

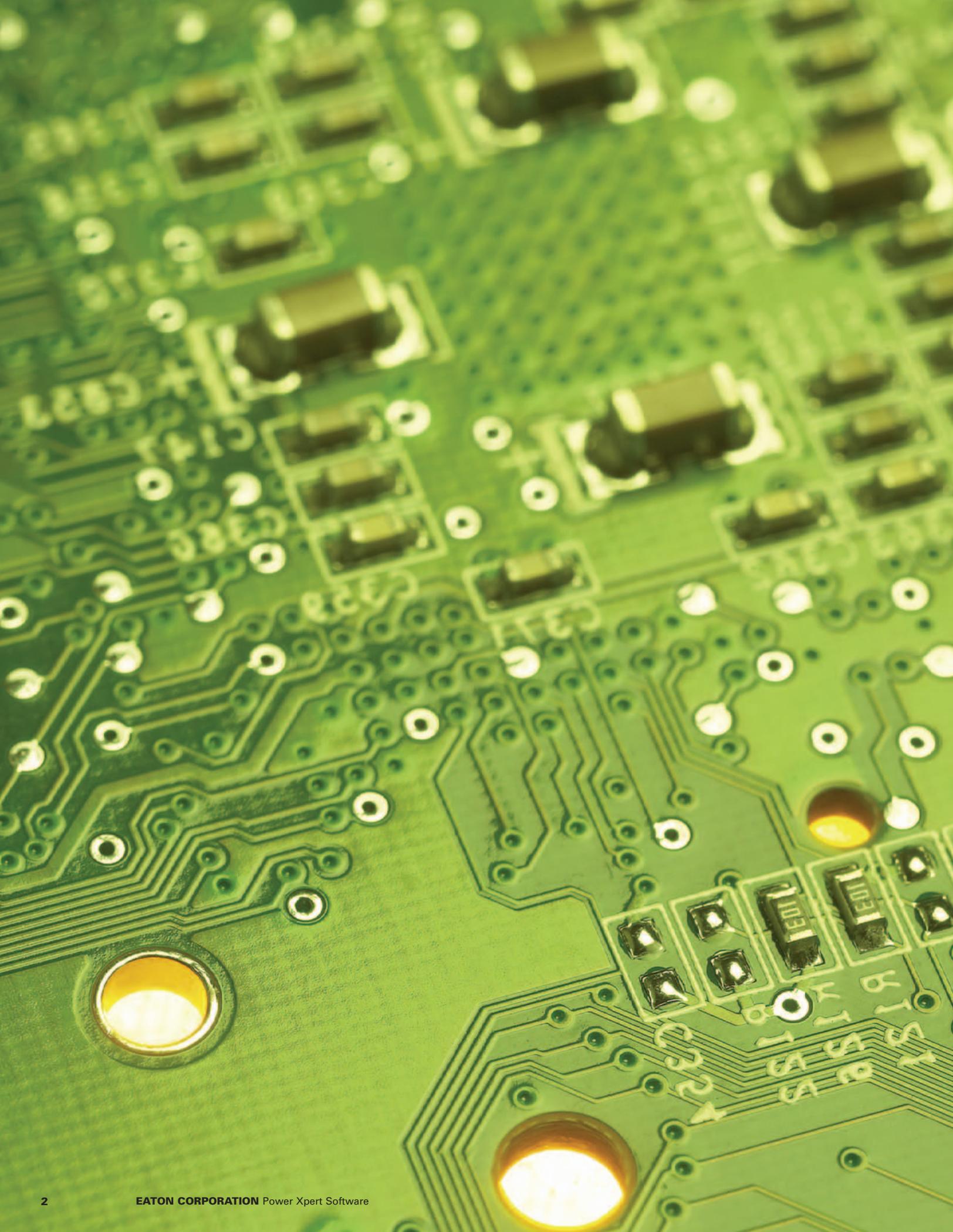
Power Xpert Architecture

Power Xpert Software



EATON

Powering Business Worldwide





Power Xpert Software

Connect the dots in the power system. Eaton and third party alike. Bring it all together.

If your power distribution system is anything like the vast majority out there, you will find yourself operating in a diverse electrical infrastructure. Your CRAC units, switchgear, UPSs, PDUs, meters, relays, MCCs and other power systems are a collection of equipment purchased from a multitude of vendors over many years. To manage all this, you would have had to set up several incompatible software tools and processes to gain a glimpse of what is going on.

Power Xpert® Software aggregates the information arriving from different types of device families via various communication methods. Its unique Web-based design, alarm bubble-up and advanced trend, waveform analysis tools help you quickly turn your attention to the most important events and identify reliability issues and cost-saving opportunities. The standard custom graphic package, the Layout Manager, with an icon library and standard vertical templates, allows you to import and mimic your physical environment and gauges.

Open protocol support makes Power Xpert Software compatible with most newer generation third-party equipment. Older legacy, proprietary protocols are supported by Power Xpert Gateways and custom software drop-in drivers made available by Eaton®. Power Xpert Software is the first power system software of this caliber to put all these powerful features at your fingertips.

Did you know?

Power Xpert Software is powered by Foreseer®.

Power Xpert Software uses the same system engine as the prestigious Eaton Foreseer software product used by Fortune 500 companies.

For over 15 years and with thousands of installations around the globe, Foreseer provides fully tailored turnkey service solutions catered toward mid-sized and large enterprises that require custom applications.



Power Xpert Software— customize to fit your needs

The Power Xpert Software Layout Manager module provides the user a library of powerful design tools and standard templates for the creation of custom Human–Machine Interface (HMI) graphical layouts. Objects can be easily animated, various gauges can be selected, and custom bitmaps can be imported with little effort.



- 1 Custom layouts can be created for any supported devices.
- 2 Indicators can appear animated and change color on status changes.
- 3 You can choose from a variety of available gauges.
- 4 Links to other custom layout Web pages can be easily embedded for drilling up or down for more information.

- 5 Critical and cautionary alarms can be reviewed and acknowledged at a glance.
- 6 Custom bitmaps and graphical elements can be easily imported.
- 7 Third-party devices can be integrated into custom layouts easily.
- 8 Custom mathematical formulas are supported to create calculations based on multiple variables, for example, PUE, DCIE.

Two editions to meet your needs



“Most of the power systems I monitor consist of Eaton equipment, with some others mixed in. I use Power Xpert Software Professional Edition to manage it all.”

