

ABB ABILITY[™] EKIP LICENSES

ABB Ability[™] Marketplace Ekip licenses Current offering - Annex A

Prerequisite:

Licenses are suitable for SACE Tmax XT (XT2, XT4, XT5, XT7), SACE Emax 2 (E1.2, E2.2, E4.2, E6.2) circuit-breakers equipped with Ekip Touch and Ekip Hi-Touch trip units and Ekip UP+. Ekip Connect software and Epic App are a prerequisite to enable the licenses for the low-voltage circuit-breakers. After the license purchases, the licenses will become available in the Ekip Connect software and Epic App.

Service descriptions:

Measuring Package enables Emax 2 and Tmax XT low-voltage breakers to measure following electrical values: Voltage, Phase Sequence, Frequency, Active Power, Reactive Power, Apparent Power, Power Factor, Peak Factor and Active energy, Reactive energy, Apparent energy.

Voltage Protections enables Emax 2 and Tmax XT low voltage breakers to protect against Undervoltage, Overvoltage, 2nd Undervoltage, 2nd Overvoltage, Voltage Unbalance and Phase Sequence.

Advanced Voltage Protections enables Emax 2 and Tmax XT low voltage breakers to protect against Voltage controlled overcurrent, 2nd Voltage controlled overcurrent and residual Voltage.

Frequency Voltage Protections enables Emax 2 and Tmax XT low voltage breakers to protect against Under frequency, Over frequency, 2nd underfrequency and 2nd Over frequency

Power Protections enables Emax 2 and Tmax XT low voltage breakers to protect against Reverse active power, Power factors, Directional overcurrent, Loss of field or reverse reactive power, Reactive overpower, Active over power, Active under power, 2nd loss of field or reverse reactive power

ROCOF Protections enables Emax 2 and Tmax XT low voltage breakers to protect against Rate of change of frequency

Adaptive Protections enables Emax 2 and Tmax XT low voltage breakers and Ekip UP+ to protect against dual power feeds.

Datalogger enables Emax 2 and Tmax XT low voltage breakers to save information regarding Currents, Voltages, Sampling rate, Maximum recording duration, Recording stop delay and Number of registers **Network Analyzer** enables Emax 2 and Tmax XT low voltage breakers to monitor the power quality of the network through: Harmonic analysis, Hourly average voltage value, Short voltage interruption, Short voltage spikes, Slow-voltage sags and swells, Voltage

unbalance.

Embedded ATS Main-Gen enables Emax 2 and Tmax XT to perform the automatic transfer switching of power supply from the main distribution network to the auxiliary generation source, thus ensuring service continuity. An open transition occurs.

Embedded ATS Main-Tie-Main Gen enables Emax 2 and Tmax XT to perform the automatic transfer switching of power supply from the main distribution network to the back-up power source, thus ensuring service continuity. A closed transition occurs.

Adaptive Load Shedding enables Emax 2, Tmax XT and Ekip UP+ to perform the automatic control of non-priority loads during islanding conditions. The algorithm is based on power consumption and frequency measurements.

Power Controller enables Emax 2, Tmax XT and Ekip UP+ to monitor installation loads and generators, permitting the power consumed to be limited and allowing savings on electricity bills.

Generator Protections enables the Ekip UP+ digital device to protect generators against voltage control short-circuit, 2nd voltage control shot circuit, reverse reactive power, maximum reactive power, maximum and minimum active power, ROCOF and temporary exclusion of the trip threshold.

Motor Protections enables the Ekip UP+ digital device to protect starting, switching and protecting motor loads. Main protection functions enabled are overload, rotor blockage, short-circuit, phase unbalanced, earth fault and undercurrent.

IPS- Interface Protection enables the Ekip UP+ digital device to protect according to the IPS CEI 0-16

Monitor to protect enables the Ekip UP+ digital device to upgrade from a Monitor to a Protect version expanding the possible functionalities.

ţļ $\sqrt{}$ Ē $\mathbf{\nabla}$ (4) <u>استار</u> (4) -----ЛI /! 3 Standard Standard Measuring Voltage Frequency Data Network Advanced ROCOF Power Power Adaptive Protections Protections Protections Protections Voltage Protections Protection Measures Package Logger Analyzer ontroller Protections Ekip Touch • . 1 1 t 1 1 1 1 t Ť 4 Ekip Touch • • • t Ť 1 t Ť Ť Ť t t leasuring Ekip G Touch • • • • t t 1 ≁ 1 t 1 Ŧ Ekip M Touch • • • • • • t Ŧ 4 t 1 Ekip Hi-Touch • • • . • t . Ekip G Hi-Touch • . • • • • • • • • •

Tmax XT compatibility for the above licenses:

Available by default

Updragable

↑ Some functions available. Upgradable with the full package.

