

Solutions for Cisco IDF/MDF closets

Integrated power management

Whether you are trying to manage your local network or designing for maximum uptime to the cloud, you need to have a properly sized power system that provides maximum runtime and gives you the reliability to meet service level agreements.

Intermediate distribution frames (IDF) and main distribution frames (MDF) are rooms containing equipment that deliver connectivity to localized areas of a building.

Protection

Cisco Catalyst switches are some of the most reliable in the industry. However, without the right power protection, your switch is only as good as your electrical system is designed. Eaton offers a number of different UPS that support a Cisco networking environment.

Reliability

In most traditional power designs, a single UPS supports 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. For increased reliability, take advantage of the following Eaton products:

Extended battery modules

In a rack environment requiring more runtime during a power outage, an extended battery module (EBM) is your best solution to meet service level agreements. You can add from one to four EBMs to your UPS (depending on rating) and extend your runtime from minutes to hours for VoIP and telephony services.



5PX UPS with paired EBM extends runtime for your Cisco switch and helps meet service level agreements.

Maintenance bypass

Eaton maintenance bypass units enhance power availability to your rack and provide an additional level of reliability to your power distribution design. Utility power runs through the maintenance bypass to the UPS and then supports the rest of the equipment in the rack. Should the UPS need to be replaced, you can switch power directly from the maintenance bypass to the equipment and replace or fix the UPS without having to shut down your equipment.

Automatic transfer switch

Currently, we can only use a rackmount ATS downstream of 9-series UPS; our 5-series (line interactive) UPS are not currently compatible with our rack ATS in this position (this may change in the future).

Although most Cisco switches are configured with redundant power supplies and have capability of being redundant, other ancillary equipment such as a kVM switch or other local servers or storage may only be single corded. Eaton automatic transfer switches (ATS) combined with a double-conversion UPS like the 9PX provide power redundancy to equipment with one or two power supplies. The ATS automatically transfers the power from a primary source to a secondary source if there is a problem. Once the primary source is restored, power transfers back through it.

Management

Eaton's UPS work seamlessly with our software, enabling key management functionalities, remotely or at the rack level. Consider installing a UPS and network card solution to do the following:

- View your Cisco power network and all equipment attached to it from your remote/virtual machine console
- Aggregate multiple UPS/power instances
- Monitor your temperature/humidity environment
- Receive instant access to alerts and monitor your environment remotely
- Initiate a virtual machine move or graceful shutdown in the event of an extended outage

How to build your power infrastructure

By answering the following questions, you can optimize your Cisco environment and choose the right UPS and accessories to protect your equipment:

Cisco family	Typical load (Watts)*	Eaton part number	UPS capacity (VA/Watts)	Runtime (min)	Rack height	External battery module	Typical additional runtime per EBM	Input line cord (6 ft)	Outlets	Operating voltage In/Out***	Ships with Web/SNMP
2950/3550/3750	500	5PX1000RT	1000/1000	18	2U	5PXEBM48RT	70	5-15P	(8) 5-15R	120	No
		5PX1500RTN	1440/1440	18	2U	5PXEBM48RT	70	5-15P	(8) 5-15R	120	Yes
4500	1000	5PX1000RT	1000/1000	7	2U	5PXEBM48RT	23	5-15P	(8) 5-15R	120	No
		5PX1500RTN	1440/1440	7	2U	5PXEBM48RT	23	5-15P	(8) 5-15R	120	Yes
	1300	5PX1500RTN	1440/1440	4	2U	5PXEBM48RT	21	5-15P	(8) 5-15R	120	Yes
		5PX2200RTN	1950/1920	5	2U	5PXEBM48RT	22	5-20P	(8) 5-15/20R	120	Yes
	1400	5PX1500RTN	1440/1440	3	2U	5PXEBM48RT	22	5-15P	(8) 5-15R	120	Yes
		5PX2200IRT	2200/1980	5	2U	5PXEBM48RT	22	C20**	(8) C13, (1) C19	208	No
2800	9PX5K	5000/4500	8	3U	9PXEBM180RT	38	L6-30P	(2) L6-30R (2) L6-20R	208	Yes	
6500	2500	9PX5K	5000/4500	10	3U	9PXEBM180RT	43	L6-30P	(2) L6-30R (2) L6-20R	208	Yes
		9PX5K	5000/4500	7	3U	9PXEBM180RT	34	L6-30P	(2) L6-30R (2) L6-20R	208	Yes
	4000	9PX5K	5000/4500	4	3U	9PXEBM180RT	23	L6-30P	(2) L6-30R (2) L6-20R	208	Yes

