

Energy & Power Management Software

EcoStruxure Energy and Power management systems are especially designed to answer the needs of facilities where power is a critical asset, and where without power, lives or millions of dollars are at risk.

These systems provide facility managers with precise energy consumption data to drive energy accountability, sustainability, and savings. Your engineering manager will see power conditions at every critical point, and your maintenance personnel will use real-time status information to optimize equipment performance. And C-level executives will see the increase in productivity, profits, and ROI.

- EcoStruxure™ Power Monitoring Expert
- EcoStruxure™ Power SCADA Operation



PME



SCADA

EcoStruxure™ Power Monitoring Expert

Reduce energy-related costs, increase reliability and availability, and optimize electrical equipment operations.

EcoStruxure Power Monitoring Expert is a complete, interoperable, and scalable purpose-built software dedicated to energy and power management. It enables you to track real-time power conditions, analyse power quality and network reliability, and lets you respond to alarms quickly. You can verify utility bill accuracy and reduce peak demand surcharges and power factor penalties. Pinpoint waste and allocate energy costs to departments to drive awareness and accountability.

Applications

EcoStruxure Energy and Power Management systems provide three main elements that fit together perfectly.

Electrical Network Management

- Electrical network monitoring
- Power quality monitoring
- Electrical network alarming
- Power event analysis

Cost Management

- Energy Monitoring
- Cost allocation
- Utility bill verification
- Energy usage analysis
- Energy targetting & forecasting

Asset Management

- Breaker performance
- Capacity management
- Generator performance & compliance
- UPS performance



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The solution for

Markets that can benefit from a solution that includes EcoStruxure™ Power Monitoring Expert:

- Healthcare
- Data Centres
- Buildings
- Industry
- Infrastructure
- Utility

Benefits

- Avoid outages, prevent equipment damage, optimize electrical system performance, and quickly assess power quality impacts.
- Improve energy efficiency to reduce operating cost, allocate energy cost to drive accountability and prevent unnecessary utility charges.
- Track and analyze equipment conditions, manage electrical capacity to ensure flexibility and get advanced warnings, wherever you are.

Competitive advantages

The best combination of scalability, flexibility and ease-of-use to deliver rich power and energy management applications. Including these unique and valuable features:

- Use Disturbance Direction Detection to quickly find the cause of faults.
- Power Quality KPIs help all stakeholders track progress in mitigation programs.
- Monitor breaker aging to avoid downtime due to aging equipment.
- Forecast energy expenses, validate energy efficiency investments and benchmark asset performance with modelling module.

Power management solutions

Schneider Electric provides innovative power management solutions to increase your energy efficiency and cost savings, maximise electrical network reliability and availability, and optimise electrical asset performance.

Conformity of standards

- ISO 50001/50002
- EN 50160
- IEC 61000-4-30
- IEEE 519
- ITIC/CBEMA/SEMI-F47



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EcoStruxure™ Power Monitoring Expert

System architecture overview

EcoStruxure Power Monitoring Expert Natively communicates over Ethernet (IPv4 and IPv6) with a vast range of Schneider Electric devices and third-party products.

Data and analytics provided by EcoStruxure Power Monitoring Expert for centralized display, analysis, logging, alarming, event recording, and other processes can be accessed via web browser on a personal computer.

Features	
Real Time Monitoring	
Diagrams	
	<ul style="list-style-type: none"> Graphical monitoring and analysis application including electrical one-line diagrams, facility maps, plan views, floor layouts, equipment representations, and mimic displays. Comprehensive out of the box set of graphical device specific diagrams showing all relevant.
Trends	
	<ul style="list-style-type: none"> Graphical charts for real-time trending of power usage (kW, Volt, Amp, and kWh) or any measurement supported by metered equipment such as generators and MV/LV switchgear.
Tables	
	<ul style="list-style-type: none"> Interactive side-by-side visualization of real-time measurements in a tabular format.
Alarm Management	
Advanced Alarm Viewer	
	<ul style="list-style-type: none"> Highly customizable alarm view for sequence of events and root cause analysis. Ability to filter on multiple parameters and save customized views for easy access to critical information.
Alarm Annunciator	
	<ul style="list-style-type: none"> Alarm annunciator provides a quick summary of the active alarms in the system. Breakdown of how many of alarms are high priority, medium priority, and low priority.
Alarm Notification	
	<ul style="list-style-type: none"> Ensure that appropriate staff members are notified of power system events. The system collects data, evaluate alarm conditions, and annunciate the alarms to specified users through email or SMS text messages.
Data Analytics & Visualization	
Dashboards	
	<ul style="list-style-type: none"> Interactive auto-updating dashboard views that may contain water, air, gas, electric, and steam (WAGES) energy summary data, historical data trends, images, and content from any accessible URL addresses. Users can create, modify, view, and share their dashboards.
Reports	
	<ul style="list-style-type: none"> Web-enabled reporting tool to view historical data in pre-formatted or user-defined report templates. The system supports reporting on all supported physical devices and virtual (or calculated) meters as defined in the device hierarchy. Users can to create, modify, view and share their reports in the web reports interface.
Calculation & Logic Engine	
	<ul style="list-style-type: none"> Graphical, object-oriented programming interface for creating system-wide, logical programs with arithmetic, data import, alarming and logging capabilities. Includes a comprehensive set of functions to create custom applications programs such as weather or real-time price import, KPI calculations, energy units conversion, data aggregation, data normalization, data comparison, power loss calculations, power factor control, load shedding, etc.
Optional Software Modules	
Electrical Network Management	
	<ul style="list-style-type: none"> Power Quality Performance Module. Power Capacity Module. Event Notification Module.
Cost Management	
	<ul style="list-style-type: none"> Energy Billing Module. Energy Analysis Module. Power Efficiency Module.
Asset Management	
	<ul style="list-style-type: none"> Breaker Performance Module. Generator Performance/EPSS Module. UPS Performances Module.

