



# Give your buildings a new dimension

Scalable solutions for energy  
and asset management



- Speed up your project
- Easy to install
- Energy efficiency

---

**“Give your buildings a new dimension”,  
ABB’s holistic new energy and asset  
management concept for commercial and  
industrial buildings uses digital solutions  
and services to deliver energy and  
operating cost savings.**

---

# Table of contents

<b>004–005</b>	<b>Introduction</b>
<b>006–007</b>	<b>Value propositions</b>
<b>008–011</b>	<b>Architecture</b>
<b>010–013</b>	<b>Software platform</b>
<b>014–023</b>	<b>Applications</b>



## Give your buildings a new dimension

### Scalable solutions for energy and asset management

The spread of connectivity is driving digitalization as the Internet of Things brings together devices and people to help businesses become more competitive. A fundamental aspect of this is that technology is making it easier to collect useful data and to use it for analysis.

Connectivity-based solutions increase awareness of resources and process behaviors: asset management can then be optimized through the control and monitoring of operations and costs. It fosters a more conscious utilization of resources that improves energy efficiency and aligns with challenging sustainability targets.

The ABB Ability™ cloud platform and the company's "Give your buildings a new dimension" program is supporting the digital transformation of public, commercial and industrial buildings and their power technologies. It provides a fully scalable portfolio with both embedded and external plug & play connectivity.

Services range from on-site monitoring to cloud-based solutions, with hardware and software tailored to the specific needs of each customer.

ABB's portfolio scales to suit a range of small to medium sized businesses, enabling electrical installers, building owners, facility and energy managers to collect and visualize their data – both on-site and remotely. That means optimum energy consumption and allocation, continuous operations, and simplified maintenance. The benefits of connectivity and data availability can result in savings up to 30%.

"Give your buildings a new dimension" uses two proven energy management and energy monitoring solutions – the System pro M compact® InSite and the ABB EQmatic energy analyser – and integrates their functionality with the company's ABB Ability™ Energy and Asset Manager via the ABB Ability™ cloud. To set up the network and cloud connectivity in a new installation – or to upgrade existing facilities – just "plug & play" modules or devices are needed.







**Upgrade  
in 1 day**



**Save up to 20%  
on energy bill**



## Value propositions

Your added value from design to operations

“Give your buildings a new dimension” brings advantages to customers from the design to the operations stage.

The digital solution adds value to facilities, meeting customer demands and enabling them to comply with higher energy efficiency standards.

Real time analysis of valuable data from field devices enables customers to closely monitor the performance of multiple installations with a single supervision system.

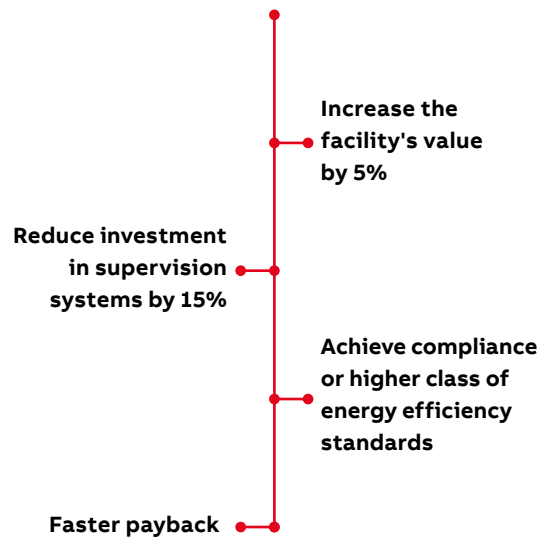
Clear information about consumption and improvement opportunities makes cutting waste and improving energy efficiency simple. Customers also benefit from lower energy bills and reductions in unplanned downtime.

ABB’s “plug and play” devices make installation quick and easy. Customers can make existing installations smart with no need to replace components. New and retrofitted solutions are up and running in no time, immediately starting to collect data.

