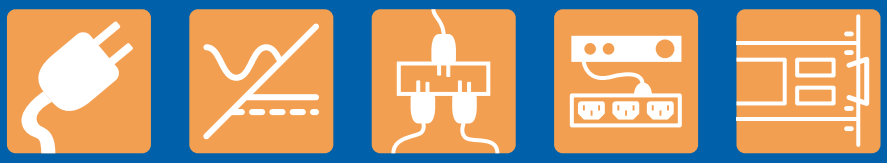
MARWAY
POWER SOLUTIONS

Standard Products

Power Distribution Units
Remote EPO Panels



September 2022

Contact our power specialists: info@marway.com • 800-462-7929

Innovating solutions for multiple industries and applications.






Standard Product Summary

Optima™ 8 RCM
Networked Power Distribution Units

Industrial PDUs with Ethernet networking for inlet power monitoring and outlet switching over HTTP/S, Telnet, SSH, and SNMP. Features power setpoints, and user alerts over email, SMS, and SNMP. Integral surge suppressor, EMI filter, remote EPO, and more. Available in a variety of power forms in 15 A, 20 A, and 30 A maximum ratings.

Model Series

- Single Phase (1U) — 820 Series
- Three Phase (3U) — 833 Series
- Single or Three Phase (0U) — 829/839 Series

Optima™ 5 and 3 Series
Basic Power Distribution Units

Industrial PDUs in a variety of power forms in 15 A, 20 A, and 30 A maximum ratings. Integral surge suppressor, EMI filter, remote EPO, and more.

Model Series

- Single Phase (1U) — 520 Series, 320 Series
- Three Phase (2U/3U) — 532/533 Series
- Single or Three Phase (0U) — 529/539 Series, 329 Series

Commander™
Remote Control and EPO Panels

- Connects to one or multiple PDUs.
- On/Off power control to connected PDUs.
- EPO for all connected PDUs.
- UCP 5000/5100 includes time meter, audible alarm, and convenience outlets on front and back.

Other Products (visit our web site at www.marway.com)

Optima Custom Power Distribution Units
mPower Programmable DC Power Supplies
TwinPower Auto-transfer Switches
PowerPlus Intergrated Rack Services

Optima™ RCM 820 Series

Single-Phase 1U Networked PDUs

A Feature-Filled Compact Package

The Optima 820 is a series of 1U PDUs for single-phase applications needing maximum capability in a small enclosure.

The system includes all the features of Marway's protective PDU infrastructure including surge suppressor, EMI filter, and main circuit breaker. Remote management tools include Marway's Commander EPO bus for hardware-based On/Off/EPO control, and our RCM software for Ethernet-based switching and power monitoring.

Over 60 models cover a variety of power options, inlets, outlets, and core features make it easy to standardize on a versatile platform, yet tailor each deployment to meet unique requirements and budget needs.

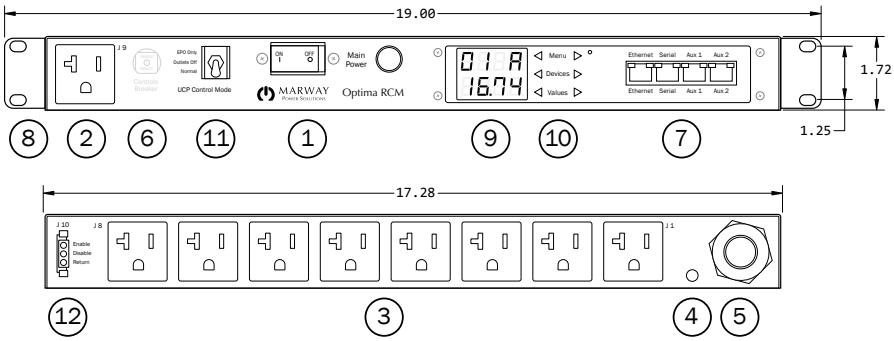
With options for outlet connectors, inlet connectors, power range, EMI filter, and control features, there are over 60 configurations. IEC outlets feature a unique, high-tension design providing similar pull-out resistance as NEMA outlets, thereby eliminating the need for proprietary locking systems or cumbersome retention clips.

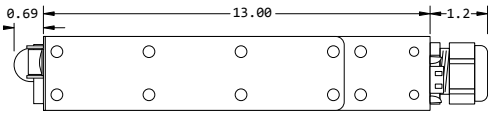
Feature Highlights

- Standard remote switching over Ethernet.
- Optional inlet power monitoring over Ethernet with local LED display and keypad (V, A, W, VA, VAR, PF, Hz).
- HTTP/S, Telnet, SSH, SNMP, SMTP, SNTP, IPv4.
- 1U chassis with removable/relocatable mounting brackets.
- 120 Vac, 200–240 Vac, or 100–240 Vac 1ϕ power sources.
- 12 A, 16 A, or 24 A continuous-duty capacity (15 A, 20 A, or 30 A maximum capacity).
- 9 outlets (1 unswitched on front, 8 switched on back).
- 5-15R, 5-20R, or C13 outlet options.
- Standard 9 foot inlet cable with straight blade or locking inlet connectors, or C20 panel connector.
- Standard main power circuit breaker with On indicator.
- Standard surge suppression.
- Optional remote EPO and EMI filter package.
- Standard 18 gauge enclosure, black powder coated.
- Designed and manufactured to UL 62368-1.

Relevant Links

Optima 820 web page
RCM Software documentation web page
All Optima 8 Series web page
Commander EPO Panels web page





Units with remote EPO and filter option have a 13" deep chassis. Units without those options have a 9" deep chassis.

Map of Features

Standard Features

(1) Main Power breaker and indicator. The breaker will have a 15, 20, or 30 A maximum-duty rating (de-rated to 80% for continuous duty). Indicator is amber. Whenever the main circuit breaker is On, the Powered indicator is illuminated to indicate that power is *available* to the switched outlets. Outlets themselves may not be on.

(2) Front-panel unswitched outlet. This outlet is always powered when the main breaker is on—that is, it is never switched or disabled by EPO even when those options are included. Power is disabled when the main breaker is off.

(3) Rear-panel switched outlets. These outlets are controlled by the RCM switching software. All outlets are disabled by remote EPO *when that option is included* and the software state is updated to reflect the off status of the outlets.

(4) Threaded ground lug.

(5) Power inlet. Most models include a strain-relieved cable as shown. The plug will vary by model. Some models include a panel-mounted C20 connector.

(6) Circuit breaker for internal control circuitry. Units manufactured from early 2022 onward do not have this breaker. It was replaced with internal fuses.

(7) Ethernet, RS-232 serial console, and auxilary connections. All are RJ-45. Auxilary connectors are for Marway Temperature/Humidity sensors.

(8) Mounting brackets. May be mounted in one of three locations to yield a "flush," recessed, or rear-facing position of the chassis relative to the rack's mounting flanges. May also be removed for table top operation, or adaptation of end user's own custom brackets.

Optional Features

(9) Optional display when the power monitoring option is included (all "PSW" models). Displays volts, amps, watts, VA, VAR, power factor, and frequency. When item 9 is included, item 10 is also included.

(10) Optional display keypad used to navigate values available on the display.

(11) Remote EPO mode switch. A three-position toggle provides manual control over the remote EPO mode. See "Remote EPO" on page SC-9 for a description.

Specification Summary

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 200–240 Vac, 50/60 Hz, single phase
- 100–240 Vac, 50/60 Hz, single phase
- All voltages are listed as nominal input sources.

Current Capacity Options

- 12 A continuous load / 15 A maximum
- 16 A continuous load / 20 A maximum
- 24 A continuous load / 30 A maximum
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Overload Protection (standard)

- All models include a two-pole UL 489 circuit breaker.
- 12/15 A models are wired with both line and neutral passing through the circuit breaker.
- 16/20 A models are wired with both line and neutral passing through the circuit breaker.
- 24/30 A models in Groups 6 and 8 use a 15 A breaker with the main line branched to each pole of the breaker (creating two 15 A sub-circuits).
- 24/30 A models in Group 7 use a 20 A breaker with the main line branched to each pole of the breaker (creating two 20 A sub-circuits).

Surge Suppression (standard)

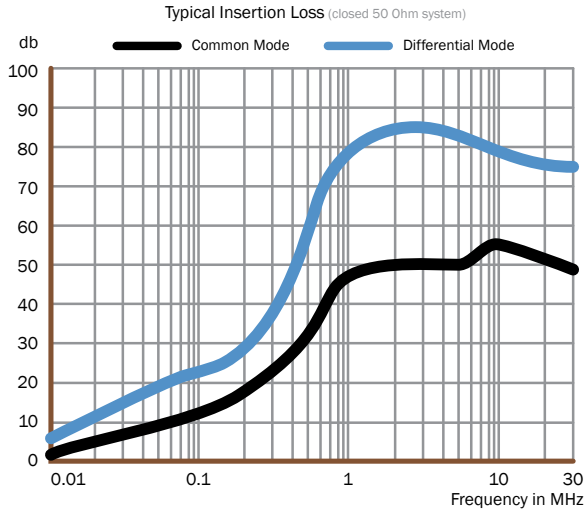
- All models include a thermally protected varistor.
- 120 Vac models have a single-pulse energy rating of 100 joules.
- 240 Vac models have a single-pulse energy rating of 170 joules.
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

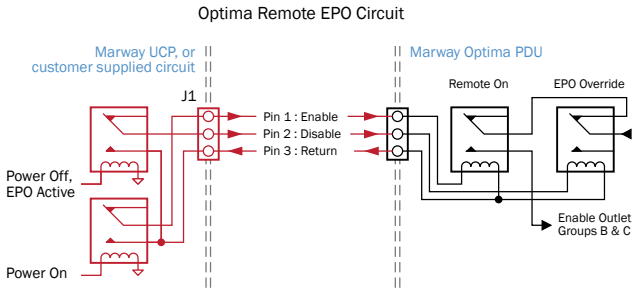
EMI Filter (optional)

- 120 Vac models have < 0.5 mA leakage.
- 240 Vac models have < 1.0 mA leakage.



Remote EPO (optional)

- Panel connector: AMP #1-480304-0, 250 Vac, 4 A maximum
- Mating cable connector: AMP #1-480305-0



Networking

Ethernet 10/100T

- IPv4: DHCP, Static

Web Interface

- HTTP, HTTPS

Command Line Interface

- Telnet, SSH, RS-232

SNMP

- v2/v3
- Access to power data, alarms, outlet switching

Alerts

- Email over SMTP
- SMS over SMTP
- SNMP v2/v3 Traps

Scriptability

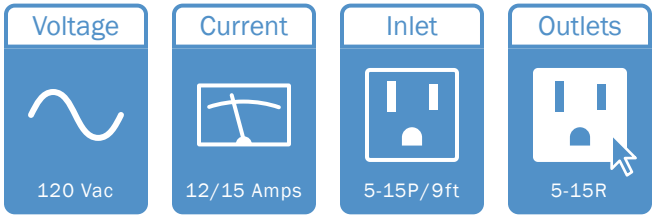
- RESTful API
- Telnet/SSH
- SNMP

Other Protocols

- SNTP, SNMP, FTP

See “8 Series RCM Software Highlights” on page SC-12 for additional software features.

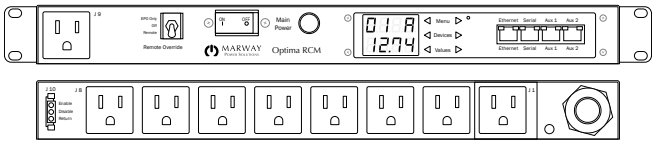
Model Numbers: Group 1

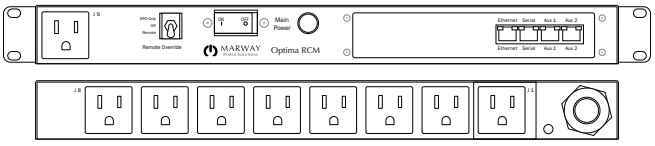


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

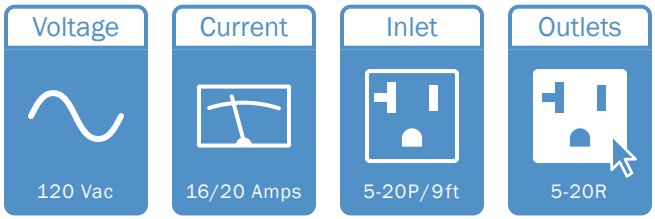
Model Number	Meter	Filter	R-EPO	Depth
MPD 820001-PSW-000	YES	—	—	9”
MPD 820001-NSW-000	—	—	—	9”
MPD 820101-PSW-000	YES	YES	YES	13”
MPD 820101-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





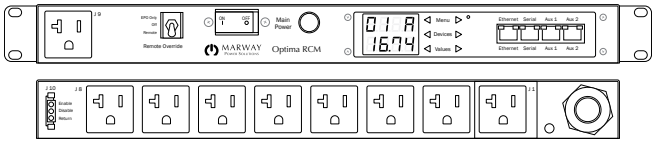
Model Numbers: Group 2

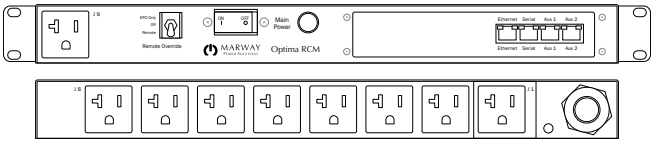


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

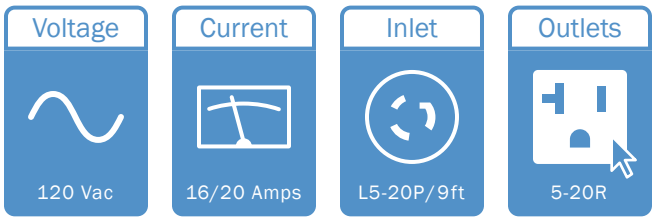
Model Number	Meter	Filter	R-EPO	Depth
MPD 820002-PSW-000	YES	—	—	9”
MPD 820002-NSW-000	—	—	—	9”
MPD 820102-PSW-000	YES	YES	YES	13”
MPD 820102-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





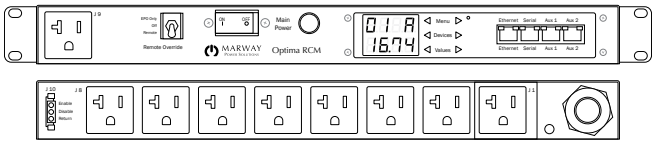
Model Numbers: Group 3

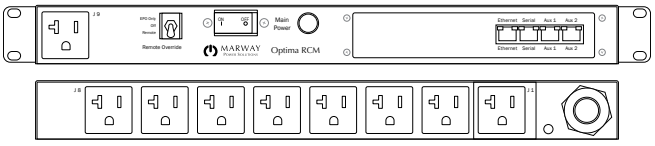


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

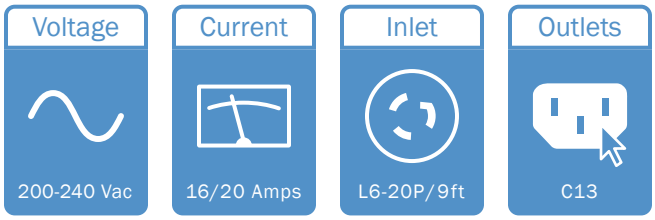
Model Number	Meter	Filter	R-EPO	Depth
MPD 820003-PSW-000	YES	—	—	9”
MPD 820003-NSW-000	—	—	—	9”
MPD 820103-PSW-000	YES	YES	YES	13”
MPD 820103-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





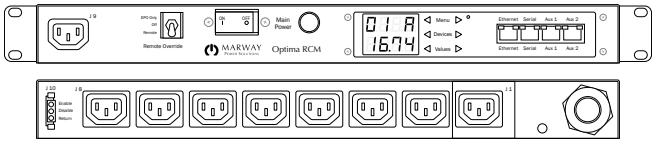
Model Numbers: Group 4

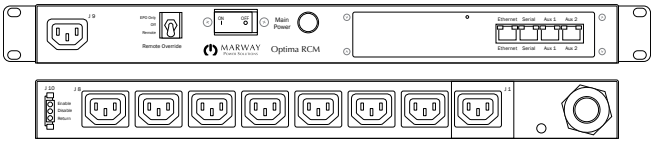


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

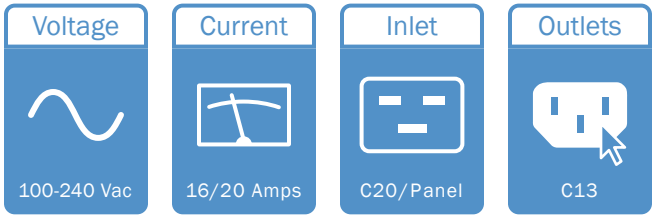
Model Number	Meter	Filter	R-EPO	Depth
MPD 820004-PSW-000	YES	—	—	9”
MPD 820004-NSW-000	—	—	—	9”
MPD 820104-PSW-000	YES	YES	YES	13”
MPD 820104-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





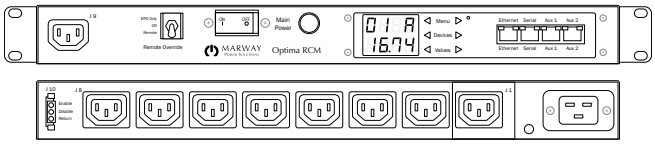
Model Numbers: Group 5

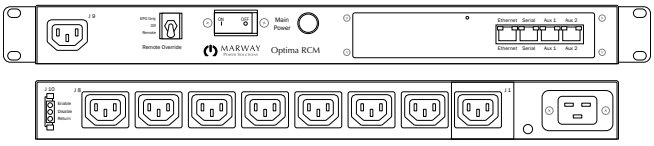


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

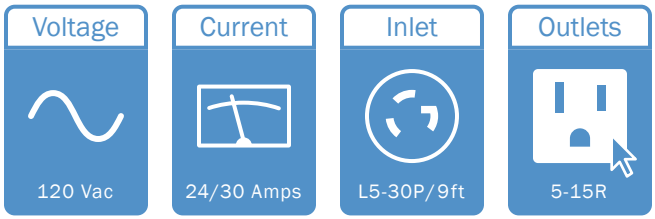
Model Number	Meter	Filter	R-EPO	Depth
MPD 820005-PSW-000	YES	–	–	9”
MPD 820005-NSW-000	–	–	–	9”
MPD 820105-PSW-000	YES	YES	YES	13”
MPD 820105-NSW-000	–	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





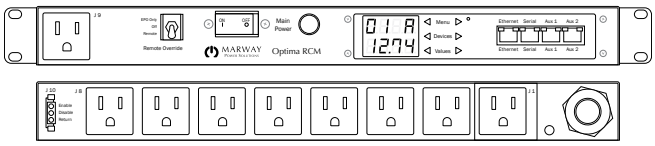
Model Numbers: Group 6

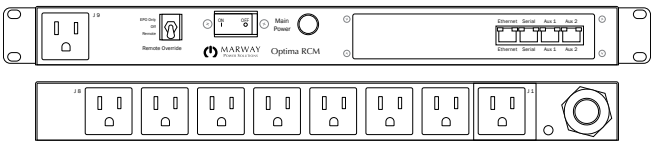


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

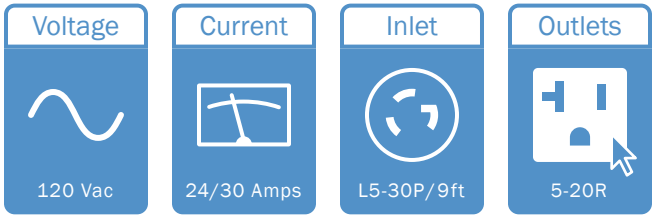
Model Number	Meter	Filter	R-EPO	Depth
MPD 820006-PSW-000	YES	–	–	9”
MPD 820006-NSW-000	–	–	–	9”
MPD 820106-PSW-000	YES	YES	YES	13”
MPD 820106-NSW-000	–	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





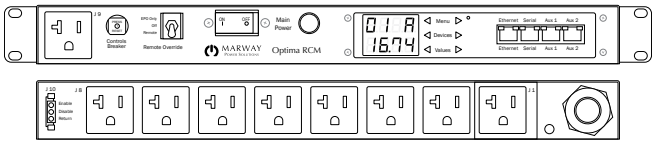
Model Numbers: Group 7

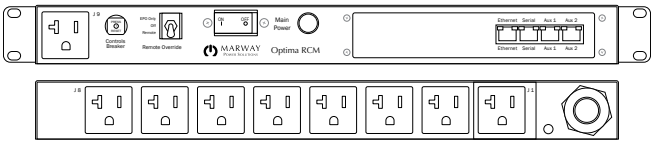


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

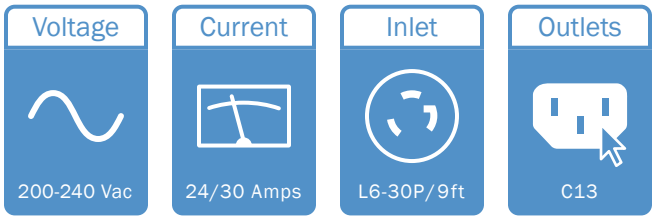
Model Number	Meter	Filter	R-EPO	Depth
MPD 820007-PSW-000	YES	—	—	9”
MPD 820007-NSW-000	—	—	—	9”
MPD 820107-PSW-000	YES	YES	YES	13”
MPD 820107-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





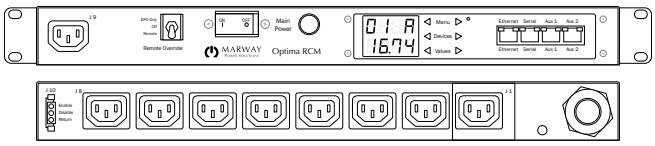
Model Numbers: Group 8

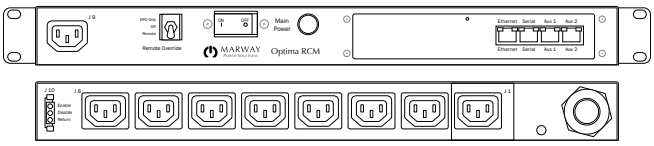


All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis styles shown below.

