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MOLDED CASE CIRCUIT-BREAKERS

# SACE Tmax XT

Break new ground



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**A molded case circuit-breaker range that ensures extreme performance and protection features up to 1600A. Designed to maximize ease of use, integration and connectivity. Built to deliver safety, reliability and quality.**

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# SACE Tmax XT

The right choice: a complete circuit-breaker range for any solution

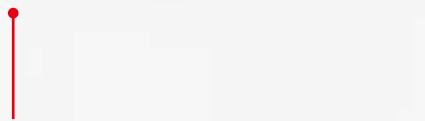
SACE Tmax XT7



SACE Tmax XT4



SACE Tmax XT5



SACE Tmax XT2





SACE Tmax XT3

SACE Tmax XT6

SACE Tmax XT1



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## Added value each step of the way

There is more than just a circuit-breaker in the SACE Tmax XT range

A new generation of molded case circuit-breakers delivering great added value.

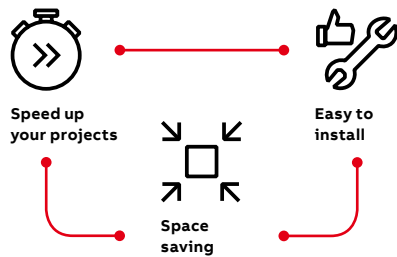
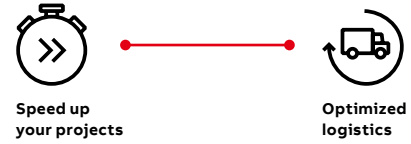
There is a lot more to the range of SACE Tmax XT than what meets the eye, and the benefits for your business are noticeable. To start with, the whole selection and ordering process has been overhauled to make it far easier to get your hands on the parts you need, speeding things up by about 30%. Installation has been simplified to increase user-friendliness, frames have been streamlined to save space, and improved

connectivity - such as Bluetooth and Ekip mobile - will save you considerable time. Another additional benefit is the reliable cloud connectivity and overall increase in information available, meaning diagnostics and maintenance are vastly improved, resulting in less downtime. Finally, thanks to the smart power controller concept, overall energy consumption can be reduced by up to 20%.



**Selection, ordering and handling**

30% faster thanks to part numbers reduction (-10%), online configurator (-40% time) and smart packaging (-30% space).

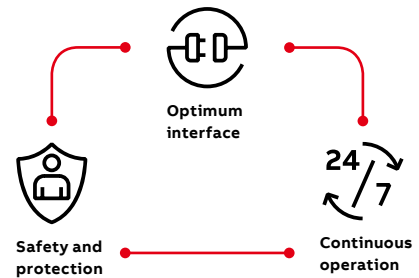


**Commissioning**

The SACE Tmax XT range offers the potential to save serious time. Thanks to simplified installation of frames, integrating the circuit-breakers into a communication network, trip unit settings performed via LCD and Bluetooth and Ekip Mobile connectivity, you stand to save up to 40% time overall.

**Diagnostics and maintenance**

With up to 30% more data available on the cloud and ABB unique power controller concept, it is far easier to diagnose problems and carry out necessary maintenance. This helps to prevent faults, restore energy more quickly and avoid any unnecessary charging of utilities.



**Energy saving**

The SACE Tmax XT range comes with the exclusive ABB-patented Ekip Power Controller which monitors installation loads and can limit the amount of power consumed at any time. The result is an overall reduction in power consumption of up to 20% and lower energy bills. Furthermore, you have 1% energy measurement accuracy according to IEC 61557-12.



# Break new ground

## Key features of an outstanding product

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01 Choose and customize exactly the right products for your needs, based on how you will use them. 10,000 solutions in one click

—  
02 Effective energy management: 20% less power consumption with Power Controller enabled

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03 Top reliability: Products designed and tested to exceed standard requirements. More than 30 certifications

### Cloud-connected

Being connected is a key feature of today's technology and the SACE Tmax XT range of circuit-breakers offers more than just standalone protection. Being considered key elements of an electrical distribution system, Tmax XT circuit-breakers give you the ability to monitor and manage a wealth of information, easily, wherever you are. So even when on the road, anytime of the day or night, the power of full-access flexibility is in your hands.

