

# Eaton Advanced Monitored and Managed ePDUs

Monitor and control power consumption at the individual outlet level.

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.



Powering Business Worldwide

## Key technology features

Eaton's Advanced Monitored and Managed ePDUs offer state-of-the-art monitoring and management capabilities, including:

	Advanced Monitored	Managed
Outlet level monitoring	✓	✓
Outlet level power switching (on/off/reboot)		✓
High accuracy monitoring	✓	✓
Advanced LCD display	✓	✓
Flexible mounting	✓	✓
Color coded section labeling	✓	✓

## Power Usage Effectiveness

Power usage effectiveness (PUE) is a metric used to determine the energy efficiency of a data center and is determined by dividing the amount of power entering a data center by the power used to run the computer infrastructure within it. These ePDUs provide outlet level power consumption for Level 3 PUE calculations.

### PUE Levels

**Level 1:** Basic, uses UPS readings

**Level 2:** Intermediate, uses PDU level readings

**Level 3:** Advanced, uses server/outlet level readings

PUE has been defined by the Green Grid - [www.thegreengrid.org](http://www.thegreengrid.org)

## Key applications

Designed for the needs of the modern data center, these ePDU® configurations are flexible and available with eight different input plugs. All versions feature 200-240V power output to C13 and C19 outlets.

### SMB and networking closets

- Single-phase 20/30A solution with L6-20P and L6-30P input plugs
- Provides 4-5 kW of power to the rack enclosure
- The 20A version features a detachable power cord with standard C20 input
- 120V cords available for 20A version

### Enterprise data centers

- Three phase 20/30A solutions
- 400V power configurations available – reducing cost of electrical distribution and transformer loss
- Supports high-consumption applications requiring 11-17 kW of power in racks

### High density and Blade servers

- Three-phase 50/60-amp solution with CS8365 and IEC60309 60A Delta input plugs
- Support dense environments requiring 15-17 kW of power in the rack
- 200-240V output



Eaton Paramount® Enclosure pictured here



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

### Receptacles

These units feature C13 and C19 receptacles.



LEDs represent each outlet

### Environmental monitoring

You can utilize the Environmental Monitoring Probe to track internal and external temperatures, humidity and contact closure. This information allows you to operate the ePDU up to 50°C, in turn reducing cooling costs. (Part number EMP001).



## Power management software

Eaton provides software management capabilities for every application. Out-of-the-box Web browser management is built into the ePDU and SNMP allows integration to third-party network management. This also allows you to connect to Eaton's management software options: Intelligent Power® Manager or Power Xpert®.

Monitoring/management software	Quantity of racks best supported	Type of software	Application
Web browser / e-mail	1-25	Includes required Web browser	Data closet small network standalone
SNMP	1-1000	Integrates to 3rd party software	Small to large enterprise
IPM	1-200	Eaton software (free up to 10 nodes)	Small-to-medium enterprise
Power Xpert	1-1000	Eaton enterprise solution	Facility or large enterprise

### Web Browser/E-mail alerts

Every network-connected ePDU comes standard with built-in web server and e-mail capability, allowing you to connect to any ePDU using a standard web browser.

### SNMP

Every network-connected ePDU supports SNMP alerts and has a standard MIB available for third party software integration.

### Cisco EnergyWise Compliant

These ePDUs are compliant with Cisco's EnergyWise software. The integration of Cisco Energywise into our ePDU offering helps you to reduce network and facilities energy usage and costs, so you can gain control of your building management system.

### Intelligent Power Manager

Eaton's Intelligent Power Manager provides you with monitoring and management capabilities across your network. Ideal for virtualized environments, IPM is fully integrated with VMware's vCenter Server™ and Microsoft SCVMM™.

[www.eaton.com/intelligentpowermanager](http://www.eaton.com/intelligentpowermanager)

### Power Xpert

Ideal for a facility enterprise solution, Power Xpert supports all of Eaton's products and offers support for third-party products as well — providing alarms, current readings and environmental sensors. This software also allows for customization under certain conditions.



