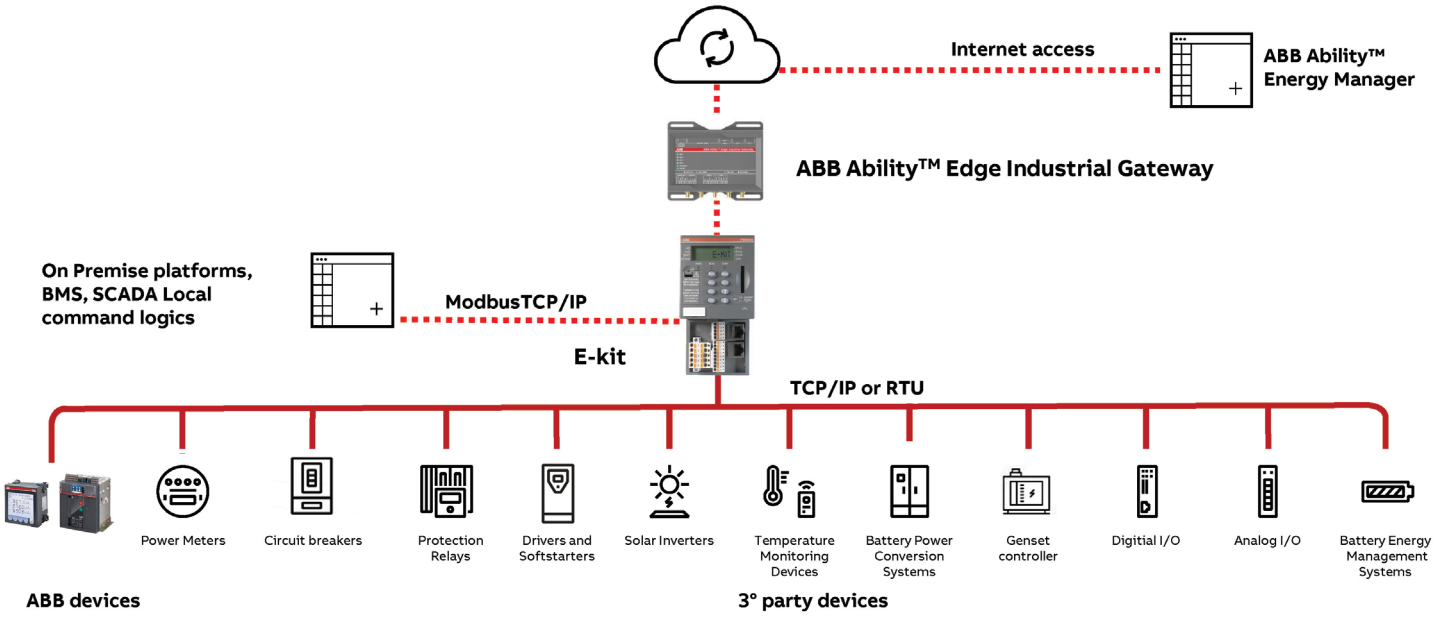
LEAFLET

ABB E-kit

The new connectivity interpreter for the energy management

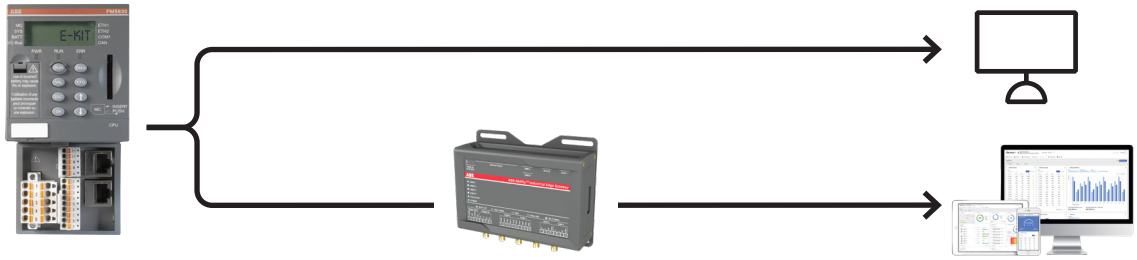


The new connectivity interpreter for the energy management E-kit gives the highest flexibility to integrate different product families, ABB or third party, in on-premise or cloud energy supervision platforms.