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Being able to monitor everything while being off-site provides a genuine feeling of you being in control at all times.

### Tailor-made solutions

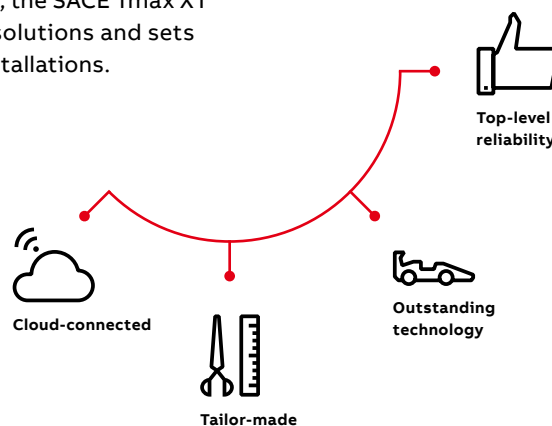
Just because your project is complex, this does not mean your circuit-breaker setup has to be. All frames from XT1 to XT7 provide a common product experience that is backed up by a comprehensive range of accessories with intuitive interfaces and ergonomic design. With maximum flexibility for every application, the SACE Tmax XT range offers you tailor-made solutions and sets the standards for electrical installations.

### Outstanding technology

Flexibility is nothing without performance and the SACE Tmax XT range is able to deal with the most extreme breaking capacities, regardless of operating voltage, application, and environmental conditions. Combined with the most precise electronic trip units in the smallest of frames, this ensures continuity of service and equipment protection at all times.

### Top-level quality

Almost a century of research and experience results in highly-reliable, top-level products that are ready to face all future challenges. Products like the SACE Tmax XT range set standards for edge technologies. Safety, product quality and reliability under pressure are fundamental to all ABB products and the SACE Tmax XT range is no different.





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EASE OF USE AND INSTALLATION

Maximum flexibility for every application – SACE Tmax XT sets the new standard for electrical installations.

Easy selection, one-size-fits-all accessories and intuitive design pave the way for smart manufacturing of panels and fast upgrades. Even for the most critical projects.







# Choosing the right circuit-breaker has never been so easy

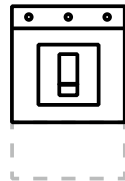
You consider what you need. We'll show you what is possible.

The world of circuit-breakers is a complex one, yet choosing the right device for your individual needs has never been simpler thanks to SACE Tmax XT range. Maybe you are looking for a basic protection device for a standard distribution plant. Or perhaps you need something more complex, such as a device that integrates

protection, automation, measuring and communication into a cloud-based supervision system. Whatever you are looking for, with a wealth of customization possibilities and a range of possible solutions depending on the breaking part and trip unit you choose, the power of circuit breaking is firmly in your hands.



Basic functionality



- Standard performance
- Icu 70kA at 415/480V AC



Heavy duty



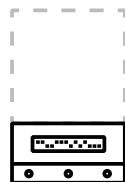
- Extreme breaking capacity
- 200kA at 415V AC
- 100kA at 690V AC



Universally compatible



Thermal-magnetic, Ekip Dip



- Thermal-magnetic
- TMF - TMD - TMA - TMG - MF - MA
- Electronic
- Ekip Dip LIG - LS/I - LSI - LSIG - G Dip LS/I - M Dip I - M Dip LIU - M Dip LRIU
- No communication/No display



Ekip Touch/Hi-Touch



- Ekip Touch
- LSI - LSIG - G Touch LSIG - M Touch LRIU - + Energy M
- Ekip Hi-Touch
- LSI - LSIG - G Hi-Touch LSIG
- Full connectivity - Advanced logic - Power management



**Basic functionality**

Whether you are a hotel owner or planning a production line, where you need to consider the overall power voltage over a period of time, the whole SACE Tmax XT range offers all the circuit breaking power you need to keep your business running long into the future.



**Heavy duty**

When it comes to heavy duty usage – whether it’s ships, chemical parks, mining, or heavy duty machinery – the SACE Tmax XT2, XT4, XT5 and XT7 frames are designed to work well beyond the normal constraints when you will be pushing the limits of your installation to the maximum.



