

HP UPS R1500 Generation 3

Installation Instructions



⚠ Important Safety Information

Before installation, read *Important Safety Information* on the Documentation CD.

قبل التثبيت، اقرأ معلومات هامة حول السلامة على القرص المضغوط Documentation CD.

Před instalací si přečtěte příručku *Důležité bezpečnostní informace* na disku CD.

安裝之前，請閱讀文檔 CD 上的 **重要安全信息**。

安裝前，請閱讀說明文件光碟上的「**重要的安全性資訊**」。

Læs dokumentet Vigtige sikkerhedsoplysninger på dokumentations-cd'en, før produktet installeres.

Lesen Sie vor der Installation die *Sicherheitshinweise* auf der Documentation CD.

Enne installimist vt dokumentatsiooni CD-lt peatükki „*Tähtis ohutusteave*“.

Antes de la instalación, lea la sección *Información de seguridad importante* del CD Documentación.

Avant l'installation, lisez les *informations importantes relatives à la sécurité* CD Documentation.

Πριν την εγκατάσταση, διαβάστε *Σημαντικές πληροφορίες ασφαλείας* στο CD Documentation.

לפני ההתקנה, קרא את המידע הבטיחותי החשוב שב-Documentation CD (תקליטור התיעוד).

Prije ugradnje, pročítajte *Vážne sigurnosne informacije* na dokumentacijskom CD-u.

Prima dell'installazione, leggere sul CD le Informazioni importanti sulla sicurezza.

インストール前に、Documentation CDの『安全に使用していただくために』をお読みください。

설치하기 전에 Documentation CD의 주요 안전 수칙을 읽으십시오.

Pirms instalācijas, izlasiet drošības informāciju dokumentācijas CD.

Prieš diegdami perskaitykite *Svarbią saugos informaciją* dokumentacijos CD.

Telepítés előtt olvassa el a dokumentációs CD *Fontos biztonsági tudnivalók* dokumentumát.

Lees de *Belangrijke veiligheidsinformatie* op de documentatie-cd voordat u de installatie uitvoert.

Les "Viktig sikkerhetsinformasjon" på dokumentasjons-CDen før du installerer dette produktet.

Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa* na dysku CD Documentation.

Antes da instalação, leia as *Informações Importantes sobre Segurança* no CD da Documentação.

Перед установкой ознакомьтесь с разделом *Указания по технике безопасности* на компакт-диске «Документация».

Před instaláciou si prečítajte časť *Dôležité bezpečnostné informácie* na disku Documentation CD.

Pred namestitvijo preberite *Pomembne varnostne informacije* na CD-ju Documentation.

Tärkeisiin turvatietoihin" Documentation CD -levyllä ennen tuotteen asentamista.

Läs dokumentet Viktig säkerhetsinformation på dokumentations-cd:n innan du installerar denna produkt.

Yüklemeden önce, Documentation CD'sindeki *Önemli Güvenlik Bilgileri*'ni okuyun.

Перед установкою прочитайте *Важливі відомості з безпеки* на CD документації.

Overview

The HP UPS R1500 G3 features a 1U rack-mount design and offers power protection for loads up to 1320 VA/1000 W (NA/TWN), 1200 VA/900 W (JPN) or 1500 VA/1000 W (INTL).

For more information about any of the topics covered in this document, see the UPS user guide located on the documentation CD or HP website (<http://www.hp.com/go/rackandpower>).

Precautions

Save these instructions. This document contains important safety instructions that should be followed during installation, operation, and maintenance of the UPS and batteries.

⚠ WARNING: A risk of personal injury from electric shock and hazardous energy levels exists. The installation of options and routine maintenance and service of this product must be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with AC power products.

⚠ WARNING: To prevent personal injury from earth conductor leakage current:

- Do not operate the UPS while disconnected from the utility power source.
- Disconnect load devices before disconnecting the UPS from the utility power source.



This symbol indicates that the UPS exceeds the recommended weight for one individual to handle safely.