### Design and Specification



### Speed up your project

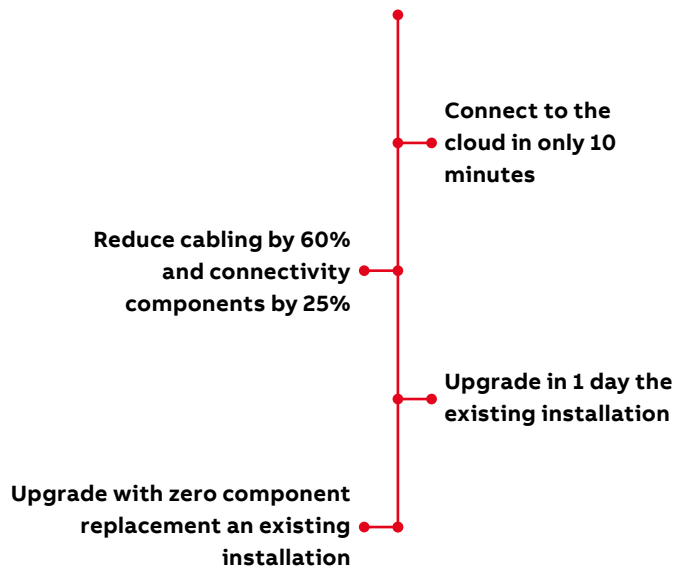


OWNER  
DESIGN CONSULTANT  
ENGINEERING COMPANY

## Installation

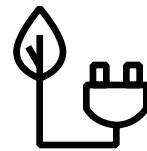


### Easy to install

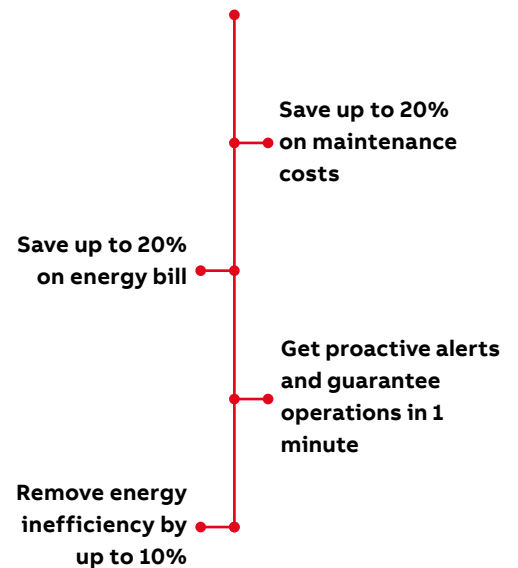


INSTALLER  
PANEL BUILDER  
SYSTEM INTEGRATOR

## Operations



### Energy efficiency



OWNER  
ENERGY MANAGER  
MAINTENANCE PROVIDER  
FACILITY MANAGER



# Architecture

## Scalability for every need

01 ABB Ability™ Energy and Asset Manager, System pro M compact® InSite and ABB EQmatic allow users to forget about the cost and time-consuming setup for both new and retrofit existing installations.

The “Give your buildings a new dimension” program highlights the further evolution in ABB’s digitalization of its low-voltage distribution technologies, setting new benchmarks for performance and ease of use.

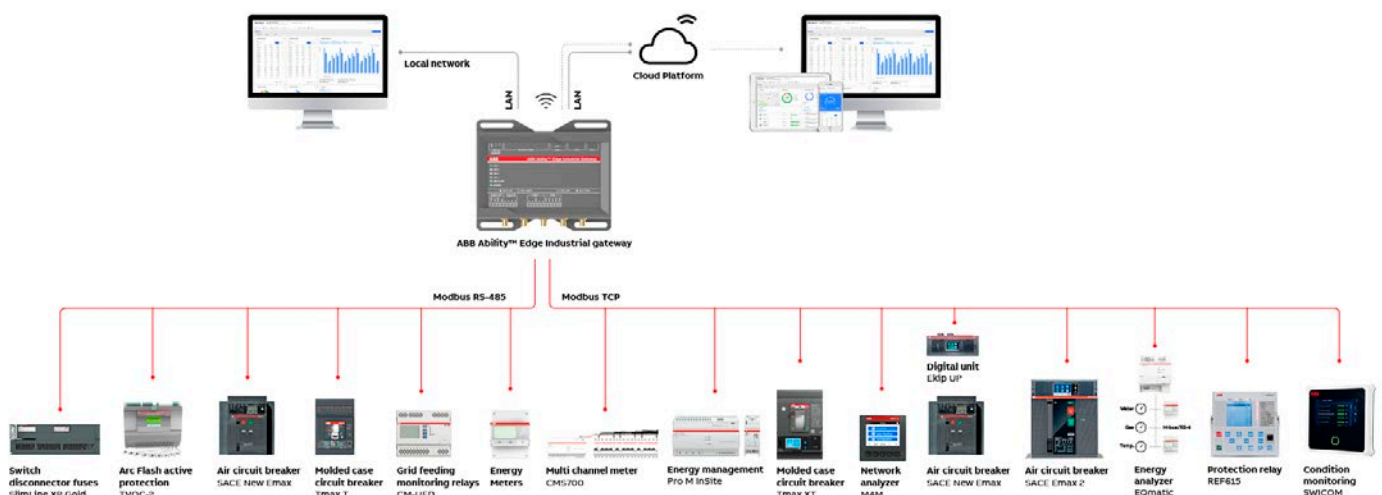
The ABB Ability™ Energy and Asset Manager collects information and measurements to make asset monitoring, control and optimization simple. Data is gathered from the devices installed in the power distribution system, ranging from the medium-voltage substation to the smallest loads. “Plug & Play” devices make connecting to the cloud-computing platform quick and easy. Data sharing is performed in the embedded solution using Ekip Up or Emax 2 air circuit breaker equipped with Ekip Com Hub, or in the external solution using Ekip E-Hub 2.0 via Modbus RS-485 and Modbus TCP. The System pro M compact® InSite range provide full access to sub-distribution environment both, through local software platform and connecting it to ABB Ability™ Energy and Asset Manager cloud environment. InSite webserver allows monitoring as well as manual

and automated control of the energy distribution system. Completing the portfolio, and working as standalone platforms as well, ABB EQmatic can scale down functionalities to suit any customer requirements for measurements, monitoring and reporting.

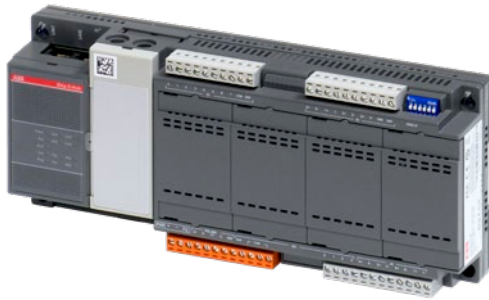
### Scalable architecture offers both embedded and external plug & play connectivity.

For small and mid-size industrial plants to meet more stringent environmental targets, a solution that enables them to monitor and control process operations is essential. Commercial and public buildings must also meet energy efficiency standards and reduce waste. The authentic benefit in multi-site applications is to have effective remote access to data collected from devices at multiple locations brought together in one point. In this way, the benefits of data aggregation and analysis are quickly achieved and benchmark analyses are straightforward. ABB makes the implementation of connectivity solutions, in both new and existing installations easy to commission with as few components as possible.