Model Number	Meter	Filter	R-EPO	Depth
MPD 820008-PSW-000	YES	—	—	9”
MPD 820008-NSW-000	—	—	—	9”
MPD 820108-PSW-000	YES	YES	YES	13”
MPD 820108-NSW-000	—	YES	YES	13”

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets.
NSW = switched outlets (no power monitoring).
Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





Power Cables

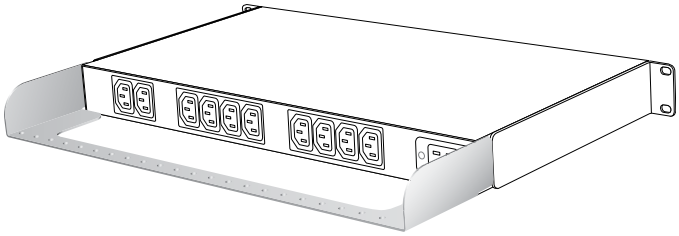
These power cables are for Group 5 models which have the recessed, male C20 connector.

Part Number	PDU	Facility	Length
311114-001	C19	C20	8 feet
311114-002	C19	L6-20P	8 feet
311114-003	C19	6-20P	8 feet
311114-004	C19	L5-20P	8 feet
311114-005	C19	5-20P	8 feet
311114-000	C19	Wire Leads	8 feet

Cable Bracket

Steel bracket, powder coated black. Fits onto the back of any Optima 320, 520, or 820. Adds approximately 3.5” to the back of the PDU.

Part Number 113286-000



Remote Bus Cables

These cables are for the Remote Control Bus.

Part Number	PDU Connector	Cable Connector A	Cable Connector B	Remote Connector	Length
400075-120	AMP 1-480304-0	AMP 1-480305-0	AMP 1-480305-0	AMP 1-480304-0	10 feet
400062-120	AMP 1-480304-0	AMP 1-480305-0	Molex 03-09-3032	Molex 03-09-1081	10 feet

Serial Cable (USB to RJ45)

This cable is required for initial on-site setup of the PDU software.
See “Getting Started” in the User Guide.

Part Number	PDU Connector	Computer Connector	Length
311118-000	RJ45	USB Type A	6 feet

Optima™ 833 Series

Three-Phase 3U Networked PDUs

Maximum Connectivity and Flexibility

With 5 or 6 individually breakered circuits, and 17 or 18 outlets, the 833 offers the highest power management flexibility of the Optima 8 Series products. With standard surge suppressor, EMI filter, and remote EPO, this 3-phase, 30-amp unit provides a high density solution ready for industrial environments.

Shared Feature Highlights

- Standard remote switching over Ethernet.
- Standard inlet power monitoring over Ethernet with local LED display and keypad.
- HTTP/S, Telnet, SSH, SNMP, SMTP, SNTP, IPv4
- 120/208 Vac 3ϕ wye, 50/60 Hz, 24/30 A, L21-30P inlet.
- Inlet available on rear panel or front panel. The front panel inlet connector can be either a recessed male or a strain-relieved cable. The rear panel inlet connector is always a strain-relieved cable. Cables are 9 feet with an L21-30 plug.
- Standard main power four-pole circuit breaker with a power-on indicator for each phase.
- Standard surge suppression and EMI filter.
- Standard remote EPO interface.
- Standard 16/20 A utility circuit with one 5-20R duplex (breakered, but not switched or subject to the EPO system).
- One set of models includes sixteen 5-20R outlets grouped into four 16/20 A circuits each having four outlets. These models do not include additional twist-lock connectors.
- Another set of models includes twelve 5-20R outlets grouped into three 16/20 A circuits each having four outlets. These models also have three twist-lock connectors:
  - Two 16/20 A circuits each with a switched twist-lock outlet. Both circuits have the same twist-lock type with a choice of L5-20R, L5-30R, L6-20R, or L6-30R.
  - One 24/30 A pass-through outlet off the main breaker with one switched L21-30R connector.
- Designed and manufactured to UL 62368-1.

There are 15 configurations of 833 models allowing for the inlet to be on the front or rear panel, and a variety of connectors. There are two general configurations with one set of models including all 5-20R outlets (upper), and another set of models including three twist lock connectors (lower). All models have 30 amp, 3-phase wye inputs.

Dcumentation and Related Links

Optima 833 web page
RCM Software documentation web page
All Optima 8 Series web page
Commander EPO Panels web page

Specification Summary

Inlet Voltage and Current

- All models 120/208 Vac, 50/60 Hz, three-phase wye
- All models 24 A continuous load / 30 A maximum

Overload Protection (standard)

- All models include a four-pole main circuit breaker wired with all three phases and neutral passing through the breaker.
- All branch breakers are UL 489, 16 A continuous load / 20 A max.
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Surge Suppression (standard)

- All models include a thermally protected varistor on each phase with a single-pulse energy rating of 120 joules
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

EMI Filter (standard)

- All models have < 1.0 mA leakage.

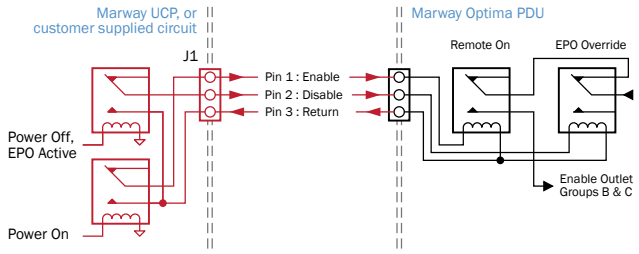
Typical Insertion Loss (closed 50 Ohm system)

Frequency (MHz)	0.15	0.5	1	10	30
Common Mode (dB)	55	62	65	50	45
Differential Mode (dB)	36	55	60	60	50

Remote EPO (standard)

- Panel connector: AMP #1-480304-0, 250 Vac, 4 A maximum.
- Mating cable connector: AMP #1-480305-0.
- Connectors J20, J21, J22 are wired in parallel. J23 has enable delay.
- All outlets other than J1 are managed by the Remote Control Bus.
- J1 outlets (and J9 if present) are always powered relative to the Main Breaker state.

Optima Remote EPO Circuit



Networking

Ethernet 10/100T

- IPv4: DHCP, Static

Web Interface

- HTTP, HTTPS

Command Line Interface

- Telnet, SSH, RS-232

SNMP

- v2/v3
- Access to power data, alarms, outlet switching

Alerts

- Email over SMTP
- SMS over SMTP
- SNMP v2/v3 Traps

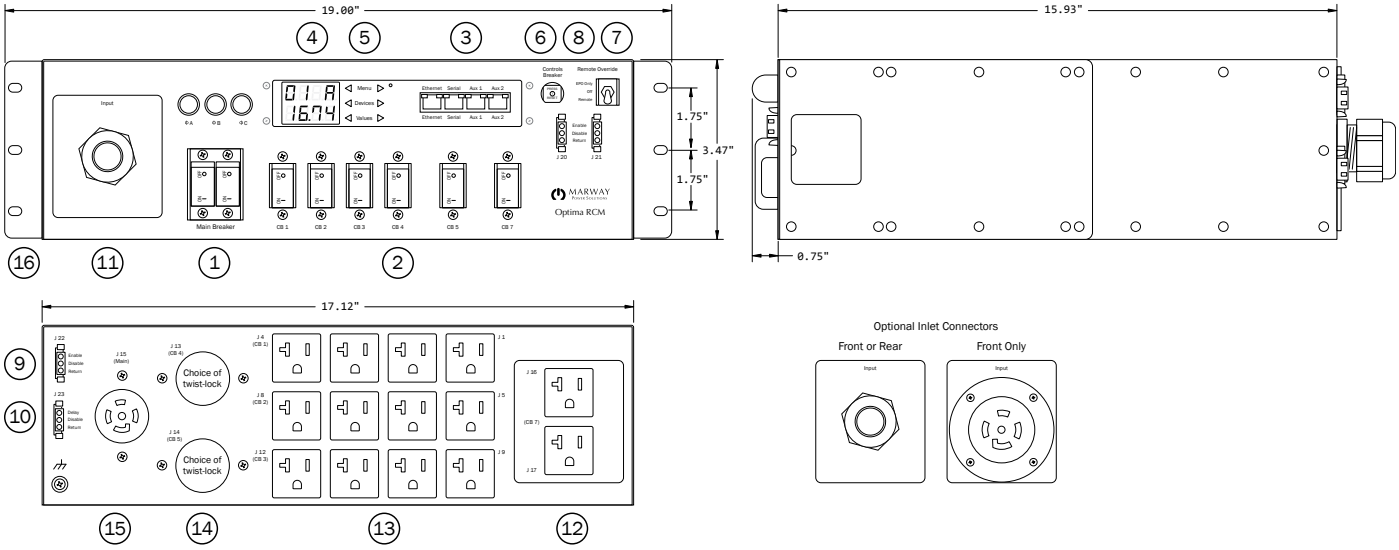
Scriptability

- RESTful API
- Telnet/SSH
- SNMP

Other Protocols

- SNTP, SNMP, FTP

See “8 Series RCM Software Highlights” on page SC-12 for additional software features.



833 Series Map of Features

Standard Features

(1) Main 24/30 A breaker and phase-power indicators.

(2) Branch 16/20 A circuit breakers for outlets. Some models have 5, some models have 6.

(3) Ethernet, RS-232 serial console, and auxilary connections. All are RJ-45. Auxilary connectors are for Marway Temperature/Humidity sensors.

(6) Internal controls 1 A, push-type breaker.

(7) Remote EPO mode switch. A three-position toggle provides manual control over the remote EPO mode. (8) Front panel remote EPO control bus interface. Two connectors enable the PDU to be daisy chained between a remote EPO panel (such as Marway's UCP) and another PDU, or between two PDUs.

(9) Rear panel remote EPO interface. A third connector for when a rear connection is more convenient.

(10) Rear panel remote EPO delay interface. When the Enable signal of a remote panel is triggered, the signal is propagated immediately to all downstream devices through the connectors J20, J21, and J22. Connector J23 introduces a delay of 2 seconds before forwarding the Enable signal. By daisy chaining PDUs with the delay connectors, a staggered start can be created between each downstream PDU.

(16) Mounting brackets. May be mounted to yield a "flush," front-recessed, rear-facing, or rear-recessed position of the chassis relative to the rack's mounting flanges. The brackets include a cutout to allow an inlet cable to be directed into the interior of the rack when the brackets are mounted for a recessed-chassis position. The brackets may also be removed for table top operation, or adaptation of the end user's own brackets.

Optional Configurations

(4) Digital display of inlet power data and relay state. Included with inlet power option.

(5) Display navigation keypad. Included with inlet power option.

(11) Power inlet. Some models include a strain-relieved 9-foot cable with an L21-30 plug (front or rear). Some models include a recessed male connector (front only).

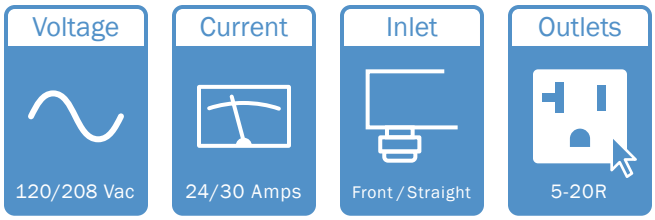
(12) An pair of unswitched 5-20R outlets are standard on all models. The location of these outlets and the Inlet connector (11) are swapped on some models.

(13) All models include at least twelve 5-20R switched outlets (J1 through J12).

(14) On some models, J13 and J14 are twist lock connectors with a choice of L5-20, L5-30, L6-20, or L6-30 where both are the same. On other models, these two twist locks are replaced by four switched 5-20R outlets (for a total of 16 switched 5-20R outlets).

(15) Models which include twist locks for J13 and J14 will also include J15 which is always an L21-30 providing pass-through power from the main breaker.

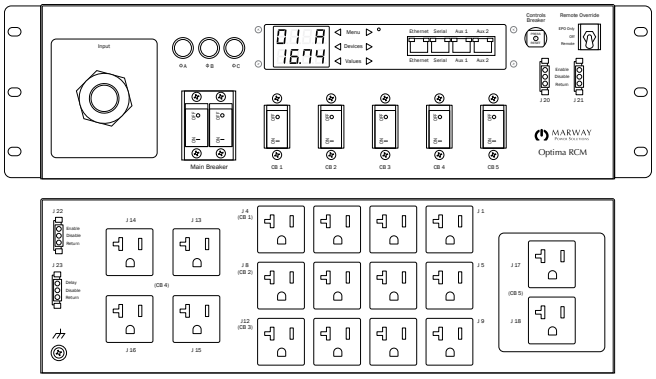
Model Numbers: Group 1

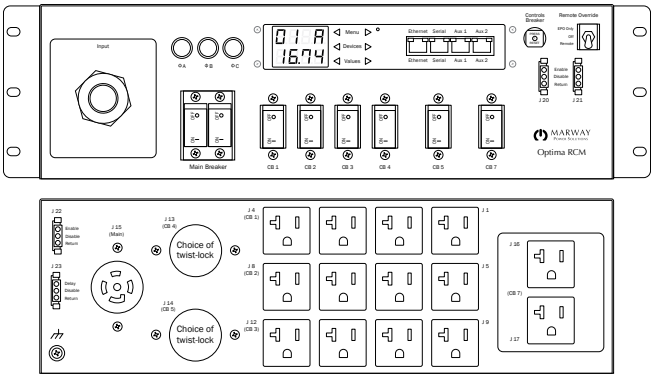


All models include EMI filter, remote EPO interface, and surge suppressor, All models include two unswitched 5-20Rs. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

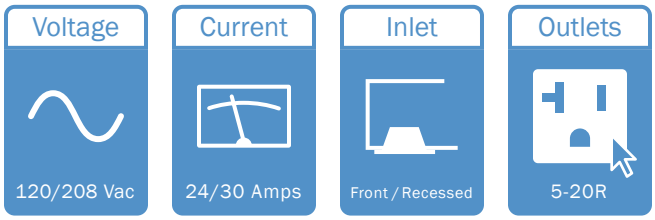
Model Number	Inlet	J5, J6 Outlets	J7 Outlet
MPD 833000-PSW-000	L21-30P / 9 ft.	5-20R, 120V	None
MPD 833001-PSW-000	L21-30P / 9 ft.	L5-20R, 120V	L21-30R
MPD 833002-PSW-000	L21-30P / 9 ft.	L5-30R, 120V	L21-30R
MPD 833003-PSW-000	L21-30P / 9 ft.	L6-20R, 208V	L21-30R
MPD 833004-PSW-000	L21-30P / 9 ft.	L6-30R, 208V	L21-30R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets. Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





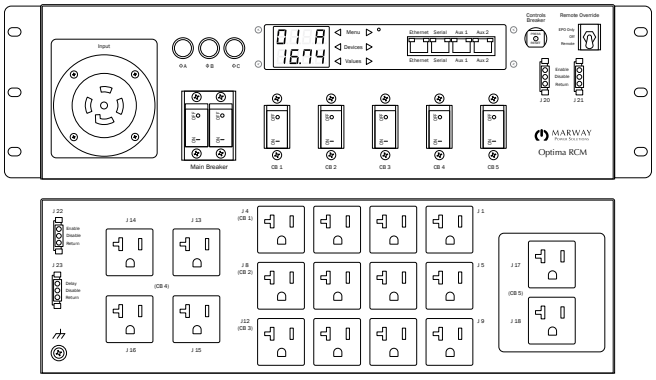
Model Numbers: Group 2

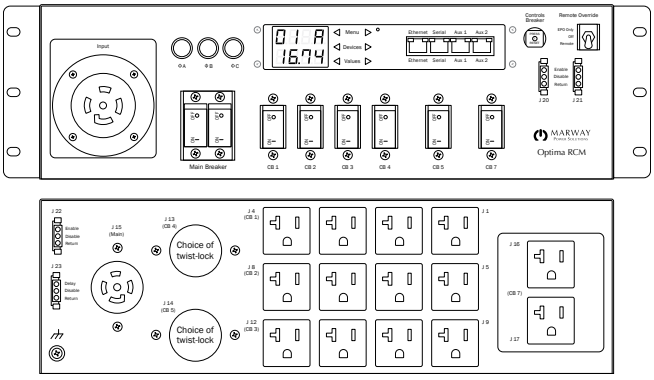


All models include EMI filter, remote EPO interface, and surge suppressor, All models include two unswitched 5-20Rs. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

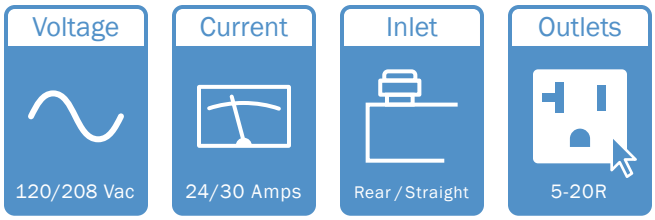
Model Number	Inlet	J5, J6 Outlets	J8 Outlet
MPD 833005-PSW-000	L21-30P / 9 ft.	5-20R, 120V	None
MPD 833006-PSW-000	L21-30P / 9 ft.	L5-20R, 120V	L21-30R
MPD 833007-PSW-000	L21-30P / 9 ft.	L5-30R, 120V	L21-30R
MPD 833008-PSW-000	L21-30P / 9 ft.	L6-20R, 208V	L21-30R
MPD 833009-PSW-000	L21-30P / 9 ft.	L6-30R, 208V	L21-30R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets. Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





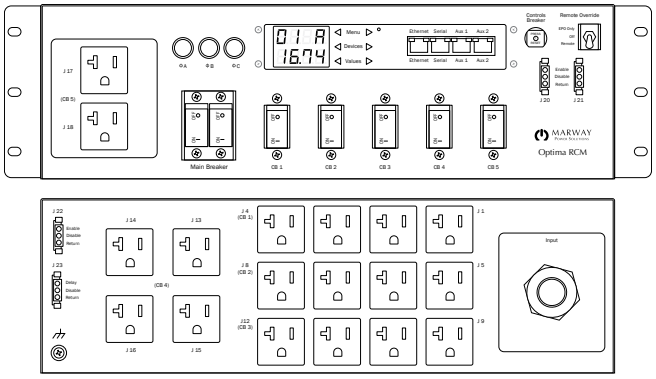
Model Numbers: Group 3

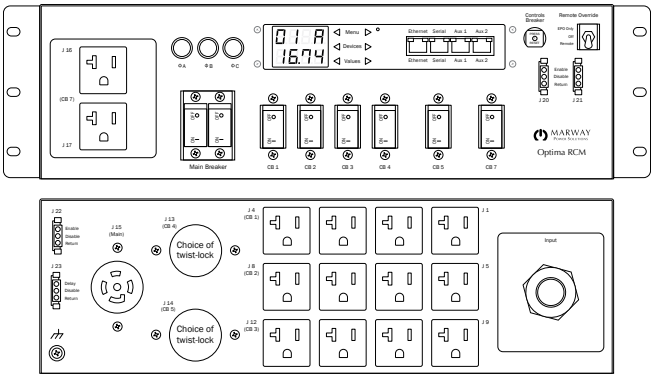


All models include EMI filter, remote EPO interface, and surge suppressor, All models include two unswitched 5-20Rs. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

Model Number	Inlet	J5, J6 Outlets	J8 Outlet
MPD 833010-PSW-000	L21-30P / 9 ft.	5-20R, 120V	None
MPD 833011-PSW-000	L21-30P / 9 ft.	L5-20R, 120V	L21-30R
MPD 833012-PSW-000	L21-30P / 9 ft.	L5-30R, 120V	L21-30R
MPD 833013-PSW-000	L21-30P / 9 ft.	L6-20R, 208V	L21-30R
MPD 833014-PSW-000	L21-30P / 9 ft.	L6-30R, 208V	L21-30R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), switched outlets. Remote EPO on -000 models is N.O. Specify -001 for N.C. EPO.





Remote Bus Cables

These cables are for the Remote Control Bus.

Part Number	PDU Connector	Cable Connector A	Cable Connector B	Remote Connector	Length
400075-120	AMP 1-480304-0	AMP 1-480305-0	AMP 1-480305-0	AMP 1-480304-0	10 feet
400062-120	AMP 1-480304-0	AMP 1-480305-0	Molex 03-09-3032	Molex 03-09-1081	10 feet

Serial Cable (USB to RJ45)

This cable is required for initial on-site setup of the PDU software.
See “Getting Started” in the User Guide.

Part Number	PDU Connector	Computer Connector	Length
311118-000	RJ45	USB Type A	6 feet

Optima™ 829/839 Series

Single-Phase and Three-Phase 0U Networked PDUs

Space Saving Vertical Installation

A vertical PDU frees up rack space for more application equipment, though the narrow size means leaving out some features of the other Optima models. With up to 30 amps of 3-phase power and up to 24 switched outlets, the 829/839 Series offers a high count of switched relays in a space-saving and cost-effective design well-suited to many applications.