### Advanced LCD Display

This new advanced LCD display provides outlet and section current information, voltage and kilowatt-hour readings, all at a single glance. The display is accompanied with a three-button interface that allows you to navigate through the user-friendly menu structure. Dual-color display blinks when a system alarm is detected, providing local notification.



Network Management interface

Local buttons allow for easy navigation of the menu



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



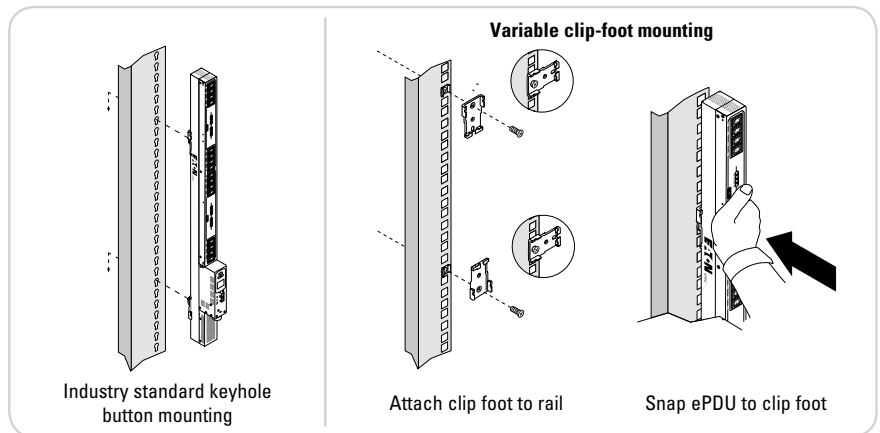
Catalog Number	Outlet Level Monitoring	Outlet Level Switching	Input Plug*	Breakers	Max kW	Receptacles C13 / C19	Dimensions (H x W x D, in)
<b>OU Advanced Monitored ePDUs</b>							
eAM008	✓		L6-20P**	None	3.3	20 / 4	60.0 x 2.2 x 2.6
eAM001	✓		L6-30P	(2) 20A	5.8		68.0 x 2.2 x 2.6
eAM002	✓		L21-20P	None		8.6	21 / 3
eAM004	✓		L21-30P	(3) 20A	68.0 x 2.2 x 2.6		
eAM003	✓		CS8365C		12.6		
eAM005	✓		309-460P9W	(6) 20A	17.3	12 / 12	72.4 x 2.2 x 2.6
<b>OU Managed ePDUs</b>							
eMA012	✓	✓	L6-20P**	None	3.3	20 / 4	60.0 x 2.2 x 2.6
eMA006	✓	✓	L21-20P		5.8	21 / 3	
eMA010	✓	✓	L6-30P	(2) 20A	8.6	20 / 4	68.0 x 2.2 x 2.6
eMA011	✓	✓	L21-30P	(3) 20A		21 / 3	
eMA013 <b>400V</b>	✓	✓	309-516P6W	None	11.5	12 / 12	
eMA007	✓	✓	CS8365C	(3) 20A	12.6	21 / 3	
eMA009	✓	✓	309-460P9W	(6) 20A	17.3	12 / 12	72.4 x 2.2 x 2.6
eMA014 <b>400V</b>	✓	✓	309-532P6W				

\*10-ft cord length, all units

\*\*Detachable cordset, C20 cord is also included; 120V cords are optional, please see accessories.

Accessories	Part number	For use with
Environmental Monitoring Probe	EMP001	All models
Plug Restraint Cable Tray	KBLT01	All models
C13 Outlet Cap 	035-0113	All models
C19 Outlet Cap 	035-0119	All models
C19 to NEMA 5-20P power cord, 8 Feet (120V cord)	010-9335	eAM008 eMA012
C19 to NEMA L5-20P power cord, 8 Feet (120V cord)	010-9339	eAM008 eMA012

### Space-saving mounting options — all hardware included



### EnergyWise compliant

These ePDUs have been tested and approved and are Energywise compliant.

### What's in the box

- ePDU
- Clip feet mounting brackets
- Keyhole buttons
- Mounting screws
- Quick setup guide
- Quick start guide

To interact with the Eaton Advanced Monitored and Managed ePDUs, please visit:

[www.eaton.com/epdu](http://www.eaton.com/epdu)



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