Network closet solutions

E·T·N

Powering Business Worldwide

Switch ON to Eaton.

Solutions for your network closet

Protecting your IT equipment is vital to the success of your business. Installing the right backup power, power distribution and other power accessories determines how long your equipment will run during a power outage and how efficiently your equipment will run during a normal business day.

Eaton® provides efficient solutions to clean and distribute power to and within the rack environment, rack and cable management options to organize your closet and software for remote management to conveniently make changes from your PC.

To ensure a reliable, efficient and safe networking environment, Eaton recommends focusing on these three key pillars: organize, protect and manage.

Eaton products to support your network closet

Organize with:

1. Two-post rack
2. Rack shelf
3. Cable mangers (vertical and horizontal)
4. Overhead cable tray
5. Rackmount PDU
6. Wallmount rack enclosure (MiniRaQ)

- Rack or wallmount all servers, switches and storage equipment to keep it safe and secure
- Clear the rack area of cluttered network cables
- Improve airflow and reduce cooling costs
- Secure equipment from unauthorized access

Protect with:

7. Compact rackmount UPS (16-inch depth)
8. Rackmount UPS with extended battery module
9. Automatic transfer switch or maintenance bypass
10. Wallmount UPS (1U lithium-ion UPS shown here)
11. Preventive maintenance and advance exchange warranties

- Distribute clean power to IT equipment during power outages, surges and voltage problems
- Provide reliable and redundant power solutions
- Maintain service level agreements
- Protect server workloads with Eaton software, whether you're moving to available internal servers or a cloud-based backup recovery site
- Reduce vulnerabilities with a UL and IEC certified network card

Manage with:

12. Environmental monitoring probes
13. Water sensor
14. Power management software
15. UPS network card (with UL/IEC cybersecurity certification)

- View your power network and all equipment attached to it from your remote/virtual machine console
- Aggregate multiple UPS/power instances
- Monitor your environment's temperature and humidity
- The Gigabit Network Card improves business continuity by providing warnings of pending issues and helps to perform orderly shutdown of servers and storage
- Initiate a virtual machine move or graceful shutdown in the event of an extended outage

Organize

Infrastructure storage is vital to ensure your equipment is safe, secure and functioning with ease. With security and versatility in mind, Eaton racks enable you to store, power, manage and secure your critical IT equipment. We take it one step further with offering an added layer of security to protect critical data and provide equipment options to fit your environment—no matter the square footage constraints.

Eaton four-post racks

These racks offer an open, accessible and unrestricted architecture for cable-dense networking equipment. The labeled U-spaces assist with hardware deployment, while the open design provides unobstructed airflow into and out of equipment. You should also consider cable management accessories and provisions for rack power distribution units.

RS enclosures

Eaton RS enclosures support a broad range of accessories, as well as power distribution, management and protection products, to provide a proven platform that you can depend on to support your critical IT operations. Split rear doors provide easy access to your equipment and maneuverability within your environment.

Eaton wall mount cabinets and racks

The MiniRaQ by Eaton is the ideal vertical wallmount rack enclosure for edge IT and power management equipment. Capable of supporting up to 400 pounds in a compact footprint, the MiniRaQ provides an edge solution for customers looking for a reliable wallmount rack enclosure capable of fitting into confined spaces.

MiniRaQ by Eaton

Cable management

Depending on the type of rack you have, there are multiple options for you to manage your cables efficiently and increase your airflow. By implementing these simple management tools, you can be ready for any moves, adds or changes you are making to your rack and you can prevent accidental failure from cable strain or human error.

Vertical cable management channel

Side cable management channel

Eaton two-post racks

These durable network equipment racks are available in 19" and 23" widths and a variety of heights. Our seismic version has enhanced frame strength and rigidity and is tested to the GR-63-Core Shock standard. All two-post racks conform to EIA/ECA-310-E.

Protect

Eaton offers products that protect your power infrastructure, ensuring the design addresses the specific needs of your network and during a power event, doesn't leave you in the dark.

There are a number of reliable and redundant solutions you can easily install to ensure the uptime and efficiency of your rack.
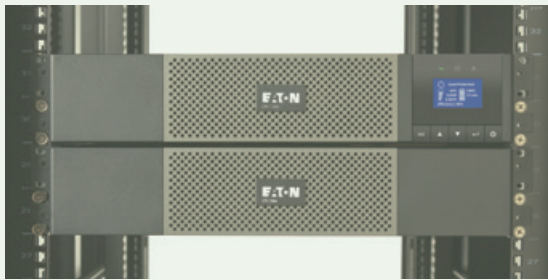
Get the most out of your UPS battery life

- Extend battery life up to 50% more with Eaton's ABM® technology
- Backed by a 3-year warranty on our 3 and 5 series UPS models
- Test batteries every 30-days with the predictive analysis built into ABM technology

Meet service level agreements in a remote environment

In a rack environment where you require more runtime during a power outage, an extended battery module (EBM) is your best solution to meet service level agreements. You can add anywhere from one to four EBMs to your UPS (depending on rating) to extend your runtime from minutes to hours for VoIP and network services. Eaton's EBMs are designed to pair specifically with our UPSs, ensuring a smooth installation and a reliable backup solution.