In order to speed up the daily activities for data acquisition of System Integrators and Energy Service Companies (ESCos), E-kit has been designed and developed to simplify the acquisition and normalization of different measurements to support advanced energy monitoring, ensuring the maximum degree of flexibility. E-kit becomes the connectivity interpreter of the energy assets present in the site, collecting data from the devices by field-buses to unify them into standardized templates. Data are, indeed, acquired using specific templates that cover different categories of devices[1)], then they are normalized and exposed for use by on premise supervision systems such as SCADA or BMS, or by the the cloud-based energy management system ABB Ability™ Energy Manager.

All configuration phases of E-kit can be done leveraging the low voltage commissioning tool, Ekip Connect 3, or via web pages that can be accessed using the IP address of the device.
The devices can be connected to E-kit using either Modbus TCP/IP or Modbus RTU protocol, transforming them into a unique Modbus TCP/IP based data flow, so to provide additional capability in terms of connectivity architectures.
The integration of third-party devices requires the knowledge of the specific Modbus registers necessary for mapping the parameters required by the selected template.
A series of ABB devices are natively supported by E-kit and do not require any additional configuration.
To use the cloud-based Energy Management System ABB Ability™ Energy Manager, ABB Ability™ Edge Industrial Gateway - Coud View is necessary.
All the data collected and unified become available from E-kit to any on-premise supervision systems and some of them are visible in ABB Ability™ Energy Manager through dedicated widgets/pages. Up to 45 measuring devices can be connected by serial lines in Modbus RTU and Ethernet networks by Modbus TCP/IP, out of which maximum 15 by Modbus RTUs.

Ekip Connect



E-kit | ABB Ability™ Edge Industrial Gateway | ABB Ability™ Energy Manager

Main details in a nutshell

Value proposition	Possibility to integrate various types and brands of devices classified by leveraging an evolving set of device category templates fully in synergy with ABB Ability™ Energy Manager and an easy integration with local monitoring systems such as SCADA/BMS. System Integrators and ESCos reduce their time to execute energy management projects.
Connectivity architecture	E-kit is the new solution to give flexibility for up to 45 device integration in ABB Ability™ Energy Manager and 3rd parties local monitoring systems using the Modbus TCP/IP and Modbus RTU communication protocols. Up to 45 measuring devices can be connected by Modbus RTU/TCP, of which maximum 15 RTUs.
Target costumer	Global Market commercial buildings, industries, renewables, microgrids, infrastructures. The product simplifies the effort of System Integrators even in synergy with the ESCo System Program.
Device category Templates [1)]	Circuit breakers, power meters, protection relays, analog I/O, digital I/O, solar inverters, Battery Management Systems, Power Conversion Systems, Temperature control units, drives & softstarters, genset controllers.

(1)The list of ABB integrated devices is available here

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ABB ESCo System Program

Shopping list

Code	Description
1SDA120717R1	ABB E-kit
Additional accessories	
1SDA116751R1	ABB Ability ™ Edge Industrial Gateway
1SDA116752R1	ABB Ability ™ Edge Industrial Gateway 3G EU
1SDA116753R1	ABB Ability ™ Edge Industrial Gateway 3G US

To use cloud solutions such as ABB Ability™ Energy Manager - Performing edition as a monitoring system, the use of the Gateway is required.

Please refer to your ABB contact person for further information. For more information, contact us.

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ABB Ability™ Edge Industrial Gateway Cloud View

In order to unlock the cloud-based functions of ABB Ability™ Energy Manager , it is required to purchase a yearly subscription or voucher licenses in ABB Ability Marketplace™.

Single site subscription EU and RoW:
https://new.marketplace.ability.abb/s/products/electrification/energy-manager?language=en_US
Single site subscription China:
https://new.marketplace.ability.abb.com.cn/s/?language=zh_CN
Single site voucher EU and RoW:
https://new.marketplace.ability.abb/s/products/electrification/energy-manager-voucher?language=en_US

Leveraging on E-kit data, ABB Ability™ Energy Manager enables the creation of Energy Performance Indicatos (ENPi) in Performing dedicated edition.

