

Application guide



# Power management for Cisco® UCS servers

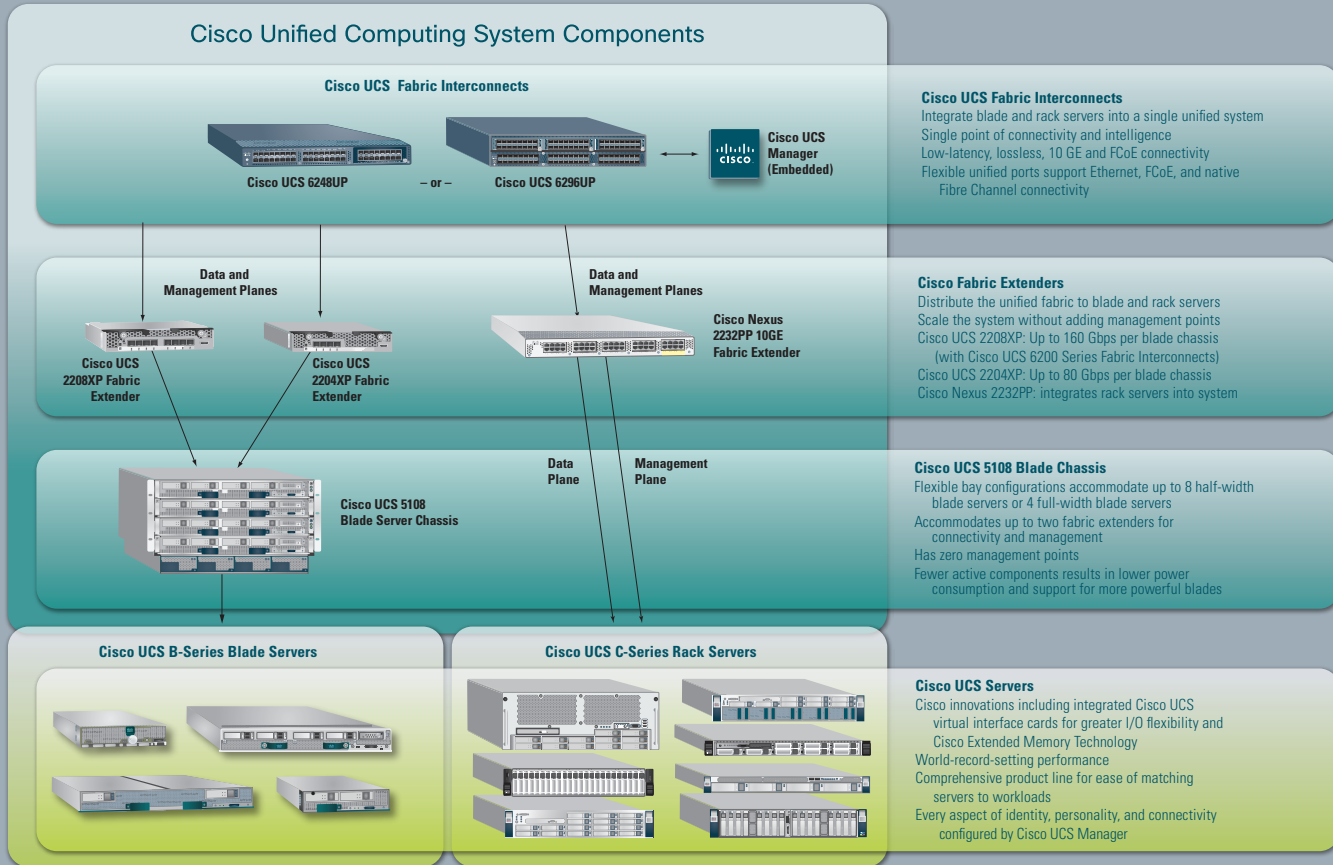
**EATON**  
Powering Business Worldwide

**cisco**  
Preferred  
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# Cisco UCS series servers

The Cisco Unified Computing System™ (Cisco UCS™) changes the way organizations do business through policy-based automation and standardization of IT processes. The industry's first unified data center platform, Cisco UCS combines industry-standard x86-architecture blade and rack servers, networking, and enterprise-class management into a single system. The system's configuration is entirely programmable using unified, model-based management to simplify, and accelerate deployment of enterprise-class applications and services running in bare-metal, virtualized, and cloud-computing environments.



These applications bring unique challenges around rack requirements, cable management, power distribution and power management at the rack level. This guide provides recommendations for solving these physical infrastructure challenges.

