

# HP UPS R/T3000 G2

## Installation Instructions



### **⚠ Important Safety Information**

Before installation, read *Important Safety Information* on the Documentation CD. Documentation CD اقرأ معلومات هامة حول السلامة على القرص المضغوط قبل التثبيت. Před instalací si přečtěte příručku *Důležitá bezpečnostní informace* na disku CD. 安装之前，请阅读文档 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, pročitajte *Važne 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 수칙*을 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».

Pred inštaláciou si prečítajte časť *Dôležitá bezpečnostná informácia* 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 R/T3000 G2 features a 2U rack-mount with convertible tower design and offers power protection for loads up to a maximum of 3300 VA/3000 W (these numbers might vary by model).

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

- ⚠ 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.



37 kg  
82 lb

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

**⚠ 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.

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Part Number: 650953-001  
January 2011  
Edition: 1

## 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
- Tower conversion stand (2)
- Front mounting ears (2) and associated hardware

- UPS
- Front bezel
- Mounting ear covers (2) (for rack installation only)
- Communications port/option slot
- REPO port connector block
- Cord retention clips
- Rear stabilization brackets (2) and associated hardware
- The R/T3000h NA/JPN and R/T3000 INT models ship with:
  - Two 10 A, 1.83-meter (6-foot) IEC-to-IEC power cords (142263-001), for load equipment power
  - Two 10 A, 2.44-meter (8-foot) IEC-to-IEC power cords (142263-002), for load equipment power
  - Two 10 A, 3.05-meter (10-foot) IEC-to-IEC power cords (142263-003), for load equipment power
  - One 3.66-meter (12-foot) serial communication cable (397237-002)
  - One 1.83-meter (6-foot) USB communication cable (C9930-80003)
- The R/T3000 NA/JPN models ship with a nondetachable input power cord with an L5-30 plug and a 3.66-meter (12-foot) computer interface cable (397237-002).
- The R/T3000h NA/JPN models ship with a nondetachable input power cord with an L6-20 plug and one C13 extension bar.
- The R/T3000 INTL model has an IEC-20-C19 input power receptacle for a country-specific cord and one C13 extension bar.

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**NOTE:** All models ship with a computer interface cable. The computer interface cable is not needed for normal operation. To administer the UPS with power protector software, connect the interface cable between the UPS communications port and the serial port on the host computer.

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## Tools and materials


The following tools are required for installation:

- Phillips screwdriver
- 10-mm hex-nut driver

The following items are supplied with the rack:

- Screws
- Hex nuts
- Cage nuts
- Cage nut-fitting tool

## 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.

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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.

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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.

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## 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.
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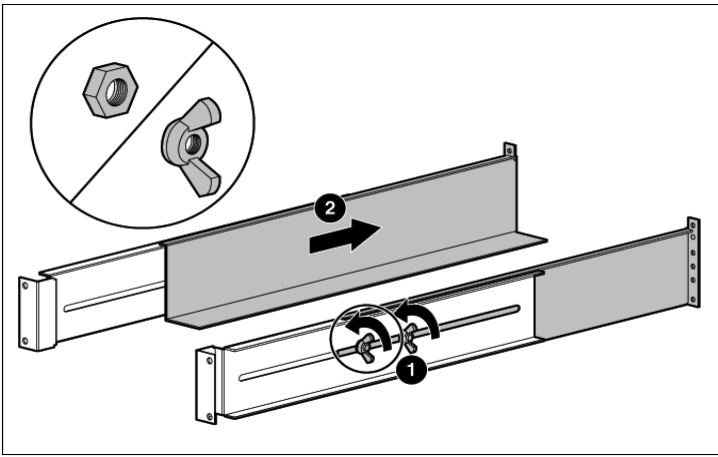
**NOTE:** If preparing the rails for integrated shipping, follow the same instructions as in "Installing the UPS ("Installing the UPS as a tower" on page 6, "Installing the UPS in a rack" on page 3)."

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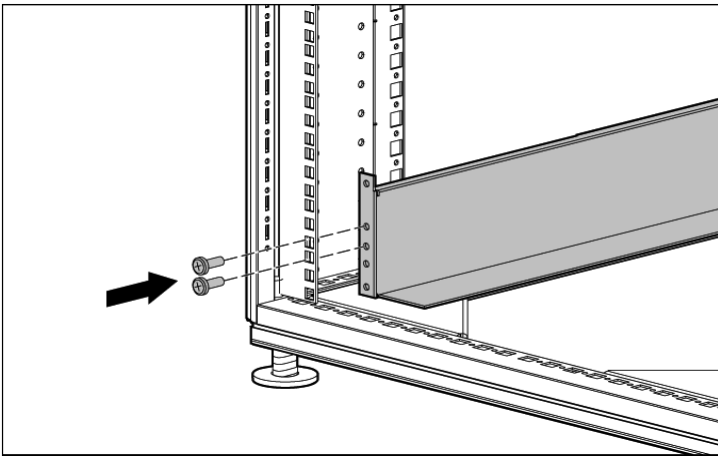
**NOTE:** Mounting hardware for square- and round-holed racks is included in the UPS kit.

