |
| - | - | - | - | - |
| - | - | - | - | - |
| ■ | ■ | ■ | ■ | ■ |
| - | - | - | - | 2 Digital Outputs |
| - | - | - | 2 Digital Inputs. 2 Digital Outputs | 2 Digital Inputs. 2 Digital Outputs |
| - | - | - | - | - |
| ■ | ■ | ■ | ■ | ■ |
| - | - | - | ■ | ■ |
| - | - | - | - | - |
| - | - | - | - | - |
| ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ |
| - | - | - | - | - |

M1M Power Meters

M1M 15, M1M 20B, M1M 30B, M1M 20 and M1M 30

Ordering codes



M1M 15

M1M 15

M1M 15 is a complete multi-function meter for electrical system monitoring, mainly targeting measurement of basic electrical parameters and applications for cost allocation of energy consumptions.

| Accuracy Class | Communication Protocol | I/O | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|------------------------|-----|-------------------------|-----------------|-------------------|---------------|---------------|
| Class 1 | - | - | M1M 15-1 | 2TAZ661010R2000 | 0.31 | 1 | 24,040 |
| Class 1 | Modbus RTU | - | M1M 15-1 Modbus | 2TAZ661012R2000 | 0.31 | 1 | 25,820 |



M1M 20B

M1M 20B

M1M 20B is a power meter including THD and import/export (4 quadrants) measurement for basic power quality analysis applications such as power factor management and local energy generation monitoring.

| Accuracy Class | Communication protocol and interface | I/O | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-----|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 1 | Modbus RTU RS485 | - | M1M 20B-1 Modbus | 1SYG231445R4051 ■ | 0.26 | 1 | 19,500 |
| Class 0.5 | Modbus RTU RS485 | - | M1M 20B-05 Modbus | 1SYG230355R4051 | 0.26 | 1 | 24,800 |
| Class 0.2 | Modbus RTU RS485 | - | M1M 20B-02 Modbus | 1SYG230295R4051 | 0.26 | 1 | 30,950 |



M1M 30B

M1M 30B

M1M 30B is a power meter providing complete features in terms of power quality analysis such as measurement up to 31st harmonic allowing to target demand management applications.

| Accuracy Class | Communication protocol and interface | I/O | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|--------------------------------------|-----|-------------------------|-------------------|-------------------|---------------|---------------|
| Class 0.5 | Modbus RTU RS485 | - | M1M 30B-05 Modbus | 1SYG230185R4051 ■ | 0.27 | 1 | 30,210 |
| Class 0.2 | Modbus RTU RS485 | - | M1M 30B-02 Modbus | 1SYG229775R4051 | 0.27 | 1 | 33,920 |



M1M 20

M1M 20

M1M 20 is a power meter including THD and import/export (4 quadrants) measurement for basic power quality analysis applications such as power factor management and local energy generation monitoring.

| Accuracy Class | Communication Protocol | I/O | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|------------------------|---------------------------------|-------------------------|-----------------|-------------------|---------------|---------------|
| Class 1 | - | - | M1M 20-1 | 2TAZ662010R2000 | 0.31 | 1 | 34,150 |
| Class 1 | Modbus RTU | - | M1M 20-1 Modbus | 2TAZ662012R2000 | 0.32 | 1 | 37,950 |
| Class 1 | Modbus TCP/IP | - | M1M 20-1 Ethernet | 2TAZ662014R2000 | 0.33 | 1 | 45,540 |
| Class 0.5 | Modbus RTU | 2 Digital Out. 2 Digital In. | M1M 20-05 I/O | 2TAZ662012R2001 | 0.33 | 1 | 47,430 |



M1M 30

M1M 30

M1M 30 is a power meter providing complete features in terms of power quality analysis such as measurement up to 40th harmonic and internal memory for datalogging, allowing to target e.g. demand management applications.

| Accuracy Class | Communication Protocol | I/O | Order details Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|----------------|------------------------|---------------------------------|-------------------------|-----------------|-------------------|---------------|---------------|
| Class 1 | Modbus RTU | 2 Digital Out. | M1M 30-1 Modbus | 2TAZ663012R2000 | 0.32 | 1 | 48,290 |
| Class 1 | Modbus TCP/IP | 2 Digital Out. | M1M 30-1 Ethernet | 2TAZ663014R2000 | 0.34 | 1 | 57,950 |
| Class 0.5 | Modbus RTU | 2 Digital Out. 2 Digital In. | M1M 30-05 I/O | 2TAZ663012R2001 | 0.33 | 1 | 60,370 |

■ Stock items



M4M Network Analyzers

Discover the benefits

M4M as a stand-alone network analyzer guarantees all power monitoring needs in the energy distribution system: from high-accuracy energy efficiency monitoring of electrical parameters to complete power quality analysis. Thanks to its connectivity capabilities, M4M can get leverage on the integration in ABB scalable energy and asset management solutions. Thanks to MID certification, M4M allows now to fulfil all legal requirements for accounting and energy acquisition.



—
-50% Time for integration
in the ABB turnkey solution

Full connectivity

Natively integrated in sub-distribution management System pro M compact® InSite and ABB Ability™ Energy and Asset Manager cloud-solution, M4M benefits from the scalability of the ABB digital solutions: from stand-alone visualization and commissioning to monitoring, optimization and control of the complete electrical system.



—
Reliable and accurate power
monitoring

Energy Efficiency

ABB's M4M range of network analyzers gathers data from the electrical system and provides a complete power quality analysis and high accuracy energy monitoring. MID certification available to ensure certified and tamper-proof measurement for billing applications and fulfilment of legal requirements for accounting and energy acquisition.



—
-40% Time for installation
and commissioning

Simple and Intuitive

M4M makes configuration and operations simple and fast, from easy installation and wiring, thanks to compact dimensions, all-removable terminals and Rogowski coils, to intuitive use and data access thanks to touchscreen color display, mobile app and desktop software.



—
Improve reactivity and reduce
uncoordinated maintenance

Realtime supervision

M4M network analyzers make information easy to access from any area of the system, providing a comprehensive range of accurate data and notifications that enhance reactivity to the events on the electrical system and allowing to avoid overloads, outages and un-coordinated maintenance.



Explore the M4M ranges

M4M network analyzers are available in different versions which ensure all power monitoring needs, from basic to more complete power quality analysis.



EQUIPPED WITH GRAPHIC COLOR DISPLAY AND 5 PUSHBUTTONS KEYBOARD, M4M 20 RANGE ALLOWS COMPLETE MONITORING AND BASIC POWER QUALITY ANALYSIS.



EQUIPPED WITH TOUCHSCREEN COLOR DISPLAY, M4M 30 RANGE ALLOWS COMPLETE POWER QUALITY ANALYSIS AND ENERGY EFFICIENCY EVALUATIONS.



M4M 2X ON DIN-RAIL WITHOUT DISPLAY, ENSURING HIGH FLEXIBILITY TO PROJECT SPECIFICATIONS COMPARED TO STANDARD NETWORK ANALYZERS.

MID-certification

Availability of MID approval to ensure certified and tamper-proof measurement for billing applications.

Graphic color display

M4M 20 and M4M 30 are equipped with a graphic color display and common app-based menu for an intuitive visualization.

Bluetooth-enabled

All M4M network analyzers are equipped with Bluetooth module for smart commissioning via mobile app.

Full communication

A complete set of embedded communication protocols, including Modbus RTU, Modbus TCP/IP, Profibus DP-V0 and BACnet/IP

Input/Output

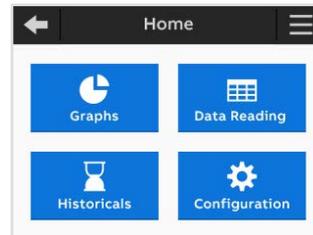
Control on the system, thanks to I/O options including digital outputs, programmable I/O or programmable analogue outputs.

Datalogger

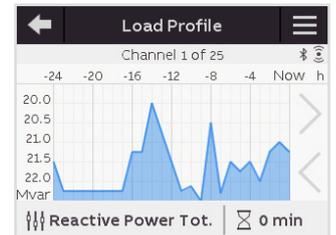
M4M 30 data logging features are available, from complete notification logs to flash memory and RTC for 1-year data logging of trends.

Rogowski version

M4M Rogowski versions are compatible with ABB's R4M Rogowski coils for easy retrofit in existing installations.



01



02



03



04

01 M4M 30 Homepage

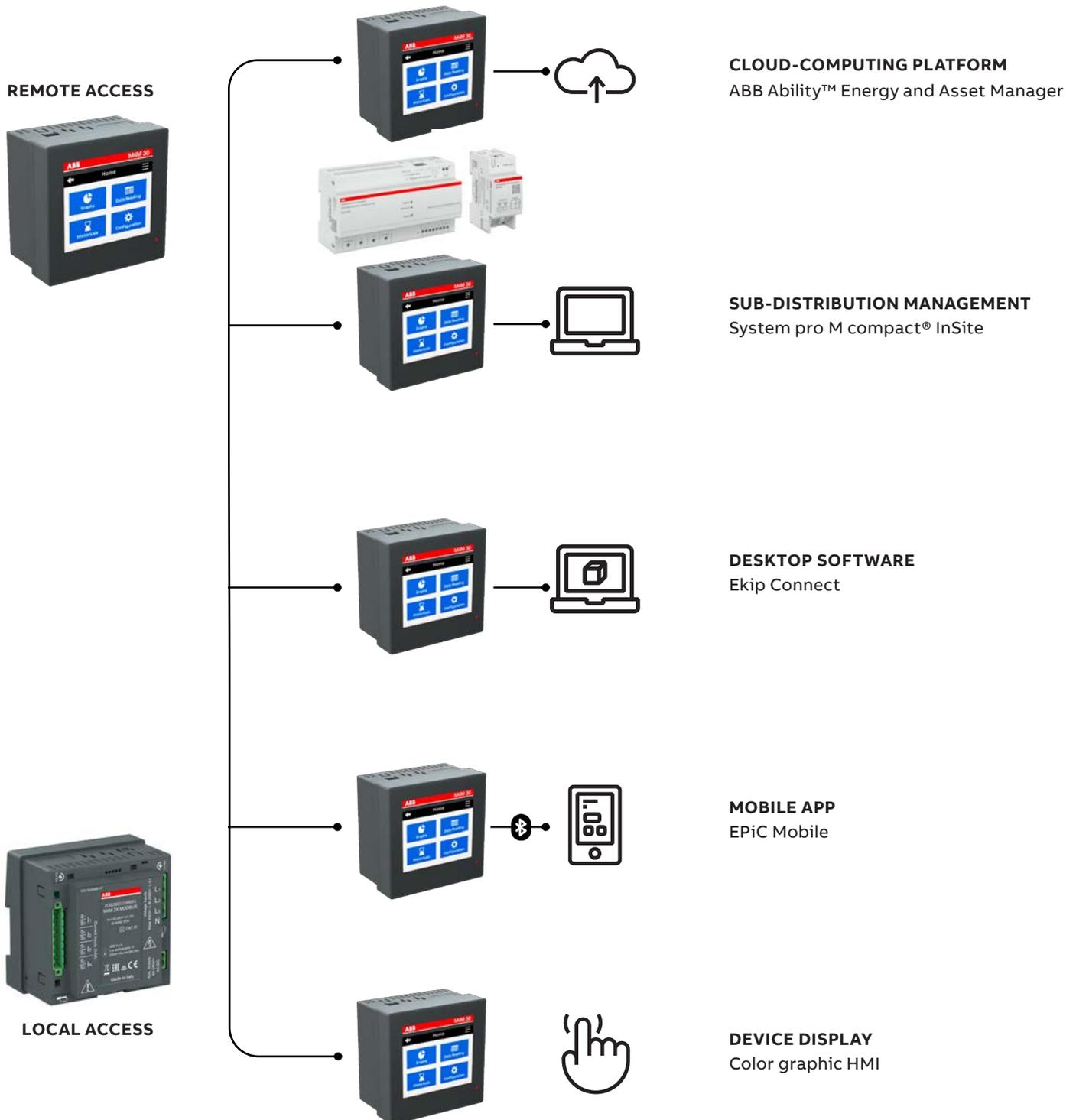
02 Trending graphs of load profiles for M4M 30

03 R4M Rogowski coils

04 M4M with MID certification

Access to M4M network analyzers

M4M network analyzers offer the strongest scalability to access the measurement data, from color graphic display to smartphone app and desktop software, up to webserver and cloud-platform when integrated in the ABB digital solutions.



