PowerLogic® energy & power management systems

Product range overview for industry, buildings and critical infrastructure

The world’s largest and most advanced range of software and meters for helping organizations understand and control energy-related cost, risk and opportunity.

industry
buildings
critical infrastructure

Make the most of your energy™

by Schneider Electric
Energy Management Lifecycle

Schneider Electric’s energy and sustainability solutions support you at every stage of the energy management lifecycle. Comprehensive energy management is a tremendous asset, allowing you to redirect resources to your core business.

<table>
<thead>
<tr>
<th>Concern</th>
<th>Benefit</th>
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</thead>
<tbody>
<tr>
<td>What is my Strategy?</td>
<td>Make a comprehensive plan that fits your goals, and chart your progress</td>
</tr>
<tr>
<td>How do I buy?</td>
<td>Negotiate the best terms with every supplier and minimize risk.</td>
</tr>
<tr>
<td>How do I control?</td>
<td>Monitor your operations to ensure reliability, uptime, power quality, and billing accuracy</td>
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<tr>
<td>How do I optimize?</td>
<td>Execute targeted efficiency projects with ROI that can be proven</td>
</tr>
<tr>
<td>How am I performing?</td>
<td>Use robust support services and reporting software to ensure optimum performance</td>
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</tbody>
</table>

Integrated solutions for continuous results

Effective energy management has a lifecycle that begins and ends with strategy. We offer a comprehensive approach that answers key questions at each stage along the way. Our extensive experience proves that addressing these questions leads to maximum return on your energy investment.

Maybe you have a need in one area. Or maybe you’re ready to address your entire energy management lifecycle in an ongoing, streamlined fashion. We will guide you to cost-effective solutions that help you manage risk and capture every opportunity.

Allow Schneider Electric to be your energy management partner so you can focus on what matters most – your customer.
Energy solutions for every need

Data centers, manufacturing facilities, education/government buildings or an aquarium, if it’s about energy, Schneider Electric can help. We lead you to informed decisions about every energy and sustainability issue you face—from sourcing to demand.

Solutions for critical infrastructure
Whether managing data, communication, transportation or environmental services, you need to minimize the risk of power-related downtime while keeping costs under control. Our solutions help keep your systems operating continuously with a secure and economical supply of energy. All power and cooling systems are continuously monitored while energy consumption is accurately tracked. Delivers insightful diagnostics and metrics to help verify the reliability of backup systems. Maximizes the use of existing capacity to defer new capital investments. Reveals energy inefficiencies and strengthens energy procurement across multiple sites.

Solutions for industry
PowerLogic technology gives professionals from finance to engineering the level of energy intelligence and control needed to support strategic decisions and establish best energy practices. It will help you reduce operational costs and meet new emissions standards without compromising production schedules or product quality. Key points are monitored throughout your power distribution, building and backup systems:
• Maximize the use of your existing energy assets
• Increase energy efficiency and cut emissions
• Improve safety and avoid the hidden power problems that can shorten equipment life or cause costly downtime

Solutions for buildings
Building managers and operations staff can cut energy and maintenance costs without compromising the comfort or productivity of tenants, employees, students or customers. All utilities and equipment conditions are continuously tracked.
• Analyze and improve electrical reliability and safety
• Forecast energy requirements, optimize multi-site contracts and accurately allocate or sub-bill costs
• Key performance indicators help you find and sustain energy savings, reduce emissions and establish energy-efficiency
PowerLogic systems cover the world’s largest and most advanced range of software and metering products for managing energy. Systems are cost-effective because they have a low cost of installation and ownership, are feature-rich and deliver multiple financial benefits. Products support important local and global standards, including accuracy certifications and international power quality compliance reporting.

A PowerLogic system acts like a layer of intelligence across all of your energy assets, spanning power, building and process systems. Key distribution points are monitored 24 hours a day, from generators and substations to service entrances, mains, feeders and loads. All real-time conditions, historical performance, and aggregate consumption of all electrical and piped utilities are unified into a single, accessible repository.

At the administrative level, acquired data is delivered as timely, relevant information to anyone that needs it, wherever they are. Powerful web-based portals give multiple stakeholders responsive and easy-to-use analytic, reporting, alarm annunciation and control capabilities.