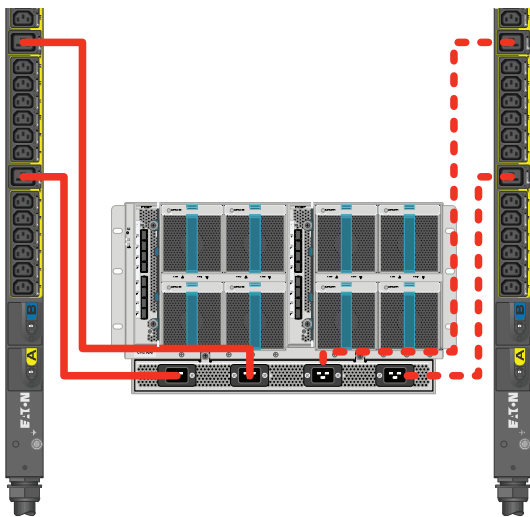
Source:  
Cisco Unified Computing System brochure LE-32302-01 04/12.

# UCS series servers configuration

UCS servers come in a variety of form factors and their power requirements can vary greatly depending on application.

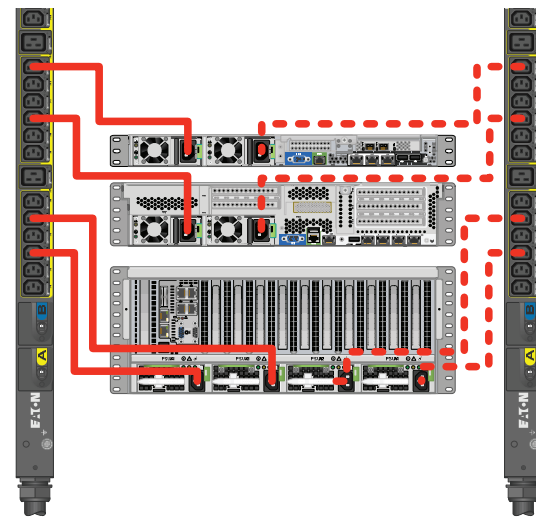
## Cisco B-series IEC C20 input connections

The UCS B-series standard configuration 6U form factor includes four hot-swappable redundant power supplies with IEC C20 input connections.



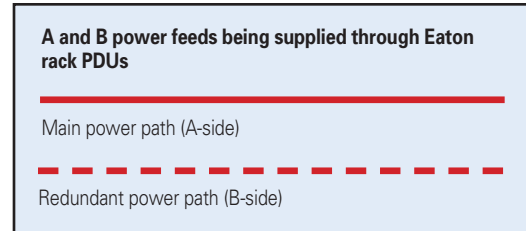
## Cisco C-series and M-series IEC C14 input connections

The C-series and M-series configurations consist of 1U, 2U and 4U form factors ranging from two to four hot-swappable redundant power supplies with IEC C14 input connections.



### UCS SERVERS

UCS Chassis/Model	Max wattage per power supply	Max power supplies	Input plug type
Cisco UCS M4308	1400	2 (1 main, 1 redundant)	C14
Cisco UCS 5108	2500	4 (2 main, 2 redundant)	C20
Cisco UCS C22 M3	650	2 (1 main, 1 redundant)	C14
Cisco UCS C24 M3	450	2 (1 main, 1 redundant)	C14
Cisco UCS C220 M3	450	2 (1 main, 1 redundant)	C14
Cisco UCS C220 M4	770	2 (1 main, 1 redundant)	C14
Cisco UCS C240 M3	1200	2 (1 main, 1 redundant)	C14
Cisco UCS C240 M4	1200	2 (1 main, 1 redundant)	C14
Cisco UCS C260 M2	1200	2 (1 main, 1 redundant)	C14
Cisco UCS C420 M3	1200	2 (1 main, 1 redundant)	C14
Cisco UCS C460 M2	850	4 (2 main, 2 redundant)	C14
Cisco UCS C460 M4	1400	4 (2 main, 2 redundant)	C14



To provide a more exact power calculation, Eaton® suggests utilizing Cisco's UCS Power Calculator to determine power consumption (wattage) for the specific UCS series server configurations. [ucspowercalc.cisco.com/](http://ucspowercalc.cisco.com/)

# Eaton power management

We provide efficient power solutions to distribute power to and within the rack, as well as cable management solutions to ensure your rack is organized. We also offer remote monitoring and management capabilities. As a result, you can view and manage your racks remotely instead of being physically present in your server room or data center.

To ensure a reliable, efficient and safe data center environment, keep three key things in mind: organization, protection and management.