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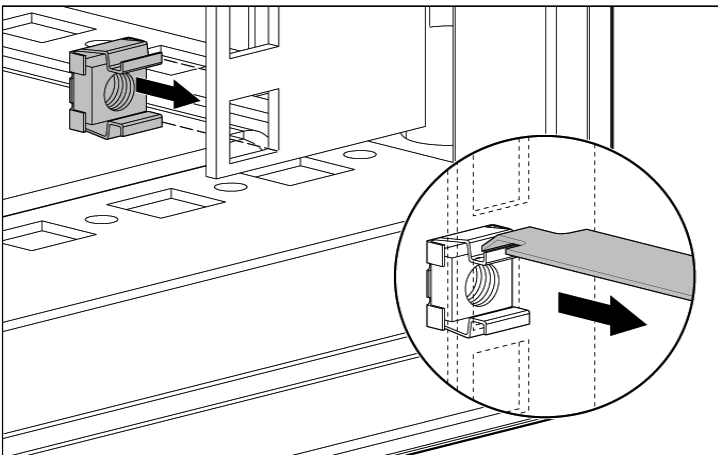
1. Loosen the wing nuts or hex nuts, and then extend the brackets to the desired length.



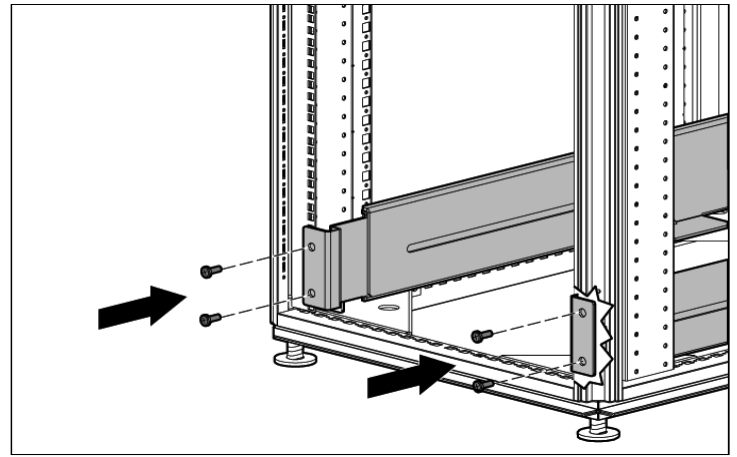
2. Insert screws through the rack into the mounting rail and the front of each mounting bracket.



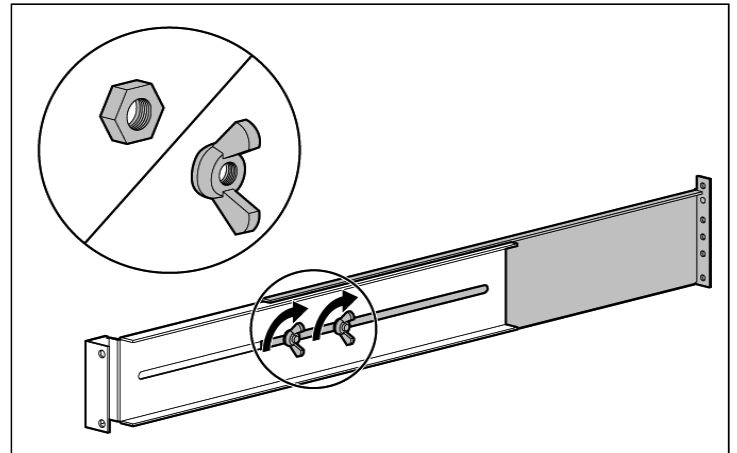
3. Install cage nuts or clip nuts into the rear of the rack.



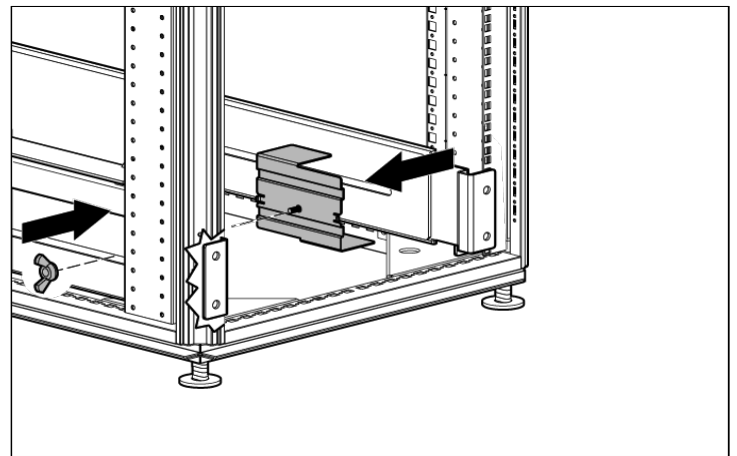
4. Insert screws through the mounting rail into the cage nuts or clip nuts.



5. Tighten the wing nuts or hex nuts.



6. Install the rear stabilization bracket using wing nuts. Wait until the unit is installed and the brackets are adjusted before tightening the nuts.