Emax 2 compatibility for the above licenses:

Default functionalities and upgradability of the trip units:

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	Standard Protection	Standard Measures	Measuring Package	Voltage Protections	Frequency Protections	Power Protections	Adaptive Protections	Data Logger	Network Analyzer	Advanced Voltage Protections	ROCOF Protections
Ekip Touch	•	•	†	+	+	+	+	1	+	+	+
Ekip G Touch	•	•	٠	1	1	+	+	٠	1	1	+
Ekip Hi-Touch	•	•	•	•	•	+	•	•	٠	1	+
Ekip G Hi-Touch	•	•	•	•	•	•	•	•	٠	•	•

Updragable

T Some elements of the package are already installed by default. It is possible to upgrade the trip unit to achieve the complete package.

Ekip UP+ compatibility for the above licenses:

Features Monitor Protect • Measurement, Network analyzer and datalogger • Basic Protections 0 Power Controller Generator Protections 0 Motor Protections 0 Adaptive protections 0 • Interface Protection System (IPS) – CEI 0-16 0 Adaptive Load Shedding 0

As standard
Gritonal: traditional ordering channels or after via Marketplace
Optional: via Marketplace only
Optional: via Marketplace only and after it has been upgraded with «monitor to protect»

More information can be found in the Emax 2, Tmax XT and Ekip UP+ catalogues

Emax 2 Catalog (IEC Version / UL Version) Tmax XT Catalog (IEC Version / UL Version) Ekip UP+ Catalog

Commercial codes:

EKIP CONNECT EPIC	Measuring Package for XT2-XT4	ABB1SDA105208R1	Add measures to your device and b aware of the global status of your plant, anytime.
EKIP CONNECT EPIC	Measuring Package for XT5-XT7	ABB1SDA105209R1	Add measures to your device and b aware of the global status of your plant, anytime.
EKIP CONNECT	Voltage Protections for XT2-XT4	ABB1SDA105211R3	Protect your plant against voltage faults.
EKIP CONNECT EPIC	Voltage Protections for XT5-XT7	ABB1SDA105212R4	Protect your plant against voltage faults.
EKIP CONNECT EPIC	Advanced Voltage Protections XT2-XT4	ABB1SDA105213R1	Protect your plant against a wider range of voltage faults.
EKIP CONNECT EPIC	Advanced Voltage Protections XT5-XT7	ABB1SDA105214R1	Protect your plant against a wider range of voltage faults.
EKIP CONNECT EPIC	Frequency Protections XT2-XT4	ABB1SDA105215R1	Protect your plant against frequent faults.
EKIP CONNECT EPIC	Frequency Protections XT5-XT7	ABB1SDA105216R1	Protect your plant against frequent faults.
EKIP CONNECT EPIC	Power Protections XT2-XT4	ABB1SDA105217R1	Easily identify the flow direction of current and power in order to opti- mize the reliability and safety of th plant
EKIP CONNECT EPIC	Power Protections XT5-XT7	ABB1SDA105218R1	Easily identify the flow direction of current and power in order to opti- mize the reliability and safety of th plant
EKIP CONNECT EPIC	ROCOF Protections XT2-XT4	ABB1SDA105219R1	Protect your plant against ROCOF faults.
EKIP CONNECT EPIC	ROCOF Protections XT5-XT7	ABB1SDA105220R1	Protect your plant against ROCOF faults.
EKIP CONNECT	Adaptive Protections XT2-XT4	ABB1SDA105221R1	Make your Circuit Breaker able to adapt the protection settings to di ferent scenarios.

EKIP CONNECT EPIC	Adaptive Protections XT5-XT7	ABB1SDA105222R1	Make your Circuit Breaker able to adapt the protection settings to dif- ferent scenarios.
EKIP CONNECT EPIC	Datalogger XT5-XT7	ABB1SDA105224R1	Get information on faults, from the start to their complete elimination.
EKIP CONNECT	Network Analyzer XT5-XT7	ABB1SDA105226R1	Get information on faults, from the start to their complete elimination.
EKIP CONNECT	Voltage Protections for Emax 2	ABB1SDA105227R2	Protect your plant against voltage faults.
EKIP CONNECT	Advanced Voltage Protections Emax 2	ABB1SDA105228R1	Protect your plant against a wider range of voltage faults.
EKIP CONNECT	Frequency Protections Emax 2	ABB1SDA105229R1	Protect your plant against frequency faults.
EKIP CONNECT EPIC	Power Protections Emax 2	ABB1SDA105230R1	Easily identify the flow direction of current and power in order to opti- mize the reliability and safety of the plant
EKIP CONNECT	ROCOF Protections Emax 2	ABB1SDA105231R1	Protect your plant against ROCOF faults.
EKIP CONNECT	Adaptive Protections Emax 2	ABB1SDA105232R1	Make your Circuit Breaker able to adapt the protection settings to dif- ferent scenarios.
EKIP CONNECT EPIC	Power Controller Emax 2	1SDA074212R1	The license allows the circuit-breake to monitors installation loads and generators. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.
EKIP CONNECT	Datalogger Emax 2	ABB1SDA105233R1	Get information on faults, from the start to their complete elimination.
EKIP CONNECT	Network Analyzer Emax 2	ABB1SDA105234R1	Get information on faults, from the start to their complete elimination.
EKIP CONNECT EPIC	Embedded ATS Main-Gen for Emax 2	ABB1SDA082889R1	The license allows to perform interlock logics between two circuit- breakers. Hardware accessories mus be ordered via traditional channels. One single license must be associate to two circuit-breakers.
KIP CONNECT Embedded ATS Main-Tie-Main for Emax 2 PIC			The license allows to perform

