

CATALOG

# SACE Tmax XT

Low voltage molded case circuit-breakers



Break new ground

- Data and connectivity
- Ease of use and installation
- Performance and protection
- Safety and reliability

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**Break new ground.**

**A cutting-edge molded case circuit-breaker range delivering a brand new product experience, with extreme performance and protection features up to 1600A, maximizing ease of use, integration and connectivity. Built to deliver safety, reliability and quality.**

# **SACE Tmax XT**

## The complete offering

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# Main characteristics

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# SACE Tmax XT overview

## Break new ground

Break new ground simply means delivering value through the entire customer journey by leaving behind the traditional concept of circuit-breaker. The SACE Tmax XT range offers a unique customer experience that, sharing the same features and logics with the Emax 2 range, for the first time ever overcomes the differences between molded case and air circuit-breakers. The most advanced products designed to maximize data and connectivity, ease of use and installation, performance and protection, safety and reliability.

The SACE Tmax XT range offers higher performance, better protection and more precise metering than equivalent units, and can handle from 160 up to 1600A.

Combined with the world's most precise electronic trip units in the smallest frames, the new range delivers significant time savings and enhances installation quality.

Reliability is further increased, and speed of installation reduced, thanks to Bluetooth and Ekip connectivity for mobile devices.



The SACE Tmax XT family's built-in connectivity links smartphones, tablets and PCs to data analysis tools on the ABB Ability™ cloud platform in real time. The extreme precision of the data measured means users have access to accurate information anywhere and anytime, making it easier to monitor resources and identify savings opportunities. Using the embedded smart power controller can help reduce energy consumption by up to 20 per cent.

Upgrading the breakers is straightforward: for the first time, customers can download new functions from the ABB Ability Marketplace™, choosing from among more than 50 different protection, metering and automation functionalities.



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## Distinctive features

### Data and connectivity



Plant management of the future – SACE Tmax XT sets standards in modern plant and energy management. Access, monitor and control information remotely, anywhere, at any time. Improving efficiency and saving energy.



The SACE Tmax XT is the first molded case circuit-breaker to become an active element inside the electrical plant without using external accessories.

**Local connection**

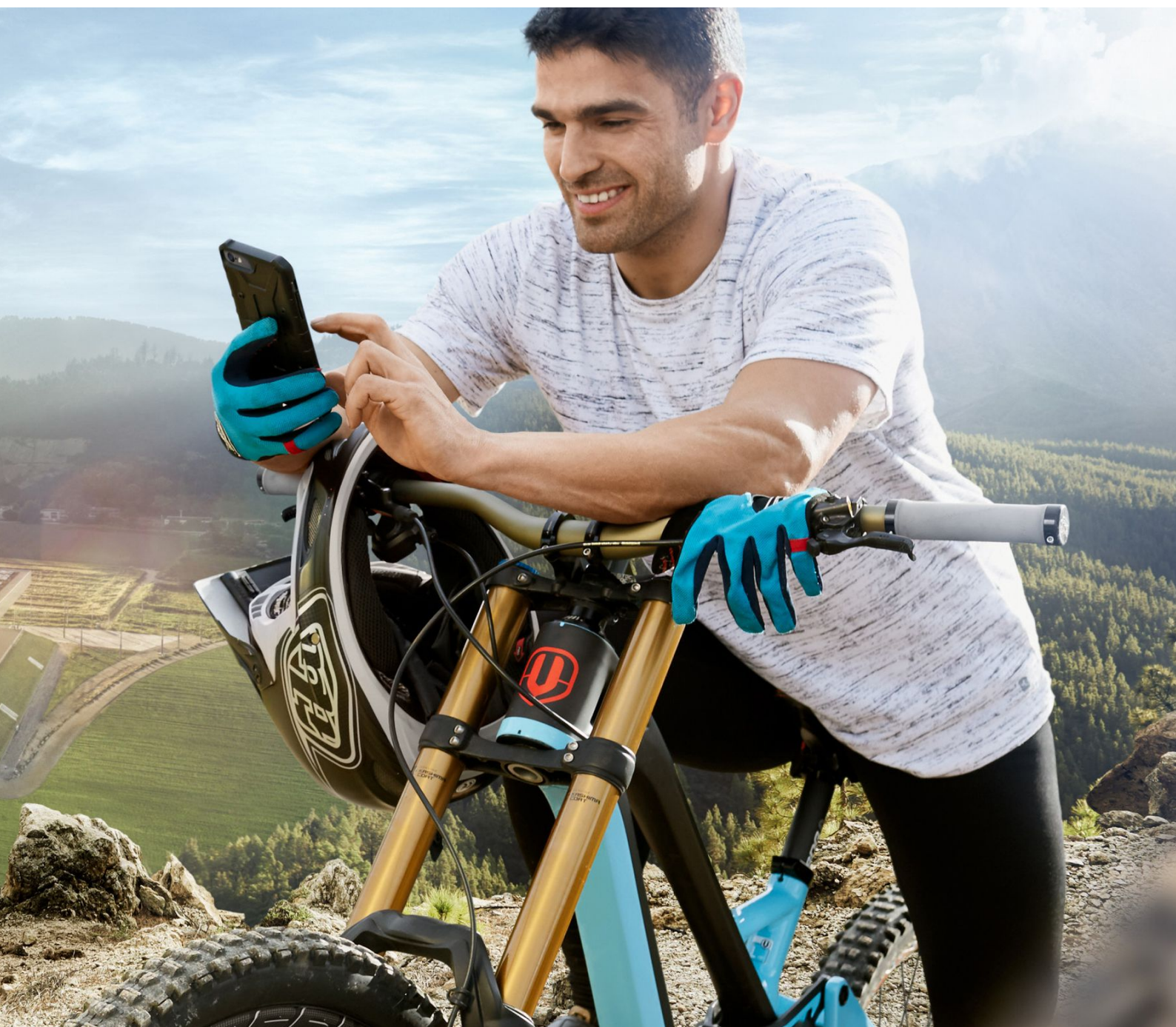
Commissioning and device setting have never been so easy thanks to the Bluetooth connectivity and the Ekip Connect software.

**Remote communication**

All the data of the electrical plant are accessible and the interaction with the breakers from remote is straightforward thanks the several communication protocols available.

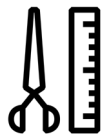
**Cloud connectivity**

Cloud connection is now possible to exploit the full service of ABB Ability™ Energy and Asset Manager thanks to the Ekip Com HUB.



## Distinctive features

### Ease of use and installation



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



**Ease of selection**

The clever organization of the SACE Tmax XT range and the user-friendly software e-Configure allows the customer to easily select and customize the right products for their needs.

**One-fits-all accessories**

Improving the circuit-breaker from its basic functions

to a more versatile and sophisticated device is made possible thanks to the SACE Tmax XT modular structure and the variety of available accessories.

**Upgradability**

The Ekip Touch and Hi-Touch trip units can always be upgraded via ABB Ability Marketplace™ and new functionalities shall be always available for an ever ending future.



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## Distinctive features

### Performance and protection



Continuity of service and equipment protection – SACE Tmax XT sets standards when extreme breaking capacity is needed. Sharing the same logics, interfaces and features regardless of operating voltage environmental conditions. Embedding the most advanced protections into the smallest of frames.



**Electrical performances**

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

**Metering**

SACE Tmax XT provides all the tools needed to set up a competent and effective energy management strategy thanks to the trip units able to measure electrical parameters with 1% accuracy certification.

**Protections and logics**

SACE Tmax XT integrates extra functionalities into the size of a standard molded case circuit-breaker. The most advanced protection functions and logics are available thanks to its cutting-edge trip units.



## Distinctive feature

### Safety and reliability



Absolute attention to detail, with style from design to manufacturing SACE Tmax XT sets standards for edge technologies. Half a century of research and experience means top-level products that are ready to face future challenges.



Discover more about SACE Tmax XT



Web page: [go.abb/XT](https://go.abb/XT)



# Products conformity

SACE Tmax XT circuit-breakers and their accessories comply with IEC 60947, EN 60947 international Standards

## Compliance with Standards

Tmax XT circuit-breakers and their accessories are constructed in compliance with:

- Standard:
  - IEC 60947-2;
- Directives:
  - EC "Low Voltage Directive" (LVD) N° 2014/35/EC;
  - EC "Electromagnetic Compatibility Directive" (EMC) 2014/30/EC;

## Shipping Registers:

- Lloyd's Register of Shipping, Germanischer Lloyd, Bureau Veritas, Rina, Det Norske Veritas, Russian Maritime Register of Shipping, ABS.