A PowerLogic solution fits seamlessly with your workflow, and integrates tightly with other Schneider Electric power and automation solutions. It also shares information directly with your business and accounting applications. Solutions are highly scalable, letting you take advantage of modular components to add to or upgrade your systems affordably as required.
Complementary software solutions

StruxureWare

A platform of software applications and suites that help our customers, in every segment and across all geographies, maximize their energy usage while conserving their resources.

The depth of Schneider Electric software offerings makes it easy to match a product to your needs, your facilities portfolio and your budget. As your business or energy management program grows your energy solution can grow with you. Products are highly complementary and interoperable, sharing information between platforms and benefits between users.

Each software product collects energy-related data from a variety of sources, including PowerLogic meters, other devices and other systems. See the following pages for more detail on features and compatibilities.
Multiple solutions to meet your

StruxureWare Power Monitoring software
Scalable power management software that unites your power network. StruxureWare Power Monitoring software delivers a reliable, flexible and high performance monitoring and control solution designed to maximize operations efficiency, optimize power distribution, and improve bottom-line performance.

StruxureWare Power Monitoring is an interoperable and scalable supervisory interface dedicated to power monitoring that entitles you to maximize operational efficiency, optimize your power distribution system, and improve your bottom line performance.

> Real time monitoring, alarming and power quality analysis
> Leverage existing infrastructure capacity and avoid over-building
> Measure efficiency, allocate costs
> Participate in load curtailment programs
> Improve response to power related problems
> Utilize intuitive web-based dashboards to easily share vital information with all stakeholders
energy needs and your budget

**StruxureWare PowerLogic ION® EEM software**

Enterprise energy management (EEM) software that helps unite business and energy strategies.

The software exceeds the traditional boundaries of energy management by uniting business and energy strategies across your entire enterprise. Empowers stakeholders from management to operations with actionable energy intelligence to give true accountability to energy cost centers, reveal energy efficiency opportunities, isolate problems and drive cost & risk reduction strategies. The Advanced visualizations highlight key performance indicators and help you manage energy in financial terms.

Our services teams can help you with all aspects of implementation of PowerLogic ION EEM systems including project management, systems integration, custom reporting, add-on modules, documentation and training to meet your organization’s unique needs.

- Unifies management of all utilities and emissions using tailored dashboards, key performance indicators, dimensional analytics, rich visualization and reporting.
- Offers advanced energy modeling that includes regression analysis, normalization and integration of all relevant drivers and contextual data.
- Includes a built-in rate engine and an easy-to-use RateWizard™ rate configuration tool.
- Features wide-area event monitoring, classification, filtering, correlation, mapping and alarming.
- Acquires, cleanses and warehouses data from other PowerLogic systems such as PowerLogic ION Enterprise, and all other energy-related data resources (see diagram).
StruxureWare Energy Operation Online

Good decisions come from high-quality information. StruxureWare Energy Operation Online is a web-hosted service that allows you to take control of your costs by providing the information you need to understand how your organization uses energy. Predefined reports make getting the facts you need easy, and you can save or export them for later reference. Dynamic reports enable you to adjust date ranges in order to compare facilities and to easily establish reliable benchmarks that are normalized against factors such as weather, production, and occupancy.

> Easy to learn and use
> No add-on downloads required
> No need to install servers or software on-site
> Enterprise access to energy information
> Cost-effective and rapid return on investment

StruxureWare Energy Operation Advanced

Energy Operation Advanced is a breakthrough, web-hosted Energy Management Information System platform that consolidates energy data and turns it into actionable information. Utilize this powerful tool to reduce energy costs and optimize assets, determine the ROI of your energy efficiency projects, and much more.

Energy your way, Energy Operation Advanced enables you to understand your energy consumption. Create your own customized indicators and dashboards. Communicate energy information to diverse audiences.