			ordered via traditional channels. One single license must be associated to three circuit-breakers.
EKIP CONNECT EPIC	Adaptive Load Shedding for Emax 2	ABB1SDA082921R1	The license allows the circuit-breaker to send output signals to other devices in order to perform load shedding logics. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.
EKIP CONNECT EPIC	Power Controller for XT2-XT4	ABB1SDA116196R1	The license allows the circuit-breaker to monitors installation loads and generators. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.
EKIP CONNECT EPIC	Power Controller for XT5-XT7	ABB1SDA116198R1	The license allows the circuit-breaker to monitors installation loads and generators Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.
EKIP CONNECT EPIC	Embedded ATS Main-Gen for XT2-XT4	ABB1SDA116200R1	The license allows to perform interlock logics between two circuit- breakers. Hardware accessories must be ordered via traditional channels. One single license must be associated to two circuit-breakers.
EKIP CONNECT EPIC	Embedded ATS Main-Tie-Main for XT2-XT4	ABB1SDA116199R1	The license allows to perform interlock logics between three circuit- breakers with short parallel transition between the two power sources. Hardware accessories must be ordered via traditional channels. One single license must be associated to three circuit-breakers.
EKIP CONNECT EPIC	Adaptive Load Shedding for XT2-XT4	ABB1SDA116195R1	The license allows the circuit-breaker to send output signals to other devices in order to perform load shedding logics. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.

EKIP CONNECT EPIC	Embedded ATS Main-Gen for XT5-XT7	ABB1SDA116202R1	The license allows to perform interlock logics between two circuit- breakers. Hardware accessories must be ordered via traditional channels. One single license must be associated to two circuit-breakers.
EKIP CONNECT EPIC	Embedded ATS Main-Tie-Main for XT5-XT7	ABB1SDA116201R1	The license allows to perform interlock logics between three circuit- breakers with short parallel transition between the two power sources. Hardware accessories must be ordered via traditional channels. One single license must be associated to three circuit-breakers.
EKIP CONNECT EPIC	Adaptive Load Shedding for XT5-XT7	ABB1SDA116197R1	The license allows the circuit-breaker to send output signals to other devices in order to perform load shedding logics. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one circuit-breaker.
EKIP CONNECT EPIC	Adaptive Protections Ekip UP+	ABB1SDA117059R1	Make your digital device able to adapt the protection settings to different scenarios
EKIP CONNECT EPIC	Generator Protections for Ekip UP+	ABB1SDA117054R1	The license allows the digital unit to protect your plant against generator faults. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one digital unit.
EKIP CONNECT EPIC	Motor Protections for Ekip UP+	ABB1SDA117055R1	The license allows the digital unit to protect your plant against motor faults. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one digital unit.
EKIP CONNECT EPIC	Load shedding - adaptive for Ekip UP+	ABB1SDA117063R1	The license allows the digital unit to send output signals to other devices in order to perform load shedding logics. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one digital device .
EKIP CONNECT EPIC	Ekip Power Controller for Ekip UP+	ABB1SDA117341R1	The license allows the digital device to monitors installation loads and generators Hardware accessories must be ordered via traditional

ordering channels. The license must be associated to one digital device.

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EKIP CONNECT EPIC	IPS - Interface Protection for Ekip UP+	ABB1SDA082919R1	The license allows the digital device to protect according to the IPS CEI 0- 16. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one digital unit.
EKIP CONNECT EPIC	Monitor to Protect for Ekip UP+	ABB1SDA117060R1	The licences allows the digital device to be upgraded from Monitor to Protect version and unlock the protection functionalities. Hardware accessories must be ordered via traditional ordering channels. The license must be associated to one digital unit.
EPiC	Remote control for Emax 2	ABB1SDA123062R1	The license allows Emax 2 circuit breaker to be remotely operated through EPiC mobile app leveraging the BLE connectivity. The feature will allow also the ability to perform trip test through the app