



EcoStruxure™ Power
Power System Performance eGuide

Life Is On

Schneider
Electric



Contents

- > Digitization of Electrical Distribution
- > Challenges and Opportunities
- > EcoStruxure Power Application Overview
- > EcoStruxure Power Digital Architecture



EcoStruxure Power digitizes electrical distribution

EcoStruxure Power helps facility operations teams avoid downtime and power failures

Large buildings and critical facilities are expected to ensure business continuity. Fortunately, digitization has fundamentally changed the facility management landscape. With accurate data now available from the electrical distribution system, EcoStruxure Power can help ensure maximum uptime through:

- Electrical Distribution Monitoring & Alarming
- Power Events Analysis
- Capacity Management
- Breaker Settings Monitoring

EcoStruxure Power helps avoid downtime and power failures through optimized [power system performance](#).

[Read the white paper](#)



Digitizing Electrical
Distribution

Challenges and
Opportunities

Application
Overview

Digital
Architecture





Challenges and Opportunities

Digitizing Electrical
Distribution

Challenges and
Opportunities



Application
Overview

Digital
Architecture



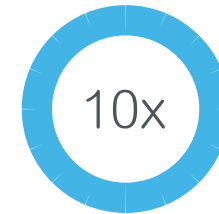
IIoT for electrical systems is a reality

Power systems are more dynamic than ever

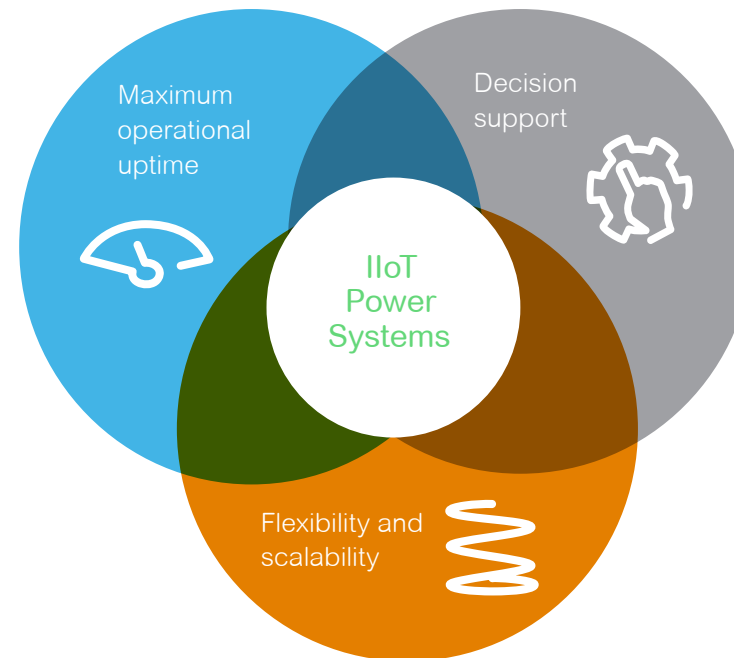
Digitization is becoming a competitive necessity as the majority of businesses eye top-to-bottom digital strategies for their enterprise. In the same way, infrastructure is getting the same treatment with communications becoming commoditized in facility field devices.

Every facility can now be a smart facility. But as ever-greater options for optimizing efficiency and cost with alternative sources of energy, power systems are quickly becoming more complex and difficult to manage.

With this complexity and the availability of data from field devices, the power system must simplify operations, provide insights into efficiency and operational processes, and provide the flexibility and scalability required by enterprises' fast changing needs.



By 2025 there will be 10x more connected devices than people



Why electrical power management?

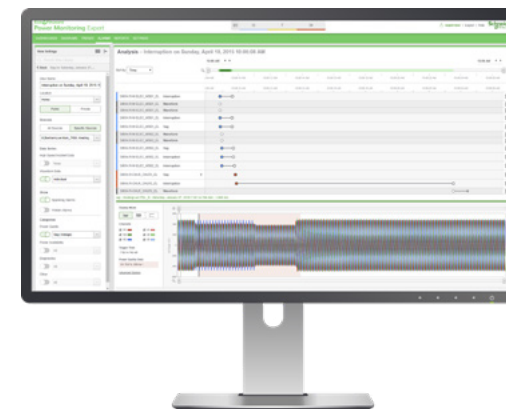
Use the right tools for the job

With many options available on the market for measuring, monitoring, and analyzing devices installed in facilities – for example a BMS or generic SCADA – it is important to know that these systems are developed for a specific purpose.

