

LOW VOLTAGE

ABB Ability™

Electrical Distribution Control System

Understanding power



ABB Ability™ Electrical Distribution Control System is the innovative cloud-computing platform designed to monitor, optimize and control the electrical system.

ABB Ability™ Electrical Distribution Control System is built on a state-of-the-art cloud architecture for data collection, processing and storage.

This cloud architecture has been developed together with Microsoft in order to enhance performance and guarantee the highest reliability and security.

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Overview

New outlines for Energy and Asset management

Through a compelling web app interface, ABB Ability™ Electrical Distribution Control System assists anytime and anywhere via smartphone, tablet or personal computer so the user can:

Monitor

Discover plant performance, supervise the electrical system and allocate costs.

Optimize

Schedule and analyze automatic reports, improve the use of assets and take the right business decision.

Control

Set up alerts and notify key personnel, and remotely implement an effective power management strategy to achieve energy savings in a simple way.

ABB Ability™ Electrical Distribution Control System also provides access on a multi-site level - monitoring and comparing the performances of different facilities at the same time. In addition, it allows profiling of the users' experience according to the level of access they require.

According to the customer needs and application, the user can choose between two configurations to connect the system to ABB Ability™ Electrical Distribution Control System: embedded or external.

The first, just a cartridge-type module, the innovative Ekip Com Hub, has to be provided to Emax 2 circuit breaker. The second, the Ekip E-Hub module has to be mounted on DIN-rail.





Architecture

Truly plug & play

Embedded solution with Ekip Com Hub

Emax 2 equipped with the new Ekip Com Hub establishes the cloud connection for the whole switchboard.

This dedicated cartridge-type communication module just needs to be inserted into the terminal box and connected to the internet.

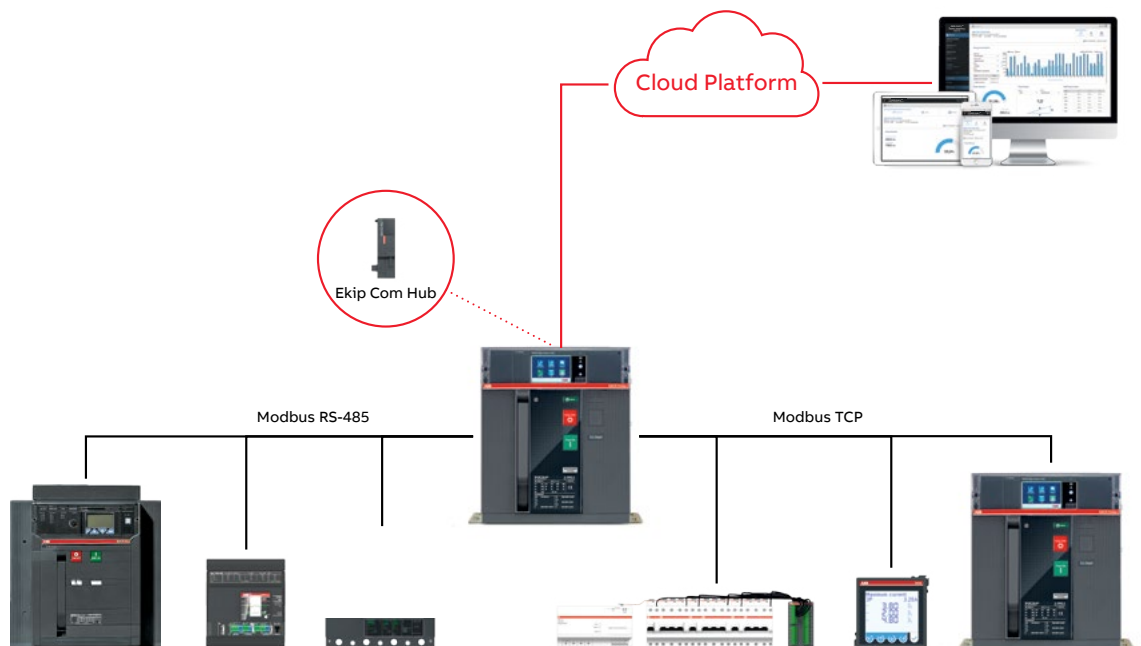


ABB showcases a further evolution in the low-voltage distribution business, setting a new benchmark in terms of simplicity and performance.