**Thermal-magnetic, Ekip Dip – manual operation**

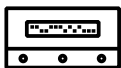
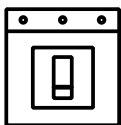
This either consists of the standard thermal-magnetic trip unit intended for basic protection or the Ekip Dip trip unit, the first level of electronic trip unit that can provide increased accuracy, a wider regulation range, delayed short-circuit protection and individual trip information.



**Ekip Touch/Hi-Touch – cloud functionality**

Once you are working with the XT2, XT4 XT5 or XT7 frames, all activity can be remotely monitored via the cloud thanks to the Ekip Touch/Hi-Touch trip units which send all data to the ABB Ability™ EDCS and can be monitored through smart-phone or tablet whenever and wherever you like.

**Possible combinations within the range**



	Tmax XT1	Tmax XT2	Tmax XT3	Tmax XT4	Tmax XT5	Tmax XT6	Tmax XT7
Basic functionality (Icu@415V<70 kA)	•	•	•	•	•	•	•
Heavy duty (Icu@415V>70 kA)		•		•	•		•
Thermal-magnetic trip units	•	•	•	•	•	•	
Ekip Dip (standard electronic)		•		•	•	•	•
Ekip Touch/Hi-Touch (smart electronic)		•		•	•		•

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## Accessories

# Expand the capabilities of the SACE Tmax XT range

Integrating circuit-breakers into any installation requires different levels of optimization. Whether physical, electrical, operational or safety-focused, accessories take SACE Tmax XT to the next level.