## Organize

- Keep servers, switches and storage equipment safe and secure
- Clear the rack area of cluttered network cables
- Improve airflow and reduce cooling costs
- Secure equipment from unauthorized access
- Effectively distribute power throughout the rack



## Protect

- Provide safe and clean power to IT equipment during power outages, surges and voltage problems
- Provide reliable and redundant power solutions for critical systems
- Maintain service level agreements



## Manage

- View your power network and all equipment attached to it from your remote/virtual machine console
- Aggregate multiple UPS/power instances
- 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

# Organize: Ensure your investment

Eaton S-Series Enclosures support a broad range of rack accessories, as well as power distribution and protection products, providing a proven platform to support your critical IT operations. Built for strength, S-Series Enclosures can handle multiple B-series chassis, the largest of the UCS portfolio.

## EATON S-SERIES ENCLOSURES

Catalog Number	Configuration	Height U	Width, in.	Depth, in.	Approximate Unit Weight, lb.	Casters
ETN-ENC422442SB	With side panels (2)	42	24	42	367	Yes
ETN-ENC422442S	With divider panel (1)	42	24	42	309	Yes
ETN-ENC423042S	With divider panel (1)	42	30	42	35	Yes
ETN-ENC422448S	With divider panel (1)	42	24	48	321	Yes
ETN-ENC423048S	With divider panel (1)	42	30	48	364	Yes
ETN-ENC422442SE	Without panels and doors	42	24	42	171	No
ETN-ENC482442S	With divider panel (1)	48	24	42	336	Yes
ETN-ENC483042S	With divider panel (1)	48	30	42	380	Yes
ETN-ENC482448S	With divider panel (1)	48	24	48	350	Yes
ETN-ENC483048S	With divider panel (1)	48	30	48	394	Yes



## Features

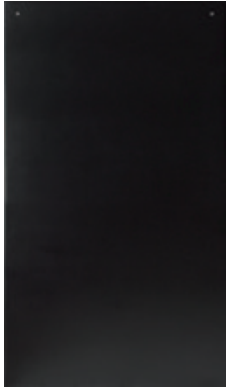
Enhanced frame ensures zero leakage around the front perimeter and features oval grommets in front frame verticals for cable pass-thru between racks.

- High flow single front door with 75 percent open perforation pattern
- High flow split rear door with 75 percent open perforation pattern
- Top panel with two six-inch wide brushed openings for maximum cable and airflow management
- Standard models available with side or divider panels
- 19-inch EIA-310 vertical mounting rails (quantity four) with U-markings
- Vertical blanking panels (quantity two) with cable pass-thru for 30-inch wide models only
- Integrated cable trough for overhead cable distribution
- Grounding pre-installed
- Color: Black

For a complete listing of available accessories, visit [Eaton.com/S-Series](https://www.eaton.com/S-Series) and click on the options tab

# S-Series accessories

## Side panels



### S-Series side and divider panels

- Solid side panels further enclose your rack and help control temperature and airflow
- Side panels work best in end-of-row configurations or on single racks where aesthetics are a factor
- Divider panels are used on bayed enclosures to provide thermal separation

Part Number	Description
ETN-ACC4242DP	Solid divider panel – 42U x 42D
ETN-ACC4248DP	Solid divider panel – 42U x 48D
ETN-ACC4842DP	Solid divider panel – 48U x 42D
ETN-ACC4848DP	Solid divider panel – 48U x 48D
ETN-ACC4242SP	Solid side panel – 42U x 42D
ETN-ACC4248SP	Solid side panel – 42U x 48D
ETN-ACC4842SP	Solid side panel – 48U x 42D
ETN-ACC4848SP	Solid side panel – 48U x 48D

## Cable management



### Upper transition tray

Provides upper bend radius control for copper and fiber cables

- Meets TIA/EIA 568-A bend radius standards
- Tool-less width adjustment of waterfall from 19" to 29"
- Two-point mounting

Part Number	Depth	Height
ETN-CMFP19032U	3.5"	2U
ETN-CMFP19052U	5.0"	2U



### Lacing bars

- Flexible management bar for attaching/mounting cables and power strips
- Vertical slots provide areas for standard and buckle VELCRO® straps
- Tool-less adjustment allows for quick placement

Part Number	Width	Height
ETN-LACEB42U03	3"	42U
ETN-LACEB42U08	8"	42U
ETN-LACEB42U12	12"	42U
ETN-LACEB48U03	3"	48U
ETN-LACEB48U08	8"	48U
ETN-LACEB48U12	12"	48U

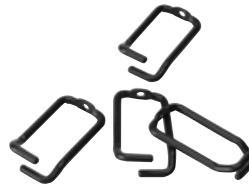


### Lower transition tray

Provides lower bend radius control for copper and fiber cables

- Meets TIA/EIA 568-A bend radius standards
- Tool-less width adjustment of waterfall from 19" to 29"
- Two-point mounting

