

PRODUCT NOTE

# ABB Ekip UP

## Digital units for low-voltage applications



ABB Ekip UP product range works in 5 different versions to gain its capability in many applications for low-voltage systems.

This multi-functionality enables flexible implementations based on specific features.

### Where plug & play Ekip UP?

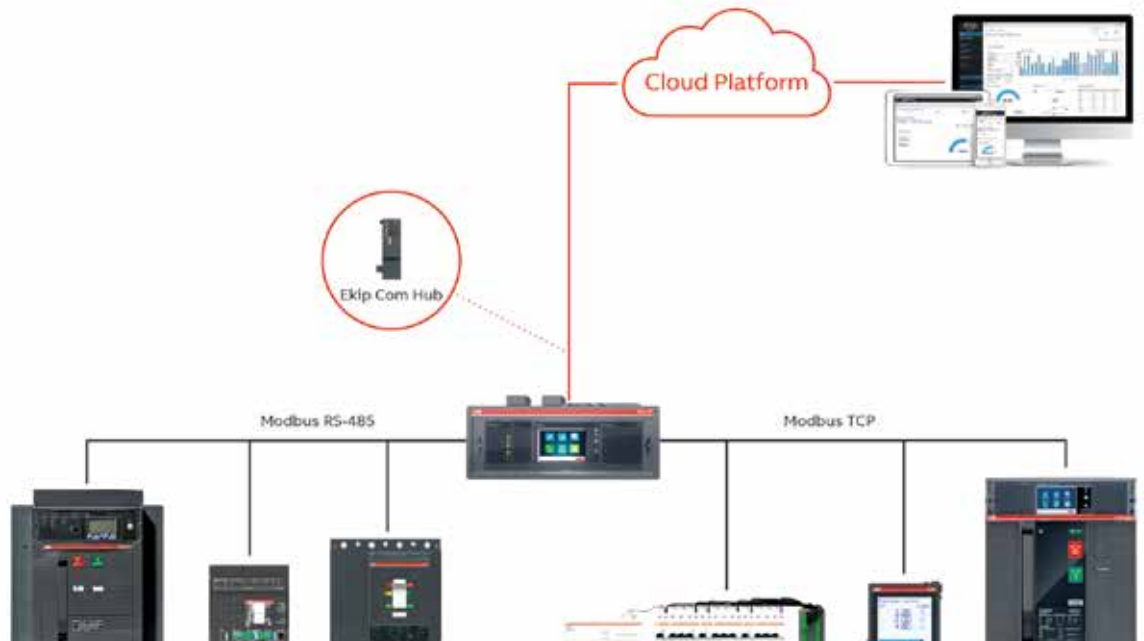
#### Application variety

Ekip UP is ready for metering, protection and control application variety worldwide with scalable and modular approach in green or brown-field power distribution and automation:

- From 100A to 6300A operating current range
- Up to 1150V ac operating voltage range
- IEC 60255 and UL508 certifications
- DIN-rail or door-mounted installation options in the same unit.

	Ekip UP Monitor	Ekip UP Protect	Ekip UP Protect +	Ekip UP Control	Ekip UP Control +
<b>Control</b>				●	●
<b>Protection</b>		●	●		●
<b>Metering</b>	●	●	●	●	●

- = standard functions
- = advanced functions



### Ekip UP Monitor

- Metering and power quality monitoring applications with request of no impact on the switchgear design, leveraging on plug-in current sensors and built-in network analyzer. If technicians are able to work under voltage conditions according to local regulation, even no switchgear downtime is needed. Open-closed Rogowski coil technology ensures linearity in the complete measurement range, in addition to easy installation..
- Measurement of until six temperature values inside the switchgear or at MV/LV transformer windings, as well as receive up to 2 analogic input from other meters (like gas or water), having dedicated Ekip Signalling 3T optional cartridge modules.
- Diagnosis of plant behavior after trigger events, thanks to two data-logger buffers for current and voltage waveforms.
- Simple logics based on the available of more than 1000 metering data and embedded up to 10 I/O signals. Besides, additional DIN-rail units can be added for more I/Os.
- Advanced fieldbus connectivity in every plant node thank to eight Ekip Com even redundant modules, adopting for example Modbus TCP, Modbus RTU or IEC61850 in power distribution supervision or Profinet, Profibus, DeviceNet or Ethernet/IP for automation processes integration (for example PLC, Scada or Building Management System).
- Direct communication to ABB Ability™ EDCS using Ekip Com Hub cartridge module, with no external meter or gateway required. Besides own advanced metering information, possible data gathering of master Ekip Com Modbus TCP and Ekip Com RS485 modules from until other 50 ABB devices from low voltage (breakers, multi-meters, contactor and switch disconnectors, metering and protective relays) to medium voltage (protective relays).



### **Ekip UP Protect**

Besides Ekip UP Monitor case, Ekip UP Protect satisfies several other application cases.

- In new switchgear, protection of switch disconnecter operating on its actuators (opening/closing coils, motor operators) and guaranteeing short-circuit breaking capacity equal to its withstand current at 1s. Closed current sensors with copper inside optimize switchgear footprint.
- In existing switchgear, protection of already installed switch disconnecter operating on actuators (opening/closing coils, motor operators), guaranteeing short-circuit breaking capacity equal to withstand current at 1s.
- In existing switchgear, adding voltage, frequency and power based ANSI protections on existing circuit breaker operating on its actuators (opening/closing coils, motor operators). The circuit breaker maintains current based protection so to keep the same short-circuit breaking capacity.
- In existing switchgear, backup protections of installed circuit breaker in order to get redundancy and more reliability.
- In existing switchgear, when circuit breaker trip-unit spare parts are anymore available, possible modification of ABB circuit breaker into switch disconnecter to act all protections with ABB Service team granted intervention. This is especially in the cases in which it has short-circuit breaking capacity equal to withstand current and if in compliance with local regulation.