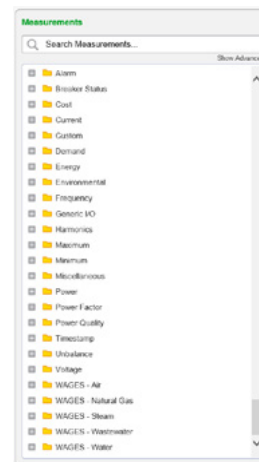
Electrical Power Management Systems are no different. They are designed specifically for acquiring, processing, and visualizing data from electrical power systems.

It is this purpose-built approach that allows the more optimized cost and greater performance of a power management system, rather than attempt to adapt a generic BMS or SCADA system to go beyond its intended design.

Specialized visualization for electrical information



Built-in power data model



Rich data acquisition from smart electrical devices



IoT enabled applications for optimizing power system performance

Digitizing Electrical
Distribution

Challenges and
Opportunities

Application
Overview

Digital
Architecture



Power system performance

How can you avoid downtime by preventing power failures?

Monitoring and alarming

Power events analysis

Breaker settings monitoring

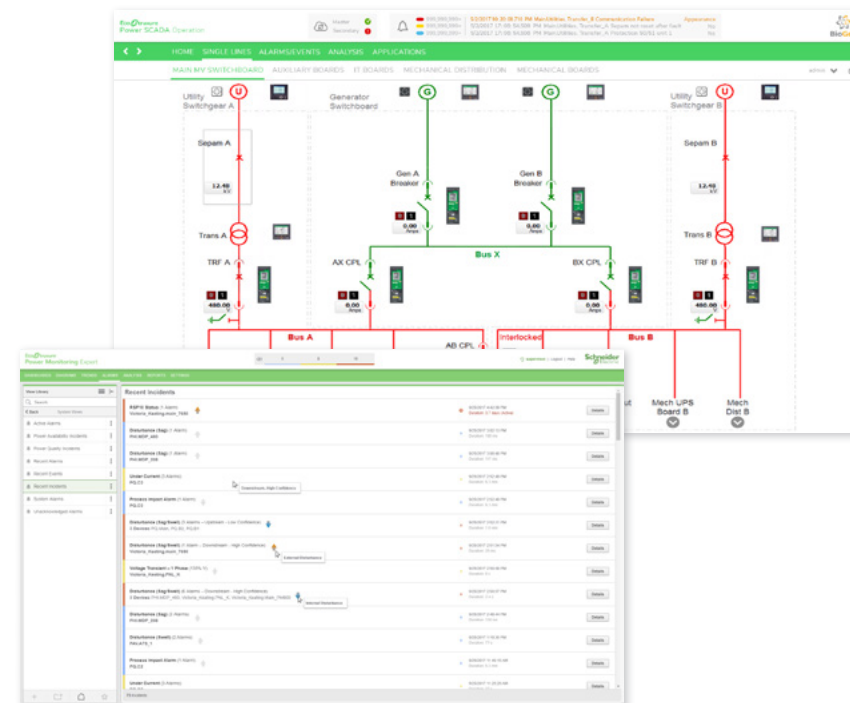
Capacity management

“I want to monitor and detect anomalies in real time and analyze and track the state and parameters of the electrical distribution network over time.”

Avoid downtime by preventing power failures

- Gain visibility the status of the entire electrical system with a real-time, digital representation of your electrical one-line
- Alarm on abnormal electrical conditions or events in the facility and group-related incidents in an easy-to-understand way.
- Notify relevant personnel via email or SMS
- Monitor and report on peak demand and loading of equipment like breakers, UPSs, transformers, generators, etc
- Share data with your BMS, SCADA or other 3rd party systems

Watch a customer video



Digitizing Electrical Distribution

Challenges and Opportunities

Application Overview

Digital Architecture



Power system performance

How can you avoid downtime by preventing power failures?