Power Xpert Software Professional Edition

The Professional Edition is geared toward end users with mostly Eaton power distribution products, such as switchgear, UPSs, breakers, PDUs, RPPs, meters, relays, VDFs and MCCs, among others. Next-generation Eaton products connect with the software directly via an Ethernet connection, while legacy devices use a Power Xpert Gateway (PXG) to Web-enable their communications. A subset of third-party meters and devices is supported via a Power Xpert Gateway connection.



“My power system consists of disparate systems and devices due to multiple acquisitions. That’s why Power Xpert Software Enterprise Edition is my choice for energy management.”

Power Xpert Software Enterprise Edition

The Enterprise Edition offers extensive support for third-party devices via standard SNMP and Modbus® TCP protocols. In addition, a variety of ready-made, third-party drop-in drivers are made available for the Enterprise Edition. This software package is ideal for advanced power users, system integrators and enterprises with a heterogeneous device spectrum, and system developers who can take advantage of the included SNMP and Modbus integration development utilities.

Power Xpert Software Features

Feature Sets	Power Xpert Software Professional Edition	Power Xpert Software Enterprise Edition
Server module	•	•
Trend Viewer module	•	•
Layout Manager module	•	•
Quality Manager module	•	•
Eaton device support (switchgear, UPSs, breakers, ePDUs, meters, relays, VDFs, MCCs, etc.)	•	•
Power Xpert Gateway third-party device support	•	•
SNMP connector		•
Modbus connector		•
Third-party driver drop-in option		•
Custom third-party device driver support		•

Key features and benefits*

Feature	Benefit
Monitor your entire power system from service entrance to receptacle	Get the big picture on energy usage, power quality and potential service issues to proactively address any issues instead of reacting to costly, unforeseen problems
Integrate energy and power quality meters into the software	Identify, track and improve wasteful, potentially hazardous energy practices
Accurate real-time and historical data	Improve reliability, power quality and energy consumption by data analysis
Open protocol support	Pull data from equipment from a variety of manufacturers
Web-based system	Multi-user system with remote accessibility using a Web browser
Distributed network solution	Reduce site monitoring and maintenance expenses
Same price, no matter the number of users or connected devices	Economical enterprise solution; easy to budget, specify and scale
Power Xpert Architecture support	Scalable; compatible advanced features and devices can be easily added to the solution

*For an extensive list of features and benefits, please refer to the Power Xpert Software Features and Benefits document at www.eaton.com/pxs.

Power Xpert Software highlights

Graphic View—see status changes at a glance

The Power Xpert Software Graphic View device template provides a standard layout for displaying Eaton device-specific measurements and data. Each device category has its own template presenting pertinent information and metrics that are customized for that device type (UPS, PDU, meter, VDF, MCC and the like).

You will be able to review a short list of the latest events time-stamped to the millisecond, the picture of the device, and its model information including name, location, contact and serial number. At any point, you can create a custom user view of any device with various gauges, custom icons and imported graphics that change color (green–yellow–red) depending on event status.



Graphic templates are built into the software for all standard Eaton devices. Viewing all of the most vital parameters along with self-explaining legends and one-line diagrams is available at a glance. Device-specific information is gathered at the bottom of the screen, including a product picture, location, system contact, maintenance schedule and asset serial number.

Power Xpert Software highlights, continued

Industry-specific templates—visualize your environment in the software

Power Xpert Software has sample graphic layout templates that you can use and modify for various applications and environments. At Eaton, we understand that mimicking the real world is often the best way of keeping your system easy to use and simple to monitor. Included sample templates consist of a typical plant industrial layout, data center, hospital (health care) environment, and a generic geographical layout application. All the templates have typical devices integrated into them and, with the included Layout Manager utility, you can customize them to fit your unique needs.



“As a Facility Manager, I want to see all the equipment on the shop floor, with the key indicators on energy consumption, power quality and active alarms prominent on the screen so that I can take quick action.”

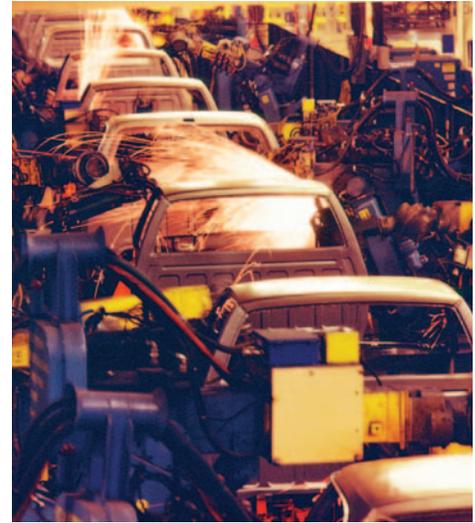


“As an IT manager, I need to be able to quickly assess my entire power system, including the traditional power distribution equipment, such as UPSs, PDUs, and generators, for optimal operation. Having unfettered access to the information to maintain optimal levels of efficiency, power consumption and power quality is key to keeping my data center running smoothly and minimizing downtime.”



“As a hospital facilities manager, I need to know exactly what is happening throughout the campus, and be able to pinpoint exactly which location is having trouble. My system must allow me to drill down to the actual problem area for quick analysis, resolution and verification. Mimicking the campus area and building layout vastly simplifies using the system and speeds my team’s response times.”

Power Xpert Software highlights, continued



List View—get all the details quickly

The Power Xpert Software List View device template is provided as a standard layout for all devices, including third-party systems.

The List View presents all measurements and data in a spreadsheet format that can be easily viewed and acted upon.

The screenshot displays the Power Xpert Software Monitor interface within a web browser. The interface includes a navigation menu on the left, a main content area with a 'Real-Time Attributes' table, and a 'Trending' section below it. The 'Real-Time Attributes' table lists various energy-related metrics with their current values and units.

Attribute Category	Name	Value	Units
Energy	Apparent Energy	20153842.0	volt-ampere-hour
	Demand Current (3 Phase Avg)	113.68	amperes
	Demand Forward Watts	38871.4	watts
	Demand Interval	5	minutes
	Demand Lagging VARs	0.0	volt-ampere-reactive
	Demand Leading VARs	-27032.2	volt-ampere-reactive
	Demand Reset Time	12/22/2008 10:18:13.000 AM	
	Demand Reverse Watts	0.0	watts
	Demand Subinterval	1	minutes
	Demand Sum VARs	27032.2	volt-ampere-reactive

The 'Trending' section includes a table with columns for 'Select' and 'Attribute', listing various frequency and interval metrics.

