Product and Service Catalog

Critical Infrastructure Solutions for IT and Data Centers

January 2012

Switch ON to Eaton.

EAT·N

Powering Business Worldwide

Table of contents

Eaton overview

Eaton Corporation is a diversified power management company with global leadership in the electrical, fluid power, truck, automotive and aerospace industries. Our electrical product series and families—including Cutler-Hammer®, Holec®, MEM®, The Moeller Group, Phoenixtec Power Company Ltd., Powerware®, Santak, MGE Office Protection Systems, Bill, Elek and Pulizzi—encompass electrical control, power distribution, uninterruptible power systems (UPSs) and industrial automation products and services.

Electrical power is more than just a convenience; it's an essential element of doing business today. To deliver the competitive advantage our customers demand, Eaton® helps enterprises proactively measure and manage the power system as a strategic, integrated asset throughout its lifecycle.

Our solutions provide the power to make a difference, helping you achieve their business goals while maintaining environmentally sustainable enterprises. Tools such as energy audits and real-time monitoring of energy consumption enable customers to manage energy resources wisely. Products such as state-of-the-art UPSs help conserve energy and increase efficiency. Eaton is committed to sustainable solutions—for you and ourselves.

Our story

Comprised of legacy brands including Powerware, MGE Office Protection Systems, Best Power, Pulizzi, Aphel and Wright Line, Eaton's power quality business is a global leader in power management products and services. Eaton has many products that provide customer-driven power management solutions to serve the power system needs of the institutional, government, utility, commercial, residential, IT and data center markets worldwide.

Our portfolio

Eaton's power quality portfolio encompasses a comprehensive offering of power management solutions from a single-source provider. This includes UPSs, surge protective devices, power distribution units (PDUs), remote monitoring, meters, software, connectivity, enclosures, airflow management and professional services. Our portfolio was designed to fulfill specific customer requirements, complement new or pre-existing solutions, and deliver comprehensive solutions.

With all our products, Eaton strives for continued success in leveraging technical innovation to develop next-generation solutions.

powerquality.eaton.com

Our customers

For more than 40 years, Eaton has been safeguarding the critical systems of businesses across the globe. Whether protecting a single desktop or the largest data center, Eaton solutions provide clean, continuous power to keep business operations flowing. We work with IT and facilities managers to effectively manage power in virtually every business segment, including data centers, retail outlets, healthcare organizations, governmental agencies, manufacturing firms, broadcasting companies, financial institutions, and a wide variety of other applications.

eaton.com/pqsuccess

Eaton City

Eaton has the electrical power management solutions you need to improve reliability, increase efficiency and enhance safety. Interact with our full product offering and you will learn how our products provide solutions in the following industries: electrical, industrial, IT, transportation and many more.

eaton.com/eatoncity

Eaton overview

Powerware series UPSs

3-year warranty with product registration!

Powerware series UPSs up to 1100 kVA are designed to deliver differentiated power quality solutions and a low total cost of ownership (TCO). Our 3- and 5-series UPSs offer a three-year warranty with product registration.

Pulsar series UPSs

The Pulsar® series of products is designed to meet even the most cost-conscious customer's needs while providing a reliable and easy-to-set-up solution.

Demo units

Eaton invites you to try before you buy with the Eaton Technology Challenge program! Available for select UPS, ePDU® and Environmental Rack Monitor products, the program is simple and risk-free.

Simply contact your Eaton Authorized Reseller to place your evaluation order. Keep the equipment for up to 45 days from the date of shipment—it may then be purchased or simply returned to Eaton.

eaton.com/techchallenge

TAA-compliant UPSs

Eaton is proud to offer TAA-compliant products to our customers. These *Assembled in the U.S.A.* UPSs are designed to be used in a wide range of public sector applications, allowing us to better serve the government's needs.

Please visit **eaton.com/taaups** to learn more about these products.

UPSgrade

UPSgrade™

The Eaton UPSgrade™ program is designed to offer affordable access to the industry's latest technology solutions at discounted prices. This program even provides free and environmentally sound disposal of old equipment.

With more than 130 SKUs to choose from, the UPSgrade program makes it simple to improve your UPS protection.

• Products up to 6 kVA are available (trade-ins up to 3 kVA)

• Upgrade must be to a greater kVA

• Upgrade may be up to twice the kVA of the original unit

• Upgrade must be equal or greater topology (standby, line-interactive and online technology available)

eaton.com/upsgrade

The Eaton Blackout Tracker

Every day in the US and Canada thousands of people experience an interruption to their electrical service in homes, businesses and public sector organizations. Eaton's interactive Blackout Tracker provides a snapshot about the causes and impact of these outages.

eaton.com/blackouttracker

Awards gallery

2009

2009 WORLD'S MOST ETHICAL COMPANIES
WWW.ETHISPHERE.COM

Ethisphere Institute

2009 World's Most Ethical Companies Award

NETWORK PRODUCTS GUIDE PRODUCT INNOVATION 2009

Network Products Guide 2009 Product Innovation

Eaton 9130 UPS

FORTUNE

Fortune magazine names Eaton one of the world's Most Admired Companies

Eaton ranked number four in Fortune magazine's "Most Admired" industrial and farm equipment category, March 16, 2009 issue.

2009 Products of the Year SILVER
SearchDataCenter.com

SearchDataCenter.com 2009 Silver Product of the Year Award

Eaton 9395 UPS

2009 INTERNET TELEPHONY PRODUCT OF THE YEAR

Internet Telephony 2009 Product of the Year

Eaton 5130 UPS

BUILDINGS Top 100 Products 2009

Buildings Top 100 Products 2009

Eaton 9130 UPS

2010

2010 WORLD'S MOST ETHICAL COMPANIES
WWW.ETHISPHERE.COM

Ethisphere Institute

2010 World's Most Ethical Companies Award

NETWORK PRODUCTS GUIDE PRODUCT INNOVATION 2010

2010 Network Products Guide Product Innovation Award winner in Power Back-up category

Eaton 9395 UPS

EC&M Product of the year 10 Category Winner

2010 EC&M Product of the Year winner in Power Conditioning Equipment Category

Eaton 9395 UPS

engineer 2010 PRODUCT OF THE YEAR Silver

Silver Award winner in Standby Power Category for the 2010 CSE Magazine Product of the Year

Eaton 9395 UPS

TECHNOSIUM HOT TECHNOLOGIES AND SOLUTIONS 2010 FINALISTS

Network Products Guide 2010 Product Innovation

Eaton 9130 UPS

Product Of The Year 2010 TMC Unified COMMUNICATIONS

Product of the Year

Eaton 5130 UPS
Intelligent Power Software Suite

DW 9/10

2010 Daniweb 9 out of 10 Award

Eaton 5130 UPS

2011

2011 WORLD'S MOST ETHICAL COMPANIES
WWW.ETHISPHERE.COM

Ethisphere Institute

2011 World's Most Ethical Companies Award

DW 9/10

2011 Daniweb 9 out of 10 Award

Eaton 5PX UPS with Intelligent Power Software Suite & Eaton 3S UPS

engineer 2011 PRODUCT OF THE YEAR Silver

Consulting-Specifying Engineer

2011 Product of the Year
Eaton BladeUPS Preassembled

Eaton's critical infrastructure management for data centers and IT

Eaton provides power management and distribution solutions for data centers of all sizes.

Other data center solutions

Facility UPS

20-1100VA UPS power supply featuring 99% efficiency *(See page 19)*

Power Distribution

Integrated power distribution *(See page 26)*

Rack power distribution (ePDU)

- Power metering and management at the outlet level
- Cisco EnergyWise certified *(See page 28)*

Services

Eaton provides a 24x7 call center and has 240 service technicians across North America *(See page 37)*

Power Management Software

- Virtualization ready *(See page 32)*

Heat Containment Systems (HCS)

- Compatible with all Eaton racks, HCS can reduce cooling costs by 40 percent *(See page 22)*

Racks

- Multi-vendor compatible network and server racks optimize airflow management *(See page 23)*

Backup power UPS

- Track server, storage and router power consumption: up to 99% efficiency *(See page 14)*
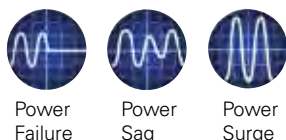
UPS solution overview

Selecting the right UPS

Eaton's power management solutions protect against the nine most common power problems present in any environment. This unique approach makes your product selection decisions about power protection much simpler. The nine power problems listed below are potentially harmful to both your data and your hardware. Eaton offers three levels of power protection: Series 3, Series 5 and Series 9, plus the rugged FERRUPS® product line that provides protection from eight potential problems in harsh environments. Based on the parameters defined by your application, you can select a UPS from the level that best matches your power protection needs.

Series 3
Standby or offline

Power Failure	Power Sag	Power Surge

*We have a host of selection tools available on our website to help you select the right UPS—please visit us at **powerquality.eaton.com**.*
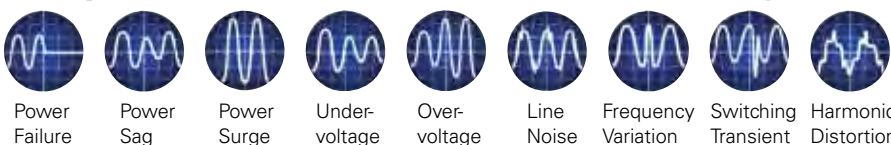
Basic solution: Protection from three potential problems

The Series 3 UPS primarily protects against three of the nine power problems: power failures, power sags and power surges. This essential, cost-effective protection is necessary to prevent damage such as data loss, file corruption, flickering lights, hardware issues and equipment shutoff. For example, if the utility fails, you could lose all your work-in-progress. The Series 3 UPS offers a degree of protection against the remaining power problems and is most commonly used to protect single workstations and point-of-sale (POS) equipment.

Series 5
Line-interactive

Power Failure	Power Sag	Power Surge	Under-voltage	Over-voltage

Intermediate solution: Protection from five potential problems

Series 5 UPSs are most effective against five power problem: power failures, power sags, power surges, under-voltage and over-voltage. They also offer a degree of protection against other power problems. Some of the damages you risk by not using a Series 5 UPS include premature hardware failure, data loss and corruption, data error, keyboard lockup, storage loss and system lockup. Series 5 UPSs are recommended for everything from small network systems to enterprise networking environments.

Series 9
True online, double conversion

Power Failure	Power Sag	Power Surge	Under-voltage	Over-voltage	Line Noise	Frequency Variation	Switching Transient	Harmonic Distortion

Complete solution: Protection from all nine potential problems

Series 9 UPSs protect against all nine power problems: power failures, power sags, power surges, under-voltage, electrical line noise, over-voltage, frequency variation, switching transients and harmonic distortion. Series 9 comprehensive protection minimizes the opportunity for component stress, burned circuit boards, data crashes and program failures. Series 9 UPSs offer the highest level of power protection available and are always recommended for mission-critical applications like server farms, hospitals and Voice-over-Internet-Protocol (VoIP) applications.