When retrofitting updates, the “Give your buildings a new dimension” program, with its plug and play devices and fewer hardware components, keeps disruption to an absolute minimum and operations online.

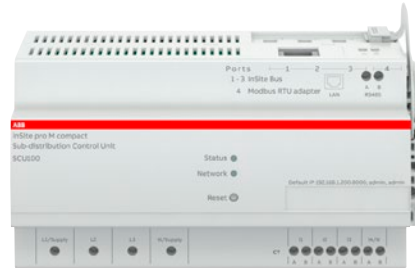


## System Access Points



### External solution with Ekip E-Hub

The Ekip E-Hub module can be mounted on the DIN rail to collect data from throughout the system. It is also possible to connect sensors to measure environmental parameters such as temperature, water, gas, via both analog and digital I/O. Modules for Wi-Fi or GPRS connection are available as optional features.



### Solution with Pro M InSite

System pro M compact® InSite is the system for energy and asset management in electrical sub and final distribution. It gather information from measurement, protection and control devices, it can be installed as a standalone solution or integrated into any IT infrastructure, such as the cloud-based ABB Ability™ Energy and Asset Manager solution. The built in webserver give full visibility of the system performance, set up and also the possibility to control and perform automated actions.

### Access to cloud platform



### Embedded solution with Ekip Com Hub

Emax 2 and Ekip UP equipped with the new Ekip Com Hub establish 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.

### Access to webservers



### Solution with ABB EQmatic

ABB EQmatic is a new range of compact, web-based DIN rail devices for energy management and sub-metering applications. They are used for monitoring, logging, displaying and analyzing consumption data from electricity, gas, water or heat meters.

## Software platform

### ABB Ability™ Energy and Asset Manager

The ABB Ability™ Energy and Asset Manager is an innovative cloud-computing platform designed to monitor, optimize and control the electrical system. It is built on a state-of-the-art cloud architecture that collects, processes and stores data.

ABB developed this cloud architecture with Microsoft to deliver high performance and to guarantee the highest reliability and security.

The ABB Ability™ Energy and Asset Manager also provides access on a multi-site level, simultaneously monitoring and comparing the performance of different facilities. In addition, it can provide personal user profiles depending on the level of access they require.

An intuitive web app interface means the ABB Ability™ Energy and Asset Manager can assist anytime and anywhere via smartphone, tablet or personal computer. With ABB's power intelligence in their pocket, users can monitor, optimize and control their energy resources more effectively.

#### Monitor

Stay up to date on the information most relevant to the facility and understand power loads at a glance – from the main feeder all the way down to the lowest branch of the electrical system. Users can access any information they need about the devices they are monitoring, checking their status, setting alerts of devices and watching for any abnormal operation.

#### Optimize

Collect and export data and historical trend analysis with on-demand queries or scheduled automatic reports. A complete picture of the electrical systems makes it possible to set more effective benchmarks and to establish best practices. It is also possible to file service operations digitally, leveraging the power of the data for predictive maintenance strategies.

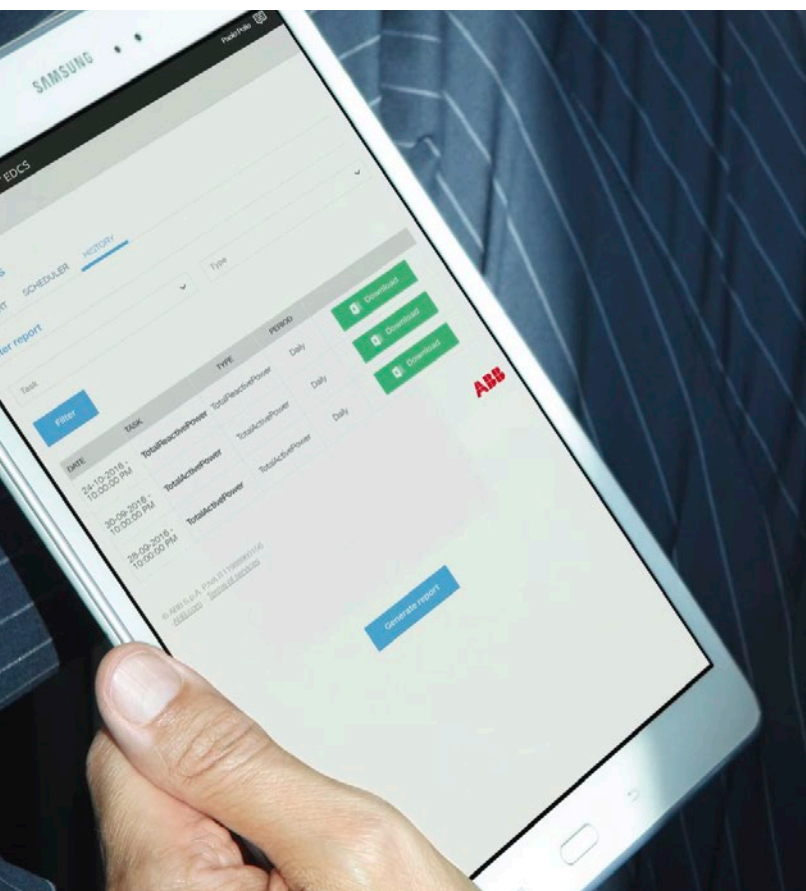
The ABB Ability™ Energy and Asset Manager analytics simplify and enhance power factor compensation analysis, energy management and cost allocation.

Comprehensive data collection, at single or multiple sites, makes taking the right decisions easier than ever.

#### Control

Identify improvement areas and remotely implement effective strategies for power peak control, energy management and demand-response applications.