Select	Attribute
<input checked="" type="checkbox"/>	Frequency Interval Avg
<input checked="" type="checkbox"/>	Frequency Interval Max
<input checked="" type="checkbox"/>	Frequency Interval Min
<input checked="" type="checkbox"/>	Is Interval Avg
<input checked="" type="checkbox"/>	Is Interval Max
<input checked="" type="checkbox"/>	Is Interval Min

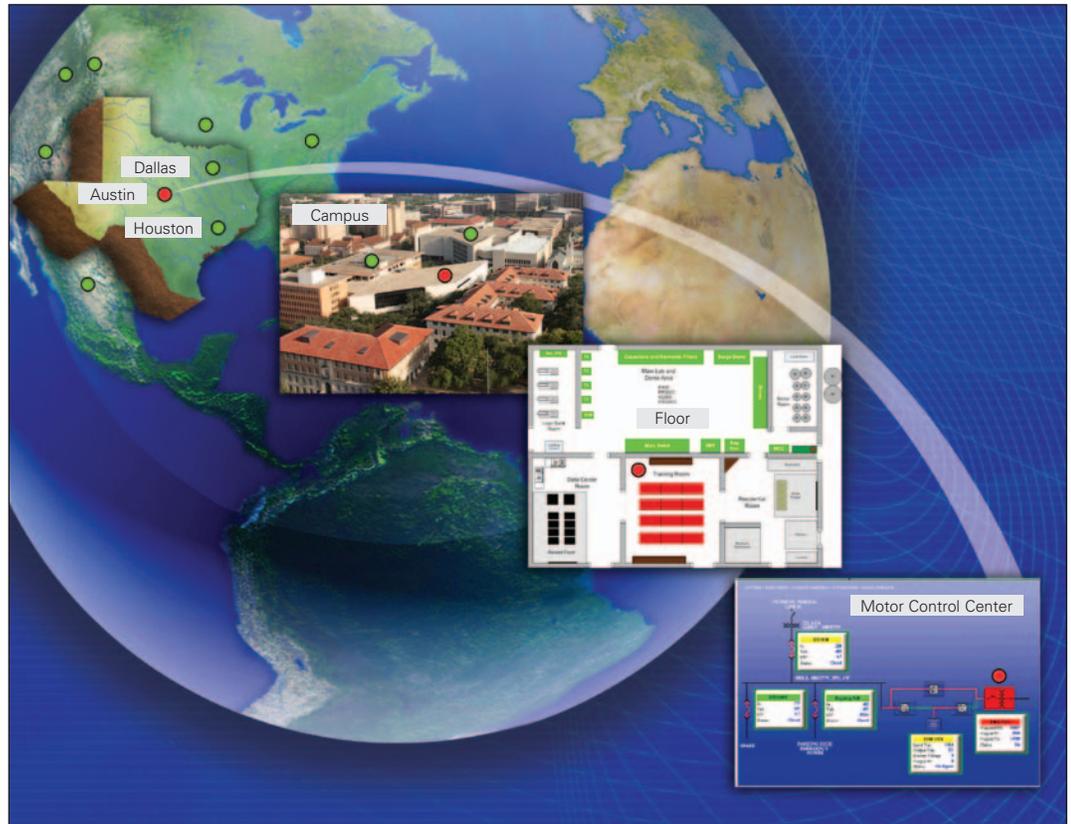
The List View is available for any device integrated into Power Xpert Software, including third-party products. Typically it arranges product attributes into logical categories and displays them in a spreadsheet format, including continuously updated values and field labels.

Power Xpert Software highlights, continued

Layout Manager—easily develop custom graphics

Power Xpert Software includes the Layout Manager module for custom graphics and Human-Machine Interface (HMI) development. This enables you to create multiple interactive Web pages linked together with custom graphics depicting your geographical locations, facilities, floor and individual devices within the infrastructure. When events occur that trigger an alarm, the alarm will bubble-up through the pages to all levels and draw your attention to them using pre-programmed color-coded (yellow-red) status indicators.

The Layout Manager module also has a large library of symbols, icons, devices, background gradients and other graphic elements with which you can develop your own customized graphical HMI. Best of all, new designs and devices can be added without actually having live connections. This enables creating layouts in advance, off-site, and then easily and efficiently deploying the software at the installation location.

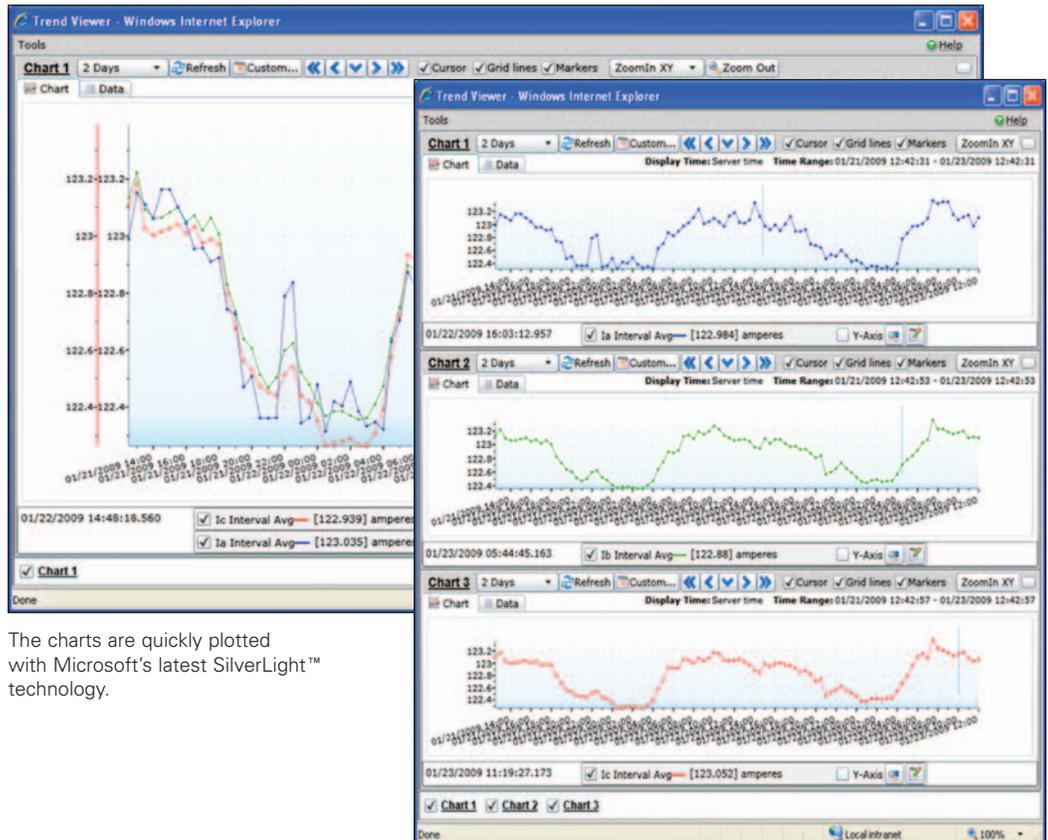


Use Layout Manager to import world and city maps, including facilities and specific gear that is monitored by the Power Xpert Software. You can design an easy drill-down user interface that also allows an alarm to bubble-up when devices trigger alarming events.

