

## SACE Emax 2 Retrofitting kit for Emax and New Emax

With SACE Emax 2 retrofitting kits, ABB Low Voltage Breakers extends the product offering and gives customers the opportunity to immediately take advantage of the benefits of the Emax 2 circuit-breaker

Substituting Emax 2 in switchgear allows an upgrade in performance and capabilities, as well as an increase in the Life Cycle and safety of the circuit-breaker. Features include:

- High mechanical performances: a new operating mechanism extends the mechanical life of the circuit-breaker
- High security levels: the new locking options of Emax 2 offer increased safety and security
- New range of accessories for secure, easy installation and operation
- New trip units for control of power distribution, generator protection and load shedding
- Trip units with the possibility of providing indication of required maintenance, according to manual prescribed maintenance intervals
- Optional implementation of advanced local and remote monitoring and diagnostic services



Thanks to the new retrofitting kits, upgrading to an Emax 2 has never been so easy. The kits contain dedicated terminals, both for the fixed part of withdrawable circuit-breakers or for fixed circuit-breakers.

The ends of these special terminals have the same dimensions and fixing points of Emax and New Emax terminals, in order to quickly and easily connect to the existing busbars. The terminals come with fixed breakers by ordering the standard fixed circuit-breaker plus a retrofitting terminal codes and on fixed parts of withdrawable circuit-breakers by ordering one retrofitting cradle code.

There are many advantages for choosing retrofitting kits for Emax 2 in both existing and new switchboard installations:

- 100% total flexibility: there is no need to re-certificate the system as Emax 2 retrofits fit the device substitution as defined in IEC standards.
- No additional development costs: there is no need to redesign the entire switchboard as the carpentry is the same Emax/New Emax. Only a dedicated cubicle door is required.
- Ease of installation: customers can install the replacements quickly and easily by themselves.
- Increased availability of products and spare parts.
- Stock and spare part reduction by standardizing on Emax 2 with retrofitting kits as the only solution.

# SACE Emax 2

## Retrofitting kit for Emax and New Emax

### Welcome the evolution.

SACE Emax 2 circuit breakers are the undisputed benchmark in air circuit-breaker protection, but their benefits do not extend to new switchgear designs alone. By introducing an Emax 2 into an existing or predesigned system with the use of a retrofitting kit, the switchgear can be transformed to not only meet the performances and characteristics it was designed for, but to provide greater benefits than imagined.

#### Increased control

**Load control:** The Power Controller function of Emax 2 is able to control a load list using the average absorbed power over a period of time. This allows it to maintain the maximum power limit specified by the user, creating efficiency and saving on electricity bills.

**Power quality analysis:** The Network Analyzer feature of Emax 2 analyzes power quality, in accordance with EN 50160 and IEC 6100-4 30, to prevent malfunctions and to increase installation efficiency and the working life of appliances without using additional systems.

#### More connected

**Direct communication integration:** Emax 2 can be equipped with multiple cartridge-type communication modules. The modules allow direct integration into automation and energy management systems through the seven most popular global protocols; including IEC 61850 for the creation of Smart Grid Networks.

#### Enhanced performance

**Precise measurement:** Emax 2's measurement tolerance to 1% of the actual value of current, 0.5% of voltage and 2% of power and energies enable the circuit-breaker to act as a measurement device in switchgear. Measurements can be read directly on the trip unit display so extra devices are not needed.

#### Easier and safer

**Clear, easy navigation:** Emax 2 is the first circuit-breaker to offer large, color touch screen displays. They provide quick and easy access to information and adjustment capability that is invaluable in the event of a fault or emergency. In addition, they can be read and used directly, without the need for HMI units, and are capable of ten languages.

**Improved cradles:** Dedicated guide rails simplify movement and allow correct, locked and clearly identifiable positioning. The rails extend outside the fixed part so that the mobile part can be easily inserted. In addition, shutters on the fixed part can be locked from the front, without access through the inside of the fixed part. These features allow for easy and safe installation and maintenance.

**Tooling-free wiring:** Emax 2 terminal boxes use spring clamp technology that makes wiring easy and tooling-free.

**Proactive maintenance:** A maintenance signal is included in each trip unit that will identify when the circuit-breaker is in need of routine maintenance. This feature acts as a remainder and can help avoid incidents or shut downs and extend the life of equipment.



### Advanced after-sales support

ABB Service is more than a service; it is a global factory at your full disposal. The ABB Service team is ready to support all needs relating to the integration of Emax 2 in switchboards and switchgear, including:

- Implementation of advanced local and remote monitoring and diagnostic services (LEAP, My Remote Care, etc.)
- New spare parts with long-term availability
- Power Care customer support agreements to help in all situations, according to real needs.
- Development of Emax 2 retrofitting kits for non-ABB product replacement.



### Listing of Emax to Emax 2 retrofitting kit options

Emax	Performance	New Emax 2										
		Iu										
		630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
X1	B	E1.2B	E1.2B	E1.2B	E1.2B	E1.2B						
	N	E1.2N	E1.2N	E1.2N	E1.2N	E1.2N						
	L	E1.2L	E1.2L	E1.2L	E1.2L							
E1	B		E2.2B*	E2.2B*	E2.2B*	E2.2B						
	N		E2.2N	E2.2N	E2.2N	E2.2N						
E2	B					E2.2B	E2.2B					
	N			E2.2N	E2.2N	E2.2N	E2.2N					
	S		E2.2S	E2.2S	E2.2S	E2.2S	E2.2S					
E3	N							E4.2N*	E4.2N			
	S			E4.2H*	E4.2H*	E4.2H*	E4.2H*	E4.2H*	E4.2H			
	H		E4.2V*	E4.2V*	E4.2V*	E4.2V*	E4.2V	E4.2V*	E4.2V			
	V						E4.2V*	E4.2V*	E4.2V			
E4	S									E4.2H		
	H								E4.2V	E4.2V		
	V								E4.2V	E4.2V		
E6	H									E6.2H	E6.2H	E6.2H
	V									E6.2V	E6.2V	E6.2V

\* Rating Plug has to be ordered for the right In

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