The Power Controller feature makes load management simple, accurate and remote by







# Software platform

## ABB EQmatic

The ABB EQmatic is a compact modular device designed to monitor and display consumption and measured values. Often used in stand-alone applications, it also integrates easily into super ordinate systems.

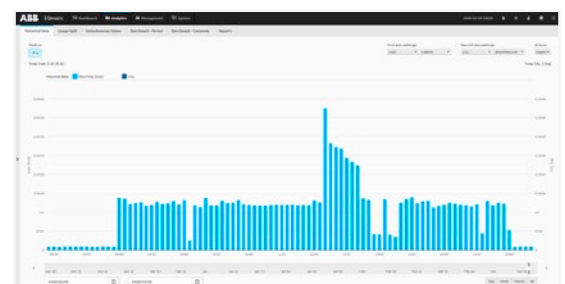
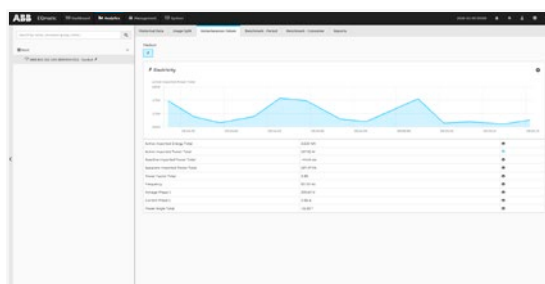
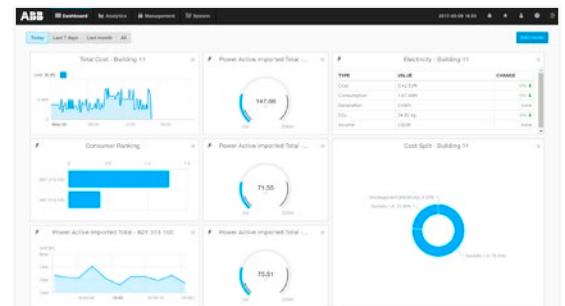
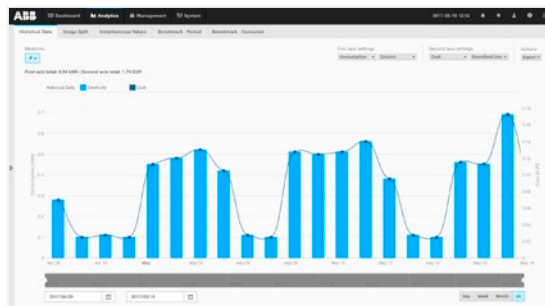
The device has a plug and play system for commissioning that automatically detects any connected meters.

It is accessed via a web browser, with the user interface providing basic analytics functions

such as a dashboard, historical data, instantaneous values, comparison functions and cost allocation by consumer group. As a result, building energy flows and costs are transparent. The solution is suitable for energy management and energy cost allocation applications seeking energy efficiency improvements and cost reductions.

An additional function performs benchmark and comparison analysis by periods and consumers, highlighting opportunities to improve any non-optimal behaviors.

Data can be collected from field devices including energy meters; third party gas, water and heat meters; as well as pulse meters with external adapters or converters.



# Software platform

## System pro M compact® InSite

System pro M compact® InSite is the digital solution for electrical distribution, capable to gather and elaborate data from measurement and protection devices, as well as to allow remote control of the system.

The InSite range collects data of devices such as energy and power meters, network analyzers, current sensors, protection devices like MCBs and RCDs through communication protocols and its range of digital Input and Output modules. Once your system is connected to the local network data gathered by System pro M® compact InSite's control unit, can be accessed via the web server. Pre-configured pages are provided automatically to allow easily to monitor, compare and structure your real-time and historical data. Also, automatic actions can be set to react promptly to selected events.

The InSite web server structure you will find the following structure:

### Monitor

Widget based customizable dashboard to access real-time data of all the devices available in the system

### Analyze

Analyze data, access historical values, access alarms, export data of selected periods and compare products

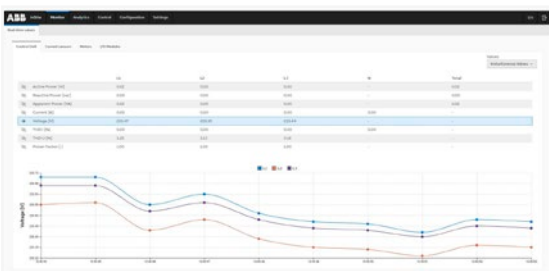
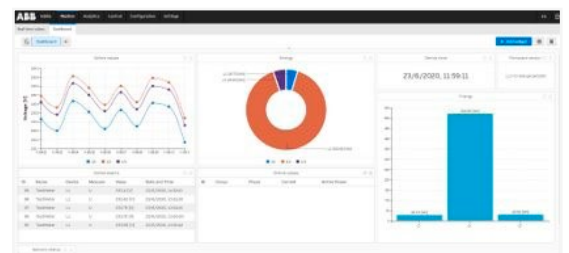
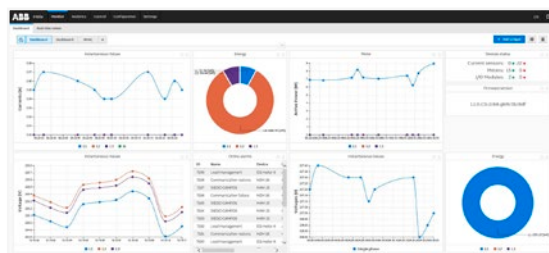
### Control

Remote control of the system through real time action as well as automated if-then logics

### Configure

Change the hierarchy of the devices, set alarms and thresholds

Thanks to its scalability the system can easily be integrated in existing installations without replacing any components and fits in any size of commercial and industrial buildings.