Feature Highlights

- Standard remote switching over Ethernet.
- Optional inlet power monitoring over Ethernet with local LED display and keypad.
- HTTP/S, Telnet, SSH, SNMP, SMTP, SNTP, IPv4
- 0U chassis in full-rack (72") and short-rack (52.5") sizes.
- End, side, and tool-less mounting options.
- Multiple inlet power options including:
  - 120 Vac single phase, 50/60 Hz, 12/15 A
  - 120 Vac single phase, 50/60 Hz, 16/20 A
  - 120 Vac single phase, 50/60 Hz, 24/30 A
  - 110-240 Vac single phase, 50/60 Hz, 16/20 A
  - 200-240 Vac single phase, 50/60 Hz, 16/20 A
  - 200-240 Vac single phase, 50/60 Hz, 24/30 A
  - 120/208 Vac three phase, 50/60 Hz, 16/20 A
  - 120/208 Vac three phase, 50/60 Hz, 24/30 A
- Standard UL 489 circuit breakers with power on indicators.
- Inlet connector types including:
  - 5-15P, 5-20P,
  - L5-20P, L5-30P,
  - L6-20P, L6-30P,
  - L21-20P, L21-30P,
  - C20 chassis, and C20 cable.
- Outlet connector types including:
  - All 5-15R, All 5-20R, Mixed C13, and C19.
- Designed and manufactured to UL 62368-1.

Relevant Links

Optima 829 and Optima 839 web pages
RCM Software documentation web page
All Optima 8 Series web page

Specification Summary

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 110–240 Vac, 50/60 Hz, single phase
- 120/208 Vac, 50/60 Hz, three-phase wye
- All voltages are listed as nominal input sources.

Current Capacity Options

- 12 A continuous load / 15 A maximum
- 16 A continuous load / 20 A maximum
- 24 A continuous load / 30 A maximum
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Overload Protection (standard)

- All models include UL 489 two-pole circuit breakers.
- All single-phase models are wired with both line and neutral passing through the two-pole circuit breaker.
- All three-phase wye models are wired with both line and neutral passing through the two-pole circuit breaker.
- All multi-breaker models are wired with a group of eight of outlets per breaker.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

Networking

Ethernet 10/100T

- IPv4: DHCP, Static

Web Interface

- HTTP, HTTPS

Command Line Interface

- Telnet, SSH, RS-232

SNMP

- v2/v3
- Access to power data, alarms, outlet switching

Alerts

- Email over SMTP
- SMS over SMTP
- SNMP v2/v3 Traps

Scriptability

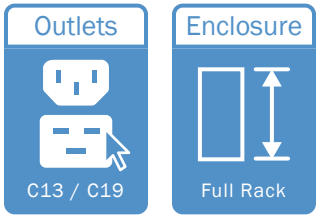
- RESTful API
- Telnet/SSH
- SNMP

Other Protocols

- SNTP, SNMP, FTP

See “8 Series RCM Software Highlights” on page SC-12 for additional software features.

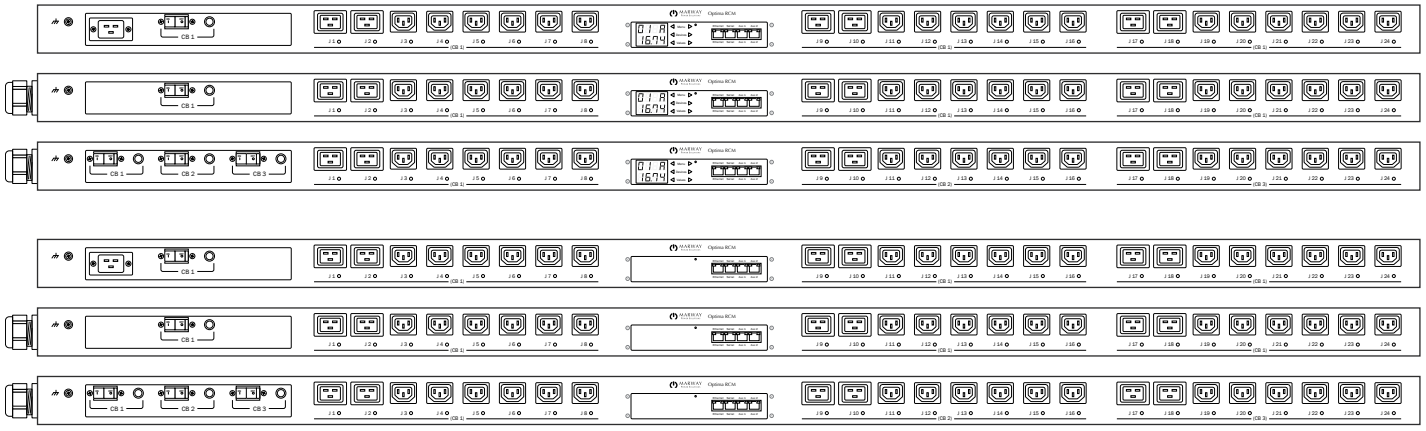
Model Numbers: Group 1



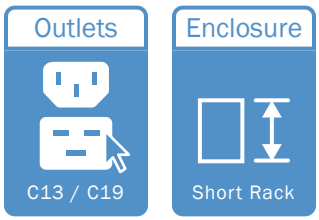
Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations. Chassis length 72".

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829001-PSW-000	110-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (6) C19
MPD 829002-PSW-000	110-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (6) C19
MPD 829003-PSW-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(18) C13 (6) C19
MPD 829004-PSW-000	200-240 Vac 1ϕ L6-30P / 15 ft.	24/30 A	3 @ 20 A	200-240 Vac	(18) C13 (6) C19
MPD 829001-NSW-000	110-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (6) C19
MPD 829002-NSW-000	110-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (6) C19
MPD 829003-NSW-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(18) C13 (6) C19
MPD 829004-NSW-000	200-240 Vac 1ϕ L6-30P / 15 ft.	24/30 A	3 @ 20 A	200-240 Vac	(18) C13 (6) C19
MPD 839001-NSW-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	208 Vac	(18) C13 (6) C19
MPD 839002-NSW-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	208 Vac	(18) C13 (6) C19

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).



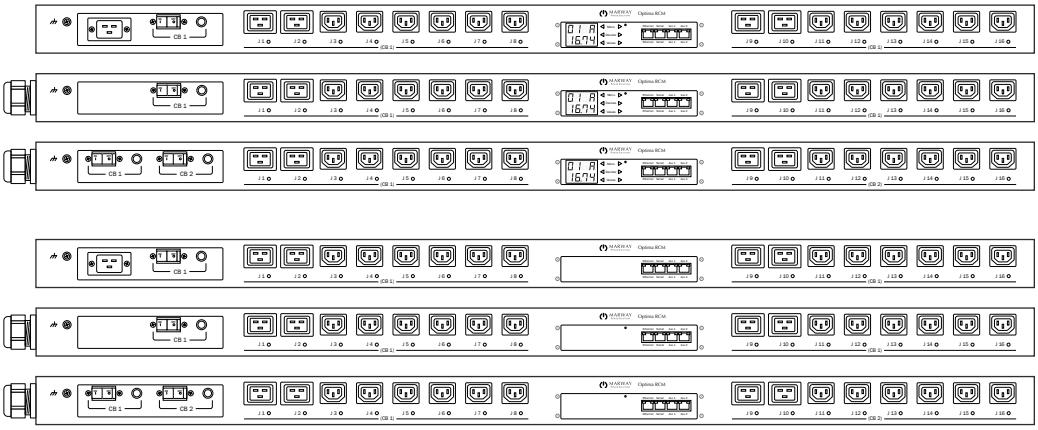
Model Numbers: Group 2



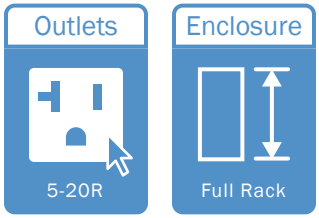
Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations. Chassis length 52.5”.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829009-PSW-000	110-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(12) C13 (4) C19
MPD 829010-PSW-000	110-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(12) C13 (4) C19
MPD 829011-PSW-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(12) C13 (4) C19
MPD 829012-PSW-000	200-240 Vac 1ϕ L6-30P / 15 ft.	24/30 A	2 @ 20 A	200-240 Vac	(12) C13 (4) C19
MPD 829009-NSW-000	100-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(12) C13 (4) C19
MPD 829010-NSW-000	100-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(12) C13 (4) C19
MPD 829011-NSW-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(12) C13 (4) C19
MPD 829012-NSW-000	200-240 Vac 1ϕ L6-30P / 15 ft.	24/30 A	2 @ 20 A	200-240 Vac	(12) C13 (4) C19

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).



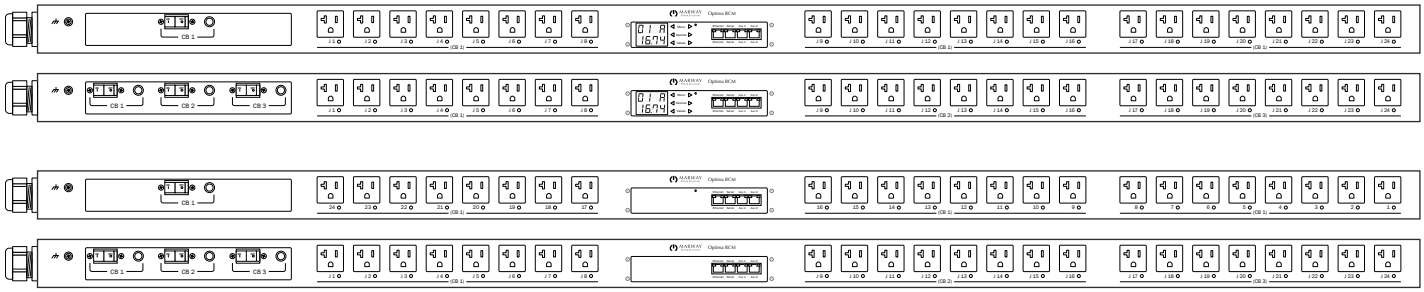
Model Numbers: Group 3



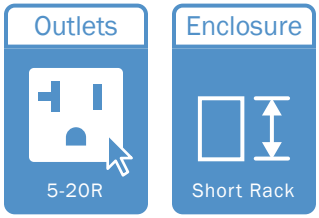
Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations. Chassis length 72".

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829006-PSW-000	120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(24) 5-20R
MPD 829007-PSW-000	120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(24) 5-20R
MPD 829008-PSW-000	120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(24) 5-20R
MPD 839003-PSW-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	120 Vac	(24) 5-20R
MPD 839004-PSW-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(24) 5-20R
MPD 829006-NSW-000	120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(24) 5-20R
MPD 829007-NSW-000	120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(24) 5-20R
MPD 829008-NSW-000	120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(24) 5-20R
MPD 839003-NSW-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	120 Vac	(24) 5-20R
MPD 839004-NSW-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(24) 5-20R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).



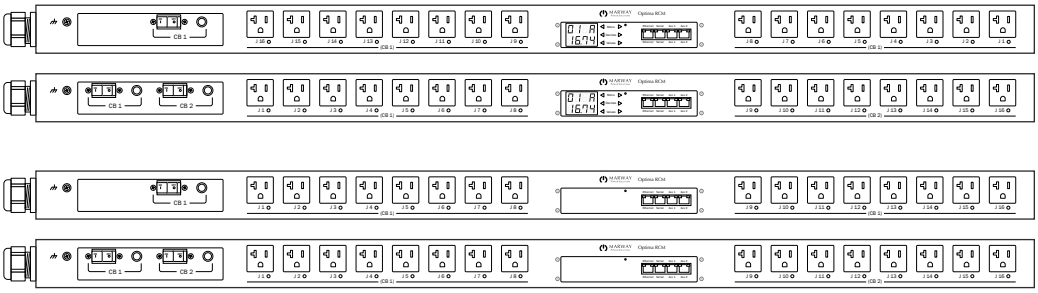
Model Numbers: Group 4



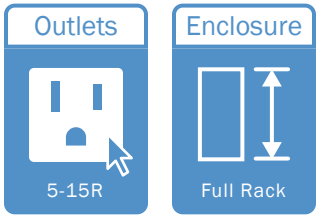
Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations. Chassis length 52.5”.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829014-PSW-000	120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(18) 5-20R
MPD 829015-PSW-000	120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(18) 5-20R
MPD 829016-PSW-000	120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	2 @ 20 A	120 Vac	(18) 5-20R
MPD 829014-NSW-000	120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(18) 5-20R
MPD 829015-NSW-000	120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	120 Vac	(18) 5-20R
MPD 829016-NSW-000	120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	2 @ 20 A	120 Vac	(18) 5-20R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).



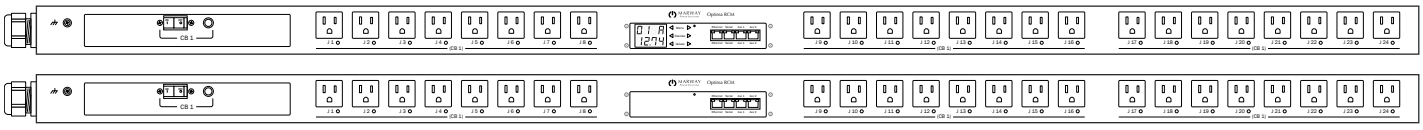
Model Numbers: Group 5



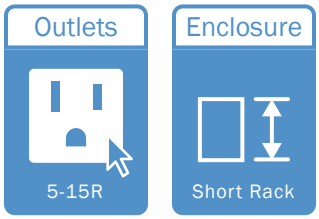
Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829005-PSW-000	120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	120 Vac	(24) 5-15R
MPD 829005-NSW-000	120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	120 Vac	(24) 5-15R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).

Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.Chassis length 72".



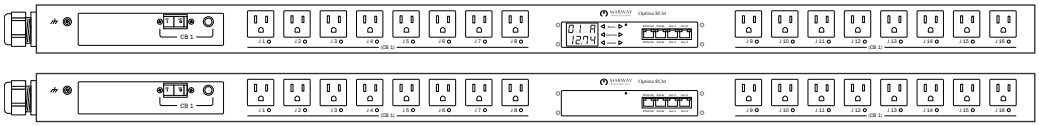
Model Numbers: Group 6



Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 829013-PSW-000	120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	120 Vac	(16) 5-15R
MPD 829013-NSW-000	120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	120 Vac	(16) 5-15R

PSW = power monitored inlets (A, V, W, VA, VAR, PF, Hz), and switched outlets.
NSW = switched outlets (no power monitoring).

Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations. Chassis length 52.5".



Serial Cable (USB to RJ45)

This cable is required for initial on-site setup of the PDU software.
See "Getting Started" in the User Guide.

Part Number	PDU Connector	Computer Connector	Length
311118-000	RJ45	USB Type A	6 feet

RCM™ MES 802

PSU Development Simulator for Remote Control and Monitoring

Develop Scripts Without a PDU

The RCM development simulator enables developers of remote power control and monitoring software to test code against a working RCM instance. This enables development of code for outlet control, power monitoring, alert notifications, provisioning, and doing pre-deployment testing of TLS certificates, and more. Having a simulator means this work can be done without taking a PDU out of commission, or without a full-sized PDU occupying the developer's workspace.

Feature Highlights

- Runs actual RCM firmware on actual RCM hardware.
- Only power data and switching behavior is simulated.
- Enables testing of all network APIs (SNMP, REST, Telnet, ssh, serial, SMTP alarms, and more).
- Ethernet, serial, and temperature/humidity ports are all fully functional.
- Small footprint of approximately 9" x 4" (3.6" high).

Software documentation available at
http://www.marway.com/docs/

Simulator enclosure comes with power adaptor and USB to RJ45 serial cable for setup, and using the serial console command line interface.

RCM Development Kit

Part Number	RCM Version
MES 802-000	2.3.x

Optima™ 520 Series

Single-Phase 1U Basic PDUs

A Feature-Filled Compact Package

The 520 Series packs 12 outlets, a digital power meter, remote On/Off/EPO interface, surge suppressor, EMI filter, and outlet sequencing into a 1U chassis. With inlet and outlet connector, and power form options, there are nearly 100 models to choose from.

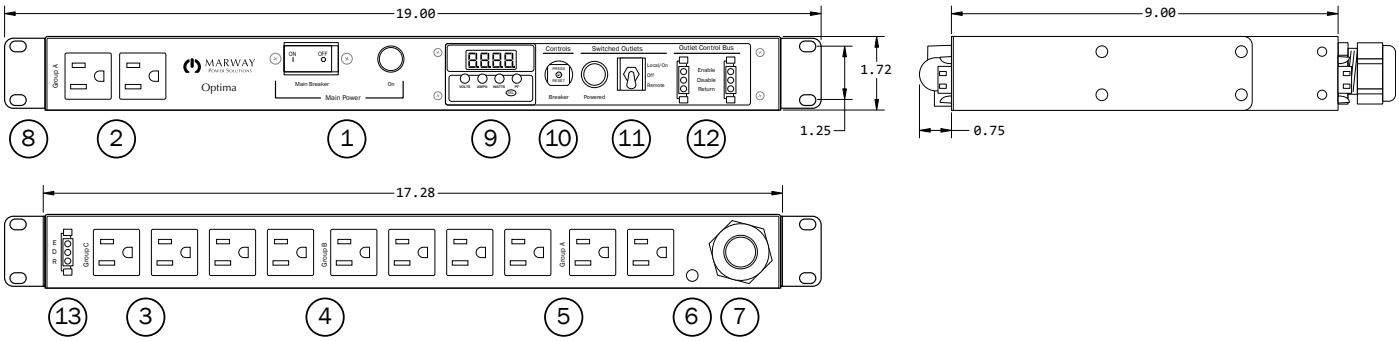
Feature Highlights

- 1U chassis with removable/relocatable mounting brackets.
- 12 outlets (2 on front, 10 on back).
- 120 Vac, 200–240 Vac, or 110–240 Vac 1ϕ power sources.
- 12 A, 16 A, or 24 A continuous-duty capacity (15 A, 20 A, or 30 A maximum capacity).
- 5-15R, 5-20R, or high-tension C13 outlets.
- Straight blade or locking inlet connectors.
- Standard main power circuit breaker with On indicator.
- Standard surge suppression.
- Optional multi-function current and voltage meter.
- Optional remote switching / remote EPO interface.
- Optional sequencing of outlets (two groups of four outlets).
- Optional EMI filter.
- Certified to UL 62368-1.

Relevant Links

Optima 520 web page
All Optima 5 Series web page
Commander EPO Panels web page

Nearly 100 configurations provide options for outlet connectors, inlet connectors, power range, power conditioning, and control features. IEC outlets feature a high-tension design providing similar pull-out resistance as NEMA outlets, thereby eliminating the need for proprietary locking systems or cumbersome retention clips.



Map of Features

Standard Features

(1) Main Power breaker and indicator. The breaker will have a 15, 20, or 30 A maximum-duty rating (de-rated to 80% for continuous duty). Indicator is amber.

(2) Front-panel Group A outlets. These outlets are always powered—that is, they are never switched or sequenced even when those options are included.

(3) Rear-panel Group A outlets. These outlets are always powered—that is, they are never switched or sequenced even when those options are included.

(4) Rear panel Group B outlets. These outlets are controlled by remote switching/EPO *when that option is included*. Otherwise, they are always powered like Group A. When the sequencing option is included, all four Group B outlets are powered together before Group C outlets.

(5) Rear panel Group C outlets. These outlets are controlled by remote switching/EPO *when that option is included*. Otherwise, they are always powered like Group A. When the sequencing option is included, all four Group C outlets are powered together after Group B outlets.

(6) Threaded ground lug.

(7) Power inlet. Most models include a strain-relieved cable as shown. The plug will vary by model. Some models include a panel-mounted C20 connector.

(8) Mounting brackets. May be mounted in one of three locations to yield a "flush," recessed, or rear-facing position of the chassis relative to the rack's mounting flanges. May also be removed for table top operation, or adaptation of end user's own custom brackets.

Optional Features

(9) Optional power meter can display volts, amperes, watts, and power factor. When item 9 is included, item 10 is also included.

(10) Circuit breaker for internal control circuitry. Included when either the optional meter is included, or when the optional remote switching/EPO circuit is included.

(11) Optional Remote Switching/EPO mode switch and indicator. The remote switching package always includes items 10, 11, 12, and 13. The three-position toggle provides manual control over the remote switching mode. When Local/On, all outlets are powered, and only remote EPO will have impact. When Off, Groups B and C outlets are disabled, and any remote circuit will have no impact. When Remote, Groups B and C outlets are subject to the remote/EPO control bus. Group A outlets are always powered regardless of remote mode. Whenever the main circuit breaker is On, the Powered indicator is illuminated to indicate that power is *available* to the switched outlets.

(12) Optional front panel Remote Switching/EPO control bus interface. Two connectors allow the PDU to be daisy chained between a Remote EPO panel (such as Marway's UCP) and another PDU, or even between two PDU's (when one of the others is connected to a remote EPO panel). Either connector can be used for either connection.

(13) Optional rear panel Remote Switching/EPO control bus interface. This is a third connector provided for when a rear connection is more convenient. It always accompanies the remote switching/EPO option package of items 10, 11, and 12.

Specification Summary

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 200–240 Vac, 50/60 Hz, single phase
- 110–240 Vac, 50/60 Hz, single phase
- All voltages are listed as nominal input sources.