Trend Viewer—understand where things are heading

Understanding power system device measurement trends can make all the difference in the world. Preventing system overloads, planning future capacity and preventing expensive downtime can be achieved by monitoring and keeping an eye on critical system trends.

The Power Xpert Software Trend Viewer offers a multitude of sophisticated trending capabilities. Device measurement attributes and other parameters can be easily selected from either the List View or the custom User View with just a few clicks. Trend graphs can be presented in various chart formats one at a time, or you can view multiple charts at the same time. Single and multiple trends can be shown at the same time using fixed or custom time frames. Results can be easily exported to a Microsoft® Excel® spreadsheet.



The charts are quickly plotted with Microsoft's latest SilverLight™ technology.

Power Xpert Software highlights, continued

Event notification—get events wherever you are

Power Xpert Software can be set up to send automatic e-mail messages to one or multiple users, or user groups, when events or alarms are triggered. E-mails can also be forwarded to mobile phones, PDA systems and pagers.

Events and alarms can be quickly and efficiently filtered in Power Xpert Software. An available search function pinpoints any certain event. Once events are reviewed, the user can acknowledge, clear or close them accordingly.

Alarm bubble-up—intuitive, color-coded information

A picture is worth a thousand words. In Power Xpert Software, it gets even better, because the picture can actually change colors to indicate status severity levels based on information. When events trigger an alarm, the alarm will bubble-up through the Web page links through all levels ending at the top. The user's attention is drawn to the devices by using pre-programmed green–yellow–red color-coded status indicators.

Excel integration—enables custom analysis

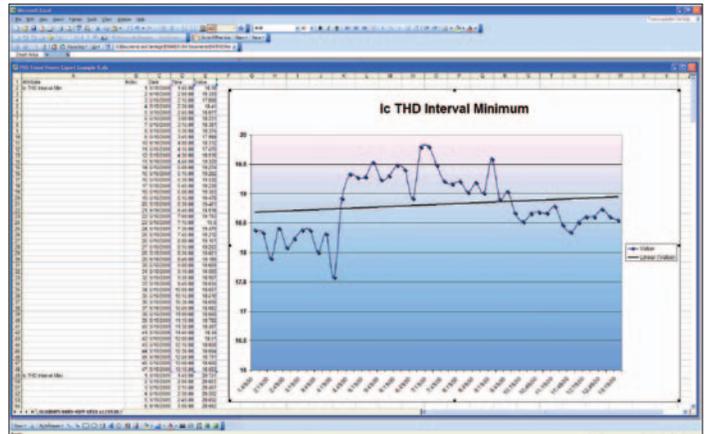
Power Xpert Software provides you with a wealth of detailed information about your power distribution systems, locally and around the enterprise network. However, if you are a power user and need to generate custom scenarios, crunch numbers in a different way or create tailored charts, then our Microsoft Excel integration feature is right for you. Power Xpert Software lets you open report data directly in Excel for any kind of further analysis you may deem necessary.

Just use your Web browser—no client software to install

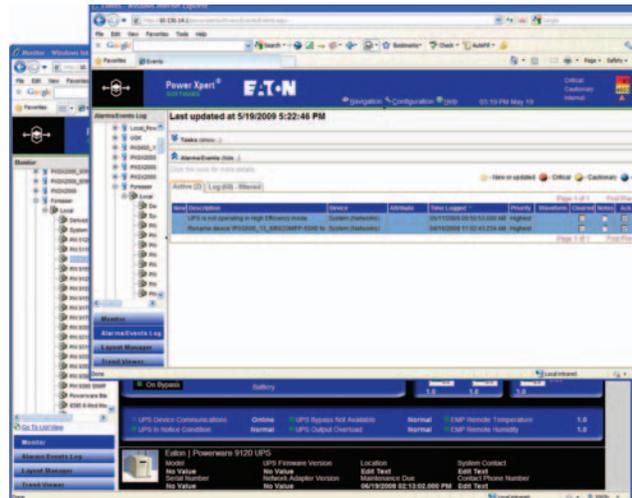
With Power Xpert Software, there is no need to install a “fat” software client on your computer system to view data. You can easily and conveniently access all of your power distribution system devices over the network using your standard Web browser.



Selected Power Xpert Software alarms and events can be immediately sent via e-mail and reviewed conveniently on mobile devices.



Trend data can easily be exported in CSV file format to applications such as Excel for further analysis if necessary.



Sample Power Xpert Software screen as seen in a Web browser.

Power Xpert Software highlights, continued

Extended third-party device support—with SNMP and Modbus Connectors (Enterprise Edition)

Open protocol support makes Power Xpert Software compatible with most newer generation third-party equipment. Using the Power Xpert Software SNMP and Modbus third-party device integration utilities, system integrators can establish communications between Power Xpert Software and third-party devices that support standard SNMP or Modbus protocols.

These tools have been created for software development personnel who have a basic understanding of importing SNMP MIB or Modbus register files. Personnel can make adjustments using the provided file editor and then finalize parsing and create a Power Xpert Software device driver install file to drop into the software.

Power Xpert Enterprise Edition includes the SNMP and Modbus Connector utilities as standard and ships with online documentation covering this type of system integration in detail.