> Engaging dynamic graphics displays
> No need to install servers or software on-site
> Enterprise access to energy information
> Ability to incorporate operational data to better understand utility use
> Multi-level access so users see exactly what they need
> Data analytics tools
> Public kiosks and advanced graphics
> Easy integration into websites and reporting tools
That Fit Your Energy Needs

StruxureWare PowerSCADA Expert software

PowerSCADA expert software delivers a reliable, flexible and high performance monitoring and control solution designed with operational traceability and full system redundancy. It is built to handle user requirements from the most demanding enterprises, while still providing data intelligence for power distribution through alarming and powerful graphical interface functions. Easy-to-use configuration tools and powerful features enable faster development and deployment of any size of application.

> Real-time control and monitoring of electrical distribution equipment through network IEDs.
> Dynamic user interface that blends control and animated display for greater control and higher operator efficiency in both normal and critical scenarios.
> On-board and PC-based alarms and events, time-stamped to millisecond precision to help determine cause and effect relationships.
> Software, network, and communication redundancy for data quality assurance
## PowerLogic products: High-accuracy energy and power quality

- Suited for use in all electrical environments and compatible with PowerLogic software solutions.
- Standardized configuration, flexible customization, modular I/O, communications and remote display options.
- Support for international industrial automation standards, form factors and protocols.

### Features

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<tr>
<th>Features</th>
<th>ION8650</th>
<th>ION8600</th>
<th>ION7650</th>
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<tr>
<td>Trigger data logging / waveform capture</td>
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<td>Trigger relay or digital output</td>
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<td>Special features</td>
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<td>Downloadable firmware</td>
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<td>Protocols: Modbus3 / DNP / MV-90 / DLMS</td>
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</table>

1 This is not a complete list of meter models, features and specifications; please refer to the PowerLogic website, catalog, technical data sheets or product brochures for more detail.
### PowerLogic Products: High-accuracy Energy and Power Quality

**Power Supply Options:**
- AC/DC

**Protocols:**
- Modbus
- DNP
- MV-90
- DLMS

**Ports:**
- Ethernet

### Special Features:
- Trigger data logging / waveform capture
- Log alarm conditions / call out on alarm
- GPS time sync.: serial / IRIG-B / DCF-77
- Events and alarms with timestamps
- Trending / forecasting / billing
- Waveform capture
- Uptime (number of 9's) calculation
- Harmonic distortion: individual / total
- Flicker measurement
- Power quality analysis

### ANSI Energy Accuracy Class (% of Reading)

- 0.2
- 0.5

### Specifications

- **ION7550**
  - AC/DC
  - Channels: 1
  - Current: 20 / 8
  - Voltage: 0.2

- **CM400T**
  - AC/DC
  - Channels: 1
  - Current: 24 / 4
  - Voltage: 0.2

- **CM4250**
  - AC/DC
  - Channels: 1
  - Current: 24 / 4
  - Voltage: 0.2

- **ION7350**
  - AC/DC
  - Channels: 1
  - Current: 8 / 8
  - Voltage: 0.5

- **ION7330**
  - AC/DC
  - Channels: 1
  - Current: 8 / 8
  - Voltage: 0.5

- **ION7300**
  - AC/DC
  - Channels: 1
  - Current: 8 / 8
  - Voltage: 0.5

- **PM870**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

- **PM850**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

- **PM820**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

- **EM4800**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

- **BCPM**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

- **DM6200**
  - AC/DC
  - Channels: 1
  - Current: 18 / 8
  - Voltage: 0.5

---

1 Specifications represent maximum capabilities with all options installed; some options are not available concurrently.  
2 ION8600, ION7650, ION7550 offer Modbus Master capabilities.
# Basic Energy Metering

<table>
<thead>
<tr>
<th>Features</th>
<th>E5600</th>
<th>PM750</th>
<th>PM710</th>
<th>ION6200</th>
<th>EM3500</th>
<th>EM3555</th>
<th>PM1200</th>
<th>Energy Meter</th>
<th>Enercept Meter</th>
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<td><strong>Inputs, outputs and control power</strong></td>
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<td>3-phase / single-phase</td>
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<td>3/-</td>
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<td>2/-</td>
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<td>Trigger data logging / waveform capture</td>
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<td>Trigger relay or digital output</td>
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<td><strong>Special features</strong></td>
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<td>Custom programming: arithmetic / boolean / modular</td>
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<td>Downloadable firmware</td>
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<td><strong>Communications</strong></td>
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<td>Ports:</td>
<td>Ethernet 10BaseT / 10BaseFL / 100BaseTX / 100BaseFX</td>
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<td>Ethernet-to-serial gateway</td>
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<td>Telephone modem</td>
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<td>Modem-to-serial gateway</td>
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<td>Infrared</td>
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<td>RS485 / RS232</td>
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<td>Web server / email / SNMP / XML</td>
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<td>Protocols: Modbus3 / DNP / MV-90 / DLMS</td>
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- Suited for use in basic energy metering environments
- Easy installation

