APPLICATION NOTE

Give your buildings a new dimension
Industrial site

“Give your buildings a new dimension” in industrial sites enables monitoring of the overall installation to better manage energy and assets by leveraging digital solutions.

Use case description
Downtime risks and costs are often underestimated, and their root causes not easily detected. Digital and connected energy distribution system is a smart way to reduce or prevent unplanned outages, scheduling proactive alerts and maintenance, eventually reducing operational costs while increasing productivity.

The solution should be effectively deployed with a limited number of devices, ideally starting with a proof of concept, also in case of existing and complex installations. Then the solutions should be as scalable as possible, for its thorough extension to selected plant’s areas. This is even more beneficial as parallel solution to one supervision system which is already deployed on premise, with more granularity of information such as power quality or energy cost allocation on produced goods.

PROPERTY OWNER
- Increased transparency on energy costs allocation and impact on process and finished goods

DESIGN CONSULTANT
- Reduce connectivity HW by 25%, cabling by 60% and deploy solution in 1 day

INSTALLER
- Reduce by 20% the CAPEX or upgrade cost over legacy control system (e.g. BMS, SCADA)

ENERGY MANAGER, TENANT
- Reduce energy bills by up to 20% while improving process performance and power quality

FACILITY MANAGER, MAINTENANCE PROVIDER
- Intervene in 1 minute thanks to proactive alerts and notification; move from reactive to need based maintenance, reducing its cost by up to 40%
“Give your building a new dimension” ABB solution
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 either to the cloud ABB Ability EDCS via Ethernet. Where branch monitoring is needed, the CMS700 is installed.

Suggested connection diagram

Shopping list

<table>
<thead>
<tr>
<th>Components</th>
<th>What it does</th>
<th>Quantity</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACB</td>
<td>Main protection device collecting data from circuit breakers and access point for communication to the cloud</td>
<td>1 per distribution board</td>
<td>Click here for more information</td>
</tr>
<tr>
<td>Ekip e-Hub</td>
<td>Data collection from field devices and access point for communication to the cloud</td>
<td>1 per panel board</td>
<td></td>
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<tr>
<td>CMS700</td>
<td>Data collection from field devices and access point for communication to the cloud</td>
<td>according to number of lines to be monitored</td>
<td>Click here for more information</td>
</tr>
<tr>
<td>Energy Meter</td>
<td>Provides fundamental measurements to monitor and control electricity consumptions and costs</td>
<td>according to consumption points to be monitored/billed</td>
<td>Click here for more information</td>
</tr>
<tr>
<td>Power Meter</td>
<td>Analyses network providing data about power quality and main electrical parameters</td>
<td>according to project specifications</td>
<td>Click here for more information</td>
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</tbody>
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