ABB Ability™ Electrical Distribution Control System enables the collection of relevant information from the ABB devices installed in the low-voltage power distribution system.

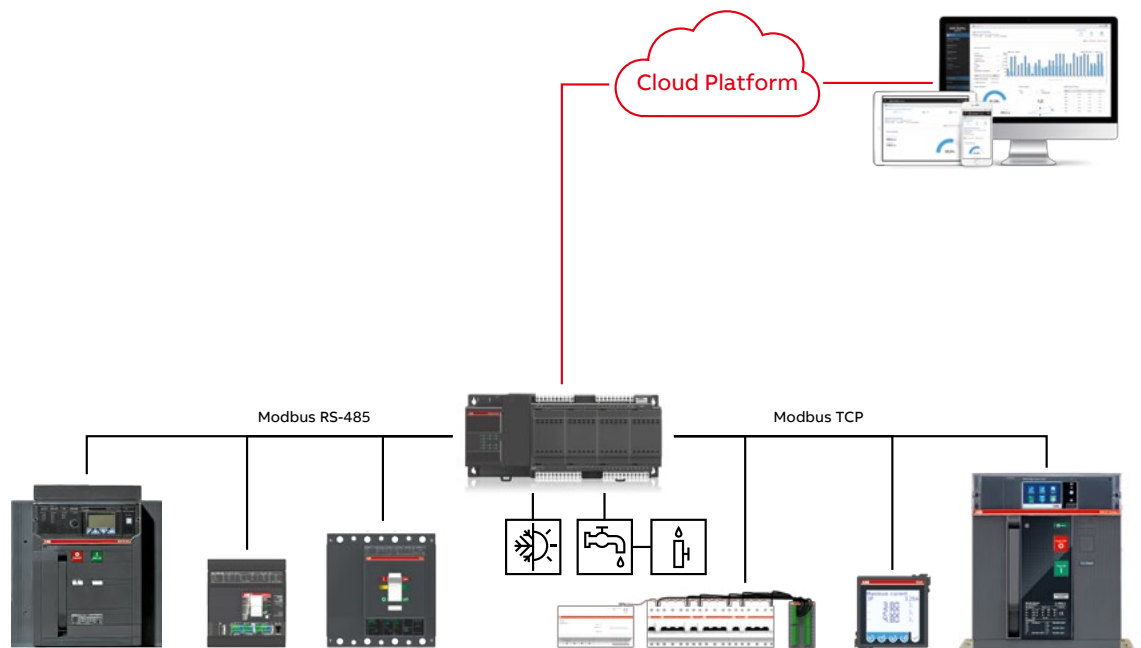
These devices can be connected, plug & play, to the cloud-computing platform by sharing data either with Emax 2 (equipped with Ekip Com Hub) or with Ekip E-Hub via Modbus RS-485, Modbus TCP and Ekip Link.

Family	Device
ACB	Emax 2 (*)
ACB	New Emax (*)
MCCB	Tmax T (*)
MCCB	Tmax XT (*)
Metering device	M2M
Metering device	CMS 700
Fusegear	Slimline XR ITS 2
Signalling module for digital inputs (e.g. for MCBs)	Ekip Signalling Modbus TCP
Digital Meters/Sensor	Pulse meter (**)
Analog Meters/Sensor	Analog meter (**)
Arc guard	TVOC-2
And many others to come...	

External solution with Ekip E-Hub

The Ekip E-Hub module can be mounted on DIN rail to collect data throughout the system. Moreover, it is possible to connect sensors for

environmental parameters (temperature, water, gas) via both analog and digital I/O. Modules for Wi-Fi or GPRS connection are provided as optional features.



