SACE Tmax XT.
New low voltage moulded-case circuit-breakers up to 250A.

Power and productivity
for a better world™

ABB

New SACE Tmax XT.
Simply XTraordinary.

ABB SACE is proud to present you the result of a long and intense research and development project: the new SACE Tmax XT up to 250A - ABB SACE's new family of moulded-case circuit-breakers.

Today a highly advanced range of circuit-breakers has been brought out, with unparalleled versatility of use and able to solve all installation problems brilliantly.
You can find the new SACE Tmax XT in the three-pole and four-pole, fixed, plug-in and withdrawable versions, fitted with the very latest generation thermomagnetic and electronic trip units, with the possibility of interchangeability. The new SACE Tmax XT set up a new technological standard and leave you free to think up and build installations with extraordinary performances. An extraordinary demonstration of ABB SACE's innovation capability.
Extraordinary latest generation electronics. Extraordinary coverage of all plant requirements. Extraordinary performances in compact dimensions.
Extraordinary simplicity of installation and putting into service.
Extraordinary range of accessories available.

New SACE Tmax XT. Simply XTraordinary.

New SACE Tmax XT.
XTraordinary completeness of range.

Here are the 4 new SACE Tmax XT frames for you:
- the small XT1 up to 160A;
- the high-performing XT2 up to 160A;
- the reliable XT3 up to 250A;
- the powerful XT4 up to 250A.

The new SACE Tmax XT go everywhere and fear no tests as they are made to respond successfully to all plant engineering requirements, from the standard ones to the most technologically advanced ones, thanks to the extraordinary fullness of their range. A complete offer up to 250A for distribution, for motor protection, for generator protection, for oversized neutral, as switch-disconnectors and for any other needs. A new range of both thermomagnetic and electronic protection trip units, interchangeable right from the smallest frames. To say nothing of the new and large number of dedicated accessories available, even for special applications. All that remains is for you to choose: XT1 and XT3 for building standard installations with ABB SACE's unquestioned reliability and safety, whereas XT2 and XT4 for building technologically advanced installations with top of market performance. New SACE Tmax XT, for any choice, always and in any case simply extraordinary.
New SACE Tmax XT. XTreme protection.

New SACE Tmax XT.
XTraordinary advanced electronics.

Welcome a totally renewed, high-performing and versatile range of electronic trip units.
Ekip: this is the name of the new, very latest generation electronic trip units which equip the new frames of SACE Tmax XT2 and SACE Tmax XT4 circuit-breakers.

The trip units are interchangeable and guarantee absolute tripping reliability and precision. Apart from the continuous green LED, which indicates correct operation of the protection trip unit, all the Ekip trip units also have a LED to signal intervention of all the protection functions.
To allow the Ekip units to communicate and exchange information with the other devices, simply insert the Ekip Com module inside the circuit-breaker, leaving the space inside the electric panel free.

All the Ekip trip units can be fitted with a vast range of dedicated accessories. The main ones are:
- the Ekip Display, to be applied onto the front of the electronic trip unit for simpler setting and for better reading of information;
- the Ekip LED Meter, a device to be installed on the front of the trip unit to simplify current readings;
- the Ekip TT, the new trip test unit;
- the Ekip T&P, the extraordinary testing and programming unit.

Finally, for the first time ground fault protection G is also available on the 160A frame.
Ekip: isn't all this simply XTraordinary?
New SACE Tmax XT. XTended technology.

New SACE Tmax XT1 and XT3.
XTraordinary reliable.

SACE Tmax XT1 and XT3 are reliable circuit-breakers which answer the most common requirements of installations. Available in the fixed and plug-in three-pole and four-pole versions and with thermomagnetic trip units.

SACE Tmax XT1 and XT3 can be used in installations for large-scale distribution, in hospitals and in all the service sector applications which require great reliability. The SACE Tmax XT3 circuit-breakers can be used for motor protection, for generator protection and as switch-disconnectors.

