IBM®

IBM UPS Extend Run Battery Pack
Operation and Setup Guide

Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الآمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

1

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、 安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

⚠ CAUTION! Handling Safety - Use safe practices when lifting.

👤 <18 kg (<40 lb)   👥👥👥 32–55 kg (70–120 lb)   🏋

👥 18–32 kg (40–70 lb)   👥👥👥👥 >55 kg (>120 lb)   🏋 >10º

⚠⚡ CAUTION! Electrical Safety

Electrical Current from power, telephone, and communication cables is hazardous. Please read the following safety statements.

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Connect to properly wired outlets any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.

To Connect:	**To Disconnect:**
1. Turn everything OFF.	1. Turn everything OFF.
2. First attach all cables to devices.	2. First remove power cords from outlet.
3. Attach signal cables to connectors.	3. Remove signal cables from connectors.
4. Attach power cords to outlet.	4. Remove all cables from devices.
5. Turn device ON.	

- Do not work alone under hazardous conditions.
- High current through conductive materials could cause severe burns.
- Check that the power cord(s), plug(s), and sockets are in good condition.
- Use qualified service personnel to change the plug on the UPS.
- When grounding cannot be verified, disconnect the equipment from the utility power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Do not handle any metallic connector before the power has been disconnected.
- Connect the equipment to a three wire utility outlet (two poles plus ground). The receptacle must be connected to appropriate branch circuit/mains protection (fuse or circuit breaker). Connection to any other type of receptacle may result in risk of electrical shock.
- *HV models only:*
  - In order to maintain compliance with the EMC directive for products sold in Europe, output cords attached to the UPS should not exceed 10 meters in length.
  - Total leakage current from connected equipment and the UPS must not exceed 3.5 mA for a pluggable A Type UPS.

3

⚠⚡**CAUTION! De-energizing Safety**

- The UPS has an internal energy source, the battery. The output may be energized when the unit is not connected to a utility power outlet.

- To de-energize the UPS, press the OFF button to shut the equipment off. Unplug the UPS from the utility power outlet. Disconnect the external batteries where applicable and disconnect the internal battery (see *Operation and Setup Guide*). Push the ON button to de-energize the capacitors.

⚠⚡**CAUTION! Battery Safety**

- **This equipment contains potentially hazardous voltages**. Refer to your product documentation to determine which parts are user-replaceable.

- Do not dispose of batteries in a fire; they may explode.

- Do not open or mutilate batteries. They contain an electrolyte that is toxic and harmful to the skin and eyes.

- To avoid personal injury due to energy hazard, remove wristwatches and jewelry such as rings when replacing the batteries. Use tools with insulated handles.

- Replace the battery module with the same number and type as originally installed in the equipment.

♻Pb	🚯Pb	**Be sure to deliver the spent battery to a recycling facility.**

1:   INSTALLATION

Introduction

The IBM® Uninterruptible Power Supply (UPS) Extend Run Battery Pack provides extended load protection and extra security during UPS battery replacement.

The IBM UPS 3000XLV and UPS 3000XHV models can support up to four external battery packs. Both models use the Extend Run Battery Pack and are designed to operate in the rack mount and tower configurations.

Battery pack connectors are color-coded and keyed to prevent improper connection.

For battery replacement and service information, please see the UPS *Operation and Setup Guide*.

Unpacking

Attention: Read the Safety Instructions before installing the UPS.

Inspect the battery pack upon receipt. Accidents and damage may occur during shipment. Notify the carrier and your IBM marketing representative or authorized reseller if there is damage.

The packaging is recyclable; save it for reuse or dispose of it properly.

Check the package contents:

- ❑ Battery pack
- ❑ Front bezel
- ❑ Rail kit including rails and rack mounting brackets
- ❑ Tower conversion kit including top panels and expansion pieces for mounting stabilizers
- ❑ Extend Run Battery Pack literature kit containing:
  - ❑ Quick Installation Guide
  - ❑ Warranty Flyer

Positioning the Battery Pack

Attention: The battery pack and battery modules are heavy. Select a location sturdy enough to handle the weight.

