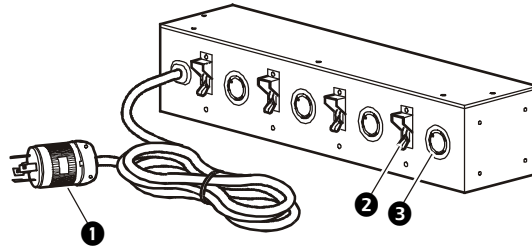**APC** ®
www.apc.com

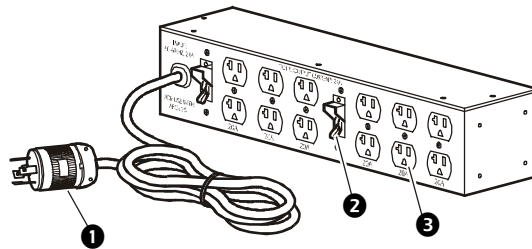# Rack Power Distribution Unit

Description

AP7580, AP7581, AP7582, AP7583, and AP7584 are 24 A Rack Power Distribution Units (PDUs) that provide 120- or 208-volt power to rack-mounted equipment.
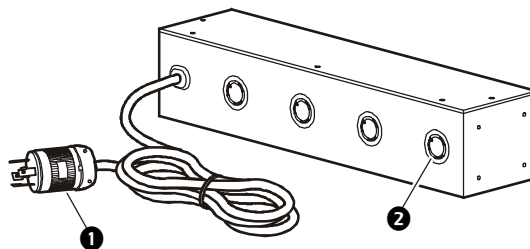
AP7580, AP7581

❶ 28-foot NEMA L14-30 power cord

❷ Four 20-amp circuit breakers

❸ AP7580: Four NEMA L5-20 outlets

   AP7581: Four NEMA L6-20 outlets

AP7582

❶ 28-foot NEMA L14-30 power cord

❷ Two 20-amp circuit breakers

❸ Twelve NEMA 5-20 outlets

AP7583, AP7584

❶ 28-foot NEMA L14-30 power cord

❷ AP7583: Four NEMA L5-30 outlets

AP7584: Four NEMA L6-30 outlets

Safety and Grounding

Read the following information before installing or operating your APC Power Distribution Unit (PDU):

- The PDU is intended only for use with four-wire grounded connections on APC Uninterruptible Power Supplies (UPSs). Do not plug the PDU into an electrical outlet or other device.
- This PDU is intended for indoor use only.
- Do not install this PDU where excessive moisture or heat is present.
- Never install any wiring, equipment, or PDUs during a lightning storm.
- Do not use extension cords or adapters with this PDU.
- Do not work alone under hazardous conditions.
- Check that the power cord, plug, and socket are in good condition.
- Disconnect the PDU from the power outlet before you install or connect equipment to reduce the risk of electric shock when you cannot verify grounding. Reconnect the PDU to the power outlet only after you make all connections.
- Install the PDU so that the power plug may be disconnected for service.
- Install the PDU so that there is not an uneven mechanical load.
- Follow the nameplate ratings when connecting equipment to the supply circuit. Do not overload the circuits. An overload condition could put your over-current protection at risk or cause problems with your supply wiring.

Caution

Risk of electrical shock. Use only the supplied hardware to attach the mounting brackets.

Note

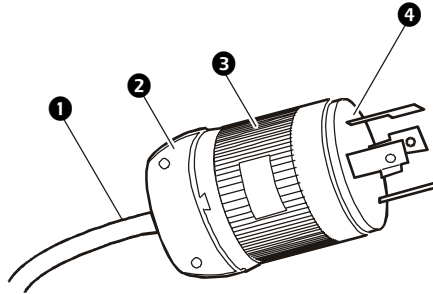The Rack PDUs are to be used only with InfraStruXure Type A systems.