Certification of conformity with product Standards is carried out at the ABB SACE test laboratory (accredited by ACCREDIA - certificate no. 0062L-D2/2020) in compliance with UNI CEI EN ISO/IEC 17025 European Standard, by the Italian certification body ACAE, member of the European LOVAG organization and by the Swedish certification body SEMKO recognized by the international IECCE organization.



CCC



JIS



KC



Registro Italiano Navale (RINA):  
Italy



Lloyd's Register of Shipping (LR):  
United Kingdom



American Bureau Shipping (ABS):  
United States of America



LOVAG low voltage agreement  
group



Germanischer Lloyd (GL):  
Germany



Bureau Veritas (BV):  
France



Det Norske Veritas (DNV):  
Norway



Russian Maritime Register of Shipping (RMRS):  
Russia



Nippon Kaiji Kyokai (NKK):  
Japan

For more information about circuit-breakers, certified ratings and their corresponding validity, please contact ABB SACE.



### Company Quality System

The ABB SACE Quality System complies with the following Standards:

- ISO 9001 International Standard;
- EN ISO 9001 (equivalent) European Standards;
- UNI EN ISO 9001 (equivalent) Italian Standards;
- IRIS International Railway Industry Standards.

The ABB SACE Quality System attained its first certification by the RINA certification body in 1990.

### Environmental Health & Safety Management System, Social Responsibility and Ethics

Special care for the environment is a priority commitment for ABB SACE. This is confirmed through the company's Environmental Management System which is certified by the RINA (ABB SACE was the first industry in the electromechanical sector in Italy to obtain this recognition) in conformity with the International ISO14001 Standard. In 1999 the Environmental Management System was integrated with the Occupational Health and Safety Management System according to the OHSAS 18001 Standard and later, in 2005, with the SA 8000 (Social Accountability 8000) Standard. All this amounts to solid evidence of ABB's commitment to respecting business ethics and promoting a safe and healthy working environment.

ISO 14001, OHSAS 18001 and SA8000 recognitions together with ISO 9001 made it possible to obtain RINA BEST<sup>4</sup> (Business Excellence Sustainable Task) certification.

### Product Material Compliance

The XT family complies with the following international regulations:

- RoHS II, Directive 2011/65/EU and Amendment 2015/863 - Restriction of Hazardous Substances;
- REACH, 2006/1907/EC, Registration, Evaluation, Authorization and Restriction of Chemicals;
- WEEE 2012/19/EU -Waste Electrical & Electronic Equipment;
- Conflict Minerals - Dodd-Frank Consumer Protection Act. Section 1502.



## Construction characteristics

All the SACE Tmax XT molded case circuit-breakers are built in accordance with the following constructional characteristics.



### Double insulation

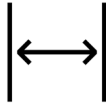
The Tmax XT circuit-breaker has double insulation between the live power parts (excluding the terminals) and the front parts of the apparatus where the operator works during normal operation. The seat of each electrical accessory is completely segregated from the power circuit, preventing any risk of contact with live parts. The operating mechanism especially is completely insulated from the powered circuits.

Furthermore, the circuit-breaker has oversized insulation, both between the live internal parts and near the connection terminals. Furthermore, the distances exceed those required by the IEC Standards and fully comply with the prescriptions of the UL 489 Standard.



### Positive operation

The operating lever always indicates the precise position of the moving contacts of the circuit-breaker, thereby guaranteeing safe and reliable signals, in compliance with IEC 60073 and IEC 60417-2 Standards (I = Closed; O = Open; yellow-green line = open due to protection trip). The circuit-breaker operating mechanism has a free release regardless of the pressure on the lever and the speed of operation. Protection tripping automatically opens the moving contacts: to close them again, the operating mechanism must first be reset by pushing the operating lever from the intermediate position to the lowest open position.

**Insulation behaviour**

In the open position, the circuit-breaker guarantees insulation distances in compliance with the IEC 60947-2 Standard, thus preventing leakage currents to flow between the input and output terminals.

**Tropicalization**

Circuit-breakers and accessories in the Tmax XT series are tested in compliance with the IEC 60068-2-30 Standard, carrying out 2 cycles at 55 °C with the “variant 1” method (clause 7.3.3).

The suitability of the Tmax XT series under the most severe environmental conditions is further ensured with the hot-humid climate according to climatograph 8 in the IEC 60721-2-1 Standards thanks to:

- molded insulating cases made of synthetic resins reinforced with glass fibers;
- anti-corrosion treatment of the main metallic parts;
- Fe/Zn 12 zinc-plating (ISO 2081) protected by a conversion layer, free from hexavalent chromium (ROHS-compliant), with the same corrosion resistance guaranteed by ISO 4520 class 2C;
- application of anti-condensation protection for electronic overcurrent releases and relative accessories.

# ABB EcoSolutions™

## Leading the way to the circular economy

To help preserve the Earth's resources for future generations, ABB takes a company-wide approach to circularity. We aim to innovate towards new circular business models by cutting waste, increasing recyclability and reusability, and making our products more durable. We work closely with customers and suppliers to embed circularity across the value chain.

ABB's EcoSolutions™ label provides full transparency on a product's circularity value and environmental impact. ABB products with the EcoSolutions label carry an independently verified environmental product declaration (EPD) (ISO 14025) – and comply with a set of key performance indicators defined in ABB's circularity framework.

### ABB EcoSolutions: transparency for customers

The ABB EcoSolutions™ label is an assurance that the product is:

- designed to last and manufactured with the maximum amount of sustainably sourced raw materials;
- made with processes that are designed to avoid waste and maximize the use of sustainable packaging materials;
- designed to increase resource and process efficiency while in use, be upgradable and optimize the lifetime of equipment and facilities;
- supported by take-back services leading to refurbishment, re-use or recycling of products and components, and is accompanied by instructions for responsible end-of-life treatment.

EcoSolutions products are evaluated against a clear set of 8 key performance indicators (KPIs) based on these four stages of the product life cycle.