INFORMATION												COMMUNICATION
State	Current	Voltage	Power	Energy	Power Factor	Alarms	Maintenance & Diagnostics	Power Quality	Load management	Environmental parameters	General Info	Protocol
•	•	•	•	•	•	•	•	•	•		•	Modbus RS-485, Modbus TCP, Ekip Link
•	•	•	•	•	•	•	•				•	Modbus RS-485
•	•	•	•	•	•	•	•				•	Modbus RS-485
•	•	•	•	•	•	•	•				•	Modbus RS-485
	•	•	•	•	•			•			•	Modbus RS-485, Modbus TCP
	•	•	•	•	•						•	Modbus RS-485, Modbus TCP
•	•	•	•	•	•	•	•				•	Modbus RS-485
•											•	Modbus TCP
										•	•	Digital I/O
										•	•	Analog I/O
•						•					•	Modbus RS-485
* Provided the product with dedicated accessories for communication and metering functions										** only with Ekip E-Hub module		

Monitor

Discover facility performances
any time, anywhere



ABB Ability™ EDCS Dashboard provides users with an entry-level energy management solution based on preconfigured widgets.

Single or multi-site information is processed to display energy consumption and on-site power generation trends.

Both the compelling user interface and the intuitive and immediate availability of data help users to check up on the most relevant information related to different facilities.

01

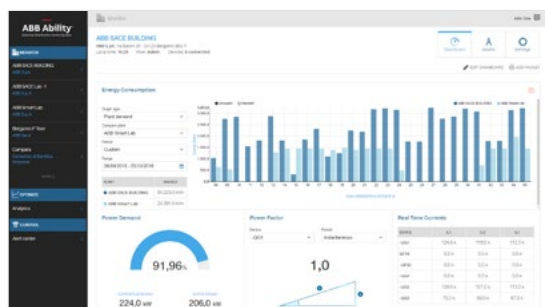


ABB Ability™ EDCS Assets enables simplified and enhanced management of low-voltage power distribution system. Users are able to create a sketch or overview of the assets and link it to its “digital twin.” Further, users can upload custom diagrams, photos, technical drawings of switchboards and plant synoptic panels. As in the social media world, these images can be made interactive through tags and markers. Users are now able to access, at any time, all the information they need for the devices monitored (as state of devices, present of alerts, maintenance, etc..).

02



Control

Implement your strategy and reach the goal



The **ABB Ability™ EDCS Power Controller** feature makes load management simple, accurate and remote by combining ABB Ability™ EDCS and Emax 2 Power Manager.

Users can set remotely the power demand they want to target with a weekly, daily or hourly resolution.

Savings and penalty avoidance are guaranteed by simply cutting down demand through a non-priority load shedding / reinsertion routine.

01

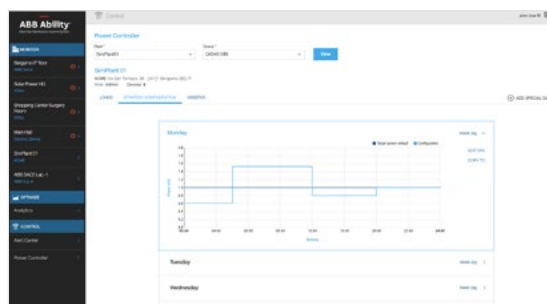
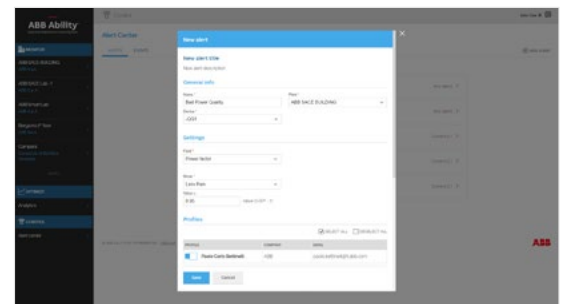


ABB Ability™ EDCS Alert Center provides the users with a plant watchdog. Users can customize alert on single measurement and device level to suit their needs and intervention plan.

Moreover, they can prompt key personnel to take swift action at any time: notifications are sent to the chosen recipients via text messages and/or email. In this way, ABB Ability™ EDCS makes it possible to automatically check up on the electrical systems any time, identify abnormal operations and proactively restore performance.