How to Shorten the Power Cord

⚠️ **Warning** **Only certified electricians can perform the following procedure.**

Plug layout

❶   Cord sleeve

❷   Strain relief

❸   Plug case

❹   Plug face

Remove the plug

1. Loosen, but do not remove, the four captive screws from the plug face until it is detatched from the plug.

2. Loosen, but do not remove, the four screws from the sides of the plug until the cord easily slides in and out.

3. Slide the plug case down the cord to your desired length.

🛈 **Note** The cord must remain at least 4.9 feet (58.8 inches) long.

4. Loosen, but do not remove, all four terminal screws until you can remove all four wires from the plug. Set the plug face aside for later use.

Cut the cord

1. Cut the outer cord sleeve to the desired length. Be careful not to cut through the four wire bundles. The cord must remain at least 4.9 feet (58.8 inches) long from unit to end. Remove the cut sleeve from the wire bundles.

2. Cut each wire bundle, making sure each is approximately 1.5 inches from the end of the cord sleeve.

3. Strip approximately 0.5 inches of insulation from each wire bundle.
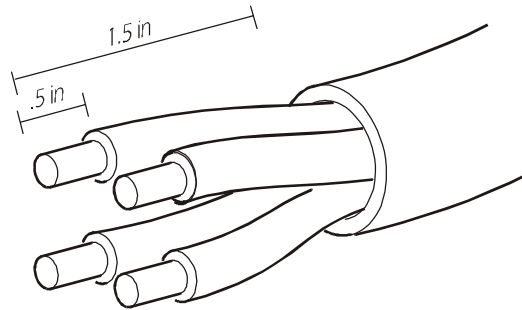
Reassemble the plug

1. Twist together any loose wires.

2. Fully insert each wire into its coordinating terminal on the plug face before you tighten the terminal screw.

> **!**
> **Note**
> Insert only the bare copper wires into the terminals. Do not tin the wires that hold the strands together.

Wire color	Terminal
Red	Terminal marked "Y"
Black	Terminal marked "X"
Green	Ground pin, has a green screw
White	No markings, has a silver prong

3. Tighten the terminal screws to a minimum torque of 18 inch-pounds.

4. Slide the plastic plug case back around the face of the plug. Align the tab on the case with the corresponding opening on the plug face. Secure the case by tightening two of the screws in the side of the case to a minimum torque of 10 inch-pounds.

5. Reattach the strain relief to the plug, using the remaining two screws. Tighten the screws to a torque of 16 to 20 inch-pounds.

> Verify that the plug is connected properly by performing the test procedures on page 6 (for AP7580 or AP7583), page 7 (for AP7581 or AP7584), or page 8 (for AP7582).

Test the plug for AP7580 or AP7583

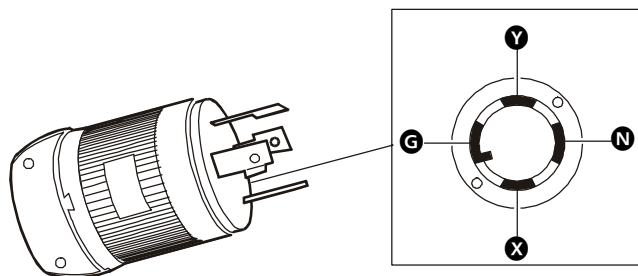For AP7580, verify that all circuit breakers are in the ON position.

Use a multimeter and the following graphics to verify continuity between the test points on the AP7580 or AP7583. Continuity is achieved with a measurement of less than or equal to 1 Ohm.