Technical features



M4M 20



M4M 30



M4M 2X

Mechanical characteristics

| | | |
|---|--|--|
| Overall dimensions | 96 mm x 96 mm x 77 mm (Depth inside the switchboard: 57 mm) | 96 mm x 96 mm x 77 mm (DIN-Rail mounting) |
| IP degree of protection (acc. to IEC 60529) | Front: IP54 | - |
| Weight [g] | 400 | Terminals: IP20 |

Terminal characteristics

| | | | |
|-------------------------|---|---|--|
| Voltage inputs | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 7,62 mm Poles: 4 | | |
| Current inputs | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 6 Screw flanges for fixing | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 8 Screw flanges for fixing | |
| RS-485 Serial port | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 3 | | |
| I/O | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 3 (Programmable I/O, only on M4M 20 I/O) Poles: 3 (Digital outputs) Poles: 3 (Analogue outputs, only on M4M 20 I/O) | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 5 (Programmable I/O) Poles: 3 (Programmable I/O only on M4M 30 I/O) Poles: 3 (Analogue outputs, only on M4M 30 I/O) | Nominal cross-section: 2,5 mm ² Solid/stranded wire: 0,2 - 2,5 mm ² (AWG 24 - 12) Pitch: 5,08 mm Poles: 5 (Programmable I/O) |
| Rogowski current probes | Only with ABB Rogowski probes: - R4M-200 2CSG202150R1101 (200 mm diameter) - R4M-80 2CSG202160R1101 (80 mm diameter) | | |

Climatic conditions

| | |
|-----------------------|---|
| Operating temperature | -25 to 70 °C (K70 acc. to IEC 61557-12) |
| Storage temperature | -40 to 85 °C (K70 acc. to IEC 61557-12) |
| Relative humidity | Max 93 % (non-condensing) at 40 °C |
| Pollution degree | 2 |
| Altitude | < 2.000 m |

User Interface

| | | | |
|--------------------|-----------------------|-------------|---|
| Access to device | 5 pushbuttons | Touchscreen | - |
| Display type | Graphic color display | | - |
| Display dimensions | 70 x 52 mm (3.5") | | - |



M4M 20



M4M 30



M4M 2X

| Communication protocol | | | |
|---|--|--|------------------------|
| Modbus RTU | M4M 20 Modbus, M4M 20 I/O, M4M 20 Rogowski, M4M 20-M Modbus | M4M 30 Modbus, M4M 30 I/O, M4M 30 Rogowski, M4M 30-M Modbus | M4M 2X Modbus |
| Communication interface | RS485 with optical isolation | | |
| Baud rate | 9600, 19200, 38400, 57600, 115200 bps | | |
| Parity number | Odd, Even, None | | |
| Stop bit | 1, 2 | | |
| Address | 1-247 | | |
| Connector | 3 pole terminal | | |
| Profibus DP-V0 | M4M 20 Profibus | M4M 30 Profibus | - |
| Protocol | Profibus with slave DP-V0 function in compliance with IEC 61158 regulations | | |
| Communication interface | RS485 with optical isolation | | |
| Baud rate | Automatic detection [9,6 kpbs - 12 Mbps] | | |
| Address | 0-126 | | |
| Connector | DB 9 female connector (do not use connectors with 90° cable outlet) | | |
| LED indicators | Green for communication status Red for communication error | | |
| Modbus TCP/IP | M4M 20 Ethernet, M4M 20-M Ethernet | M4M 30 Ethernet, M4M 30-M Ethernet | M4M 2X Ethernet |
| Protocol | Modbus TCP/IP | | |
| Communication interface | RJ45 RJ45 (2 ports for daisy-chain)* | | |
| BACnet | M4M 20 Bacnet | M4M 30 Bacnet | - |
| Protocol | BACnet/IP | | |
| Communication interface | RJ45 | | |
| Bluetooth | | | |
| Type | BLE (Bluetooth Low Energy) | | |
| Real-time clock | | | |
| | Available on 2X PQ1, 2X PQ2, 2X RTS | | |
| Clock drift | - | ~ 0,4 seconds per day | |
| Battery backup time | - | ~ 3 days without aux supply | |
| Standards | | | |
| Power metering and monitoring devices (PMD) | IEC 61557-12 (IEC 62053-22, IEC 62053-23) | | |
| Electrical safety | IEC 61010-1 | | |
| EMC | IEC 61326-1 (IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11) | | |

* 1x RJ45 port available on M4M 30-M

M4M 20 and M4M 30

Comparing the two versions



M4M 20 - Class 0,5S



M4M 30 - Class 0,5S

| | M4M 20 - Class 0,5S | M4M 30 - Class 0,5S |
|--|--|--|
| Accuracy | | |
| MID approval | Optional | Optional |
| Real-time | | |
| TRMS current | | |
| TRMS voltage | | |
| Frequency | | |
| Active, Reactive and Apparent power | | |
| Power factor | | |
| Operating timer, countdown timer | | |
| Energy | | |
| Active, Reactive and Apparent energy | | |
| 4 quadrants Energy (Import/Export) | | |
| Tariffs | / | |
| Power Quality | | |
| THD (I, VLN, VLL) | | |
| Individual Harmonics | / | 40 th |
| Unbalances (I, VLN, VLL) | / | |
| Neutral current | Calculated | Measured |
| Phasors (I, VLN) | / | |
| Waveforms (I, VLN, VLL) | / | |
| Data recording and logs | | |
| Single alarms | 25 | 25 |
| Warnings, alarms and errors logs | | |
| Complex alarms with logics | / | 4 |
| Demand values (average) | Basic | Advanced |
| Min./Max. Demand values | Basic | Advanced |
| Energy Trending logs | / | |
| RTC | / | |
| HMI | Graphic color | Graphic color touchscreen |
| Graphs visualization | Basic | Advanced |
| Notifications | | |
| Homepage and favourite page | | |
| Password protection | | |
| Connectivity | | |
| Automatic integration in ABB Ability™ Energy and Asset Manager | | |
| Automatic integration in System pro M compact InSite | | |
| Bluetooth Low Energy | | |
| Communication Protocols | Modbus RTU, Modbus TCP/IP, Profibus DP-V0, BACnet/IP | Modbus RTU, Modbus TCP/IP, Profibus DP-V0, BACnet/IP |
| RJ45 Daisy Chain (Ethernet version) | / | * |

* daisy chain not available on M4M 30-M

M4M 2X

Functionality packages



M4M 2X - Class 0,5S

Accuracy

| | |
|--------------------------------------|------------|
| TRMS current | |
| TRMS voltage | |
| Frequency | |
| Active, Reactive and Apparent power | |
| Power factor | |
| Operating timer, countdown timer | |
| Active, Reactive and Apparent energy | |
| 4 quadrants Energy (Import/Export) | |
| THD (I, VLN, VLL) | |
| Neutral current | Calculated |
| Single alarms | 25 |
| Demand values (average) | Basic |
| Max./Min. values | Basic |
| Warnings, alarms and errors logs | |
| Digital Outputs | 2 |

| | |
|----------------------|------------------|
| +PQ1 | |
| Individual harmonics | 25 th |
| Unbalances | |
| Historical logs | Intermediate |
| RTC | |

| | |
|----------------------|------------------|
| +PQ2 | |
| Individual Harmonics | 40 th |
| Unbalances | |
| Historical logs | Advanced |
| RTC | |
| Neutral current | Measured |

| | |
|-------------------------------|---|
| +RTS | |
| Tariffs | 6 |
| Complex alarms with logics | 4 |
| RTC | |
| Programmable I/O ¹ | 4 |

| | |
|--|---------------------------|
| Connectivity | |
| Automatic integration in ABB Ability™ Energy and Asset Manager | |
| Automatic integration in System pro M compact InSite | |
| Bluetooth Low Energy | |
| Communication protocols | Modbus RTU, Modbus TCP/IP |
| RJ45 Daisy Chain (Ethernet version) | |

¹ instead of 2 Digital Outputs

Ordering codes



M4M 20

M4M 20 is ABB's network analyzer range that provides complete and accurate electrical parameters monitoring and basic power quality analysis.

Equipped with graphic color display for advanced visualization of the measured parameters and Bluetooth module for smart commissioning.

| Communication protocol | I/O | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|-------------------------------|--|-------------------|-----------------|----------------------|------------------|-----------------|
| BLE | 2 Digital out. | M4M 20 | 2CSG251151R4051 | 0,400 | 1 | Upon request |
| BLE, Modbus RTU | 2 Digital out. | M4M 20 Modbus | 2CSG251141R4051 | 0,400 | 1 | |
| BLE, Modbus TCP/IP | 2 Digital out. | M4M 20 Ethernet | 2CSG204471R4051 | 0,400 | 1 | |
| BLE, Profibus DP-V0 | 2 Digital out. | M4M 20 Profibus | 2CSG251131R4051 | 0,400 | 1 | |
| BLE, BACnet/IP | 2 Digital out. | M4M 20 Bacnet | 2CSG236831R4051 | 0,400 | 1 | |
| BLE, Modbus RTU | 2 Progr. I/O, 2 Digital out., 2 Analogue out. | M4M 20 I/O | 2CSG251161R4051 | 0,400 | 1 | |
| MID LE, Modbus RTU | 2 Digital out. | M4M 20-M MODBUS | 2CSG239055R4051 | 0,400 | 1 | |
| MID BLE, Modbus TCP/IP | 2 Digital out. | M4M 20-M ETHERNET | 2CSG239065R4051 | 0,400 | 1 | |



M4M 20 - ROGOWSKI VERSION

M4M 20 is also available as compatible with ABB's R4M Rogowski coils for current measurement, increasing the flexibility of network analyzers offer and allowing retrofit in any existing installations.

M4M 20 Rogowski together with R4M Rogowski coils ensures the integration of basic power quality metering in any existing system with zero downtime.

| Communication protocol | I/O | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|------------------------|-------------------|-----------------|-----------------|----------------------|------------------|-----------------|
| BLE, Modbus TCP/IP | 2 Digital Outputs | M4M 20 Rogowski | 2CSG207081R4051 | 0,400 | 1 | Upon request |

Ordering codes



M4M 30

M4M 30 is ABB's network analyzer range that allows complete power quality analysis and energy efficiency evaluations.