23 kg
50.5 lb

⚠ WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

NOTE: The rating label on the device provides the class (A or B) of the equipment. Class B devices have a Federal Communications Commission (FCC) logo or FCC ID on the label. Class A devices do not have an FCC logo or FCC ID on the label. After determining the class of the device, refer to the user guide for complete regulatory compliance notices.

Kit contents

- Important Safety Information guide
 - This document and/or documentation CD
 - HP Infrastructure Management Pack CD
- To download the latest software version, see the HP website (<http://www.hp.com/go/rackandpower>).
- Warranty information
 - Rails, with mounting hardware
 - Mounting brackets, with associated hardware
 - UPS
 - Front bezel
 - Serial computer interface cable
 - USB computer interface cable
 - Jumper cords for load equipment power (INTL model only)
 - Rear stabilization brackets

Tools required

A Philips screwdriver is required.

Selecting a site

⚠ WARNING: To prevent fire or electric shock, install the unit in a temperature- and humidity-controlled indoor environment, free of conductive contaminants.

When selecting a site, consider the following factors:

- Elevated operating ambient temperature—If the equipment is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient temperature. Install the equipment in an environment compatible with the operating temperature.
- Reduced air flow—In the rack, the rate of air flow required for safe operation of the equipment must not be compromised.
- Circuit overloading—Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable earthing—Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit, such as the use of power strips.

- Electrical requirements—All models require a dedicated (unshared) branch circuit, suitably rated for the specific UPS as stated in "Input specifications" in the user guide.

Readying the equipment

1. Check the battery recharge date specified on the label that is affixed to the shipping carton.



IMPORTANT: Do not use the battery if the recharge date has passed. If the date on the battery recharge date label has passed without the battery being recharged, contact an HP authorized service representative for directions.

2. Transport the packaged unit to its installation location.
3. Unpack the equipment near the rack where the unit will be assembled.



CAUTION: Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

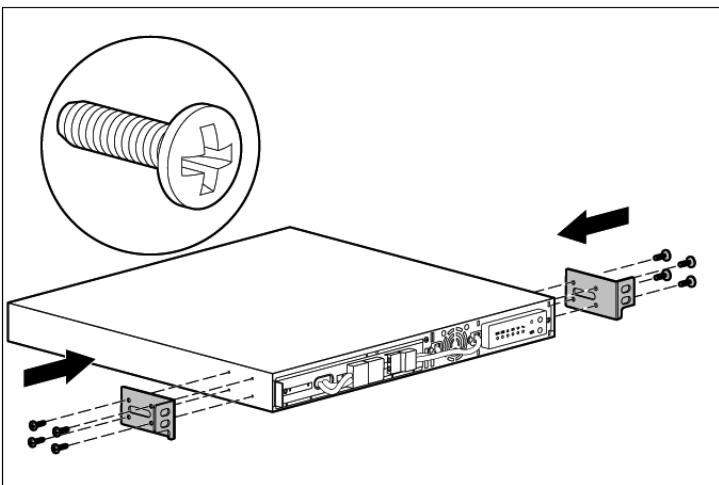
Installing the mounting rails



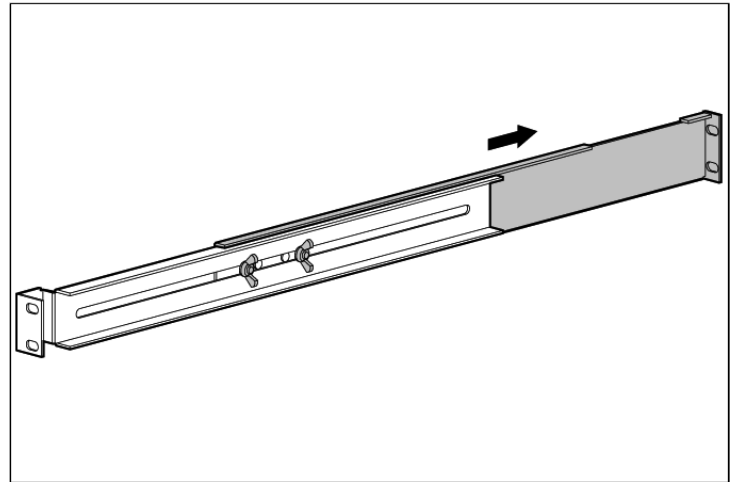
WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling feet are extended to the floor.
- The full weight of the rack rests on the leveling feet.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.

