

FACT SHEET

ReliaGear® LV SG

Low voltage switchgear



With the rapid evolution of technology, it's nearly impossible to predict future needs. ABB believes in creating solutions that give you what you need today with flexibility to scale for tomorrow.

ReliaGear® LV SG low voltage switchgear platform incorporates the best of both worlds: cutting edge SACE® Emax® 2 Air Circuit Breaker (ACB) technology integrated into the proven AKD low voltage switchgear platform. This new generation LV switchgear platform provides the latest technological innovations and reliability customers expect from ABB.

ReliaGear LV SG brings reliability and innovation to the switchgear platform with ratings that range from

2000 A–8000 A as main bus and utilizing SACE Emax 2 ACB covering 800 A–6000 A frames served by four envelopes (E1.2, E2.2, E4.2 and E6.2) and up to 600 V nominal equipment class compliance.

The key differentiators and value proposition for this low voltage switchgear include:

Footprint: E1.2 envelope integrated provides a 15-inch minimum 4 high stack width.

Enhancement: E2.2 provides a higher withstand without changing “envelope” size; (ie. up to 85 kA). The E4.2 can go all the way to 100 kA withstand and still fit in a 22-inch section (2000 A and lower). E6.2 provides a 5000 A natural ventilated configuration where reliability is a concern and a forced ventilated 6000 A for maximum current usage.

Metering: Ekip trip unit with high accuracy measurement, optional; Integral 1 percent metering; no external CTs, PTs or meters required.

Functionality: M-T-M or Utility-Gen auto transfer built in to the Ekip Trip Unit. No external relays, PLCs or devices required. With optional sync check module on breaker for closed transitions.

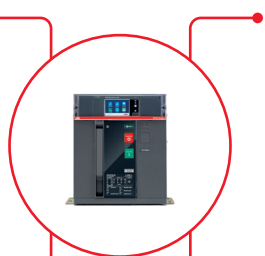
Accuracy: Current 0.5%,
Voltage 0.5%, Power 1%, Energy 1%

Low current detection,
starting from 0.4% of In



Perfectly suitable for
SCADA integration

Analysis of
energy demand



Functionality: From a reliability and up-time standpoint, ABB has incorporated new functionalities with advanced electronics in the Ekip Touch trip units. Customers are now able to add additional protections, measures, and functionalities to the breaker via ABB MarketPlace, while the breaker is in the closed position, using Ekip Connect Software.

Watchdog: Ekip trip units ensure high reliability thanks to an electronic circuit that periodically checks the continuity of internal connections, such as trip coil, rating plug and each current sensor (ANSI 74). In case of an alarm, a message is shown on the display (Ekip Touch) or through LEDs signalization (Ekip Dip).

If a protection function intervenes, the unit always checks that the circuit breaker has been opened through auxiliary contacts that indicate the position of the main contacts. Otherwise, the unit creates an alarm (ANSI BF code - Breaker Failure) that can be used to command the opening of the upstream circuit breaker. Ekip trip units are also provided with self-protection against abnormal temperature (OT) to ensure correct operations.

Safety: An energy reducing maintenance switch makes it possible to keep operators outside the arc flash boundary, reducing the risk of arc flash incidents. The Ekip Com Actuator module can be installed in the front of the device to remotely control the circuit breaker.

Reduced Energy Let Through (RELT) is now available in SACE Emax 2 Ekip with a dedicated module 2i protection that can clear in as little as 1.5 cycles at 60 Hz.

Lower incident energy with dynamic zone selective interlocking and RELT 2i significantly reduce the risk of arc flash incidents.

Dual setting: Data centers, hospitals, manufacturing plants, and many other facilities rely on backup generators to maintain continuity of electrical service when there is an unexpected power outage. With the Ekip Hi-Touch, continuity of service and selectivity can be maintained using the integrated dual setting feature. The dual setting feature can add an extra level of protection against arc flash within a system.

When this feature is used in a switchgear, for example, it can be set to activate the second set of parameters that minimize protection delays if the switchgear door is opened. This can greatly reduce the risk of an operator being injured by an arc flash incident.

Preventive maintenance: The SACE Emax 2 with Ekip Touch provides contact wear status in terms of percentage from the HMI display allowing for monitoring and notification when it is time to have the breakers serviced. Scheduled service dates can also be entered into the breaker which will signal when it is time to have the breakers serviced. The last date of service can also be entered into the HMI. In addition, Predictive Maintenance functionality with SACE Emax 2 using ABB Ability EDCS can be used to understand, analyze and predict the health and status of breakers.

Communication: There are a vast variety of communication protocols which the customer can use to remotely supervise and control the breakers via BMS. Communication and Connectivity Ekip Touch and Hi-Touch trip units can be easily integrated into the most modern supervision systems through several communication protocols:

- IEC 61850
- Modbus TCP
- Modbus RS-485
- Profibus
- Profinet
- DeviceNet™
- EtherNet/IP™

Redundancy: Repetition of communication allows for greater system reliability. The circuit breaker can be equipped with two communication modules at the same time, allowing the information on two buses to be exchanged simultaneously. Measurements, status and alarms can be easily programmed and viewed by remote function, with no need of external interface devices. Several communication modules with different protocols can be used simultaneously.

Please visit abb.com/lowvoltage for further information and the latest updates on ABB solutions.