Equipped with touchscreen color display for simplified access to the device and with Bluetooth module for smart commissioning.

| Communication protocol | I/O | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|-------------------------------|-------------------------------|-------------------|-----------------|----------------------|------------------|---------------|
| BLE, Modbus RTU | 4 Progr. I/O | M4M 30 Modbus | 2CSG274761R4051 | 0,400 | 1 | Upon request |
| BLE, Modbus TCP/IP | 4 Progr. I/O | M4M 30 Ethernet | 2CSG274681R4051 | 0,400 | 1 | |
| BLE, Profibus DP-V0 | 4 Progr. I/O | M4M 30 Profibus | 2CSG236791R4051 | 0,400 | 1 | |
| BLE, BACnet/IP | 4 Progr. I/O | M4M 30 Bacnet | 2CSG202451R4051 | 0,400 | 1 | |
| BLE, Modbus RTU | 6 Progr. I/O, 2 Analogue out. | M4M 30 I/O | 2CSG202471R4051 | 0,400 | 1 | |
| MID BLE, Modbus RTU | 4 programmable I/O | M4M 30-M MODBUS | 2CSG239035R4051 | 0,400 | 1 | |
| MID BLE, Modbus TCP/IP | 4 programmable I/O | M4M 30-M ETHERNET | 2CSG239045R4051 | 0,400 | 1 | |

M4M 30 - ROGOWSKI VERSION



M4M 30 is also available as compatible with ABB's R4M Rogowski coils for current measurement, increasing the flexibility of network analyzers and allowing retrofit in any existing installations. M4M 30 Rogowski together with R4M coils ensure integration of complete PQ analysis in any existing system with zero downtime.

| Communication protocol | I/O | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|------------------------|--------------|-----------------|-----------------|----------------------|------------------|---------------|
| BLE, Modbus RTU | 4 Progr. I/O | M4M 30 Rogowski | 2CSG202461R4051 | 0,400 | 1 | Upon request |

R4M ROGOWSKI COILS



R4M Rogowski coils are flexible current transformer based on Rogowski technology, ideal to retrofit existing installations up to 12kA. Available in two different sizes (80mm or 200mm diameters), R4M coils are directly equipped with pre-wired removable terminals that perfectly fit M4M 20 Rogowski (3 Rogowski coil inputs) and M4M 30 Rogowski (4 Rogowski coil inputs), with no need for external integrators.

| Diameter (mm) | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|---------------|-----------|-----------------|----------------------|------------------|---------------|
| 80 | R4M-80 | 2CSG202160R1101 | 0,150 | 1 | Upon request |
| 200 | R4M-200 | 2CSG202150R1101 | 0,250 | 1 | |

Ordering codes



M4M 2X

M4M 2X is ABB's network analyzer range that ensures higher flexibility to project specifications compared to standard network analyzers. M4M 2X is available without display, only communicating via protocols and Bluetooth module for smart remote commissioning.

| Communication protocol | I/O | Functionality package | Type code | Order code | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|------------------------|----------------|-----------------------|-------------------------|-----------------|-------------------|---------------|---------------|
| BLE, Modbus RTU | 2 Digital out. | 2X | M4M 2X Modbus | 2CSG260111R4051 | 0.355 | 1 | Upon request |
| BLE, Modbus TCP/IP | 2 Digital out. | 2X | M4M 2X Ethernet | 2CSG260061R4051 | 0.355 | | |
| BLE, Modbus RTU | 2 Digital out. | 2X+PQ1 | M4M 2X Modbus PQ1 | 2CSG239075R4051 | 0.341 | | |
| BLE, Modbus TCP/IP | 2 Digital out. | 2X+PQ1 | M4M 2X Ethernet PQ1 | 2CSG239125R4051 | 0.355 | | |
| BLE, Modbus RTU | 2 Digital out. | 2X+PQ2 | M4M 2X Modbus PQ2 | 2CSG239085R4051 | 0.341 | | |
| BLE, Modbus TCP/IP | 2 Digital out. | 2X+PQ2 | M4M 2X Ethernet PQ2 | 2CSG239135R4051 | 0.355 | | |
| BLE, Modbus RTU | 4 Progr. I/O | 2X+RTS | M4M 2X Modbus RTS | 2CSG239095R4051 | 0.341 | | |
| BLE, Modbus TCP/IP | 4 Progr. I/O | 2X+RTS | M4M 2X Ethernet RTS | 2CSG239145R4051 | 0.355 | | |
| BLE, Modbus RTU | 4 Progr. I/O | 2X+PQ1+RTS | M4M 2X Modbus PQ1+RTS | 2CSG239105R4051 | 0.341 | | |
| BLE, Modbus TCP/IP | 4 Progr. I/O | 2X+PQ1+RTS | M4M 2X Ethernet PQ1+RTS | 2CSG239155R4051 | 0.355 | | |
| BLE, Modbus RTU | 4 Progr. I/O | 2X+PQ2+RTS | M4M 2X Modbus PQ2+RTS | 2CSG239115R4051 | 0.341 | | |
| BLE, Modbus TCP/IP | 4 Progr. I/O | 2X+PQ2+RTS | M4M 2X Ethernet PQ2+RTS | 2CSG239165R4051 | 0.355 | | |

Complete integration in the ABB's scalable solutions for energy and asset management, to protect assets and optimize costs and energy needs

Full connectivity...

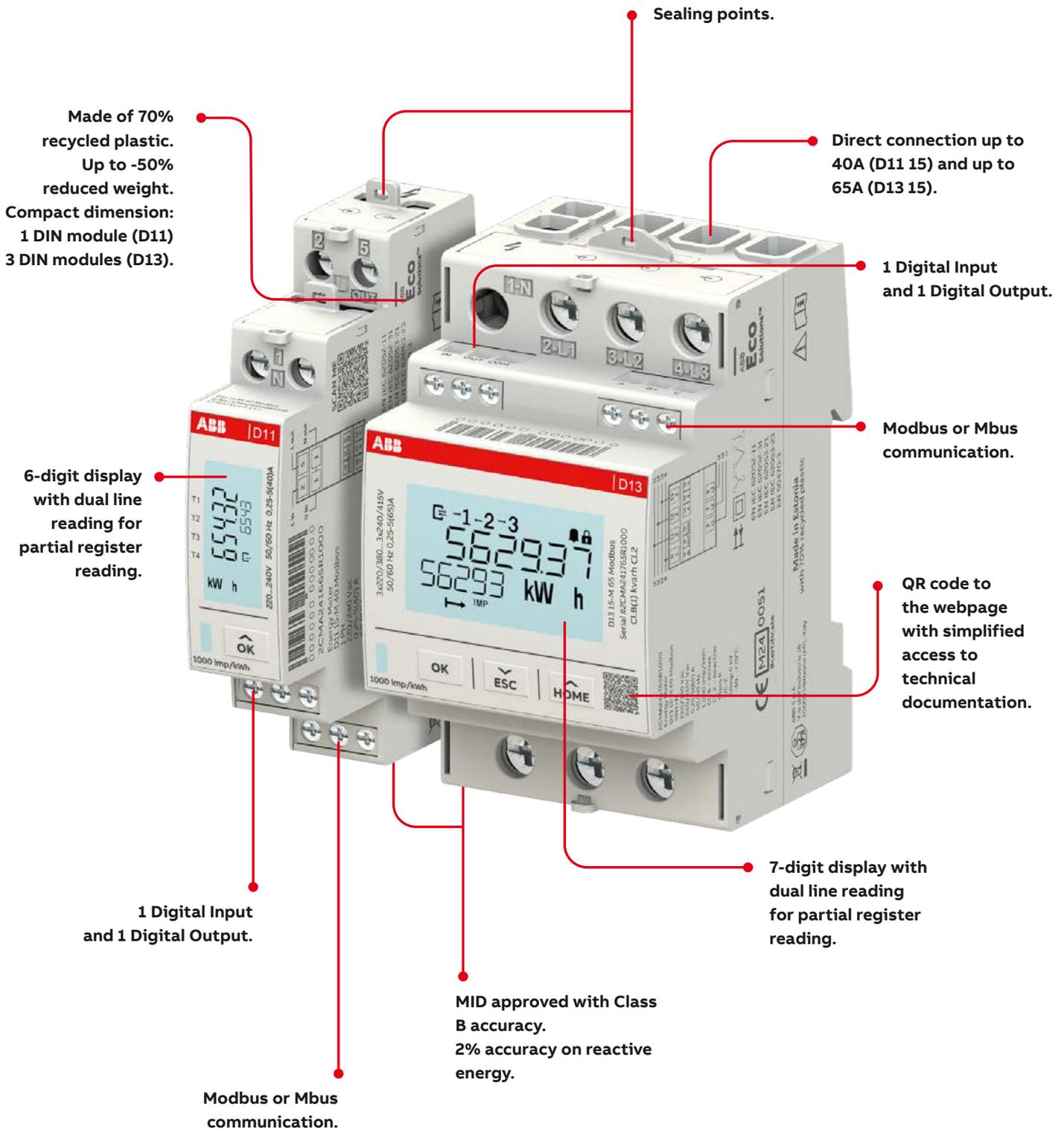
...for integration with ABB Ability™ system



Energy meters

The details that make the difference

NEW



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* <small>*4 via Communication</small> | 4 | 4 | 4 |
| Resettable energy register | | | ✓ | ✓ | ✓ | ✓ |
| Fixed I/O | | | 1DI/1DO | 2DI/2DO | 2DI/2DO | 2DI/2DO |
| Configurable I/O | | | | | | 4 |
| Harmonics | | | | | | 2-16th |
| Clock functions* | | | | | ✓ | ✓ |
| Advanced clock functions** | | | | | | ✓ |

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

D11 and D13

available in: 15 NEW

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 meters

Functionalities

NEW



| | Single phase - Direct | | | Single phase - Indirect |
|-------------------------------------|-----------------------|-----------------------|----------------|-------------------------|
| Energy Meters | D11 | B21 | A41 | A42 |
| Mechanical properties | | | | |
| DIN modules | 1 | 2 | 4 | 4 |
| Overall Dimensions [mm] | 65x92x17,5 | 35x97x65 | 70x97x65 | 70x97x65 |
| Voltage/current inputs | | | | |
| Operating voltage | 220 - 240 VAC +/- 20% | 220 - 240 VAC +/- 20% | 57.7 - 288 VAC | 57.7 - 288 VAC |
| Maximum current | 40 A | 65 A | 80 A | 6A |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Indirect connection | - | - | - | CT/VT |
| Energy Measurements | | | | |
| Active energy | ■ | ■ | ■ | ■ |
| Reactive energy | ■ | □ | □ | □ |
| Apparent energy | ■ | □ | □ | □ |
| Import/Export | ■ | □ | □ | □ |
| Instantaneous Measurements | | | | |
| Voltage | ■ | ■ | ■ | ■ |
| Current | ■ | ■ | ■ | ■ |
| Neutral Current (calculated) | ■ | ■ | ■ | ■ |
| Frequency | ■ | ■ | ■ | ■ |
| Active, Reactive and Apparent power | ■ | ■ | ■ | ■ |
| Power quality measurements | | | | |
| Power Factor | ■ | ■ | ■ | ■ |
| CosPhi | ■ | □ | □ | □ |
| Current quadrant | ■ | ■ | ■ | ■ |
| Harmonics analysis (2-16th) | - | - | □ | □ |
| Function | | | | |
| Tariffs | ■ | □ | □ | □ |
| Single Alarms | 25 | 25 | 25 | 25 |
| Max/Min demand | - | - | □ | □ |
| Load profiles | - | - | □ | □ |
| Resettable registers | ■ | □ | □ | □ |
| Event logs | ■ | - | □ | □ |
| Communication | | | | |
| Digital Input | 1 | 2 (□) | 2 (□) | 2 (□) |
| Digital Output | 1 | 2 (□) | 2 (□) | 2 (□) |
| Configurable I/O | - | - | ■ | ■ |
| Pulse output | ■ | ■ | ■ | ■ |
| Progr. I/O (4 I/O channels) | - | - | - | □ |
| Infrared MBus | - | ■ | ■ | ■ |
| MBus | □ | □ | □ | □ |
| RS-485 Modbus RTU | □ | □ | □ | □ |