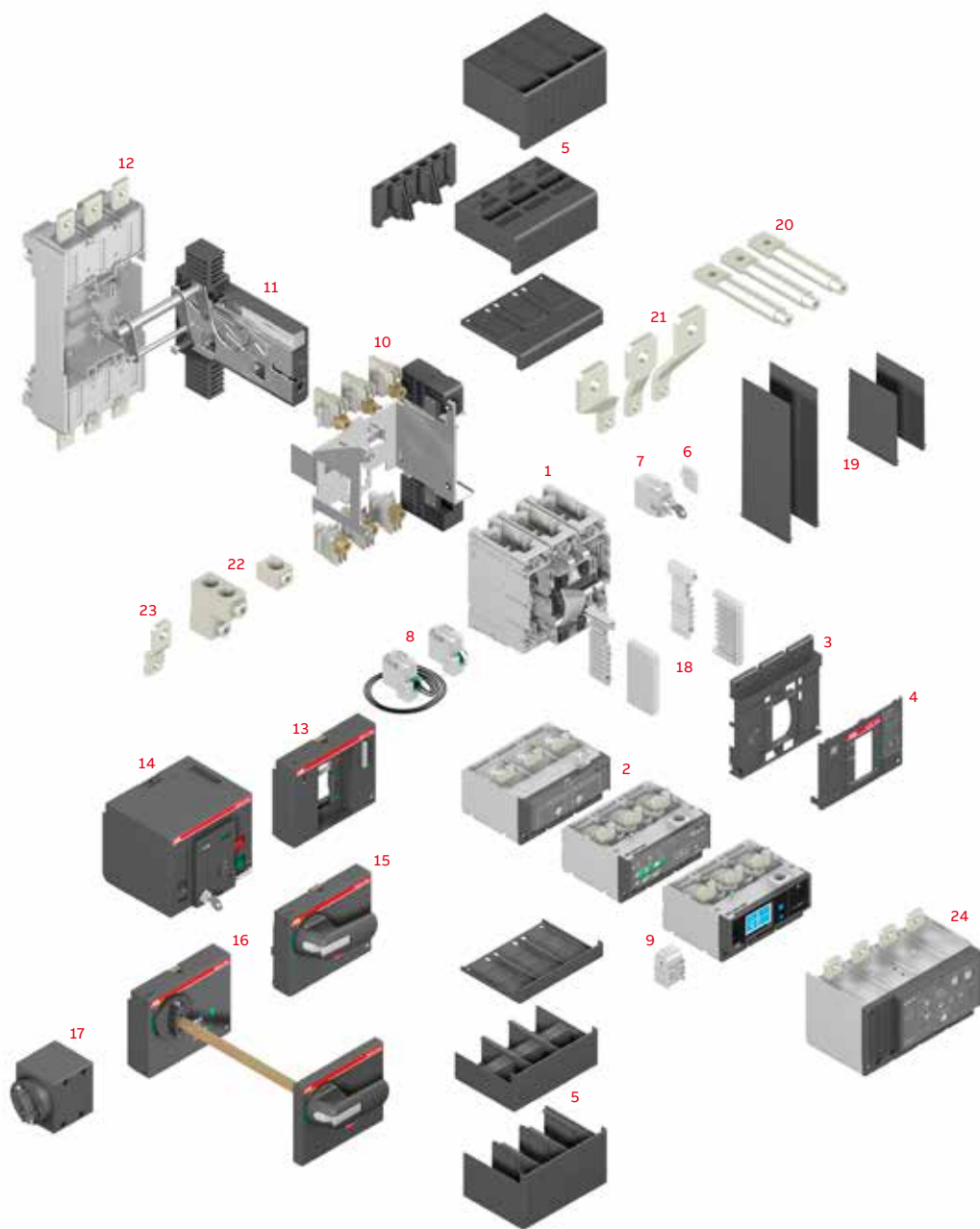
### Accessories

A large range of connections has been conceived to match the most common distribution systems. Auxiliary contacts can provide precise information regarding breaker status and plant conditions, maximizing operator awareness and the overall accuracy of a supervision system. In addition, different types of coils and motor operator versions, designed to operate with the most common

voltage sources and reduced power consumption, enable the possibility to control all installations remotely. Residual current devices up to 630A, signaling modules, installation components (e.g. phase barriers, terminal covers), key-locks and padlocks are just a few examples of the care taken to safeguard appliances and operators alike.







**Various accessories are also available:**

- |  |  |
|--|--|
| 1. Breaking unit   | 12. Fixed part - FP                                |
| 2. Trip units  | 13. Front for lever operating mechanism - FLD      |
| 3. Front   | 14. Stored energy motor operator - MOE             |
| 4. Polish plate  | 15. Direct rotary handle - RHD                     |
| 5. Terminal covers                                       | 16. Transmitted rotary handle - RHE                |
| 6. Auxiliary contacts                                    | 17. Conversion kit RHE > RHS                       |
| 7. Key lock  | 18. Cable rack                                     |
| 8. Service releases                                      | 19. Phase separators                               |
| 9. Communication module                                  | 20. Rear orientated terminals - R                  |
| 10. Conversion kit for plug-in/<br>withdrawable versions | 21. Front extended spread terminals - ES           |
| 11. Guide of fixed part in the<br>withdrawable version   | 22. Front terminals for copper-aluminium - FC CuAl |
|  | 23. Front extended terminals - EF                  |
|  | 24. Residual current release                       |

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PERFORMANCE AND PROTECTION

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







# The SACE Tmax XT range at a glance

## The world of circuit breaking and circuit protection in your hands

The SACE Tmax XT range takes circuit protection to the next level. Designed to perform at extremely high levels, simple to install and able to provide increasingly better safety, there is a frame to meet each and every one of your requirements. From a basic solution for standard applications - such as hotels - through to advanced, heavy-duty applications with cloud connectivity for ships, chemical parks or airports, the new range has got it covered: securely, professionally, reliably.



### SACE Tmax XT1

The founder

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

#### At a glance:

- Up to 160A
- For basic functionalities
- Dimensions 76.2x70x130 (WxDxH mm)
- Thermal-magnetic trip unit



### SACE Tmax XT2

The aspirer

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

#### At a glance:

- Up to 160A
- For heavy duty
- Dimensions 90x82.5x130 (WxDxH mm)
- Thermal-magnetic, Ekip Dip, Ekip Touch/Hi-Touch



### SACE Tmax XT3

The workhorse

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

#### At a glance:

- Up to 250 A
- For basic functionalities
- Dimensions 105x70x150 (WxDxH mm)
- Thermal-magnetic trip unit



### SACE Tmax XT4

The entrepreneur

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

#### At a glance:

- Up to 250A
- For heavy duty
- Dimensions 105x82.5x160 (WxDxH mm)
- Thermal-magnetic, Ekip Dip, Ekip Touch/Hi-Touch



### SACE Tmax XT5

The gamechanger.