Current Capacity Options

- 12 A continuous load / 15 A maximum
- 16 A continuous load / 20 A maximum
- 24 A continuous load / 30 A maximum
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Overload Protection (standard)

- All models include a two-pole UL 489 circuit breaker.
- 12/15 A models are wired with both line and neutral passing through the circuit breaker.
- 16/20 A models are wired with both line and neutral passing through the circuit breaker.
- 24/30 A models in Groups 6 and 8 use a 15 A breaker with the main line branched to each pole of the breaker (creating two 15 A sub-circuits).
- 24/30 A models in Group 7 use a 20 A breaker with the main line branched to each pole of the breaker (creating two 20 A sub-circuits).

Surge Suppression (standard)

- All models include a thermally protected varistor.
- 120 Vac models have a single-pulse energy rating of 100 joules.
- 240 Vac models have a single-pulse energy rating of 170 joules.
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Outlet Sequencing (optional)

- Requires the Remote Switching option described above.
- Group A outlets are powered at startup.
- Group B outlets are powered upon Remote Power On.
- Group C outlets are powered about 2 seconds after Group B.

Environment

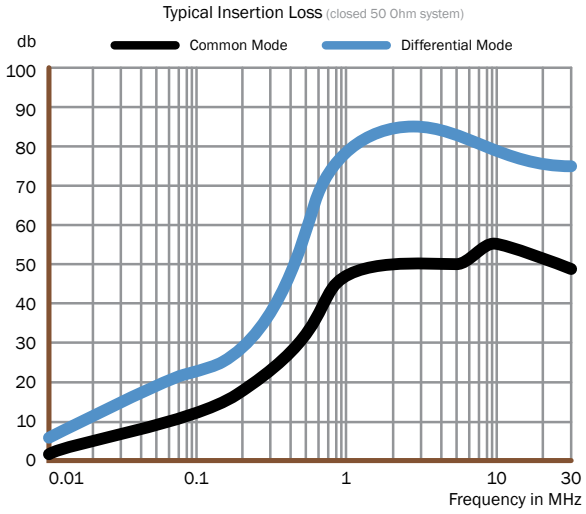
- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

Power Meter (optional)

Display Value	Min	Max	Accuracy
Voltage (volts RMS)	85.0	264.0	± 1%
Current (amperes RMS)	0.00	32.00	± 1%
Active Power (watts RMS)	0.0	9999	± 2%
Power Factor	0.00	1.00	± 3%
Sample Rate (per second)	2	3	–

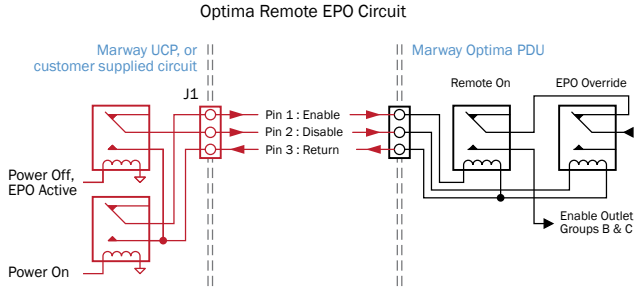
EMI Filter (optional)

- 120 Vac models have < 0.5 mA leakage.
- 240 Vac models have < 1.0 mA leakage.

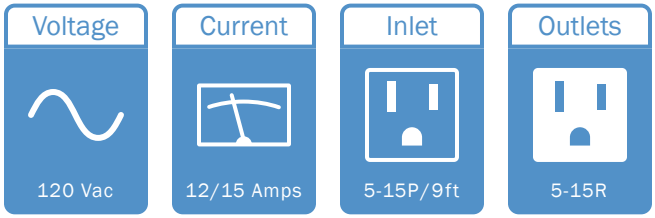


Remote Switching/EPO (optional)

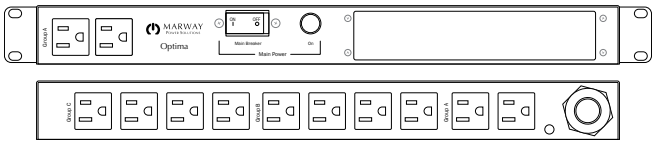
- Panel connector: AMP #1-480304-0, 250 Vac, 4 A maximum
- Mating cable connector: AMP #1-480305-0
- All three bus connectors (2 front, 1 rear) are wired in parallel.
- Group A outlets (2 front, 2 rear) are always powered.
- Groups B and C outlets are managed by the Remote Control Bus.



Model Numbers: Group 1



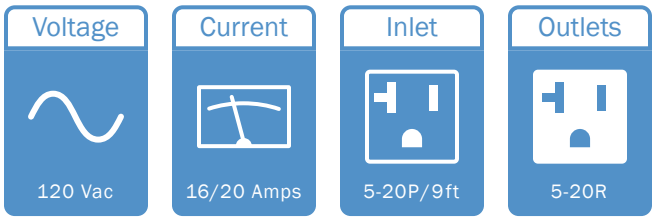
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



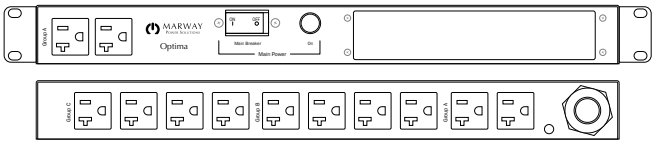
Model Number	Meter	Filter	Remote	Seq'd
MPD 520001-000	–	–	–	–
MPD 520002-000	–	–	YES	–
MPD 520003-000	–	–	YES	YES
MPD 520004-000	–	YES	–	–
MPD 520005-000	–	YES	YES	–
MPD 520006-000	–	YES	YES	YES
MPD 520007-000	YES	–	–	–
MPD 520008-000	YES	–	YES	–
MPD 520009-000	YES	–	YES	YES
MPD 520010-000	YES	YES	–	–
MPD 520011-000	YES	YES	YES	–
MPD 520012-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 2



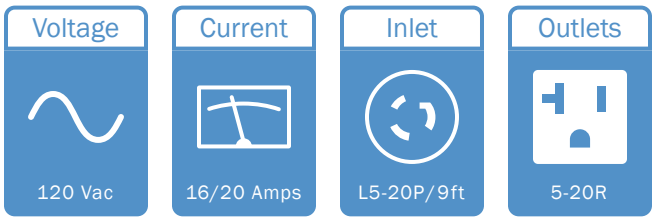
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



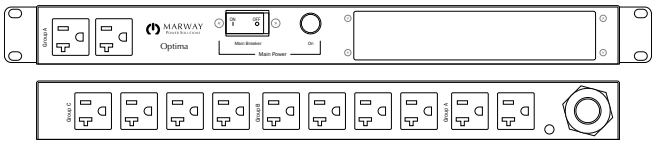
Model Number	Meter	Filter	Remote	Seq'd
MPD 520013-000	–	–	–	–
MPD 520014-000	–	–	YES	–
MPD 520015-000	–	–	YES	YES
MPD 520016-000	–	YES	–	–
MPD 520017-000	–	YES	YES	–
MPD 520018-000	–	YES	YES	YES
MPD 520019-000	YES	–	–	–
MPD 520020-000	YES	–	YES	–
MPD 520021-000	YES	–	YES	YES
MPD 520022-000	YES	YES	–	–
MPD 520023-000	YES	YES	YES	–
MPD 520024-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 3



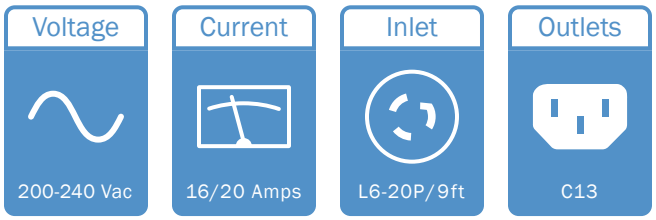
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



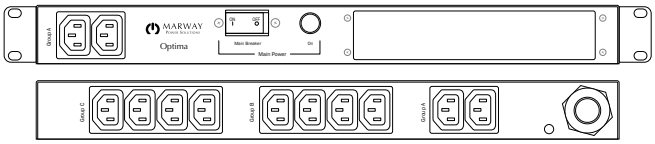
Model Number	Meter	Filter	Remote	Seq'd
MPD 520025-000	–	–	–	–
MPD 520026-000	–	–	YES	–
MPD 520027-000	–	–	YES	YES
MPD 520028-000	–	YES	–	–
MPD 520029-000	–	YES	YES	–
MPD 520030-000	–	YES	YES	YES
MPD 520031-000	YES	–	–	–
MPD 520032-000	YES	–	YES	–
MPD 520033-000	YES	–	YES	YES
MPD 520034-000	YES	YES	–	–
MPD 520035-000	YES	YES	YES	–
MPD 520036-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 4



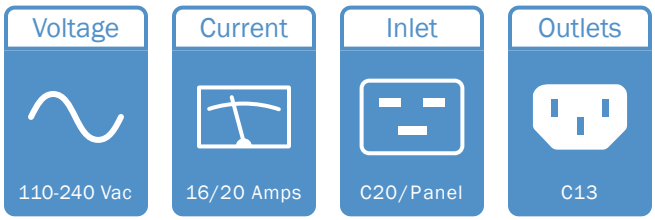
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



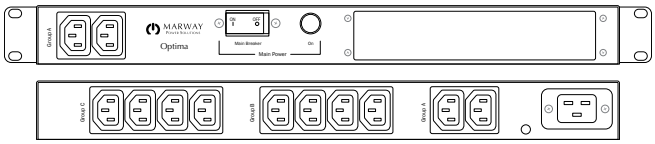
Model Number	Meter	Filter	Remote	Seq'd
MPD 520037-000	–	–	–	–
MPD 520038-000	–	–	YES	–
MPD 520039-000	–	–	YES	YES
MPD 520040-000	–	YES	–	–
MPD 520041-000	–	YES	YES	–
MPD 520042-000	–	YES	YES	YES
MPD 520043-000	YES	–	–	–
MPD 520044-000	YES	–	YES	–
MPD 520045-000	YES	–	YES	YES
MPD 520046-000	YES	YES	–	–
MPD 520047-000	YES	YES	YES	–
MPD 520048-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 5



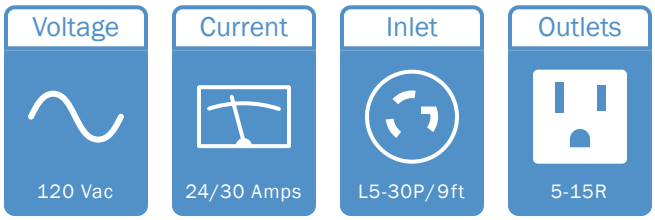
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



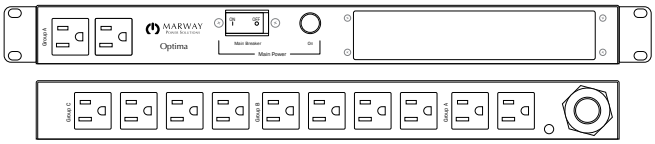
Model Number	Meter	Filter	Remote	Seq'd
MPD 520049-000	–	–	–	–
MPD 520050-000	–	–	YES	–
MPD 520051-000	–	–	YES	YES
MPD 520052-000	–	YES	–	–
MPD 520053-000	–	YES	YES	–
MPD 520054-000	–	YES	YES	YES
MPD 520055-000	YES	–	–	–
MPD 520056-000	YES	–	YES	–
MPD 520057-000	YES	–	YES	YES
MPD 520058-000	YES	YES	–	–
MPD 520059-000	YES	YES	YES	–
MPD 520060-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 6



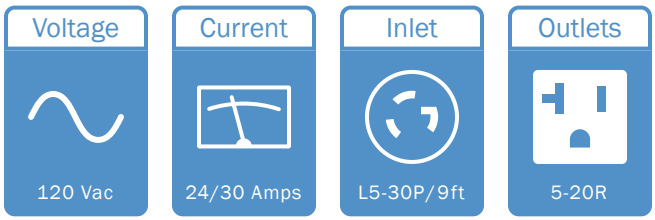
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



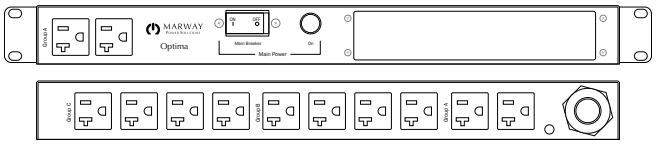
Model Number	Meter	Filter	Remote	Seq'd
MPD 520061-000	–	–	–	–
MPD 520062-000	–	–	YES	–
MPD 520063-000	–	–	YES	YES
MPD 520064-000	–	YES	–	–
MPD 520065-000	–	YES	YES	–
MPD 520066-000	–	YES	YES	YES
MPD 520067-000	YES	–	–	–
MPD 520068-000	YES	–	YES	–
MPD 520069-000	YES	–	YES	YES
MPD 520070-000	YES	YES	–	–
MPD 520071-000	YES	YES	YES	–
MPD 520072-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 7



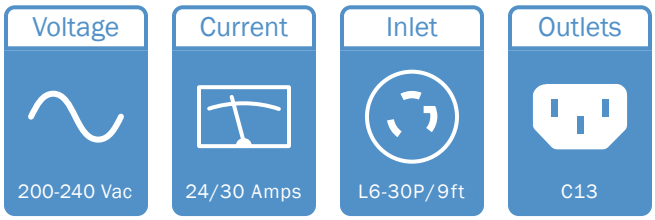
All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



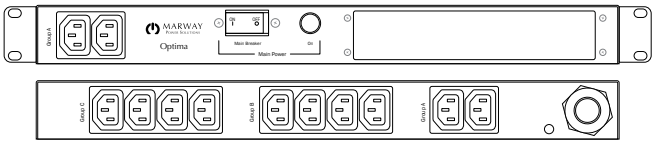
Model Number	Meter	Filter	Remote	Seq'd
MPD 520073-000	–	–	–	–
MPD 520074-000	–	–	YES	–
MPD 520075-000	–	–	YES	YES
MPD 520076-000	–	YES	–	–
MPD 520077-000	–	YES	YES	–
MPD 520078-000	–	YES	YES	YES
MPD 520079-000	YES	–	–	–
MPD 520080-000	YES	–	YES	–
MPD 520081-000	YES	–	YES	YES
MPD 520082-000	YES	YES	–	–
MPD 520083-000	YES	YES	YES	–
MPD 520084-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Model Numbers: Group 8



All models include circuit breaker, power indicator, and surge suppressor. Specifications and availability subject to change without notice. General chassis style shown below without options.



Model Number	Meter	Filter	Remote	Seq'd
MPD 520085-000	–	–	–	–
MPD 520086-000	–	–	YES	–
MPD 520087-000	–	–	YES	YES
MPD 520088-000	–	YES	–	–
MPD 520089-000	–	YES	YES	–
MPD 520090-000	–	YES	YES	YES
MPD 520091-000	YES	–	–	–
MPD 520092-000	YES	–	YES	–
MPD 520093-000	YES	–	YES	YES
MPD 520094-000	YES	YES	–	–
MPD 520095-000	YES	YES	YES	–
MPD 520096-000	YES	YES	YES	YES

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.

Power Cables

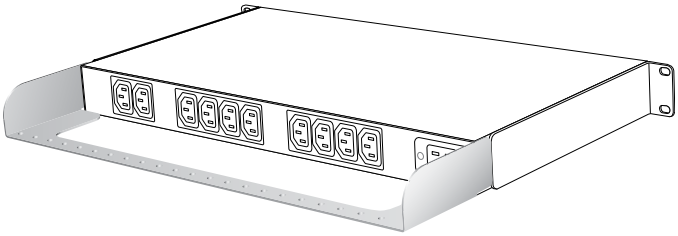
These power cables are for Group 5 models which have the recessed, male C20 connector.

Part Number	PDU	Facility	Length
311114-001	C19	C20	8 feet
311114-002	C19	L6-20P	8 feet
311114-003	C19	6-20P	8 feet
311114-004	C19	L5-20P	8 feet
311114-005	C19	5-20P	8 feet
311114-000	C19	Wire Leads	8 feet

Cable Bracket

Steel bracket, powder coated black. Fits onto the back of any Optima 320, 520, or 820. Adds approximately 3.5" to the back of the PDU.

Part Number 113286-000



Remote Bus Cables

These cables are for the Remote Control Bus.

Part Number	PDU Connector	Cable Connector A	Cable Connector B	Remote Connector	Length
400075-120	AMP 1-480304-0	AMP 1-480305-0	AMP 1-480305-0	AMP 1-480304-0	10 feet
400062-120	AMP 1-480304-0	AMP 1-480305-0	Molex 03-09-3032	Molex 03-09-1081	10 feet

Optima™ 532 Series

Three-Phase 2U Basic PDUs

Compact 3-Phase Power

A 2U chassis and 3-phase inlet provides the space and power for four individually breakered circuits. Each circuit includes straight-blade and twist-lock outlets ready for diverse downstream equipment. With standard surge suppressor, EMI filter, and remote EPO interface, this 3-phase, 30-amp unit provides a compact solution for industrial environments.

Feature Highlights

- 2U chassis with removable/relocatable mounting brackets.
- 120/208 Vac 3ϕ wye, 50/60 Hz, 24 A continuous duty (30 A maximum), L21-30P inlet.
- Inlet available on rear panel or front panel (swaps position with one 5-20R duplex). Front inlet can be straight or right-angled strain relief connector (with the cable passing through an access hole in the recessed mounting bracket).
- Standard main power four-pole circuit breaker with a power on indicator for each phase.
- Standard surge suppression.
- Standard remote switching / remote EPO interface.
- Standard EMI filter.
- Standard 16/20 A utility circuit with one 5-20R duplex (not subject to the EPO system).
- Three 16/20 A circuits:
  - having either one 5-20R duplex or 6-20R duplex, and
  - one twist-lock outlet.
  - Subject to the remote EPO system.
  - All three circuits have the same twist-lock type with a choice of L5-20R, L5-30R, L6-20R, L6-30R, or L21-30R connectors. The 20 A connectors are subject to the branch breakers, but the 30 A connectors are subject only to the main breaker.
- Designed and manufactured to UL 62368-1.

Relevant Links

Optima 532 web page
All Optima 5 Series web page
Commander EPO Panels web page

There are 30 configurations of 532 models. All are 120/208 Vac, 24/30 A capacity. All models include one 5-20R utility duplex. Outlet options include a choice of three additional 5-20R (top) or 6-20R (bottom) duplexes, and a choice of twist-lock connector types. The inlet location may be on the front or rear panel, with the front-mount option allowing for either a straight or right-angled strain relief.

Specification Summary

Inlet Voltage and Current

- All models 120/208 Vac, 50/60 Hz, three-phase wye
- All models 24 A continuous load / 30 A maximum

Overload Protection (standard)

- All models include a four-pole main circuit breaker wired with all three phases and neutral passing through the breaker.
- All branch breakers are UL 489, 16 A continuous load / 20 A max.
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Surge Suppression (standard)

- All models include a thermally protected varistor on each phase with a single-pulse energy rating of 120 joules
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

EMI Filter (standard)

- All models have < 1.0 mA leakage.

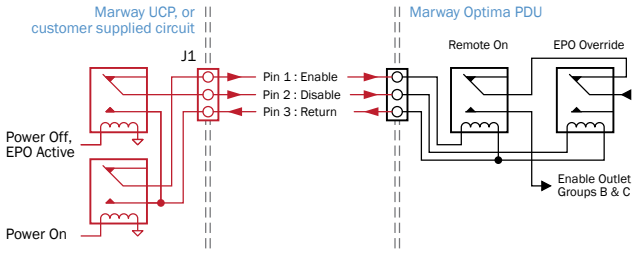
Typical Insertion Loss (closed 50 Ohm system)

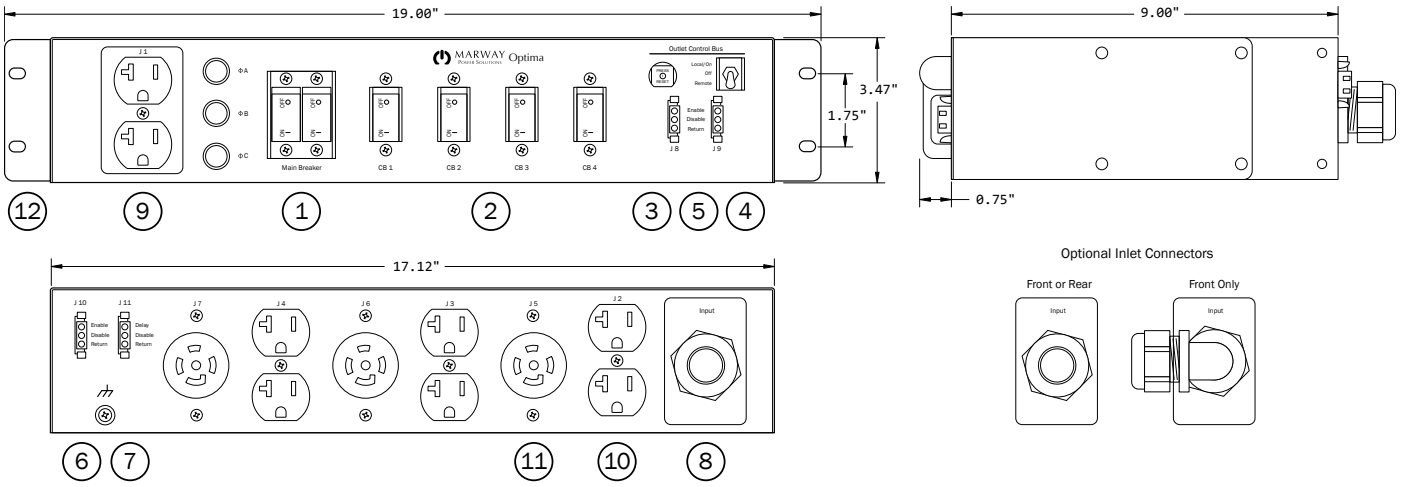
Frequency (MHz)	0.15	0.5	1	10	30
Common Mode (dB)	55	62	65	50	45
Differential Mode (dB)	36	55	60	60	50

Remote EPO (standard)

- Panel connector: AMP #1-480304-0, 250 Vac, 4 A maximum.
- Mating cable connector: AMP #1-480305-0.
- Connectors J8, J9, J10 are wired in parallel. J11 has enable delay.
- All outlets other than J1 are managed by the Remote Control Bus.
- J1 outlets are always powered relative to the Main Breaker state.