■ Standard feature

□ Optional feature according to order codes in the following pages

- No

InSite energy management system - SCU100

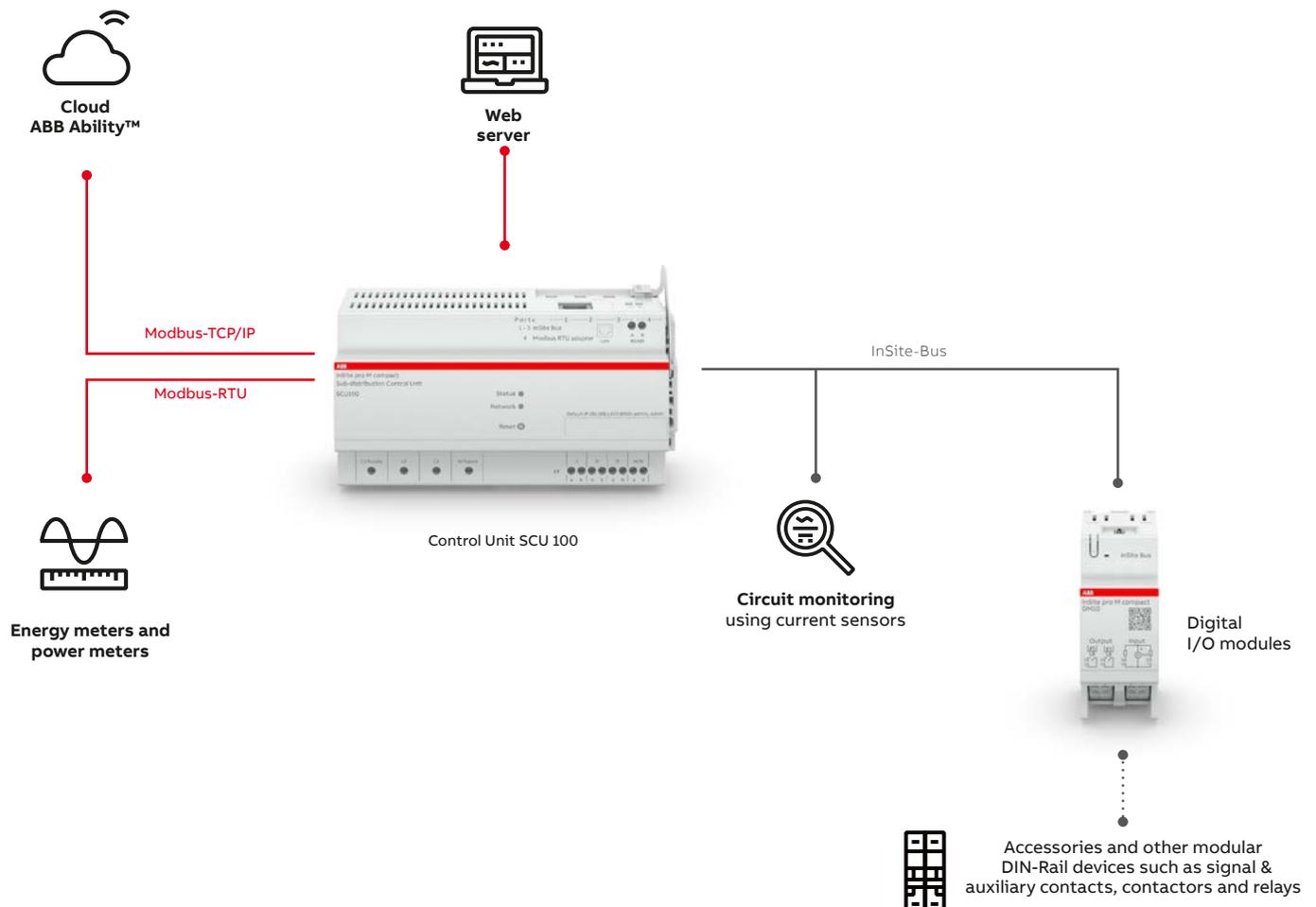
Connected solution for sub-distribution

The InSite energy management system allows you to collect data from field devices in electrical distribution, as well as control and automate them through the use of accessories. Specifically recommended for large commercial and industrial applications, the SCU100 control unit is capable of simultaneously gathering measurement data from up to 16 energy and power meters, as well as 96 current sensors and digital sensors.

Thanks to its modular system, InSite is designed to easily upgrade new and existing installations, reducing installation and configuration time to near zero and minimizing disruption and costly downtime.

In addition to the current sensors, the range is complemented by a selection of Digital Input and Output Modules that can be easily connected to ABB System pro M compact® protection devices and accessories, as well as to pulse meters such as gas or water meters to collect consumption data.

Based on a variety of data, the available functionalities range from simple monitoring of the plant to analysis of historical data, customized alarms and implementation of automatic measures to reduce energy consumption identify potential risks and ensure business continuity.



InSite energy management system

The evolution of the system - SCU200

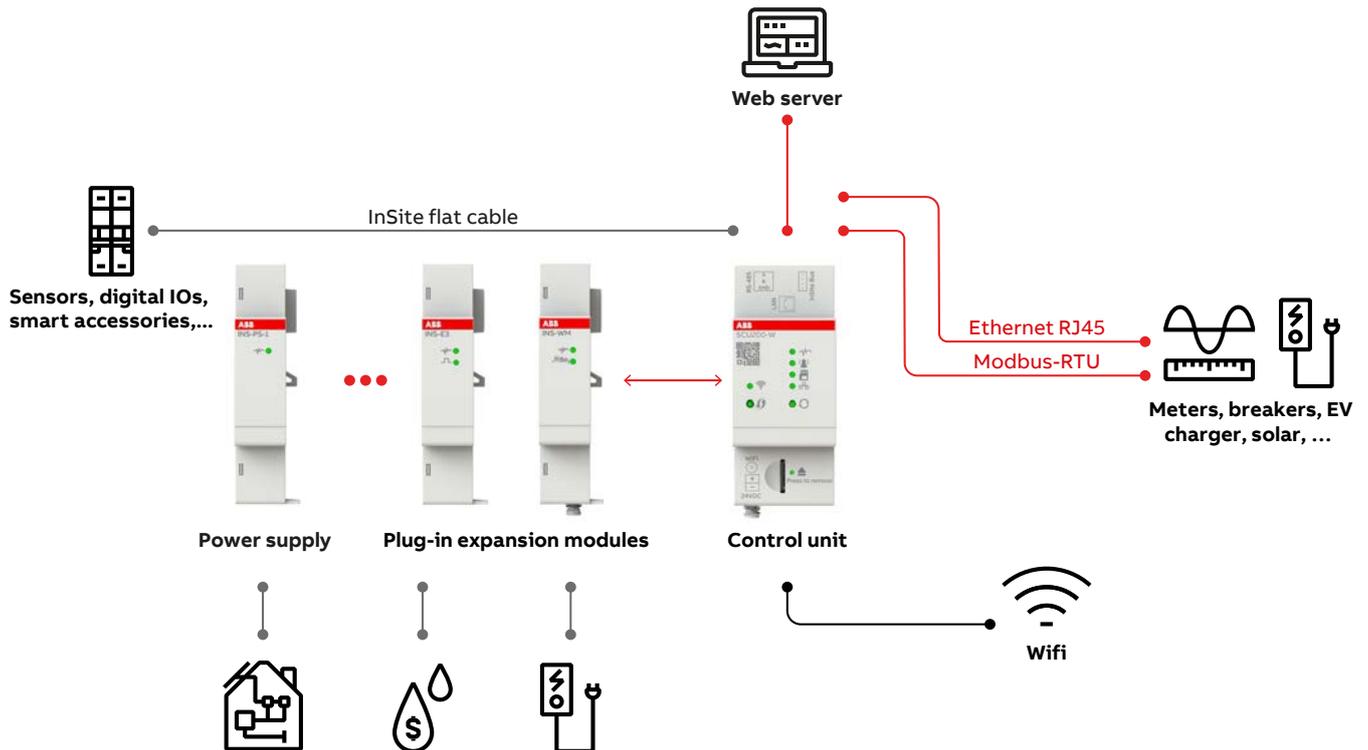
The InSite system takes smart energy and load management to the next level, providing a complete solution to optimize energy usage in both sub and final distribution. Through the compact control unit SCU200, data is gathered from the field devices, and then can be accessed via the InSite web server, the ABB Ability™ Energy & Asset Manager or any third-party application.

The new plug-in expansion modules allow the system to be adapted even better to the respective application needs.

Depending on measurement and optimization goals, Wireless M-Bus and Energy Meter modules can be used and plugged to the control unit without tools.

With more automation logics available, load prioritization is optimized, enabling the most efficient use of energy in any residential, commercial or industrial space. And thanks to the openness to third-party integration, loads such as heat pumps, Electrical Vehicle chargers or energy storage units can also be easily connected to the system, further increasing the potential for energy savings.

The integrated InSite web server has evolved to now include a cost calculation feature, a step-by-step installation wizard and advanced options for setting automated actions to control loads in residential, commercial and industrial buildings, enabling energy savings of up to 20%.



Integrate however you want, thanks to multiple mounting options.

Depending on the application, choose between up to four different mounting options to make integrating the CMS sensors in your installation as simple and as uncomplicated as possible.

Sensors for ABB devices



System pro M installation, SMISLINE

The sensors of the CMS-120LA and CMS-120FH series allow easy retrofit installation on S200 MCBs, SMISLINE devices and E90 fuseholders (1000VDC).

Universally usable sensor designs



Cable tie mounting

If space is at a real premium, CMS-120CA, CMS-100CA, and CMS-200CA series sensors can be secured directly to the cable(s) to be measured by means of cable ties.

Tangible value-addition for you ABB circuit monitoring pays off two-fold



Early warning system (predictive maintenance) for increasing the availability of critical consumers

Continuous monitoring of the current flow at the circuit breaker makes it possible to detect overloaded lines before they lead to a service interruption. Apart from this, monitoring individual circuits indicates whether the loads are in the desired operating mode or not. In this way, system deviations can be ascertained instantaneously. What's more, the CMS can be used to detect unbalanced loads before they result in failure of the neutral conductor and consequently load failure.

Cost analysis to reduce and assign energy costs

The cost of energy will rise continuously. In order to cut costs, you first have to know where they arise. The Control Unit helps illustrate and analyze the instantaneous energy consumption levels. Furthermore, the calculated active energy can be used to roughly allocate the costs at the output level.

Ordering data

System pro M compact® InSite



Accessories

The Control Unit needs a flat cable to gather information from current sensors and digital I/O modules. The flat cable should be a 4-pin cable, flexible in length. Devices can be placed at customizable distances required by the specific application.

Control units

| Description | Ordering details | | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|--------------------------------------|-------------------|-----------------|----------------------|------------------|---------------|
| | Brief description | Product no. | | | |
| Sub-distribution Control Unit | SCU100 | 2CCG000242R0001 | 0.329 | 1 | |
| Control Unit | SCU200 | 2CCG001158R0001 | 0.101 | 1 | Upon request |
| Control Unit with wireless interface | SCU200-W | 2CCG001157R0001 | 0.105 | 1 | |

Sensors

| Description Type | ABB code | Weight 1 piece kg | Unit conf. Pcs | Unit L.P. (₹) |
|---|-----------|-------------------|----------------|---------------|
| Open-core sensors 18 mm for retrofit of MCBs (S200, SMISSLINE) and RCBOs (SMISSLINE) | | | | |
| 80 A | CMS-120LA | 2CCA880225R0001 | 1 | |
| 40 A | CMS-121LA | 2CCA880226R0001 | 1 | Upon request |
| 20 A | CMS-122LA | 2CCA880227R0001 | 1 | |
| Open-core sensors 18 mm for cable tie mounting (universal use) | | | | |
| 80 A | CMS-120CA | 2CCA880220R0001 | 1 | |
| 40 A | CMS-121CA | 2CCA880221R0001 | 1 | Upon request |
| 20 A | CMS-122CA | 2CCA880222R0001 | 1 | |
| Solid-core sensors 18 mm for pro M & SMISSLINE installation devices with twin terminals | | | | |
| 80 A | CMS-100PS | 2CCA880100R0001 | 1 | |
| 40 A | CMS-101PS | 2CCA880101R0001 | 1 | Upon request |
| 20 A | CMS-102PS | 2CCA880102R0001 | 1 | |
| Solid-core sensors 18 mm for cable tie mounting (universally usable) | | | | |
| 80 A | CMS-100CA | 2CCA880107R0001 | 1 | |
| 40 A | CMS-101CA | 2CCA880108R0001 | 1 | Upon request |
| 20 A | CMS-102CA | 2CCA880109R0001 | 1 | |
| Solid-core sensors 25 mm for cable tie mounting (universal use) | | | | |
| 160 A | CMS-200CA | 2CCA880117R0001 | 1 | |
| 80 A | CMS-201CA | 2CCA880118R0001 | 1 | Upon request |
| 40 A | CMS-202CA | 2CCA880119R0001 | 1 | |

