Gain energy insight and control with PowerLogic®

PowerLogic energy management systems product range overview for industry, buildings and infrastructure applications
Energy insight = energy control

Volatile energy prices and stringent emissions standards have made it more challenging to control operational costs. An increasingly unstable utility supply and power-sensitive processes also continue to put productivity and profits at risk.

PowerLogic energy management systems from Schneider Electric will help you make the most of your energy by:

- Achieving energy-related savings through improved efficiency, lower emissions, reduced per-unit energy costs and maximised use of your power distribution network.
- Improving the overall quality of power and reliability of your equipment and processes.

PowerLogic technology clarifies the complex dynamics that affect how energy is generated, distributed and consumed across a single facility or your entire enterprise. It will alert you to critical conditions and give you the tools to act quickly. It will support a comprehensive energy management program by tracking performance and empowering you to make effective decisions.

Thousands of organizations around the globe are using PowerLogic systems to make them more productive and sustainable. And it can do the same for you by helping you meet and exceed your energy goals, all with a fast and quantifiable return on investment.

This brochure will introduce you to PowerLogic products, systems and applications. For more information and help with system selection and implementation, please contact your local Schneider Electric representative or visit www.powerlogic.com.

25% Studies have shown that commercial buildings can reduce utility costs by 25 percent or more if they are properly managed.

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. Enterprise-level software helps you maximize the use of your existing energy assets, increase energy efficiency and avoid demand or power factor penalties. You will also avoid the hidden power problems that can shorten equipment life or cause costly downtime.

Solutions for critical infrastructure

Whether managing data, communication, transportation or environmental services, you need to minimise the risk of power-related downtime while keeping costs under control. PowerLogic technology helps 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. Enterprise-level software delivers insightful diagnostics and metrics to help verify the reliability of backup systems and maximise the use of existing capacity to defer new capital investments. You can also reveal energy inefficiencies and strengthen energy procurement across multiple sites.

Solutions for buildings

With the help of PowerLogic technology, building managers and operations staff can cut energy and maintenance costs without compromising the comfort or productivity of tenants, employees, students, patients or customers. All utilities and equipment conditions are continuously tracked while enterprise-level software helps you analyze and improve electrical reliability. You can 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 a "green" energy-efficient image for your properties that can increase their value and attract or retain tenants.
Advanced technology helps you reach goals faster

Studies have shown that industrial plants can save up to 15 percent or more on process-related energy use and over 7 percent in total utility costs if opportunities are properly identified and addressed.

PowerLogic is the world’s largest and most advanced range of software and metering products for managing energy. Systems are cost-effective due to having a low cost of installation and ownership, being feature-rich and delivering 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.

At the single facility level, PowerLogic brings the power of analytics to validate that power quality complies with the energy contract and verify the reliable operation of power and mitigation equipment. It improves response to power-related problems, leverages existing infrastructure capacity and avoids over-building. It supports proactive maintenance to prolong asset life.

At the multi-facilities level, PowerLogic provides the breadth of reach you need to manage GHG emissions, allocate energy costs to departments or processes, reduce peak demand and power factor penalties, strengthen rate negotiation with energy suppliers, enable participation in load curtailment programs (e.g. demand response), identify billing discrepancies, sub-bill tenants for energy costs, and help manage sub-metering.

Complementary software solutions

The depth of PowerLogic 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 PowerLogic 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.
PowerLogic ION® EEM

Enterprise energy management (EEM) software that helps unite business and energy strategies. The software helps you view energy in financial terms and gain insight into the impacts of power quality and reliability. It benchmarks performance to reveal inefficiencies and risks. It then tracks the progress of your initiatives, verifying the results of equipment upgrades or other improvements. Emissions reporting helps you meet environmental goals. Trend analysis supports strategies to avoid demand or power factor penalties and reveals unused electrical system capacity. The software helps optimize procurement by forecasting needs, comparing rates, identifying billing errors and validating contract compliance. It will also accurately allocate costs to tenants, departments or processes.