Download third-party device drivers—get them online and drop them in (Enterprise Edition)

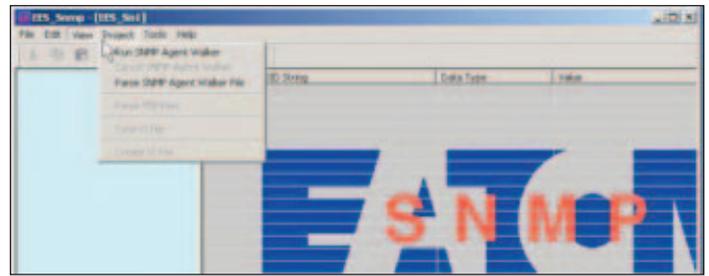
The easiest way to add third-party support to Power Xpert Software is by downloading ready-made device drivers directly from Eaton's Power Xpert Web page. An online library with a variety of the most common third-party device drivers has been made available for Power Xpert Software Enterprise Edition users. Drivers can be purchased online, downloaded and then dropped into the software without delay.

Quality Manager

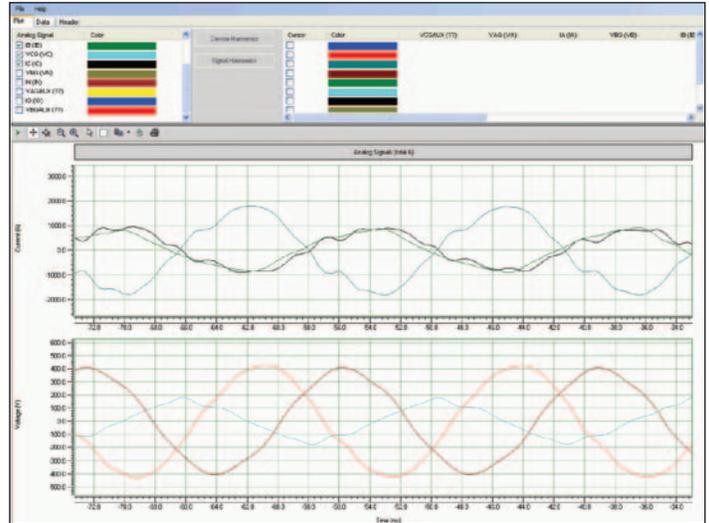
When electrical events such as sags, swells or transients occur, Eaton metering products can capture and store the waveforms associated with these disruptions. The standard Quality Manager, invoked directly from the event log, provides an excellent tool for detailed waveform analysis. Determining and comparing waveform signatures provides a wealth of information on electrical phenomena, allowing you to take necessary protective action to prevent or protect against further occurrences. Quality Manager allows you to zoom in and out of waveforms, sample individual parts of a waveform in great detail, and provide accurate measurement information per points of sampling versus time scale—all the way up to the millisecond time resolution. In addition, this module can open third-party and individual COMTRADE standard files for examination.

Deployment Utility validates and fixes issues automatically

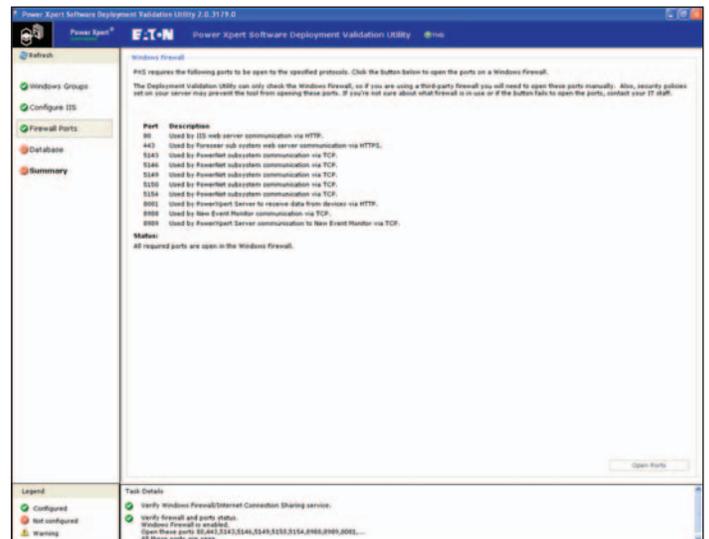
Thanks to the Power Xpert Software Deployment Utility, all key setup requirements are automatically validated. If any of the prerequisites are not met or are incorrectly configured, the Deployment Utility will alert you to resolve the situation. The best part of using the Deployment Utility is that it has a button you can click to fix the discovered problem.



SNMP and Modbus Connectors are powerful device driver development utilities that enable the integration of third-party devices into Power Xpert Software Enterprise Edition.



The Quality Manager is an integrated software module that enables detailed waveform analysis and can be directly invoked from the individual captured meter event. Any standard COMTRADE waveforms can be opened for examination with this utility.



The Deployment Validation Utility takes the guesswork out of creating Windows® groups, configuring your Internet Information Server, opening the right firewall ports and enabling database access. It will check the current status of these settings and then offer to automatically configure them for you.

Power Xpert Software setup

The Power Xpert Software is the overarching component of Eaton's Power Xpert Architecture. Power Xpert Software seamlessly supports the other Power Xpert components such as Power Xpert Gateways, Power Xpert Meters and Power Xpert Gateway Communication Cards. All of these may be found in the following Eaton equipment:

- Data center equipment (UPSs and PDUs)
- Power distribution equipment
- Motor Control Centers

In addition to communicating with other Power Xpert Architecture products in a new installation, existing PowerNet systems are easily migrated to Power Xpert Software.

The bottom line is that Eaton's Power Xpert Architecture utilizes intelligent hardware and software to transform your power system, new or existing, into an integrated, agile system that you can monitor, control and manage effectively and efficiently, transforming your power system from an unmanaged liability into a strategic asset.

The diagram to the right illustrates six different Power Xpert Software scenarios.

Power Xpert Software setup

- 1 Monitor multiple Power Xpert Gateways 400 and 600 and Power Xpert Gateway Series 1000 and 2000 cards.
- 2 Monitor multiple Power Xpert Meters.
- 3 Monitor multiple Eaton existing network translators (EMINT, NetLink, CONI or MINTII).
- 4 Monitor an existing PowerNet system.
- 5 Monitor multiple Eaton UPSs.
- 6 Monitor multiple non-Eaton Ethernet-enabled devices via SNMP or Modbus TCP. Power Xpert Software Enterprise Edition is recommended.