Accessories

| Description | Ordering details | | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|--------------------------------|-------------------|-----------------|----------------------|------------------|---------------|
| | Brief description | Product no. | | | |
| Flat cable 2m | INS102 | 2CCG001491R0001 | 0.017 | 1 | |
| Flat cable 5m | INS105 | 2CCG000243R0001 | 0.046 | 1 | |
| Flat cable 10m | INS110 | 2CCG001493R0001 | 0.09 | 1 | |
| Flat cable 30m | INS130 | 2CCG001494R0001 | 0.27 | 1 | |
| Connector set (35pcs) | INS135 | 2CCG000244R0001 | 0.024 | 35 | |
| Energy Meter Module* - 40mA | INS-E3 | 2CCG001159R0001 | 0.052 | 1 | Upon request |
| Power Supply Module* - 15W | INS-PS-1 | 2CCG001160R0001 | 0.077 | 1 | |
| Smart Signal/Auxiliary Contact | INS-S/H | 2CCG001213R0001 | 0.028 | 1 | |
| Energy Meter Module* - 5A | INS-E3-5 | 2CMA268055R1000 | 0.052 | 1 | |
| Tap-off Box Module* | INS-TB | 2CMA268075R1000 | 0.045 | 1 | |

* Note - Applicable only for SCU 200 control units

Digital Input and Output modules

| Description | Ordering details | | Weight 1 piece kg | Pack unit pc. | Unit L.P. (₹) |
|---------------------------------|-------------------|-----------------|----------------------|------------------|---------------|
| | Brief description | Product no. | | | |
| Digital Input Module | DM11 | 2CCG000245R0001 | 0.075 | 1 | |
| Digital Input Module | DM00 | 2CCG000246R0001 | 0.085 | 1 | Upon request |
| Digital Input and Output Module | DM10 | 2CCG000247R0001 | 0.08 | 1 | |

ABB ITUS Distribution boards

Performance redefined

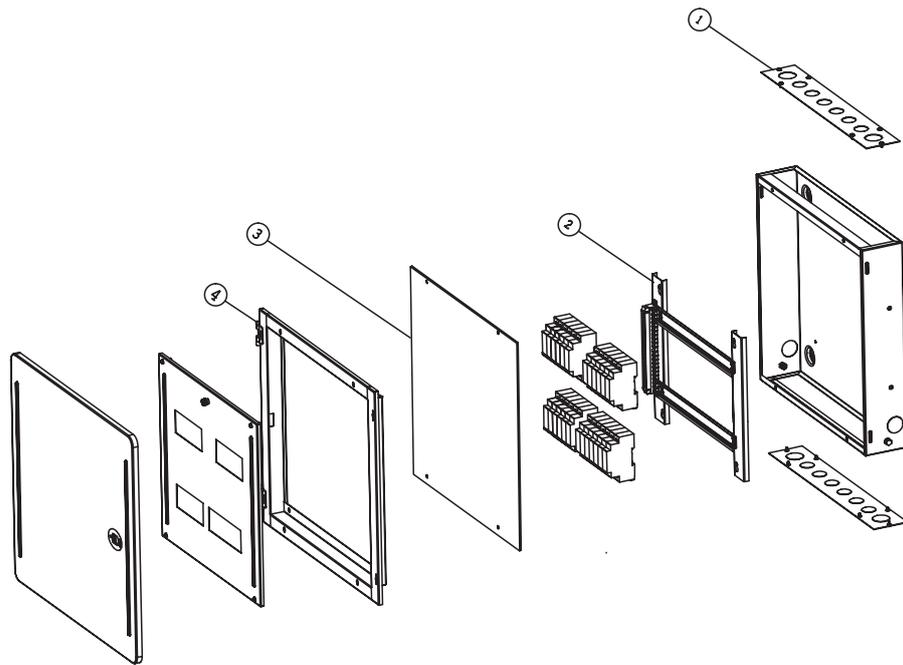
At ABB, our unwavering commitment is to redefine the very boundaries of innovation. Enter our latest masterpiece, the ITUS improved design meticulously designed to cater to the diverse utility demands of residential, commercial, and industrial domains. Going beyond mere functionality, it introduces a groundbreaking design that seamlessly integrates with the essence of any architectural milieu.



Tested and proven

MIVAN compatible

As new interiors use advanced construction procedures and methods, ABB ITUS Distribution Enclosures have been designed to meet MIVAN type of construction with following features.



ITUS Distribution boards comes with individual packing for door/frame & inner shield which can be stored safely until Installation.

1. Back box provided with Top and Bottom rectangular cutout with removable gland plate to increase the strength the DB.
2. Removable chassis with neutral bar mounted on it and earth bar is also removable which can be store separately.

3. Cement spill protector for protection of DB interiors from cement splashes during civil activities.
4. Removable frame is provided to facilitate adjustments owing to civil work like plastering.

Once plastering is completed, frame and door are installed. Since thickness of plaster itself is 8 mm to 10 mm, the screws used to fix frame with the DB box have to be long enough, Hence long screws are provided to meet the requirement.



ABB ITUS Distribution boards

SPN-SHC

Horizontal single-phase consumer unit with provision for 2 pole (MCB/Isolator/RCD) incoming and single phase outgoing. These distribution boards come with earth link, shrouded neutral link and tinned electrolytic copper insulated busbar. Top and bottom, removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 30, IK 08 Without door

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|---------------------|-------------------|-------------|----------------|--------------|
| IP-SPN06 WAY WD DB | 1SYP011506C0001 ■ | 6 way | 6 | 2,060 |
| IP-SPN08 WAY WD DB | 1SYP011508C0001 ■ | 8 way | 8 | 2,310 |
| IP-SPN10 WAY WD DB | 1SYP011510C0001 | 10 way | 10 | 2,440 |
| IP-SPN12 WAY WD DB | 1SYP011512C0001 ■ | 12 way | 12 | 2,740 |
| IP-SPN14 WAY WD DB | 1SYP011514C0001 | 14 way | 14 | 2,970 |
| IP-SPN16 WAY WD DB | 1SYP011516C0001 | 16 way | 16 | 3,330 |
| IP-SPN18 WAY WD DB | 1SYP011518C0001 ■ | 18 way | 18 | 3,890 |
| IP-SPN22 WAY WD DB | 1SYP011522C0001 | 22 way | 22 | 4,110 |



IP 43, IK 09 With metal door

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|---------------------|-------------------|-------------|----------------|--------------|
| IP-SPN06 WAY MD DB | 1SYP011606C0001 ■ | 6 way | 6 | 2,680 |
| IP-SPN08 WAY MD DB | 1SYP011608C0001 ■ | 8 way | 8 | 3,010 |
| IP-SPN10 WAY MD DB | 1SYP011610C0001 | 10 way | 10 | 3,430 |
| IP-SPN12 WAY MD DB | 1SYP011612C0001 ■ | 12 way | 12 | 3,610 |
| IP-SPN14 WAY MD DB | 1SYP011614C0001 | 14 way | 14 | 4,240 |
| IP-SPN16 WAY MD DB | 1SYP011616C0001 | 16 way | 16 | 4,570 |
| IP-SPN18 WAY MD DB | 1SYP011618C0001 ■ | 18 way | 18 | 4,710 |
| IP-SPN22 WAY MD DB | 1SYP011622C0001 | 22 way | 22 | 5,550 |



IP 43, IK 09 Metal door with acrylic

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|---------------------|-----------------|-------------|----------------|--------------|
| IP-SPN06 WAY AD DB | 1SYP011706C0001 | 6 way | 6 | 3,570 |
| IP-SPN08 WAY AD DB | 1SYP011708C0001 | 8 way | 8 | 3,890 |
| IP-SPN10 WAY AD DB | 1SYP011710C0001 | 10 way | 10 | 4,600 |
| IP-SPN12 WAY AD DB | 1SYP011712C0001 | 12 way | 12 | 4,710 |
| IP-SPN14 WAY AD DB | 1SYP011714C0001 | 14 way | 14 | 5,680 |
| IP-SPN16 WAY AD DB | 1SYP011716C0001 | 16 way | 16 | 5,860 |
| IP-SPN18 WAY AD DB | 1SYP011718C0001 | 18 way | 18 | 6,130 |
| IP-SPN22 WAY AD DB | 1SYP011722C0001 | 22 way | 22 | 7,200 |



IP 54, IK 09 Metal door

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|---------------------|-----------------|-------------|----------------|--------------|
| IP-SPN06 WAY WP DB | 1SYP011806C0001 | 6 way | 6 | 6,750 |
| IP-SPN08 WAY WP DB | 1SYP011808C0001 | 8 way | 8 | 8,430 |
| IP-SPN10 WAY WP DB | 1SYP011810C0001 | 10 way | 10 | 8,720 |
| IP-SPN12 WAY WP DB | 1SYP011812C0001 | 12 way | 12 | 9,630 |
| IP-SPN14 WAY WP DB | 1SYP011814C0001 | 14 way | 14 | 10,320 |
| IP-SPN16 WAY WP DB | 1SYP011816C0001 | 16 way | 16 | 13,200 |
| IP-SPN18 WAY WP DB | 1SYP011818C0001 | 18 way | 18 | 13,340 |
| IP-SPN22 WAY WP DB | 1SYP011822C0001 | 22 way | 22 | 14,110 |

■ Stock items

ABB ITUS Distribution boards

TPN-SHDB horizontal

Horizontal three-phase distribution board with provision for incomer 8 pole (MCB/Isolator/RCD) and single phase outgoing. These distribution boards come with earth link, shrouded neutral link, tinned electrolytic copper insulated busbar and wire sets for cable management. Top and bottom, removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 30, IK 08 Without door

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|---------------------|-------------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-TPN04 WAY WD DB | 1SYP021504C0001 ■ | 4 way | 8 | 12 | 5,340 |
| IP-TPN06 WAY WD DB | 1SYP021506C0001 ■ | 6 way | 8 | 18 | 6,630 |
| IP-TPN08 WAY WD DB | 1SYP021508C0001 ■ | 8 way | 8 | 24 | 7,830 |
| IP-TPN12 WAY WD DB | 1SYP021512C0001 ■ | 12 way | 8 | 36 | 11,170 |



IP 43, IK 09 With metal door

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|---------------------|-------------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-TPN04 WAY MD DB | 1SYP021604C0001 ■ | 4 way | 8 | 12 | 6,010 |
| IP-TPN06 WAY MD DB | 1SYP021606C0001 ■ | 6 way | 8 | 18 | 7,430 |
| IP-TPN08 WAY MD DB | 1SYP021608C0001 ■ | 8 way | 8 | 24 | 8,980 |
| IP-TPN12 WAY MD DB | 1SYP021612C0001 ■ | 12 way | 8 | 36 | 13,310 |



IP 43, IK 09 Metal door with acrylic

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|---------------------|-----------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-TPN04 WAY AD DB | 1SYP021704C0001 | 4 way | 8 | 12 | 8,090 |
| IP-TPN06 WAY AD DB | 1SYP021706C0001 | 6 way | 8 | 18 | 10,210 |
| IP-TPN08 WAY AD DB | 1SYP021708C0001 | 8 way | 8 | 24 | 12,010 |
| IP-TPN12 WAY AD DB | 1SYP021712C0001 | 12 way | 8 | 36 | 18,620 |