- 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).
PowerLogic ION Enterprise® and PowerLogic System Manager™

A choice of two complete power management solutions for engineering and facility management personnel.

Real-time monitoring, alarming and power quality analysis help you avoid critical conditions that can cause equipment failures and downtime. These tools also support EPSS reporting for healthcare facilities.

The systems track consumption of electricity, gas and other resources and will break down usage by building, department or process. Historical trending identifies energy waste, unused system capacity and ways to extend equipment performance and life span. Dynamic control capabilities help you manage loads, generators or capacitor banks to reduce demand, avoid power factor penalties or to support participation in utility rate reduction programs.

- Collects data automatically using industry-standard network technologies.
- PowerLogic ION Enterprise supports PowerLogic ION and PM series meters, Masterpact® and PowerPact® breakers equipped with MicroLogic® control units, and other devices through Modbus® communications and OPC compliance. PowerLogic System Manager supports PowerLogic CM and PM series meters, Sepam® relays, and other devices through Modbus communications.
- Offers secure, customized browser-based access to graphical system views, real-time data, trending, events, power quality analysis, alarm notification and reporting.
- Includes sophisticated load aggregation and arithmetic calculation capabilities.
- Shares data with PowerLogic ION EEM software and is interoperable with third-party automation systems through ODBC, OPC and PQDIF compliance.
PowerLogic Tenant Metering, Commercial Edition

A flexible software solution that takes the difficulty out of tenant sub-metering while increasing tenant retention and property value through fair and transparent billing. It can meet your unique needs and budget for new construction or for retrofitting existing apartments, shopping centres, offices or government facilities. The software will help you allocate and recover the true cost of utilities at each facility, for both tenant spaces and common areas. Automated data collection, data correction and invoice generation help reduce administrative costs for multiple locations. Fully customizable billing periods and rate structures adapt to regional regulatory requirements. Detailed load profiling and energy consumption reports can help promote accountability for energy use and assist in implementing efficiency initiatives and achieving LEED certification.

- Offers comprehensive invoicing for water, air, gas, electricity and steam (WAGES).
- Includes a proven billing engine and easy-to-use RateWizard rate configuration tool support demand, time of use, flat and tiered rates, seasonal rates and power factor.
- Features easy report generation for viewing load profiles, energy consumption trends and energies by month, week and day.
- Offers automated data collection for up to 2000 metering devices: supports PowerLogic energy meters and branch circuit monitors as well as third-party Modbus-enabled meters.

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PowerLogic PowerView™

An easy-to-use, entry-range power monitoring solution suited for small system applications. The software helps cut power-related costs and optimize equipment use by remotely monitoring your electrical network and tracking real-time conditions. It polls the network for compatible devices, simplifying system setup and device configuration. Once connections are made, data logging begins automatically at factory preset intervals, which can be easily changed.

- Supports up to 32 devices over Ethernet or RS-485 serial networks using Modbus communications.
- Offers PC-based data logging for devices without on-board memory.
- Features pre-configured real-time and historical data displays, reports leverage Microsoft Excel.
- Supports PowerLogic PM series meters, IONG600 meter and Masterpact and PowerPact breakers equipped with Micrologic control units.

Remote metering sites communicating on serial networks

Serial-to-Ethernet communication gateways

Corporate intranet

Individual energy meters

Single and multiple high-density metering (HDM) cabinets

Gas, water and steam metering

Energy analysis reports, system status, alarms

Combined billing electric, water, gas

Tenants

Corporate intranet

Serial-to-Ethernet communication gateways

Remote metering sites communicating on serial networks

Serial-to-Ethernet communication gateways
**PowerLogic high-accuracy energy and power quality metering for every distribution point**

- Served 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 automation standards, form factors and protocols.
- See page 12 for energy sub-meters and branch circuit monitors.