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

#### At a glance:

- Up to 630A
- For heavy duty
- Dimensions 140x103x205 (WxDxH mm)
- Thermal-magnetic, Ekip Dip, Ekip Touch/Hi-Touch



### SACE Tmax XT6

The carpenter

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

#### At a glance:

- Up to 1000A
- For basic functionalities
- Dimensions 210x103.5x268 (WxDxH mm)
- Thermal-magnetic, Ekip Dip





### SACE Tmax XT7

The superhero

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

#### At a glance:

- Up to 1600A
- For heavy duty
- Dimensions 210x166x268 (WxDxH mm)
- Ekip Dip, Ekip Touch/Hi-Touch



### SACE Tmax XT7 M

The motorized superhero

The ultimate choice, with motor. It deals with the most heavy-duty demands smoothly.

#### At a glance:

- Up to 1600A
- For heavy duty
- Dimensions 210x178x268 (WxDxH mm)
- Ekip Dip, Ekip Touch/Hi-Touch

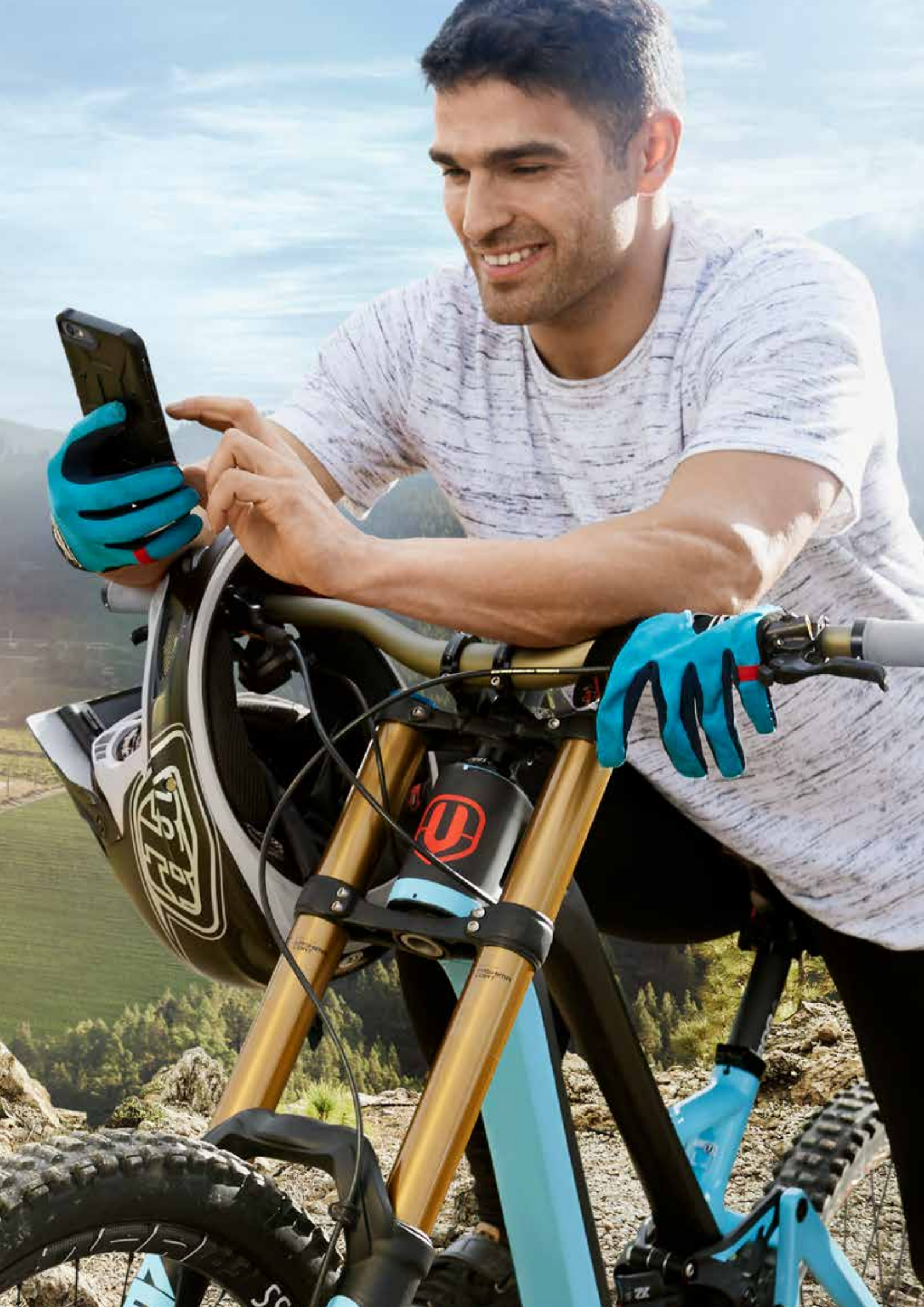
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DATA AND CONNECTIVITY