New SACE Tmax XT2 and XT4.
XTraordinarily technological.

You are looking at two even more extraordinary circuit-breakers. SACE Tmax XT2 and XT4 offer advanced performances and functionalities and can be used in the most technologically advanced installations (heavy industry, metallurgy and marine), in the fixed, plug-in and withdrawable versions with both thermomagnetic and electronic interchangeable trip units.

In marine applications, for example, high breaking capacities at 690V are required. The SACE Tmax XT2 and XT4 circuit-breakers reach the highest breaking capacities on the market. In particular, XT2 has an Icu of 20kA@690V, 150 kA@415V whereas XT4 reaches an Icu of 90kA@690V for 160A, 150kA@415V for 250A.

The XT2 and XT4 circuit-breakers can be used in different applications:

- for power distribution with thermomagnetic and electronic trip units;
- for motor protection with only magnetic and dedicated electronic trip units;
- for generator protection with dedicated thermomagnetic and electronic trip units;
- for protection of the oversized neutral with a specific trip unit dedicated to this application;
- SACE Tmax XT2 and XT4 can be used in communication systems and in installations operating at 400Hz.

New SACE Tmax XT.
XTraordinary range of accessories and simplicity of installation.

Come into the world of opportunities offered by the brand-new and standardised range of accessories made for all the frames in the SACE Tmax XT family.

The first great novelty regards simplicity of installing the accessories: coils and auxiliary contacts no longer need screws for their installation. With the new rapid system, simply put a slight pressure on the circuit-breaker slot where the accessory is to be inserted in order to carry out correct and rapid installation.
Another novelty regards the new auxiliary contacts whose signals depend on the position inside the circuit-breaker they are installed in.
The new motor operators are available with direct operating mechanism for the new XT1-XT3 and with stored energy operating mechanism for XT2 and XT4.
Apart from their simple installation and compact dimensions, the new motor operators require low power values on inrush and during service. The new residual current releases for XT2-XT4 are available not only for the fixed version, but also for the plug-in and withdrawable versions.
A rich variety of terminals, among which are those for flexible busbars and terminals for taking up the auxiliary voltage.
Furthermore, to help the installer's job, the tightening torques are given for tightening the cables directly onto the terminals.
To complete the offer and to respond to the specific needs of the OEMs, we have not overlooked a vast range of handles, among which are the lateral rotary handles, the handles with ergonomic grip and the internal handles and, finally, early opening and closing auxiliary contacts inside the circuit-breaker.

Electrical Accessories		XT1	XT2	XT3	XT4
Shunt opening release	SOR	■	■	■	■
Permanent shunt opening release	PS-SOR	■	■	■	■
Undervoltage release	UVR	■	■	■	■
Time-delay device for undervoltage release	UVD	■	■	■	■
Auxiliary contacts Q: signalling contact open/close SY: trip signalling contact S51: trip signalling contact	1Q 1SY 24V DC	■	■	■	■
	3Q 1SY 24V DC	–	■	■	■
	1Q 1SY 250V AC/DC	■	■	■	■
	2Q 2SY 1S51 250V AC/DC	–	■	–	■
	3Q 2SY 250V AC/DC	–	■	–	■
	3Q 1SY 250V AC/DC	–	■	■	■
	1S51 250V AC/DC	–	■	–	■
	2Q 1SY 250V AC/DC	■	■	■	■
	3Q on left 250V AC/DC	■	■	■	■
	400V 1Q 1SY 400V AC	–	■	–	■
	400V 2Q 400V AC	–	■	–	■
Position contacts	AUP - Inserted	■	■	■	■
	AUP - Withdrawn		■		■
Early auxiliary contacts	AUE - Inside the rotary handle	■	■	■	■
	AUE - Inside the circuit-breaker		■		■
Motor operator	MOD	■		■	
	MOE		■		■
	MOE-E		■		■
Residual current devices	RC Inst	■		■	
	RC Sel 200	■			
	RC Sel for XT1 XT3	■		■	
	RC Sel for XT2 XT4		■		■
	RC Sel B Type			■	