Monitoring and alarming

Power events analysis

Breaker settings monitoring

Capacity management

Avoid downtime by preventing power failures

- Record high resolution, high accuracy event sequences to find origins of fault
- Cross system event correlation to help reconstruct sequence of events
- Speed the diagnosis of power incidents by automatically creating a visual timeline of the incident showing related events, waveforms, and trends
- Gain deeper insight about causes and impacts of incidents by seeing a visual timeline before, during, and after an incident
- Record your analysis for later viewing, with custom annotations and custom filters to show only what is most relevant

I want to understand the root cause and impact of cascading and chronic power system events and use this information to reconstruct events, respond appropriately, and determine cause to prevent in the future.



Digitizing Electrical
Distribution

Challenges and
Opportunities

Application
Overview

Digital
Architecture



Power system performance

How can you avoid downtime by preventing power failures?

Monitoring and alarming

Power events analysis

Breaker settings monitoring

Capacity management

Avoid downtime by preventing power failures

- Save time and money by automatically collecting all breaker settings into a single report
- Create an audit trail by exporting as a permanent record
- Detect changes and trigger automatic updates of report
- Be cost-effective in reducing risk by checking breaker settings more often
- Peace of mind due to complete breaker hierarchy oversight

“I want to continuously monitor breaker trip settings, analyze and compare breaker trip curves, audit breaker trip setting changes, and alert when breaker discrimination is lost.”

The screenshot displays the 'Circuit Breaker Inventory' section of the Power SCADA software. It features a table with columns for Device Name, Device Type, Serial Number, Production Standard, Rated Voltage, Rated Current, Rated Frequency, Number of Poles, and Date of data reading. The table lists several devices including Micrologic A, P, H, Compact NSX A, Compact NSX E, and Micrologic X. An inset window shows a 'Discrimination table' with technical information and a grid of data. Below the tables, a small diagram shows three circuit breakers (CBP1, CBP2, CBP3) connected to a busbar, with ratings of 400 A, 100 A, and 300 A respectively.

Power system performance

How can you save money by maximizing uptime?

Monitoring and alarming

Power events analysis

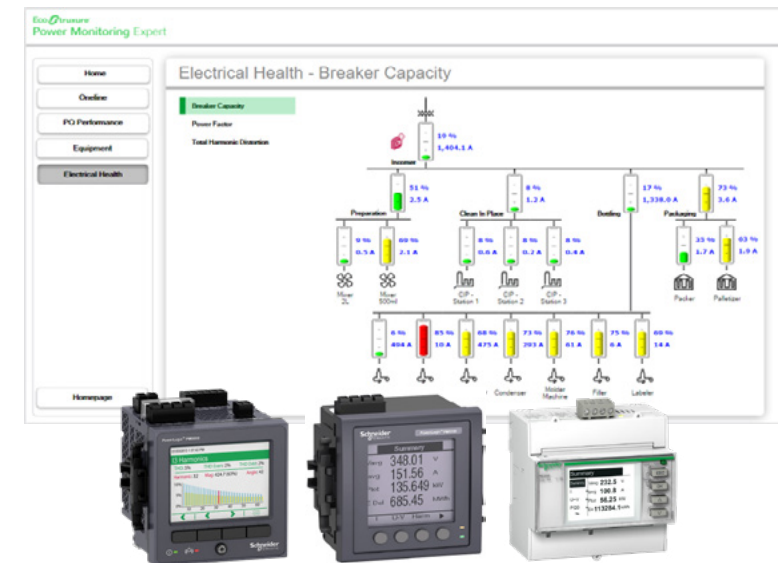
Breaker settings monitoring

Capacity management

“I want to prevent disruption to business from electrical overload with load management and capacity planning.”

Avoid downtime by preventing power failures

- Monitor system-wide or individual circuits of electrical loads, and combine electrical metering with system software
- Trend and report on historical capacity loading with trending, dashboards, and reporting
- Generate pre-defined historical reports for generator, UPS, and branch circuit capacity planning
- Inform operations or process decision-making for site or process expansions or modifications