A UPS paired with an extended battery module helps extend runtime to meet service level agreements.

Maximize reliability

Integrating UPSs and intelligent rack PDUs with management software allows you to view and control the environment from any computer connected to the network server. If extended runtime is a requirement, you can add additional battery modules to the UPS. Eaton provides smart software, so in the event one UPS fails, the equipment knows it is supported by another UPS and will not shut down. Once the primary UPS is back online, the equipment switches back to relying on it.

Ideal for two-post rack applications, the Eaton 5P lithium-ion UPS features space-saving 1U and 2U models.

Outlet-level control: Set up your systems to gain flexibility, enhanced protection and extend runtime

Properly managing UPS load segments can save you time and preserve battery power for critical devices in the event of a power outage.

Eaton's Managed rack power distribution units (PDUs) allow you to control power at the outlet level for individual power cycling of a device which allows for the flexibility to manage outlets in groups or individually. By integrating our UPSs and rack PDUs with management software, such as Eaton's Intelligent Power Manager (IPM), you can remotely make the right decisions on energy consumption.

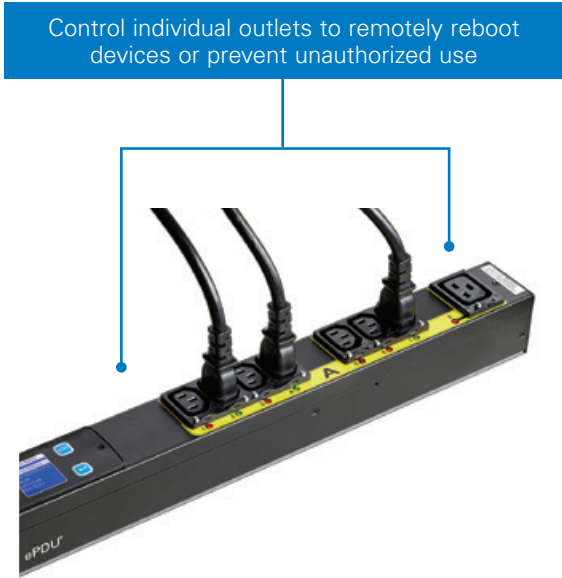
Two individually controlled groups of outlets on a UPS

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

Rack power protection and control

You can leverage rack power distribution units to protect and manage equipment. You can also distribute power efficiently and safely while taking advantage of advanced outlet-level control and measurement capabilities.

Other benefits include:

- Avoiding accidental plug disconnects with IEC outlet grip plug retention
- Increasing uptime with a hot-swapping network module
- Eliminating off-site visits by remotely managing equipment
- Acquiring accurate data by measuring power at outlet level

Control individual outlets to remotely reboot devices or prevent unauthorized use

Design for reliability

In most traditional power designs, you have one UPS supporting your servers, switches and storage devices. In this type of environment, you are prone to having to shut down your equipment during a power failure or if the UPS needs maintenance or replacement.

Maintenance bypass

Eaton maintenance bypass units enhance power availability to your rack and provide an additional level of reliability to your power distribution design. During normal operation, utility power runs through the maintenance bypass to the UPS, then back to the maintenance bypass to support the rest of the equipment in the rack. Should the UPS need to be replaced, you can bypass power flow to the UPS and support your equipment directly through the maintenance bypass, allowing you to replace or fix the UPS without having to shut down your equipment.

During maintenance, an easy flip of the switch routes power directly from the maintenance bypass to your equipment.

Automatic transfer switch

Eaton automatic transfer switches (ATS) provide power redundancy to equipment with one power supply. The ATS automatically transfers the power from a primary source to a secondary source if there is a problem with the primary. Once the primary source is restored, power transfers back through it. Leveraging an ATS is ideal for protection of single-corded equipment.