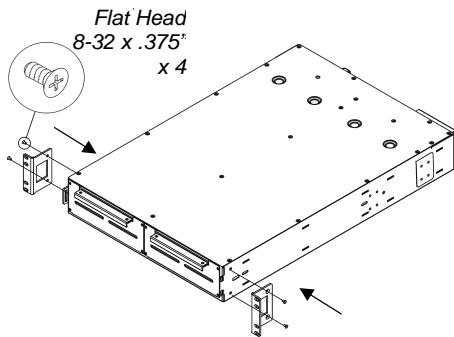Do not operate the UPS where the temperature and humidity are outside the specified limits.

PLACEMENT
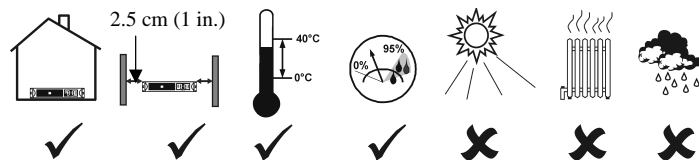
Installing the Battery Pack in a Rack

Step 1
Attach the mounting brackets.

Note: Illustrations in this document might differ slightly from your hardware.

*Flat Head
8-32 x .375"
x 4*

Step 2
To lighten the battery pack, remove the battery modules before mounting.

(A)

*Philips Pan Head
8-32 x .375"
x 4*

(B)

(C): Repeat steps *(A) & (B)* for the second battery.

Step 3
See the Rail Installation Diagram that is included in the Rail Kit.

Install the battery pack above or below the UPS. Make sure the rack will not tip.

*Custom Hex Head
10-32/ M6 x .5"
x 4*
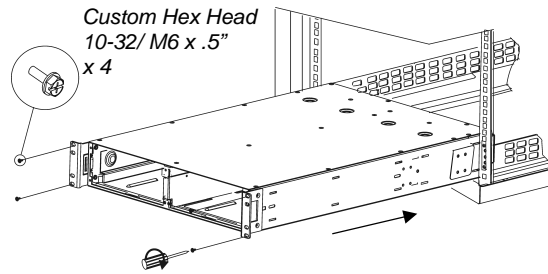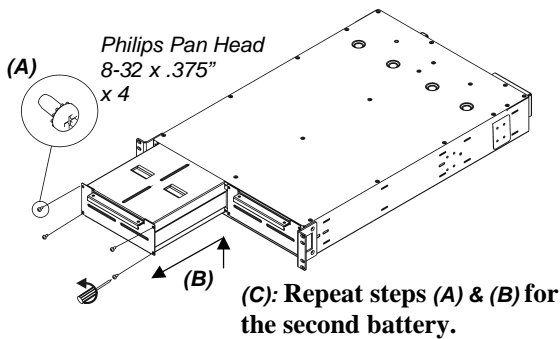
Installing the Batteries and Attaching the Front Bezel

Step 1
Reinstall the battery modules.

*Philips Pan Head
8-32 x .375"
x 4*

Step 2
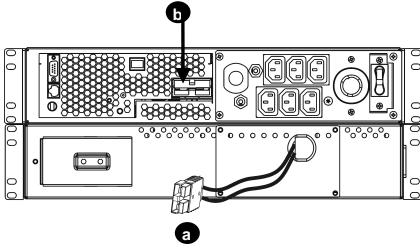Attach the front bezel.