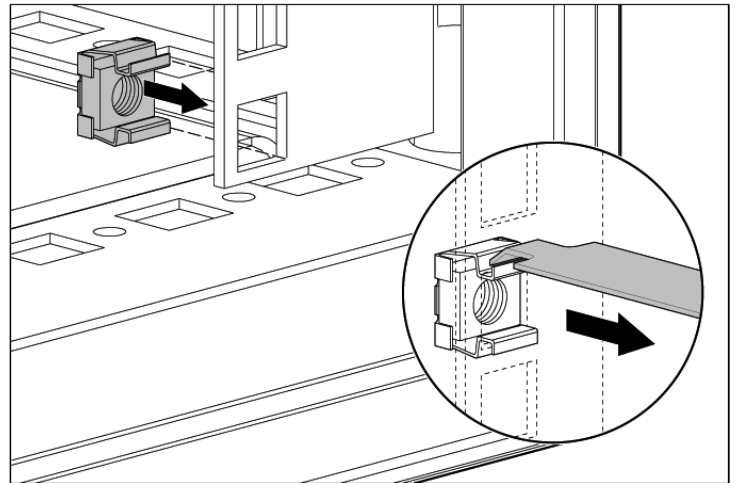
1. Attach the side-mounting brackets to the unit.



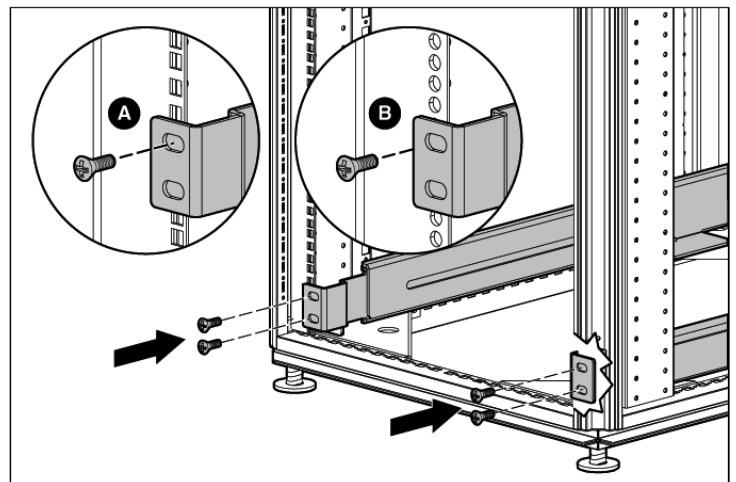
2. Loosen the wing nuts or hex nuts, and then extend the brackets to the desired length.



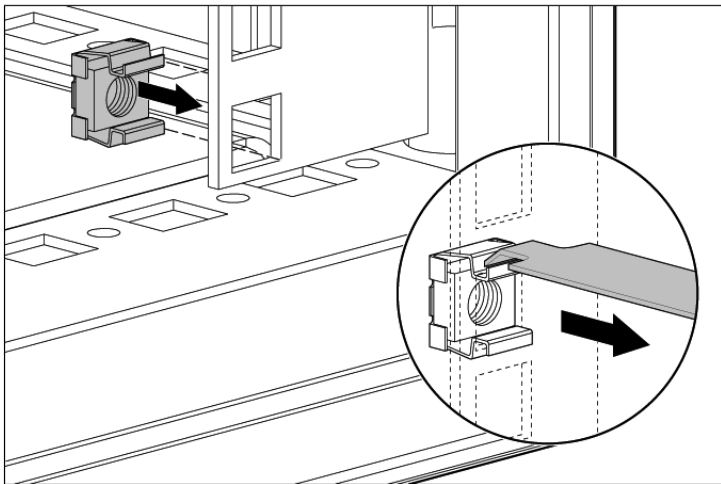
3. Use the cage nut tool to install cage nuts or clip nuts into the rear of the rack.