02



Optimize

Collect your data, analyze information and take your decision

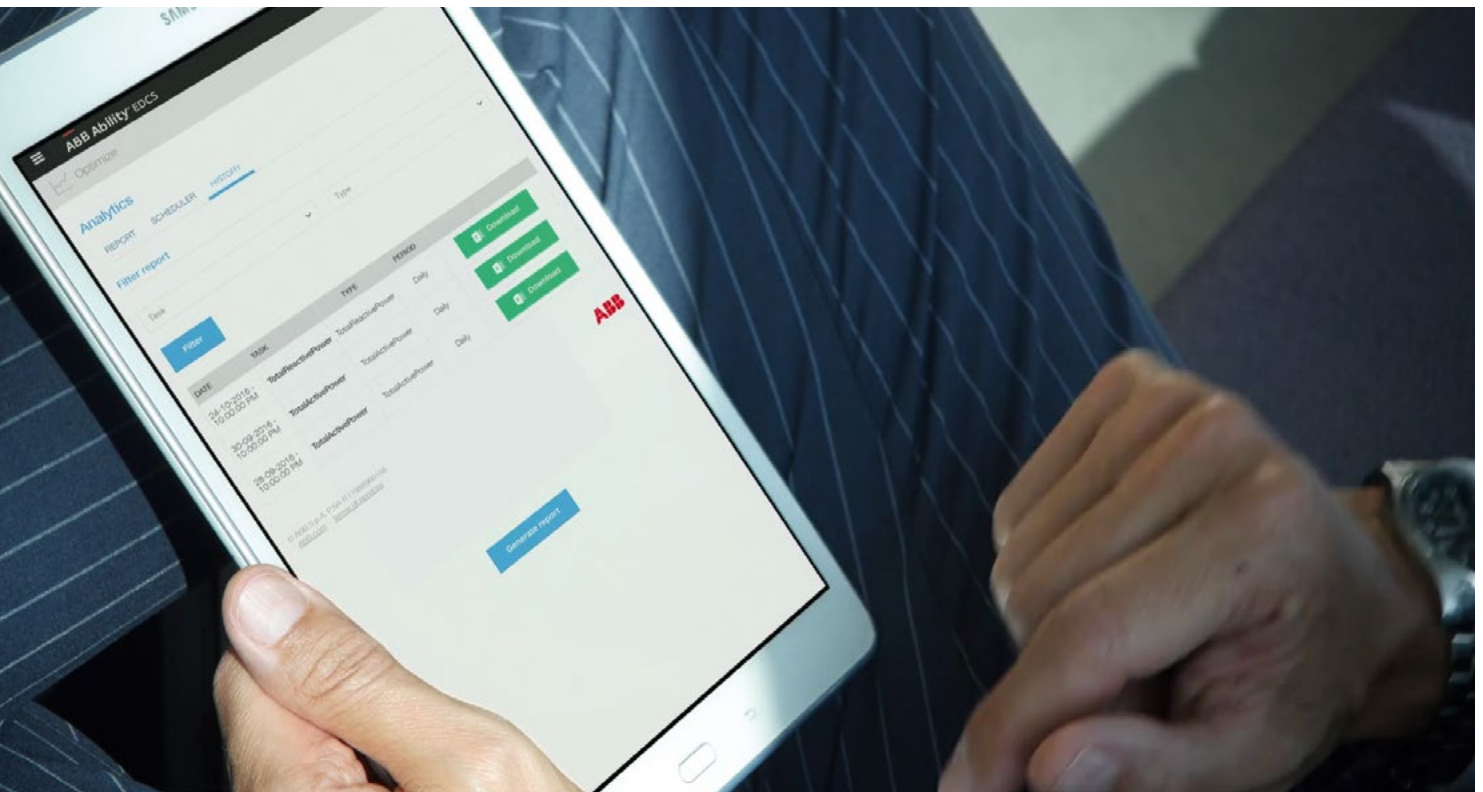


ABB Ability™ EDCS Analytics enables collection and export of data and historical trends, via on-demand query or automatic report scheduling. Users can achieve full knowledge of the electrical systems to set effective benchmarks and compare with best practices. Furthermore, users can digitally file service operations and leverage the power of data for predictive maintenance.

ABB Ability™ EDCS Analytics simplifies and enhances the analyses of power factor compensation, energy management and cost allocation.

By leveraging a comprehensive collection of data, at the single or multi-site level, taking the right decisions is made easier than ever.

01



02

Ease of use

Power of understanding at your fingertips

ABB Ability™ Electrical Distribution Control System's ease of use sets a benchmark thanks to its integrated and plug-and-play architecture. ABB Ability™ Electrical Distribution Control System requires neither engineering nor special support for commissioning, so users can forget about the cost and time-consuming setup of an energy monitoring and management system involving many components.