IP 54, IK 09 Metal door

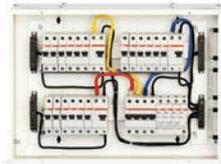
| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|---------------------|-----------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-TPN04 WAY WP DB | 1SYP021804C0001 | 4 way | 8 | 12 | 21,180 |
| IP-TPN06 WAY WP DB | 1SYP021806C0001 | 6 way | 8 | 18 | 25,480 |
| IP-TPN08 WAY WP DB | 1SYP021808C0001 | 8 way | 8 | 24 | 27,860 |
| IP-TPN12 WAY WP DB | 1SYP021812C0001 | 12 way | 8 | 36 | 39,650 |

■ Stock items

ABB ITUS Distribution boards

TPN-SHPPI horizontal per phase isolation

Horizontal per-phase isolation distribution board with provision for 8 pole (MCB/Isolator/RCD) as incomer, 3 DP MCB/Isolator/RCD as sub-incoming and SP MCBs as outgoing. These distribution boards come with separate shrouded neutral link for each phase, earthing link, tinned electrolytic copper insulated busbar and wire sets for cable management. Top and bottom removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 With metal door

| Product description | Product code | No. of ways | No. of modules | | | Unit MRP (₹) |
|---------------------------|-------------------|-------------|----------------|---------|-----|--------------|
| | | | I/C | Sub I/C | O/G | |
| IP-HPPI06 WAY(4+2) MD DB | 1SYP031606C0001 ■ | 6 way | 8 | 6 | 12 | 11,360 |
| IP-HPPI08 WAY(6+2) MD DB | 1SYP031608C0001 ■ | 8 way | 8 | 6 | 18 | 13,490 |
| IP-HPPI12 WAY(10+2) MD DB | 1SYP031612C0001 ■ | 12 way | 8 | 6 | 30 | 18,930 |

ABB ITUS Distribution boards

TPN-SVDB vertical per phase isolation

Vertical per-phase Isolation Distribution Board in 4-tier structure with provision for 8 pole (MCB/ Isolator/ RCD) incomer and 2 pole (MCB/Isolator/RCD) as sub-incomer with single phase outgoing. These distribution boards come with separate shrouded neutral link for each phase, earthing link, tinned electrolytic copper insulated busbar and wire sets for cable management. Top and bottom removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 With metal door

| Product description | Product code | No. of ways | No. of modules | | | Unit MRP (₹) |
|----------------------------|-------------------|-------------|----------------|---------|-----|--------------|
| | | | I/C | Sub I/C | O/G | |
| IP-VPPI06 WAY(6+2) MD DB | 1SYP041606C0001 ■ | 6 way | 8 | 6 | 18 | 12,410 |
| IP- VPPI08 WAY(8+2) MD DB | 1SYP041608C0001 ■ | 8 way | 8 | 6 | 24 | 14,970 |
| IP- VPPI12 WAY(12+2) MD DB | 1SYP041612C0001 ■ | 12 way | 8 | 6 | 36 | 20,010 |

■ Stock items

ABB ITUS Distribution boards

TPN-8 segment

Eight segment distribution board with phase segregation and separation between incoming and outgoing with provision for 4P+8P incomer (MCB/Isolator/RCD) and 4 pole sub-incomer (MCB/Isolator/RCD) with single phase outgoing. These distribution boards come with shrouded neutral bar, earthing link and wire sets for cable management for each compartment. Top and bottom, removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 With metal door

| Product description | Product code | No. of ways | No. of modules | | | Unit MRP (₹) |
|---------------------|-------------------|-------------|----------------|---------|-----|--------------|
| | | | I/C | Sub I/C | O/G | |
| IP-8SEG04 WAY MD DB | 1SYP051604C0001 ■ | 4 way | 4+8 | 12 | 12 | 17,200 |
| IP-8SEG06 WAY MD DB | 1SYP051606C0001 ■ | 6 way | 4+8 | 12 | 18 | 18,380 |
| IP-8SEG08 WAY MD DB | 1SYP051608C0001 ■ | 8 way | 4+8 | 12 | 24 | 22,700 |
| IP-8SEG12 WAY MD DB | 1SYP051612C0001 | 12 way | 4+8 | 12 | 36 | 26,610 |

ABB ITUS Distribution boards

VTPN-SVTDB MCB vertical type

Vertical three-phase distribution board with provision for 8 pole (MCB/Isolator/RCD) incoming with three phase and single-phase (TP/SP) outgoing. These distribution boards come with complete insulated busbar (tinned electrolytic copper) arrangement, shrouded neutral bar and earth bars. Top and bottom removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 Metal door

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|----------------------------|-------------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-VTPN04 WAY MCB/IC MD DB | 1SYP061604C0001 ■ | 4 way | 8 | 12 | 14,840 |
| IP-VTPN06 WAY MCB/IC MD DB | 1SYP061606C0001 ■ | 6 way | 8 | 18 | 16,920 |
| IP-VTPN08 WAY MCB/IC MD DB | 1SYP061608C0001 ■ | 8 way | 8 | 24 | 19,700 |
| IP-VTPN12 WAY MCB/IC MD DB | 1SYP061612C0001 | 12 way | 8 | 36 | 26,500 |

ABB ITUS Distribution boards

VTPN-SVTDB XT1 vertical 160A MCCB

Vertical three-phase distribution board with provision for 4 pole MCCB (XT1) up to 160A as incomer with three-phase and single-phase (TP/SP) MCB outgoing. These distribution boards come with complete insulated busbar (tinned electrolytic copper) arrangement, shrouded neutral bar and earth bars. Top and bottom removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 Metal door

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|----------------------------|-----------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-VTPN04 WAY XT1/IC MD DB | 1SYP071604C0001 | 4 way | XT1 160 | 12 | 18,480 |
| IP-VTPN06 WAY XT1/IC MD DB | 1SYP071606C0001 | 6 way | XT1 160 | 18 | 20,970 |
| IP-VTPN08 WAY XT1/IC MD DB | 1SYP071608C0001 | 8 way | XT1 160 | 24 | 23,100 |
| IP-VTPN12 WAY XT1/IC MD DB | 1SYP071612C0001 | 12 way | XT1 160 | 36 | 31,500 |

ABB ITUS Distribution Boards

VTPN-SVTDB XT3 vertical 250A MCCB

Vertical three-phase distribution board with provision for 4 pole MCCB (XT3) up to 250A as incomer with three-phase and single-phase (TP/SP) MCB outgoing. These distribution boards come with complete insulated busbar (tinned electrolytic copper) arrangement, shrouded neutral bar and earth bars. Top and bottom removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 Metal door

| Product description | Product code | No. of ways | No. of modules | | Unit MRP (₹) |
|----------------------------|-----------------|-------------|----------------|-----|--------------|
| | | | I/C | O/G | |
| IP-VTPN04 WAY XT3/IC MD DB | 1SYP081604C0001 | 4 way | XT3 250 | 12 | 29,960 |
| IP-VTPN06 WAY XT3/IC MD DB | 1SYP081606C0001 | 6 way | XT3 250 | 18 | 33,040 |
| IP-VTPN08 WAY XT3/IC MD DB | 1SYP081608C0001 | 8 way | XT3 250 | 24 | 34,440 |
| IP-VTPN12 WAY XT3/IC MD DB | 1SYP081612C0001 | 12 way | XT3 250 | 36 | 36,360 |

ABB ITUS Distribution boards

SVFLM flexy tier

Total flexibility as per site needs - configuration as per your choice of incomer and outgoing. Supply busbars need to be selected. These distribution boards come with shrouded neutral link, earthing link. Top and bottom, removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 Metal door

| Product description | Product code | No. of ways | No. of rows | No. of modules | Unit MRP (₹) |
|------------------------|-----------------|-----------------|-------------|----------------|--------------|
| IP-2 ROW 13 MOD MD DB | 1SYP101626C0001 | 2 Row of 13 Mod | 2 | 26 | 7,350 |
| IP-2 ROW 14 MOD MD DB | 1SYP101628C0001 | 2 Row of 14 Mod | 2 | 28 | 8,350 |
| IP-3 ROW 13 MOD MD DB | 1SYP101639C0001 | 3 Row of 13 Mod | 3 | 39 | 8,740 |
| IP-3 ROW 14 MOD MD DB | 1SYP101642C0001 | 3 row of 14 Mod | 3 | 42 | 10,550 |
| IP-4 ROW 13 MOD MD DB | 1SYP101652C0001 | 4 Row of 13 Mod | 4 | 52 | 10,820 |
| IP- 4 ROW 14 MOD MD DB | 1SYP101656C0001 | 4 Row of 14 Mod | 4 | 56 | 11,210 |

ABB ITUS Distribution Boards

SPVS phase selector type

Phase selector distribution boards with inbuilt 3 numbers of selector switches with integrated LED with indicator as well as provision for 8 pole MCB/Isolator/RCD as incoming and SP MCBs as outgoing. These distribution boards come with earth link, shrouded neutral link, tinned electrolytic insulated copper busbar and wire sets for cable management. Top and bottom, removable gland plates with knockouts. Mounting of these boards can be flush or surface.



IP 43, IK 09 Metal door

| Product description | Product code | No. of ways | No. of modules I/C | No. of modules O/G | Unit MRP (₹) |
|------------------------|-----------------|-------------|--------------------|--------------------|--------------|
| IP-PS 63A 04 WAY MD DB | 1SYP091604C0001 | 4 way | 8 | 12 | 16,560 |
| IP-PS 63A 06 WAY MD DB | 1SYP091606C0001 | 6 way | 8 | 18 | 16,350 |
| IP-PS 63A 08 WAY MD DB | 1SYP091608C0001 | 8 way | 8 | 24 | 18,030 |
| IP-PS 63A 12 WAY MD DB | 1SYP091612C0001 | 12 way | 8 | 36 | 20,300 |

ABB ITUS Distribution boards

SEN enclosures

Metal enclosures, universal mounting suitable for 2M, 4M, 6M and 8M arrangements.



IP 20, IK 08

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|--------------------------|-------------------|--------------|----------------|--------------|
| IP- 2MOD Metal Enclosure | 1SYP121502C0001 ■ | 2P enclosure | 2 | 950 |
| IP- 4MOD Metal Enclosure | 1SYP121504C0001 ■ | 4P enclosure | 4 | 950 |
| IP- 6MOD Metal Enclosure | 1SYP121506C0001 ■ | 6P enclosure | 6 | 1,290 |
| IP- 8MOD Metal Enclosure | 1SYP121508C0001 ■ | 8P enclosure | 8 | 1,640 |

ABB ITUS Distribution enclosures

Plug & socket boards

This range offers a wide variety of plug & socket boards. These plugs & sockets can be used for single-phase or three-phase applications up to 30A along with MCB or RCBO with provision for universal mounting.