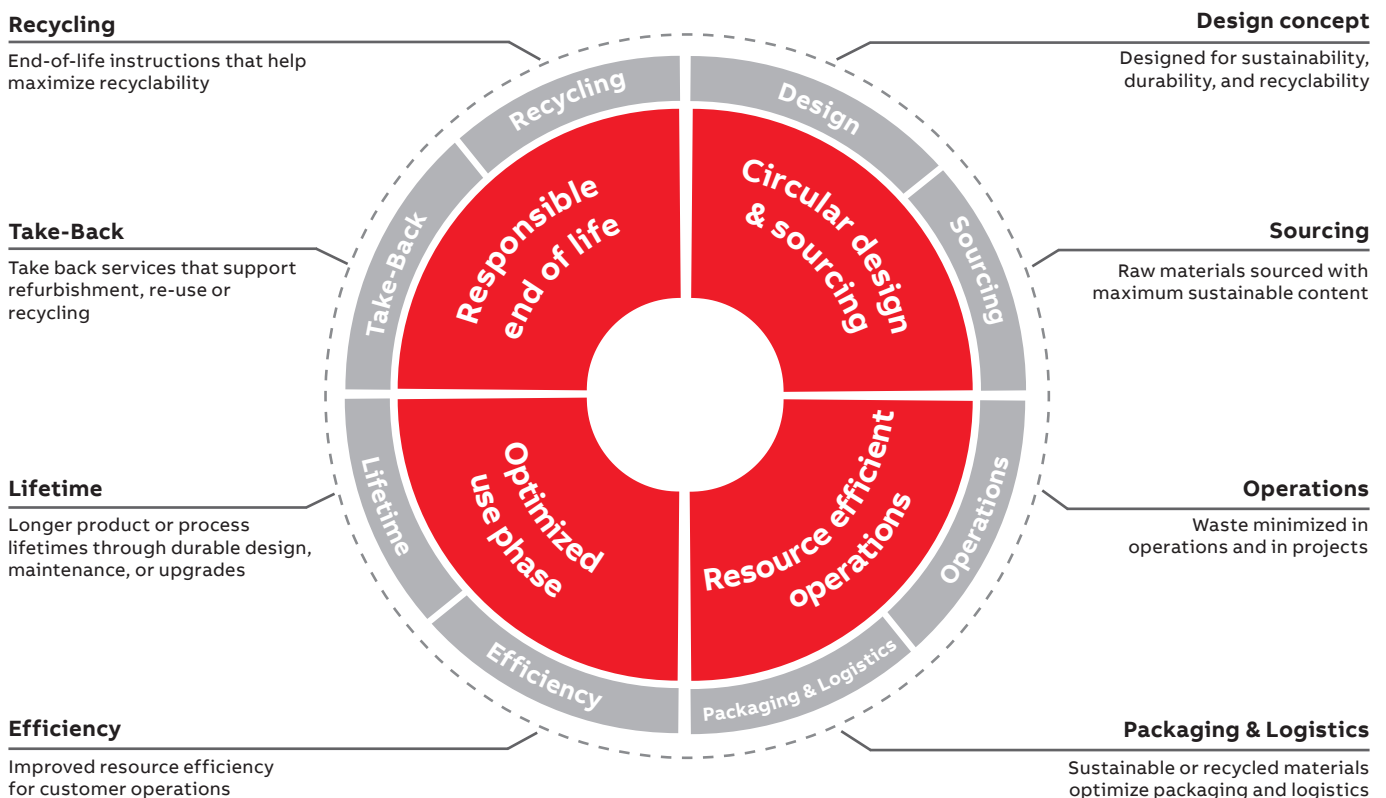




ABB  
**Eco**  
Solutions™



Look for the ABB EcoSolutions™ logo and QR code on packaging to access transparent sustainability information about the product. To receive information for a specific product, please contact ABB.





## The ranges

- 2/2**     **SACE Tmax XT automatic circuit-breakers for alternating current (AC) distribution**
- 2/10**    **SACE Tmax XT automatic circuit-breakers for direct current (DC) distribution**
- 2/14**    **SACE Tmax XT switch-disconnectors**

# SACE Tmax XT automatic circuit-breakers for alternating current (AC) distribution



| Size                                                       |                         | XT1                           |          |          |          |            |
|------------------------------------------------------------|-------------------------|-------------------------------|----------|----------|----------|------------|
| Rated uninterrupted current                                | [A]                     | 160                           |          |          |          |            |
| Poles                                                      | [No.]                   | 3, 4                          |          |          |          |            |
| Rated service voltage, <b>Ue</b>                           | (AC) 50-60Hz [V]        | 690                           |          |          |          |            |
| Rated insulation voltage, <b>Ui</b>                        | [V]                     | 800                           |          |          |          |            |
| Rated impulse withstand voltage, <b>Uimp</b>               | [kV]                    | 8                             |          |          |          |            |
| Versions                                                   |                         | Fixed, Plug-in <sup>(1)</sup> |          |          |          |            |
| Max supply voltage on bottom side (F, P, W)                | [V]                     | 690                           |          |          |          |            |
| Breaking capacities according to IEC 60947-2               |                         | <b>B</b>                      | <b>C</b> | <b>N</b> | <b>S</b> | <b>H</b>   |
| Rated ultimate short-circuit breaking capacity, <b>Icu</b> |                         |                               |          |          |          |            |
| Icu @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 25                            | 40       | 65       | 85       | 100        |
| Icu @ 380V 50-60Hz (AC)                                    | [kA]                    | 18                            | 25       | 36       | 50       | 70         |
| Icu @ 415V 50-60Hz (AC)                                    | [kA]                    | 18                            | 25       | 36       | 50       | 70         |
| Icu @ 440V 50-60Hz (AC)                                    | [kA]                    | 15                            | 25       | 36       | 50       | 65         |
| Icu @ 500V 50-60Hz (AC)                                    | [kA]                    | 8                             | 18       | 30       | 36       | 50         |
| Icu @ 525V 50-60Hz (AC)                                    | [kA]                    | 6                             | 8        | 22       | 35       | 35         |
| Icu @ 690V 50-60Hz (AC)                                    | [kA]                    | 3                             | 4        | 6        | 8        | 10         |
| Rated service short-circuit breaking capacity, <b>Ics</b>  |                         |                               |          |          |          |            |
| Ics @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 100%                          | 100%     | 75% (50) | 75% (80) | 75% (80)   |
| Ics @ 380V 50-60Hz (AC)                                    | [kA]                    | 100%                          | 100%     | 100%     | 100%     | 75%        |
| Ics @ 415V 50-60Hz (AC)                                    | [kA]                    | 100%                          | 100%     | 100%     | 75%      | 50% (37.5) |
| Ics @ 440V 50-60Hz (AC)                                    | [kA]                    | 75%                           | 50%      | 50%      | 50%      | 50%        |
| Ics @ 500V 50-60Hz (AC)                                    | [kA]                    | 100%                          | 50%      | 50%      | 50%      | 50%        |
| Ics @ 525V 50-60Hz (AC)                                    | [kA]                    | 100%                          | 100%     | 50%      | 50%      | 50%        |
| Ics @ 690V 50-60Hz (AC)                                    | [kA]                    | 100%                          | 100%     | 75% (5)  | 50% (5)  | 50%        |
| Rated short-circuit making capacity, <b>Icm</b>            |                         |                               |          |          |          |            |
| Icm @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 52.5                          | 84       | 143      | 187      | 220        |
| Icm @ 380V 50-60Hz (AC)                                    | [kA]                    | 36                            | 52.5     | 75.6     | 105      | 154        |
| Icm @ 415V 50-60Hz (AC)                                    | [kA]                    | 36                            | 52.5     | 75.6     | 105      | 154        |
| Icm @ 440V 50-60Hz (AC)                                    | [kA]                    | 30                            | 52.5     | 75.6     | 105      | 143        |
| Icm @ 500V 50-60Hz (AC)                                    | [kA]                    | 13.6                          | 36       | 63       | 75.6     | 105        |
| Icm @ 525V 50-60Hz (AC)                                    | [kA]                    | 9                             | 13.6     | 46.2     | 73.5     | 73.5       |
| Icm @ 690V 50-60Hz (AC)                                    | [kA]                    | 4.26                          | 5.88     | 9        | 13.6     | 17         |
| Breaking capacities according to NEMA-AB1                  |                         |                               |          |          |          |            |
| @ 240V 50-60Hz (AC)                                        | [kA]                    | 25                            | 40       | 65       | 85       | 100        |
| @ 480V 50-60Hz (AC)                                        | [kA]                    | 8                             | 18       | 30       | 36       | 65         |
| Utilization Category (IEC 60947-2)                         |                         | A                             |          |          |          |            |
| Icw                                                        | [kA]                    | -                             |          |          |          |            |
| Reference Standard                                         |                         | IEC 60947-2                   |          |          |          |            |
| Insulation behaviour                                       |                         | ✓                             |          |          |          |            |
| Mounted on DIN rail                                        |                         | DIN EN 50022                  |          |          |          |            |
| Mechanical life                                            | [No. Operations]        | 25,000                        |          |          |          |            |
|                                                            | [No. Hourly operations] | 240                           |          |          |          |            |
| Electrical life @ 415 V (AC)                               | [No. Operations]        | 8,000                         |          |          |          |            |
|                                                            | [No. Hourly operations] | 120                           |          |          |          |            |