Use the probes of the multimeter to verify continuity between the following points on the plug prongs and the slots on the outlets:

- Ground (**G**) on the plug and Ground (**G**) on the outlet
- Neutral (**N**) on the plug and Neutral (**N**) on the outlet
- X (**X**) on the plug and X (**X**) on the outlet
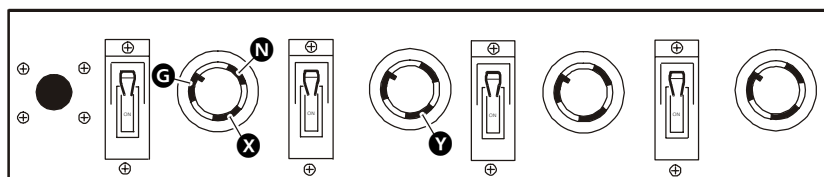- Y (**Y**) on the plug and Y (**Y**) on the outlet

Verify that there is no continuity among any of the four prongs on the plug.

View of the plug face:

G	Ground terminal
Y	Y terminal
N	Neutral terminal (Silver)
X	X terminal

View of the outlets:

G	Ground connection
N	Neutral connection
X	X connection
Y	Y connection

Test the plug for AP7581 or AP7584

Note

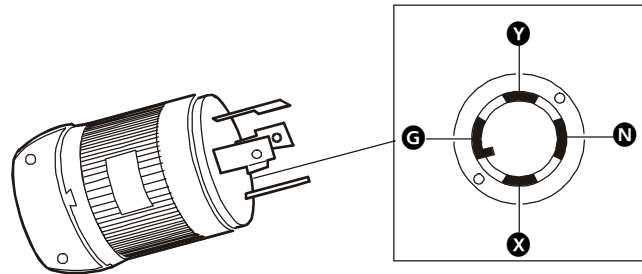For AP7581, verify that all circuit breakers are in the ON position.

Use a multimeter and the following graphics to verify continuity between the test points on the AP7581 or AP7584. Continuity is achieved with a measurement of less than or equal to 1 Ohm.

Use the probes of the multimeter to verify continuity between the following points on the plug prongs and the slots on the outlets:

- X (⊗) on the plug and X (⊗) on the outlet
- Y (Ⓨ) on the plug and Y (Ⓨ) on the outlet
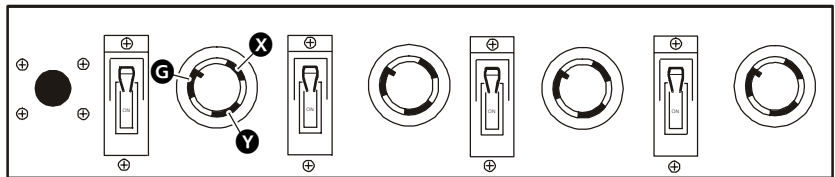- Ground (Ⓖ) on the plug and Ground (Ⓖ) on the outlet

Verify that there is no continuity among any of the four prongs on the plug.

View of the plug face:

Ⓖ	Ground terminal
Ⓨ	Y terminal
Ⓝ	Neutral terminal (Silver)
⊗	X terminal

View of the outlets:

Ⓖ	Ground connection
Ⓨ	Y connection
⊗	X connection

Test the plug for AP7582

> **(!)**
> **Note**
>
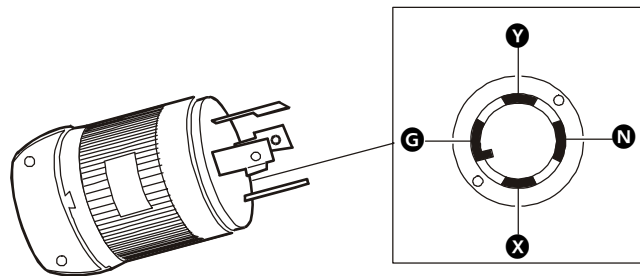> Verify that all circuit breakers are in the ON position.

Use a multimeter and the following graphics to verify continuity between the test points on the AP7582. Continuity is achieved with a measurement of less than or equal to 1 Ohm.