Part Number	Depth	Height
ETN-CMLT19032U	3.5"	2U
ETN-CMLT19052U	5.0"	2U



### 1U/2U cable ring kit

- Allows for vertical cable management
- Flexible mounting to multiple points
- Mounts with a self-tapping screw in multiple positions
- Accommodates up to 129 CAT 5 cables
- Four per kit

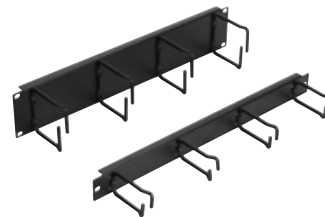
Part Number	Height	Depth	Qty
ETN-CMDRNR031U	1U	3.25"	4
ETN-CMDRNR032U	2U	3.25"	4



### Take-up spool

- Provides a means to manage excess network or power cables with integrated bend radius support
- One per kit

Part Number	Diameter	Depth	Qty	Compatibility
ETN-CMTUNR02	2.0	2.5"	1	30"W enclosure
ETN-CMTUNR05	2.0	5.0"	1	30"W enclosure



### 19-inch horizontal ring manager

- Horizontal management of cables from network equipment
- Open rings allow for easy access to network cables
- Accommodates up to 129 CAT 5 cables in a single panel
- 19-inch rail mount
- Four cable rings per manager

Part Number	Height	Depth	Qty
ETN-CMPD19031U	1U	3.25"	4 rings
ETN-CMPD19032U	2U	3.25"	4 rings

# S-Series accessories



## Horizontal patchlink cable manager

- 19-inch rail mount
- High volume cable management
- One per kit

Part Number	Height
ETN-CMFD19041U	1U
ETN-CMFD19042U	2U



## Cable strain relief bars

- Provides strain relief for cables in patch cable racks
- Multiple depths allow for transitioning of cables
- 19-inch rail mount
- One per kit

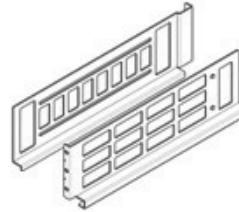
Part Number	Height	Depth	Qty
ETN-CMRB19022U	2U	2"	1
ETN-CMRB19042U	2U	4"	1
ETN-CMRB19062U	2U	6"	1
ETN-CMRB19082U	2U	8"	1



## VELCRO® buckle Straps

- VELCRO® buckle straps allow for mechanical fastening of strap to multiple points in the enclosure
- VELCRO® offers reusability versus tie wraps
- 50 straps per kit (Standard VELCRO® Straps) and 10 straps per kit (VELCRO® Buckle Straps)

Part Number	Length	Width	Qty
ETN-CMVCKL	9"	.5"	10
ETN-CMVCKL12	12"	.5"	10
ETN-BX45V8	8"	.5"	50
ETN-BX45V11	10"	.5"	50



## Adjustable chassis brackets

- Provides added flexibility when mounting equipment in enclosures

Part Number	Mounting Range
ETN-CHASBKT2032	20" to 32"

## Overhead cable management system



### Overhead cable management

- Overhead distribution of power and network cables reduces raised floor obstructions
- Mounting holes located every 1.5" from front to back on top of racks
- Add as many partitions as you need to manage copper, fiber and power
- Data cable partitions feature large openings to route cables into enclosure

Part Number	Description	Width	Qty
ETN-JCMT24SP	Solid cable partition	24"	1
ETN-JCMT24PP	Cable partition with pass through opening	24"	1
ETN-JCMT30SP	Solid cable partition	30"	1
ETN-JCMT30PP	Cable partition with pass through opening	30"	1
ETN-JCMT24PT	Power Cable	24"	1
ETN-JCMT30PT	Power Cable	30"	1

## Overhead cable management system ladder brackets

- Allows for cables to transition from one row to another
- Works with most ladder systems
- Two per kit

Part Number	Description
ETN-JCMTLDRPD	Perpendicular bracket kit
ETN-JCMTLDRPR	Parallel ladder kit

**Note:** Cable ladder not included

## Airflow management



### Plastic blanking panels

- Tapped/square holes
- Cost effective, tool-less, aesthetic solution for airflow management requirements

Part Number	Height	Qty
ETN-PBP1U10	1U	10
ETN-PBP1U100	1U	100
ETN-PBP1U500	1U	500
ETN-PBP2U10	2U	10
ETN-PBP2U100	2U	100
ETN-PBP2U500	2U	500
ETN-PBP8U10	8U	10
ETN-PBP8U100	8U	100
ETN-PBP8U500	8U	500



### Cable pass-thru blanking panels with brush strip

- Cable pass-thru panels provide cable access while managing airflow and maintaining rack hygiene.