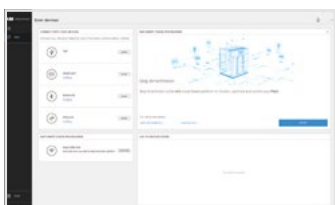
For the embedded method, a cartridge-type module - the innovative Ekip Com Hub - just has to be added to the Emax 2 circuit breaker. The external method simply involves mounting an Ekip E-Hub module on a DIN rail.

Then, Ekip Connect commissioning software will set up the system and enable ABB Ability™ EDCS with a few steps. Once the connection is set up, it is possible with a few clicks to extend access to the platform to further users such as partners and staff. Each of them can be entrusted with tasks and authorizations according to their appointed role in the specific plant.

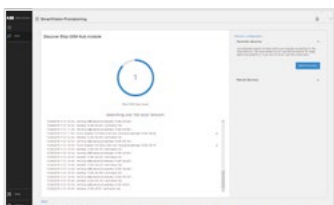
ABB Ability™ Electrical Distribution Control System features an intuitive and compelling graphic interface that guides the user through their job, presenting all the relevant information they seek, derived from thousands of parameters collected from the field. All the operations run on the ABB Ability™ Electrical Distribution Control System platform are simple, expediting the task of delivering the maximum result.



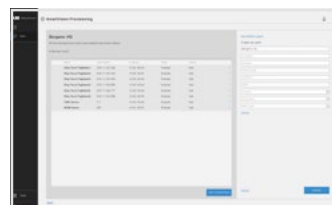
Start Ekip Connect 3.0 wizard



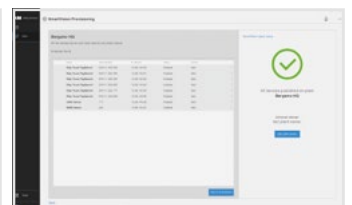
Scan the network



Configure devices and plant



Publish to cloud



End users

Save up to 30% on operational costs

Achieving with just a few clicks a smarter use of energy and saving up to 30% on the operational costs.

Increase the value of your facility

Increase the rental or sale value of your facility and boost its rating. Obtain energy efficiency and performance certificates easily by leveraging the data automatically collected from the electrical system - no need for expensive audits or on-site assessments.

Be smart, be green

Reducing energy consumption during peak periods and increasing demand at your convenience can lead to significant savings. ABB Ability™ Electrical Distribution Control System makes savings real and easy. Take control of the power flows in the system from anywhere, any time and achieve a smarter use of energy with a few clicks.

Remove inefficiencies

ABB Ability™ Electrical Distribution Control System provides full knowledge of the electrical system that enables you to monitor loads, allocate costs and identify room for improvement. Remove inefficiencies to save up to 10 percent on energy bills.

More with less

ABB Ability™ Electrical Distribution Control System provides you and your partners with powerful tools, simplifies information exchange and delivers higher efficiency on a daily basis, with lower risk of downtime and a 30 percent maintenance cost reduction.



Consultants

Increase the value of your projects by 15%

Smart solution to optimize electrical systems performance and ensure continuous improvement increasing the value of your project by 15%.



Simplify your business

ABB Ability™ Electrical Distribution Control System presents a simplified shopping list, flexible application and straightforward implementation with no engineering. Being compliant with standards and applying for energy efficiency certificates and grants have never been easier.

Save time and costs at the design stage

ABB Ability™ Electrical Distribution Control System's unmatched scalability and flexibility fosters integration with complex supervision and management systems. By having ABB Ability™ EDCS manage power distribution, it is possible to reduce the initial cost and build up time of top-level systems such as a BMS by 15 percent.

Improve safety, performance and efficiency

Load profiling, energy management and power quality analysis are some of the features provided. ABB Ability™ Electrical Distribution Control System smooths the way to shorter payback times by achieving efficiency targets and continuous improvement strategies.

Upgrade your business

Access real time data and historical trends, on a single- and multi-site level. ABB Ability™ Electrical Distribution Control System is an integrated solution able to share with you all the information you need to work more effectively - anywhere, any time.