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

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

(4) Icu=80kA when supply voltage on bottom side



| XT2                          |      |      |          |      | XT3            |          |      | XT4                          |      |      |                     |                        |  |
|------------------------------|------|------|----------|------|----------------|----------|------|------------------------------|------|------|---------------------|------------------------|--|
| 160                          |      |      |          |      | 250            |          |      | 160 / 250                    |      |      |                     |                        |  |
| 3, 4                         |      |      |          |      | 3, 4           |          |      | 3, 4                         |      |      |                     |                        |  |
| 690                          |      |      |          |      | 690            |          |      | 690                          |      |      |                     |                        |  |
| 1000                         |      |      |          |      | 800            |          |      | 1000                         |      |      |                     |                        |  |
| 8                            |      |      |          |      | 8              |          |      | 8                            |      |      |                     |                        |  |
| Fixed, Withdrawable, Plug-in |      |      |          |      | Fixed, Plug-in |          |      | Fixed, Withdrawable, Plug-in |      |      |                     |                        |  |
| ≤ 480                        |      |      |          |      | 690            |          |      | 690                          |      |      |                     |                        |  |
| N                            | S    | H    | L        | V    | N              | S        | N    | S                            | H    | L    | V                   | X                      |  |
| 65                           | 85   | 100  | 150      | 200  | 50             | 85       | 65   | 85                           | 100  | 150  | 200                 | 200                    |  |
| 36                           | 50   | 70   | 120      | 150  | 36             | 50       | 36   | 50                           | 70   | 120  | 150                 | 200                    |  |
| 36                           | 50   | 70   | 120      | 150  | 36             | 50       | 36   | 50                           | 70   | 120  | 150                 | 200                    |  |
| 36                           | 50   | 65   | 100      | 150  | 36             | 40       | 36   | 50                           | 65   | 100  | 150                 | 200                    |  |
| 30                           | 36   | 50   | 60       | 70   | 20             | 30       | 30   | 36                           | 50   | 60   | 85 <sup>(2)</sup>   | 100 <sup>(2)</sup>     |  |
| 20                           | 25   | 30   | 36       | 50   | 13             | 20       | 20   | 25                           | 45   | 50   | 70 <sup>(2)</sup>   | 100 <sup>(2)</sup>     |  |
| 10                           | 12   | 15   | 18       | 20   | 5              | 6        | 10   | 12                           | 15   | 20   | 50 <sup>(2)</sup>   | 100 <sup>(2) (4)</sup> |  |
|                              |      |      |          |      |                |          |      |                              |      |      |                     |                        |  |
| 100%                         | 100% | 100% | 100%     | 100% | 100%           | 50% (50) | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 100%     | 100% | 100%           | 50% (36) | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 100%     | 100% | 100%           | 50% (36) | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 100%     | 100% | 50%            | 50%      | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 100%     | 100% | 75%            | 50%      | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 100%     | 100% | 75%            | 50%      | 100% | 100%                         | 100% | 100% | 100%                | 100%                   |  |
| 100%                         | 100% | 100% | 75% (15) | 75%  | 50% (3)        | 50%      | 100% | 100%                         | 100% | 100% | 100% <sup>(3)</sup> | 100% <sup>(3)</sup>    |  |
|                              |      |      |          |      |                |          |      |                              |      |      |                     |                        |  |
| 143                          | 187  | 220  | 330      | 440  | 110            | 187      | 143  | 187                          | 220  | 330  | 440                 | 440                    |  |
| 75.6                         | 105  | 154  | 264      | 330  | 75.6           | 105      | 75.6 | 105                          | 154  | 264  | 330                 | 440                    |  |
| 75.6                         | 105  | 154  | 264      | 330  | 75.6           | 105      | 75.6 | 105                          | 154  | 264  | 330                 | 440                    |  |
| 75.6                         | 105  | 143  | 220      | 330  | 75.6           | 84       | 75.6 | 105                          | 143  | 220  | 330                 | 440                    |  |
| 63                           | 75.6 | 105  | 132      | 154  | 40             | 63       | 63   | 75.6                         | 105  | 132  | 187                 | 220                    |  |
| 40                           | 52.5 | 63   | 75.6     | 105  | 26             | 40       | 40   | 52.5                         | 94.5 | 105  | 154                 | 220                    |  |
| 17                           | 24   | 30   | 36       | 40   | 7.5            | 9        | 17   | 24                           | 30   | 40   | 105                 | 220                    |  |
|                              |      |      |          |      |                |          |      |                              |      |      |                     |                        |  |
| 65                           | 85   | 100  | 150      | 200  | 50             | 85       | 65   | 85                           | 100  | 150  | 200                 | 200                    |  |
| 30                           | 36   | 65   | 100      | 150  | 25             | 35       | 30   | 36                           | 65   | 100  | 150                 | 100                    |  |
| A                            |      |      |          |      | A              |          |      | A                            |      |      |                     |                        |  |
| -                            |      |      |          |      | -              |          |      | -                            |      |      |                     |                        |  |
| IEC 60947-2                  |      |      |          |      | IEC 60947-2    |          |      | IEC 60947-2                  |      |      |                     |                        |  |
| ✓                            |      |      |          |      | ✓              |          |      | ✓                            |      |      |                     |                        |  |
| DIN EN 50022                 |      |      |          |      | DIN EN 50022   |          |      | DIN EN 50022                 |      |      |                     |                        |  |
| 25,000                       |      |      |          |      | 25,000         |          |      | 25,000                       |      |      |                     |                        |  |
| 240                          |      |      |          |      | 240            |          |      | 240                          |      |      |                     |                        |  |
| 8,000                        |      |      |          |      | 8,000          |          |      | 8,000                        |      |      |                     | 10,000                 |  |
| 120                          |      |      |          |      | 120            |          |      | 120                          |      |      |                     |                        |  |

# SACE Tmax XT automatic circuit-breakers for alternating current (AC) distribution



| Size                                |           |      | XT1              |
|-------------------------------------|-----------|------|------------------|
| Dimensions                          |           |      |                  |
| Fixed                               | 3 poles   | [mm] | 76.2 x 70 x 130  |
| (Width x Depth x Height)            | 4 poles   | [mm] | 101.6 x 70 x 130 |
| Trip units for power distribution   |           |      |                  |
| TMD/TMA                             |           |      |                  |
| TMD/TMF                             |           |      | ■                |
| Ekip Dip                            |           |      |                  |
| Ekip Touch                          |           |      |                  |
| Trip units for motor protection     |           |      |                  |
| MF/MA                               |           |      |                  |
| Ekip Dip                            |           |      |                  |
| Ekip Touch                          |           |      |                  |
| Trip units for generator protection |           |      |                  |
| TMG                                 |           |      |                  |
| Ekip Dip                            |           |      |                  |
| Ekip Touch                          |           |      |                  |
| Interchangeable trip units          |           |      |                  |
| Weight                              |           |      |                  |
| Fixed                               | 3/4 poles | [kg] | 1.1 / 1.4        |
| Plug in (EF terminals)              | 3/4 poles | [kg] | 2.21 / 2.82      |
| Withdrawable (EF terminals)         | 3/4 poles | [kg] |                  |

|                                                                                   |                                                                                   |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |
| XT2                                                                               | XT3                                                                               | XT4                                                                                 |
| 90 x 82.5 x 130                                                                   | 105 x 70 x 150                                                                    | 105 x 82.5 x 160                                                                    |
| 120 x 82.5 x 130                                                                  | 140 x 70 x 150                                                                    | 140 x 82.5 x 160                                                                    |
| ■                                                                                 |                                                                                   | ■                                                                                   |
|                                                                                   | ■                                                                                 |                                                                                     |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ■                                                                                 | ■                                                                                 | ■                                                                                   |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ■                                                                                 | ■                                                                                 |                                                                                     |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ■                                                                                 |                                                                                   | ■                                                                                   |
| ✓                                                                                 |                                                                                   | ✓                                                                                   |
| 1.2 / 1.6                                                                         | 1.7 / 2.1                                                                         | 2.5 / 3.5                                                                           |
| 2.54 / 3.27                                                                       | 3.24 / 4.1                                                                        | 4.19 / 5.52                                                                         |
| 3.32 / 4.04                                                                       |                                                                                   | 5 / 6.76                                                                            |