PC, workstation and home A/V UPS

Powerware series

Eaton 3105

500, 700 VA

| Power Failure | Power Sag | Power Surge |

Provides affordable, essential battery backup and surge protection for basic small office/home office equipment—anytime reliable power is needed

Typical applications:

- Basic small office/home office computers and peripheral devices
- Point of sale (POS) systems
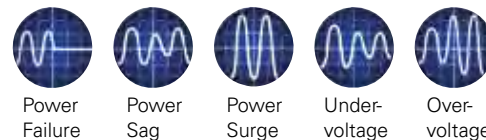- VoIP equipment
- ATMs, kiosks
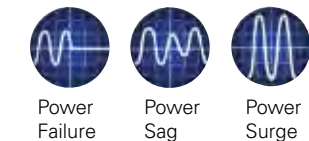
Eaton 3S

550, 750 VA

Delivers high efficiency and energy-saving battery backup and surge protection for your premium home and office equipment—ready to go right out of the box

Typical applications:

- Premium small office/home office computers and accessories
- VoIP equipment
- Home entertainment devices

Eaton 5110

500–1500 VA

| Power Failure | Power Sag | Power Surge | Under-voltage | Over-voltage |

Protects loads on eight outlets—four with surge suppression and battery backup, four with suppression only

Typical applications:

- Office workstations
- PBX or key phone systems
- Servers and network nodes
- Point of sale (POS) systems
- Peripheral devices

Product details: PC, workstation and home A/V UPS

Features	3105 500/700 VA	3S 550/750 VA	5110 500–1500 VA
Form factor	Standalone or wall-mount	Standalone or wall-mount	Tower, under computer terminal mounting or computer shelf mounting
Start-on-battery	•	•	•
Audible alarms	•	•	•
Serial or USB port	USB	USB	USB
Intelligent Power Software Suite*	•	•	•
Data line surge protection	•	•	•
Three-year warranty (with registration)	•	•	•
Extended warranty (optional)	•	•	•
Plug and play feature		•	
Eco control (750VA only)		•	

* The 3105, 3S and 5110 are not compatible with Intelligent Power Manager, but Intelligent Power Protector works with these units and provides many of the same monitoring and management capabilities of Intelligent Power Manager.

Network and server UPS

Power Failure   Power Sag   Power Surge   Under-voltage   Over-voltage
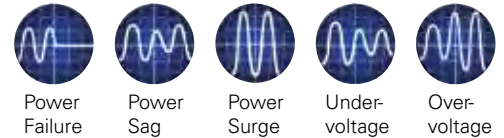
Eaton 5115

500–1400 VA

Delivers smooth, continuous power with pure sine wave output

Typical applications:

- Workstations
- Small servers
- Hubs and routers
- Single and multiple PCs
- Small to medium business equipment

Eaton 5PX

1000–3000 VA

Designed with managed outlet segments, hot-swappable batteries, 99 percent efficiency and two managed outlet segments —provides an integrated power management solution for any IT environment

Typical applications:

- IT network wiring closets
- Medical systems
- Communications/VoIP network systems

Award winner!
See page 5 for details.

Eaton 5125

1000–2200 VA

Delivers power protection and flexibility with network communication capabilities and extended runtime options

Typical applications:

- Workstations
- Small servers
- Hubs and routers
- Single and multiple PCs
- Small to medium business equipment

Product details: Powerware series 5, network and server tower UPS

Features	5115 500–1400 VA	5125 1000–2200 VA	5PX 1000–3000 VA
Form factor	Tower	Tower	Tower, 2U rackmount or 3U rackmount
Sine wave output	•	•	•
Intuitive LCD interface			•
ABM technology	•	•	•
Load segment control		•	•
Hot-swappable batteries	•	•	•
Start-on-battery	•	•	•
Audible alarms	•	•	•
Serial or USB port	Both	Both	Both
Intelligent Power Software Suite*	•	•	•
Network cards available		X-Slot*	Mini-Slot
Data line surge protection	•	•	•
Remote emergency power-off (REPO)		•	•
Power distribution unit (optional)			•
Extended battery modules (optional)		•	•
TAA-compliant models	•		•
Three-year warranty (with registration)	•	•	•
Extended warranty (optional)	•	•	•

* The 5115 tower UPS is not compatible with Intelligent Power Manager, but Intelligent Power Protector works with this unit and provides many of the same monitoring and management capabilities of Intelligent Power Manager.

Network and server UPS

Eaton 9130

700–3000 VA

Provides more available power, >95 percent efficiency, high performance protection and battery backup for unpredictable power in any IT environment

Power Failure	Power Sag	Power Surge	Under-voltage	Over-voltage	Line Noise	Frequency Variation	Switching Transient	Harmonic Distortion

Typical applications:

- Small to medium business networks
- Remote IC locations
- Central IM location
- Mid-range telephone systems
- IP-based security systems
- VoIP systems
- Lab equipment

Winner of multiple awards!
See page 5 for details.

Eaton 9155

8–15 kVA

Provides industry-leading power density and a 75 percent footprint reduction versus comparable UPS solutions; internal batteries provide up to 350 percent more runtime and offer 13 percent more capacity at equivalent VA ratings

Typical applications:

- Data centers
- Centralized servers
- LAN gateways
- Clustered PCs
- Enterprise telecommunications and engineering systems

Eaton 9135

5000–6000 VA

Delivers up to 6000 VA in 40 percent less space than previous technologies, provides both hot-swappable batteries and power modules

Typical applications:

- Small to medium business networks
- Remote IC locations
- Central IM location
- Mid-range telephone systems
- VoIP systems
- Lab equipment
- Centralized retail

Eaton 9170+

3–18 kVA

Grows with changing IT environments by incorporating scalable design of 3 kVA power modules and batteries; eliminates single point-of-failure with N+X power and logic redundancy

Typical applications:

- Mission-critical applications
- Internet service providers
- E-commerce networks
- Data centers
- Enterprise telecommunications systems
- Rack equipment

Network and server UPS

Product details: Powerware series 9, network and server tower UPS

Features	9130 700–3000 VA	9135 5000–6000 VA	9155 8–15 kVA	9170+ 3–18 kVA
Form factor	Tower	Tower	Tower	Tower
Sine wave output	•	•	•	•
ABM technology	•		•	•
Intuitive LCD interface	•	•	•	•
Hot-swappable batteries	•	•		•
Extended battery module (optional)	•	•	•	•
Load segment control	•			
Data line surge protection	•			
Serial or USB port	Serial & USB	Serial, USB and DB-9	Serial	Serial
Start-on-battery	•	•	•	
Audible alarms	•	•	•	•
Intelligent Power Software Suite	•	•	•	•
Communication bay	Mini-Slot	Mini-Slot	•	Mini-Slot
Remote emergency power-off (REPO)	•	•	•	•
Power distribution module (optional)	•	•	•	
External maintenance bypass (optional)	•	•	•	•
TAA-compliant			•	•
High-efficiency mode	•	•	•	•
Extended warranty (optional)	•	•	•	•

1. Extended battery module not available for the 9130 700 VA Tower UPS.
2. Includes bypass switch; available with and without bypass switch on the 9155.

Feature focus

Pack maximum power into minimum space

Eaton developed high-density rackmount UPSs to provide optimal, reliable power protection for critical loads—delivering more performance in smaller packages. We offer the highest power density by power rating with sizes from 0U to 5U. Our space-saving models free up valuable rack space for other essential equipment. *(See our rack offering on page 24)*

Communication—monitor your UPS via an Ethernet network or the Internet

All our UPSs include a USB or serial port that allows you to communicate with the UPS, and most have a communications bay or card installed for increased power protection and control. Our variety of connectivity products ensure compatibility with a range of external devices via the Web, serial, USB, relays, Modbus or SNMP. Some cards allow you to connect your UPS directly to the Ethernet network and the Internet, allowing you to monitor and manage your UPS conveniently with a standard Web browser.

Energy-efficiency—use less energy, save more money

As power density in modern data centers increases, more focus has been placed on improving efficiency in the power distribution infrastructure. We offer practical and affordable options to significantly improve efficiency without making major changes to your existing power delivery infrastructure. Our advancements in UPSs and power distribution products can reduce data center energy, cabling and cooling costs.

Investment protection—our products are backed by a full range of service options and dedicated support teams so you're always protected

Eaton stands behind our outstanding network and server UPS products with a standard two-year factory warranty, with the option to purchase up to three years of extended coverage. For additional protection, select a service plan from basic advanced exchange to onsite startup and preventive maintenance performed by certified customer service engineers. All network and server UPSs also include a load protection guarantee.

Network and server UPS

Eaton Evolution

650–2000 VA

High-density power protection with separately controlled receptacles for load shedding

Typical applications:

- Network devices
- Tower servers
- Network storage systems
- Network devices

Eaton MX

5 kVA

A unique, online product family designed to let you pay as you grow with high-density power protection

Typical applications:

- High-density servers
- Blade servers
- High-density networking switches
- Network storage systems
- Health/medical equipment

Eaton EX

700–3000 VA

Modular, online UPS with automatic bypass for fault-tolerance

Typical applications:

- Servers, data storage and network equipment
- Medical equipment
- Telephony—VoIP
- Industrial processes

Product details: Pulsar series, network and server tower UPS

Features	Evolution*	EX	MX
Form factor	Tower	Tower	Tower
Sine wave output	•	•	•
Load segment control	•	•	
Hot-swappable batteries	•	•	•
Start-on-battery	•	•	
Audible alarms	•	•	•
Serial or USB port	Serial & USB	Serial & USB	Serial & USB
Intelligent Power Software Suite	•	•	•
Communication bay	Mini-Slot	Mini-Slot	Mini-Slot
Remote emergency power-off (REPO)	•	•	•
Power distribution unit (optional)	•	•	•
Extended battery modules (optional)	•	•	•
External maintenance bypass (optional)	•	•	
High-efficiency mode		•	•
Extended warranty (optional)	•	•	
Flex and PowerTrust onsite service plans (optional)	•	•	•

Network and server UPS

Eaton 5115

500–1500 VA

Provides high-density, advanced power protection

Typical applications:

- Low-profile rack servers
- Routers and hubs
- Wall-mount telecom key systems
- Rack or wall-mount VoIP
- Servers and storage systems

Eaton 5PX

1000–3000 VA

Designed with managed outlet segments, hot-swappable batteries, 99 percent efficiency and two managed outlet segments—provides an integrated power management solution for any IT environment

Typical applications:

- IT network wiring closets
- Small/medium business
- Virtualized environments

Award winner!
See page 5 for details.