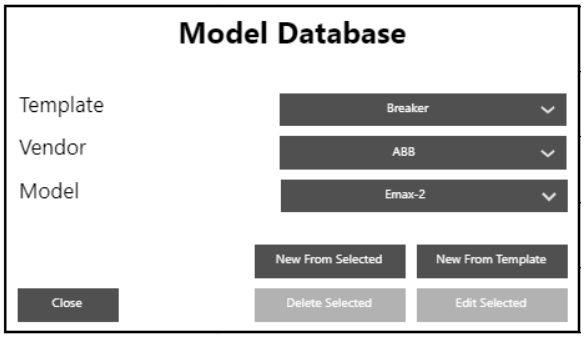
To discover more click here.

Technical in-depth analysis

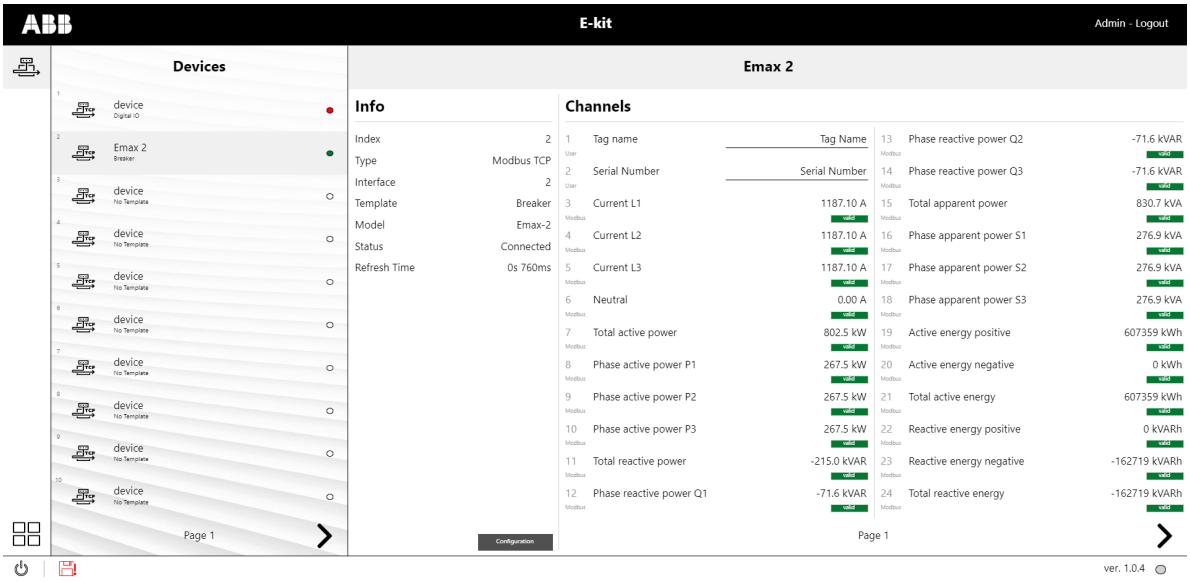
The acquisition of data from 3rd party devices is facilitated by the use of templates, which define a set of typical data points of interest for each device family. During configuration, these template data points need to be mapped to the specific Modbus registers of the device to be integrated.
The list of templates will be enriched in the future.
Below is the list of available templates:

1. Meter
2. Breaker
3. Digital Input – output
4. Analog input – output
5. protection relay
6. Battery rack – BMS
7. PV string inverter
8. ESS inverter
9. Temperature Monitoring Device
10. Motor drive and softstarter
11. Gen Set Controller

Within each template it is possible to configure the third-party devices belonging to that category or select the ABB devices already present in the form:



The configuration of the devices is performed within the tool like it is displayed in the following image.



Individual devices can be configured from an admin account using the appropriate template dedicated to the device family. Each template consists of 3 parts: the device name, the Info section and the Channels section.
The channels can be of 3 types:

- **User:** information that can be modified by the user;
- **Modbus:** information acquired by the device;
- **Constant:** Information defined in the model.

You can also create new models starting from the templates present by acting on modifiable parameters such as the type of channel, the field of validity of the data, the type of access to the data (read or write), the type of data addressing, the address of the variable data, the type of data, the specifications to normalize the output data.

- The type of connectivity, Modbus TCP / RTU;
- The identification number of the interface that will allow to identify which devices will communicate in parallel and which in series;
- The device's selected template;
- The model of the device;
- The status of the device, so if it is connected.
- Refresh time that indicates how often the device is queried.

For more technical information, please refer to the manual.

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