IP 20, IK 08

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|-------------------------------|-------------------|-------------|----------------|--------------|
| IP- 20A SP 2Pin P&S Enclosure | 1SYP111520C0001 ■ | 1 | 1 | 2,420 |
| IP- 30A TP 3Pin P&S Enclosure | 1SYP111530C0001 ■ | 1 | 3 | 5,160 |

ABB ITUS Distribution boards

Cable end boxes



SPN-SHC

| Product description | Product code | No. of ways | Unit MRP (₹) |
|---------------------|-----------------|-------------|--------------|
| IP-SPN06 WAY MD CEB | 1SYP140106C0001 | 6 way | 1,130 |
| IP-SPN08 WAY MD CEB | 1SYP140108C0001 | 8 way | 1,300 |
| IP-SPN10 WAY MD CEB | 1SYP140110C0001 | 10 way | 1,350 |
| IP-SPN12 WAY MD CEB | 1SYP140112C0001 | 12 way | 1,460 |
| IP-SPN14 WAY MD CEB | 1SYP140114C0001 | 14 way | 1,680 |
| IP-SPN16 WAY MD CEB | 1SYP140116C0001 | 16 way | 2,070 |
| IP-SPN18 WAY MD CEB | 1SYP140118C0001 | 18 way | 2,080 |
| IP-SPN22 WAY MD CEB | 1SYP140122C0001 | 22 way | 2,160 |



TPN-SHDB

| Product description | Product code | No. of ways | Unit MRP (₹) |
|---------------------|-----------------|-------------|--------------|
| IP-TPN04 WAY MD CEB | 1SYP140204C0001 | 4 way | 1,940 |
| IP-TPN06 WAY MD CEB | 1SYP140206C0001 | 6 way | 2,070 |
| IP-TPN08 WAY MD CEB | 1SYP140208C0001 | 8 way | 2,160 |
| IP-TPN12 WAY MD CEB | 1SYP140212C0001 | 12 way | 4,650 |

TPN-SHPPI

| Product description | Product code | No. of ways | Unit MRP (₹) |
|----------------------------|-----------------|-------------|--------------|
| IP-HPPI06 WAY(4+2) MD CEB | 1SYP140306C0001 | 6 way | 2,380 |
| IP-HPPI08 WAY(6+2) MD CEB | 1SYP140308C0001 | 8 way | 3,130 |
| IP-HPPI12 WAY(10+2) MD CEB | 1SYP140312C0001 | 12 way | 4,260 |

TPN-SVDB

| Product description | Product code | No. of ways | Unit MRP (₹) |
|----------------------------|-----------------|-------------|--------------|
| IP-VPPI06 WAY(6+2) MD CEB | 1SYP140406C0001 | 6 way | 1,730 |
| IP-VPPI08 WAY(8+2) MD CEB | 1SYP140408C0001 | 8 way | 1,940 |
| IP-VPPI12 WAY(12+2) MD CEB | 1SYP140412C0001 | 12 way | 2,160 |

8 Segment

| Product description | Product code | No. of ways | Unit MRP (₹) |
|----------------------|-----------------|-------------|--------------|
| IP-8SEG04 WAY MD CEB | 1SYP141013C0001 | 4 way | 4,390 |
| IP-8SEG06 WAY MD CEB | 1SYP141014C0001 | 6 way | 4,820 |
| IP-8SEG08 WAY MD CEB | 1SYP140600C0001 | 8 way | 5,380 |
| IP-8SEG12 WAY MD CEB | 1SYP140700C0001 | 12 way | 6,080 |

SVTDB, XT1 & XT3

| Product description | Product code | No. of ways | Unit MRP (₹) |
|-----------------------|-----------------|----------------------------|--------------|
| IP-VTPN MCB/IC MD CEB | 1SYP140800C0001 | For all SVTDB MCB I/C | 2,930 |
| IP-VTPN XT1/IC MD CEB | 1SYP140504C0001 | For all SVTDB MCCB XT1 I/C | 5,180 |
| IP-VTPN XT3/IC MD CEB | 1SYP140506C0001 | For all SVTDB MCCB XT3 I/C | 5,180 |

SVFLM

| Product description | Product code | No. of ways | Unit MRP (₹) |
|---------------------|-----------------|-------------|--------------|
| IP- 13 MOD CEB | 1SYP140508C0001 | 13 module | 1,940 |
| IP-14 MOD CEB | 1SYP140512C0001 | 14 module | 2,060 |

Busbars and blanking plate

| Product description | Product code | No. of ways | No. of modules | Unit MRP (₹) |
|-----------------------------|-----------------|-------------|----------------|--------------|
| IP- 13 MOD Insulated Busbar | 1SYP131513C0001 | 13 | | 430 |
| IP- 14 MOD Insulated Busbar | 1SYP131514C0001 | 14 | | 470 |
| IP- Blank Plate | 1SYP131500C0001 | | 1 | 30 |



Classic series

Distribution boards



SPN DB - SHC

IP 30



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| SHC WD 4 | 4 way | 4+2 | 1SYN869006R0001 ■ | 1,780 |
| SHC WD 6 | 6 way | 6+2 | 1SYN869007R0001 | 1,830 |
| SHC WD 8 | 8 way | 8+2 | 1SYN869008R0001 ■ | 2,140 |
| SHC WD 10 | 10 way | 10+2 | 1SYN869006R0010 | 2,410 |
| SHC WD 12 | 12 way | 12+2 | 1SYN869009R0001 ■ | 2,630 |
| SHC WD 14 | 14 way | 14+2 | 1SYN869010R0001 | 2,920 |
| SHC WD 16 | 16 way | 16+2 | 1SYN869006R0016 ■ | 3,510 |
| SHC WD 20 | 20 way | 20+2 | 1SYN869006R0020 | 3,740 |

IP 43 with metal door



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| SHC M 4 | 4 way | 4+2 | 1SYN869001R0001 ■ | 2,510 |
| SHC M 6 | 6 way | 6+2 | 1SYN869002R0001 ■ | 2,770 |
| SHC M 8 | 8 way | 8+2 | 1SYN869003R0001 | 3,170 |
| SHC M 10 | 10 way | 10+2 | 1SYN869004R0101 | 3,380 |
| SHC M 12 | 12 way | 12+2 | 1SYN869004R0001 ■ | 3,750 |
| SHC M 14 | 14 way | 14+2 | 1SYN869005R0001 | 4,230 |
| SHC M 16 | 16 way | 16+2 | 1SYN869001R0016 ■ | 4,410 |
| SHC M 20 | 20 way | 20+2 | 1SYN869001R0020 | 5,010 |

Classic series distribution boards are available in ivory color (color code - RAL9010)

■ Stock items

Classic series

Distribution boards

SPN DB - SHC

IP 43 metal door with acrylic



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SHC P 4 | 4 way | 4+2 | 1SYN869011R0041 | 2,730 |
| SHC P 6 | 6 way | 6+2 | 1SYN869011R0042 | 3,110 |
| SHC P 8 | 8 way | 8+2 | 1SYN869013R0001 | 3,560 |
| SHC P 10 | 10 way | 10+2 | 1SYN869013R0002 | 4,030 |
| SHC P 12 | 12 way | 12+2 | 1SYN869015R0012 | 4,300 |
| SHC P 14 | 14 way | 14+2 | 1SYN869015R0001 | 4,860 |
| SHC P 16 | 16 way | 16+2 | 1SYN869011R0161 | 5,240 |
| SHC P 20 | 20 way | 20+2 | 1SYN869011R0201 | 5,960 |

IP 54



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SHC M WP 4 | 4 way | 4+2 | 1SYN869002R0004 | 6,710 |
| SHC M WP 6 | 6 way | 6+2 | 1SYN869004R0020 | 7,310 |
| SHC M WP 8 | 8 way | 8+2 | 1SYN869002R0008 | 8,000 |
| SHC M WP 10 | 10 way | 10+2 | 1SYN869004R0021 | 8,680 |
| SHC M WP 12 | 12 way | 12+2 | 1SYN869002R0012 | 9,060 |
| SHC M WP 14 | 14 way | 14+2 | 1SYN869004R0022 | 10,080 |
| SHC M WP 16 | 16 way | 16+2 | 1SYN869004R0023 | 10,960 |
| SHC M WP 20 | 20 way | 20+2 | 1SYN869002R0013 | 11,560 |

TPN DB - SHDB horizontal

IP 30



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| SHDB WD 4 | 4 way | 8+12 | 1SYN869020R0001 ■ | 4,560 |
| SHDB WD 6 | 6 way | 8+18 | 1SYN869021R0001 | 5,330 |
| SHDB WD 8 | 8 way | 8+24 | 1SYN869022R0001 ■ | 6,340 |
| SHDB WD 12 | 12 way | 8+36 | 1SYN869023R0001 ■ | 9,300 |

IP 43 with metal door



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| SHDB M 4 | 4 way | 8+12 | 1SYN869016R0001 ■ | 5,590 |
| SHDB M 6 | 6 way | 8+18 | 1SYN869017R0001 | 6,800 |
| SHDB M 8 | 8 way | 8+24 | 1SYN869018R0001 ■ | 8,100 |
| SHDB M 12 | 12 way | 8+36 | 1SYN869019R0001 ■ | 12,120 |
| SHDB M 16 | 16 way | 8+48 | 1SYN869004R0025 ■ | 15,190 |

IP 43 metal door with acrylic



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SHDB P 4 | 4 way | 8+12 | 1SYN869024R0001 | 6,460 |
| SHDB P 6 | 6 way | 8+18 | 1SYN869025R0001 | 8,010 |
| SHDB P 8 | 8 way | 8+24 | 1SYN869026R0001 | 9,080 |
| SHDB P 12 | 12 way | 8+36 | 1SYN869027R0006 | 12,680 |

IP 54



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SHDB M WP 4 | 4 way | 8+12 | 1SYN869001R0004 | 15,250 |
| SHDB M WP 6 | 6 way | 8+18 | 1SYN869001R0006 | 18,360 |
| SHDB M WP 8 | 8 way | 8+24 | 1SYN869001R0008 | 20,100 |
| SHDB M WP 12 | 12 way | 8+36 | 1SYN869004R0027 | 28,480 |

■ Stock items

Classic series

Distribution boards



TPN DB SHPPI per phase isolation horizontal

IP 43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|------------------|--------------|
| SHPPI M 6 | 6 way | 8+6+12 | 1SYN8690100R0061 | 9,590 |
| SHPPI M 8 | 8 way | 8+6+18 | 1SYN8690100R0081 | 11,480 |
| SHPPI M 12 | 12 way | 8+6+30 | 1SYN8690100R0121 | 15,310 |
| SHPPI M 16 | 16 way | 8+6+42 | 1SYN8690100R0161 | 18,640 |

TPN DB SVDB per phase isolation vertical

IP 43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SVDB M 6 | 6 way | 8+6+18 | 1SYN869028R0001 | 11,910 |
| SVDB M 8 | 8 way | 8+6+24 | 1SYN869029R0001 | 14,050 |
| SVDB M 12 | 12 way | 8+6+36 | 1SYN869030R0001 | 16,710 |

VTPN DB vertical E-SVTDB 8P I/C & SP/TP O/G

IP 43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SVTDB M 4 | 4 way | 8+12 | 1SYN869031R0001 | 13,820 |
| SVTDB M 6 | 6 way | 8+18 | 1SYN869032R0001 | 15,810 |
| SVTDB M 8 | 8 way | 8+24 | 1SYN869033R0001 | 18,480 |
| SVTDB M 12 | 12 way | 8+36 | 1SYN869034R0001 | 23,430 |

VTPN DB vertical SVTDB-XT1 160A MCCB I/C & SP/TP MCB O/G

IP 43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|------------------|-----------------|--------------|
| SVTDB M 4XT1 | 4 way | 160A Tmax XT1+12 | 1SYN8690VMXT104 | 16,220 |
| SVTDB M 6XT1 | 6 way | 160A Tmax XT1+18 | 1SYN8690VMXT106 | 18,550 |
| SVTDB M 8XT1 | 8 way | 160A Tmax XT1+24 | 1SYN8690VMXT108 | 19,960 |
| SVTDB M 12XT1 | 12 way | 160A Tmax XT1+36 | 1SYN8690VMXT112 | 25,630 |

VTPN DB vertical SVTDB-XT3 250A MCCB I/C & SP/TP MCB O/G

IP 43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|------------------|-----------------|--------------|
| SVTDB M 4XT3 | 4 way | 250A Tmax XT3+12 | 1SYN8690VMXT304 | 28,050 |
| SVTDB M 6XT3 | 6 way | 250A Tmax XT3+18 | 1SYN8690VMXT306 | 30,840 |
| SVTDB M 8XT3 | 8 way | 250A Tmax XT3+24 | 1SYN8690VMXT308 | 32,460 |
| SVTDB M 12XT3 | 12 way | 250A Tmax XT3+36 | 1SYN8690VMXT312 | 34,160 |