Facility managers

Take action in 1 minute, anywhere, anytime

The reliability of the plant is guaranteed with simplified management and less paperwork. Any time, any place, in just 1 minute.

Reliability at lower cost

Guarantee operations thanks to the continuous supervision and collection of data from the system. Get alerts and notifications when abnormal conditions arise so you can take action, immediately identify what tasks are needed, and proactively and promptly restore performance.

Simplify operations, reduce paperwork

With continuous multisite supervision, one single maintenance technician can manage several sites at the same time. Access the electrical system history more easily and keep the technical documentation you may need at hand.

True energy and asset management

Take control of the system and with a few clicks implement power management strategies from anywhere, anytime to save up to 30 percent on energy bills. Collect data from the system for your reports and monitor the electrical system to avoid penalties due to bad power quality parameters.

From preventive to predictive

ABB Ability™ Electrical Distribution Control System continuously performs diagnosis on the devices in the electrical system, thus enabling higher level of predictive maintenance. Real-time analysis and smart service help avoid failures and costs due to unnecessary preventive maintenance and equipment checks.



Panel builders

Connect the panel to the cloud in 10 minutes

60% less hardware components required. Only 1 plug & play Com module to set up the network and the cloud connectivity.



Plug and play

A cartridge-type communication module - the new Ekip Com Hub - just has to be installed on the terminal box in order to establish the cloud connection. Via Ekip Connect software, a wizard is able to set up the system in a few minutes through an automatic scan of devices and configuration.

Minimum effort

Compared to similar solutions, ABB Ability™ Electrical Distribution Control System allows you to reduce the number of hardware components required by 60 percent.

ABB Ability™ Electrical Distribution Control System's integrated architecture also enables reduction of wiring and connection time, while simplifying the integration of devices in the system.

Maximum value

A simple and integrated architecture delivers scalable and always-up-to-date services, avoiding expensive and time-consuming setup of an energy monitoring and management system involving many components.

In addition, it is possible for installers and panel builders to continue to track the switchboard performance and history, and directly access device technical documentation.

Applications

High flexibility



ABB Ability™ Electrical Distribution Control System is based on a simple and integrated architecture, with self-configuring connection and guided commissioning that guarantees high flexibility of application.

Buildings

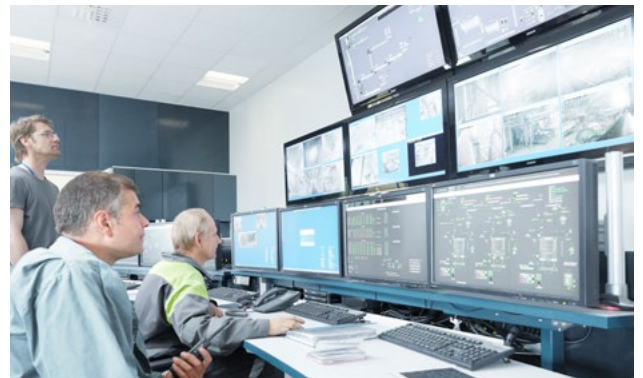
- Buildings
- Offices
- Shopping malls
- Hotels
- Retail or chain stores

Public facility

- Schools
- Sport centers
- Healthcare facilities

Industrial

- Small to mid-sized production plants
- Infrastructure
- Process plants



Commercial Info

How to get started



A very simple shopping list, for your easy energy and asset management solution.

Hardware

- **Ekip Com Hub**
Emax 2 air circuit breaker embedded communication module for cloud-connectivity.
- **Ekip E-Hub**
DIN-rail mounted communication module for cloud-connectivity.

Services

- **ABB Ability™ EDCS license**
12-months subscription to monitor, optimize and control one site. Up to 10 users access *

Commissioning tool

- **Ekip Connect 3.0**
The commissioning and programming software available via free download.

By purchasing the hardware component, you will get free access to the **ABB Ability™ Electrical Distribution Control System** services for your site for 6 months since the setup.

What does it happen, once the 6 months are over? In few steps, you will be able to renew the license for the next 12 months directly online. According to the number of connected devices in your site. **ABB Ability™ Electrical Distribution Control System** automatically calculates the due fee.

* Price varies according to the number of connected devices within the site

Additional information

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

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