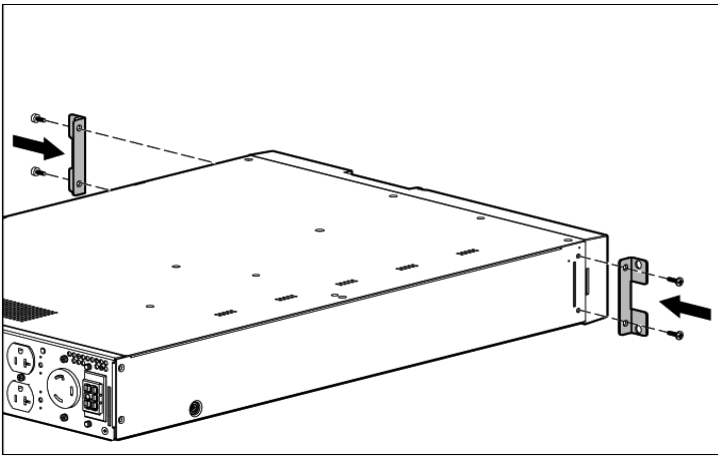


## Installing the UPS in a rack

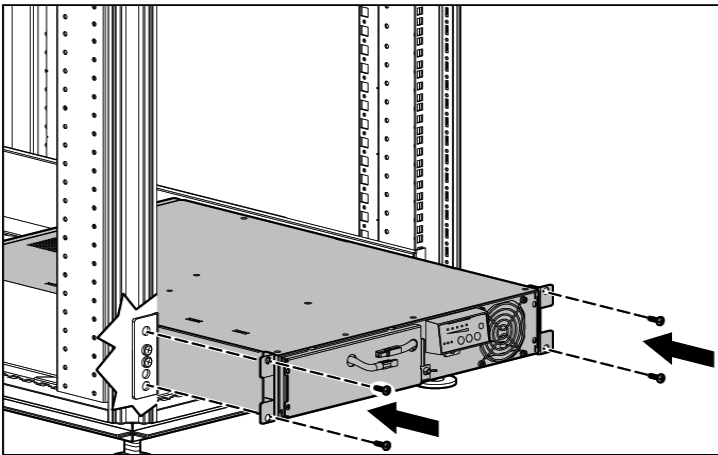
Before installing the unit, review and adhere to all warnings provided in "Precautions (on page 1)."

**⚠ 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.

1. Install the mounting rails ("Installing the mounting rails" on page 2).
2. Install the mounting ears on the chassis using the screws provided.

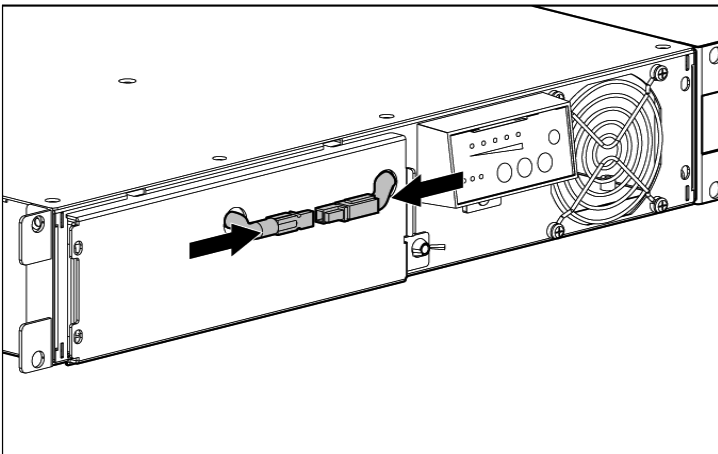


3. With one person on each side, lift the chassis to rail level and slide the chassis on the mounting rails.
4. Attach the chassis to the rack using the supplied screws.

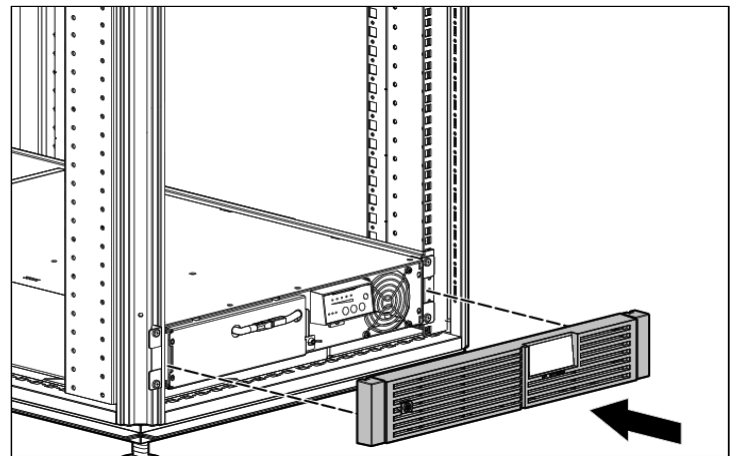
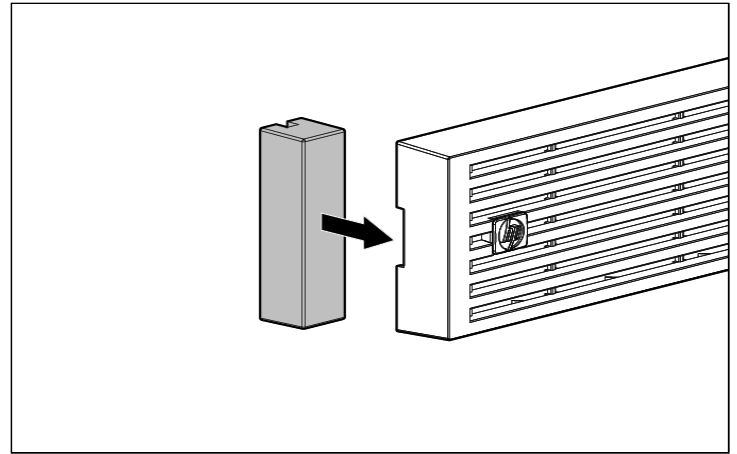