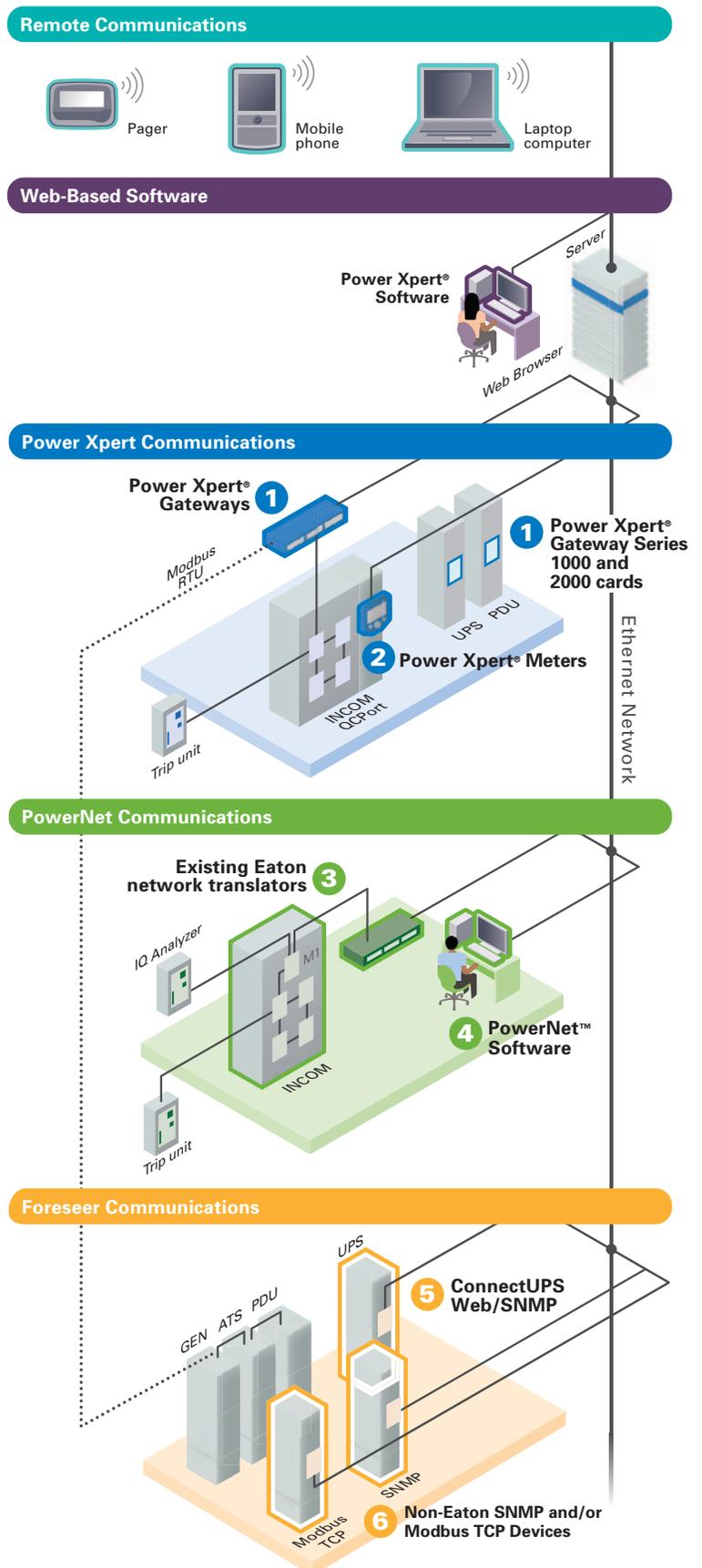
Legend

- Ethernet network
- Modbus RTU

Seamless integration of existing investments

Whether you've previously invested in Eaton's PowerNet software to connect your INCOM devices, or are starting fresh with a Power Xpert Software installation, we've got your investment protected going forward. Migration from PowerNet to Power Xpert is an easy, software-based process. PowerNet is integrated 'as is' into Power Xpert Software without any major device setup.

New installations in turn are genuinely Web and Power Xpert enabled, and with open protocol support such as SNMP and Modbus, can be easily integrated into third-party applications, or directly interrogated by a Web browser without any additional software.



Power Xpert Software— Device categories supported*



Eaton products

- Assemblies Electronic Monitor (AEM)
- Automatic Transfer Switch (ATS)
- Circuit Breaker Trip Units
- Breaker Interface Module (BIM)
- Central Monitoring Unit (CMU)
- DC System Controllers
- Drives
- Dynamic Input Module (DIM)
- EMS-PDU
- Environmental Monitoring Probe (EMP)
- ePDU®
- I/O Devices
- IQ Meters
- Legacy INCOM Devices (via Eaton Gateways, PowerNet)
- Motor Control Centers (MCCs)
- Network Protectors
- Power Distribution Rack (PDR)
- Power Distribution Unit (PDU)
- Power Xpert Meters
- Protective Relays
- QCPort Devices (via Eaton Gateways)
- Remote Panel Monitor (RPM)
- Remote Power Panel (RPP)
- Starters
- Switchgear
- Uninterruptible Power Systems (Single-Phase)
- Uninterruptible Power Systems (Three-Phase)



Third-party products

- Power Xpert Gateway third-party device support
 - ABB TPU 2000
 - GE 369 Motor Relay
 - GE 469 Motor Relay
 - InsulGard Insulation Monitor
 - PML 7350 Meter Series
 - PML 7550 Meter Series
 - PML 7650 Meter Series
 - Square D CM3000 Meter Series
 - Square D CM4000 Meter Series
 - Square D PM710 Meter Series
 - Square D PM850 Meter Series
- Third-party custom device driver drop-in support**
- Third-party Modbus TCP-compatible devices**
- Third-party SNMP-compatible devices**



*For a full list of compatible Power Xpert Software devices, please visit us at www.eaton.com/pxs and look for PXS Hardware Compatibility List (PXS-HWCL)

**Supported by Power Xpert Software Enterprise Edition

Did you know?

Power Xpert Software can easily do PUE and DCiE calculations too!

PUE is the ratio of a facility's total power to the power being drawn by IT equipment, which falls on an effective scale of 1.0 to 4.0. Lower scores are more desirable, and, ideally, a facility should strive for a score that is lower than 2.0.

DCiE, on the other hand, is the percentage of IT equipment power to total facility power. Therefore, the higher the percentage a facility receives, the better its DCiE rating.