ATSs maintain redundant power distribution to the rack.
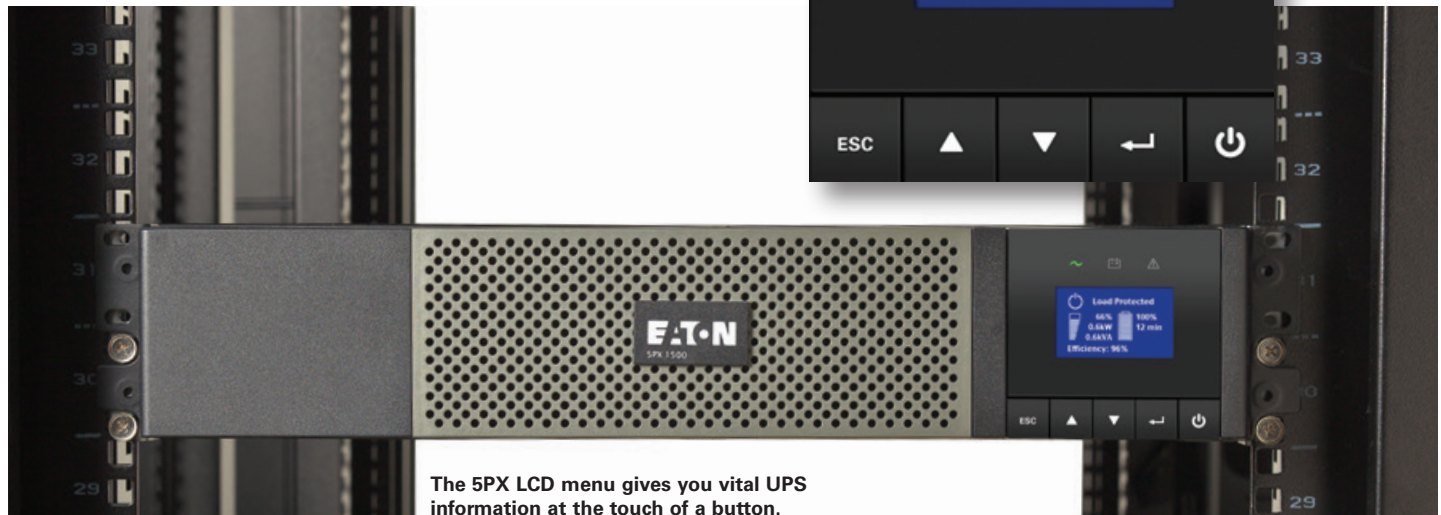
Manage

Management of your networking closet is a key factor when considering efficiency, reliability and uptime. Whether you need to manage at the rack level, or if you want to remotely manage, there are a number of options for you.

UPS level monitoring/management

For in-rack monitoring, a UPS with an LCD screen is the way to go. You can limit the use of software and have access to multiple settings through the local UPS display. For example, Eaton 5P, 5PX and 9PX UPSs deliver real time stats, including battery level, runtime and the health of the machine. If you are unable to connect to your environment through a laptop or call tech support for alarms, the LCD allows you to manage everything locally at the touch of a button.

Gain visibility with rack power distribution units (PDUs) that have LCD screens. Eaton rack PDUs offer a sleek LCD screen that allows you to view power consumption at the outlet level and helps you calculate power usage effectiveness (PUE).

The 5PX LCD menu gives you vital UPS information at the touch of a button.

Remote monitoring/management

By leveraging the Eaton Intelligence Platform, you have the ability to monitor and manage your network closet remotely. This gives you more time to focus on higher priorities and gives you peace of mind when you are not near your equipment. Installing these solutions is fast, easy and affordable.

Network connectivity

Eaton's full range of network connected devices enables you to remotely monitor and manage your power quality equipment. From outlet by outlet energy consumption reports to temperature and humidity readings, connectivity devices give you full control of your IT environment from offsite.

The Eaton Environmental Monitoring Probe (EMP) Gen 2 provides sensor readings for temperature, humidity and dry-contact monitoring.

TANlock by Eaton is the ideal modular access control system for IT rack enclosures, providing the extra security required by some facilities.
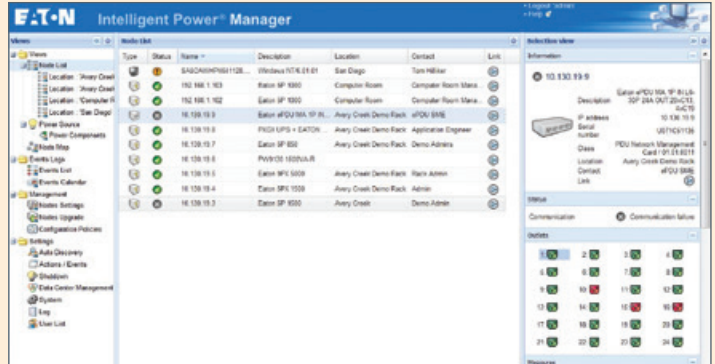
The Eaton Gigabit Network Card (NETWORK-M2) is Eaton's latest UPS connectivity device to meet both UL 2900-1 and IEC 62443-4-2 cybersecurity standards.

Our comprehensive reporting software saves you time, allowing you to stay on top of power management while focusing on the bigger picture—running your IT infrastructure.