Part Number	Height	Qty
ETN-CMBPBRSH1U	1U	1
ETN-CMBPBRSH2U	2U	1

# S-Series accessories

## Airflow management



### Raised Floor Grommet

- Optimize the effectiveness of raised floor cold air delivery by eliminating bypass airflow
- Seal cable pass-thru openings in floor
- Zero downtime – the split design allows for installation in live environments
- Eaton's raised floor grommets outperform competitive brush strip and membrane-based solutions by 20-50% depending on application

Part Number	Description
ETN-FLRGR118	Floor Grommet 11"W x 8.25"D Surface Mount
ETN-FLRGR11810	Floor Grommet 11"W x 8.25"D Surface Mount, Qty 10
ETN-FLRGR76	Floor Grommet 7.5"W x 6.5"D Surface Mount
ETN-FLRGR7610	Floor Grommet 11"W x 8.25"D Surface Mount, Qty 10

## Shelf products



- Standard and heavy-duty fixed and roll-out shelves for storing peripherals and non-rackmounted legacy equipment

Part Number	Description	Height	Width	Depth	Weight Capacity	Mounting Range
ETN-US192U1605	Utility shelf	2U	17.2"	16.6"	50 lbs	n/a
ETN-FS19201U20	Standard-duty fixed shelf	1U	17.4"	20.2"	200 lbs	20" to 26"
ETN-FS19241U20	Standard-duty fixed shelf	1U	17.4"	23.2"	200 lbs	24" to 29"
ETN-FS19281U20	Standard-duty fixed shelf	1U	17.4"	28.2"	200 lbs	28" to 35"
ETN-RS19241U10	Standard-duty roll-out shelf	1U	17.5"	23.7"	100 lbs	24" to 29"
ETN-RS19281U10	Standard-duty roll-out shelf	1U	17.5"	27.7"	100 lbs	28" to 34"
ETN-FS19201U40	Heavy-duty fixed shelf	1U	17.7"	20.2"	400 lbs	20" to 26"
ETN-FS19241U40	Heavy-duty fixed shelf	1U	17.7"	24.2"	400 lbs	24" to 29"
ETN-FS19281U40	Heavy-duty fixed shelf	1U	17.7"	28.2"	400 lbs	28" to 35"

## Hardware



### Caster wheels

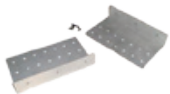
Part Number	Rack Size	Qty
ETN-ACCJCSTR40	42" deep	4
ETN-ACCJCSTR45	48" deep	4

**Note:** 2,000 pound static load capacity; for higher weights, consult the factory



### Anchor bracket

Part Number	Length	Qty
ETN-JANCHOR1	8"	4



### Cisco R-Series rack PDU mounting bracket

Part Number	Description	Qty
SUB-HRDWARE-073	G3 ePDU Mounting Bracket	1
SUB-HRDWARE-076	G3 ePDU Mounting Bracket	4



# Organize: Third-generation technology for power distribution

The Eaton ePDU® G3 platform provides best-in-class power distribution, enabling data center and information technology (IT) managers to effectively monitor and manage their rack environments.

Featuring Eaton's third-generation (G3) rack PDU technology, ePDU G3 is easy to install and reduces operating costs while increasing reliability. With a host of unique and state-of-the-art features for Basic, Metered Input and Managed ePDUs, ePDU G3 sets the gold standard for power management in a wide range of key applications. Using the intelligent ePDU G3 versions enables IT managers to stay in the know on their UCS servers' power consumption.



Increasing level of control

ePDU G3 Key Technology Features	Basic (BA)	Metered Input (M)	Managed (MA)
IEC outlet grip plug retention	•	•	•
Low-profile form factor	•	•	•
High 140°F (60°C) operating temperature	•	•	•
Color-coded outlet sections	•	•	•
Ease of installation	•	•	•
One percent billing grade accuracy		•	•
Advanced LCD pixel display		•	•
Daisy chain (share network connection/IP address)		•	•
Hot-swap meter (replace meter without powering off ePDU)		•	•
Phase and section power metering		•	•
Measure power consumption at outlet level			•
Measure Level 3 power usage effectiveness (PUE)			•
Remotely control individual outlets (On, off and reboot)			•
Turn off unused outlets to prevent unauthorized use			•
Remote site management			•
Group reboot for A and B power feed			•
	<b>Good</b>	<b>Better</b>	<b>Best</b>

For more information on the ePDU G3 platform, visit [Eaton.com/ePDUg3](http://Eaton.com/ePDUg3)

# Rack PDU chart – managed



The Eaton ePDU G3 Managed models build on Eaton’s existing state-of-the-art ePDU G3 technology while offering new capabilities for rack power distribution in data centers and IT applications.