### Connecting the battery leads

- ⚠ WARNING:** To prevent personal injury from electric shock or damage to the equipment, remove the battery lead labels, and verify that the ERM circuit breakers are in the Off position.



### Attaching the UPS front bezel



### 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.

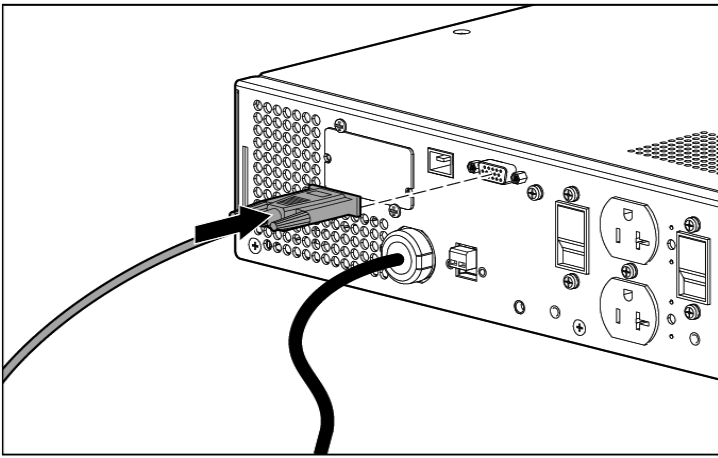
Connect the UPS to a host computer using either the USB cable or the DB9 serial cable included with the UPS. Install HP Power Protector on the host computer. See the HP website (<http://www.hp.com/go/rackandpower>) to download the latest version of HP Power Protector.

**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>).

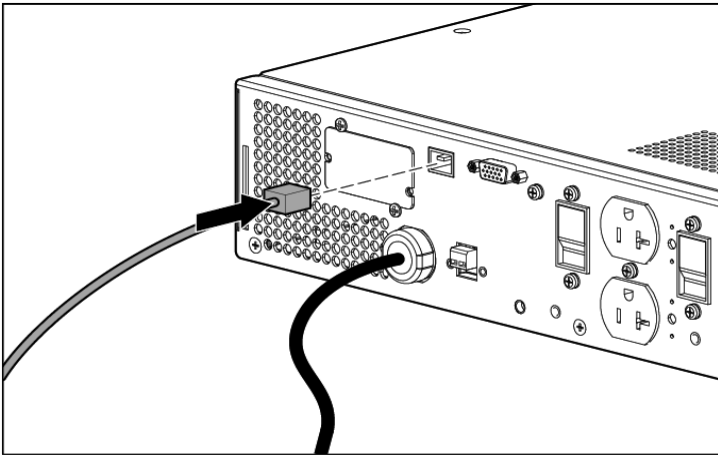
### Connecting the serial communications port

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

**🔧 IMPORTANT:** Power protector software requires the communications port to be appropriately cabled to the host computer.