Eaton 5125

5000–6000 VA

Provides high-density, superior power protection

Typical applications:

- PC and workstation clusters
- Enterprise networking systems
- Server farms
- Data center and RAID systems
- Rack servers and other rack equipment

Eaton 9130

700–3000 VA

Provides more available power, >95 percent efficiency, high performance protection and battery backup for unpredictable power in any IT environment

Typical applications:

- Small to medium business networks
- Remote IC locations
- Central IM location
- Mid-range telephone systems
- IP-based security systems
- VoIP systems
- Lab equipment

Winner of multiple awards!
See page 5 for details.

Eaton 9135

5000–6000 VA

Delivers up to 6000 VA in 40 percent less space than previous technologies, provides both hot-swappable batteries and power modules

Typical applications:

- Small to medium business networks
- Remote IC locations
- Central IM locations
- Mid-range telephone systems
- VoIP systems
- Lab equipment
- Centralized retail

Eaton 9140

7.5–10 kVA

Superior decentralized power protection for medium and high-density rack environments

Typical applications:

- Medium and high-density rack environments
- Server farms, especially blade servers
- LAN gateways
- Clustered PCs
- Enterprise telecommunications and engineering systems

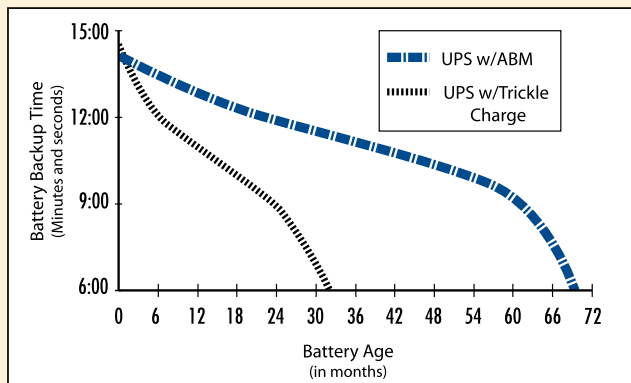**Product details: Powerware series 5 and 9, network and server rackmount UPS**

Features	5115 500–1500 VA	5125 5000–6000 VA	5PX 1000–3000 VA	9130 700–3000 VA	9135 5000–6000 VA	9140 7.5–10 kVA
Form factor	0U or 1U rackmount, wall-mount or bench-top	3U rackmount	Tower, 2U rackmount or 3U rackmount	2U rackmount	3U rackmount	6U rackmount
Sine wave output	•	•	•	•	•	•
ABM technology	•	•	•	•		•
Intuitive LCD interface			•	•	•	•
Load segment control	•	•	•	•		
Hot-swappable batteries	•	•	•	•	•	•
Start-on-battery	•	•	•	•	•	•
Audible alarms	•	•	•	•	•	•
Serial or USB port	Both	Both	Both	Both	Both	Both
Intelligent Power Software Suite	•	•	•	•	•	•
Communication bay	X-Slot	X-Slot	Mini-Slot	Mini-Slot	Mini-Slot	•
Data line surge protection	•		•	•		
Remote emergency power-off (REPO)		•	•	•	•	•
Power distribution unit (optional)	•	•	•	•	•	•
Extended battery modules (optional)		•	•	•	•	•
High-efficiency mode				•	•	•
Three-year warranty (with registration)	•	•	•			
Extended warranty (optional)	•	•	•	•	•	
Flex and PowerTrust onsite service plans (optional)					•	
Gold plans (optional)		•				•

Feature focus

ABM technology—extend the life of your batteries and optimize recharge time

Most UPS manufacturers offer constant trickle-charge on their batteries, which degrades them and reduces their service life by as much as 50 percent. In contrast, Eaton's ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that extends the useful service life of UPS batteries while optimizing battery recharge time. It also provides advance notice of the end of useful battery service life to allow you ample time to hot-swap batteries without ever having to shut down connected equipment.

Battery Backup Time (Minutes and seconds) vs. Battery Age (in months)

Legend: UPS w/ABM; UPS w/Trickle Charge

Extended batteries runtime—increase your backup time

Your application may require several hours of backup time; Eaton can deliver it with extended battery modules (EBMs).

Load segments—extend battery time when necessary

Using our protection software, you can independently control load segments, which are groups of receptacles on the rear panel of the UPS. This feature enables you to maximize battery power and provide orderly shutdown and startup of critical equipment. During a power outage, you can shut down non-critical devices, extending available battery time to critical equipment.

To preserve battery power for critical devices connected to Load Segment 1, shut down the less-critical equipment connected to Load Segment 2.

Network and server UPS

Eaton Evolution

650–2000 VA

High-density power protection with separately controlled receptacles for load shedding

Typical applications:

- Network devices
- Rackmounted or tower servers
- Network storage systems

Eaton EX

700–3000 VA

Modular, online UPS with automatic bypass for fault-tolerance

Typical applications:

- Servers, data storage and network equipment
- Medical equipment
- Telephony—VoIP
- Industrial processes

Eaton MX Frame

5–20 kVA

A truly scalable optimized rack solution that allows you to add power as your business grows

Typical applications:

- High-density servers
- Blade servers
- High-density networking switches
- Network storage systems
- Health/medical equipment

Product details: Pulsar series, network and server rackmount UPS

Features	Evolution	EX	MX Frame
Form factor	1U/2U Rackmount	Rackmount	3U Rackmount
Sine wave output	•	•	•
Load segment control	•	•	
Hot-swappable batteries	•	•	•
Start-on-battery	•	•	
Audible alarms	•	•	•
Serial or USB port	Both	Both	Both
Intelligent Power Software Suite	•	•	•
Communication bay	Mini-Slot	Mini-Slot	Mini-Slot
Remote emergency power-off (REPO)	•	•	•
Power distribution unit (optional)	•	•	
Extended battery modules (optional)	•	•	•
External maintenance bypass (optional)	•	•	•
Efficiency mode		•	•
Extended warranty (optional)	•	•	
Flex and PowerTrust onsite service plans (optional)	•	•	•

Data center and facility UPS

Eaton's Witness Test Centers allow you to see your large multi-module system tested before it's deployed.

Data center and facility UPS overview

With a rich history of technical innovation and proven performance, Eaton's data center and facility UPS products continue to personify it's pioneering spirit in the power quality industry. Whether you're designing or procuring a UPS, each model can be deployed around the world. Designed to meet global requirements, the same UPS can be installed anywhere—from Argentina to Russia, China to South Africa or the United States.

The following features differentiate Eaton's data center and facility UPS solutions:

Leading sustainability

- Highest efficiency ratings lower utility costs
- Lowest total cost of ownership and lifecycle carbon footprint
- Smallest footprint and weight
- Lowest transportation and installation costs

Stronger power performance

- Lowest input total harmonic distortion (THD) enhances compatibility with upstream power systems
- Lowest output THD
- Optimum generator sizing
- PFC power supply compatibility

Highest reliability and availability

- Powerware Hot Sync® wireless paralleling
- Easy capacity test
- Superior battery management
- Inherent redundancy
- Scalable architecture that adapts to increasing power requirements

Robust manageability

- Superior control and connectivity

Beyond technology: Eaton multi-module UPS solutions

In the world of large power systems, single-unit solutions are becoming less common. High-capacity power needs, redundancy requirements, integration into building management system (BMS) and network management systems (NMS) for system monitoring, data gathering, and extended battery backup time often lead customers to a multi-module system that can include redundant UPSs, software, power distribution and battery systems tailored to individual needs.

Designing, testing and implementing a multi-module system requires engineering knowledge and experience in making sure everything works together as anticipated, every time. That's where Eaton excels—starting with state-of-the-art technology and pairing it with rigorous design, testing and implementation standards guarantees Eaton multi-module systems deliver the highest level of reliability.

When you choose a custom Eaton solution, you come to the Customer Witness Test Center in Raleigh, North Carolina, or Helsinki, Finland, to see your system put through its paces. This gives you hands-on experience and the confidence that the system will operate efficiently and trouble-free from day one.

Eaton Customer Witness Test Centers test power modules, including UPS, PDU, switchgear, static transfer switches and battery cabinets. They also test third-party equipment interfaces, a crucial capability in a multi-vendor world. In addition to testing the individual devices, the entire system is tested, ensuring end-to-end interoperability.

Feature focus

Eaton three-phase UPS products are packed with features and available options to integrate easily with a wide array of site requirements. Industry-leading technologies and performance allow consultants and contractors to exceed customer expectations and deliver more value.

For example, Energy Advantage Architecture is a suite of options, technologies, and designs that allow specifying engineers and facility managers to get the best possible performance from their UPS. Options like Energy Saver System (ESS) dramatically increase UPS efficiency without sacrificing protection while reducing energy costs and putting money back into the budget. In addition, site designs using 400V can capture savings in equipment and operating costs that can dramatically improve end-to-end facility efficiencies.

## Powerware Hot Sync wireless paralleling technology

Using our signature Powerware Hot Sync technology, multiple UPS modules can be paralleled for extra capacity or redundancy. A 15 kVA 9355, for example, can grow to support loads of up to 45 kVA. There's no dependence on communications wiring among these modules, enhancing reliability and simplifying installation. This paralleling capability is far more elegantly and reliably implemented with the 9355, 9390 and 9395 than with competitive products.

This two-module 9390 system shown below can be configured as 160 kVA N+1 redundant (320 kVA capacity with 36-inch tie cabinet). The width of this configuration is a compact 164.6 inches.

| Battery | 160 kVA UPS Module | Tie Cabinet | 160 kVA UPS Module | Battery |
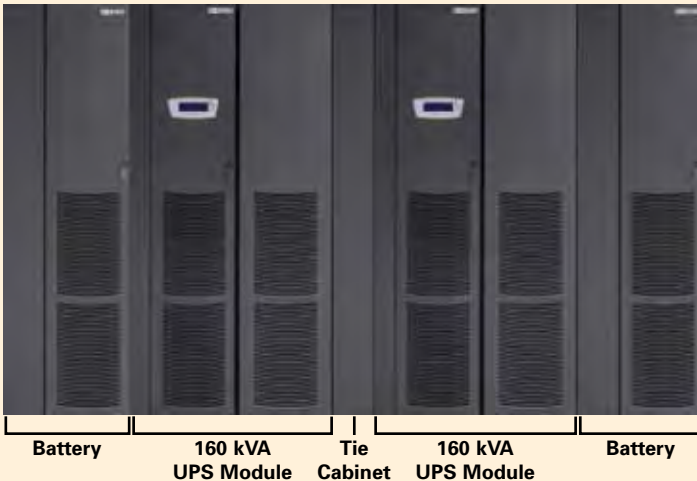
Energy Saver System (ESS)

Eaton three-phase UPS solutions have always delivered excellent energy-efficiency, helping facilities save thousands in energy costs over traditional UPS designs. Now with the available ESS option, Eaton three-phase UPSs achieve over 99 percent efficiency no matter how large or small the load. This additional energy savings is achieved through advanced power core technology and continues to provide the load with maximum protection. Unlike traditional "eco" modes, ESS is not just a utility bypass. The load is always protected. Learn more at **eaton.com/ESS**.
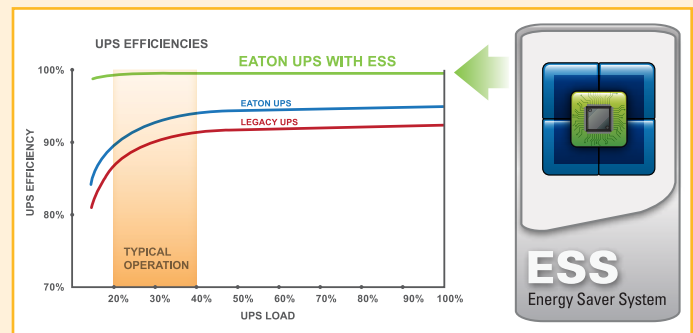
Smallest footprint and weight

The 9390 offers the smallest footprint of any UPS in its class— 35 to 50 percent smaller than competitive units. Cabling can enter the UPS from either the top or bottom of the cabinet to provide easier, more flexible installation. The 9390 provides front panel access for all services and operation, increasing service-ability and reducing mean time to repair (MTTR). Since its compact cabinet can be installed against back and side walls, you have more location options, installation is fast and easy, deployment cost is lower, and you save valuable data center space.