The ePDU G3 Managed provides you with comprehensive management and monitoring down to the outlet level. Through simplified management using daisy-chain capability to control up to four ePDU G3s with a single IP address, you can avoid costly site visits through remote reboot and monitoring, allowing more time to manage other critical tasks.

ePDU power rating	208V Single Phase	208V 3 Phase			
	5.0 kW 30A	5.7 kW 20A	8.6 kW 30A	11.5 kW 40A	17.3 kW 60A
Orientation/U-space	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU
Recommended part #	<b>EMA107-10</b>	<b>EMA325-10</b>	<b>EMA327-10</b>	<b>EMA329-06</b>	<b>EMA330-06</b>
Receptacle count	(20)C13, (4)C19	(18)C13, (6)C19	(18)C13, (6)C19	(12)C13, (12)C19	(12)C13, (12)C19
Input plug	L6-30P	L21-20P	L21-30P	CS8365	IEC60309 - 60A
kW range per chassis	Number of ePDUs required to power				
1000	1	1	1	1	1
1500	1	1	1	1	1
2000	1	1	1	1	1
2500	1	1	1	1	1
3000	1	1	1	1	1
3500	1	1	1	1	1
4000	1	1	1	1	1
4500	1	1	1	1	1
5000	1	1	1	1	1
5500	2	1	1	1	1
6000	2	2	1	1	1
6500	2	2	1	1	1
7000	2	2	1	1	1
7500	2	2	1	1	1
8000	2	2	1	1	1
8500	2	2	1	1	1
9000	2	2	2	1	1
9500	2	2	2	1	1
10000	2	2	2	1	1
10500	3	2	2	1	1
11000	3	2	2	1	1
11500	3	3	2	2	1
12000	3	3	2	2	1
12500	3	3	2	2	1
13000	3	3	2	2	1
13500	3	3	2	2	1
14000	3	3	2	2	1
14500	3	3	2	2	1
15000	3	3	2	2	1
15500	4	3	2	2	1
16000	4	3	2	2	1
16500	4	3	2	2	1
17000	4	3	2	2	1

Eaton ePDU G3 Managed

# Rack PDU chart – metered input



Eaton ePDU G3 Metered Input provides remote monitoring of the current draw of individual sections via network communication. This capability, combined with state-of-the-art software, allows you to aggregate the information from many ePDUs in one location.

A local display is also available for phase balancing and easy start-up and provisioning of servers. ePDU G3 Metered Input models feature best-in-class technologies, including 1percent billing grade accuracy, an advanced LCD pixel display, a hot-swap meter and the ability to daisy chain up to four ePDUs to share the same network connection and IP address.

ePDU power rating	208V Single Phase	208V 3 Phase			
	5.0 kW 30A	5.7 kW 20A	8.6 kW 30A	11.5 kW 40A	17.3 kW 60A
Orientation/U-space	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU
Recommended part #	<b>EMI104-10</b>	<b>EMI302-10</b>	<b>EMI304-10</b>	<b>EMI316-06</b>	<b>EMI317-06</b>
Receptacle count	(36)C13, (6)C19	(30)C13, (6)C19	(30)C13, (6)C19	(9)C13, (12)C19	(9)C13, (12)C19
Input plug	L6-30P	L21-20P	L21-30P	CS8365	IEC60309 - 60A
kW range per chassis	Number of ePDUs required to power				
1000	1	1	1	1	1
1500	1	1	1	1	1
2000	1	1	1	1	1
2500	1	1	1	1	1
3000	1	1	1	1	1
3500	1	1	1	1	1
4000	1	1	1	1	1
4500	1	1	1	1	1
5000	1	1	1	1	1
5500	2	1	1	1	1
6000	2	2	1	1	1
6500	2	2	1	1	1
7000	2	2	1	1	1
7500	2	2	1	1	1
8000	2	2	1	1	1
8500	2	2	1	1	1
9000	2	2	2	1	1
9500	2	2	2	1	1
10000	2	2	2	1	1
10500	3	2	2	1	1
11000	3	2	2	1	1
11500	3	3	2	2	1
12000	3	3	2	2	1
12500	3	3	2	2	1
13000	3	3	2	2	1
13500	3	3	2	2	1
14000	3	3	2	2	1
14500	3	3	2	2	1
15000	3	3	2	2	1
15500	4	3	2	2	1
16000	4	3	2	2	1
16500	4	3	2	2	1
17000	4	3	2	2	1

Eaton ePDU G3 Metered Input

# Rack PDU chart – basic



Designed for reliable and cost effective power distribution, Eaton ePDU G3 Basic models have the form factor and receptacle choices to meet the needs of the demanding data center architect.