❶

❷

6
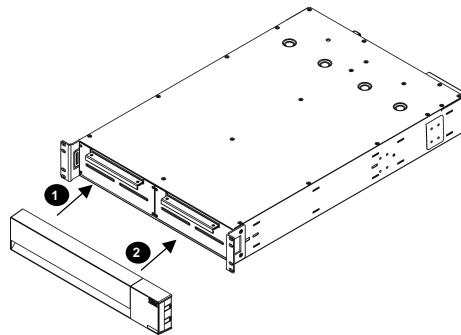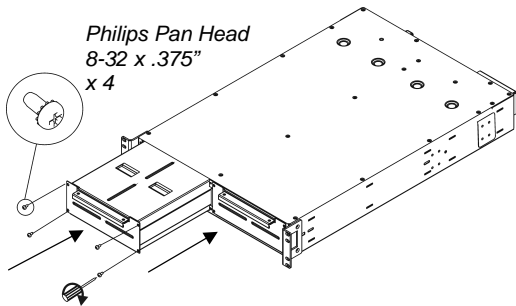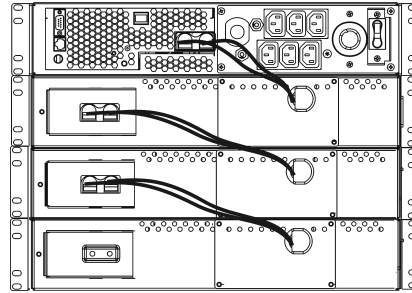
Connecting the Battery Pack(s) to the UPS

Allow the battery pack to charge for 24 hours. Do not expect full runtime during this initial charge period.

One Battery Pack

Connect **ⓐ** to **ⓑ** .
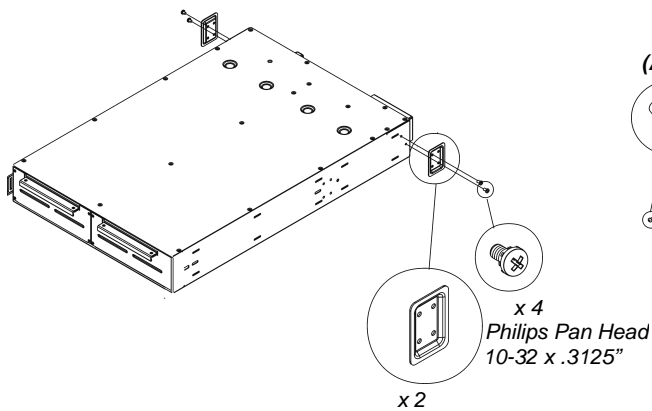
Multiple Battery Packs

Tower Configuration of the External Battery Pack

Attention: If you are going to connect more than two external battery packs, you will need more than one person to properly support and rotate the attached units during the installation, even after removal of all battery trays.
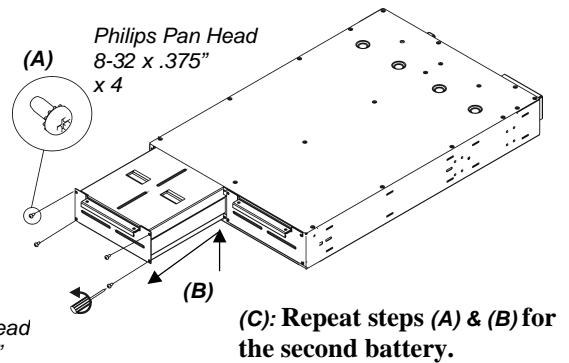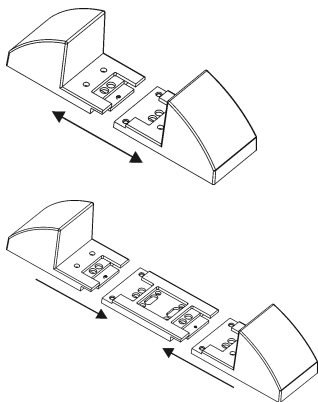
Step 1
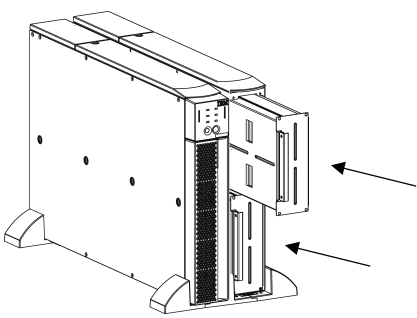**Remove the rail guides.**

x 4
*Philips Pan Head
10-32 x .3125"*

x 2

Step 2
To lighten the battery pack, remove the battery modules.