Mechanical Accessories		XT1	XT2	XT3	XT4
Terminals	F - Front	■	■	■	■
	EF - Front extended	■	■	■	■
	ES - Front extended spread	■	■	■	■
	FCCu - Front for copper cables	■	■	■	■
	FCuAl - Front for copper/aluminium cables	■	■	■	■
	FB - For flexible busbars	■	■	■	■
	MC - Multi-cable	■	■	■	■
	R - Rear	■	■	■	■
	HR for RC - for residual current release	■			
Rotary handle operating mechanism	RHD - Direct rotary handle	■	■	■	■
	RHE - Transmitted rotary handle	■	■	■	■
	RHE-LH - Wide transmitted rotary handle	■	■	■	■
	RHS - Side rotary handle	■	■	■	■
Front for lever operating mechanism	FLD - Front for locks		■		■
Locks on CB	Padlock device	■	■	■	■
	Key lock	■	■	■	■
Locks on handle	Key lock	■	■	■	■
Locks on FLD	Key lock		■		■
Locks on motor	Key lock	■	■	■	■
	Key lock against manual operation		■		■
Fixed part locks PF	Key lock		■		■
Rear interlock	Interlock	■	■	■	■
Bracket for DIN rail	Bracket	■	■	■	■

New SACE Tmax XT.
XTraordinary attention to the environment.

ABB SACE has always taken the ecological footprint of its products into account during each stage of their life: from production to disposal.

This is why the new SACE Tmax XT moulded-case circuit-breakers have been designed, developed and produced in accordance with the International EPD system (Environmental Product Declaration), with the aim of limiting the use of raw materials during the construction stage with consequent reduction of the material which will have to be recycled in future.

New SACE Tmax XT.
XTraordinary commitment to obtaining all the most important certifications.

All the international certifications could not be left out and are further evidence of the ABB SACE's reliability and quality.

All the SACE Tmax XT circuit-breakers and their accessories are constructed in conformity with the IEC 60947-2 Standard and with the "Low Voltage Directives" (LVD) and "Electromagnetic Compatibility Directive" (EMC) EC directives. Moreover, the SACE Tmax XT satisfy the most stringent requirements of Shipping Registers such as Lloyd's Register of Shipping, Germanischer Lloyd, Bureau Veritas, Rina, Det Norske Veritas, Russian Maritime Register of Shipping, and ABS.

New SACE Tmax XT.
Construction characteristics.