PowerLogic products: simple energy and power quality
Trust our experts to tailor your energy efficiency plan

**Engineering Services**
Schneider Electric offers a comprehensive set of Square D® Engineering Services associated with electrical distribution systems, energy and power management systems and energy efficiency. Together, we can help you reduce energy costs, optimize equipment utilization and improve reliability of your system. Whether you need integration to provide off the shelf functionality for a simply powerful configurable system or a tailored system designed specifically for your unique requirements. You’ll get more with Square D Engineering Services and our network of qualified power system experts.

**Energy Procurement Services**
We want to be your energy partner and help you make informed, confident decisions about energy. Our certified energy experts specialize in purchasing energy on behalf of companies. We can lead you to strategic energy procurement that ensures you’re getting the best value for your energy dollar. No matter the industry, we can evaluate and develop and energy action plan that works for your facility.

**Industrial Energy Consulting**
Our certified energy managers work with energy-intensive industrial facilities as a trusted partner to deliver a comprehensive Energy Action Plan. The plan integrates all three areas affecting energy efficiency for a total energy strategy – procurement (gas and electricity), demand management as well as process and utility systems. We assure the consulting process is one of continuous interaction including semi-annual updates, annual reviews and expert consultation. We take accountability that goals are met and that the Energy Action Plan reflects what is happening in the market, as well as changes that take place in the facility.

The ongoing success and accountability of your energy plan:

> Project Energy Services make the energy consulting program a dynamic process. These services include making changes and updates in the Energy Action Plan to reflect product and process changes, capacity, contingency planning, equipment selection/replacement and generation assessment.

> Supply management provides ongoing assistance on how and where to purchase energy. It is a supply side service that ensures that energy is purchased from the lowest cost source and provides guidance in risk/reward scenarios such as hedging fuel costs.

> The key is that the Energy Action Plan does not become a one-time static snapshot that becomes stale and outdated.
Energy and Power Management System Services

Power System Automatic Controls
Square D Power System Automatic Controls are a total solution approach that includes control design, programmable controller logic and supervisory software functions tailored to provide user interaction, digital alarming for extremely fast response, graphical animation and the exact amount of flexibility that you need.

Here are some examples:
- Automatic Throwover Schemes - provide automatic selection of available utility or generator sources to maintain service continuity to connected loads.
- Load Shedding Schemes - control peak demand levels or ensure service continuity to critical loads.
- Load Preservation - fast, sophisticated control systems designed to stabilize critical power systems to greatest extent possible by monitoring frequency and power sources from utility plus generation capacity versus total circuit load.
- Breaker sequencing - operate breakers in accordance with user specified sequences and time delays such as bringing large motors on-line across several billing kw demand periods to avoid demand penalties.
- Lighting Control - Controlling lights during non-occupancy periods can significantly decrease energy costs as well as defer replacement costs of lamps and ballasts by reducing annual burn hours.

System Integration
Our Square D Engineering Services solution specialists can work with you to design or upgrade your existing system to best achieve your energy and power management objectives and informational needs. With expertise in electrical systems, communications, and automatic control systems, we can integrate, install and commission your system for optimal performance.

- System Design
- Startup & Commissioning
- Turnkey Project Management
- System Integration
- Custom Graphical Interface
- On-site training

Engineered Solutions
Our power monitoring services increase the reliability and efficiency of your installation by providing detailed reporting, testing and analysis capabilities for your systems and related components.