Use the probes of the multimeter to verify continuity between the following points on the plug prongs and the slots on the outlets:

- Ground (**G**) on the plug and Ground (**G**) on the outlet
- Neutral (**N**) on the plug and Neutral (**N**) on the outlet
- X (**X**) on the plug and X (**X**) on the outlet
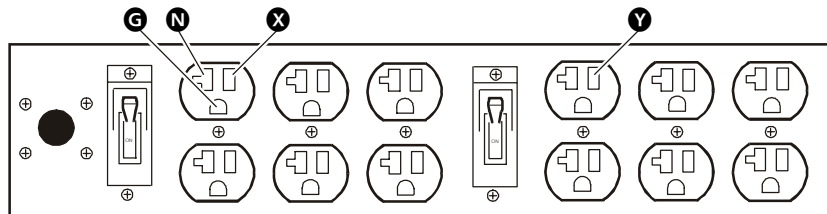- Y (**Y**) on the plug and Y (**Y**) on the outlet

Verify that there is no continuity among any of the four prongs on the plug.

View of the plug face:

G	Ground terminal
Y	Y terminal
N	Neutral terminal (Silver)
X	X terminal

View of the outlets:

G	Ground connection
N	Neutral connection
X	X connection
Y	Y connection

How to Install the PDU

Mounting options

Install the PDU in the bottom 2U of a NetShelter® or any standard 19-inch EIA-310-D rack or enclosure, using the mounting brackets (provided).

> **(!)**
> **Note**
>
> The PDU can be installed in one of two ways, with the outlets facing out of the rack or toward the roof of the rack.
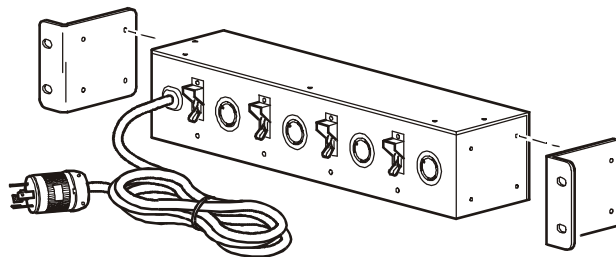
> **(!)**
> **Note**
>
> The PDU is intended only for use with an APC UPS. Do not plug it into an electrical outlet or another device.
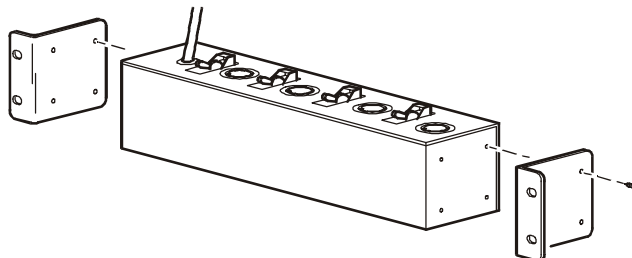
Bracket-mounting

1. Attach the mounting brackets to the PDU, using four flat-head screws per bracket (provided).

   - **To mount the PDU with the outlets facing out of the rack:**

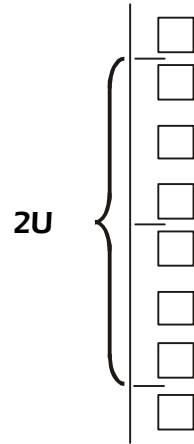   - **To mount the PDU with the outlets facing the top of the rack:**

2. Choose a location for the PDU.
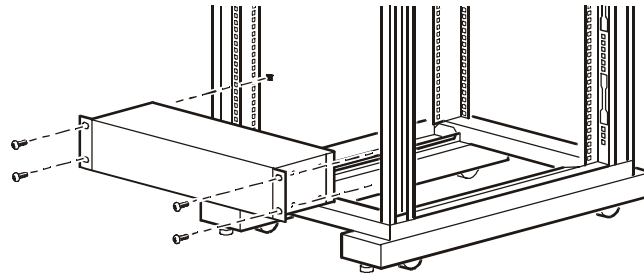
> **(!)**
> **Note**
>
> The PDU occupies two U-spaces. The numbers on the enclosure's vertical rail denote the middle of a U-space.