Optima Remote EPO Circuit





532 Series Map of Features

Standard Features

(1) Main 24/30 A breaker and phase-power indicators.

(2) Branch 16/20 A circuit breakers for outlets. CB1 is for J1. CB2 is for J2 and J5. CB3 is for J3 and J6. CB4 is for J4 and J7.

(3) Internal controls 1 A, push-type breaker.

(4) Remote EPO mode switch. A three-position toggle provides manual control over the remote EPO mode. The Local/On position forces all outlets powered on, and only the remote EPO button will have affect (not the remote on/off). The Off position forces all outlets off, and the remote panel has no affect. The Remote position allows full control of the outlets by the remote panel.

(5) Front panel remote EPO control bus interface. Two connectors enable the PDU to be daisy chained between a remote EPO panel (such as Marway's UCP) and another PDU, or between two PDUs.

(6) Rear panel remote EPO interface. A third connector for when a rear connection is more convenient.

(7) Rear panel remote EPO delay interface. When the Enable signal of a remote panel is triggered, the signal is propagated immediately to all downstream devices through the connectors identified by (5) and (6). This connector (7) introduces a delay of 2 seconds before forwarding the Enable signal. By daisy chaining PDUs with the delay connectors, a staggered start can be created between each downstream PDU.

(12) Mounting brackets. May be mounted to yield a "flush," front-recessed, rear-facing, or rear-recessed position of the chassis relative to the rack's mounting flanges. The brackets include a cutout to allow an inlet cable to be directed into the interior of the rack when the brackets are mounted for a recessed-chassis position. The brackets may also be removed for table top operation, or adaptation of the end user's own brackets.

Optional Configurations

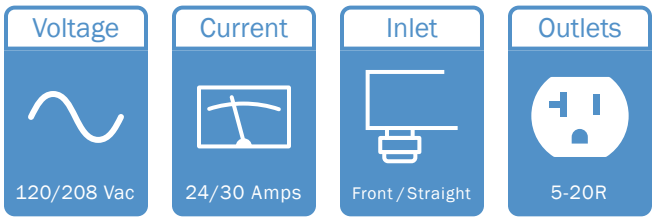
(8) Power inlet. All models include a strain-relieved 9-foot cable with an L21-30 plug. Some models include a straight connector as shown. Some models include a right-angled connector. See the description of the mounting brackets (12).

(9) A 5-20R duplex at J1 is standard on all models. The location of the J1 duplex and the Inlet connector (8) are swapped on some models. Therefore, the inlet can be located on the rear panel or the front panel.

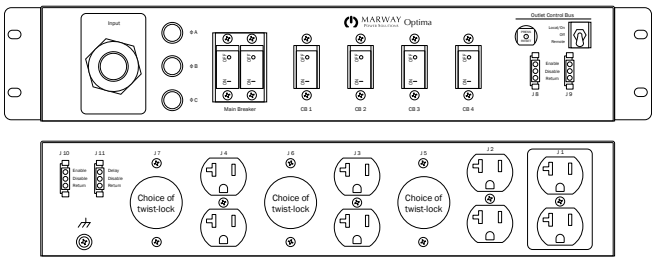
(10) All models include 5-20R or 6-20R duplexes at J2, J3, and J4 on the rear panel.

(11) All models include twist-lock connectors at J5, J6, and J7. All three will be of the same type with a choice from L5-20, L5-30, L6-20, L6-30, and L21-30.

Model Numbers: Group 1



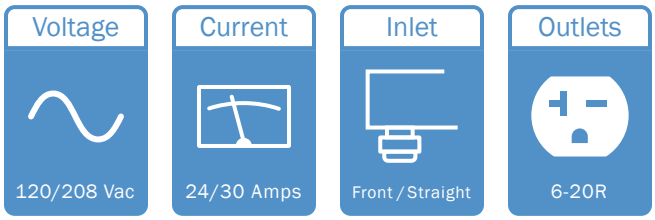
All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



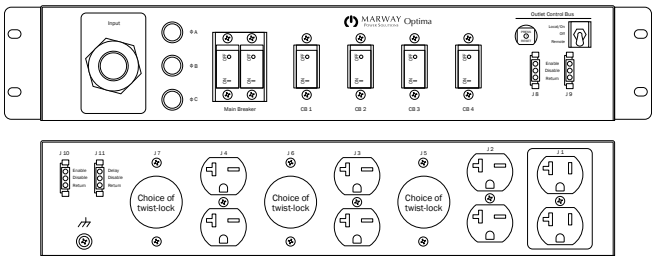
Model Number	Inlet	J5, J6, J7 Outlets
MPD 532000-000	L21-30P / 9 ft.	L5-20R
MPD 532001-000	L21-30P / 9 ft.	L5-30R
MPD 532002-000	L21-30P / 9 ft.	L6-20R
MPD 532003-000	L21-30P / 9 ft.	L6-30R
MPD 532004-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Model Numbers: Group 2



All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



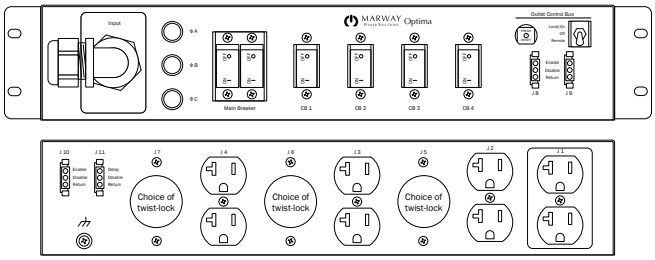
Model Number	Inlet	J5, J6, J7 Outlets
MPD 532005-000	L21-30P / 9 ft.	L5-20R
MPD 532006-000	L21-30P / 9 ft.	L5-30R
MPD 532007-000	L21-30P / 9 ft.	L6-20R
MPD 532008-000	L21-30P / 9 ft.	L6-30R
MPD 532009-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Model Numbers: Group 3

Voltage	Current	Inlet	Outlets
120/208 Vac	24/30 Amps	Front / Angled	5-20R

All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



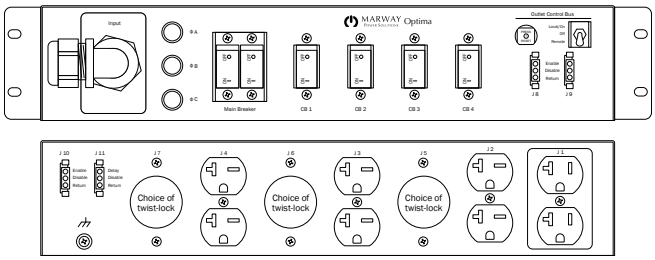
Model Number	Inlet	J5, J6, J7 Outlets
MPD 532010-000	L21-30P / 9 ft.	L5-20R
MPD 532011-000	L21-30P / 9 ft.	L5-30R
MPD 532012-000	L21-30P / 9 ft.	L6-20R
MPD 532013-000	L21-30P / 9 ft.	L6-30R
MPD 532014-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Model Numbers: Group 4

Voltage	Current	Inlet	Outlets
120/208 Vac	24/30 Amps	Front / Angled	6-20R

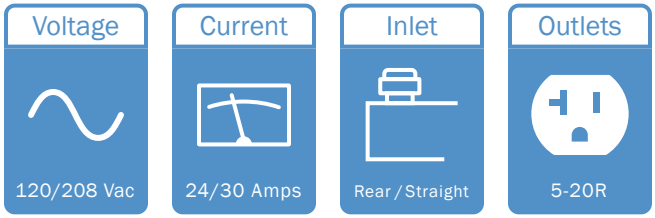
All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



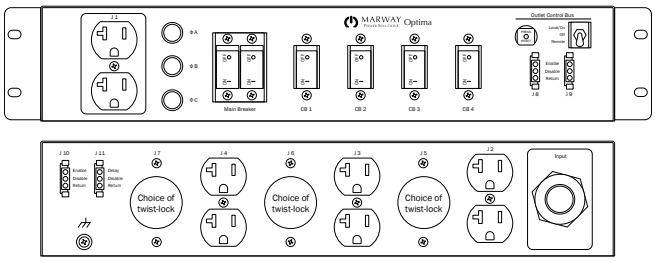
Model Number	Inlet	J5, J6, J7 Outlets
MPD 532015-000	L21-30P / 9 ft.	L5-20R
MPD 532016-000	L21-30P / 9 ft.	L5-30R
MPD 532017-000	L21-30P / 9 ft.	L6-20R
MPD 532018-000	L21-30P / 9 ft.	L6-30R
MPD 532019-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Model Numbers: Group 5



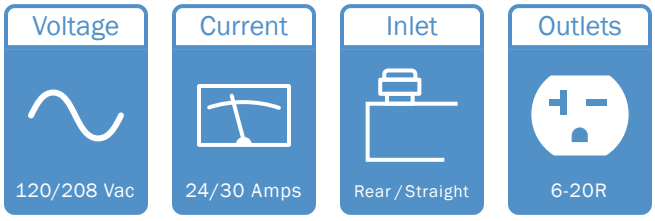
All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



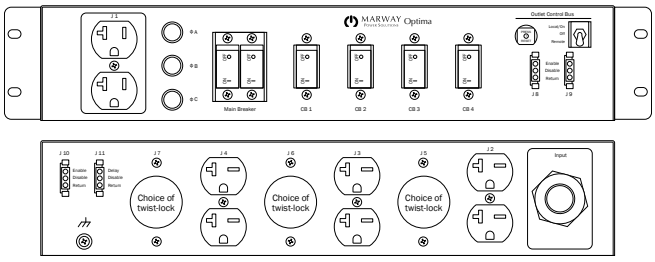
Model Number	Inlet	J5, J6, J7 Outlets
MPD 532020-000	L21-30P / 9 ft.	L5-20R
MPD 532021-000	L21-30P / 9 ft.	L5-30R
MPD 532022-000	L21-30P / 9 ft.	L6-20R
MPD 532023-000	L21-30P / 9 ft.	L6-30R
MPD 532024-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Model Numbers: Group 6



All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.



Model Number	Inlet	J5, J6, J7 Outlets
MPD 532025-000	L21-30P / 9 ft.	L5-20R
MPD 532026-000	L21-30P / 9 ft.	L5-30R
MPD 532027-000	L21-30P / 9 ft.	L6-20R
MPD 532028-000	L21-30P / 9 ft.	L6-30R
MPD 532029-000	L21-30P / 9 ft.	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO.

Remote Bus Cables

These cables are for the Remote Control Bus.

Part Number	PDU Connector	Cable Connector A	Cable Connector B	Remote Connector	Length
400075-120	AMP 1-480304-0	AMP 1-480305-0	AMP 1-480305-0	AMP 1-480304-0	10 feet
400062-120	AMP 1-480304-0	AMP 1-480305-0	Molex 03-09-3032	Molex 03-09-1081	10 feet

Optima™ 533 Series

Three-Phase 3U Basic PDUs

Maximum Connectivity and Flexibility

Eight individually breakered circuits, and 15 or 16 outlets provides the highest power management flexibility of the Optima 5 Series products. With standard surge suppressor, EMI filter, and remote EPO, this 3-phase, 30-amp unit provides a high density solution for industrial environments.

Shared Feature Highlights

- 3U chassis with removable/relocatable mounting brackets.
- 120/208 Vac 3ϕ wye, 50/60 Hz, 24 A continuous duty (30 A maximum), L21-30P inlet.
- Inlet available on rear panel or front panel (swaps position with the J1 5-20R duplex). The front panel inlet connector can be either a recessed male or a strain-relieved cable. The rear panel inlet connector is always a strain-relieved cable. Cables are 9 feet long with an L21-30 plug.
- Standard main power four-pole circuit breaker with a power on indicator for each phase.
- Standard surge suppression.
- Standard remote switching / remote EPO interface.
- Standard EMI filter.
- Standard 16/20 A utility circuit with one 5-20R duplex (not subject to the EPO system).
- One set of models includes eight 16/20 A circuits, each having one 5-20R duplex. These eight-duplex models do not include additional twist-lock connectors.
- All other models include six 16/20 A circuits, each with one 5-20R duplex. These six-duplex models also have three twist-lock connectors as described below.
- The six-duplex models include two 16/20 A circuits each with a twist-lock outlet. Both have the same twist-lock type with a choice of L5-20R, L5-30R, L6-20R, or L6-30R.
- The six-duplex models also include one 24/30 A pass-through off the main breaker with one L21-30R connector.
- Designed and manufactured to UL 62368-1.

There are 15 configurations of 533 models providing options for outlet twist-lock connector types, and location of the inlet on the front or rear panel. Shown are two configurations of back panels where one set of models includes all 5-20R duplexes, and all other models include six duplexes and three twist lock connectors.

Relevant Links

Optima 533 web page
All Optima 5 Series web page
Commander EPO Panels web page

Specification Summary

Inlet Voltage and Current

- All models 120/208 Vac, 50/60 Hz, three-phase wye
- All models 24 A continuous load / 30 A maximum

Overload Protection (standard)

- All models include a four-pole main circuit breaker wired with all three phases and neutral passing through the breaker.
- All branch breakers are UL 489, 16 A continuous load / 20 A max.
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Surge Suppression (standard)

- All models include a thermally protected varistor on each phase with a single-pulse energy rating of 120 joules
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

EMI Filter (standard)

- All models have < 1.0 mA leakage.

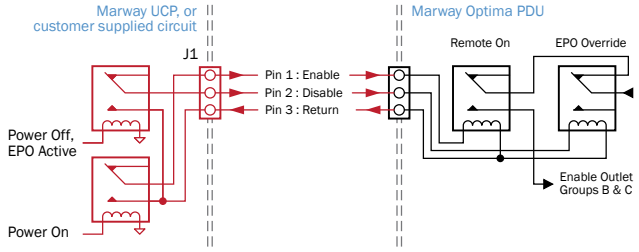
Typical Insertion Loss (closed 50 Ohm system)

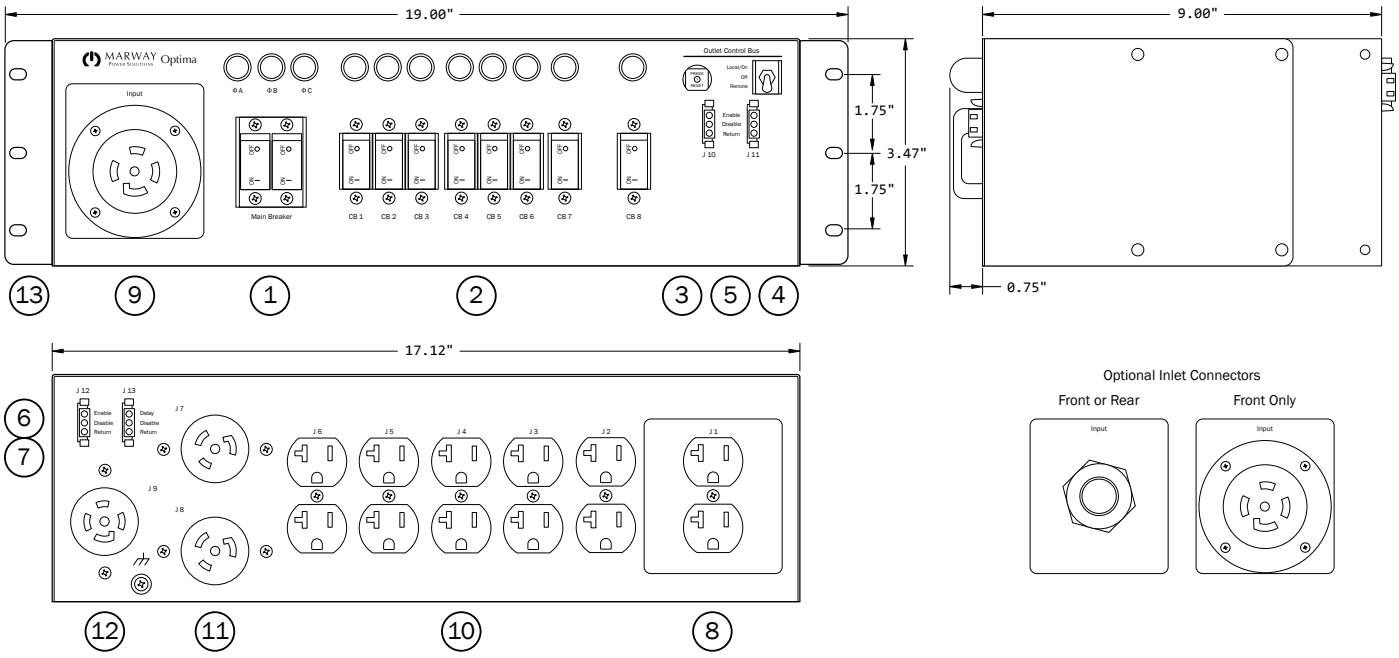
Frequency (MHz)	0.15	0.5	1	10	30
Common Mode (dB)	55	62	65	50	45
Differential Mode (dB)	36	55	60	60	50

Remote EPO (standard)

- Panel connector: AMP #1-480304-0, 250 Vac, 4 A maximum.
- Mating cable connector: AMP #1-480305-0.
- Connectors J8, J9, J10 are wired in parallel. J11 has enable delay.
- All outlets other than J1 are managed by the Remote Control Bus.
- J1 outlets (and J9 if present) are always powered relative to the Main Breaker state.

Optima Remote EPO Circuit





533 Series Map of Features

Standard Features

(1) Main 24/30 A breaker and phase-power indicators.

(2) Branch 16/20 A circuit breakers for outlets. CB1 is for J1. CB2 is for J2, et cetera. There is no breaker for J9 on the models where J9 is included.

(3) Internal controls 1 A, push-type breaker.

(4) Remote EPO mode switch. A three-position toggle provides manual control over the remote EPO mode. The Local/On position forces all outlets powered on, and only the remote EPO button will have affect (not the remote on/off). The Off position forces all outlets off, and the remote panel has no affect. The Remote position allows full control of the outlets by the remote panel.

(5) Front panel remote EPO control bus interface. Two connectors enable the PDU to be daisy chained between a remote EPO panel (such as Marway's UCP) and another PDU, or between two PDUs.

(6) Rear panel remote EPO interface. A third connector for when a rear connection is more convenient.

(7) Rear panel remote EPO delay interface. When the Enable signal of a remote panel is triggered, the signal is propagated immediately to all downstream devices through the connectors identified by (5) and (6). This connector (7) introduces a delay of 2 seconds before forwarding the Enable signal. By daisy chaining PDUs with the delay connectors, a staggered start can be created between each downstream PDU.

(13) Mounting brackets. May be mounted to yield a "flush," front-recessed, rear-facing, or rear-recessed position of the chassis relative to the rack's mounting flanges. The brackets include a cutout to allow an inlet cable to be directed into the interior of the rack when the brackets are mounted for a recessed-chassis position. The brackets may also be removed for table top operation, or adaptation of the end user's own brackets.

Optional Configurations

(8) A 5-20R duplex at J1 is standard on all models. The location of the J1 duplex and the Inlet connector (9) are swapped on some models. Therefore, the inlet can be located on the rear panel or the front panel.

(9) Power inlet. Some models include a recessed male connector as shown. Some models include a strain-relieved 9-foot cable with an L21-30 plug.

(10) All models include at least six 5-20R duplexes.

(11) On some models, J7 and J8 are twist lock connectors (with a choice of L5-20, L5-30, L6-20, L6-30 where both are the same). On other models, J7 and J8 are 5-20R duplexes.

(12) Models which include twist locks for J7 and J8 will also include J9 which is always an L21-30 providing pass-through power from the main breaker.