# Applications

## High flexibility

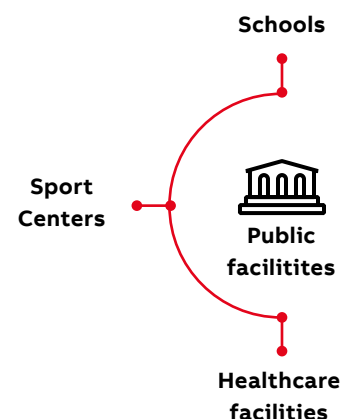
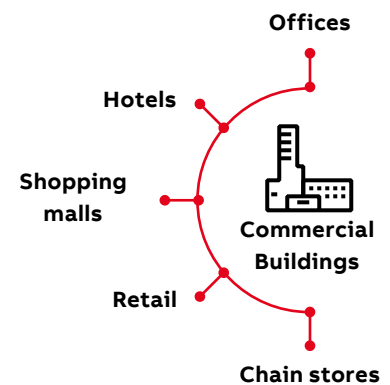
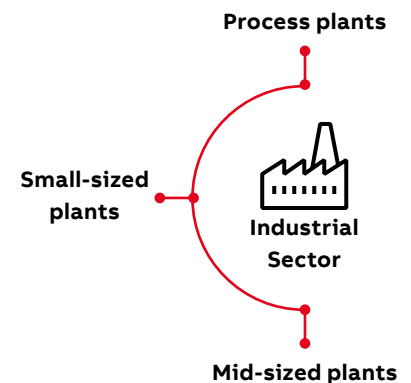
The “Give your buildings a new dimension” program offers users the scalability they need for their business to take advantage of customized solutions. The digital services respond to the specific needs of each customer.

The program is based on a simple, integrated architecture with self-configuring connections and guided commissioning. It guarantees high levels of flexibility, making it suitable for applications in different sectors.

In the **industrial sector**, solutions can be installed in small to mid-sized plants, in infrastructure facilities and process plants to monitor operations, using data analysis to optimize need-based maintenance. It allows to minimize downtime and reduce reactive maintenance. Optimized management of assets creates a competitive advantage that enables customers to maximize business opportunities.

**Commercial and public buildings** can also leverage the scalable solution to achieve higher energy efficiency and to have more detailed monitoring and control of their facility through a single platform. Offices, shopping malls, hotels, retail or chain stores can increase their awareness of energy consumption and cost allocation to improve performance.

**Public facilities, such as schools, sport centers and healthcare facilities**, can secure service continuity and develop predictive maintenance forecasts.





## Applications

### Multi-site supervision for chain stores

Stores can be situated as single locations or as a shop in a shopping mall.

Current solutions gather data from all the different stores in order to analyze energy management, monitor energy consumption and improve energy efficiency. To aggregate and compare data from multiple locations, a cloud-based solution is essential.

Monitoring any store requires only an analogue installation. Water and gas consumption data

are gathered from dedicated meters and sent digitally to the E-Hub.

Electrical data and measurements are collected from energy meters, breakers and Pro M InSite devices and transmitted to the E-Hub via Modbus RTU. At the core of the solution, the Ekip E-Hub mounted on the DIN rail gathers all the incoming data.

Data from all the stores then goes to the cloud via Ethernet or wireless connections for further analysis.



#### Design and Specification

While guaranteeing fast payback, this solution can ensure compliance or higher class on efficiency standards.



#### Installation

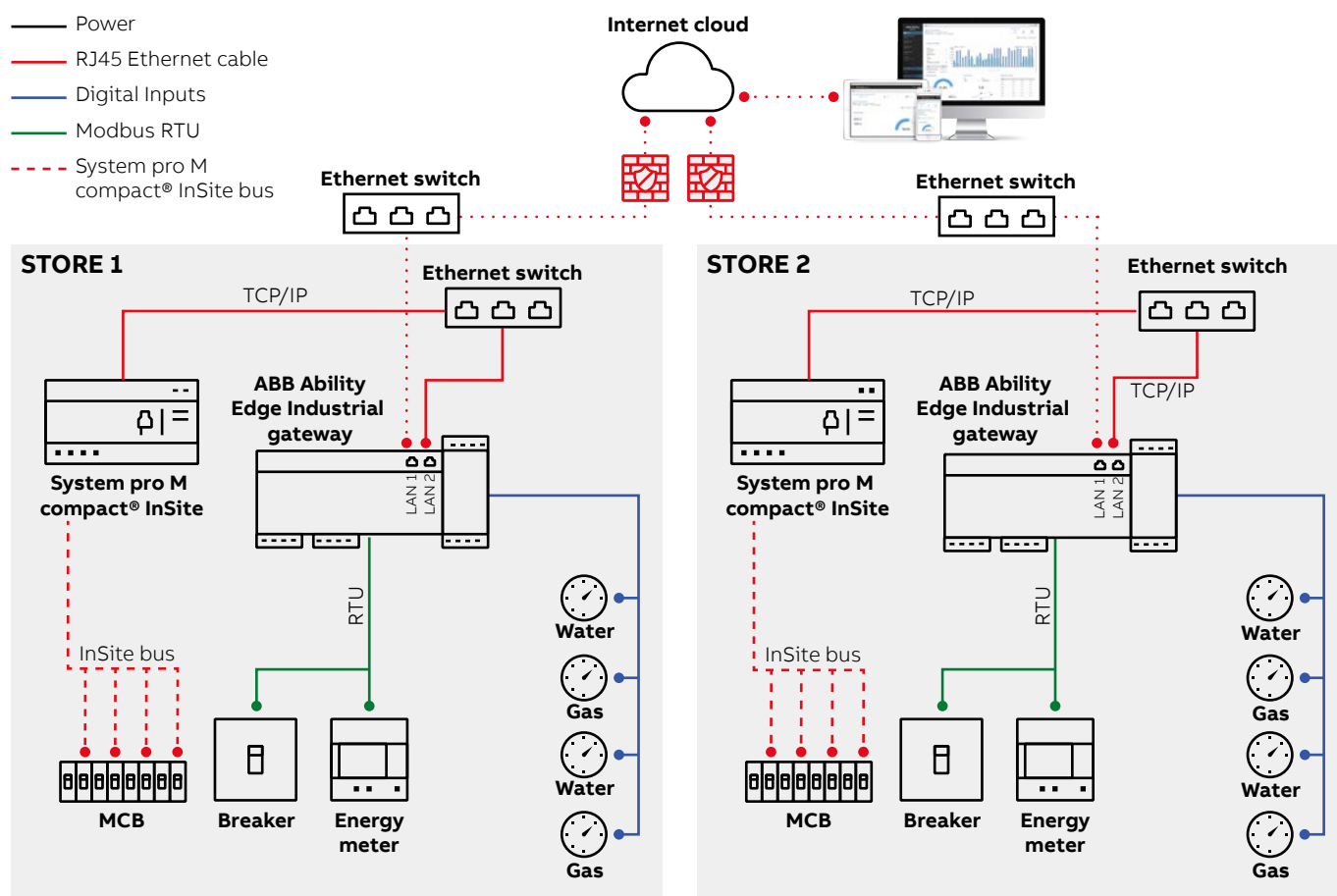
Deploying a multi-site monitoring solution, I can reduce installation time and components.