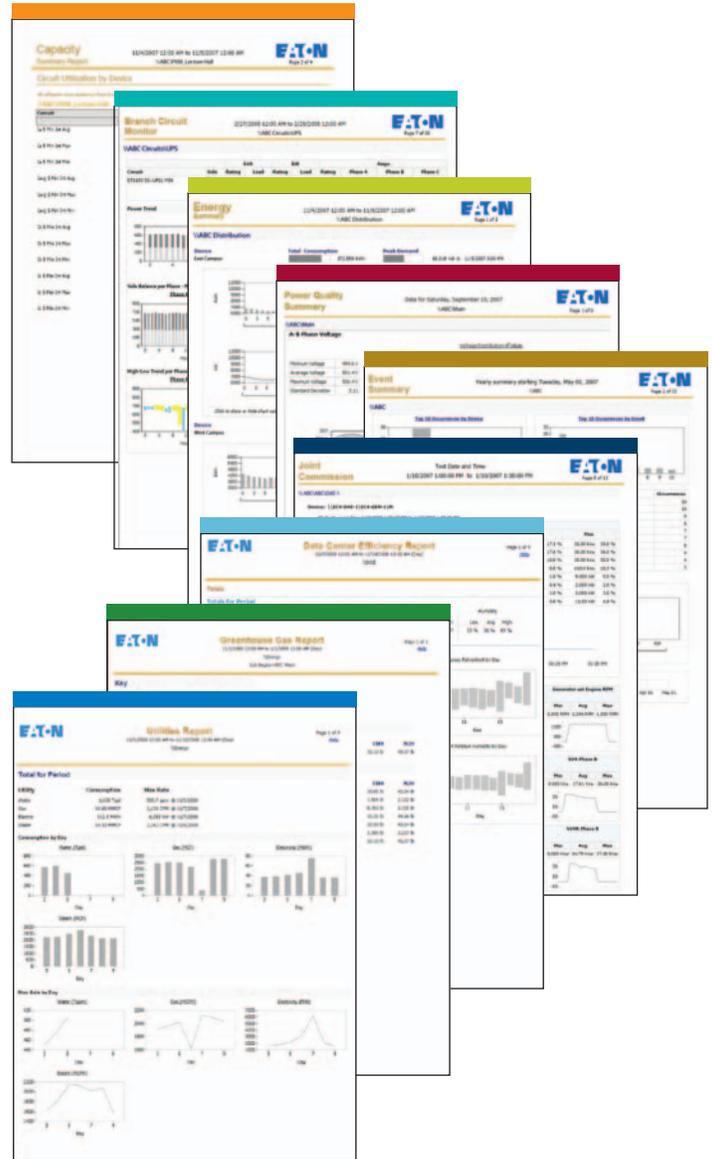
Download the Power Xpert Software PUE/DCiE Application Note from www.eaton.com/powerxpert to learn more about this feature.

Power Xpert Reporting—the perfect complement

Power Xpert Reporting helps bring information from the software together

Power Xpert Software brings together your power system information from around the floor to around the world—data and information that is invaluable. Power Xpert Reporting brings all the power system information together to compare, contrast and generally give you the big picture. Power Xpert Reporting provides a standard set of reports, including:

- Capacity Summary Report:** The summary of top- and bottom-loaded circuits, as well as loading details for each circuit according to user-defined date/time range and facility hierarchy location
- Branch Circuit Monitoring Report:** Determine branch circuit loading levels at a glance with color-coded graphics indicating loading status against capacity. Redundant sources can be reviewed, as well as single source loads
- Energy Summary Report:** The summary of consumption (kWh) and demand (kW) for a user-defined date/time range and facility hierarchy location
- Energy Cost Allocation Report:** The total energy bill dollar value or a cost per kWh across a facility hierarchy for a user-defined date/time range
- Power Quality Report:** The distribution and trend for amps, volts and THD according to user-defined date/time ranges and facility hierarchy location
- Event Summary Report:** Provides a Pareto chart of events according to user-defined date/time ranges and facility hierarchy location
- Joint Commission (JCAHO) Report:** Standard JCAHO-compliant report supports hospital power test requirements. It checks events, key metrics of generators and automatic transfer switches (ATS) during generator testing at user-defined date/time ranges and facility hierarchy location
- Data Center Efficiency Report:** A summary of data center infrastructure efficiency and power usage effectiveness, including such information as temperature and humidity, and energy consumption.
- Greenhouse Gas Report:** Captures the six offensive greenhouse gasses (carbon dioxide, sulfur dioxide, nitrogen oxide, mercury, methane and nitrous oxide) broken down by selected locations within a facility.
- Utilities Report:** Understand and track your utilities (water, air, gas, electricity, steam) consumption, and how effective your improvement efforts have been, with day-to-day bar and line charts.



Energy Cost Allocation		11/4/2007 12:00 AM to 11/6/2007 12:00 AM		EAT-N	
		\\ABC Distribution		Page 1 of 3	
Total for Period		Consumption:	599,379 kWh	Cost:	\$47,950.35
		Rate:	\$0.08 per kWh		
\\ABC Distribution					
Device	Consumption	Cost	% of Total		
West Campus	372,559 kWh	\$29,804.73	62.16 %		
East Campus	226,820 kWh	\$18,145.62	37.84 %		
Total	599,379 kWh	\$47,950.35	100.00 %		
\\ABC Distribution\East Campus					
Device	Consumption	Cost	% of Total		
East 1 + East 2	105,089 kWh	\$8,471.04	17.67 %		
East 3 + East 4	120,732 kWh	\$9,674.58	20.15 %		
East Campus	226,820 kWh	\$18,145.62	37.84 %		

The Energy Cost Allocation report allows you to see your total energy consumption, then easily distribute your energy costs based on each location's individual usage.

- Get total kWh and costs of energy clearly in dollars and cents.
- Allocate energy costs between departments and facilities based on consumption.
- Determine which facility is frugal and which one consumes the lion's share.

Power Xpert Software

Go green.



An Eaton Green Solution



Power Xpert Software is a key component to help you go green.

Environmental stewardship, innovation and leadership are becoming increasingly important as we take steps to create a sustainable environment for future generations by going green. Power Xpert Software can help a building or campus go green and qualify for Leadership in Energy and Environmental Design (LEED®) credits through the U.S. Green Building Council (USGBC).



Eaton offers several solutions that assist you in reducing your energy consumption, minimizing environmental and economic impacts associated with excessive energy use.

Power Xpert Software, along with Power Xpert Reporting, aggregates information into understandable charts and graphs that allow users to easily identify energy-saving opportunities throughout their buildings and campuses, worldwide. Power Xpert Software can provide some of the valuable information you need in the short-term and long-term to identify energy, cost saving and power quality enhancement opportunities, through control, monitoring and management of your power systems.