2U

a. Insert a caged nut (provided with the enclosure) above and below a notched hole on each vertical mounting rail in your chosen location.

b. Align the mounting holes of the brackets with the installed caged nuts. Insert and tighten the screws.

Connect to an APC UPS

1. Route the power cord through one of the slots on the roof of the enclosure.

2. If necessary, route the PDU cord across a ladder connected to the enclosure to connect to an APC UPS.

3. Plug the PDU into the L14 outlet on the rear of the UPS.

Specifications

Electrical

Nominal input voltage	120 or 208 V
Input frequency	50 or 60 Hz
Input connectors	NEMA L14-30 plug
Output connectors	AP7580: Four NEMA L5-20 outlets AP7581: Four NEMA L6-20 outlets AP7582: Twelve NEMA 5-20 outlets AP7583: Four NEMA L5-30 outlets AP7584: Four NEMA L6-30 outlets
Maximum total current draw	24 A

Physical

Size (H × W × D)	3.50 ×17.20×3.50 in (8.89×43.69×8.89 cm)
Weight	14.0 lb (6.4 kg)
Shipping weight	16.0 lb (7.3 kg)

Environmental

Elevation (above MSL) Operating Storage	 0–10,000 ft (0–3000 m) 0–50,000 ft (0–15 000 m)
Temperature Operating Storage	 0 to 45° C (32 to 115° F) –25 to 65° C (–13 to 149° F)
Humidity Operating Storage	 0–95% RH Non-condensing 0–95% RH Non-condensing

Compliance

Safety verification	UL, cUL

Warranty and Service

Limited warranty

APC warrants the PDU to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser.

Warranty limitations

Except as provided herein, APC makes no warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

Except as provided above, in no event will APC be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of this product, even if advised of the possibility of such damage.

Specifically, APC is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise. This warranty gives you specific legal rights and you may also have other rights, which vary according to jurisdiction.

Obtaining service

To obtain support for problems with your PDU:

1. Note the serial number and date of purchase. The serial number is located on the bottom of the PDU.
2. Contact Customer Support at a phone number located on the back cover. A technician will try to help you solve the problem by phone.
3. If you must return the product, the technician will give you a return material authorization (RMA) number. If the warranty expired, you will be charged for repair or replacement.
4. Pack the unit carefully. The warranty does not cover damage sustained in transit. Enclose a letter with your name, address, RMA number and daytime phone number; a copy of the sales receipt; and a check as payment, if applicable.
5. Mark the RMA number clearly on the outside of the shipping carton.
6. Ship by insured, prepaid carrier to the address provided by the Customer Support technician.

Life-Support Policy

General policy

American Power Conversion (APC) does not recommend the use of any of its products in the following situations:

- In life-support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life-support device or to affect significantly its safety or effectiveness.
- In direct patient care.

APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of American Power Conversion is adequately protected under the circumstances.

Examples of life-support devices

The term *life-support device* includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults and infants), anesthesia ventilators, infusion pumps, and any other devices designated as "critical" by the U.S. FDA.

Hospital-grade wiring devices and leakage current protection may be ordered as options on many APC UPS systems. APC does not claim that units with these modifications are certified or listed as hospital-grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.

APC

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APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to find answers to frequently asked questions (FAQs), to access documents in the APC Knowledge Base, and to submit customer support requests.
    - **www.apc.com** (Corporate Headquarters)

        Connect to localized APC Web sites for specific countries, each of which provides customer support information.
    - **www.apc.com/support/**

        Global support with FAQs, knowledge base, and e-support.
- Contact an APC Customer Support center by telephone or e-mail.
    - Regional centers:

Direct InfraStruXure Customer Support	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702055 (Ireland)
Japan	(0) 3 5434-2021
Australia, New Zealand, South Pacific	(61) (2) 9955 9366 (Australia)

  - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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