With power levels ranging from 1.4 kW all the way to 17 kW, Eaton has the right Basic ePDU for any application. Basic models feature Eaton's patented IEC outlet grip plug retention, color-coded outlet sections, a low-profile form factor and a high operating temperature.

ePDU power rating	208V Single Phase	208V 3 Phase			
	5.0 kW 30A	5.7 kW 20A	8.6 kW 30A	11.5 kW 40A	17.3 kW 60A
Orientation/U-space	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU	Vertical/OU
Recommended part #	<b>ePBZ80</b>	<b>EBA302-10</b>	<b>EBA304-10</b>	<b>EBA306-06</b>	<b>EBA307-06</b>
Receptacle count	(30)C13, (6)C19	(30)C13, (6)C19	(30)C13, (6)C19	(21)C13, (12)C19	(21)C13, (12)C19
Input plug	L6-30P	L21-20P	L21-30P	CS8365	IEC60309-60A
kW range per chassis	Number of ePDUs required to power				
1000	1	1	1	1	1
1500	1	1	1	1	1
2000	1	1	1	1	1
2500	1	1	1	1	1
3000	1	1	1	1	1
3500	1	1	1	1	1
4000	1	1	1	1	1
4500	1	1	1	1	1
5000	1	1	1	1	1
5500	2	1	1	1	1
6000	2	2	1	1	1
6500	2	2	1	1	1
7000	2	2	1	1	1
7500	2	2	1	1	1
8000	2	2	1	1	1
8500	2	2	1	1	1
9000	2	2	2	1	1
9500	2	2	2	1	1
10000	2	2	2	1	1
10500	3	2	2	1	1
11000	3	2	2	1	1
11500	3	3	2	2	1
12000	3	3	2	2	1
12500	3	3	2	2	1
13000	3	3	2	2	1
13500	3	3	2	2	1
14000	3	3	2	2	1
14500	3	3	2	2	1
15000	3	3	2	2	1
15500	4	3	2	2	1
16000	4	3	2	2	1
16500	4	3	2	2	1
17000	4	3	2	2	1

Eaton ePDU G3 Basic

# Protect: Industry leading power protection



Protecting your IT equipment is vital to the success of your business and how long your equipment will run during a power outage. Eaton's rackmount and end-of-row UPS

systems help maximize uptime in your IT environment—and keep business running as usual. We have a number of reliable and redundant solutions to choose from.

ePDU power rating	208V Single Phase			208V 3 Phase	
	5.4 kW	7.2 kW	10.0 kW	8.0 kW	12.0 kW (Scalable to 60kW N+1)
Orientation/U-space	30A	30A	30A	30A	60A
Orientation/U-space	9PX	9PX	9PX	BladeUPS	BladeUPS
Recommended part #	<b>9PX6K</b>	<b>9PX8K</b>	<b>9PX11K</b>	<b>ZC0811108100000</b>	<b>ZC1212000100000</b>
Receptacle count	(2)L6-20R, (2)L6-30R	Hardwired, (3)L6-30R	Hardwired, (3)L6-30R	(1) L21-30R	Customizable*
Input plug	L6-30P	Hardwired	Hardwired	L21-30P	Hardwired
kW range per chassis	Number of UPSs required to power				
1000	1	1	1	1	1
1500	1	1	1	1	1
2000	1	1	1	1	1
2500	1	1	1	1	1
3000	1	1	1	1	1
3500	1	1	1	1	1
4000	1	1	1	1	1
4500	1	1	1	1	1
5000	1	1	1	1	1
5500	2	1	1	1	1
6000	2	2	1	1	1
6500	2	2	1	1	1
7000	2	2	1	1	1
7500	2	2	1	1	1
8000	2	2	1	1	1
8500	2	2	1	1	1
9000	2	2	2	1	1
9500	2	2	2	1	1
10000	2	2	2	1	1
10500	3	2	2	1	1
11000	3	2	2	1	1
11500	3	3	2	2	1
12000	3	3	2	2	1
12500	3	3	2	2	1
13000	3	3	2	2	1
13500	3	3	2	2	1
14000	3	3	2	2	1
14500	3	3	2	2	1
15000	3	3	2	2	1
15500	4	3	2	2	1
16000	4	3	2	2	1
16500	4	3	2	2	1
17000	4	3	2	2	1

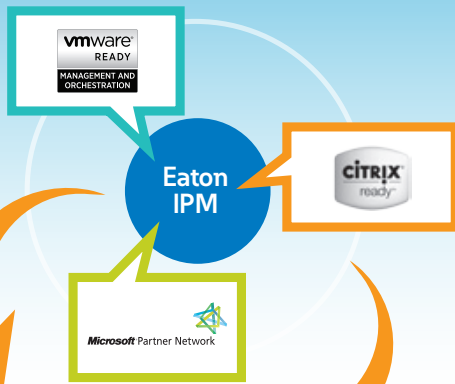
\*Output configuration required (speak with your local Eaton sales representative)

# Manage: Improve data integrity

Eaton's Intelligent Power Manager (IPM) software provides all the tools you need to monitor and manage power devices in your physical or virtual environment. This innovative software solution ensures

system uptime and data integrity by allowing you to remotely monitor, manage and control devices on your network. IPM provides a solution that is easy to use and maintains business continuity.