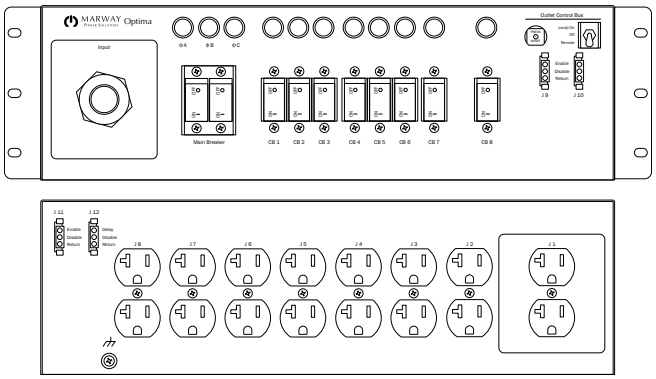
Model Numbers: Group 1

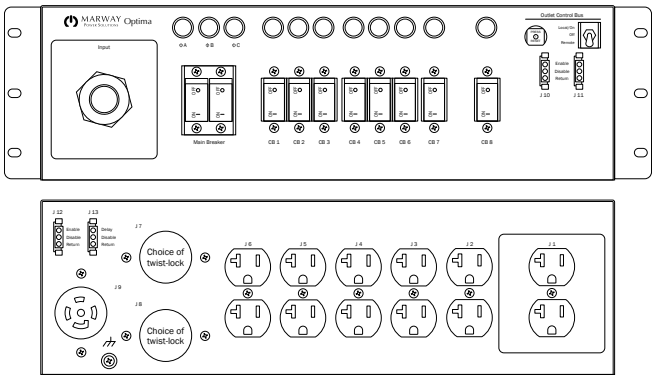
Voltage	Current	Inlet	Outlets
120/208 Vac	24/30 Amps	Front / Straight	5-20R

All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

Model Number	Inlet	J7, J8 Outlets	J9 Outlet
MPD 533000-000	L21-30P / 9 ft.	5-20R	None
MPD 533001-000	L21-30P / 9 ft.	L5-20R	L21-30R
MPD 533002-000	L21-30P / 9 ft.	L5-30R	L21-30R
MPD 533003-000	L21-30P / 9 ft.	L6-20R	L21-30R
MPD 533004-000	L21-30P / 9 ft.	L6-30R	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.





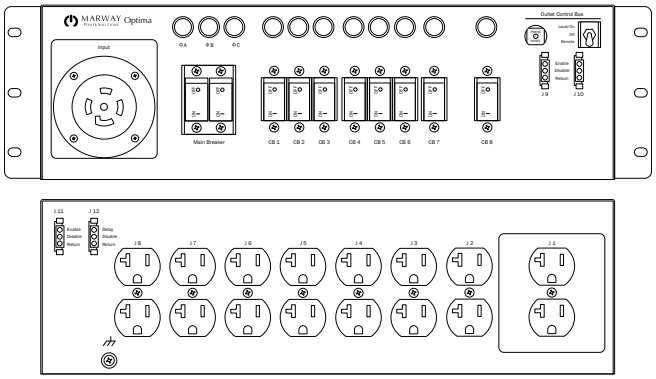
Model Numbers: Group 2

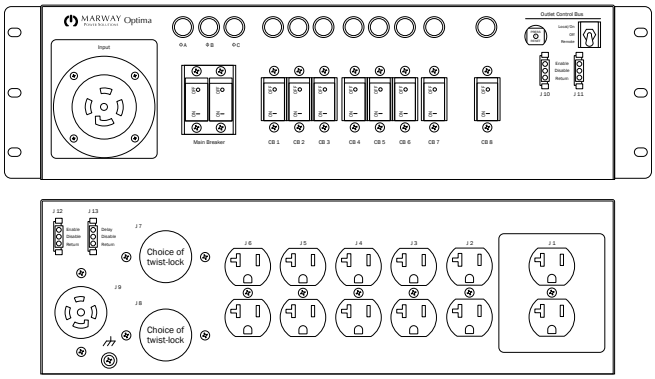
Voltage	Current	Inlet	Outlets
120/208 Vac	24/30 Amps	Front / Recessed	5-20R

All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

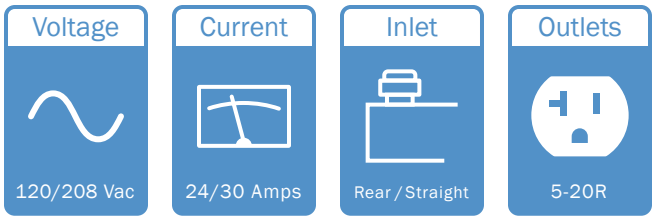
Model Number	Inlet	J7, J8 Outlets	J9 Outlet
MPD 533005-000	L21-30 RM	5-20R	None
MPD 533006-000	L21-30 RM	L5-20R	L21-30R
MPD 533007-000	L21-30 RM	L5-30R	L21-30R
MPD 533008-000	L21-30 RM	L6-20R	L21-30R
MPD 533009-000	L21-30 RM	L6-30R	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.





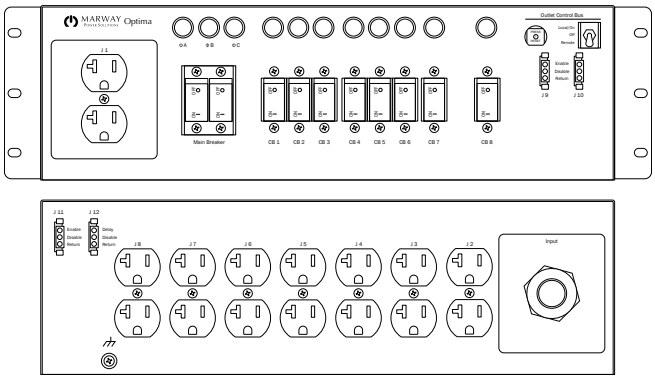
Model Numbers: Group 3

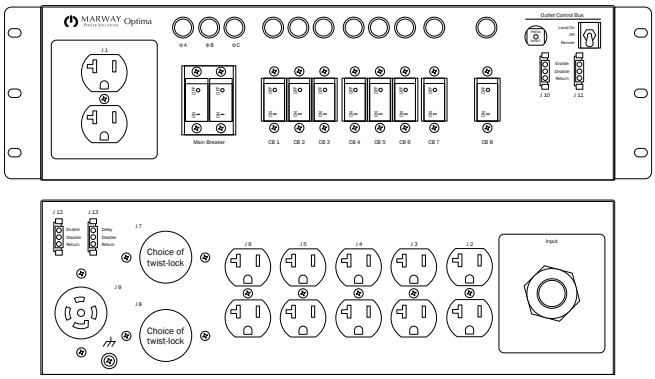


All models include surge suppressor, EMI filter, and remote EPO interface. All models include one 5-20R duplex at J1. Specifications and availability subject to change without notice. General chassis style shown below without specific twist-lock style.

Model Number	Inlet	J7, J8 Outlets	J9 Outlet
MPD 533010-000	L21-30P / 9 ft.	5-20R	None
MPD 533011-000	L21-30P / 9 ft.	L5-20R	L21-30R
MPD 533012-000	L21-30P / 9 ft.	L5-30R	L21-30R
MPD 533013-000	L21-30P / 9 ft.	L6-20R	L21-30R
MPD 533014-000	L21-30P / 9 ft.	L6-30R	L21-30R

All -000 models have N.O. EPO. Specify -001 for N.C. EPO functionality.





Remote Bus Cables

These cables are for the Remote Control Bus.

Part Number	PDU Connector	Cable Connector A	Cable Connector B	Remote Connector	Length
400075-120	AMP 1-480304-0	AMP 1-480305-0	AMP 1-480305-0	AMP 1-480304-0	10 feet
400062-120	AMP 1-480304-0	AMP 1-480305-0	Molex 03-09-3032	Molex 03-09-1081	10 feet

Optima™ 529/539 Series

Single-Phase and Three-Phase 0U Basic PDUs

Space Saving Vertical Installation

A vertical PDU frees up rack space for more application equipment, though the narrow size means leaving out some features of the other Optima models. With up to 30 amps of 3-phase power and up to 42 outlets, the 529/539 Series offers high power densities in a space-saving and cost-effective design well-suited to many applications. A variety of power options, inlet connectors, and outlet connectors results in 24 models to choose from.

Feature Highlights

- 0U chassis in full-rack (66”) and half-rack (40”) sizes.
- End, side, and tool-less mounting options.
- Multiple inlet power options including:
  - 120 Vac single phase, 50/60 Hz, 12/15 A
  - 120 Vac single phase, 50/60 Hz, 16/20 A
  - 120 Vac single phase, 50/60 Hz, 24/30 A
  - 110-240 Vac single phase, 50/60 Hz, 16/20 A
  - 200-240 Vac single phase, 50/60 Hz, 16/20 A
  - 200-240 Vac single phase, 50/60 Hz, 24/30 A
  - 120/208 Vac three phase, 50/60 Hz, 16/20 A
  - 120/208 Vac three phase, 50/60 Hz, 24/30 A
- Standard UL 489 circuit breakers with power on indicator.
- A variety of inlet connector types including:
  - 5-15P, 5-20P,
  - L5-20P, L5-30P,
  - L6-20P, L6-30P,
  - L21-20P, L21-30P,
  - C20 chassis, and C20 cable.
- A variety of outlet connector types including:
  - 5-15R, 5-20R,
  - C13, and C19.
- Designed and manufactured to UL 62368-1.

Relevant Links

Optima 529 and Optima 539 web pages
All Optima 5 Series web page

Specification Summary

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 110–240 Vac, 50/60 Hz, single phase
- 120/208 Vac, 50/60 Hz, three-phase wye
- 208 Vac, 50/60 Hz, three-phase delta
- All voltages are listed as nominal input sources.

Current Capacity Options

- 12 A continuous load / 15 A maximum
- 16 A continuous load / 20 A maximum
- 24 A continuous load / 30 A maximum
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

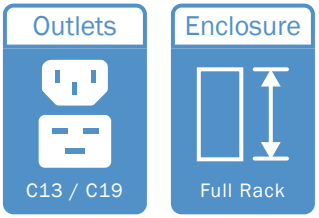
Overload Protection (standard)

- All models include UL 489 two-pole circuit breakers.
- All single-phase models are wired with both line and neutral passing through the two-pole circuit breaker.
- All three-phase wye models are wired with both line and neutral passing through the two-pole circuit breaker.
- All three-phase delta models are wire with both lines passing through the two-pole circuit breaker.
- All multi-breaker models are wired with one outlet group per breaker.

Environment

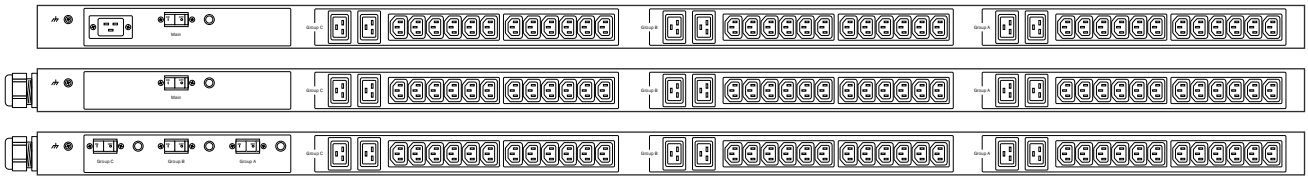
- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

Model Numbers: Group 1

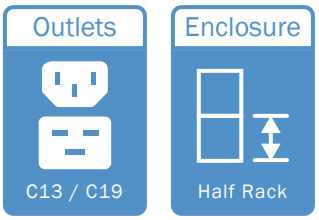


Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529001-000	110-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(36) C13 (6) C19
MPD 529002-000	110-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(36) C13 (6) C19
MPD 529003-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(36) C13 (6) C19
MPD 529004-000	200-240 Vac 1ϕ L6-30P / 15 ft.	16/20 A	3 @ 20 A	200-240 Vac	(36) C13 (6) C19
MPD 539001-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	208 Vac	(36) C13 (6) C19
MPD 539002-000	120/208 Vac 3ϕ L21-30P / 15 ft.	16/20 A	3 @ 20 A	208 Vac	(36) C13 (6) C19

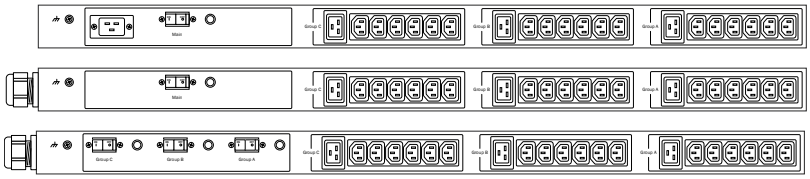


Model Numbers: Group 2

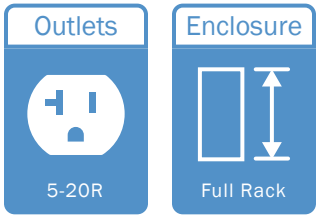


Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529009-000	110-240 Vac 1ϕ C20 chassis	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (3) C19
MPD 529010-000	110-240 Vac 1ϕ C20 / 15 ft.	16/20 A	1 @ 20 A	100-240 Vac	(18) C13 (3) C19
MPD 529011-000	200-240 Vac 1ϕ L6-20P / 15 ft.	16/20 A	1 @ 20 A	200-240 Vac	(18) C13 (3) C19
MPD 529012-000	200-240 Vac 1ϕ L6-30P / 15 ft.	24/30 A	3 @ 20 A	200-240 Vac	(18) C13 (3) C19
MPD 539005-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	208 Vac	(18) C13 (3) C19
MPD 539006-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	208 Vac	(18) C13 (3) C19

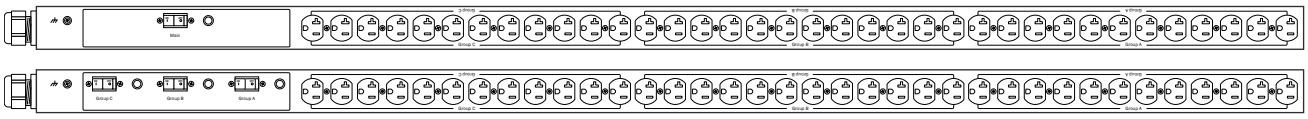


Model Numbers: Group 3

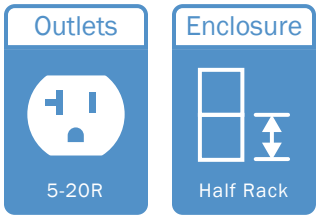


Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529006-000	100-120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	100-120 Vac	(36) 5-20R
MPD 529007-000	100-120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	100-120 Vac	(36) 5-20R
MPD 529008-000	100-120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	3 @ 20 A	100-120 Vac	(36) 5-20R
MPD 539003-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	120 Vac	(36) 5-20R
MPD 539004-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(36) 5-20R

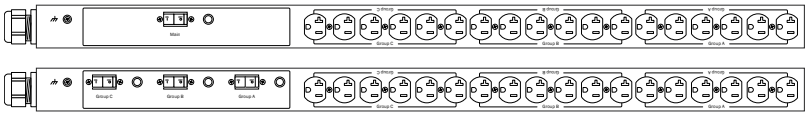


Model Numbers: Group 4

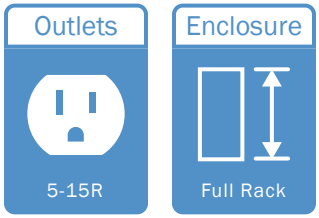


Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.

Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529014-000	100-120 Vac 1ϕ 5-20P / 15 ft.	16/20 A	1 @ 20 A	100-120 Vac	(18) 5-20R
MPD 529015-000	100-120 Vac 1ϕ L5-20P / 15 ft.	16/20 A	1 @ 20 A	100-120 Vac	(18) 5-20R
MPD 529016-000	100-120 Vac 1ϕ L5-30P / 15 ft.	24/30 A	3 @ 20 A	100-120 Vac	(18) 5-20R
MPD 539007-000	120/208 Vac 3ϕ L21-20P / 15 ft.	16/20 A	3 @ 20 A	120 Vac	(18) 5-20R
MPD 539008-000	120/208 Vac 3ϕ L21-30P / 15 ft.	24/30 A	3 @ 20 A	120 Vac	(18) 5-20R

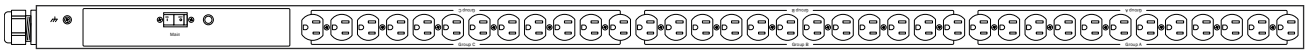


Model Numbers: Group 5

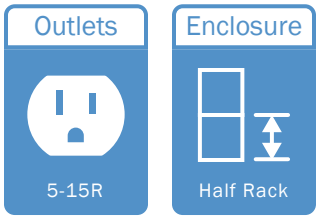


Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529005-000	100-120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	100-120 Vac	(36) 5-15R

Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.

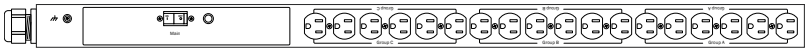


Model Numbers: Group 6



Model Number	Inlet	Current	Circuit Breakers	Outlet Volts	Outlets
MPD 529013-000	100-120 Vac 1ϕ 5-15P / 15 ft.	12/15 A	1 @ 15 A	100-120 Vac	(18) 5-15R

Specifications and availability subject to change without notice. General enclosure style shown below. Actual model-specific appearance may vary from these illustrations.



Optima™ 320 Series

Single-Phase 1U Basic PDUs

Power Essentials in a Light Industrial Package

The Optima 320 Series is Marway's most readily-available and budget-concious line of power distribution units. These units focus on the most common features we're asked for in a simple, general purpose PDU while still having it provide better protection for downstream equipment than commodity systems.

Feature Highlights

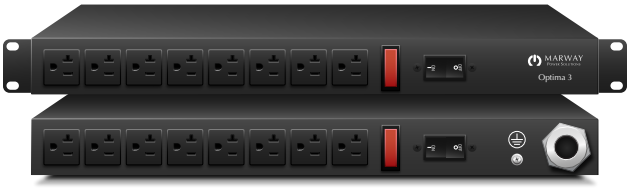
- EMI filter for common mode and differential mode noise reduction.
- Surge protector for voltage spike supporession.
- UL 489 hydraulic magnetic circuit breaker(s) with power on indicator(s).
- High outlet count in two configurations:
  - 14 outlets (2 on front, 12 on back) with a single breaker.
  - 16 outlets (8 on front, 8 on back) with dual breakers.
- 5-15R, 5-20R, or C13 outlets, and one model with a mix of (4) C19 and (12) C13 outlets.
- 120 Vac, or 100–240 Vac 1ϕ power sources.
- 12 A, 16 A, or 24 A continuous-duty capacity (15 A, 20 A, or 30 A maximum capacity).
- The 14-outlet models are available in versions with on-board digital metering of current and voltage.
- The 16-outlet, 8-front/8-back models provide flexibility in environments where the PDU may be repurposed in front vs. rear access use.
- All models are UL 62368-1 certifed and CE marked.

Relevant Links

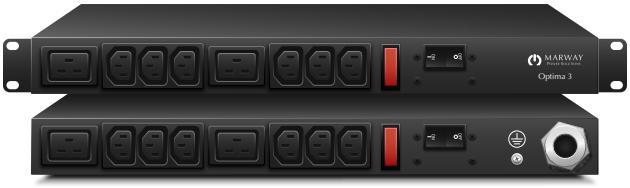
Optima 320 web page

All Optima 3 Series web page

This 2-front/12-back configuration is available with 5-15R, 5-20R, or C13 outlets.



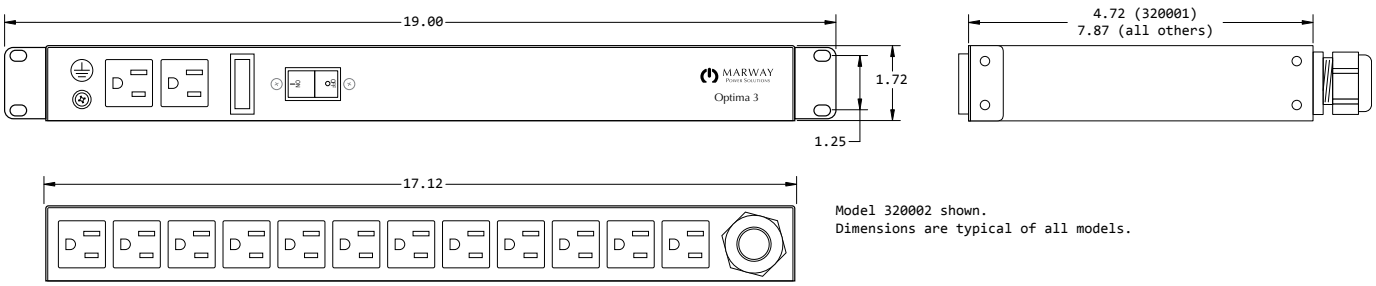
For greater versatility, this 8-front/8-back configuration has dual circuit breakers and is available with 5-15R, 5-20R, or C13 outlets.



Specialized for information server environments, this model provides a mix of C19 and C13 connections on both the front and back.

The 2-front/12-back configurations also come in versions with digital metering of current and voltage.

The MPD 320001-000 is the simplest unit for the most basic applications still needing a 1U steel chassis, but no circuit breaker, no surge protector, and no EMI filter.



Model 320002 shown.
Dimensions are typical of all models.

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 100–240 Vac, 50/60 Hz, single phase
- All voltages are listed as nominal input sources.

Current Capacity Options

- 12 A continuous load / 15 A maximum (5-15P inlet)
- 16 A maximum (C20 inlet)
- 16 A continuous load / 20 A maximum (5-20P inlet)
- 24 A continuous load / 30 A maximum (L5-30P, L6-30P inlets)
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values.

Overload Protection (standard)

- All models (except 320001) include UL 489 circuit breakers.
- All 120 Vac models (except 320001) use single-pole breakers.
- All 100-240 Vac models use double-pole breakers.
- All multi-breaker models are wired with one outlet group per breaker.

Regulatory

- All models certified to UL 62368-1.
- All models CE marked.