- Source ground earth fault protection for transformer with capability to distinguish between restricted to unrestricted earth fault.
- Synchronism detection in generation or transfer switching applications using Ekip Synchrocheck optional cartridge module.
- Synchronization logics of generator and whole plant with medium voltage grid.
- Fast Load shedding based on frequency after input received, for example in case of plant bumpless islanding needed.
- Transfer switching logics based on IEC61850 or ABB proprietary bus Ekip Link, especially for closed transition ("make before break") applications.

### **Ekip UP Protect+**

Ekip UP Protect+ completes the potentialities of Ekip UP Protect with a set of more than 35 ANSI protections.

- Generator protections for GenSets or co-generators.
- Certified interface protection system for connection of renewables, co-generators or GenSets to medium voltage grid. Possible automatic re-closing after grid fault has been restored.
- Directional protection schemes, wired and/or digital based to get redundancy.
- Adaptive protections added to switching device to guarantee the selectivity coordination in different grid topology, for example from on-grid to off-grid scenarios.

### Ekip UP Control

Ekip UP Control is suitable for all monitoring opportunities, introducing plant control features.

- Power management for peak shaving and load shifting to get savings on electricity bills.
- Demand response program access, thanks to embedded patented algorithm and advanced connectivity capability, for example it is ready for openADR communication to utilities or load aggregators.
- Reduction of power overload possibility of transformer in case of low-voltage system extensions or to support generators in islanded condition.

### Ekip UP Control+

Ekip UP Control+ is the top version of the range, answering in a single digital unit to all the needs covered by the other ones.

- In all the cases in which is requested to have together metering, protection and control capabilities.

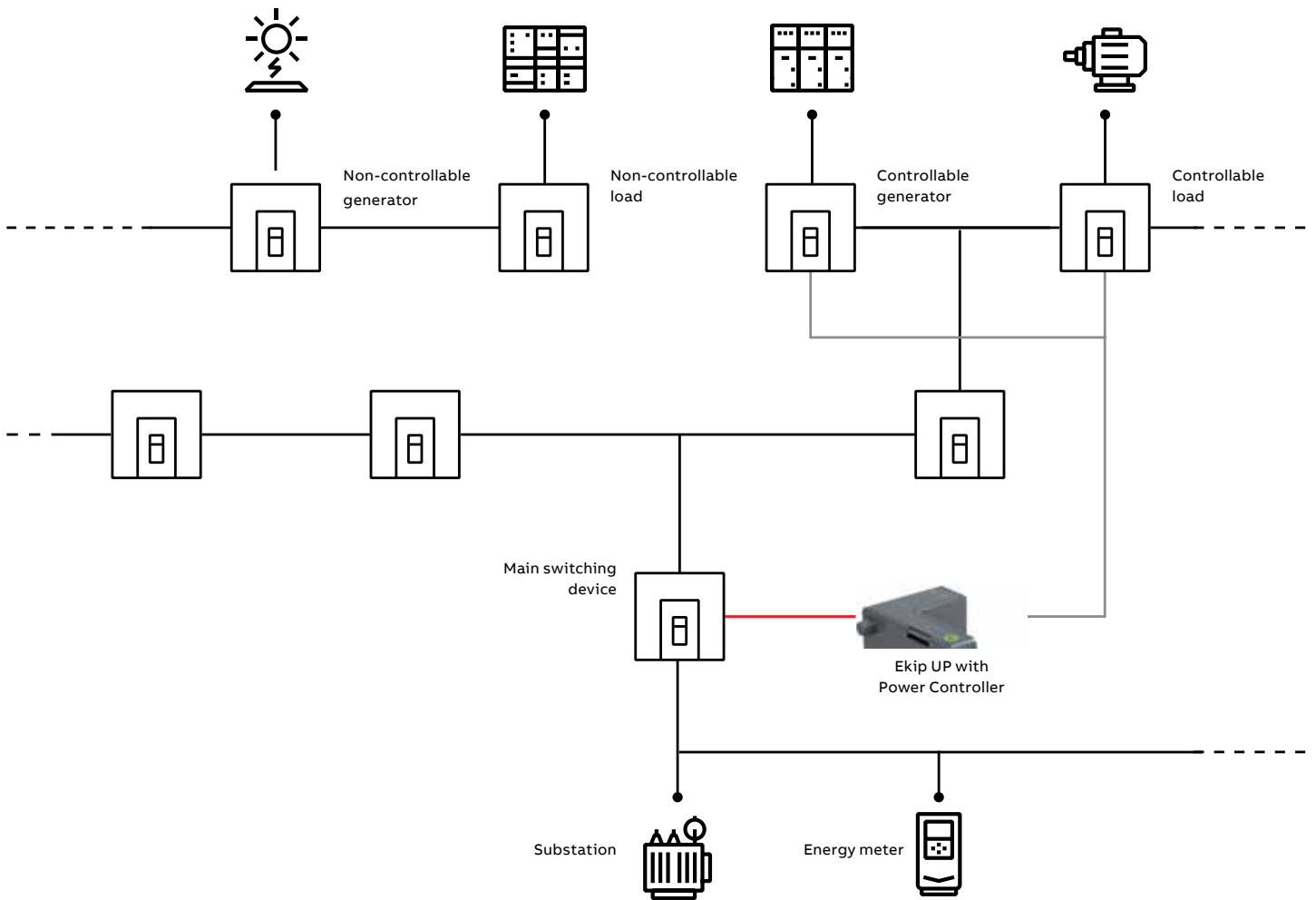


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