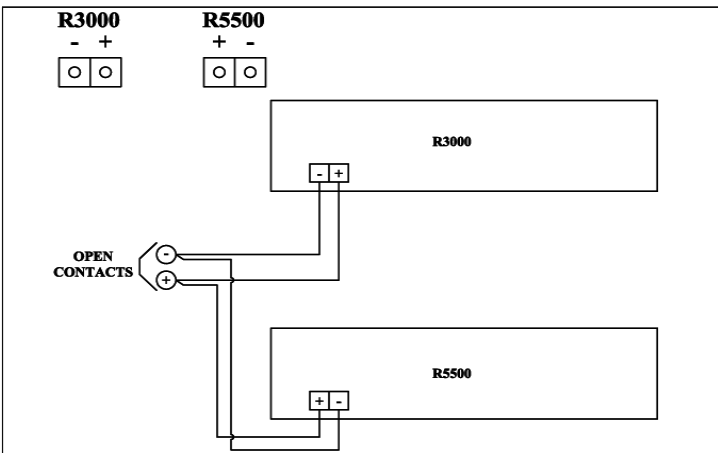


### Connecting the USB communications port



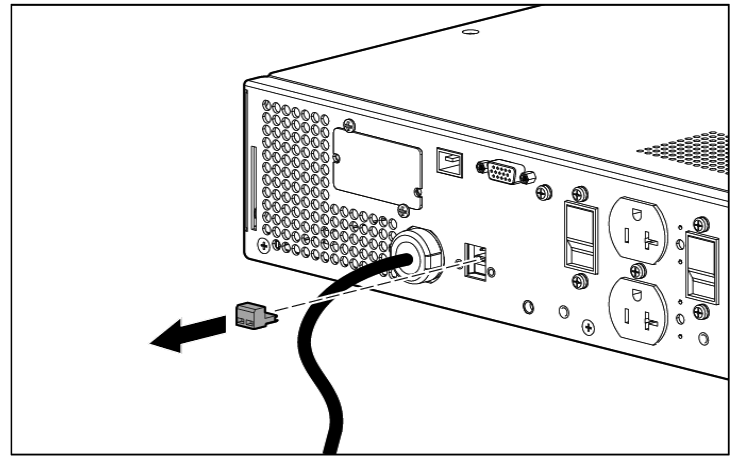
### Connecting the REPO port

**⚠ WARNING:** The pins on the REPO port are polarity sensitive. Be sure to verify polarity while connecting the REPO port.



**⚠ WARNING:** To meet the requirements stated in NEC (NFPA 70) Articles 645-10 and 645-11, a UPS installed in a computer equipment room must be connected to a REPO circuit.

**🔧 IMPORTANT:** The remote switch must be in the Off (open) position to enable power to the output receptacles.

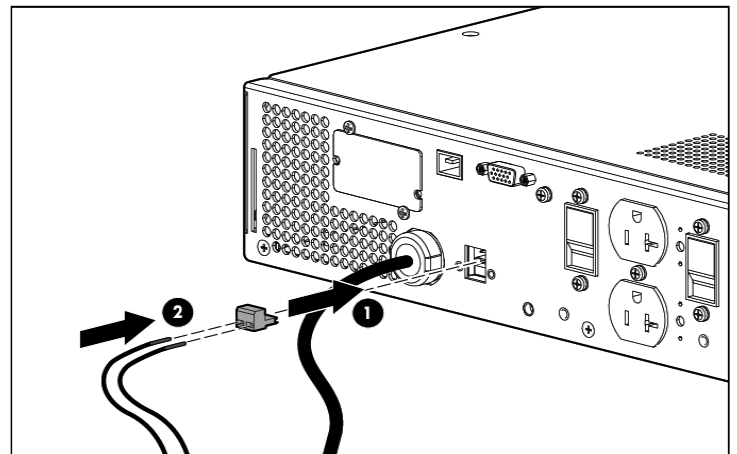


**NOTE:** Wire the connector block using stranded, nonshielded wire (AWG #22 - #18, or equivalent).

Separate wire pairs are attached to a single, normally-open contact in a parallel connection. HP recommends using different colors for the positive and negative wires.

If a connector becomes disconnected and is reconnected with reversed polarity, a REPO is initiated. To avoid REPO port disconnect:

- Minimize wire strain while connecting the REPO port.
- Avoid allowing the wires to hang in the rear of the UPS.
- Use tie wraps and tie wrap blocks to secure the wires tightly to the rack and the rear of the UPS.



For more information about the REPO port, see "REPO port" in the user guide.

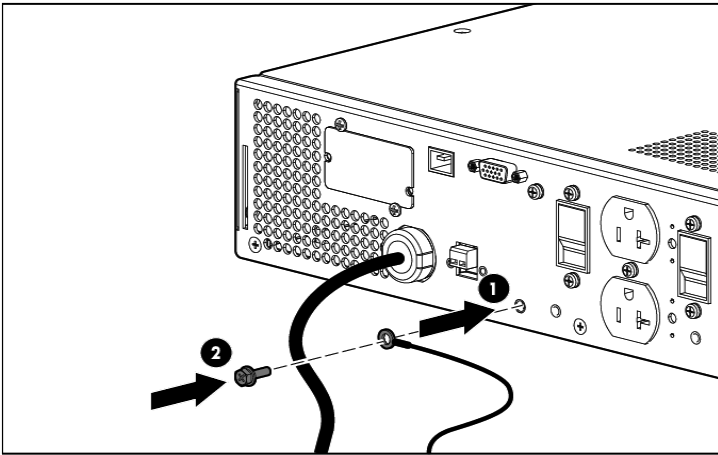
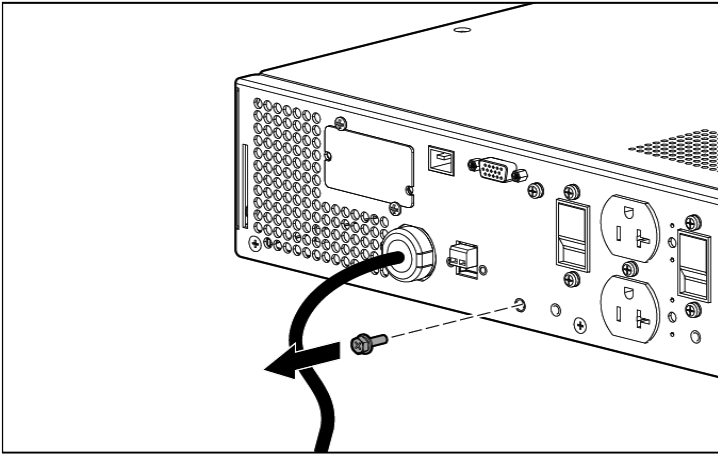
For information about verifying the REPO connection, see "Verifying the REPO port connection" in the user guide.