Big power, small footprint

Eaton 9390
Weight = 580 pounds
18.9 x 31.6 in.

Competitor product
Weight = 2700 pounds
32.5 in. x 34.9 in.

Data center and facility UPS

All models on
this page are
TAA-compliant.

Eaton 9355

10–30 kVA

Delivering efficient, reliable performance in a sleek tower half the size of most competitive units on the market today, the 9355 can be deployed to protect small data centers, multiple servers, educational facilities, critical machinery in factories and retail applications.

Emergency Lighting UPS models now available from 8–30 kVA.

Eaton 9E

20-60 kVA

The Eaton 9E UPS delivers the most efficient power quality solution in three key areas: space, power and cost. Engineered for maximum efficiency, the 9E delivers up to 98% efficiency while maintaining a small physical footprint. With internal batteries up to 60 kVA the 9E provides an all-in-one solution that also reduces the complexity of installation and startup.

Eaton 9390

20–160 kVA

The 9390 combines extensive customer research with technical innovation to deliver power protection for medium-sized data centers, general IT applications, healthcare applications (such as CT scanners), banking infrastructure, colocation facilities, hotels, casinos and even marine applications.

Eaton 9390IT

40–160 kVA

The 9390IT UPS offers superior efficiency and flexible distribution options previously unavailable in 40 kVA to 160 kVA UPSs. Standard Energy Saver System (ESS) technology in the 9390IT delivers an industry-leading 99 percent efficiency, reducing energy costs and heat output. With available integrated IT distribution options connecting and expanding IT equipment is a simple plug-and-play procedure.

Eaton 9395

225–1100 kVA

Our latest three-phase UPS innovation, the 9395 provides a high-end power quality solution for the largest data centers; mainframes; supercomputing equipment; large office buildings and applications requiring large, multi-module protection.

An Eaton Green Solution

Winner of multiple awards!
See page 5 for details.

Data center and facility UPS

An Eaton Green Solution

eaton.com/bladeups

Eaton BladeUPS

12–60 kW

The revolutionary Eaton BladeUPS® power quality system expands power protection from 12 kW to 60 kW (N+1) in a single industry-standard 19-inch rack. Equally important, the BladeUPS provides this robust, compact solution while generating 75 percent less heat than the competitors' legacy end-of-row solutions.

Features and benefits

- Achieves the highest power density in the marketplace with a 6U module height
- Reduces operating expenses with flexible, compact configuration options
- Reduces single points-of-failure with an intelligent bypass design that eliminates human error
- Provides Powerware Hot Sync paralleling that enables scalability and reliability through a "peer-to-peer" paralleling relationship
- Features hot-swappable battery modules and electronics
- Uses off-the-shelf options, including line cord kits, X-Slot cards, EBMs, racks, sub-distribution and rack power strips

Easily remove power modules or hot-swappable batteries without disrupting power to the unit.

BladeUPS Preassembled Systems

Eaton has expanded the BladeUPS product offering and simplified it for easy customization, shipping and installation. The Eaton BladeUPS Preassembled System, is truly turnkey solution for growing data center needs. Depending on your power requirements, preassembled systems can be ordered with one to six BladeUPS units installed to offer the right level of power protection, while still providing for future growth. All you have to do is bring power to the unit and perform the simple start-up procedure.

Features

- Factory pre-tested system accelerates installation and minimizes onsite testing requirements
- Save up to 20 percent in shipping costs
- Modularity and scalability allow the system to be easily moved
- Top-and bottom-entry models available
- The top-entry models are ideal for data center environments that do not have a raised floor and offer a flexible option when facing moves, additions or changes to the data center
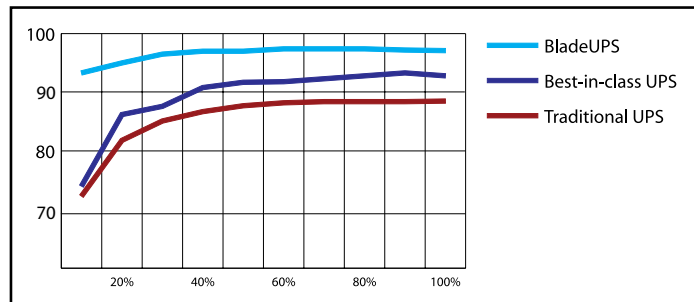
Awards winner!
See page 5 for details.

Preassembled system ready for shipment

Typical applications

- Blade server support
- Small, medium and large data centers
- Network closets
- VoIP equipment
- Networking applications: IPTV, security
- Storage area networks and RAID

Even at very small loads, where you would expect efficiency to be lower, the BladeUPS is still more efficient than other UPS products at full load.

Airflow management and racks

Aisle containment

End of row doors

End of row doors create more efficient cold aisles by blocking an obvious cold-air escape route and entry for hot air re-circulation and air mixing. This allows you to set a higher overall temperature within the data center thus saving energy and extending hardware life.

Features and benefits:

- Variety of door models — choose from three styles of doors — single-swing, double-swing café style and sliding doors.

- Ease of installation — field-installable, rack-integrated and freestanding options available.

- Rack agnostic — flexible enough to install almost anywhere on any manufacturer's brand enclosure.

- Improve efficiency and predictability — increases cold air intake efficiency, from the bottom of the enclosure to the top, within the cold aisle.

- Minimize air re-mixing — cost-effectively minimize air mixing between the hot and cold aisle while keeping the uniform cold air supply in front of the servers for a consistent temperature top to bottom.

Aisle containment ceilings

Eaton's ceiling system is comprised of clear panels made from materials with multiple ratings, including UL94 V-0, ASTM E 84, FM4910 or antistatic. The panels mount easily to the top of Paramount, Vantage S2 and third-party enclosures. This ceiling system is modular and scalable to accommodate differences in rack heights and row spacing. It's self-supporting structure allows for easy rack changes within the row. Fire-activated ceiling panels ensure quick row access for critical fire suppression.

CRAC collars

The CRAC collar for downflow systems, is integral to Eaton's total containment solution. By containing and directing the warm plenum air to your air conditioning system, you increase efficiency and equipment performance while reducing overall energy consumption.

The CRAC collar features an integrated design, comprised of steel panels that mount easily to the top of any CRAC unit with simple installation. Collars allow front filter installation and service and completely integrate with optional airflow dampening devices. This closed-loop integration of the air conditioning supply and exhaust completes the modular airflow containment strategy in the data center, resulting in a more energy-efficient operation.

Our space-efficient sliding end of row doors open with little effort and offer a self-close option. They are a great choice when end-of-row space is at a premium and air containment is required at the end of a cold or hot aisle.

Single-swing end of row doors are a simple, cost-effective solution to improve efficiency while lowering overall operating costs.

Eaton's double-swing café style doors help achieve aisle containment while offering quick entry and exit.
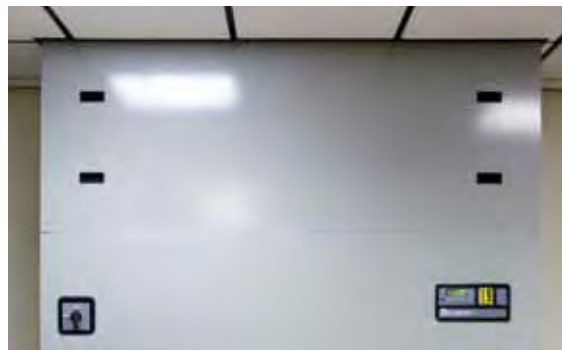
Tool-less access panels allow quick and easy installation on your existing CRAC units.

Airflow management and racks

Independent Containment System (ICS)

The culmination of Eaton containment strategies is its patent-pending ICS, a free-standing, scalable, sustainable and vendor-neutral containment solution for high-density computing environments.

Designed to provide maximum flexibility in all environments, the ICS, assembled within the footprint of a standard aisle, is constructed with a tubular steel frame. The frame's structure is designed to be freestanding and meets seismic NEBS Zone 4 standards. Additionally, it accepts a variety of Eaton's End of Row Doors including café style, swing and sliding models.
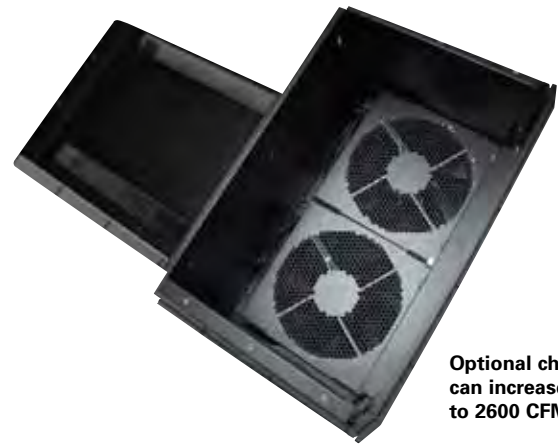
Aisle ceilings are constructed of a light-weight steel frame and clear Lexan panels allowing ambient room light to illuminate the ICS aisle, eliminating the need for energy-consuming supplemental lighting. The ceiling accepts 2' x 2' aisle ducts which can be added anywhere on the ceiling structure as IT loads increase.

Eaton Heat Containment System (HCS)

Eaton's HCS is a simple, scalable and low cost rack-based solution to cool up to 25 kW or more per enclosure without the expense of adding supplemental CRAC units to your data center. This patented technology is available on Eaton's Paramount and Vantage S2 enclosure systems and can also be field retrofitted to most manufacturers' enclosures. The HCS contains and directs the heat exhaust of your IT equipment through the chimney that is attached to the top rear of the enclosure. The hot air is then ducted to your existing CRAC units through a plenum ceiling or high air returns.