#### Operation

Introducing a single intuitive digital solution, I can guarantee continuous operation and allocate effectively energy consumptions.





## Applications

### Retrofitting and upgrading public buildings

For public buildings such as schools, a retrofit solution can bring rapid benefits without replacing existing components.

With accurate performance monitoring of the installation, devices can be managed more efficiently, producing savings in maintenance and energy costs. In this scenario, the Ekip UP collects data from field devices.

The Ekip UP is connected to the breakers and, via an Ethernet switch, to the Ekip Signalling.

The breakers measure energy and power quality, while Ekip Signalling modules send information about status, alarms and the number of operations. The System pro M compact® InSite in the panel is responsible for branch monitoring and is connected to the Ekip UP via Modbus TCP/IP. It is also possible to control and check status of MCBs through Ekip signalling, connected to the same switch of the System pro M compact® InSite.

This data, together with information collected by the Ekip UP, then goes to the cloud and is made available on ABB Ability™ Energy and Asset Manager for further analysis.



#### Design and Specification

I will easily upgrade the existing facilities, ensuring a very fast payback.



#### Installation

Through plug&play components and commissioning, I can upgrade the existing distribution and panel boards. I don't have to replace anything.

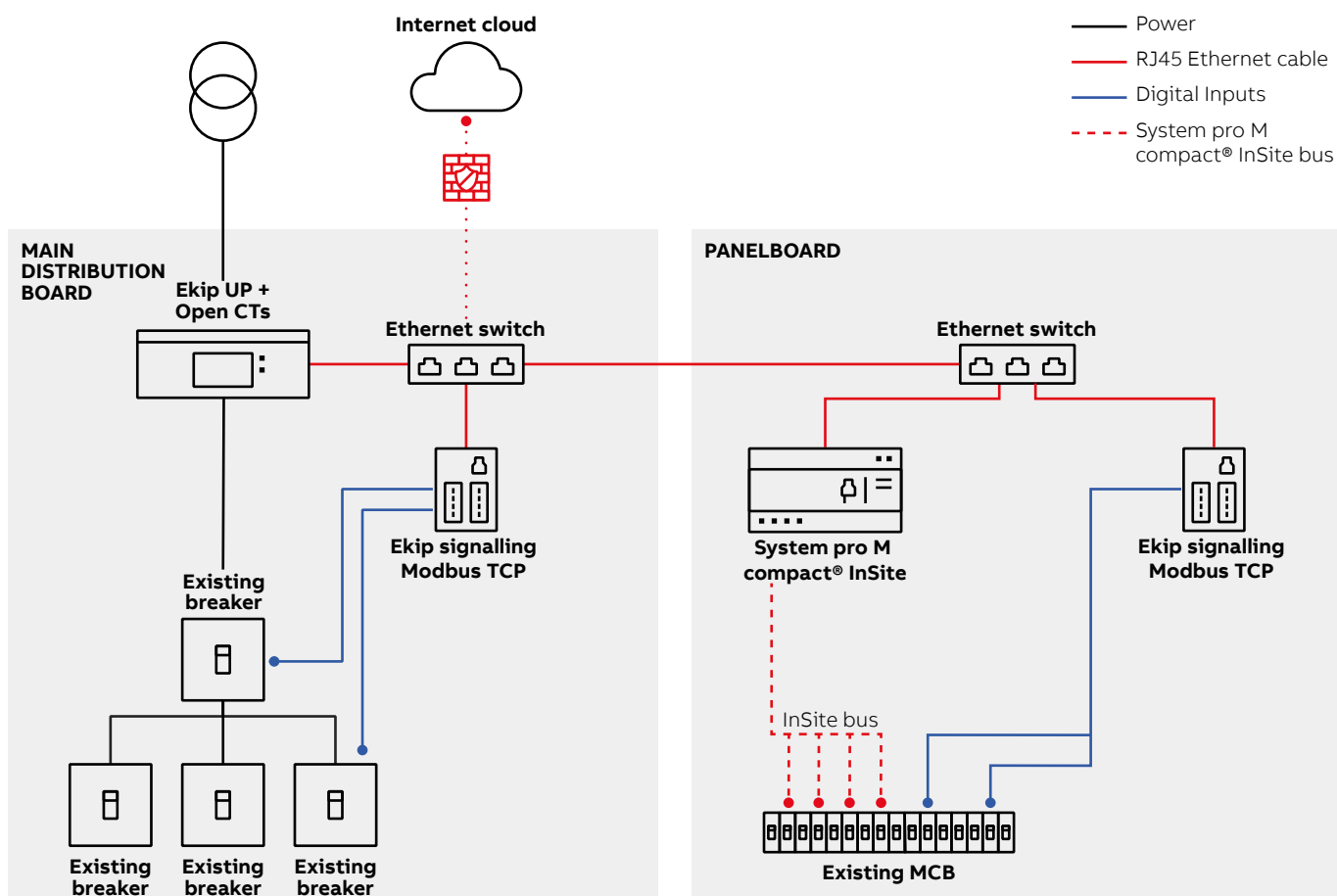