*Some switches may consume less power if not configured for POE. Consult Cisco specifications or Eaton UPS selector for exact wattages. **L6-20P input line cord available, P/n: 010-9341. ***Operating voltage for 208V models is 200V, 208V, 220V, 230V or 240V, and is user-selectable.

Accessories

- How is power going from the UPS to the equipment?
- Do you have bypass requirements?

Accessories	Eaton part number	Connections	Description
Gigabit Network Card	Network-M2	For use with 5PX and 9PX	Provides remote alarm notification, real-time status, parameter adjustment and remote shutdown with software
Environmental Monitoring Probe	EMPDT1H1C2	For use with all UPS with the Network-M2 card <i>Input Plug Output Receptacles</i>	Provides temperature and humidity monitoring, two dry contacts for other sensors, and magnetic attachment. Daisy chain up to three probes.
PDU	EMI109-10	L6-30P (12) C13, (2) C19	Use with 9PX5K to distribute power to local servers and peripherals
ePDU	EMI110-10	L6-30P (24) C13, (6) C19	Use with 9PX5K to distribute power to local servers and peripherals
ePDU	EMI104-10	L6-30P (36) C13, (6) C19	Use with 9PX5K to distribute power to local servers and peripherals
eATS	PWATSL630008	(2) L6-30P (1) L6-30R	use with 9PX5K and compatible ePDU to provide redundant power to single-corded loads
MBP	EHBPL1500R-PDU1U	5-15P (6) 5-15R	Use with 5PX 1000 and 1500 for maintenance bypass capability
MBP	EHBPL2000R-PDU1U	5-20P (5) 5-20R	Use with 5PX 2200 for maintenance bypass capability

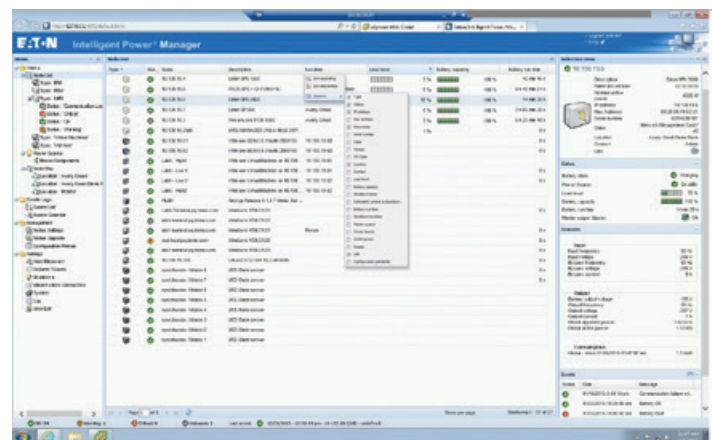
Power Management Software

- Do you want to remotely manage or monitor your UPS and the equipment that is attached to it?
- Do you want to be remotely notified of power events?
- Do you need virtualization capabilities?
- Do you have a need for a graceful shutdown?

If you want to implement these capabilities, please look into Eaton's Intelligent Power® Manager software. Learn more at Eaton.com/IPM.

UPS

- What is the total power you need to support your equipment?
- How much runtime do you require?



Checkout Eaton's UPS selector to help you find the UPS right for your environment!

Eaton.com/upsselector

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