### Connecting the ground bonding cable

**NOTE:** UPS appearance might vary depending on the specific unit installed.

The ground bonding screw is provided as an attachment point for conductors. Use a ground bonding cable if the rack contains any conductors for the purpose of functional grounding or bonding of ungrounded metal parts.

The ground bonding cable is not included.



## 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.

Connect the UPS to a grounded utility power outlet. When the UPS is plugged in, it automatically enters Standby mode and begins charging the batteries.

## 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 (depending on your model):

- Connect the device power cords to the output receptacles on the rear panel of the UPS.

-or-

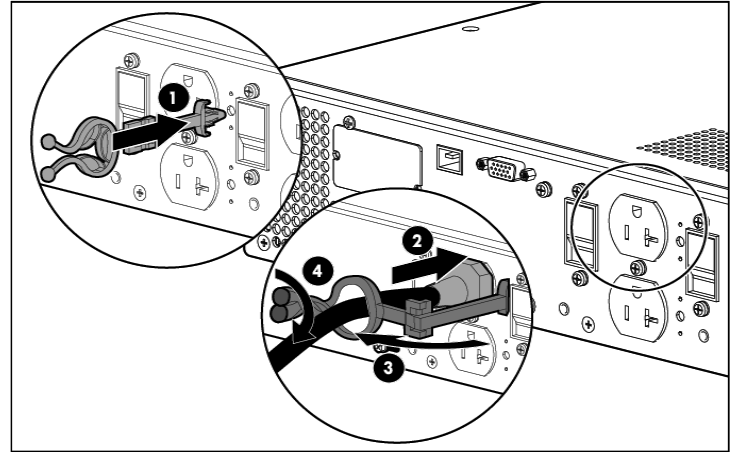
- Connect devices to the output receptacles on the rear panel of the UPS using the IEC-to-IEC power cords included with the UPS.

To provide additional receptacles:

- Plug a PDU into the PDU output receptacle. The PDU output receptacle is part of load segment 1 and can be turned off and on using power protector software.
- Plug an extension bar into any IEC-320-C19 receptacle to yield eight additional IEC-320-C13 receptacles.

## Connecting the UPS cord retention clips

**NOTE:** UPS appearance might vary depending on the specific unit installed.



## 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:

- 80 percent of their capacity within 3 hours
- 100 percent of their capacity within 48 hours

## Starting power to the load

Start power to the load by placing the UPS in Operate mode.



**IMPORTANT:** AC power must be available the first time the UPS is started.

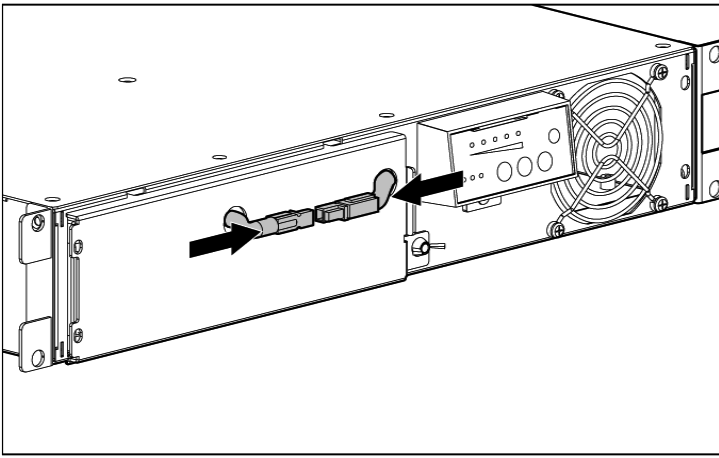
## Installing the UPS as a tower

Before installing the unit, review and adhere to all warnings provided in "Precautions (on page 1)."

## Connecting the battery leads

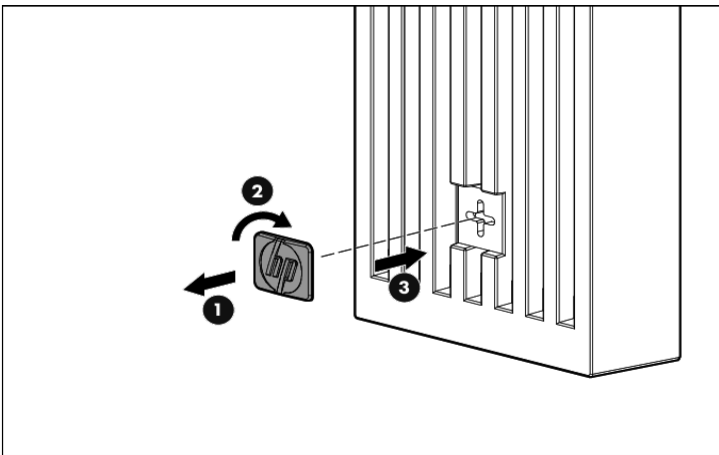


**WARNING:** To prevent personal injury from electric shock or damage to the equipment, remove the battery lead labels, and verify that the ERM circuit breakers are in the Off position.