#### Operation

With this solution I can start saving on operating costs, also on multi-site, through an intuitive and simple solution while catching up with efficiency standards and regulations.







## Applications

### Sub-metering and branch monitoring in small commercial building

This example shows clearly the scalability of the portfolio. When small commercial buildings are considered, for example a supermarket, the installation of the System pro M compact® InSite and ABB EQmatic alone provide the user with several advantages.

It is an effective solution to save energy costs and to remove inefficiencies by closely monitoring all branches and consumption.

The proposed solution includes System pro M compact® InSite and ABB EQmatic. On the one hand, System pro M compact® InSite measures electrical parameters from all branches

through the sensors and the dedicated InSite bus ensuring proactive notifications of abnormal situations. Data of up to 96 sensors can be captured simultaneously.

On the other hand, ABB EQmatic collects measurements from energy, water and gas meters via M-bus, providing explicit identification of the different consumptions.

All pieces of information are then transmitted to an Ethernet switch and are displayed on the dedicated web server. Both real time and historical values are available.



#### Design and Specification

Designing this solution for my facility, the customer can simply and easily monitor costs and energy needs.



#### Installation

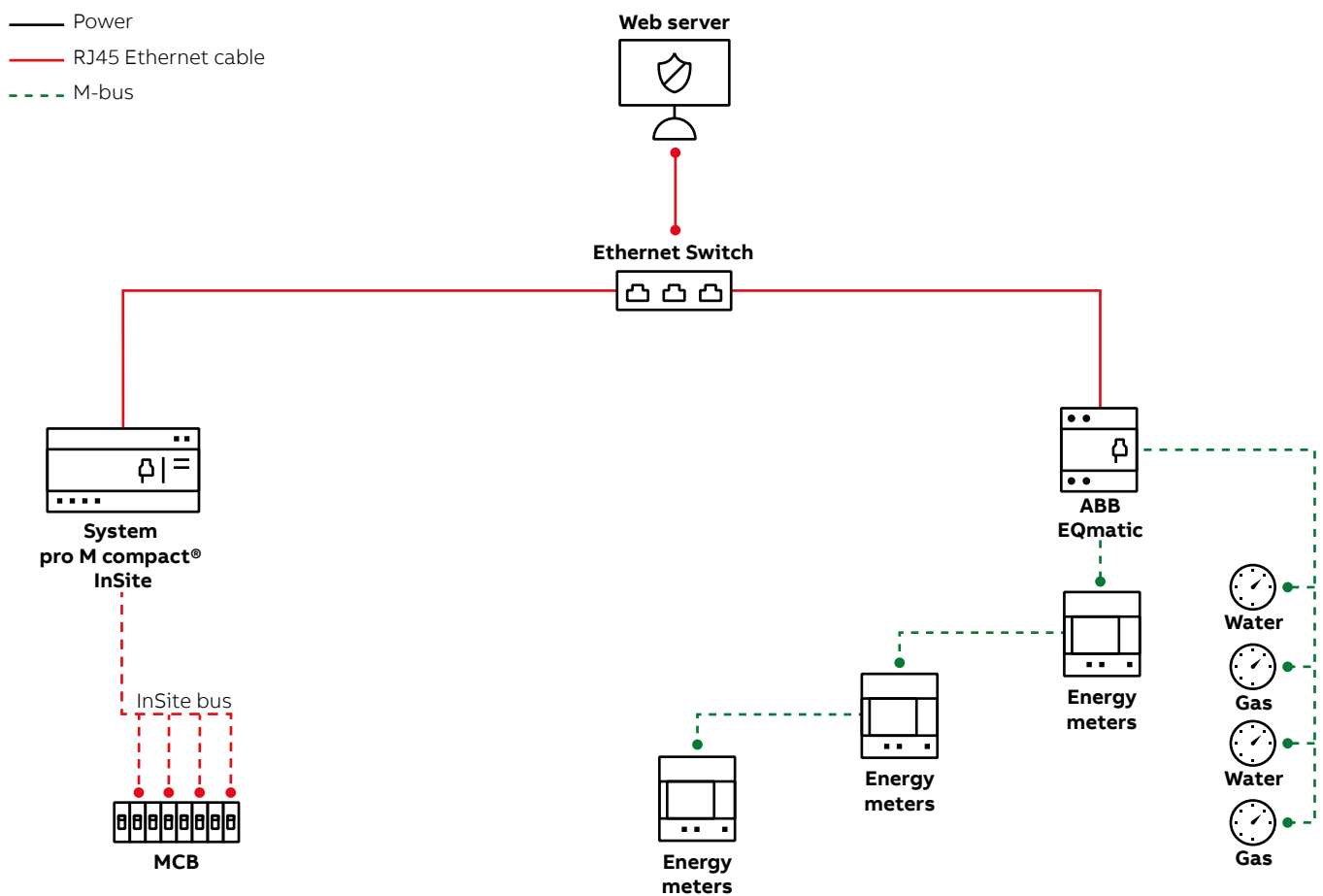
This solution provides me an intuitive cabling that perfectly fit the electrical distribution board design.