Comparing short- and long-term usage across all facilities.

Go green.

Power Xpert Software helps you understand and manage your critical power systems and energy flow as a whole, providing you with a short-term and long-term view of your individual and overall power consumption.

It allows you to easily compare month-to-month energy usage graphs throughout your facility and campus. And it will automatically store the energy data for long-term analysis. Report scheduling and report subscriptions can be set up to keep you automatically updated on what's going on with the power consumption and quality in your facilities, helping you achieve your savings and green goals.

Service offerings

Available Power Xpert Startup Service Packs

The ability to implement new technologies rapidly and efficiently in your organization, according to your best practices, is a key requirement to remain competitive. However, due to streamlined operations and focus on core competencies, time is not always available for your employees to implement and test new software tools and systems.

At Eaton, we want to make it as easy and non-disruptive as possible to implement our Power Xpert products and hit the ground running. You can choose from several Startup Service Packs for the one that best fits your needs, from partial help to full turn-key solution implementation.

All services are performed by authorized Eaton Electrical Services & Systems group personnel.



Startup Service Packs include the following services:

- **Startup scope determination**
Eaton services will help you evaluate your service needs and check that the Service Pack you have selected has appropriate coverage for your circumstances.
- **Pre-installation checkup**
Eaton services will contact you to go through the pre-installation checklist, which ensures efficient, prime quality installation and configuration services.
- **Installation and configuration**
Eaton services will install Power Xpert Software and configure it for operation with your equipment according to startup scope determination. Configuration may also include creating custom graphic layouts if necessary and required.
- **System test**
Eaton services will test the Power Xpert Software for operability and will validate communications with key components.
- **Optional hands-on training**
If required, Eaton services can provide hands-on training for Power Xpert Software, using the software on-site or using simulated demo systems.

System requirements

Hardware requirements

Hardware	Specification
Processor	2.8 GHz, dual-core processor
Memory	2 GB allocated for PXS (allocate 3 GB of memory to a virtual machine session running PXS)
Disk space required for application	The PXS application itself requires 451 MB of disk storage
Disk space required for database	A typical database will grow to 2 GB within a year. If you have a large number of devices, reserve additional storage space
Video resolution	1280 by 1024 pixels or higher
Removable media	DVD RW drive

Software requirements

Supported operating systems

Windows Server 2003 R2 (Standard or Enterprise editions) 32-bit edition.

Windows Server 2008 (Standard or Enterprise editions), 32-bit and 64-bit or Windows Server 2008 R2 (Standard or Enterprise editions), 32-bit and 64-bit.

Windows 7 Professional, Ultimate or Enterprise editions, either 32-bit or 64-bit.

Microsoft Windows XP Professional with Service Pack 3, 32-bit.

Supported versions of Microsoft SQL Server

- SQL Server 2005 Express SP3
- SQL Server 2005 Std SP3
- SQL Server 2005 Enterprise SP3
- SQL Server 2008 Express
- SQL Server 2008 Express SP1
- SQL Server 2008 Standard
- SQL Server 2008 Standard SP1
- SQL Server 2008 Enterprise
- SQL Server 2008 Enterprise SP1

Third-party software installed with PXS

The following Microsoft software is also installed during the PXS installation:

- .NET Framework 3.5 SP1
- Windows Installer 4.5
- C++ Runtime Library 2008
- Microsoft Data Access 2.8

SQL Server 2008 Express Edition. This is installed only if no other version of SQL Server is resident on the computer. If you have another version of SQL Server and wish to use it for PXS, make certain that it complies with the list shown.

SQL Server 2005 Express Management Studio SP2. This is only installed if no other version of SQL Server was installed on the machine.

Communication Protocol Support	Description
Dry-contact/contact closure/relay	Contact closure support is enabled via various Eaton Gateway devices. Please refer to Power Xpert Software Hardware Compatibility List for details.
BACnet WS+	BACnet WS+
Modbus RTU	Modbus RTU
Modbus TCP	Modbus Protocol over TCP
TCP/IP	Transmission Control Protocol
SNMP	Simple Network Management Protocol
SMTP	Simple Mail Transfer Protocol
INCOM	Eaton Legacy Protocol
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol with SSL
SSL	Secure Sockets Layer

Ordering information

Power Xpert Software Catalog Numbering System

Catalog Number	Description
Power Xpert Software Professional Edition	
PXS-PRO	Power Xpert Software Professional Edition
PXS-PROn1S	Power Xpert Software Professional Edition w/ 1-day startup
PXS-PROn2S	Power Xpert Software Professional Edition w/ 2-day startup
PXS-PROn5S	Power Xpert Software Professional Edition w/ 5-day startup
PXS-PROnPXR	Power Xpert Software Professional Edition and Power Xpert Reporting
Power Xpert Software Enterprise Edition	
PXS-ENT	Power Xpert Software Enterprise Edition
PXS-ENTn1S	Power Xpert Software Enterprise Edition w/ 1-day startup
PXS-ENTn2S	Power Xpert Software Enterprise Edition w/ 2-day startup
PXS-ENTn5S	Power Xpert Software Enterprise Edition w/ 5-day startup
PXS-ENTnPXR	Power Xpert Software Enterprise Edition and Power Xpert Reporting
Power Xpert Reporting	
PXR	Power Xpert Reporting—Single Source DB connection ❶
PXR-2DB	Power Xpert Reporting—up to 2 Source DB connections ❶
PXR-5DB	Power Xpert Reporting—up to 5 Source DB connections ❶
PXR-10DB	Power Xpert Reporting—up to 10 Source DB connections ❶
PXR-25DB	Power Xpert Reporting—up to 25 Source DB connections ❶
PXR-50DB	Power Xpert Reporting—up to 50 Source DB connections ❶
Service Packs	
PX-1S	Power Xpert 1-day startup Service Pack
PX-2S	Power Xpert 2-day startup Service Pack
PX-5S	Power Xpert 5-day startup Service Pack

❶ Number of supported Source Database connections to either Power Xpert Software or Foreseer®



Eaton Corporation
Electrical Sector
1000 Cherrington Parkway
Moon Township, PA 15108
United States
877-ETN-CARE (877-386-2273)
Eaton.com/pxs

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Printed in USA
Publication No. BR02601009E / Z10074
August 2010

Note: Features and specifications listed in this document are subject to change without notice and represent the maximum capabilities of the software and products with all options installed. This is not a complete feature list. Features and functionality may vary.



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