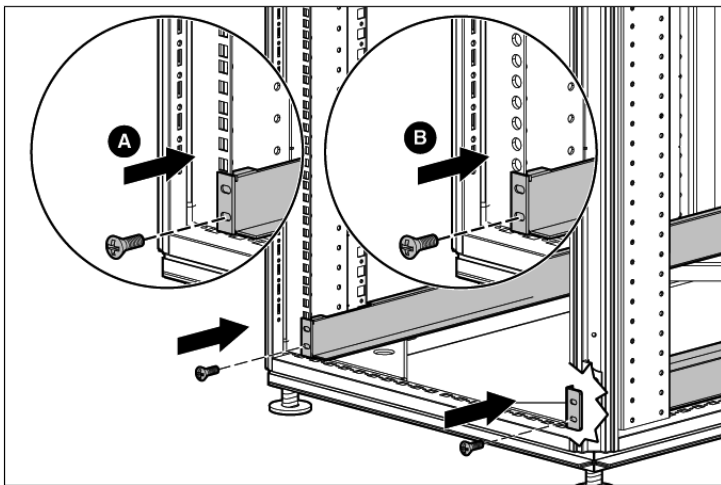
4. Insert screws through the mounting rail into the cage nuts or clip nuts.



- Use the cage nut tool to install cage nuts or clip nuts into the front of the rack.



- Insert a screw through the bottom hole of the mounting rail into the cage nuts or clip nuts.



- Tighten the wing nuts or hex nuts.

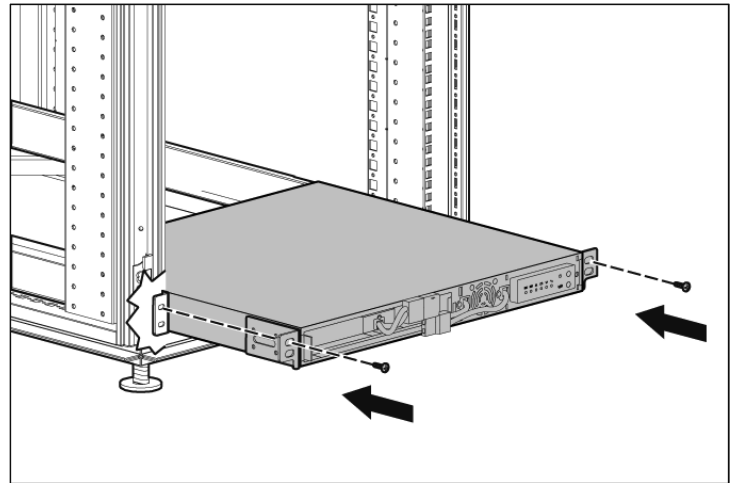
Installing the UPS

Before installing the unit, review and adhere to all warnings provided in "Precautions (on page 2)."

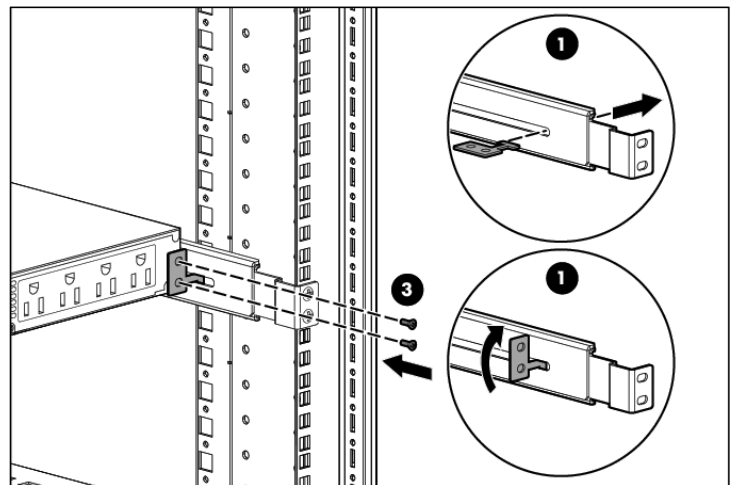
⚠ WARNING: A risk of personal injury or damage to the equipment exists. Uneven loading of equipment in the rack might cause the rack to become unstable. Install the heavier components first, and then continue to populate the rack from the bottom to the top.