(A) *Philips Pan Head
8-32 x .375"
x 4*

(B)

(C): **Repeat steps** *(A) & (B)* **for the second battery.**

Step 3
Separate mounting stabilizers and insert expansion pieces.
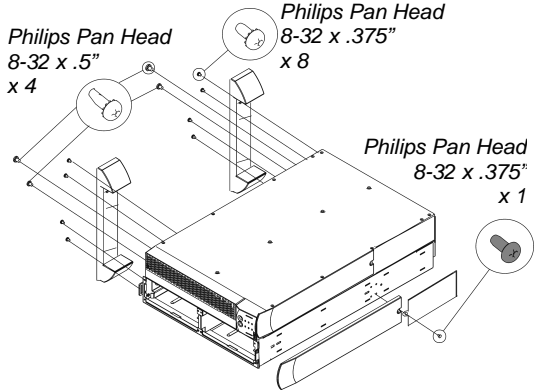
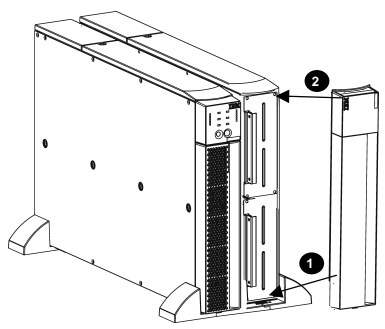**Step 4**
The UPS is pictured with bezels and top panels already attached.

Attach top panels and mounting stabilizers. Rotate unit to tower position.

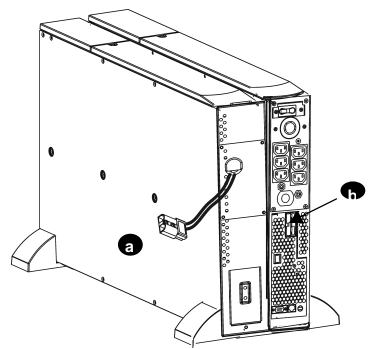*Philips Pan Head 8-32 x .5" x 4*

Philips Pan Head 8-32 x .375" x 8

Philips Pan Head 8-32 x .375" x 1

Step 5
Reinstall battery modules.

Step 6
Attach front bezel.

Connecting a Battery Pack to the UPS

Connect **a** to **b** .

DETERMINING ON BATTERY RUNTIME

Extend Run Battery Packs charge when connected to a UPS. See *Battery Runtime Table* for corresponding recharge times. ***Do not*** expect full battery run capability during the initial charge period.

BATTERY RUNTIME TABLE
(gray= minutes; other= hours)

	Number of Battery Packs				
	Internal	**+1**	**+2**	**+3**	**+4**
90 W	*4.2*	*18.5*	*30.5*	*43.2*	*55.9*
190.0 W	*2.3*	*8.2*	*15.2*	*20.5*	*26. 5*
290.0 W	*1.5*	*4.6*	*9.0*	*13.9*	*18.1*
380.0 W	*57.0*	*3.0*	*6.9*	*9.5*	*13.6*
570.0 W	*36.8*	*2.5*	*3.8*	*6.4*	*8.5*
760.0 W	*24.8*	*2.1*	*2.8*	*4.2*	*6.2*
950.0 W	*17.0*	*1.7*	*2.6*	*3.0*	*4.4*
1,140.0 W	*13.4*	*1.2*	*2.3*	*2.8*	*3.2*
1,330.0 W	*11.3*	*57.0*	*2.1*	*2.6*	*2.9*
1,520.0 W	*8.6*	*51.2*	*1.8*	*2.4*	*2.7*
1,710.0 W	*7.0*	*45.5*	*1.5*	*2.2*	*2.6*
1,900.0 W	*6.3*	*39.7*	*1.3*	*2.0*	*2.5*
2,090.0 W	*5.6*	*33.9*	*1.0*	*1.9*	*2.3*
2,280.0 W	*4.9*	*29.3*	*57.0*	*1.7*	*2.2*
2,470.0 W	*4.4*	*27.0*	*53.6*	*1.5*	*2.0*
2,700.0 W	*4.0*	*25.1*	*48.3*	*1.1*	*1.7*
2,850.0 W	*3.4*	*22.6*	*46.9*	*1.1*	*1.8*

|	Number of Battery Packs				
	Internal	**+1**	**+2**	**+3**	**+4**
Recharge Hours*	3	9	15	22	28

*Recharge time is approximate time to 90% capacity from a complete discharge at a 50% load.