#### Operation

I can simply keep an eye on energy flow inside the facility and reduce its costs.





## Applications

### Industrial site

The overall site has to be monitored, both the production plant and the offices.

Data are collected from each section of the installation and sent to the cloud. Energy and asset management analysis are carried out in order to save on maintenance costs and proactively intervene following alerts.

All sections of the industrial site are connected to the same cloud. The distribution board collects electrical data from circuit breakers and the ACB.

The Ekip e-Hub gathers data from the field devices: energy consumption and electrical quantities are collected from the energy and power meters via Modbus RTU, water and gas consumptions from the dedicated meters as digital signals.

Data from the Ekip e-Hub installed is sent to the ABB Ability™ Energy and Asset Manager cloud via Ethernet.

Where branch monitoring is needed, the System pro M compact® InSite is installed.



#### Design and Specification

While guaranteeing fast payback time, the solution enables savings in the overall costs



#### Installation

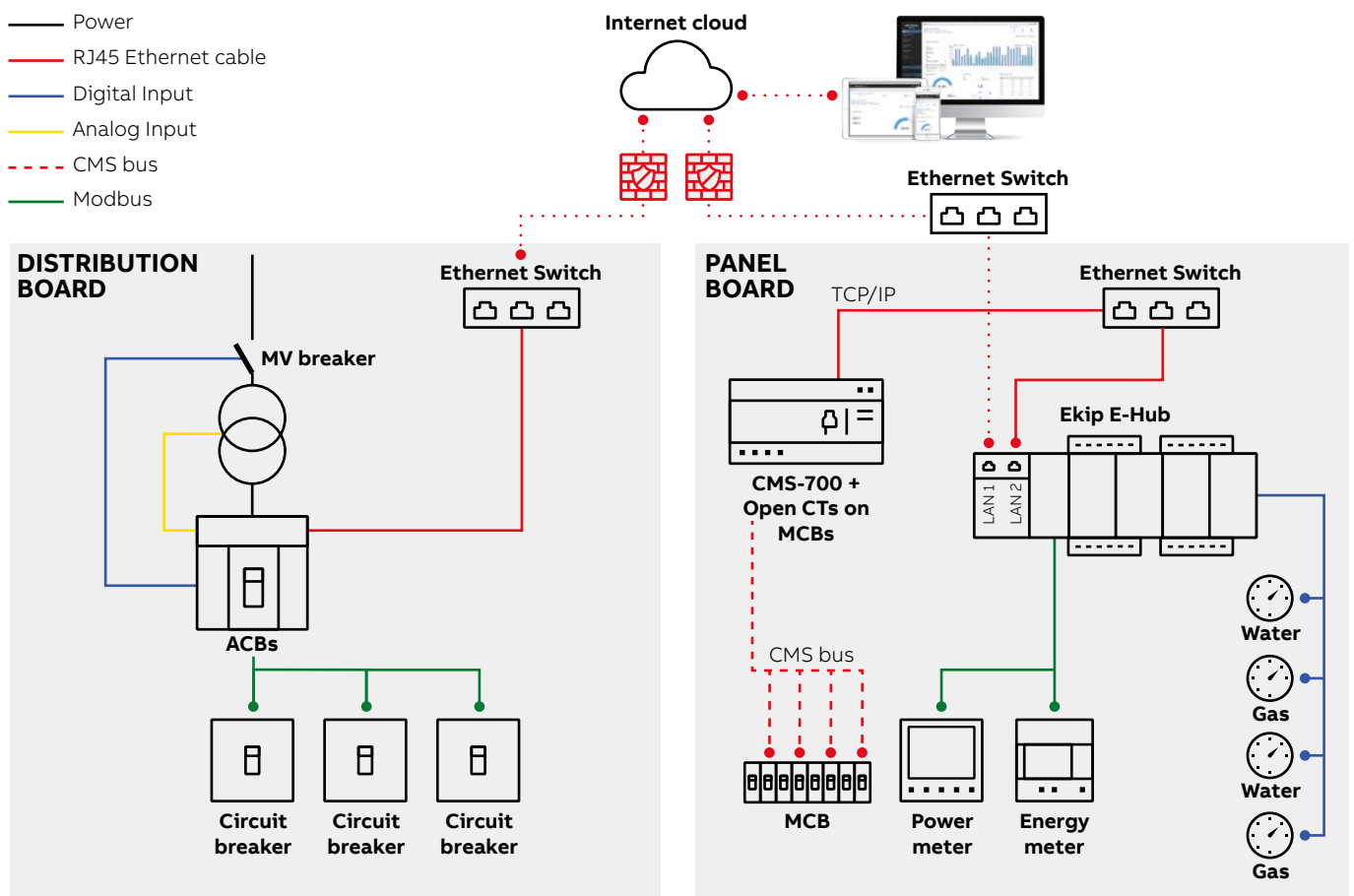
I can implement a connected solution in short time and with few components for the whole production site



#### Operation

By implementing a comprehensive solution, I can reduce operational costs while being notified in case of faulty devices







Notes

Lined area for notes, consisting of multiple horizontal lines.





**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.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.







---

**ABB Group**

ABB Electrification  
Smart Buildings Division

**[abb.com/energy-buildings](https://abb.com/energy-buildings)**