			XT1				
Size		[A]	160				
Poles		[No.]	3, 4				
Rated service voltage, **Ue**	(AC) 50-60Hz	[V]	690				
	(DC)	[V]	500				
Rated insulation voltage, **Ui**		[V]	800				
Rated impulse withstand voltage, **Uimp**		[kV]	8				
Versions			Fixed, Plug-in[2]				
Breaking capacities according to IEC 60947-2			**B**	**C**	**N**	**S**	**H**
Rated ultimate short-circuit breaking capacity, Icu							
Icu @ 220-230V 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
Icu @ 250V (DC) 2 poles in series		[kA]	18	25	36	50	70
Icu @ 500V (DC) 3 poles in series		[kA]	18	25	36	50	70
Rated service short-circuit breaking capacity, Ics							
Ics @ 220-230V 50-60Hz (AC)		[kA]	100%	100%	75% (50)	75%	75%
Ics @ 380V 50-60Hz (AC)		[kA]	100%	100%	100%	100%	75%
Ics @ 415V 50-60Hz (AC)		[kA]	100%	100%	100%	75%	50% (37.5)
Ics @ 440V 50-60Hz (AC)		[kA]	75%	50%	50%	50%	50%
Ics @ 500V 50-60Hz (AC)		[kA]	100%	50%	50%	50%	50%
Ics @ 525V 50-60Hz (AC)		[kA]	100%	100%	50%	50%	50%
Ics @ 690V 50-60Hz (AC)		[kA]	100%	100%	75%	50%	50%
Ics @ 250V (DC) 2 poles in series		[kA]	100%	100%	100%	75%	75%
Ics @ 500V (DC) 3 poles in series		[kA]	100%	100%	100%	75%	75%
Rated short-circuit making capacity, Icm							
Icm @ 220-230V 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]	4.5	6	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
Utilisation Category (IEC 60947-2)			A				
Reference Standard			IEC 60947-2				
Isolation behaviour			✔				
Mounted on DIN rail			DIN EN 50022				
Mechanical life		[No. Operations]	25000				
		[No. Hourly operations]	240				
Electrical life @ 415V (AC)		[No. Operations]	8000				
		[No. Hourly operations]	120				
Dimensions - Fixed (Width x Depth x Height) 	3 poles	[mm]	76.2 x 70 x 130				
	4 poles	[mm]	101.6 x 70 x 130				
Total opening time							
Circuit-breaker with shunt opening release		[ms]	15				
Circuit-breaker with undervoltage release		[ms]	15				
Trip units for power distribution							
TMD/TMA							
TMD					■		
Ekip LS/I							
Ekip I							
Ekip LSI							
Ekip LSIG							
Trip units for motor protection							
MF/MA							
Ekip M-I							
Ekip M-LIU							
Ekip M-LRIU							
Trip units for generator protection							
TMG							
Ekip G-LS/I							
Trip units for oversized Neutral Protection							
Ekip N-LS/I							
Interchangeable protection trip units							

(1) 90kA@690V only for XT4 160. Available shortly, please ask ABB SACE
(2) XT1 plug-in In max=125A

■ Complete circuit-breaker
▲ Loose trip unit

	XT2					XT3		XT4				
	160					250		160/250				
	3, 4					3, 4		3, 4				
	690					690		690				
	500					500		500				
	1000					800		1000				
	8					8		8				
	Fixed, Withdrawable, Plug-in					Fixed, Plug-in		Fixed, Withdrawable, Plug-in				
	N	**S**	**H**	**L**	**V**	**N**	**S**	**N**	**S**	**H**	**L**	**V**
	65	85	100	150	200	50	85	65	85	100	150	200
	36	50	70	120	200	36	50	36	50	70	120	150
	36	50	70	120	150	36	50	36	50	70	120	150
	36	50	65	100	150	25	40	36	50	65	100	150
	30	36	50	60	70	20	30	30	36	50	60	70
	20	25	30	36	50	13	20	20	25	45	50	50
	10	12	15	18	20	5	8	10	12	15	20	25 (90[1])
	36	50	70	120	150	36	50	36	50	70	120	150
	36	50	70	120	150	36	50	36	50	70	120	150
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50% (27)	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	50%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	75%	75%	50%	100%	100%	100%	100%	75% (20)
	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%	100%
	143	187	220	330	440	105	187	143	187	220	330	440
	75.6	105	154	264	440	75.6	105	75.6	105	154	264	330
	75.6	105	154	264	330	75.6	105	75.6	105	154	264	330
	75.6	105	143	220	330	52.5	84	75.6	105	143	220	330
	63	75.6	105	132	154	40	63	63	75.6	105	132	154
	40	52.5	63	75.6	105	26	90	40	52.5	63	75.6	110
	17	24	30	36	40	8.5	13.6	17	24	30	40	52.5
	65	85	100	150	200	50	85	65	85	100	150	200
	30	36	65	100	150	25	35	30	36	65	100	150
	A					A		A				
	IEC 60947-2					IEC 60947-2		IEC 60947-2				
	✔					✔		✔				
	DIN EN 50022					DIN EN 50022		DIN EN 50022				
	25000					25000		25000				
	240					240		240				
	8000					8000		8000				
	120					120		120				
	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				
	15					15		15				
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