Optional chimney fans can increase airflow up to 2600 CFM

Features and benefits

- Scalable—adapts to existing infrastructures to increase rack utilization as your capacity demands grow

- Predictable—separates hot exhaust air and cold supply air, dramatically increasing the reliability of the data center

- Efficient—allows hotter air to return directly to the CRACs, increasing their efficiency by operating at a higher Delta T (ΔT)

- Reliable—extends existing cooling capacity throughout the data center; freeing up stranded assets and lowering operational costs

- Flexible—does not require you to alter existing enclosure locations and it is also field-installable on third-party enclosures

Photo courtesy of Humana

Airflow management and racks

Active Airflow Manager

Eaton's HCS pressure based system with active airflow, when combined with best practices, improves performance metrics considerably. Allocating the correct amount of airflow at known intake locations is the key to reducing energy consumption while increasing equipment performance. Best practices such as blanking panels, proper perforated tile placement and the reduction of bypass airflow must be employed to ensure desired results.

Features and benefits

- SNMP managed device with user-friendly Web interface
- Controller continuously monitors pressure differentials to ensure that air entering the enclosure and server is properly removed
- Local LEDs indicate fan status including fan fail and over temperature
- Manage up to 64 peer Active Airflow Managers via Ethernet
- Two integrated temperature sensors with e-mail alert capabilities
- Redundant power input; C13 plug type is required for each input, 90-240 Vac supplied by enclosure PDU(s)
- Controller is RoHS compliant

HCS for third-party racks

Convert existing enclosures to the HCS to eliminate the incremental capital expense associated with having to add more CRAC units or other supplemental cooling.

Features and benefits

- Implement heat containment with minimal interruption to operations by building up from existing enclosures without having to re-route or disconnect cables and power
- By isolating the hot exhaust air from the cold supply air, you can load over 25 kW of equipment in an enclosure
- Requires no additional air conditioners or other space consuming supplemental equipment at the perimeter of the data center, in-row or overhead
- Eliminates chaos airflow results in a more predictable operating environment, allowing you to drive efficient energy use and create a reliable infrastructure for moves, additions and changes

Airflow management and racks

Eaton Paramount enclosure system

Our premier enclosure platform, Paramount not only supports an industry leading 2,200 pounds of equipment in a fully welded frame, but it is also designed to adapt to the ever-changing requirements of the data center through a scalable and modular approach. Speed of deployment is essential to any company when considering time to market. Paramount's modularity and building block design ensures quick reconfigurations and minimizes downtime, protecting your initial investment.

Features and benefits

- Superior airflow control and management
- Flexible platform allows for ever-changing requirements, protecting your initial investment
- Industry leading weight capacity of up to 2,200 pounds handles even the heaviest server equipment
- Guaranteed compatibility with TIA/EIA-310-D* standard size equipment
- Eaton's patented Heat Containment System (HCS) cools up to 25 kW or more per enclosure, without the expense of adding supplemental CRAC units to your data center
- Full complement of accessories to handle non-rackmount devices
- Industry leading cable access and management

Eaton Vantage S2 enclosure system

The Vantage S2 enclosure platform was designed with change in mind, which is why so many Fortune 500 companies have standardized on it. Eaton's forward-thinking design engineers continue to develop scalable enclosure solutions to help customers store their latest technology without having to change enclosure platforms, allowing them to maximize their original investment.

Features and benefits

- Provides superior airflow with its fully perforated front and rear door system
- Fully welded frame rated for 2,000 pound static and dynamic load capacity handles even the heaviest server equipment
- Guaranteed compatibility with TIA/EIA-310-D* standard sized equipment
- Eaton's patented HCS cools up to 25 kW or more per enclosure, without the expense of adding supplemental CRAC units to your data center
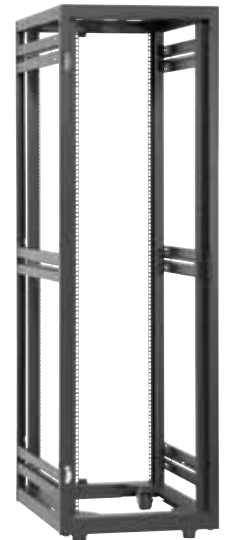
Compatibility Guarantee

We guarantee that all 19" TIA/EIA-310-D compliant equipment will physically fit into the Paramount and Vantage S2 enclosures.

Airflow management and racks

Blanking panels

Blanking panels provide a quick, easy and cost-effective solution to optimize air circulation within an enclosure while maintaining high aesthetics. Eaton offers blanking panels in a variety of styles including tool-less, mechanically fastened, clear and with cable pass through options in steel as well as plastic. The width meets EIA-310-D standards and they come in various heights (depending on style). Most panels are bulk packed in quantities of 10 and 100.

Brush strip models allow routing of cables through the panel.

Features and benefits

- Significantly reduces re-circulation of hot exhaust air to the equipment inlet

- Adds to the overall aesthetics of the data center

- 1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U and 20U (depending on style)

- EIA-310-D compliant for 19" equipment

- Color: Black steel, black plastic, clear plastic

- Available in tool-less, mechanically fastened, clear and cable pass-through styles

Adjustable blanking panels, offered in two sizes (7-12U, 12-22U) easily adapt to your hardware requirements.

Raised floor grommets

By installing Eaton's Raised Floor Grommets, you can optimize the effectiveness of existing cooling equipment and manage increasing heat loads. The raised floor sealing system specifically addresses bypass airflow and its detrimental effect on data center cooling.

Non-permeable material allows maximum pressure to be maintained in the sub-floor plenum when cables are installed, minimizing bypass airflow.

Features and benefits

- Increased energy efficiency and predictability—eliminates bypass airflow while maintaining a consistent subfloor plenum pressure

- Flexible, thoughtful design—overlapping serrated fingers and optional plastic ties adapt to any size or shape cable bundle; ties ensure a complete and lasting seal by providing tension against the cabling

- Superior performance—delivers a faster and greater ROI than any other solution on the market

Floor-based power distribution

System Bypass Module (SBM)

Four decades of experience in paralleling UPS systems is incorporated in this newest SBM. For use with multi-module 9395 systems, the new Eaton SBM allows the paralleling of up to 32 Eaton 9395 UPSs. The switchgear enclosure encompasses a centralized static switch along with system-level circuit breakers for bypass, UPS system output and maintenance, or wraparound bypass functions. Four ratings are available as standard: 2000A, 2500A, 3000A and 4000A. The customizable cabinet features a 10-inch color LCD screen for display status for up to eight uninterruptible power modules and provides an intuitive user operation interface. To enhance flexibility, the system controls/monitoring section may also be deployed in custom or third-party switchgear to ensure the most reliable monitoring and user-friendly controls are included with alternative power circuit components.

Flywheel solutions

When you need to ensure maximum productivity and system availability, Eaton's flywheel solutions can help. Our battery-free energy flywheel storage system bridges the power gap—acting as either a backup power source or backup battery source if power quality or delivery is disturbed. Flywheel solutions can also act as effective UPS battery enhancements, battery backup systems or UPS battery replacements for traditional systems.

Flywheel solutions are an environmentally friendly alternative to batteries, offering reduced energy consumption for cooling, elimination of lead use in facilities and a long lifespan of more than 20 years. Use flywheel solutions to take advantage of:

- Minimal space requirements due to the flywheel's high power density in a small, light footprint
- Low costs made possible by reduced maintenance requirements and long service intervals
- High efficiency, operational integrity and reliability—with 20 times the reliability of a single bank of batteries
- Simple plug-and-play installation

Power Distribution Unit (PDU)

The Eaton PDU series can be easily expanded as power needs change by adding up to three side-cars. This expands the distribution capacity from 84 to up to 252 circuit breaker pole positions. Each PDU can be configured to meet your specific needs for isolation, voltage transformation, harmonic reduction and voltage regulation with virtually limitless distribution options. Built-in system monitoring and diagnostics facilitate load balancing and warn of potential threats to your critical equipment.

Remote Power Panel (RPP)

The Eaton RPP allows for electrical expansion without the need for costly electrical rework. By simply feeding the RPP distribution module from the existing transformer or panel board, distribution capacity can be expanded by up to 168 pole positions.

Static Transfer Switch (STS)

The Eaton STS is a high-speed switch that can transfer electrical loads from one AC power source to another in a fraction of a single electrical cycle. The STS eliminates the chance of a loss of power to critical loads by properly coordinating with the electrical distribution system. During a fault condition, the STS continues to conduct current, allowing downstream circuit breakers to work selectively.

Hot Tie Cabinet

The Eaton Hot Tie Cabinet is an ideal solution for two UPS modules powering two separate loads, allowing you to transfer the load of one unit to the other so the loads are always protected. The Hot Tie Cabinet has become more important than ever with the development of Powerware Hot Sync technology, as it enables two systems whose units are paralleled with Hot Sync to work together for an even greater level of redundancy and protection.

Floor-based power distribution

Rackmount power distribution

Environmental Rack Monitor (ERM)

Eaton's ERM guards against environmental threats by continuously monitoring temperature and humidity at two locations in an enclosure, plus the status of up to four additional contact sensor devices (such as detectors for smoke, vibration or fire), for a total of eight sensors per monitor. In a typical rack application, the low profile, freestanding base unit can be placed horizontally or vertically in unused space. The temperature/humidity sensor units can be placed anywhere in the enclosure.

Features and benefits

- Monitors environmental conditions to protect valuable assets from heat, humidity, smoke, vibration, water leaks or intrusion
- Displays real-time and historical status of all sensors to a PC, Internet-ready wireless device or Network Management System (NMS) software
- Aggregates real-time information from up to 100 ERMs in a single Web page
- Automatically notifies designated recipients of out-of-range conditions, via e-mail, SNMP, PDA or pager
- Simplifies operations with an intuitive, Web browser interface, rich graphing of data, auto-discovery and auto-aggregation utilities, and more

Typical applications

- Data centers
- Unmanned equipment centers
- Laboratories and hospitals
- Warehouses and distribution centers

Eaton 9140 UPS with ERM and Environmental Monitoring Probe.

Rack Power Module (RPM)

The RPM provides plug-and-play primary power distribution from a three-phase UPS or utility source to secondary power distribution devices (such as power strips) or directly to IT equipment. The resulting architecture has fewer cables to manage, fewer distribution points to monitor and greater flexibility for IT personnel to install and change the power distribution architecture.

Features and benefits

- Distributes up to 36 kW of power from a panelboard or UPS with greater flexibility
- Enables modifications and changes to rack level power distribution to be made without hiring a licensed electrician

The RPM offers 15 different receptacle plate options to meet specific applications.

Rackmount power distribution

Eaton ePDU

Eaton offers the largest selection of rackmount power distribution units available on the market, called Eaton ePDUs. This complete suite of power distribution products is designed specifically for data centers and IT environments and provides manageability, control and power consumption monitoring at the outlet level. *(See our rack solutions on page 24)*

Eaton's Advanced Monitored and Managed ePDUs

Eaton® offers two leading technologies for power distribution management at the rack enclosure level, Advanced Monitored (AM) and Managed (MA) technologies. Both technologies offer outlet-level monitoring of power usage in kilowatt hours. They monitor critical factors such as voltage, current and power factor in high accuracy. This level of monitoring provides the granularity to understand your energy consumption. Specifically, it can reveal where extra capacity resides and allows you to assign power usage by customer, for example, an external customer within a colocation situation.