Environment

- Operating Temperature: 32°F to 122°F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

Digital Meter (some units)

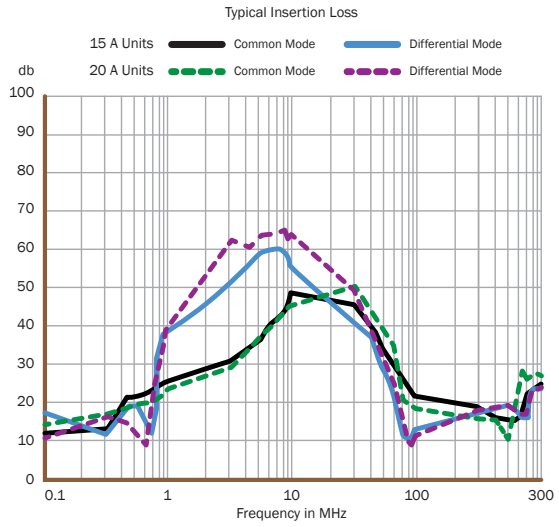
- Volts RMS is measured ± 2%, updated every 15 s.
- Amps RMS is measured ± 2%, updated every 15 s.

Surge Suppression (standard)

- All models (except 320001) include a varistor.
- 120 Vac models (except 320001) have a single-pulse energy rating of 200 joules.
- 240 Vac models have a single-pulse energy rating of 350 joules.
- All models (except 320001) have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

EMI Filter (standard)

- All models (except 320001) include an EMI filter.
- All models have ≤ 0.6 mA leakage.



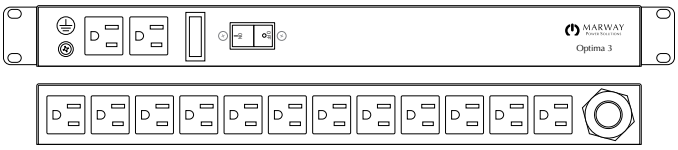
MPD 320001-000

Voltage	Current	Inlet	Outlets
120 Vac	12/15 Amps	5-15P/9ft	5-15R

- (14) 5-15R outlets
- NO circuit breaker, surge suppressor, or EMI filter

MPD 320002-000

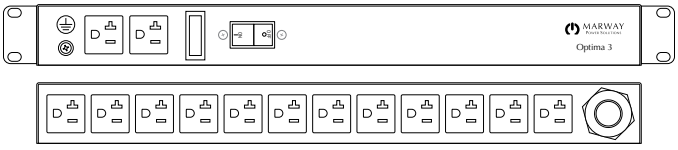
Voltage	Current	Inlet	Outlets
120 Vac	12/15 Amps	5-15P/9ft	5-15R



- (14) 5-15R outlets
- (1) 15 A circuit breaker
- Surge suppressor and EMI filter

MPD 320003-000

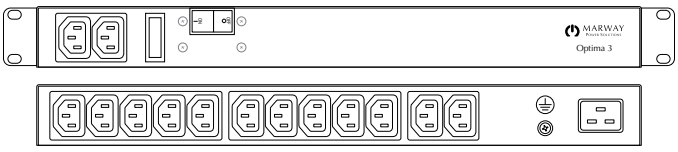
Voltage	Current	Inlet	Outlets
120 Vac	16/20 Amps	5-20P/9ft	5-20R



- (14) 5-20R outlets
- (1) 20 A circuit breaker
- Surge suppressor and EMI filter

MPD 320004-000

Voltage	Current	Inlet	Outlets
100-240 Vac	16 Amps	C20/Panel	C13

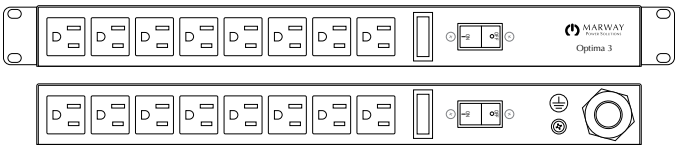


- (14) C13 outlets
- (1) 20 A circuit breaker
- Surge suppressor and EMI filter

Specifications and availability subject to change without notice. General enclosure styles are depicted, though actual model-specific appearance may vary from all model illustrations.

MPD 320005-000

Voltage	Current	Inlet	Outlets
120 Vac	12/15 Amps	5-15P/9ft	5-15R

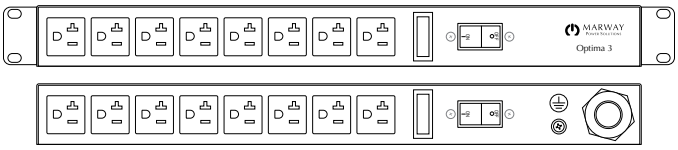


- (16) 5-15R outlets
- (2) 15 A circuit breakers
- Surge suppressor and EMI filter

Note: the dual circuits are for flexibility, not added capacity. Consider the 320006 model for added current capacity.

MPD 320006-000

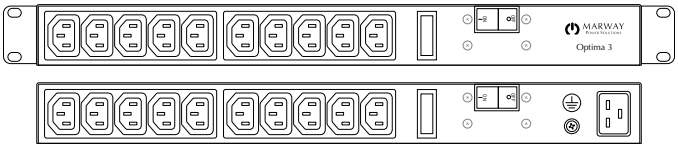
Voltage	Current	Inlet	Outlets
120 Vac	24/30 Amps	L5-30P/9ft	5-20R



- (16) 5-20R outlets
- (2) 20 A circuit breakers
- Surge suppressor and EMI filter

MPD 320007-000

Voltage	Current	Inlet	Outlets
100-240 Vac	16 Amps	C20/Panel	C13

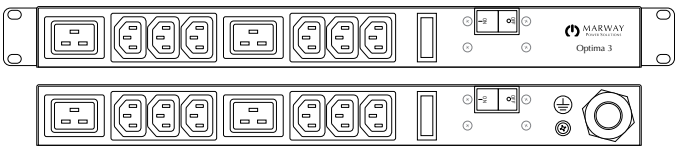


- (16) C13 outlets
- (2) 20 A circuit breakers
- Surge suppressor and EMI filter

Note: the dual circuits are for flexibility, not added capacity. Consider the 320008 model for added current capacity.

MPD 320008-000

Voltage	Current	Inlet	Outlets
100-240 Vac	24/30 Amps	L6-30P/9ft	C13 / C19

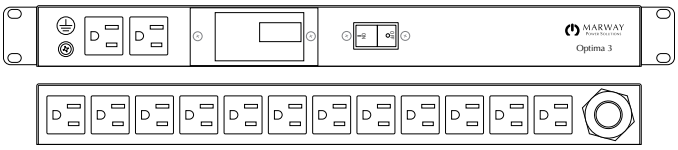


- (12) C13 outlets, (4) C19 outlets
- (2) 20 A circuit breakers
- Surge suppressor and EMI filter

Specifications and availability subject to change without notice. General enclosure styles are depicted, though actual model-specific appearance may vary from all model illustrations.

MPD 320009-000

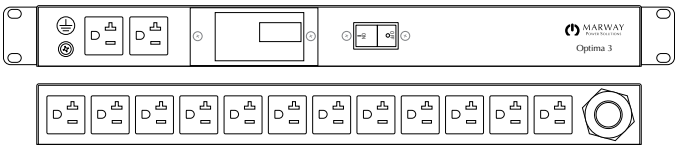
Voltage	Current	Inlet	Outlets
120 Vac	12/15 Amps	5-15P/9ft	5-15R



- (14) 5-15R outlets
- (1) 15 A circuit breaker
- Surge suppressor and EMI filter
- Digital display

MPD 320010-000

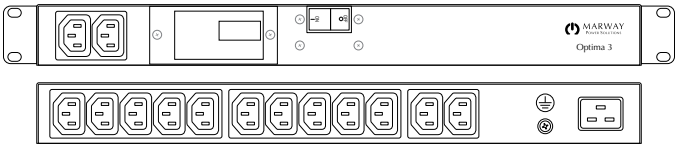
Voltage	Current	Inlet	Outlets
120 Vac	16/20 Amps	5-20P/9ft	5-20R



- (14) 5-20R outlets
- (1) 20 A circuit breaker
- Surge suppressor and EMI filter
- Digital display

MPD 320011-000

Voltage	Current	Inlet	Outlets
100-240 Vac	16 Amps	C20/Panel	C13



- (14) C13 outlets
- (1) 20 A circuit breaker
- Surge suppressor and EMI filter
- Digital display

Power Cables

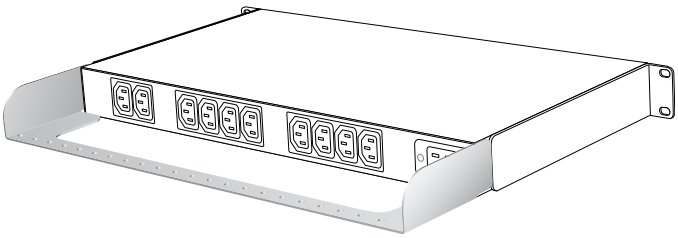
These power cables are for models which have the recessed, male C20 connector.

Part Number	PDU	Facility	Length
311114-001	C19	C20	8 feet
311114-002	C19	L6-20P	8 feet
311114-003	C19	6-20P	8 feet
311114-004	C19	L5-20P	8 feet
311114-005	C19	5-20P	8 feet
311114-000	C19	Wire Leads	8 feet

Cable Bracket

Steel bracket, powder coated black. Fits onto the back of any Optima 320, 520, or 820. Adds approximately 3.5” to the back of the PDU.

Part Number 113286-000



Optima™ 329 Series

Single-Phase 0U Basic PDUs

Space Saving Vertical Installation

As part of the budget-concious 3 Series, the 329 models are vertical PDU which free up rack space for more application equipment. Though the narrow size means leaving out the EMI filter included with other Optima models, these units provide added flexibility to a rack which does not need EMI protection.

Feature Highlights

- All models include on-board digital metering and display of current and voltage for each circuit.
- Surge protector for voltage spike supporession.
- UL 489 hydraulic magnetic circuit breaker(s) with power on indicator(s).
- Black powder coated 18 ga steel chassis with tool-less mounting buttons.
- All models are UL 62368-1 certifed and CE marked.

Focused, but Flexible

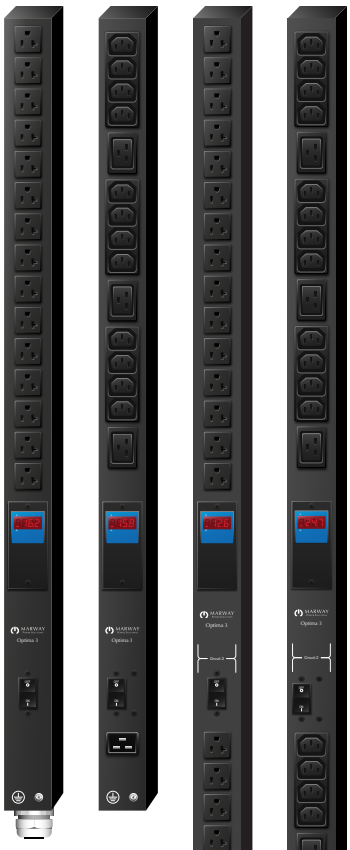
Focusing on the essentials of general purpose applications, the Optima 329 offers lower costs and quicker availability than Marway's build-to-order lines. Still, the 4 models provide the flexibility to match many applications.

- Model 329001
  - Outlets: (15) 5-20R with a single 20 A breaker.
  - Inlet: 5-20P with 9'cord, 16 A continuous duty.
- Model 329002
  - Outlets: (12) C13 and (3) C19 with a single 20 A breaker.
  - Inlet: C20, 16 A continuous duty.
- Model 329003
  - Outlets: (30) 5-20R with a two 20 A breakers.
  - Inlet: L5-30P with 9'cord, 24 A continuous duty.
- Model 329004
  - Outlets: (24) C13 and (6) C19 with a two 20 Abreakers.
  - Inlet: L6-30P with 9'cord, 24 A continuous duty.

Relevant Links

Optima 329 web page

All Optima 3 Series web page



The digital meter auto rotates between displaying current and voltage.

Specification Summary

Inlet Voltage Options

- 120 Vac, 50/60 Hz, single phase
- 100–240 Vac, 50/60 Hz, single phase
- All voltages are listed as nominal input sources.

Current Capacity Options

- 16 A maximum (C20 inlet)
- 16 A continuous load / 20 A maximum (5-20P inlet)
- 24 A continuous load / 30 A maximum (5-30P, L6-30P inlets)
- Based on NEC regulations, traditional load ratings are de-rated to 80% for continuous duty. For example, a traditional 30 A maximum rating is now interpreted and labeled as a 24 A continuous duty rating. Optima current ratings are shown with continuous/maximum rating values except where IEC ratings dictate maximum values only.

Overload Protection (standard)

- All models include UL 489 circuit breakers.
- All 120 Vac models use single-pole breakers.
- All 100-240 Vac models use double-pole breakers.
- All multi-breaker models are wired with one outlet group per breaker.

Surge Suppression (standard)

- All models include a varistor.
- 120 Vac models have a single-pulse energy rating of 200 joules.
- 240 Vac models have a single-pulse energy rating of 350 joules.
- All models have a peak surge current rating of 10,000 A for a single pulse 8x20µs wave.

Digital Meter (some units)

- Volts RMS is measured ± 2%, updated every 15 s.
- Amps RMS is measured ± 2%, updated every 15 s.

Regulatory

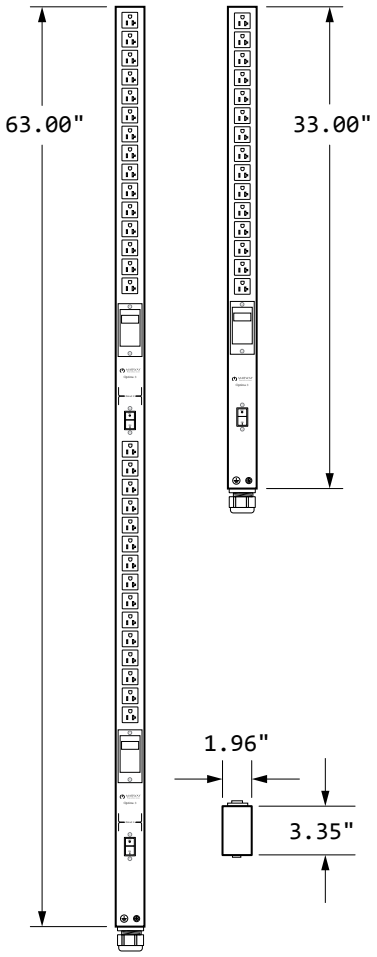
- All models certified to UL 62368-1.
- All models CE marked.

Environment

- Operating Temperature: 32 °F to 113 °F
- Maximum Altitude: 6,562 feet
- Relative Humidity: 5% to 85% non-condensing

Dimensions

- Typical for all outlet types
- Download detailed drawings from web site



MPD 329001-000

Voltage	Current	Inlet	Outlets	Enclosure
120 Vac	16/20 Amps	5-20P/9ft	5-20R	Short Rack

- (15) 5-20R outlets
- (1) 20 A circuit breaker
- Surge suppressor
- Digital display

MPD 329002-000

Voltage	Current	Inlet	Outlets	Enclosure
100-240 Vac	16 Amps	C20/Panel	C13 / C19	Short Rack

- (12) C13 outlets
- (3) C19 outlets
- (1) 20 A circuit breaker
- Surge suppressor
- Digital display

MPD 329003-000

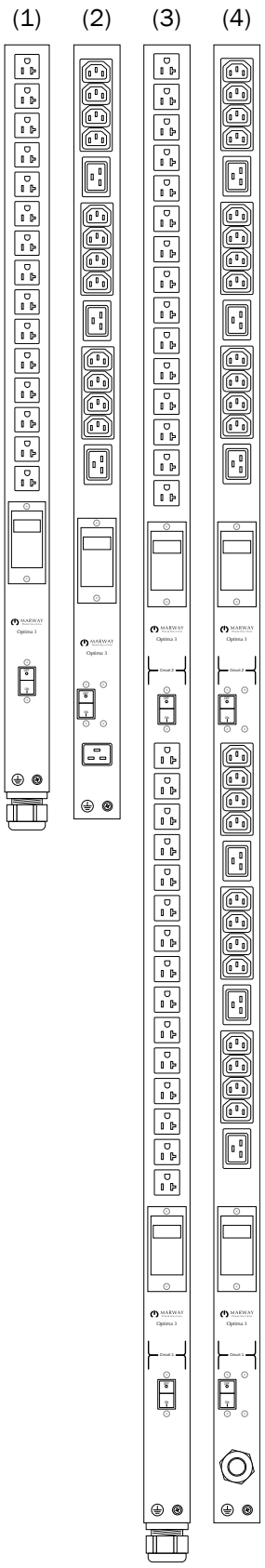
Voltage	Current	Inlet	Outlets	Enclosure
120 Vac	24/30 Amps	L5-30P/9ft	5-20R	Full Rack

- (30) 5-20R outlets
- (2) 20 A circuit breakers
- Surge suppressor
- Digital display

MPD 329004-000

Voltage	Current	Inlet	Outlets	Enclosure
100-240 Vac	24/30 Amps	L6-30P/9ft	C13 / C19	Full Rack

- (24) C13 outlets
- (6) C19 outlets
- (2) 20 A circuit breakers
- Surge suppressor
- Digital display



Commander™ UCP 5000 and 5100

Universal Control Panel for On/Off/EPO

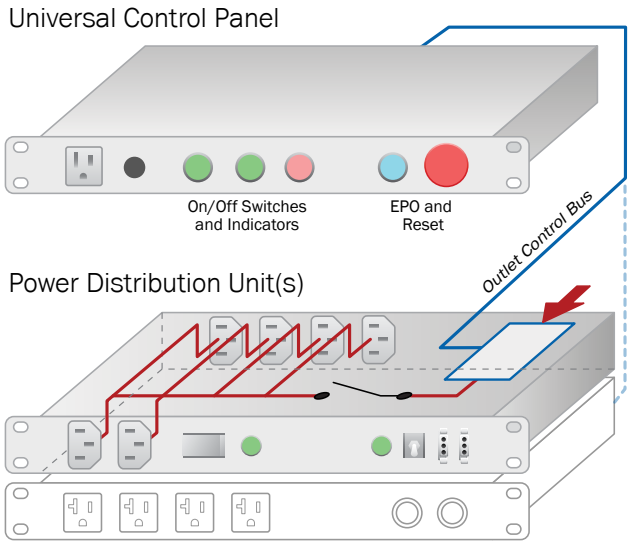
Consolidated Control

Marway's UCP 5000 / 5100 consolidates into a single control panel the on, off, and EPO control features to remotely manage one or more power distribution units. Marway PDUs with a remote EPO controller can then provide power on/off of downstream equipment switched in unison.

Feature Highlights

- Connects to one or multiple PDUs.
- On, Off, EPO control to all connected PDUs.
- EPO reset button.
- EPO audio alarm with on/off switch.
- "Control Power" lamp indicates UCP has power
- Local circuit breaker protects UCP circuitry.
- Built-in lamp test button.
- Timer accumulates UCP On time.
- Two control outputs for Marway PDUs (J1, J2)
- Two auxiliary isolated control outputs (J4, J5)
- One input for additional external EPO buttons (J3).
- Front and back panel convenience outlets. UCP 5000 has 5-15, UCP 5100 has C13.
- UL and CE certified.

Universal control panels (UCPs) provide on, off, and EPO control for one or more PDUs to consolidate control of equipment in one rack or even multiple racks. Model 5000 units have NEMA 5-15 inlet and outlets. Model 5100 has a C14 inlet and C13 outlets. Each model is available with or without an EPO guard, and with either normally-open (N.O.) or normally-closed (N.C.) EPO contacts.



On/Off Circuit

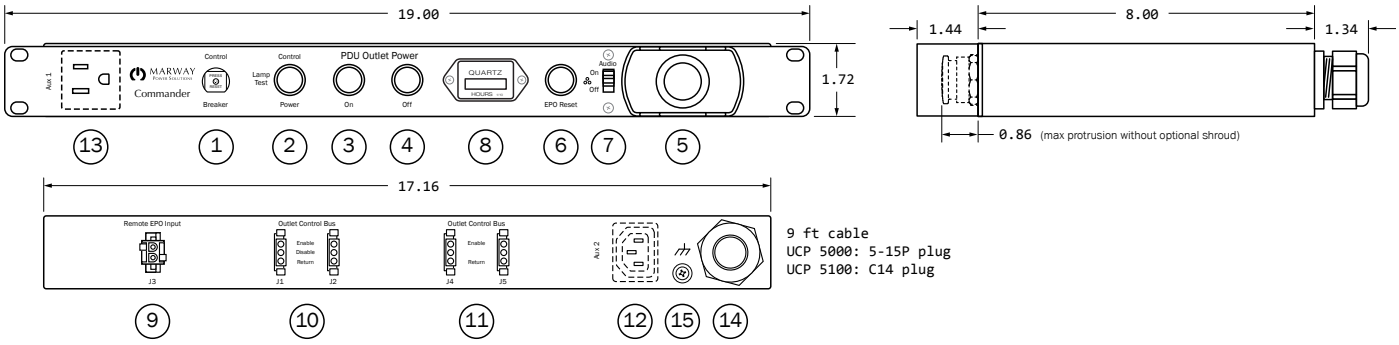
The power on/off circuit is the primary feature of the Commander panels. Lighted on/off switches provide easily recognized status on the UCP, and connections on the back of the chassis allow for remote indication as well. Dry contacts, connected at the back panel, provide two isolated channels of on/off control (each can be of a unique power spec), which can be externally branched, to provide a power-on signal to as much equipment as needed.