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







# Electronic trip units Ekip Dip and Ekip Touch/Hi-Touch

## The network under control

When it comes to accurate protection of the network, you cannot go wrong with Ekip Dip and Touch technology.

### Trip unit range

The protection units available for the SACE Tmax XT range is organized in three layers, characterized by increasing performance, interfaces, information sets and integration functions. Each layer

includes several trip unit versions, designed to match specific application needs such as distribution, generator protection and motor protection.

	Applications			Advanced functionalities				
	Distribution		Motor	Generator	Selectivity	Metering	Communication	ABB Ability Marketplace™
	DC	AC						
Touch		•	•	•	•	•	•	
Dip		•	•	•	•			
TM	•	•	•	•				

01 All the tools needed to set up a competent and effective energy management strategy. 30% more information about a running system to empower ABB Ability™

### Thermal-magnetic trip units

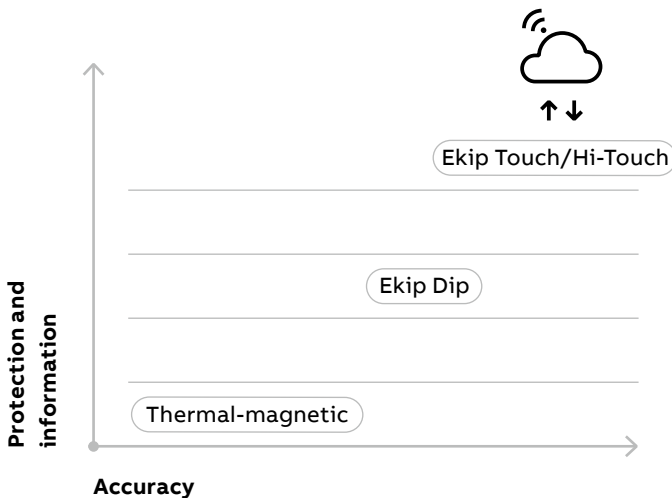
Thermal-magnetic trip units are intended for the protection of AC and DC networks. They are a solution for basic protection such as overloads and short-circuits.

### Ekip Dip trip units

Ekip Dip trip units represent the first level of electronic trip unit and are used to protect AC networks. Compared to thermal-magnetic trip units, they can provide increased accuracy, a wider regulation range, delayed short-circuit protection, individual trip information and test capability.

### Ekip Touch/Hi-Touch trip units

Ekip Touch/Hi-Touch trip units offer state-of-the-art technology for AC-network protection. These trip units integrate a great number of protection and automation functionalities, performed with best-in-class accuracy. Measurement and supervision data can be transmitted both on the local communication network (the most popular communication protocols are available) or directly over the Internet. Configuration of the trip unit is extremely user-friendly, mainly on the sizes where a color touchscreen display is available. Furthermore, as operational requirements evolve, for the first time ever customers can download new functions from the ABB Ability Marketplace™, choosing among more than fifty different protection, metering and automation functionalities.







## Metering

G OPEN - SAGE TERA 9700 APT

### Overview

Current (RMS)	Voltage
630 A	415 V
Active Power	Reactive Power
445 KW	-2.1 MVAR
Apparent Power	Power Factor
-1.3 KVA	0.9

### Measures

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QUALITY AND RELIABILITY

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









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**ABB SACE**

**Electrification business**

**Smart Power business line**

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