# SACE Tmax XT automatic circuit-breakers for alternating current (AC) distribution



| Size                                                       |                         | XT5                                           |          |                     |                     |                     |                     |
|------------------------------------------------------------|-------------------------|-----------------------------------------------|----------|---------------------|---------------------|---------------------|---------------------|
| Rated uninterrupted current                                | [A]                     | 400 / 630                                     |          |                     |                     |                     |                     |
| Poles                                                      | [No.]                   | 3. 4                                          |          |                     |                     |                     |                     |
| Rated service voltage. <b>Ue</b>                           | (AC) 50-60Hz [V]        | 690                                           |          |                     |                     |                     |                     |
| Rated insulation voltage. <b>Ui</b>                        | [V]                     | 1000                                          |          |                     |                     |                     |                     |
| Rated impulse withstand voltage. <b>Uimp</b>               | [kV]                    | 8                                             |          |                     |                     |                     |                     |
| Versions                                                   |                         | Fixed. Withdrawable. Plug-in <sup>(1)</sup>   |          |                     |                     |                     |                     |
| Max supply voltage on bottom side (F. P. W)                | [V]                     | 690                                           |          |                     |                     |                     |                     |
| <b>Breaking capacities according to IEC 60947-2</b>        |                         | <b>N</b>                                      | <b>S</b> | <b>H</b>            | <b>L</b>            | <b>V</b>            | <b>X</b>            |
| <b>Rated ultimate short-circuit breaking capacity. Icu</b> |                         |                                               |          |                     |                     |                     |                     |
| Icu @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 70                                            | 85       | 100                 | 150                 | 200                 | 200                 |
| Icu @ 380V 50-60Hz (AC)                                    | [kA]                    | 36                                            | 50       | 70                  | 120                 | 200                 | 200                 |
| Icu @ 415V 50-60Hz (AC)                                    | [kA]                    | 36                                            | 50       | 70                  | 120                 | 200                 | 200                 |
| Icu @ 440V 50-60Hz (AC)                                    | [kA]                    | 36                                            | 50       | 65                  | 100                 | 180                 | 200                 |
| Icu @ 500V 50-60Hz (AC)                                    | [kA]                    | 25                                            | 30       | 50                  | 85                  | 150                 | 150                 |
| Icu @ 525V 50-60Hz (AC)                                    | [kA]                    | 25                                            | 30       | 50                  | 85                  | 100                 | 120                 |
| Icu @ 690V 50-60Hz (AC)                                    | [kA]                    | 20                                            | 25       | 40                  | 70                  | 80                  | 100                 |
| <b>Rated service short-circuit breaking capacity. Ics</b>  |                         |                                               |          |                     |                     |                     |                     |
| Ics @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 380V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 415V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 440V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 500V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 525V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100%                | 100%                | 100%                | 100%                |
| Ics @ 690V 50-60Hz (AC)                                    | [kA]                    | 100%                                          | 100%     | 100% <sup>(2)</sup> | 100% <sup>(3)</sup> | 100% <sup>(3)</sup> | 100% <sup>(3)</sup> |
| <b>Rated short-circuit making capacity. Icm</b>            |                         |                                               |          |                     |                     |                     |                     |
| Icm @ 220-230-240V 50-60Hz (AC)                            | [kA]                    | 154                                           | 187      | 220                 | 330                 | 440                 | 440                 |
| Icm @ 380V 50-60Hz (AC)                                    | [kA]                    | 75.6                                          | 110      | 154                 | 264                 | 440                 | 440                 |
| Icm @ 415V 50-60Hz (AC)                                    | [kA]                    | 75.6                                          | 110      | 154                 | 264                 | 440                 | 440                 |
| Icm @ 440V 50-60Hz (AC)                                    | [kA]                    | 75.6                                          | 110      | 143                 | 220                 | 396                 | 440                 |
| Icm @ 500V 50-60Hz (AC)                                    | [kA]                    | 52.5                                          | 63       | 110                 | 187                 | 330                 | 330                 |
| Icm @ 525V 50-60Hz (AC)                                    | [kA]                    | 52.5                                          | 63       | 110                 | 187                 | 220                 | 264                 |
| Icm @ 690V 50-60Hz (AC)                                    | [kA]                    | 40                                            | 52.5     | 84                  | 154                 | 176                 | 220                 |
| <b>Breaking capacities according to NEMA-AB1</b>           |                         |                                               |          |                     |                     |                     |                     |
| @ 240V 50-60Hz (AC)                                        | [kA]                    |                                               |          |                     |                     |                     |                     |
| @ 480V 50-60Hz (AC)                                        | [kA]                    |                                               |          |                     |                     |                     |                     |
| Utilization Category (IEC 60947-2)                         |                         | A (up to 630A). B (up to 500A) <sup>(4)</sup> |          |                     |                     |                     |                     |
| Icw (0.5 sec)                                              | [kA]                    | Iu 400A: 5kA; Iu 630A: 6kA                    |          |                     |                     |                     |                     |
| Reference Standard                                         |                         | IEC 60947-2                                   |          |                     |                     |                     |                     |
| Insulation behaviour                                       |                         | ✓                                             |          |                     |                     |                     |                     |
| Mounted on DIN rail                                        |                         | -                                             |          |                     |                     |                     |                     |
| Mechanical life                                            | [No. operations]        | 20,000                                        |          |                     |                     |                     |                     |
|                                                            | [No. hourly operations] | 120                                           |          |                     |                     |                     |                     |
| Electrical life @ 415 V (AC)                               | [No. operations]        | 7,000 (400A) - 5,000 (630A)                   |          |                     |                     |                     |                     |
|                                                            | [No. hourly operations] | 60                                            |          |                     |                     |                     |                     |

(1) Plug-in/Withdrawable: max In 40°C=600A

(2) Ics = 75% In > 500A

(3) Ics = 50% In > 500A

(4) Category B: only when equipped with an electronic trip unit



| XT6 <sup>(5)</sup>                        |      |      | XT7                      |      |      | XT7 M                    |      |      |
|-------------------------------------------|------|------|--------------------------|------|------|--------------------------|------|------|
| 800 / 1000 <sup>(6)</sup>                 |      |      | 800 / 1000 / 1250 / 1600 |      |      | 800 / 1000 / 1250 / 1600 |      |      |
| 3. 4                                      |      |      | 3. 4                     |      |      | 3. 4                     |      |      |
| 690                                       |      |      | 690                      |      |      | 690                      |      |      |
| 1000                                      |      |      | 1000                     |      |      | 1000                     |      |      |
| 8                                         |      |      | 8                        |      |      | 8                        |      |      |
| Fixed. Withdrawable                       |      |      | Fixed. Withdrawable      |      |      | Fixed. Withdrawable      |      |      |
| 690                                       |      |      | 690                      |      |      | 690                      |      |      |
| N                                         | S    | H    | S                        | H    | L    | S                        | H    | L    |
| 70                                        | 85   | 100  | 85                       | 100  | 200  | 85                       | 100  | 200  |
| 36                                        | 50   | 70   | 50                       | 70   | 120  | 50                       | 70   | 120  |
| 36                                        | 50   | 70   | 50                       | 70   | 120  | 50                       | 70   | 120  |
| 30                                        | 45   | 50   | 50                       | 65   | 100  | 50                       | 65   | 100  |
| 25                                        | 35   | 50   | 45                       | 50   | 85   | 45                       | 50   | 85   |
| 25                                        | 35   | 50   | 45                       | 50   | 65   | 45                       | 50   | 65   |
| 20                                        | 22   | 25   | 30                       | 42   | 50   | 30                       | 42   | 50   |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 100%                                      | 100% | 100% | 100%                     | 100% | 100% | 100%                     | 100% | 100% |
| 154                                       | 187  | 220  | 187                      | 220  | 440  | 187                      | 220  | 440  |
| 75.6                                      | 110  | 154  | 110                      | 154  | 264  | 110                      | 154  | 264  |
| 75.6                                      | 110  | 154  | 110                      | 154  | 264  | 110                      | 154  | 264  |
| 63                                        | 94.5 | 110  | 110                      | 143  | 220  | 110                      | 143  | 220  |
| 52.5                                      | 73.5 | 110  | 94.5                     | 110  | 187  | 94.5                     | 110  | 187  |
| 52.5                                      | 73.5 | 110  | 94.5                     | 110  | 143  | 94.5                     | 110  | 143  |
| 40                                        | 46.2 | 52.5 | 63                       | 88.2 | 110  | 63                       | 88.2 | 110  |
| A (up to 1000A) - B (800A) <sup>(4)</sup> |      |      | B                        |      |      | B                        |      |      |
| 10                                        |      |      | 20                       |      |      | 20                       |      |      |
| IEC 60947-2                               |      |      | IEC 60947-2              |      |      | IEC 60947-2              |      |      |
| ✓                                         |      |      | ✓ <sup>(7)</sup>         |      |      | ✓ <sup>(7)</sup>         |      |      |
| -                                         |      |      | -                        |      |      | -                        |      |      |
| 20,000                                    |      |      | 10,000                   |      |      | 20,000                   |      |      |
| 120                                       |      |      | 60                       |      |      | 60                       |      |      |
| 5,000                                     |      |      | 3,000                    |      |      | 3,000                    |      |      |
| 60                                        |      |      | 60                       |      |      | 60                       |      |      |

(5) Not suitable for IT distribution systems &gt; 440Vac

(6) 1000A only for fixed execution with EF, ES, R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered

(7) Check the dedicated ordering codes section for details

# SACE Tmax XT automatic circuit-breakers for alternating current (AC) distribution



| Size                                       |           |      | XT5             |
|--------------------------------------------|-----------|------|-----------------|
| <b>Dimensions</b>                          |           |      |                 |
| Fixed                                      | 3 poles   | [mm] | 140 x 103 x 205 |
| (Width x Depth x Height)                   | 4 poles   | [mm] | 186 x 103 x 205 |
| <b>Trip units for power distribution</b>   |           |      |                 |
| TMD/TMA                                    |           |      | ■               |
| TMD/TMF                                    |           |      |                 |
| Ekip Dip                                   |           |      | ■               |
| Ekip Touch                                 |           |      | ■               |
| <b>Trip units for motor protection</b>     |           |      |                 |
| MF/MA                                      |           |      | ■               |
| Ekip Dip                                   |           |      | ■               |
| Ekip Touch                                 |           |      | ■               |
| <b>Trip units for generator protection</b> |           |      |                 |
| TMG                                        |           |      | ■               |
| Ekip Dip                                   |           |      | ■               |
| Ekip Touch                                 |           |      | ■               |
| <b>Interchangeable trip units</b>          |           |      | ✓               |
| <b>Weight</b>                              |           |      |                 |
| Fixed                                      | 3/4 poles | [kg] | 3.25 / 4.15     |
| Plug in (EF terminals)                     | 3/4 poles | [kg] | 5.15 / 6.65     |
| Withdrawable (EF terminals)                | 3/4 poles | [kg] | 5.4 / 6.9       |

(1) Ekip Dip LS/I, Ekip Dip LIG, Ekip Dip G-LS/I and Ekip Dip M I, cannot be interchanged with others trip units and the others cannot be replaced by these ones.



| XT6               | XT7              | XT7 M            |
|-------------------|------------------|------------------|
| 210 x 103.5 x 268 | 210 x 166 x 268  | 210 x 178 x 268  |
| 280 x 103.5 x 268 | 280 x 166 x 268  | 280 x 178 x 268  |
| ■                 |                  |                  |
| ■                 | ■                | ■                |
|                   | ■                | ■                |
|                   |                  |                  |
| ■                 | ■                | ■                |
|                   | ■                | ■                |
|                   |                  |                  |
| ■                 | ■                | ■                |
|                   | ■                | ■                |
| ✓                 | ✓ <sup>(1)</sup> | ✓ <sup>(1)</sup> |
| 9.5 / 12          | 9.7 / 12.5       | 11 / 14          |
| 12.1 / 15.1       | 29.7 / 39.6      | 32 / 42.6        |

# SACE Tmax XT automatic circuit-breakers for direct current (DC) distribution



|                                                            |                         |                               |                  |          |          |          |
|------------------------------------------------------------|-------------------------|-------------------------------|------------------|----------|----------|----------|
| <b>Size</b>                                                |                         | <b>XT1</b>                    |                  |          |          |          |
| <b>Rated uninterrupted current</b>                         | [A]                     | 160                           |                  |          |          |          |
| <b>Poles</b>                                               | [No.]                   | 3, 4                          |                  |          |          |          |
| <b>Rated service voltage, Ue</b>                           | (DC) [V]                | 500                           |                  |          |          |          |
| <b>Rated insulation voltage, Ui</b>                        | (DC) [V]                | 800                           |                  |          |          |          |
| <b>Rated impulse withstand voltage, Uimp</b>               | [kV]                    | 8                             |                  |          |          |          |
| <b>Versions</b>                                            |                         | Fixed, Plug-in <sup>(2)</sup> |                  |          |          |          |
| <b>Breaking capacities according to IEC 60947-2</b>        |                         | <b>B</b>                      | <b>C</b>         | <b>N</b> | <b>S</b> | <b>H</b> |
| <b>Rated ultimate short-circuit breaking capacity, Icu</b> |                         |                               |                  |          |          |          |
| Icu @ 250V (DC) 2-pole in series                           | [kA]                    | 18                            | 25               | 36       | 50       | 70       |
| Icu @ 500V (DC) 2-pole in series                           | [kA]                    | –                             | –                | –        | –        | –        |
| Icu @ 500V (DC) 3-pole in series <sup>(1)</sup>            | [kA]                    | 18                            | 25               | 36       | 50       | 70       |
| Icu @ 750V (DC) 3-pole in series                           | [kA]                    | –                             | –                | –        | –        | –        |
| <b>Rated service short-circuit breaking capacity, Ics</b>  |                         |                               |                  |          |          |          |
| Ics @ 250V (DC) 2-pole in series                           | [kA]                    | 100%                          | 100%             | 100%     | 100%     | 75%      |
| Ics @ 500V (DC) 2-pole in series                           | [kA]                    | –                             | –                | –        | –        | –        |
| Ics @ 500V (DC) 3-pole in series <sup>(1)</sup>            | [kA]                    | 100%                          | 100%             | 100%     | 100%     | 75%      |
| Ics @ 750V (DC) 3-pole in series                           | [kA]                    | –                             | –                | –        | –        | –        |
| <b>Utilization Category (IEC 60947-2)</b>                  |                         | A                             |                  |          |          |          |
| <b>Reference Standard</b>                                  |                         | IEC 60947-2                   |                  |          |          |          |
| <b>Insulation behaviour</b>                                |                         | ✓                             |                  |          |          |          |
| <b>Mounted on DIN rail</b>                                 |                         | DIN EN 50022                  |                  |          |          |          |
| <b>Mechanical life</b>                                     | [No. Operations]        | 25,000                        |                  |          |          |          |
|                                                            | [No. Hourly operations] | 240                           |                  |          |          |          |
| <b>Dimensions</b>                                          |                         |                               |                  |          |          |          |
| Fixed                                                      | 3 poles                 | [mm]                          | 76.2 x 70 x 130  |          |          |          |
| (Width x Depth x Height)                                   | 4 poles                 | [mm]                          | 101.6 x 70 x 130 |          |          |          |
| <b>Trip units for power distribution</b>                   |                         |                               |                  |          |          |          |
| TMD/TMA                                                    |                         |                               |                  |          |          |          |
| TMD/TMF                                                    |                         | ■                             |                  |          |          |          |
| MF/MA                                                      |                         |                               |                  |          |          |          |
| <b>Trip units with low magnetic (TMG)</b>                  |                         |                               |                  |          |          |          |
| TMG                                                        |                         |                               |                  |          |          |          |
| <b>Interchangeable trip units</b>                          |                         |                               |                  |          |          |          |
| <b>Weight</b>                                              |                         |                               |                  |          |          |          |
| Fixed                                                      | 3/4 poles               | [kg]                          | 1.1 / 1.4        |          |          |          |
| Plug in (EF terminals)                                     | 3/4 poles               | [kg]                          | 2.21 / 2.82      |          |          |          |
| Withdrawable (EF terminals)                                | 3/4 poles               | [kg]                          |                  |          |          |          |

(1) XT1: a 4 poles in series connection is required to be used in 500 V DC installations.

(2) XT1 plug-in In max=125A



|                              |      |      |      |      |                |     |     |
|------------------------------|------|------|------|------|----------------|-----|-----|
| XT2                          |      |      |      |      | XT3            |     |     |
| 160                          |      |      |      |      | 250            |     |     |
| 3, 4                         |      |      |      |      | 3, 4           |     |     |
| 500                          |      |      |      |      | 500            |     |     |
| 1000                         |      |      |      |      | 800            |     |     |
| 8                            |      |      |      |      | 8              |     |     |
| Fixed, Withdrawable, Plug-in |      |      |      |      | Fixed, Plug-in |     |     |
| N                            | S    | H    | L    | V    | N              | S   | H   |
| 36                           | 50   | 70   | 85   | 100  | 36             | 50  | 50  |
| -                            | -    | -    | -    | -    | -              | -   | -   |
| 36                           | 50   | 70   | 85   | 100  | 36             | 50  | 50  |
| -                            | -    | -    | -    | -    | -              | -   | -   |
| 100%                         | 100% | 100% | 100% | 100% | 100%           | 75% | 75% |
| -                            | -    | -    | -    | -    | -              | -   | -   |
| 100%                         | 100% | 100% | 100% | 100% | 100%           | 75% | 75% |
| -                            | -    | -    | -    | -    | -              | -   | -   |
| A                            |      |      |      |      | A              |     |     |
| IEC 60947-2                  |      |      |      |      | IEC 60947-2    |     |     |
| ✓                            |      |      |      |      | ✓              |     |     |
| DIN EN 50022                 |      |      |      |      | DIN EN 50022   |     |     |
| 25,000                       |      |      |      |      | 25,000         |     |     |
| 240                          |      |      |      |      | 240            |     |     |
| 90 x 82.5 x 130              |      |      |      |      | 105 x 70 x 150 |     |     |
| 120 x 82.5 x 130             |      |      |      |      | 140 x 70 x 150 |     |     |
| ■                            |      |      |      |      | ■              |     |     |
| ■                            |      |      |      |      | ■              |     |     |
| ■                            |      |      |      |      | ■              |     |     |
| ✓                            |      |      |      |      |                |     |     |
| 1.2 / 1.6                    |      |      |      |      | 1.7 / 2.1      |     |     |
| 2.54 / 3.27                  |      |      |      |      | 3.24 / 4.1     |     |     |
| 3.32 / 4.04                  |      |      |      |      |                |     |     |