- Install the mounting rails.

- Attach the chassis to the rack using the supplied screws.



- (optional) Insert the rear stabilization brackets into the mounting rails and then attach the brackets to the UPS.



Connecting the batteries

⚠ WARNING: The unit contains sealed lead-acid battery modules. To prevent fire or chemical burns:

- Do not attempt to recharge batteries after removal from the unit.
- Do not disassemble, crush, or puncture the batteries.
- Do not short the external contacts of the batteries.
- Do not immerse the batteries in water.
- Do not expose to temperatures higher than 40°C (104°F).

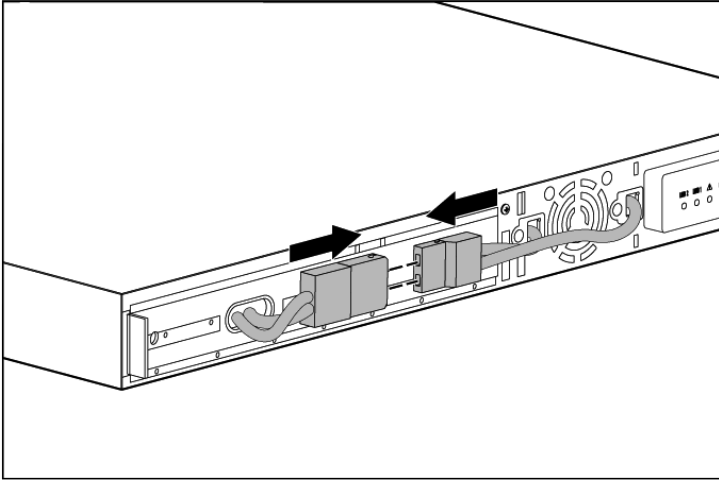
⚠ WARNING: To prevent personal injury from hazardous energy:

- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Do not place tools or metal parts on top of batteries.

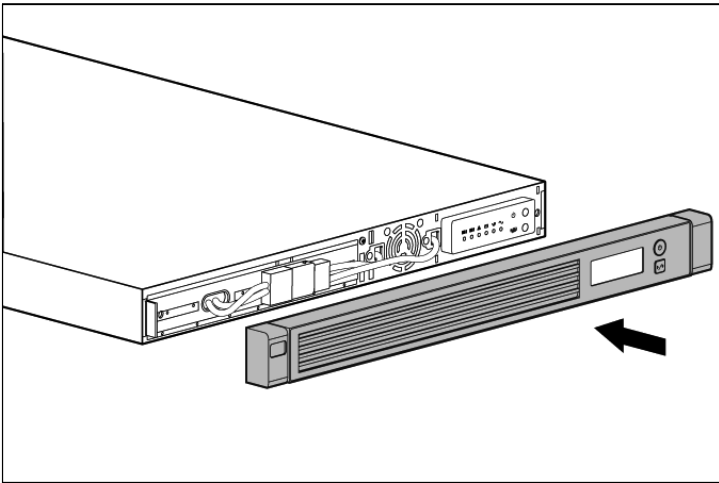
🔧 IMPORTANT: Before performing the following tasks, be sure that the unit is powered down and disconnected from the utility power source.

NOTE: A small amount of arcing may occur when connecting the batteries. This is normal and does not damage the unit or present any safety concern.

Connect the battery lead to the battery terminal.

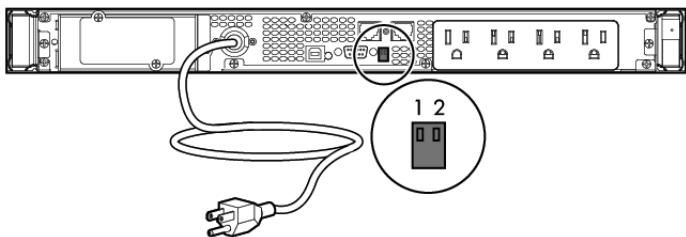


Attaching the UPS front bezel



Selecting the UPS voltage configuration

Using a small tool, position the DIP switches according to the desired voltage configuration.