Other ePDU offerings

Eaton also offers other technologies within its rackmount power distribution offering:

Basic

These units are designed for reliable and cost effective power distribution. There are horizontal and vertical mounting options and a high outlet density with up to 36 outlets.

Switched

Similar to our Managed ePDUs, our Switched units provide remote power monitoring of both the voltage and current of the unit.

Emergency Power Off

These ePDUs allow for immediate emergency power off control.

Automatic Transfer Switch

Eaton eATs ePDUs automatically transfer power from the primary source to a secondary source.

Cables and Accessories

Eaton offers a full portfolio of cables and accessories to help provide a unique solution to your power distribution requirements.

Outlet number identifications are color coded to match the outlet section to the appropriate circuit breaker.

Advanced LCD screen provides outlet and section current information. It is accompanied with a three-button interface that allows you to navigate throughout the menu.

Serial port for local configuration and environmental monitoring, 10/100 Ethernet port for network connectivity.

These ePDUs are Cisco EnergyWise certified

Industrial UPS

Eaton FERRUPS

Tower: 500–18000 VA
Rackmount: 850–7000 VA

Provides superior power protection with our patented ferroresonant technology

Typical applications:

- Telecommunications equipment
- Industrial process control equipment
- Midrange computing systems
- Data centers
- 911 centers

Eaton EX RT UPS

500–11000 VA

Designed for sensitive high-density server environments and harsh industrial applications

Typical applications:

- Web/e-mail servers and application servers
- Convergence IP-based technology (VoIP, VPN, firewall)
- Telecom equipment
- Sensitive electronic equipment in industrial applications
- Networking equipment (hubs, switches, routers)
- Network storage systems
- Health/medical equipment

Product details

Features	FERRUPS Rackmount: 800–7000 VA Tower: 500–18000 VA	EX RT 500–11000 VA
Form factor	Tower or rackmount	Tower or rackmount
Sine wave output	•	•
Intuitive LCD interface		•
Hot-swappable batteries		•
Extended battery module (optional)	•	•
Automatic bypass		•
Serial or USB port	Serial	Serial & DB-9
Start-on-battery	•	
Audible alarms	•	•
Management software	•	•
Communication bay		Mini-Slot
REPO or emergency power-off (EPO)	REPO	REPO
Power distribution module (optional)		•
External maintenance bypass (optional)	•	•
TAA-compliant	•	
Flex and PowerTrust onsite service plans (optional)		•
Gold plans (optional)	•	

Surge suppression

Eaton SPD Series

Eaton's SPD Series surge protective devices are the latest and most advanced UL 1449 3rd Edition certified surge protectors. Application of SPD Series units throughout a facility will ensure equipment is protected with the safest and most reliable surge protective devices available. SPD Series units are available in all common voltages and configurations and also in a variety of surge current capacity ratings from 50 through 400 kA. Three feature package options are also available. The breadth of the SPD Series' features, options and configurations ensures the correct unit is available for all electrical applications.

Features and benefits

• Utilizes thermally protected metal oxide varistor (MOV) technology

• 20 kA nominal discharge current (In) rating (maximum rating assigned by UL)

• 50 through 400 kA surge current capacity ratings

• Three feature package options

• 200 kA short circuit current rating (SCCR)

• 10-year warranty

Eaton PSPV

Eaton's PSPV series is a commercial grade and light industrial SPD that combines surge suppression components and EMI/RFI filtering, providing effective protection for sensitive electronic loads. Surges (also known as transients) due to lightning, utility grid switching, switching of external/internal inductive or capacitive loads, and other sources travel on power line conductors throughout the electrical distribution system, causing system operating problems and equipment downtime.

Use of the PSPV units can prevent these costly occurrences and equipment damage. Available with six surge current capacity ratings, the PSPV can be installed on the main of light commercial buildings, on any subpanel in a facility and in any control panel to protect sensitive electronic equipment.

Features

• SurgePlane™ technology to ensure reliability and performance by using a low impedance copper platform

• Compact design enables close mounting to electrical distribution equipment

• Parallel hybrid filter technology

• Individually fused surge suppression components

• Status indicator lights to monitor supply power, surge suppression component status and fusing

• Can be remotely monitored using Form C contacts

• Audible alarm

• Ideal for critical subpanels and remote power panels

• 50 through 200 kA surge current capacity ratings

• Contains no replaceable parts or items that require periodic maintenance

• 10-year warranty

Eaton Eclipse

The Eaton Eclipse product line brings affordable surge protection to your consumer electronics, PCs, printers and home theater equipment in the event of nearby lightning strikes, surges and spikes. In addition, Eclipse provides line noise reduction to minimize interference from utility power. All Eclipse models include a load-protected status LED to notify you in case of surge protection failure.

Eclipse is available in three models for individual applications:

• **Eclipse Personal** for home appliance or home/office PC use

• **Eclipse Pro** for professional use, including networked PCs, servers and business equipment

• **Eclipse ProTel** for fax/modem protection in addition to all the features of Eclipse Pro

DC power solutions

Eaton provides a full range of DC power solutions designed to meet the challenges different customer applications demand, including all levels of telecommunications networks, data center and private enterprise/IT environments.

Eaton's 24V and -48V DC systems deliver inherent reliability, superior flexibility, power density and efficiency while providing on-board intelligence for quick and easy setup, system monitoring and control to suit any requirements.
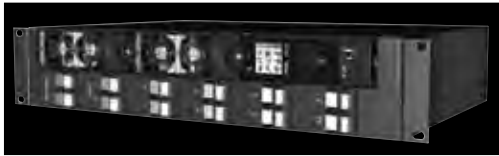
DC power solutions for data centers

The DC power solutions' advantages—ultra-reliability, high efficiency and flexibility—have made them increasingly popular solutions for data centers.

High reliability—A direct link between the battery and the load results in no dependence on moving parts (e.g., switches) or risk of delays. Additionally, the modular rectifier design avoids need for maintenance bypass protection.

High efficiency—The high efficiency of single-conversion architecture means greater end-to-end system operating efficiency with less cooling requirement.

Maximum flexibility—Highly scalable solutions offer a wide range of options for distribution, mounting, communications and control. Installation and commissioning is made easy with the built-in intelligence of our system controller with automatic setup and default or factory-customized programmable settings.

EPS2

DC power solutions for enterprise IT networks

These DC power solutions are compact, efficient, highly and easily scalable, safe and maintenance-free—perfect for powering any business network application, such as server rooms, PABX, PoE and VoIP/IP PBX. System output power ranges from 900–4,000W in a single system, with high maximum operating efficiency of greater than 96 percent.

APS3-400

DC power solutions for access telecom networks

Our compact, powerful, efficient and secure power solutions range from 900–6,000W for space-limited applications like outdoor telecom enclosures or as add-on power for data center and enterprise IT networks. These systems, which are compatible with Eaton's Energy Saver Rectifier, have an operating efficiency of greater than 96 percent.

APS6-400

DC power solutions for core telecom networks

Protect core telecom networks with high-capacity, reliable solutions that offer secure DC power up to 750 kW for central exchange and large data center environments.

Smarter energy Eaton DC rectifiers

These telecom-grade 24V and -48V DC single- and three-phase rectifiers deliver inherent system modularity and reliability with high power density and high efficiency through offerings such as the Eaton Energy Saver Rectifier, which exceeds 96 percent operating efficiency.

Smarter energy DC system controllers

DC system controllers provide intelligent monitoring and control designed to make everything easy, from system setup to asset (e.g., battery) protection and operation efficiency. Advanced algorithms provide configurable, automated control and monitoring. A comprehensive array of communications options is also available.

For complete information on our full range of DC power solutions please visit **dcpower.eaton.com**.

Power management software

Intelligent Power Software Suite

Eaton's Intelligent Power®Software Suite incorporates two important applications for ensuring quality power and uptime: remote monitoring and management of power devices across the network and automatic, graceful shutdown when faced with an extended power outage.

Intelligent Power Manager supervisory software lets you monitor and manage multiple power and environmental devices across the network from a single interface, giving you up-to-the-minute information on the status of power in your network. It also works seamlessly with VMware's vCenter Server™ and vMotion™ as well as other platforms and migration applications.

Intelligent Power Protector protection software provides graceful, automatic shutdown of network devices during a prolonged power disruption, preventing data loss and saving work-in-progress. As part of Eaton's power network management system, these two applications work together to deliver comprehensive power management and protection.

Both software programs are compatible with virtualization platforms from VMware®, Microsoft®, Red Hat® and Xen®.

Benefits for virtual environments

Intelligent Power Manager's integration with platforms like vCenter and XenCenter™ helps data center managers reduce infrastructure and operating costs while increasing uptime, productivity and operational responsiveness.

- View critical power information on devices including UPSs, ePDUs and environmental sensors from the vCenter or XenCenter dashboard
- Instantly access critical information, such as UPS battery condition, load levels and battery runtime
- Remotely and gracefully shut down servers in clusters during an extended power outage
- Trigger vMotion, XenMotion™ and other migration applications to transparently move virtual machines to an available server on the network
- Monitor power usage and kWh to help you calculate your power usage effectiveness (PUE) and identify where to cut costs

Winner of multiple awards!
See page 5 for details.