# SACE Tmax XT automatic circuit-breakers for direct current (DC) distribution



| Size                                                       |           |                         | XT4                          |          |          |          |          |          |
|------------------------------------------------------------|-----------|-------------------------|------------------------------|----------|----------|----------|----------|----------|
| Rated uninterrupted current                                |           | [A]                     | 160 / 250                    |          |          |          |          |          |
| Poles                                                      |           | [No.]                   | 3, 4                         |          |          |          |          |          |
| Rated service voltage, <b>Ue</b> (DC)                      |           | [V]                     | 750                          |          |          |          |          |          |
| Rated insulation voltage, <b>Ui</b> (DC)                   |           | [V]                     | 1000                         |          |          |          |          |          |
| Rated impulse withstand voltage, <b>Uimp</b>               |           | [kV]                    | 8                            |          |          |          |          |          |
| Versions                                                   |           |                         | Fixed, Withdrawable, Plug-in |          |          |          |          |          |
| Breaking capacities according to IEC 60947-2               |           |                         | <b>N</b>                     | <b>S</b> | <b>H</b> | <b>L</b> | <b>V</b> | <b>X</b> |
| Rated ultimate short-circuit breaking capacity, <b>Icu</b> |           |                         |                              |          |          |          |          |          |
| Icu @ 250V (DC) 2 poles in series                          | [kA]      | 36                      | 50                           | 70       | 85       | 100      | 100      |          |
| Icu @ 500V (DC) 2 poles in series                          | [kA]      | 36                      | 50                           | 70       | 85       | 100      | 100      |          |
| Icu @ 500V (DC) 3 poles in series                          | [kA]      | 36                      | 50                           | 70       | 85       | 100      | 100      |          |
| Icu @ 750V (DC) 3p in series                               | [kA]      | -                       | -                            | -        | -        | 50       | 70       |          |
| Rated service short-circuit breaking capacity, <b>Ics</b>  |           |                         |                              |          |          |          |          |          |
| Ics @ 250V (DC) 2 poles in series                          | [kA]      | 100%                    | 100%                         | 100%     | 100%     | 100%     | 100%     |          |
| Ics @ 500V (DC) 2 poles in series                          | [kA]      | 100%                    | 100%                         | 100%     | 100%     | 100%     | 100%     |          |
| Ics @ 500V (DC) 3 poles in series                          | [kA]      | 100%                    | 100%                         | 100%     | 100%     | 100%     | 100%     |          |
| Ics @ 750V (DC) 3 poles in series                          | [kA]      | -                       | -                            | -        | -        | 100%     | 100%     |          |
| Utilization Category (IEC 60947-2)                         |           |                         | A                            |          |          |          |          |          |
| Reference Standard                                         |           |                         | IEC 60947-2                  |          |          |          |          |          |
| Insulation behaviour                                       |           |                         | ✓                            |          |          |          |          |          |
| Mounted on DIN rail                                        |           |                         | DIN EN 50022                 |          |          |          |          |          |
| Mechanical life                                            |           | [No. Operations]        | 25,000                       |          |          |          |          |          |
|                                                            |           | [No. Hourly operations] | 240                          |          |          |          |          |          |
| Dimensions                                                 |           |                         |                              |          |          |          |          |          |
| Fixed                                                      | 3 poles   | [mm]                    | 105 x 82.5 x 160             |          |          |          |          |          |
| (Width x Depth x Height)                                   | 4 poles   | [mm]                    | 140 x 82.5 x 160             |          |          |          |          |          |
| Trip units                                                 |           |                         |                              |          |          |          |          |          |
| TMD/TMA                                                    |           |                         | ■                            |          |          |          |          |          |
| TMD/TMF                                                    |           |                         |                              |          |          |          |          |          |
| MF/MA                                                      |           |                         | ■ <sup>(4)</sup>             |          |          |          |          |          |
| Trip units with low magnetic (TMG)                         |           |                         |                              |          |          |          |          |          |
| TMG                                                        |           |                         |                              |          |          |          |          |          |
| Interchangeable trip units                                 |           |                         | ✓                            |          |          |          |          |          |
| Weight                                                     |           |                         |                              |          |          |          |          |          |
| Fixed                                                      | 3/4 poles | [kg]                    | 2.5 / 3.5                    |          |          |          |          |          |
| Plug in (EF terminals)                                     | 3/4 poles | [kg]                    | 4.19 / 5.52                  |          |          |          |          |          |
| Withdrawable (EF terminals)                                | 3/4 poles | [kg]                    | 5 / 6.76                     |          |          |          |          |          |

(3) Plug-in/Withdrawable: max In 40°C=600A

(4) Only up to XT4L. XT4V and XT4X MA are not suitable for DC application



| XT5                                         |      |      |      |      |      | XT6                 |            |     |
|---------------------------------------------|------|------|------|------|------|---------------------|------------|-----|
| 400 / 630                                   |      |      |      |      |      | 800                 |            |     |
| 3, 4                                        |      |      |      |      |      | 3, 4                |            |     |
| 750                                         |      |      |      |      |      | 750                 |            |     |
| 1,000                                       |      |      |      |      |      | 1,000               |            |     |
| 8                                           |      |      |      |      |      | 8                   |            |     |
| Fixed, Withdrawable, Plug-in <sup>(3)</sup> |      |      |      |      |      | Fixed, Withdrawable |            |     |
| N                                           | S    | H    | L    | V    | X    | N                   | S          | H   |
| 25                                          | 35   | 50   | 70   | 85   | 100  | 35                  | 50         | 70  |
| 25                                          | 35   | 50   | 70   | 85   | 100  | 20                  | 35         | 50  |
| -                                           | -    | -    | -    | -    | -    | -                   | -          | -   |
| -                                           | -    | -    | -    | 85   | 100  | 18                  | 24         | 36  |
| 100%                                        | 100% | 100% | 100% | 100% | 100% | 100%                | 50% (35kA) | 50% |
| 100%                                        | 100% | 100% | 100% | 100% | 100% | 100%                | 50%        | 50% |
| -                                           | -    | -    | -    | -    | -    | -                   | -          | -   |
| -                                           | -    | -    | -    | 100% | 100% | 100%                | 75%        | 50% |
| A                                           |      |      |      |      |      | A                   |            |     |
| IEC 60947-2                                 |      |      |      |      |      | IEC 60947-2         |            |     |
| ✓                                           |      |      |      |      |      | ✓                   |            |     |
| -                                           |      |      |      |      |      | -                   |            |     |
| 20,000                                      |      |      |      |      |      | 20,000              |            |     |
| 120                                         |      |      |      |      |      | 120                 |            |     |
| 140 x 103 x 205                             |      |      |      |      |      | 210 x 103.5 x 268   |            |     |
| 186 x 103 x 205                             |      |      |      |      |      | 280 x 103.5 x 268   |            |     |
| ■                                           |      |      |      |      |      | ■                   |            |     |
| ■                                           |      |      |      |      |      | ■                   |            |     |
| ✓                                           |      |      |      |      |      | ✓                   |            |     |
| 3.25 / 4.15                                 |      |      |      |      |      | 9.5 / 12            |            |     |
| 5.15 / 6.65                                 |      |      |      |      |      | -                   |            |     |
| 5.4 / 6.9                                   |      |      |      |      |      | 12.1 / 15.1         |            |     |

## SACE Tmax XT switch-disconnectors

Switch-disconnectors are devices created from the corresponding circuit-breakers and feature the same overall dimensions, versions, and can be fitted with the same accessories.

## Applications

These devices are mainly used as:

- general disconnection devices in sub-switchboards;
- switching and insulation devices for lines, bus bars or groups of apparatus;
- bus ties.