## Ease of use



- **System integration**

Simplify setup and reduce the learning curve by conveniently integrating into existing virtual management systems, allowing you to spend time performing other critical tasks.

- **Remote agentless host management**

Conserve valuable time when remotely shutting down servers by eliminating the need for agents that consume resources and slow performance.

## Save time

IPM software provides auto-recognition capability for hypervisors, servers, storage and power devices to reduce initial implementation time.

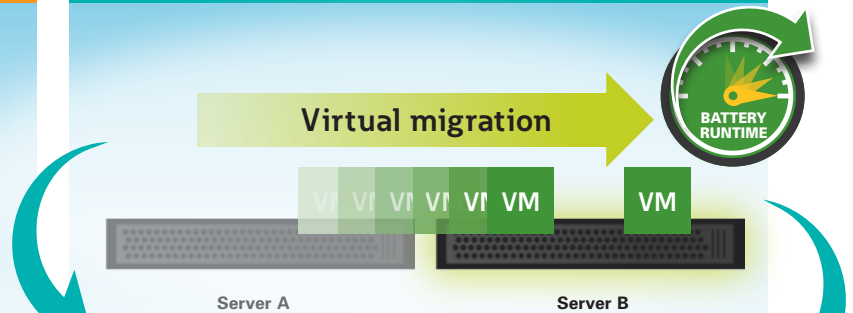
## Save money

IPM provides more integration points with leading IT software and hardware platforms than any other power management manufacturer (and costs a fraction of the price).

## Reduce risk

In the event of an extended power outage, IPM provides peace of mind by knowing your data is backed up and your system can consolidate critical loads to maximize available uptime.

## Maintain business continuity



- **Workload management (Load shedding)**

Increase system uptime while extending battery runtime and minimizing generator load by suspending non-critical virtual machines.

- **Failover**

Avoid data loss and ensure data integrity at all times. Reduce data recovery expenses by syncing primary and disaster recovery sites prior to power failures.

- **Power capping**

Keep critical workloads running longer during a power outage by limiting server power consumption.

For more information visit  
[Eaton.com/IntelligentPower](http://Eaton.com/IntelligentPower)

# Simplify power management

IPM simplifies power management across the network through a single, web-based interface, giving you up-to-the-minute information on the status of power in your network.

IPM provides additional management capability for UCS environments and integrates with

VMware's vCenter Server™ virtualization management solution, letting you manage power to your virtualized environment through the vCenter dashboard. Additionally, IPM works seamlessly with several virtualization platforms, such as Citrix® XenServer, Microsoft SCVMM™, Red Hat® and other Xen® open source platforms.

## Validated alliance solution provider



Eaton's IPM integrates directly with UCS server management to provide power-capping capability, enabling users to set server consumption limits during extended power outages

Cisco EnergyWise compliant intelligent managed rack PDUs provide outlet level metering and control



Eaton is a featured "FlexPod Powered" solution— one of the five inaugural ecosystem partners in the program. Find published FlexPod reference architecture and solution overview – [Eaton.com/NetApp](http://Eaton.com/NetApp)



Eaton's IPM is VSPEX Labs Validated and is the only power quality vendor in VSPEX ecosystem. Find published VSPEX reference architecture, solution overview, IPM VSPEX implementation guide, and joint solution brief at [Eaton.com/EMC](http://Eaton.com/EMC)

Eaton's power management solution suite is VCE vBlock Ready and VMware Ready.



## Download IPM at [Eaton.com/downloads](http://Eaton.com/downloads)

### Eaton IPM software

Intelligent Power Manager – Silver edition	Part #
Support up to 100 licensed nodes	66925
Intelligent Power Manager – Gold edition	Part #
Support unlimited licensed nodes	66926

### Eaton IPM installation service

Intelligent Power Manager software	Part #
Installation service: One day onsite	SW06NXXX-001X
Intelligent Power Manager software	Part #
Installation service: Two day onsite	SW06NXXX-002X

One licensed node is defined as an Eaton UPS, ePDU or IPM/IPP instance.

For more information, please visit  
**Eaton.com/Cisco**