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<td>modem-to-serial gateway</td>
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<td>Infrared</td>
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</tbody>
</table>

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Specifications represent maximum capabilities with all options installed; some options are not available concurrently. *ION7650, ION7550 are Midrange Meter capabilities.
### PowerLogic sub-metering for every tenant or load

- Ideally suited for tenant metering, cost allocation and PDU monitoring
- Cost effective for single or multiple circuits
- Cost effective for single or multiple circuits

See pages 10-11 for other energy and power quality metering products.

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#### Features

<table>
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<tr>
<th>Energy Meter</th>
<th>Enercpt®</th>
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<th>BCPM</th>
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<tr>
<td><strong>Inputs, outputs and control power</strong></td>
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<td>3-phase / single-phase</td>
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<tr>
<td>Number of circuits (maximum)</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>1 / 4 / 8 / 16</td>
<td>42</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC</td>
<td>AC</td>
<td>AC</td>
<td>AC</td>
<td>AC</td>
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</tbody>
</table>

#### Power and energy measurements

| Voltage / current / frequency / power factor | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| Power / demand | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| Energy / time-of-use (energy per shift) | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| ANSI energy accuracy class (% of reading) | 1 | 1 | 1 | 0.5 / 1.0 | 2 (current) | 2 (current), 3 (power) |

#### Communications

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Ethernet 10BaseT</th>
<th>Infrared</th>
<th>RS485</th>
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</table>

Specifications represent maximum capabilities with all options installed. Some options are not available concurrently. This is not a complete feature list, please refer to detailed product specifications.

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### 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, CM3000 series, RM800 series, ION6200 and Enercpt meters.

**Meter input / output modules**

Current / voltage modules — PowerLogic CM4250 meter comes standard with a CV42 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, RM800 series, ION6600 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 for PowerLogic CM4000 and CM3000 meters, accurate to 100 microseconds.

**Portable Meter Enclosures**

Ideal for temporary monitoring applications. PowerLogic CM4000 series meter in portable enclosure with detachable display, ride-through module, cable set and carrying bag. Portable meter enclosures.

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Unique services that maximize the value of your energy assets

Our Power Application Engineering team provides a complete range of design and operational services including specifying, developing, installing, commissioning, supporting and training users of power monitoring and control systems and remote power switching systems. Engineers maintain expertise in many areas such as communications, personal computers, protective relaying, automatic control systems and programmable controllers.

- System design and bill-of-materials recommendations
- Power monitoring and control
- WAGES (water, air, gas, electricity, steam)
- Enterprise web-based monitoring
- Specification development, drawings, documentation
- Enclosure panel design and build
- Metering connection verification / testing
- Power distribution automation
- On-site installation assistance, component configuration and startup
- Turn-key project management
- Third-party device and communications interfaces
- Interactive graphic design to mimic facility layout, one-lines, equipment status
- Custom software, reports and applications, including billing and paging

Please contact us for additional information.
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 EGX Ethernet gateways
Access devices on downstream serial networks through fast Transparent Ready® Ethernet communications featuring customized web pages.

PowerLogic ION7550, RTU option
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.

Sepam® protective relays
Monitoring, protection and control of substations, busbars, transformers, motors, generators and capacitors.

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.

Tesys® motor controllers
Motor branch short-circuit protection, manual disconnect, remote power circuit switching and thermal overload protection.

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

Please contact your local sales representative for ordering information.

Visit www.powerlogic.com for more information on PowerLogic products, applications and system solutions.

As standards, specifications and designs develop over time, always ask for confirmation of the information given in this publication. Accusine, Altivar, ION, ION Enterprise, Masterpact, Modbus, Modicon, Micrologic, PowerLink, PowerLogic, Powerpact, PowerView, Reactivar, Sepam, System Manager, Tesys and Transparent Ready are either trademarks or registered trademarks of Schneider Electric. All other trademarks are property of their respective owners.

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