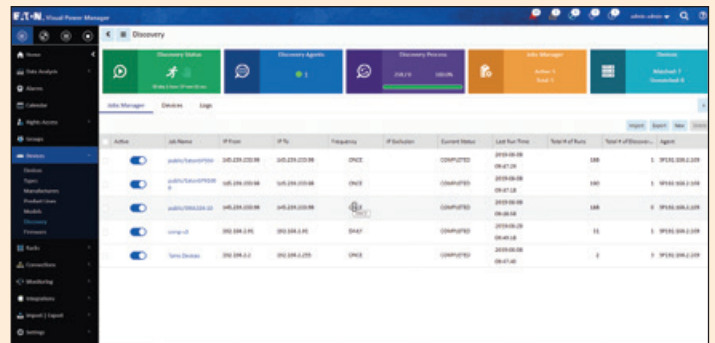### Intelligent Power Manager (IPM)

IPM automates, monitors and manages power devices in your physical or virtual environment. This innovative software solution is fully compatible with industry leading virtualization platforms and ensures system uptime and data integrity during a power event. Business continuity is easily maintained by the ability of the IPM to gracefully shutdown virtualized servers during a power anomaly.

Eaton's IPM integrates seamlessly into VMware's Vcenter dashboard.

Visual Power Manager (VPM)

VPM software provides IT managers of distributed IT environments and data centers the tools to remotely monitor their power devices—including all UPSs and PDUs. An HTML5-based platform, VPM is easy-to-deploy, simplifies day-to-day monitoring and helps maintain business continuity. VPM offers two levels of licenses: VPM Essential is a self-installable, subscription-based license that offers users essential power management capabilities in a simplified interface for a competitive price; VPM Professional offers the ability to visualize infrastructures with asset management and location-based analytics to take necessary actions for continuous uptime of critical applications.

VPM auto-discovery tool for quick and easy monitoring and management

Eaton Visual Capacity Optimization Manager (VCOM)

VCOM, Eaton's data center system optimization (DCSO) platform, is an intuitive remote monitoring and management software that provides you with valuable information to make better business decisions. The HTML5-based platform features capabilities designed to reduce data center operational expenses, improve system and application reliability and mitigate risk through data analysis. You gain the unique ability to not only easily track usage, utilization, capacity limits and more, but also the advantage of reacting quicker to address any related concerns.

VPM 3D renderings at all levels of the data center and enterprise to identify problems for a wide array of IT assets

Eaton suggested configurations

1500 VA entry solution: Non-monitored, non-redundant, wallmount rack

	Equipment description	Part number	Quantity
Organize	Wallmount enclosure	ETN-MRQ301S12	1
Protect	5P 1500 2U rackmount compact UPS	5P1500RC	1
Manage	Intelligent Power Manager software	Visit Eaton.com/downloads for details	
	Environmental Monitoring Probe Gen 2	EMPDT1H1C2	1
	Gigabit Network Card	NETWORK-M2	1

1500 VA premium entry solution: Non-monitored, non-redundant, premium wallmount or two-post rack

	Equipment description	Part number	Quantity
Organize	Two-post rack (six-inch uprights)	2PSB556084XUFB	1
	Anchor kit	2PSSB588AZN	1
Protect	5P lithium-ion 1500 1U rackmount UPS	5P1500R-L	1
Manage	Intelligent Power Manager software	Visit Eaton.com/downloads for details	
	Environmental Monitoring Probe Gen 2	EMPDT1H1C2	1
	Visual Power Manager (VPM) essential	Visit Eaton.com/VPM	
	Gigabit Network Card	NETWORK-M2	1

3 kVA value solution: Monitored, non-redundant, rack enclosure

	Equipment description	Part number	Quantity
Organize	42U RS Enclosure	RSV4261B	1
	Standard velcro straps	ETN-BX45V11	1
Protect	5PX 3000 rack/tower UPS	5PX3000RTN	1
	Metered Input rack PDU	EMI102-10	1
Manage	Intelligent Power Manager software	Visit Eaton.com/downloads for details	
	Environmental Monitoring Probe Gen 2	EMPDT1H1C2	1

9 kVA premium solution: Switched, redundant, rack enclosure

	Equipment description	Part number	Quantity
Organize	42U RS Enclosure	RSV4261B	1
	Standard velcro straps	ETN-BX45V11	1
	Rack PDU mounting brackets	ETN-PDUBRCKTW	1
	Vertical manager side cable chase	JCCVM771	1
Protect	9PX 5000 rack/tower UPS	9PX5K	2
	Managed rack PDU	EMA107-10	2
Manage	Intelligent Power Manager software	Visit Eaton.com/downloads for details	
	Environmental Monitoring Probe Gen 2	EMPDT1H1C2	1

Learn more at
Eaton.com/networkcloset

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