Classic series

Distribution boards

7 SEGMENT DB - S7SEG

IP43 With metal door



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| S7SEG M 4 | 4 way | 8+12+12 | 1SYN869058R0001 | 14,610 |
| S7SEG M 6 | 6 way | 8+12+18 | 1SYN869059R0001 | 16,420 |
| S7SEG M 8 | 8 way | 8+12+24 | 1SYN869060R0001 | 17,790 |
| S7SEG M 12 | 12 way | 8+12+36 | 1SYN869061R0001 | 21,580 |

PHASE SELECTOR DB - SPVS

IP43 With metal door



| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-----------------|--------------|
| SPVS M 4(63A) | 4 way | 8+12 | 1SYN869100R0001 | 14,840 |
| SPVS M 6(63A) | 6 way | 8+18 | 1SYN869100R0002 | 15,480 |
| SPVS M 8(63A) | 8 way | 8+24 | 1SYN869100R0003 | 15,920 |
| SPVS M 12(63A) | 12 way | 8+36 | 1SYN869100R0004 | 17,720 |

FLEXY TIER DB - SVFL

IP43 With metal door

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|----------------|----------------|-----------------|--------------|
| SVFL M 132 | 2 row of 13mod | 26 | 1SYN869004R0051 | 6,540 |
| SVFL M 133 | 3 row of 13mod | 39 | 1SYN869103R0001 | 7,960 |
| SVFL M 134 | 4 row of 13mod | 52 | 1SYN869103R0002 | 10,470 |
| SVFL M 142 | 2 row of 14mod | 28 | 1SYN869004R0052 | 7,760 |
| SVFL M 143 | 3 row of 14mod | 42 | 1SYN869004R0053 | 9,130 |
| SVFL M 144 | 4 row of 14mod | 56 | 1SYN869103R0012 | 10,390 |

Plug & Socket DB - SGK

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| SGK 20 SP | 20A SP | 1 | 1SYN869043R0001 ■ | 2,210 |
| SGK 30 TP | 30A TP | 3 | 1SYN869044R0001 ■ | 5,370 |
| SGK 60 FP | 60A FP | 4 | 1SYN869053R0001 ■ | 20,420 |

Enclosure - SEN

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|--------------|----------------|-------------------|--------------|
| SEN 2P | 2P Enclosure | 2 | 1SYN869055R0001 ■ | 920 |
| SEN 4P | 4P Enclosure | 4 | 1SYN869056R0001 ■ | 940 |
| SEN 6P | 6P Enclosure | 6 | 1SYN869057R0001 ■ | 1,310 |
| SEN 8P | 8P Enclosure | 8 | 1SYN869004R0029 ■ | 1,490 |

BUSBAR SP I/C & SP O/G, Blanking plate

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|----------------------------|-------------|----------------|-------------------|--------------|
| 13 Module Pin type Busbars | 13 | 13 | 1SYN360025P0001 ■ | 560 |
| 14 Module Pin type Busbars | 14 | 14 | 1SYN869103R0013 ■ | 560 |

Blanking plate

| Product description | No. of ways | No. of modules | Ordering code | Unit MRP (₹) |
|---------------------|-------------|----------------|-------------------|--------------|
| Blank PL | | 1 | 1SYN869004R0059 ■ | 30 |



Classic series

Distribution boards

One-way MCCB enclosures

XT1 MCCB ENCL

| Product description | No. of ways | Ordering code | Unit MRP (₹) |
|-----------------------|-------------|-----------------|--------------|
| XT1 TP MCCB Enclosure | 3 pole | 1SYT121503C0001 | 2,320 |
| XT1 FP MCCB Enclosure | 4 pole | 1SYT121504C0001 | 2,640 |

XT3 MCCB ENCL

| Product description | No. of ways | Ordering code | Unit MRP (₹) |
|-----------------------|-------------|-----------------|--------------|
| XT3 TP MCCB Enclosure | 3 pole | 1SYT321503C0001 | 2,640 |
| XT3 FP MCCB Enclosure | 4 pole | 1SYT321504C0001 | 2,950 |

A1 MCCB ENCL

| Product description | No. of ways | Ordering code | Unit MRP (₹) |
|----------------------|-------------|-----------------|--------------|
| A1 TP MCCB Enclosure | 3 pole | 1SYA121503C0001 | 2,640 |
| A1 FP MCCB Enclosure | 4 pole | 1SYA121504C0001 | 2,810 |

A2 MCCB ENCL

| Product description | No. of ways | Ordering code | Unit MRP (₹) |
|----------------------|-------------|-----------------|--------------|
| A2 TP MCCB Enclosure | 3 pole | 1SYA221503C0001 | 2,810 |
| A2 FP MCCB Enclosure | 4 pole | 1SYA221504C0001 | 2,880 |

Classic series

Distribution boards

Cable end box

| Product description | Ordering code | No. of ways | Unit MRP (₹) |
|---------------------------|-----------------|------------------------------------|--------------|
| SPN IP43 SHC | | | |
| SHC M 4/CEB | 1SYN869103R0014 | For 4 way SPN IP 43 DB | 790 |
| SHC M 6/CEB | 1SYN869103R0015 | For 6 way SPN IP43 DB | 860 |
| SHC M 8/CEB | 1SYN869004R0082 | For 8 way SPN IP43 DB | 890 |
| SHC M 10/CEB | 1SYN869004R0083 | For 10 way SPN IP43 DB | 950 |
| SHC M 12/CEB | 1SYN869004R0084 | For 12 way SPN IP43 DB | 1,060 |
| SHC M 14/CEB | 1SYN869004R0085 | For 14 way SPN IP43 DB | 1,160 |
| SHC M 16/CEB | 1SYN869004R0086 | For 16 way SPN IP43 DB | 1,420 |
| SHC M 20/CEB | 1SYN869004R0087 | For 20 way TPN IP43 DB | 1,760 |
| TPN IP43 SHDB | | | |
| SHDB M 4/CEB | 1SYN869004R0088 | For 4 way TPN IP43 DB | 1,340 |
| SHDB M 6/CEB | 1SYN869004R0089 | For 6 way TPN IP43 DB | 1,370 |
| SHDB M 8/CEB | 1SYN869004R0090 | For 8 way TPN IP43 DB | 2,010 |
| SHDB M 12/CEB | 1SYN869004R0091 | For 12 way TPN IP43 DB | 2,200 |
| TPN IP43 SHPPI | | | |
| SHPPI M 6/CEB | 1SYN869004R0093 | For 6 way PPI IP43 DB | 1,530 |
| SHPPI M 8/CEB | 1SYN869004R0094 | For 8 way PPI IP43 DB | 2,120 |
| SHPPI M 12/CEB | 1SYN869004R0095 | For 12 way PPI IP43 DB | 3,030 |
| SHPPI M 16/CEB | 1SYN869004R0096 | For 16 way PPI IP43 DB | 3,280 |
| TPN IP43 SVDB | | | |
| SVDB M 6/CEB | 1SYN869004R0097 | For 6 way SVDB IP43 DB | 1,640 |
| SVDB M 8/CEB | 1SYN869004R0098 | For 8 way SVDB IP43 DB | 1,660 |
| SVDB M 12/CEB | 1SYN869004R0099 | For 12 way SVDB IP43 DB | 1,910 |
| Flexy DB IP43 | | | |
| SVFL 13M/CEB | 1SYN869004R0103 | For all SVFL 13Mod DBs | 1,750 |
| SVFL 14M/CEB | 1SYN869004R0104 | For all SVFL 14Mod DBs | 2,130 |
| VTPN IP43 SVTDB | | | |
| SVTDB M/CEB | 1SYN869004R0100 | For all SVTDBs(IP43DBs) | 3,250 |
| VTPN IP43 XT1 160A | | | |
| SVTDB M XT1 160/CEB | 1SYN869004C0101 | For all SVTDB XT1 160 DBs(IP43DBs) | 4,120 |
| VTPN IP43 XT3 250A | | | |
| SVTDB M XT3 250/CEB | 1SYN869004C0103 | For all SVTDB XT3 250 DBs(IP43DBs) | 4,830 |
| 7 Segment CB | | | |
| S7SEG M4/CEB | 1SYN141013C0001 | For 4 way 7 SEG IP43 DB | 2,490 |
| S7SEG M6/CEB | 1SYN141014C0001 | For 6 way 7 SEG IP43 DB | 2,910 |
| S7SEG M8/CEB | 1SYN140600C0001 | For 8 way 7 SEG IP43 DB | 3,390 |
| S7SEG M12/CEB | 1SYN140700C0001 | For 12 way 7 SEG IP43 DB | 4,170 |

Complete range

Customization in ABB Distribution Enclosures available on request*

- i) Enclosures-TV/TEL/ONT related backend devices
- ii) Enclosures-SPD provision
- iii) Pre-wired distribution boards
- iv) Indication lamps provision
- v) MCCB enclosures

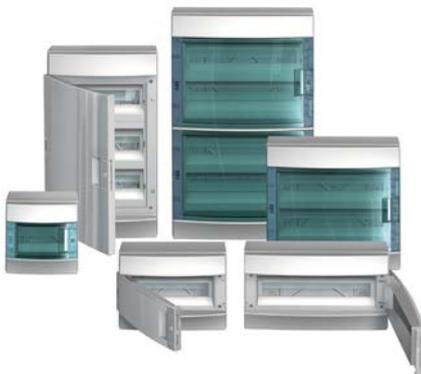
Mistral IP 65 enclosures

A point of reference. For simplicity and effectiveness

A complete series, versatile and easy to install

Efficiency, safety, integration: the new System pro E comfort MISTRAL65 series rests on the strengths which have consolidated ABB's image over the years for its expertise and reliability in the area of products for protection, control, monitoring, measurement, safety and energy efficiency. These innovative IP65 rated consumer units complete

ABB's wide product range for the industrial sector. The result of constant research and constant attention paid to technological development, the System pro E comfort consumer units are designed to satisfy all requirements electrical installers might have.



| Product description | Product code | No of Modules | Unit L.P. (₹) |
|--|--------------|---------------|---------------|
| Mistral65 transparent door 8M - 1 Row without terminal connectors | 1SL1201A00 | 8 | 6,580 |
| Mistral65 transparent door 12M - 1 Row without terminal connectors | 1SL1202A00 | 12 | 8,770 |
| Mistral65 transparent door 18M - 1 Row without terminal connectors | 1SL1203A00 | 18 | 11,110 |
| Mistral65 transparent door 24M - 2 Rows without terminal connectors | 1SL1204A00 | 24 | 13,610 |
| Mistral65 transparent door 36M 2F - 2 Rows without terminal connectors | 1SL1205A00 | 36 | 21,680 |
| Mistral65 transparent door 36M 3F - 3 Rows without terminal connectors | 1SL1206A00 | 36 | 21,680 |
| Mistral65 transparent door 54M - 3 Rows without terminal connectors | 1SL1208A00 | 54 | 31,270 |



4 Module



8 Module



| Product description | Product code | No of Modules | Unit MRP (₹) |
|---|-----------------|---------------|--------------|
| Mistral65 transparent door 4M without terminal connectors | 1SL1200A00 | 4 | 4,080 |
| Mistral65 transparent door 8M 12SM with terminal connectors (N 3x6mm ² + 3x16mm ² , PE 3x6mm ² + 3x16mm ²) | 1SLM006501A1201 | 8 | 6,520 |
| Mistral65 transparent door 12M 22SM with terminal connectors (N 5x6mm ² + 6x16mm ² , PE 5x6mm ² + 6x16mm ²) | 1SLM006501A1202 | 12 | 8,980 |
| Mistral65 transparent door 18M 32SM with terminal connectors (N 9x6mm ² + 7x16mm ² , PE 9x6mm ² + 7x16mm ²) | 1SLM006502A1203 | 18 | 11,420 |
| Mistral65 transparent door 24M 22SM - 2 Rows with terminal connectors (N 6x6mm ² + 5x16mm ² , PE 6x6mm ² + 5x16mm ²) | 1SLM006501A1204 | 24 | 12,430 |