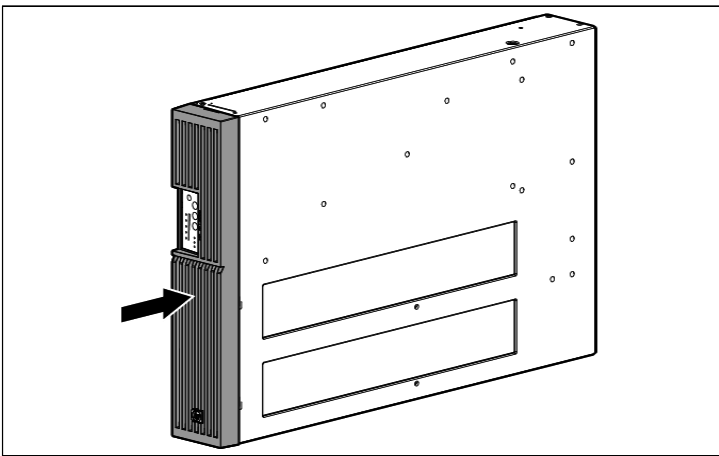


### Rotating the logo badge

Gently pull out the logo badge, rotate it 90 degrees, and then replace it in the bezel.



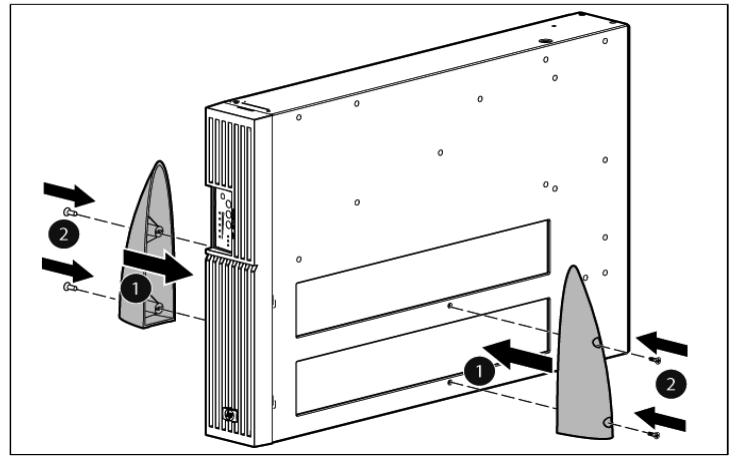
### Attaching the UPS front bezel



### Attaching the tower conversion stands

**⚠ WARNING:** To reduce the risk of personal injury or damage to the equipment, the tower conversion stands must be properly attached when the unit is installed as a tower.

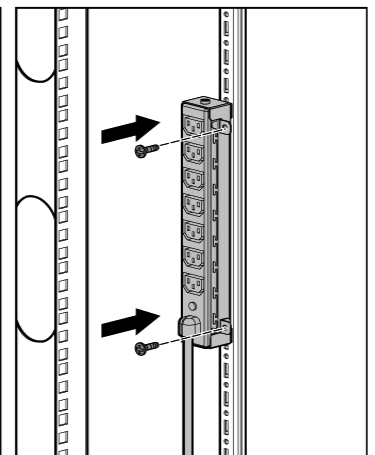
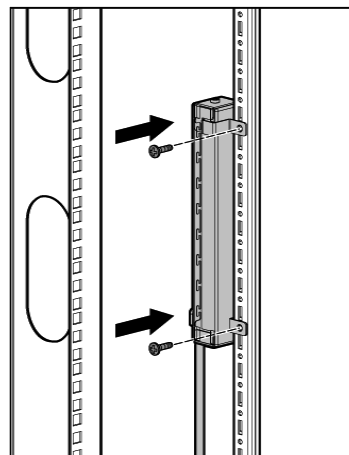
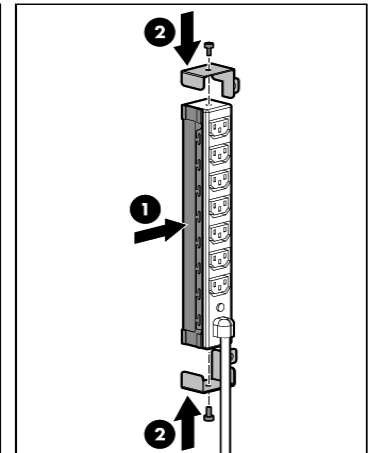
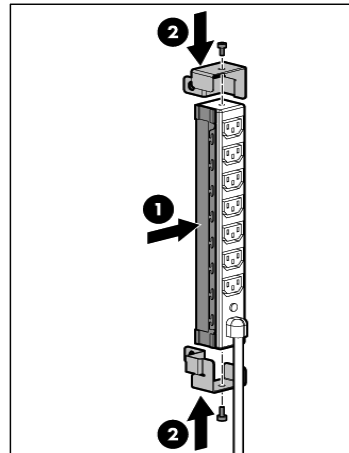
Using the preinstalled screws, attach the tower conversion stands to the unit.