EPO Circuit

In some applications, particularly those with machinery connected to a PDU, an Emergency Power Off (EPO) may be required. An EPO is a large, prominently placed push button used to disconnect power to all devices connected to the PDU. These buttons are intended to be easy to find and press in an emergency scenario, such as when a person identifies a hazardous condition not handled by the end-point equipment itself. The UCP 5000 and 5100 models provide this EPO circuit including capabilities to integrate additional remotely located EPO buttons.

Relevant Links

Commander web page



5000/5100 Map of Features

(1) 1 amp breaker, protecting built-in controls.

(2) Control Power lamp / Lamp Test pushbutton. Functions as a lamp, and as a pushbutton. The lamp indicates that power is available to the UCP controls. The momentary pushbutton is used to temporarily illuminate all indicators as confirmation that they are still operable.

(3) PDU Power On lamp/button. The lamp indicates that the outlet control bus is enabled (rear connectors J1, J2, J4, J5). The momentary pushbutton is used to set the outlet control bus to the enabled state. This is typically used to allow PDU outlets to be powered. However, on some PDU models, local controls may still override this signal, and keep outlets off.

(4) PDU Power Off lamp/button. The lamp indicates that the outlet control bus is disabled. The momentary pushbutton is used to set the outlet control bus to the disabled state. This is typically used to prevent PDU outlets from being powered. However, on some PDU models, local controls may still override this signal, to force outlets on.

(5) EPO push button. When pressed, the outlet control bus is disabled, and the UCP is put into an EPO state. All remote-EPO-controlled outlets in PDUs connected to the UCP should be disabled (unless local PDU overrides have them forced on). The EPO Reset lamp will be illuminated, and the audible alarm will be activated (if switch (7) is on).

(6) EPO status lamp / EPO Reset button. The lamp will be illuminated whenever the UCP is in an EPO state. Pressing the button will turn off the EPO state, and put the PDU into a disabled state (EPO lamp will not be lit, and the audible alarm will be silenced). The PDU Power Off lamp will be lit. EPO-controlled outlets will remain off.

(7) Audible Alarm on/off switch. When on, a speaker is activated when the UCP is in an EPO state. The switch is intended to be used to configure the UCP to have the audible alert enabled or disabled as an element of the EPO state.

(8) Time accumulation meter. Displays the accumulated time in which the PDU Power On has been active (the UCP's enabled state).

(9) J3 Remote EPO Input. Allows additional EPO buttons to be connected to the UCP—all of which will operate exactly as the built-in button (5). Remote EPO buttons cannot be accompanied by EPO Reset buttons. Only one reset button (6) for the system is available.

(10) J1 and J2 Outlet Control Bus connectors. Intended for interfacing with Marway PDUs with remote EPO control to provide the enabled and disabled signals. These connectors are wired in parallel.

(11) J4 and J5 Outlet Control Bus isolated auxiliary connectors. Provides dry contacts which signal the outlet power enabled state of the UCP (when (4) has been pressed, and is illuminated). These connectors function in parallel, but each is a separate dry contact.

(12) Auxiliary convenience outlet. This outlet is always powered. It is a NEMA 5-15 on 5000 models, and C13 on 5100 models.

(13) Auxiliary convenience outlet. This outlet is always powered. It is a NEMA 5-15 on 5000 models, and C13 on 5100 models.

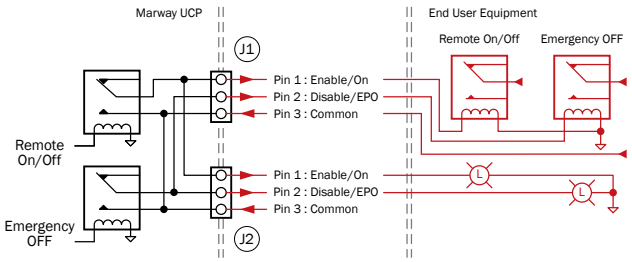
(14) Power inlet. The plug will be a 5-15P on 5000 models, and a C14 on 5100 models.

(15) Chassis ground connection.

Using J1 / J2 for Remote On/Off/EPO Control

Connectors J1 and J2 are wired in parallel. Pin 1 becomes activated when the UCP Control Power On is pressed, and Pin 2 becomes activated when the EPO button is pressed. Pin 3 is the remote signal return. Use these connectors to drive Marway PDUs with the remote EPO feature.

- Connector: AMP #1-480304-0, mating #1-480305-0
- Voltage 250 Vac maximum
- Current 4.0 amps maximum

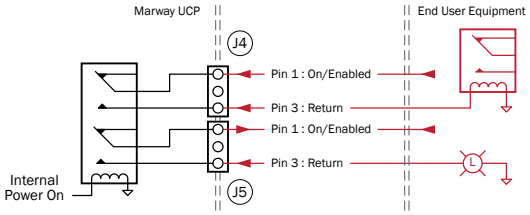


This diagram shows conceptually what's inside the UCP, and how to use the J1 and J2 signals for remote control of Marway PDUs, other equipment, or indicators.

Using J4 / J5 for Auxiliary Power On

Connectors J4 and J5 are independent (not wired in parallel), but operate in exactly the same way in unison. Pin 1 on each connector becomes active when the UCP Control Power is on. Pin 2 is unused. Pin 3 is the remote return. Use these connectors to generate remote power on signals on Marway and non-Marway PDUs, or other downstream equipment.

- Connector: AMP #1-480304-0, mating #1-480305-0
- Voltage 250 Vac maximum
- Current 4.0 amps maximum



This diagram shows conceptually what's inside the UCP, and a simplified example of how to use the J4 and J5 connectors for auxiliary power on signals.

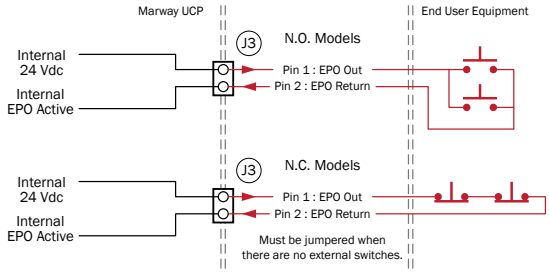
Using J3 for Remote EPO

Connector J3 is used to allow one or more remote EPO switches. Each switch, if there is more than one, would be wired in series or parallel as indicated in the diagram to the right. There is no remote reset. For safety, there is only the one reset at the UCP.

N.O. Models — Shorting J3 pin 1 to pin 2 returns the 24 Vdc signal, and creates an EPO Activated state.

N.C. Models — J3 requires a shorting jumper when no external switches are used. Adding switches in series to break Pin1 from Pin 2 creates an EPO Activated state.

- Connector: AMP #1-480699-0, mating #1-480698-0



This diagram shows conceptually what's inside the UCP, and how to use the J3 connector to attach one or more external EPO buttons.

NOTE: The voltage rating of connector J3 is a significant change from the UCP 3500. The UCP 5000/5100 models use 24 Vdc, whereas the UCP 3500 uses 20 Vac.

Using Aux1 / Aux2 Outlets

These two outlets are wired directly to the input power, and are always powered. They are not subject to the On/Off/EPO controls of the UCP, nor are they subject to the front panel circuit breaker.The combined load of both outlets is subject to the input power rating of the unit.

Commander UCP 5000/5100 Universal Control Panels

5000 Dimensions

1U Rack-mount chassis
Weight: approx. 9 lbs

Front Width: 19.00”
Chassis Width: 17.16”
Chassis Height: 1.72”
Chassis Depth 8.00”

5000 Electrical

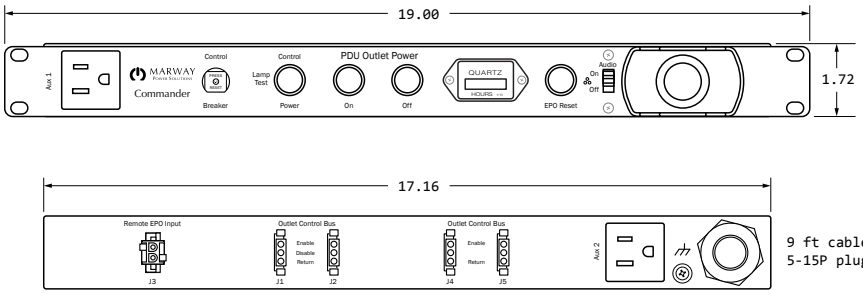
Input power rating: 120 Vac, 50/60 Hz
Current Load: 12 A continuous / 15 A maximum
Power consumption without Aux 1, 2: < 1 amp

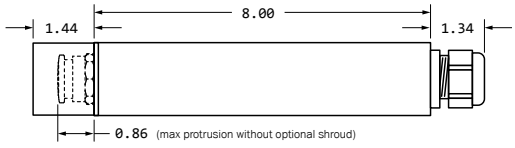
J1: AMP #1-480304-0, 250 Vac, 4 A max.
J2: AMP #1-480304-0, 250 Vac, 4 A max.
J3: AMP #1-480699-0, 24 Vdc, no load
J4: AMP #1-480304-0, 250 Vac, 4 A max.
J5: AMP #1-480304-0, 250 Vac, 4 A max.
Aux 1: NEMA 5-15R, 120 Vac **
Aux 2: NEMA 5-15R, 120 Vac **

** combined load of Aux1 and Aux2 is subject to the 12 A rating

5000 Environment

Operating Temperature: 32°F to 122°F
Maximum Altitude: 6,562 feet
Relative Humidity: 5% to 85% non-condensing





5100 Dimensions

1U Rack-mount chassis
Weight: approx. 9 lbs

Front Width: 19.00”
Chassis Width: 17.16”
Chassis Height: 1.72”
Chassis Depth 8.00”

5100 Electrical

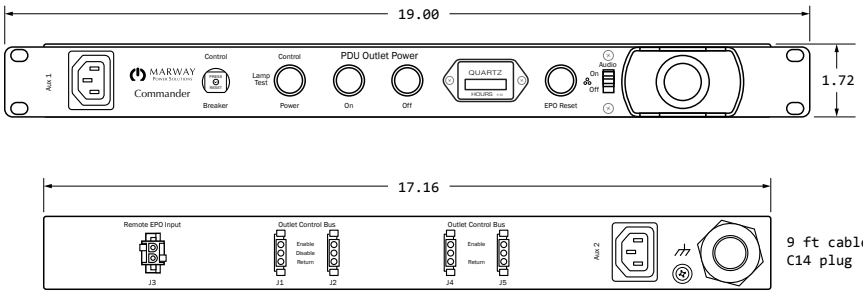
Input power rating: 100-240 Vac, 50/60 Hz
Current Load: 10 A
Power consumption without Aux 1, 2: < 1 amp

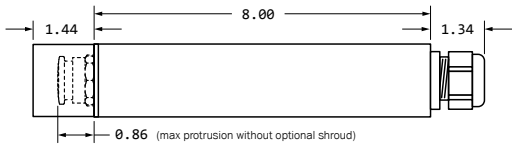
J1: AMP #1-480304-0, 250 Vac, 4 A max.
J2: AMP #1-480304-0, 250 Vac, 4 A max.
J3: AMP #1-480699-0, 20 Vac, no load
J4: AMP #1-480304-0, 250 Vac, 4 A max.
J5: AMP #1-480304-0, 250 Vac, 4 A max.
Aux 1: IEC C13, 100-240 Vac **
Aux 2: IEC C13, 100-240 Vac **

** combined load of Aux1 and Aux2 is subject to the 10A rating

5100 Environment

Operating Temperature: 32°F to 122°F
Maximum Altitude: 6,562 feet
Relative Humidity: 5% to 85% non-condensing

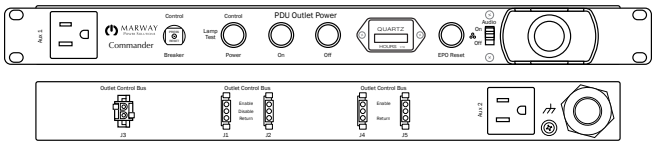




Model Numbers: UCP 5000

Voltage	Current	Inlet	Outlets
120 Vac	12/15 Amps	5-15P/9ft	5-15R

All models include on/off/EPO, audio alarm, and power on time meter. Specifications and availability subject to change without notice. General chassis style shown below without options.



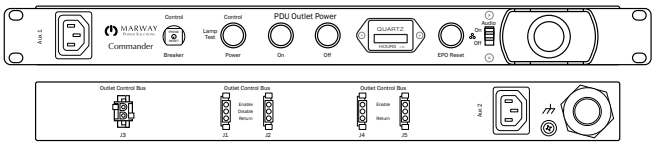
Model Number	J3 Remote EPO Input Type[1]	Guard
UCP 5000-000	N.O.	—
UCP 5000-000G	N.O.	YES
UCP 5000-001	N.C.	—
UCP 5000-001G	N.C.	YES

1: The -000 UCP models are compatible with “normally-open EPO” Marway PDUs. The-001 UCP models require that the PDU also be compatible with “normally-closed EPO” circuits. All Optima 5 and 8 series standard PDUs are N.O. by default (the -000 version of the models). Order the -001 version of the Optima 5 or 8 series PDUs to get N.C. EPO functionality.

Model Numbers: UCP 5100

Voltage	Current	Inlet	Outlets
100-240 Vac	10 Amps	C14	C13

All models include on/off/EPO, audio alarm, and power on time meter. Specifications and availability subject to change without notice. General chassis style shown below without options.



Model Number	J3 Remote EPO Input Type[1]	Guard
UCP 5100-000	N.O.	—
UCP 5100-000G	N.O.	YES
UCP 5100-001	N.C.	—
UCP 5100-001G	N.C.	YES

1: The -000 UCP models are compatible with “normally-open EPO” Marway PDUs. The-001 UCP models require that the PDU also be compatible with “normally-closed EPO” circuits. All Optima 5 and 8 series standard PDUs are N.O. by default (the -000 version of the models). Order the -001 version of the Optima 5 or 8 series PDUs to get N.C. EPO functionality.

Commander™ UCP 4900

Universal Control Panel for On/Off/EPO

Consolidated Control

Marway's UCP 4900 consolidates into a single control panel the on, off, and EPO controls to manage one or more power distribution units. PDUs with remotely switchable outlets can therefore provide power on/off of downstream equipment switched in unison. Additionally, the EPO circuit improves safety of the combined power system.

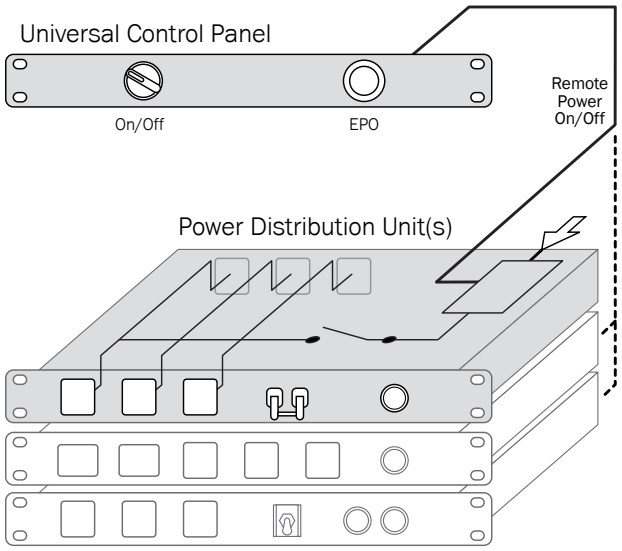
Feature Highlights

- Simple, dry-contact operation for compatibility with Marway PDUs.
- Connects to one or multiple PDUs.
- On/Off power control to connected PDUs.
- EPO for all connected PDUs.

The 4900 series of Universal control panels (UCPs) provide basic on, off, and EPO control for one or more PDUs which can consolidate control of equipment in one rack or multiple racks.

On/Off Circuit

The power on/off circuit is the primary feature of the UCP 4900. A self-indicating on/off switch provides easily recognized status on the UCP. A 15-foot cable terminating in an AMP/TE connector can be used to connect to a single PDU. Multiple PDUs can be controlled if the PDU provides daisy chained connectors, or if the UCP connector is first connected to a junction providing multiple parallel outputs. Dry contacts provide compatibility with both ac and dc voltage.



EPO Circuit

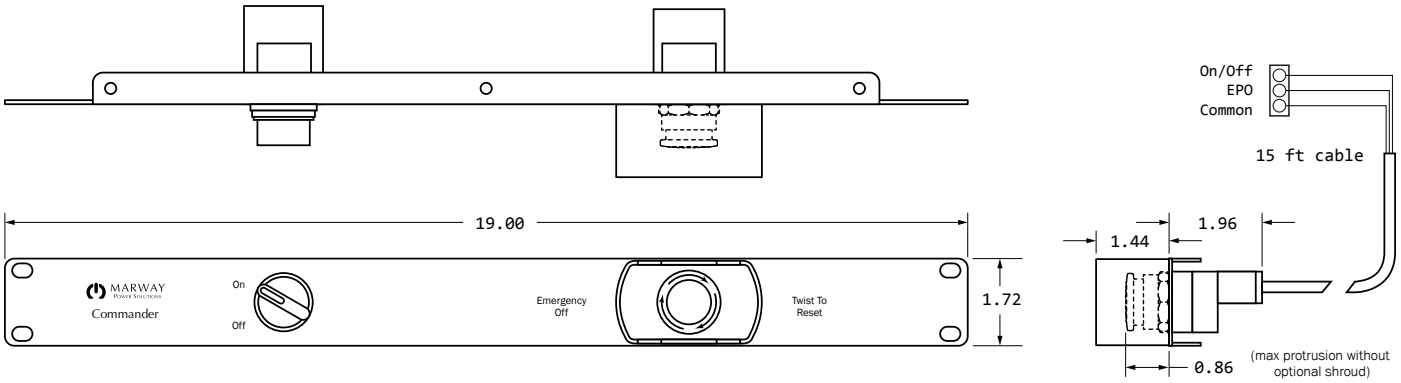
In some applications, particularly those with machinery connected to a PDU, an Emergency Power Off (EPO) may be required. An EPO is a large, prominently placed push button used to disconnect power to all devices connected to the PDU. These buttons are intended to be easy to find and press in an emergency scenario, such as when a person identifies a hazardous condition not handled by the end-point equipment itself. The UCP 4900 provides this EPO button to trigger a shutdown of the PDU(s).

There are two options for the EPO button: a normally-open type, and a normally-closed type. The normally-open type is compatible with the majority of Marway's legacy PDUs. The normally-closed type can be opted for with newer PDUs which have also been configured for normally closed operation.

Relevant Links

Commander web page

Commander UCP 4900 Universal Control Panel



Dimensions

1U Rack-mount chassis

Front Width: 19.00”
Chassis Height: 1.74”
Chassis Depth 1.96”

Chassis is “open frame” and provides top and bottom flanges for rigidity. #6-32 screw holes allow for attaching wire clamps.

Electrical

Interface: two dry-contact signals

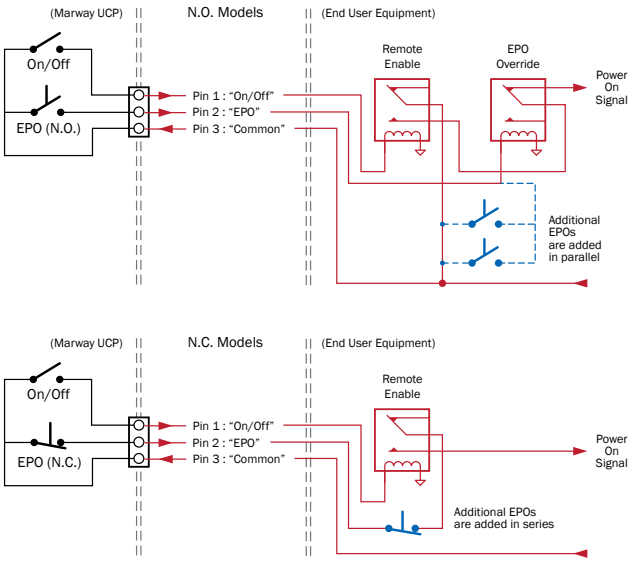
Connector: AMP #1-480305-0, 250 Vac, 3 A max.

Remote cable: 15 feet, 3 A max.

Environment

Operating Temperature: 32°F to 122°F
Maximum Altitude: 6,500 feet
Relative Humidity: 5% to 85% non-condensing

When mated to a Marway PDU remote connector, no further work is needed. These diagrams shows conceptually what’s inside the UCP, and a simplified example of how to use the available connections for remote control of non-Marway PDUs or other equipment.



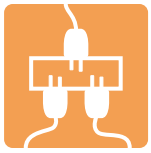
Model Numbers

Model Number	EPO Action[1]	Guard
UCP 4900-000	N.O.	—
UCP 4900-000G	N.O.	YES
UCP 4900-001	N.C.	—
UCP 4900-001G	N.C.	YES

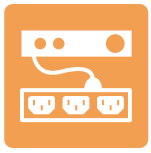
1: The -000 UCP models are compatible with “normally-open EPO” Marway PDUs. The-001 UCP models require that the PDU also be compatible with “normally-closed EPO” circuits. All Optima 5 and 8 series standard PDUs are N.O. by default (the -000 version of the models). Order the -001 version of the Optima 5 or 8 series PDUs to get N.C. EPO functionality.

Optima™ PDUs
Custom and Standard
for Ac, Dc, 400Hz

mPower™ PPSs
Programmable DC
power supplies



TwinPower™ ATSs
Auto Transer Switches
for power redundancy



Commander™ UCPs
Remote and EPO
control panels

PowerPlus™
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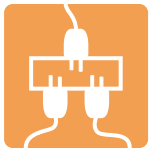

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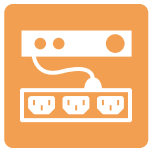

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