NOTE: An asterisk (*) indicates the default setting.

	Output voltage	Input voltage range	DIP switch 1	DIP switch 2
R1500 G3 JPN/TWN	100 V*	90–106 V	Down	Down
	110 V	99–116 V	Down	Up
R1500 G3 NA	110 V	99–116 V	Down	Up
	120 V*	108–127 V	Up	N/A
R1500 G3 INTL	220 V	198–233 V	Down	Up
	230 V*	207–243 V	Up	N/A
	240 V	216–254 V	Down	Down

Connecting the host computer

CAUTION: Only one communications port can be connected to the host computer. Connecting more than one will result in unexpected UPS behavior. If an option card is installed, the serial and USB communications ports are automatically disabled.

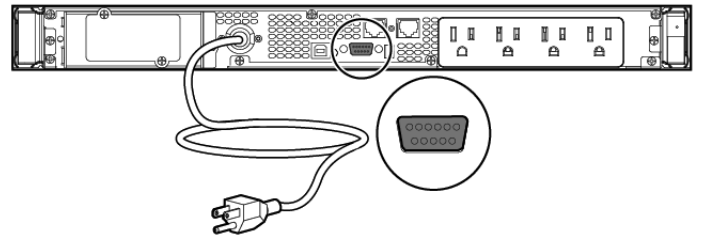
Connect the UPS to a host computer using either the USB cable or the DB9 serial cable included with the UPS. Install HP Power Protector on the host computer. See the HP website (<http://www.hp.com/go/rackandpower>) to download the latest version of HP Power Protector.

NOTE: To install and configure the software, see the software user guide. The software user guide is available for download from the HP website (<http://www.hp.com/go/rackandpower>).

Connecting the serial communications port

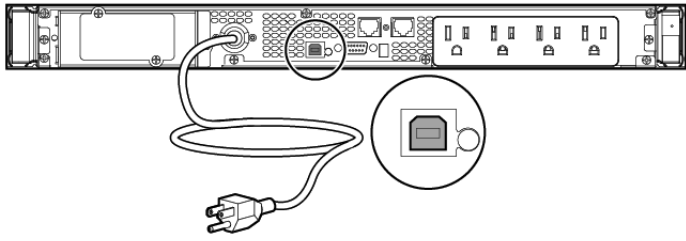
CAUTION: Use only the computer interface cable supplied with the UPS to connect the communications port to the host computer.

IMPORTANT: Power management software requires the communications port to be appropriately cabled to the host computer.



For information about serial port pin assignment, see "Serial communications port pin assignment" in the user guide.

Connecting the USB communications port

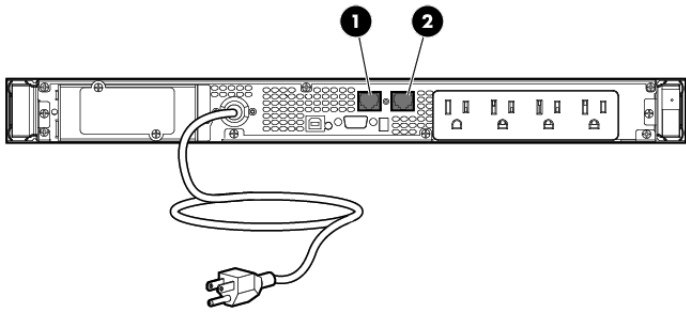


Connecting the Network Transient Protectors

CAUTION: To avoid damaging the equipment, use the Network Transient Protector with a standard telephone line only, not with a digital PBX.

To protect equipment against surges over a network data line:

1. Connect the network wall jack to the UPS Network Transient Protector IN jack.
2. Connect the equipment to the UPS Network Transient Protector OUT jack.