In the open position, the disconnecter guarantees a sufficient insulation distance (between the contacts) to ensure safety and to prevent an electrical arc from striking.

### Utilization category

Tmax XT disconnectors comply with utilization categories defined by IEC 60947-3 Standard.

## Characteristics

| Size                                           |                                                     | XT1D                          | XT3D               | XT4D                    |
|------------------------------------------------|-----------------------------------------------------|-------------------------------|--------------------|-------------------------|
| Conventional free air thermal current, Ith     |                                                     | [A]                           | 160                | 250                     |
| Poles                                          |                                                     | [No.]                         | 3, 4               | 3, 4                    |
| Versions                                       |                                                     | Fixed, Plug-in <sup>(1)</sup> | Fixed, Plug-in     | Fixed, Plug-in, Withdr. |
| Rated service voltage, Ue                      | (AC) 50-60Hz                                        | [V]                           | 690                | 690                     |
|                                                | (DC)                                                | [V]                           | 500                | 500                     |
| Rated insulation voltage, Ui                   |                                                     | [V]                           | 800                | 800                     |
| Rated impulse withstand voltage, Uimp          |                                                     | [kV]                          | 8                  | 8                       |
| Rated making capacity in shortcircuit, Icm     | (Min) Disconnecter only                             | [kA]                          | 2.8                | 5.3                     |
|                                                | (Max) With automatic circuit-breaker on supply side | [kA (415Vac)]                 | 154                | 105                     |
| Rated short-time withstand current for 1s, Icw |                                                     | [kA]                          | 2                  | 3                       |
| Rated operating current, Ie (AC) 50-60Hz       |                                                     |                               |                    |                         |
| AC-22A                                         | 415-440Vac                                          |                               | 160                | 250                     |
| AC-23A                                         |                                                     |                               | 125                | 200                     |
| AC-22A                                         | 690V AC                                             |                               | 160                | 250                     |
| AC-23A                                         |                                                     |                               | 125                | 200                     |
| Rated operating current, Ie DC                 |                                                     |                               |                    |                         |
| DC-22A                                         | 250V DC                                             |                               | 160 - 2p in series | 250 - 2p in series      |
| DC-23A                                         |                                                     |                               | 125 - 2p in series | 200 - 2p in series      |
| DC-22A                                         | 500V DC                                             |                               | 160 - 4P in series | 250 - 3p in series      |
| DC-23A                                         |                                                     |                               | 125 - 4P in series | 200 - 3p in series      |
| DC-22A                                         | 750V DC                                             |                               | -                  | -                       |
| DC-23A                                         |                                                     |                               | -                  | -                       |
| Electrical life AC22 / AC23 (AC) 440 V In      |                                                     |                               | 5000               | 5000                    |
| Mechanical life                                |                                                     |                               |                    |                         |

(1) XT1 plug-in In max=125A    (2) Plug-in/Withdrawable: max In 40°C=600A

## Coordination

[illegible]

**Protection**

Each switch-disconnector must be protected on the supply side by a coordinated device which safeguards it against short-circuits.

The section "Coordination" in the table below shows the correspondence between each switch-disconnector and the relevant circuit-breaker.

**Making capacity**

The making capacity  $I_{cm}$  is highly important since a switch-disconnector must be able to withstand the dynamic, thermal and current stresses which can occur during closing operations without being destroyed, right up to short-circuit closing conditions.

| XT5D                                        |                  | XT6D                               | XT7D                               | XT7D M                             |
|---------------------------------------------|------------------|------------------------------------|------------------------------------|------------------------------------|
| 400                                         | 630              | 630 - 800 - 1000                   | 1000 - 1250 - 1600                 | 1000 - 1250 - 1600                 |
| 3, 4                                        | 3, 4             | 3, 4                               | 3, 4                               | 3, 4                               |
| Fixed, Plug-in, Withdrawable <sup>(2)</sup> |                  | Fixed, Withdrawable <sup>(1)</sup> | Fixed, Withdrawable                | Fixed, Withdrawable                |
| 690                                         | 690              | 690                                | 690                                | 690                                |
| 750                                         | 750              | 750                                | 750                                | 750                                |
| 1000                                        | 1000             | 1000                               | 1000                               | 1000                               |
| 8                                           | 8                | 8                                  | 8                                  | 8                                  |
| 7,65                                        | 12,3             | 17                                 | 40                                 | 40                                 |
| 440                                         | 440              | 154                                | 252                                | 252                                |
| 5                                           | 7,6              | 10                                 | 20                                 | 20                                 |
|                                             |                  |                                    |                                    |                                    |
| 400                                         | 630              | 630 - 800 - 1000                   | 1000 - 1250 - 1600                 | 1000 - 1250 - 1600                 |
| 400                                         | 630              | 630 - 800                          | 1000 - 1250 - 1600                 | 1000 - 1250 - 1600                 |
| 400                                         | 630              | 630 - 800 - 1000                   | 1000 - 1250 - 1600                 | 1000 - 1250 - 1600                 |
| 400                                         | 630              | 630 - 800                          | 1000 - 1250 - 1600                 | 1000 - 1250 - 1600                 |
|                                             |                  |                                    |                                    |                                    |
| 400 2p in series                            | 630 2p in series | 630 - 800 - 1000 - 2p in series    | 1000 - 1250 - 1600 - 2p in series  | 1000 - 1250 - 1600 - 2p in series  |
| 400 2p in series                            | 630 2p in series | 630 - 800 - 2p in series           | 1000 - 1250 - 1600 - 2p in series  | 1000 - 1250 - 1600 - 2p in series  |
| 400 2p in series                            | 630 2p in series | 630 - 800 - 1000 - 2p in series    | 1000 - 1250 - 1600 - 3p in series  | 1000 - 1250 - 1600 - 3p in series  |
| 400 2p in series                            | 630 2p in series | 630 - 800 - 2p in series           | 1000 - 1250 - 3p in series         | 1000 - 1250 - 3p in series         |
| 400 3p in series                            | 630 3p in series | 630 - 800 - 1000 - 3p in serie     | 1000 - 1250 - 1600 - 3 p in series | 1000 - 1250 - 1600 - 3 p in series |
| 400 3p in series                            | 630 3p in series | 630 - 800 - 3p in serie            | 1000 - 1250 - 4 p in series        | 1000 - 1250 - 4 p in series        |
| 5,000                                       | 3,000            | 3,500                              | 2,500                              | 2,500                              |
| 20,000                                      | 20,000           | 20,000                             | 10,000                             | 20,000                             |

(3) 1000A only for fixed execution with EF, ES, R and FCCuAl terminals. EF terminals are supplied as standard if no other terminals are ordered

| XT5 630 |    |    |     |     | XT6 800 |    |    | XT6 1000 |    |    | XT7 1000 |    |     | XT7 1250 |    |     | XT7 1600 |    |     | XT7 M 1000 |    |     | XT7 M 1250 |    |     | XT7 M 1600 |    |     |
|---------|----|----|-----|-----|---------|----|----|----------|----|----|----------|----|-----|----------|----|-----|----------|----|-----|------------|----|-----|------------|----|-----|------------|----|-----|
| N       | S  | H  | L   | V   | N       | S  | H  | N        | S  | H  | S        | H  | L   | S        | H  | L   | S        | H  | L   | S          | H  | L   | S          | H  | L   | S          | H  | L   |
| 36      | 50 | 70 | 120 | 200 | 36      | 50 | 70 | 36       | 50 | 70 | 50       | 70 | 120 | 50       | 70 | 120 | 50       | 70 | 120 | 50         | 70 | 120 | 50         | 70 | 120 | 50         | 70 | 120 |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| 36      | 50 | 70 | 120 | 200 | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| 36      | 50 | 70 | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | 36      | 50 | 70 | -        | -  | -  | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | 36       | 50 | 70 | -        | -  | -   | -        | -  | -   | -        | -  | -   | -          | -  | -   | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | 50       | 70 | 120 | -        | -  | -   | -        | -  | -   | 50         | 70 | 120 | -          | -  | -   | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | 50       | 70 | 120 | -        | -  | -   | -          | -  | -   | 50         | 70 | 120 | -          | -  | -   |
| -       | -  | -  | -   | -   | -       | -  | -  | -        | -  | -  | -        | -  | -   | -        | -  | -   | 50       | 70 | 120 | -          | -  | -   | -          | -  | -   | 50         | 70 | 120 |





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