Digitizing Electrical
Distribution

Challenges and
Opportunities

Application
Overview

Digital
Architecture

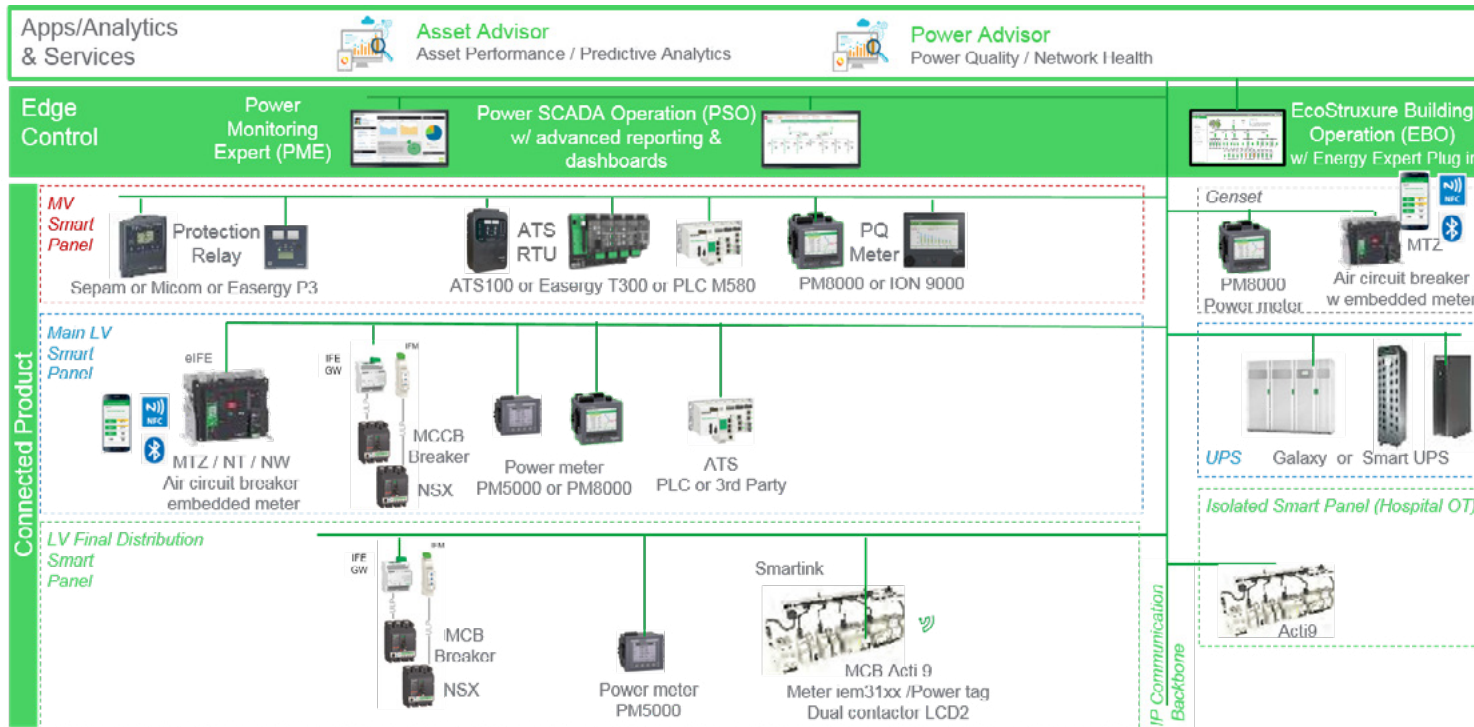


Architectures

Architecture 1

Power System Performance (IEC)

Use real-time views of the state and parameters of your electrical distribution network, including failure or deviation from normal operating conditions. Alarming and event notification help to quickly identify causes and reduce outage duration.



Learn more



Video: IoT EcoStruxure™ ensures reliability for U of Rochester



Video: EcoStruxure Power and EcoXperts deliver clean power



White paper: Bringing critical power distribution out of the dark



Contact us to start your journey.

This document presents general, non-binding information regarding the potential value that digitized power distribution products and solutions can bring to the user. Due to varying user situations and goals, Schneider Electric does not warranty or guarantee that the same or similar results represented in this document can be achieved. Please refer to Schneider Electric product and solution catalogs for actual specifications and performance.

©2018 Schneider Electric. All Rights Reserved.
Schneider Electric | Life Is On, EcoStruxure, EcoXpert, and PowerLogic are trademarks and the property of Schneider Electric SE, its subsidiaries, and affiliated companies. All other trademarks are the property of their respective owners. 998-



Life Is On