- Enclosures - Simplify retrofit installations with pre-wired factory assembled enclosures that include documentation for quick installation.
- Sequence of Events Recording - Qualitative time-accurate information with precise 1ms event time stamps aid to quickly pinpoint the cause of a disruption in service in very large, complex power systems.
- Custom Software - Supplement existing product capabilities with capabilities such as monitoring piped utility pulses, OPC and database integration with other applications, tailored reports and web pages.
- Emergency Power Supply System Reporting – Provides conclusive equipment reliability results regarding the health and status of automatic transfer switches and generators during EPSS exercise test.
- WAGES (water, air, gas, electric, steam) Monitoring - Offers the ability to get information for electrical and piped utilities.
- Enterprise Energy Management Service - Data source integration services for ION EEM software offering that unify energy and emissions information from other PowerLogic systems, SCADA systems, building and process automation systems, utility billing systems, weather services, spot-market energy pricing feeds, and enterprise business applications.
Power System Engineering

Our nationally recognized Square D Power System Engineering professionals have proven problem solving skills, extensive utility and industrial experience and comprehensive power system expertise to identify opportunities for improvements to complex energy and power-related issues.

Power System Studies
> Arc Flash
> Harmonics
> Short Circuit and Time Current Coordination Studies
> Power Quality
> Circuit Loading
> Motor Starting (voltage drop & torque speed/acceleration)
> Transient Disturbances
> Power Factor Correction
> Motor re-energization
> Power System Assessments & Design Services
> Electrical Distribution Retrofit Design
> Malfunction Assessments
> Power System Assessments
> Relay Design & Applications
> Lighting System Design
> Grounding & Ground Fault Systems
> Code Compliance (ITIC/SEMI, F47 Compliance, IEEE519, Others)

Technical Support

Square D PowerLogic Technical Support offers you more than just troubleshooting assistance for your energy and power monitor system. In addition to free technical support, we also offer Priority and Service Agreements for a higher level support. Our e-Service is a remote hassle-free service that allows us to provide individualized service of your PowerLogic energy and power management system. By simply connecting to Square D PowerLogic technical support, you can have system maintenance and analysis, in short notice.

Training

PowerLogic University is where knowledge saves you money. Our courses empower you to more fully utilize your energy and power management system, improve your energy management skills and make you more knowledgeable in system administration and operations of your PowerLogic systems.
Enhance your PowerLogic solution

Support or expand your PowerLogic solution with matched accessories and complementary products or systems. Integrate with other Schneider Electric products or with third-party products through industry-standard protocols.

PowerLogic Web enabled communications
Access devices on downstream serial networks through fast Transparent Ready® Ethernet communications featuring customized web pages. Additionally, a remote terminal unit for transducer and equipment monitoring.

Preconfigured servers and workstations
Order desktop or laptop workstations and servers with PowerLogic software installed and preconfigured for your system.

PowerLink® lighting controls
Automated lighting control within building automation systems or stand-alone applications.

Masterpact® and PowerPact® breakers
Equipped with Micrologic control units, offering protection for LV networks.

Modicon® programmable logic controllers
Small-scale distributed control to robust, powerful stand-alone PLCs.

Altivar® variable frequency drives
Match motor output to required loads to reduce energy consumption and extend motor life.

Power factor correction and harmonic filtering
Complete solutions including Reactivar® controllers, Accusine® filters and much more.

Accessories

Schneider Electric makes it easy for you to design, extend or enhance your PowerLogic solution with a number of system and meter accessories.

Remote meter displays
Enables mounting a meter within a switchgear cabinet with a panel-mounted display. Available for PowerLogic CM4000 series, ION7650/ION7550 series, PM800 series, ION6200 and Enercept meters.

Meter input / output modules
Current / voltage modules — PowerLogic CM4250 meter comes standard with a CVM42 module that can be removed for calibration purposes or to a CVMT module for high-speed transient detection.
I/O cards and extender boards — provide various analog and digital input/output combinations for PowerLogic CM4000 series, PM800 series, ION8600/ION8650 series, and ION7650 / ION7550 series meters.
CTs, VTs, shorting blocks and terminal blocks
Suitable for use with most PowerLogic meters.

Satellite time system
GPS time synchronization accurate to 100 microseconds.