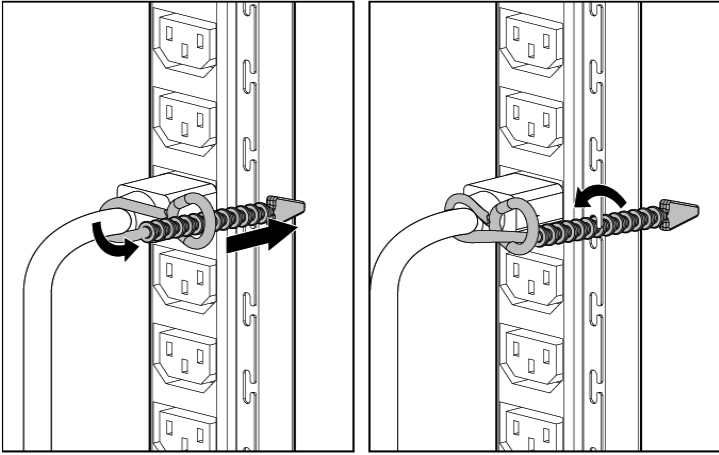
### Continuing the installation

To continue the UPS installation, follow the instructions starting with "Connecting the serial communications port."

### Installing the extension bars (if included)



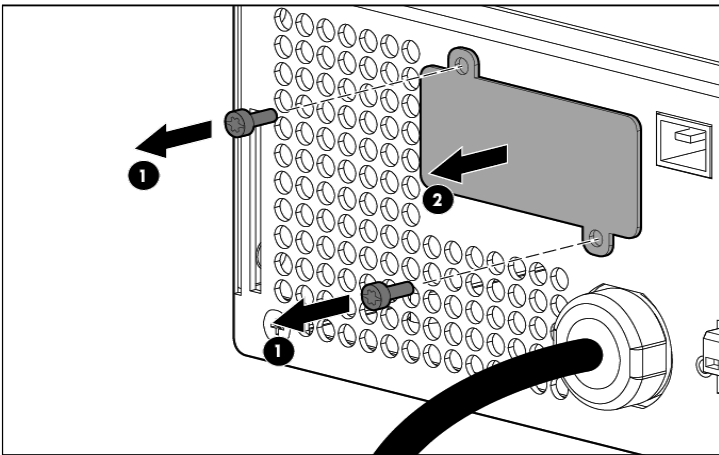
## Connecting and securing the power cords



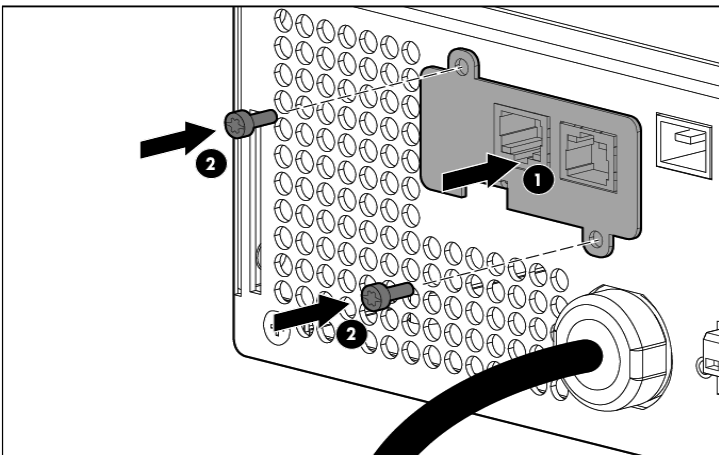
## Installing the optional UPS Network Module

**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.

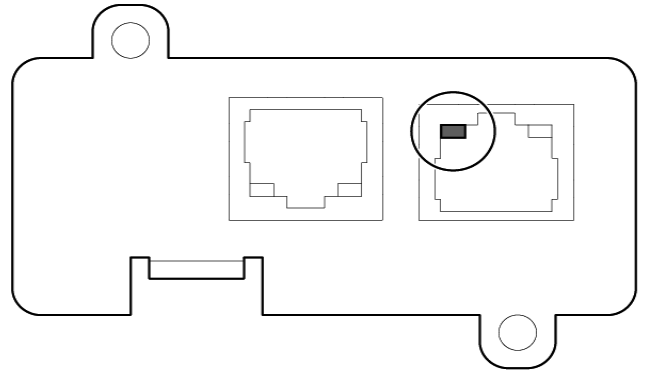


2. Install the UPS Network Module along the alignment channels in the option slot.



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 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.