vmware PARTNER
TECHNOLOGY ALLIANCE

eaton.com/intelligentpower

Eaton's IPM is implemented seamlessly into VMware's Vcenter dashboard

Power management software
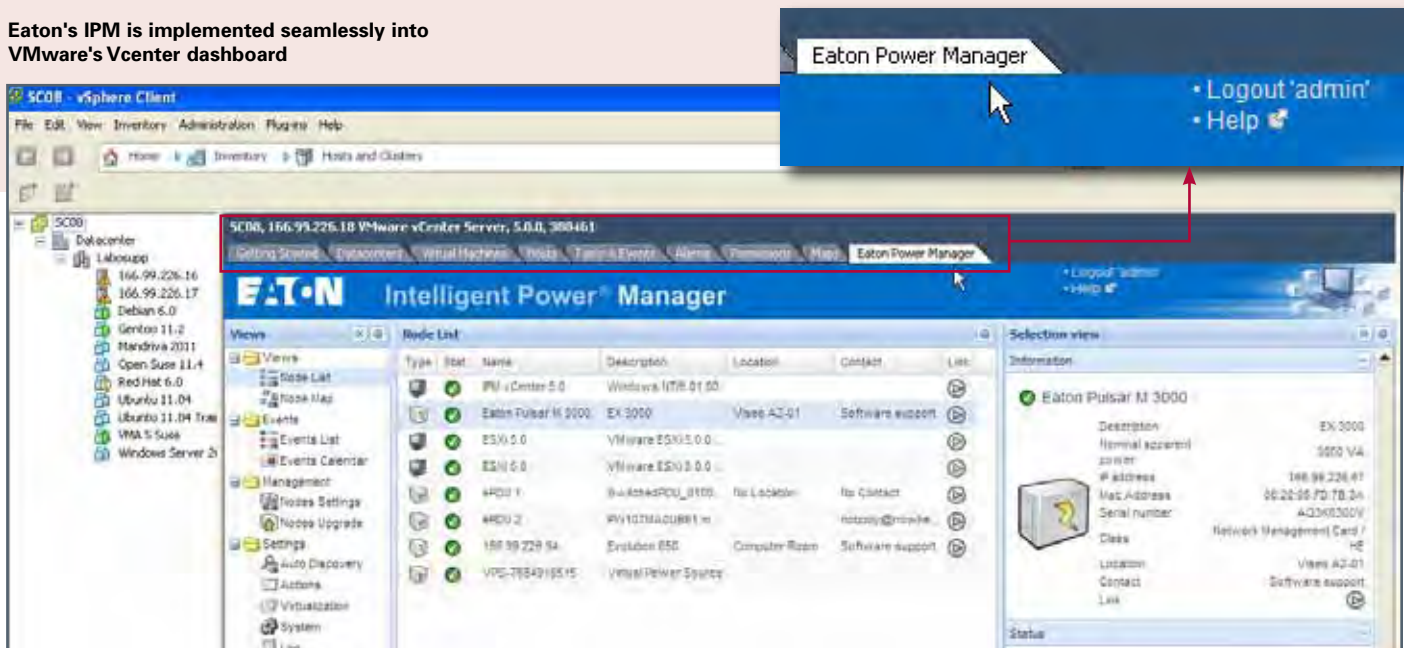
Power management software

Power Xpert Software

Power Xpert® Software enables you to manage the complexities of large system deployments, from one desktop, on one screen. Web-enabled hardware devices are fine in limited numbers, but as the number of components grows or becomes more complex, Power Xpert Software is the logical choice for the required trending, analysis and alarming systems.

Power Xpert Software is Web-enabled, open and time synchronized. Using only a browser, you can access the software from anywhere your network can reach, including remotely. Designed to communicate graphically with the broad range of Eaton and non-Eaton devices, Power Xpert Software uses industry-standard protocols. The software is available in two editions: Professional and Enterprise.

Power Xpert Software Professional Edition

- Geared toward end users, with built-in support for Eaton power distribution products such as switchgear, UPSs, breakers, PDUs, RPPs, meters, relays, VFDs and MCCs, among others

- Eaton products connect with the software directly via an Ethernet connection, while legacy devices use a Power Xpert Gateway to Web-enable their communications

- A subset of third-party meters and devices are supported as standard via the gateway connection

Power Xpert Software Enterprise Edition

- Geared toward 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

- Extensive support for third-party devices via standard SNMP and Modbus TCP protocols

- Large variety of ready-made third-party drop-in drivers

Power Xpert Reporting

Standard reports include Energy Summary Report, Energy Cost Allocation Report, Power Quality Report, Branch Circuit Report, Capacity Summary Report, Event Summary Report, Joint Commission (JCAHO) Report, Data Center Efficiency Report, Greenhouse Gas Report, Utilities Report.

Highlighted features

- Helps qualify for LEED credits

- Reporting hierarchies organize device data

- Microsoft Excel integration for further analysis

- Web browser access

- Connect to multiple databases simultaneously

Foreseer Services

Foreseer Services provide vendor independent, power and energy infrastructure integration solutions that help companies reduce energy consumption and unplanned downtime due to the failure of critical power, environmental, safety or security systems.

Features and benefits

- Turns data into distributed, scalable architecture that is tailored to meet organizational needs.

- Offered in three main categories: Foreseer Software Services, Foreseer Project Management Services and Foreseer Engineering Services.

- High performance trend analysis and forecasting tools assess equipment performance through cause analysis, impact analysis, capacity planning, preventative maintenance assessments and trending.

- Extensive, multi-vendor, device-driven library interfaces monitor a multitude of different device types.

- Customizable, graphic user interface (GUI) depicts any company or organizational topology in the initial design.

- Web browser access and remote notification enables easy system access without the need for additional client seat licenses.

Power management connectivity

Solutions for the changing global customer landscape

Eaton's connectivity products are accessory hardware options that link UPS products with external communication devices. These connectivity products help ensure communication compatibility with a variety of external devices through the Web, serial, relays or SNMP.

ConnectUPS family of networking products

The ConnectUPS family of products seamlessly integrates UPS information to the Ethernet network and the Internet. This unique solution allows you to conveniently monitor and manage your UPS with a standard Web browser, while simultaneously providing graceful shutdown for multiple computer systems over the network.

Relay interface cards

The relay interface cards are dedicated adapters that provide the essential dry-contact interface between your UPS and any relay-connected computer, including the AS/400, as well as a variety of industrial applications.

Modbus card

The Modbus card provides continuous, reliable and accurate remote monitoring of a UPS through a BMS or industrial automation system (IAS). The card integrates data from the UPS into the user-provided management system using the Modbus RTU protocol.

Environmental monitoring probe

The environmental monitoring probe enables you to remotely monitor environmental conditions. Using a standard Web browser, you can view the ambient temperature (between -20ºC and 80ºC) and relative humidity (between 10 and 90 percent) of the remote environment, as well as the status of two additional contact devices, such as a smoke detector or open-door sensor.

Network Card-MS

**5PX UPS rear view with Network Card-MS**

Power management connectivity

Power Xpert Gateway UPS Card

The Power Xpert Gateway UPS card allows you to connect your Eaton Series 9 UPS directly to your Ethernet network and the Internet. With its built-in Web server, the Power Xpert Gateway UPS card provides UPS information remotely, without additional software.

Features and benefits

- Remotely monitors critical data such as: actual UPS energy usage, THD, multiple UPS modules with one card, load segment status, percent of full load, output power, battery status, alarm status

- Enables you to configure the shutdown agent, set up UPS shutdown schedules and test and control the UPS remotely

- Automatically maintains data, interval and event logs with time stamp for power and energy parameter analysis

- Integrates your UPS into existing building management or network management systems including Power Xpert Software (monitoring software)

- Expands your UPS' LCD to a fully-graphical, Web-enabled, remote monitoring system
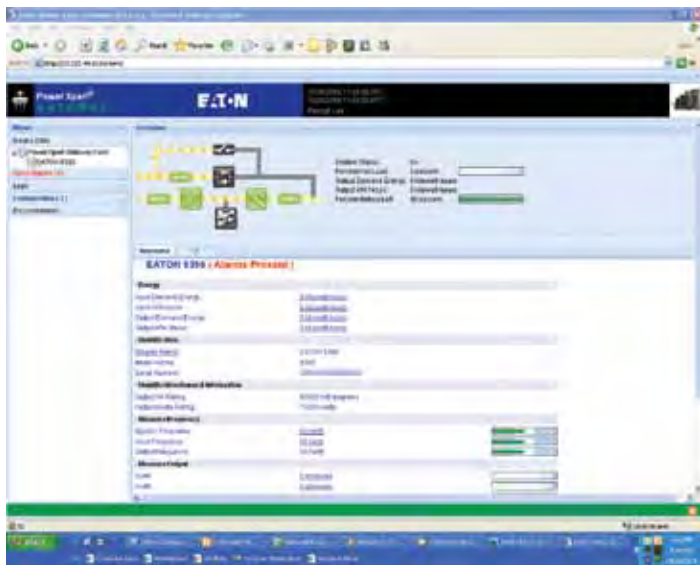
**Power Xpert Gateway UPS card homepage**

Power Xpert Gateway PDP Card

The Power Xpert Gateway PDP card allows you to connect your Eaton power distribution products directly to your Ethernet network and the Internet.

With its built-in Web server the Power Xpert Gateway PDP card provides power distribution products' (PDP) information remotely, without additional software.

Features and benefits

- Remotely monitor and record energy usage data to reveal opportunities and verify results of efficiency improvements

- Configure the Energy Management System through graphical, easy-to navigate screens rather than fumbling through a small LCD

- Web-enabled monitoring of power quality data down to the branch circuit level allows for safely tagging and monitoring individual circuit information

- Automatically maintains data, interval and event logs with time stamp for power and energy analysis

- Ability to integrate your PDP into existing building management or network management systems including Power Xpert Software monitoring software

- Expands your PDP's LCD to a fully-graphical, Web-enabled, remote monitoring system
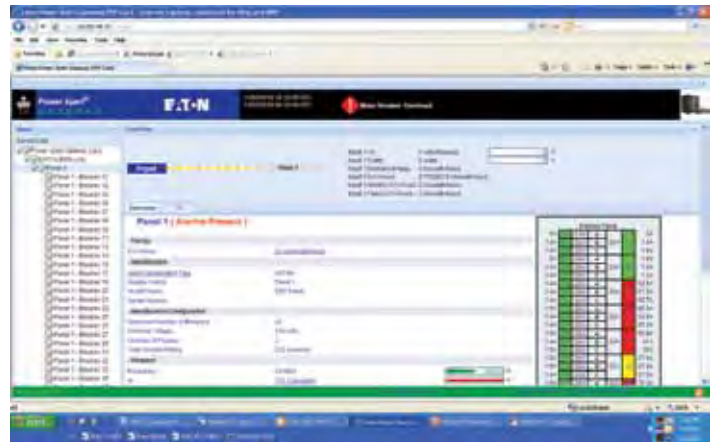
Power Xpert Gateway PDP card—panel view

Power management connectivity

Power management meters

Power Xpert Meter 4000/6000/8000

Eaton's Power Xpert Meter 4000/6000/8000 series represents world-class power monitoring that reduces day-to-day operating costs and helps avoid costly business interruptions. The meters combine state-of-the-art technology with an embedded Web server, advanced power diagnostics, data trending and performance benchmarking, along with a twist-n-click LCD for simplicity and ease of use.

Features and benefits

- Free download of Power Xpert Meter Profiler to trend and predict energy usage
- Embedded Web Server
- Automatic power quality analysis and trigger setting with built-in ITIC performance curve
- Comprehensive power, energy and demand measurements for 138 standard data points logged
- At-a-glance view of power quality analysis with patented Power Quality Index gauge
- Industry-standard communication protocols, to support a multitude of configurations and third-party software: HTTP, FTP, Modbus RTU, Modbus TCP, SNMP, SMTP, NTP, COMTRADE
- High storage capacity
- ANSI C12.20 accuracy
- CE certified

Power Xpert Meter 2000 series

Compact Power Quality Metering products

The meters combine state-of-the-art technology with waveform viewing, data trending and performance benchmarking. The embedded Web server enables users to surf to the meter over the Internet via a standard Web browser. This platform offers adaptability such as field-upgradeable firmware and optional digital inputs/outputs and analog outputs.