Connecting the UPS to utility power

WARNING: To prevent injury from electric shock or damage to the equipment:

- Plug the input line cord into a grounded (earthed) electrical outlet that is installed near the equipment and is easily accessible.
- Do not disable the grounding plug on the input line cord. The grounding plug is an important safety feature.
- Do not use extension cords.

1. Connect the input power cord to the IEC-320-C14 input power connector on the UPS rear panel (INTL model only).
2. Connect the UPS power cord to a grounded utility power outlet. When the UPS is plugged in, the batteries begin to charge. Power to the output receptacles designated for surge and battery backup is not available until the unit is powered up.

For more information about receptacle control, see "Power protector software" in the user guide.

Connecting devices to the UPS

CAUTION: Do not plug laser printers into the UPS output receptacles. The instantaneous current drawn by this type of printer can overload the UPS.

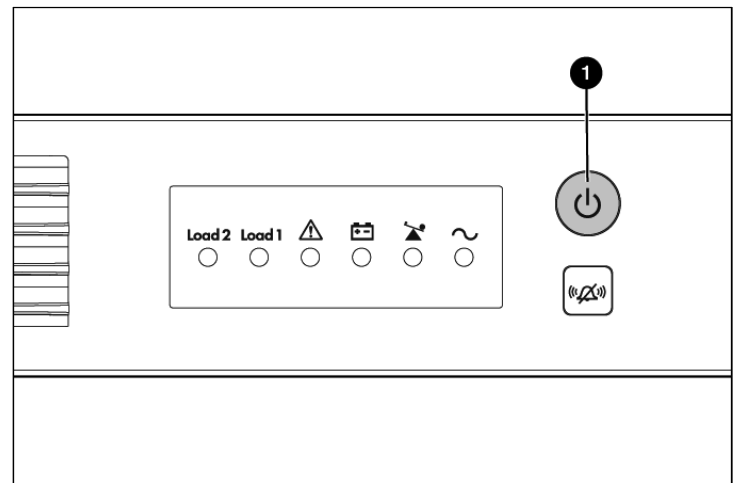
Before connecting devices, verify that the UPS will not overload by checking that the ratings of the devices do not exceed the UPS capacity. If the equipment rating is listed in amps, multiply the number of amps by the selected output voltage to determine the VA.

After verifying that the UPS will not overload:

- Connect the device power cords to the output receptacles on the rear panel of the UPS (NA/JPN/TWN model).
- or-
- Connect devices to the output receptacles on the rear panel of the UPS using the jumper cords included with the UPS (INTL model).

Powering up the UPS

Press and hold the Power On/Standby button (1) until the UPS beeps. The Power On, Load 1 and Load 2 LEDs illuminate, indicating that power is available at the UPS output receptacles.



Charging the UPS batteries

With the UPS in Standby mode, allow the batteries to charge before putting the UPS into service.



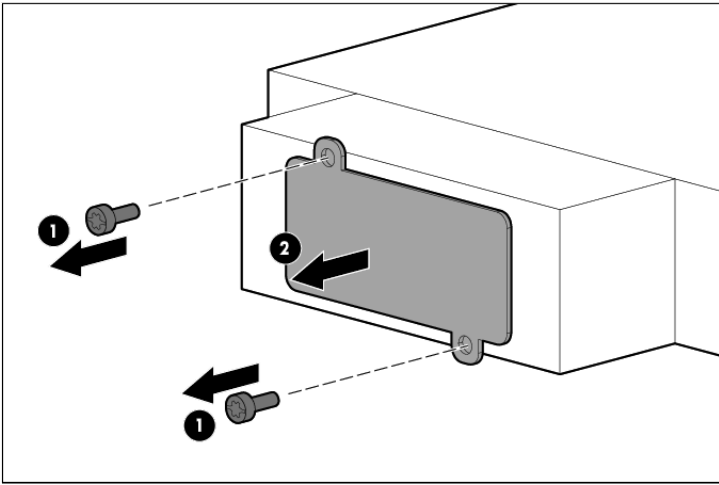
IMPORTANT: Charge the batteries for at least 24 hours before supplying backup power to devices. The batteries charge to:

- 90% of their capacity within 4 hours
- 100% of their capacity within 24 hours

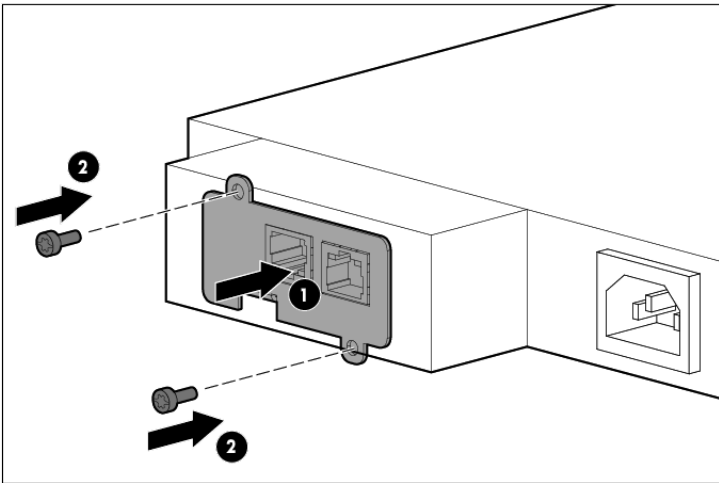
Installing the optional UPS Network Module

NOTE: It is not necessary to power down the UPS before installing the UPS Network Module.

1. Remove the two screws securing the UPS option slot cover plate and remove.



2. Install the UPS Network Module along the alignment channels in the option slot.

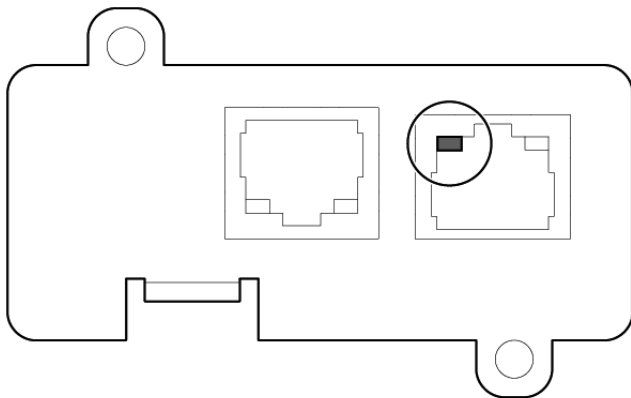
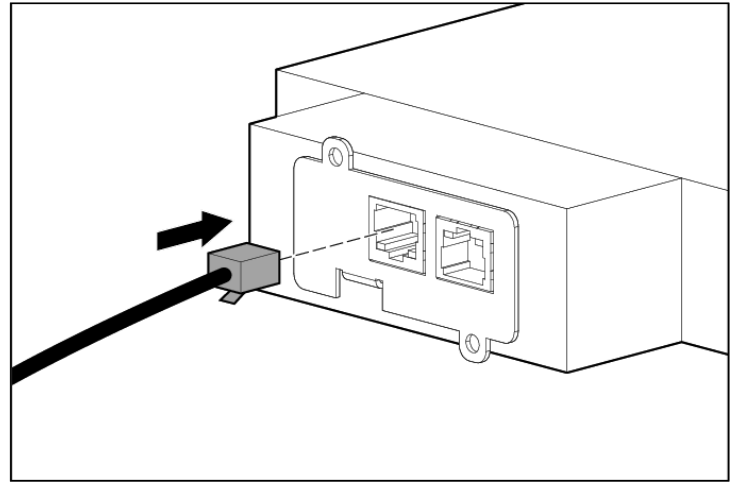


3. Secure the UPS Network Module using the two screws you removed in step 1.
4. If the UPS is powered up, you can be sure that the UPS Network Module is seated properly and communicating with the UPS by verifying that the UPS Data LED illuminates solid green, and then flashes regularly after 2 minutes.

Connecting the UPS Network Module

The UPS Network Module card is provided to manage the attached servers. RJ 45 network patch panel cables are required to use this card.

The RJ 45 network patch panel cables are not included.



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