EcoStruxure™ Power Monitoring Expert

Types of supported devices

EcoStruxure Power Monitoring Expert natively supports more than 80 Schneider Electric devices, including:

Power and energy meters:

- ION8800 Series, ION8650 Series
- ION7400, ION7650/7550, ION7550 RTU
- PM5000 Series
- PM3000 Series (PM3250, PM3255)
- PM800 Series (PM810, PM820, PM850, PM870)
- iEM2000 Series (iEM2000, iEM2000T, iEM2010, iEM2105, iEM2110, iEM2135, iEM2150, iEM2155)
- iEM3000 Series (iEM3150, iEM3155, iEM3250, iEM3255)

PowerLogic branch circuit power meters:

- BCPM (A, B, C models)
- EM4900
- Enersure BCPM

Circuit breaker trip units:

- Micrologic X, A, E, P and H devices
- Micrologic Compact NSX Type A and Type E
- Smartlink

Protective relays:

- Sepam Series 10, 20, 40, 60, 80

Insulation monitors:

- VigiloHM IM20/20H

In addition, a library of more than 200 third-party device drivers is available. Ask your Schneider Electric representative for details.

Supported languages

English, Spanish, French, German, Chinese, Simplified Chinese, Polish, Czech, Italian and Russian (Other languages may be available - contact your Schneider Electric representative.)

Communication protocols and data exchange

EcoStruxure Power Monitoring Expert is designed to be easily integrated with third-party devices and systems:

- Modbus TCP and RTU
- ION Protocol
- OPC DA (Client and Server)
- SOAP based Web Services

Other data exchange technologies supported are:

- XML and CSV files
- OLEDB and ODBC
- ETL (Extract Transform Load)
- PQDIF and COMTRADE (Export only)



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EcoStruxure™ Power Monitoring Expert dashboard (Hero page sample)



EcoStruxure™ Power Monitoring Expert dashboard (Energy Production sample)

EcoStruxure™ Power Monitoring Expert



EcoStruxure™ Power Monitoring Expert dashboard (PQ Performance sample)



EcoStruxure™ Power Monitoring Expert dashboard (Trends sample)



Software compatibility

Operating systems:

- Windows 7 Professional/Enterprise, SP1
- Windows 8.1 Professional/Enterprise
- Windows 10 Professional/Enterprise
- Windows Server 2008 R2 Standard/Enterprise, SP1
- Windows Server 2012 Standard/Enterprise
- Windows Server 2012 R2 Standard
- Windows Server 2016 Standard

SQL server:

- Windows 7 Professional/Enterprise, SP1
- SQL Server 2008 R2 Express/Standard/Enterprise, SP3
- SQL Server 2012 Express/Standard/Enterprise/Business Intelligence, SP3
- SQL Server 2014 Express/Standard/Enterprise/Business Intelligence, SP1 SP2
- SQL Server 2016 Express/Standard/Enterprise/Business Intelligence, SP1

Browsers supported:

- Windows 7 Professional/Enterprise, SP1
- Microsoft Internet Explorer versions 10 and 11
- Microsoft Edge
- Google Chrome version 42 and later
- Mozilla Firefox version 35 and later
- Apple Safari versions 7 or 8 and later versions, respectively, on Mac computers

ISO 5001/50002 Certified

EcoStruxure Power Monitoring Expert support compliance with the requirements of the standards ISO 50001 and ISO 50002.



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