Identify power quality problems to help:

- Protect motors from damage
- Preserve the integrity of processes and batches
- Prevent blown capacitor bank fuses
- Protect transformers and conductors from overheating

IQ 250/260 series

Metering products

The IQ 250 and IQ 260 electronic meters provide capabilities you wouldn't normally expect in an affordable, compact meter—such as fast sampling rate and accurate metering for a full range of power attributes. The meter can be configured either from the easy-to-read display or remotely (accessible via a Power Xpert Gateway) via included configuration software. In addition, built-in slots allow for upgrades to input/output option cards.

IQ 250/260 features

- Comprehensive metering
- High-end accuracy
- Large, easy-to-read display
- Local or remote configuration
- Industry-standard communication protocols (Modbus)
- Mix-and-match input/output options
- Field-upgradeable

IQ 100 series

Metering products

Providing the first line of defense against costly power problems, Eaton's IQ 100 electronic power meters can perform the work of an entire wall of legacy metering equipment utilizing today's technology. Eaton's IQ 100 meters use 24-bit AD converters that sample at more than 400 samples per cycle and meet ANSI C12.20 standards for accuracy of 0.5 percent. With such high-performance measurement capability, these meters can be confidently used for primary revenue metering and submetering applications.

Applications

- Utility and commercial metering
- Substations, industrial facilities, power generation sites and campuses
- Submetering
- Load studies and voltage recording
- Analog meter replacement

Enclosed Meters

Power Quality Metering Products

Designed for the IQ 130/140/150, IQ 250/260 and Power Xpert Meter 2000, Eaton's Enclosed Meter offers mounting and installation flexibility, especially in retrofit applications where no metering compartment or mounting space is available in the existing electrical distribution equipment or where installation time is a premium. Factory-designed and wired, Eaton's Enclosed Meter offers savings in labor and installation costs since input current and voltage wiring as well as I/O wiring is pre-wired to terminal blocks inside the enclosure. To ensure safety, Eaton's Enclosed Meter includes a primary breaker for line voltage that can be turned off during meter maintenance.

Applications

Standalone, enclosed meters are ideal for new metering applications where no metering existed previously, for retrofit installations or where ease of installation is required.

Service and support solutions

Proper preventive maintenance reduces the risk of UPS failure through thorough inspection, cleaning, testing and calibrating various electronic and mechanical components.

What do our customers say about our field technicians?

"Eaton has taken care of us through the years and continues to take care of us."
— Steve Hurst, Project Leader, Southwest Airlines

"He is one of the best technicians I have ever seen for a UPS company. He's very meticulous and very sharp. He really knows what he's doing. Plus, he's just a really nice guy."
— Jim Bak, PC Network Specialist, Gate Petroleum

"I'm perhaps old school, but to me, service has become a lost art over the years. I find Robert to be that rare individual who, in addition to being technically competent, projects the old style of service that makes customers feel like they are important."
— James McDonald, MIS Systems Manager, Indiana Packers Corporation

For in-depth stories on our field technicians, visit eaton.com/UPSservices

Eaton's comprehensive, world-class service solutions for all Eaton AC, DC, software and connectivity products are designed to improve costs, uptime, reliability, power quality and safety. We demonstrate our commitment to strong, lasting customer relationships through our technical expertise and expansive support network. With 240 field technicians in North America, 1,200 international authorized service providers and more than 100 dedicated customer support team members, we have more service personnel than any other UPS manufacturer.

Count on our proven performance

Our customers consistently rank our services number one in quality. In fact, they've rated our quality of service (QOS) at 95 percent or higher since 1999 (based on returned surveys from clients who used services). More than 97 percent of Eaton service contract customers (Eaton large systems) renew their service contracts each year.

From assisting you with determining your power quality needs to sales support, order management, choosing a servicing plan and installation, we'll stand by you every step of the way.

To back our service excellence after your UPS is up and running, Eaton invests hundreds of thousands of dollars each year in our field technicians—requiring each new technician to complete 24 weeks of training before becoming certified and being placed in the field. To minimize mean time to repair, Eaton provides the latest technologies in scheduling, call management, parts optimization and remote diagnostics.

Enhance reliability and performance with multiple service plan options

At Eaton, we deliver service 24 hours a day, 7 days a week, when and where you need it. Our services include onsite startup, corrective and preventive maintenance, battery solutions, training, remote monitoring, and factory spare parts and upgrades. In addition to our UPS services, we offer extensive engineering, product management and integrated power systems solutions to deliver reliability, improved operations, cost savings and asset optimization for your facility and your business.

Service and support solutions

Replacement batteries for optimal performance

The single most critical element of UPS performance is battery quality. All it takes is one bad battery to ruin an entire string and bring your systems down during a power outage or other interruption. Battery failure is the number one cause of UPS load loss and system downtime.

Battery performance varies greatly from one manufacturer to another. Making the wrong decision on batteries can have a serious impact on UPS uptime reliability, causing potentially devastating consequences from power interruptions. That's why Eaton offers a line of qualified premium batteries for use with Eaton UPS models.

Eaton continuously scans the globe to ensure the highest-quality batteries are available and qualified for use. As new batteries are introduced, we apply a proven qualification process, testing them with our products to verify that they meet or exceed manufacturer specifications and supply maximum runtime.

For more information on replacement UPS batteries for your specific application, or to obtain a copy of our informative battery handbook, please visit **eaton.com/UPSbatteries**.

Computational Fluid Dynamics Modeling Services

Eaton's Computational Fluid Dynamics (CFD) Modeling Service provides a comprehensive approach to modeling the airflow, temperature, static pressure and energy profile of dynamic, critical environments. Using Future Facilities' 6SigmaDC software, we construct a virtual representation of your data center. This representation models the impact of load distribution within the facility, as well as the flow of hot and cold air within the space. It also illustrates how to increase rack densities and server installations without creating additional hot spots and airflow issues.

The service compares and substantiates which design decisions will maximize your data center flexibility, scalability and resilience. It enables you to explore the best possible options for IT and facility growth, create a calculated plan and avoid major capital commitments and costly design/implementation mistakes.

Data Center Cooling and Aisle Containment Integrity Services

Eaton also offers integrity testing and data center analysis to improve infrastructure performance. Our professional services group specializes in identifying airflow management issues and taking corrective actions as well as providing the information necessary to make cost-effective decisions.
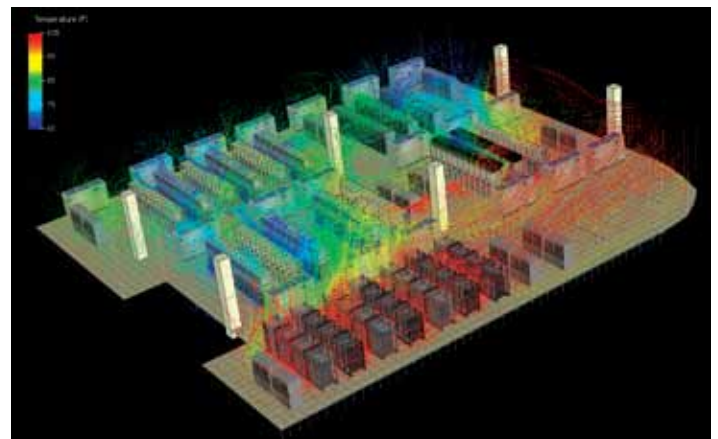
Stream line plot showing temperature of air as it flows throughout the data center. Plots can be animated to illustrate direction of flow.

Service and support solutions

With eNotify Remote Monitoring, Eaton's Remote Monitoring Command Center is available 24x7 to monitor the health of your UPS.

Contact our dedicated team

Whether you have multiple sites or multiple vendors, Eaton is your total solutions provider. We deliver unsurpassed expertise through our service solutions and stand behind every product with 24x7 support to ensure reliable power for the most demanding applications. Contact our Crisis Response Team day or night, 365 days a year, to speak directly with our most experienced service consultants and technical support experts.

Customer Support Center

For three-phase UPS and battery services, DC services, and software services: 1.800.843.9433.

For single-phase UPSs and technical support: 1.800.356.5737.

eNotify Remote Monitoring

Imagine the security of having trained service technicians standing by around-the-clock to attend to the needs of your UPS. With eNotify analysis software, processors and firmware inside the UPS collect performance data and send status messages to Eaton's Remote Monitoring Command Center, where analysts are on duty 24 hours a day, 7 days a week. eNotify evaluates the health of your UPS by comparing current and historical performance data with specified parameters.

Daily heartbeat data reveals the status of batteries and Eaton sends reports to you through the Internet using a firewall. The comprehensive Customer Monitoring Report provides a summary of the top 10 performance and environmental parameters, battery events, availability percentage and comparative status against recommended applications—so you can always know the current status of your UPS and its batteries.

If performance data matches pre-programmed alarm conditions or if the analysis software detects an anomaly, an alarm is triggered. Because it continually monitors your UPS, Eaton's Remote Monitoring Command Center can contact you immediately if there is an emergency.

Visit **eaton.com/enotify** for details.

Cellwatch software

Cellwatch software continuously monitors the three-phase UPS battery system, including string and cell level voltage, internal resistance, current and temperature throughout the charge, and discharge and float periods. It also provides immediate warnings of deterioration and imminent failure of batteries and identifies any individual battery that exhibits problems—providing a proactive approach to ensuring UPS reliability.
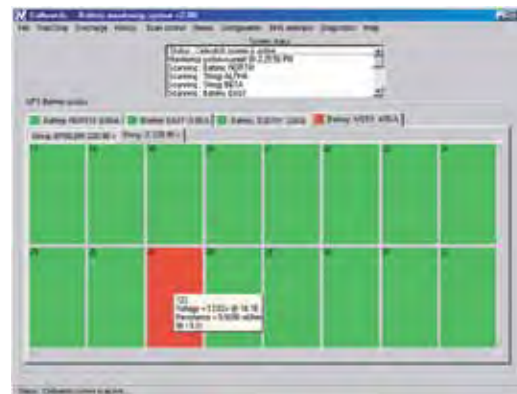
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Colombia: 01 800 518 1490
Costa Rica: 0 800 012 1716
Dominican Republic: 1 888 751 4862
Ecuador: from Andinatel: 1 999 170.
*(The code from Ecuador's customer
has to dial after 800 is WSC 5649)*

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Mexico: + 52 (55) 9000-5252 or 01 800
08 EATON (32866)
Miami: 1 866 248 2224
Guatemala: 1 800 624 0099
Jamaica: 800 534 2102
Nicaragua: 001 800 220 1992
Panama: 00 800 226 6524
Peru: 0 800 54 514
Puerto Rico: 1 877 740 1707
Trinidad & Tobago: 1 800 206 0981
Venezuela: 0 800 100 8474

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Intelligent Power, MGE Office Protection
Systems, UPSgrade, Foreseer, Paramount,
Heat Containment System, Powerware,
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