2:   HARDWARE MAINTENANCE INFORMATION

This chapter contains information about IBM field replaceable unit (FRU) availability for the IBM UPS Extend Run Battery Pack.

FIELD REPLACEABLE UNIT PART NUMBERS

IBM FRU part numbers are subject to change without notice. This section contains a listing of the FRU part numbers available at the time this document was published.
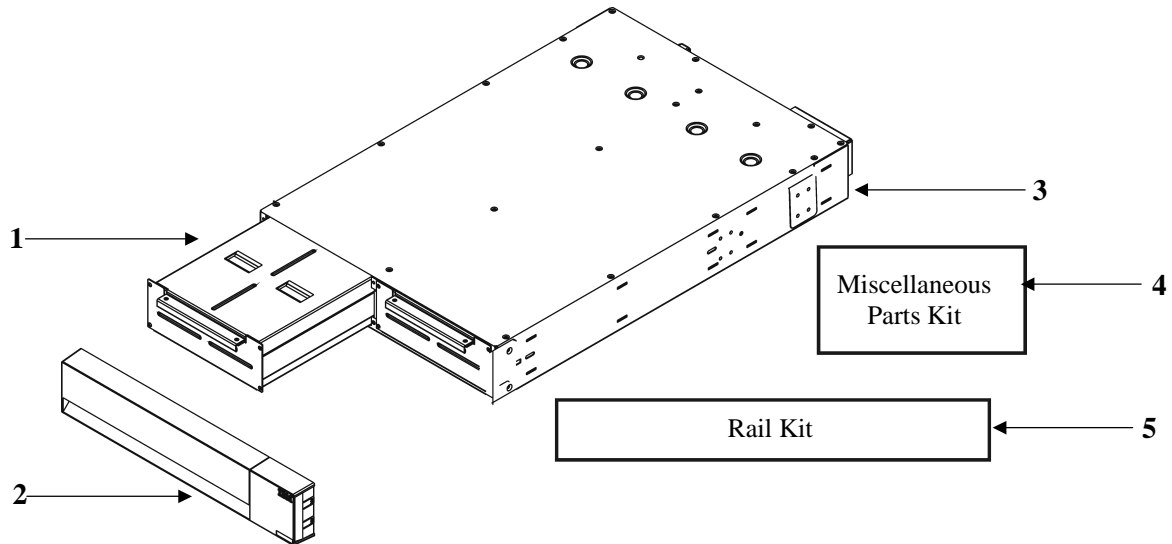
Index	FRU Part #	Description
1	32P1793	Extend Run Battery Pack Battery Module
2	32P1798	Extend Run Battery Pack Bezel
3	32P1791	Extend Run Battery Pack Chassis
4	73P5770	Miscellaneous Parts Kit (hardware)
5	73P5769	Rail Kit

3: SETTING THE UPS TO RECOGNIZE THE BATTERY PACK (S)

Attention: It is important to follow these instructions. This configuration affects the accuracy of the runtime calculations that the UPS performs while running on battery power.

You must program the UPS with the appropriate number of external batteries in one of three ways.

- *VIA THE NETWORK PORT*

    1. At the operating system command prompt, open a Telnet session by typing 'telnet' and the System IP address for the network port. (Example: telnet 129.205.12.104)
    2. When prompted, enter your case-sensitive user name and password. (Default settings for an Administrator are **apc** and **apc**; and for a Device Manager, **device** and **apc**.)
    3. Select the following menu options, in order. (To select a menu option, type the number of the option at the prompt, and press *enter*.)

        A. From the main screen, select 'Device Manager' (Option 1)
        B. Select 'IBM UPS 3000XLV' or 'IBM UPS 3000XHV' (Option 1)
        C. Select 'Configuration' (Option 3)
        D. Select 'Battery' (Option 1)
        E. Select 'External Batteries' (Option 2)
    4. Enter the number of external battery packs, and select 'Accept Changes' (Option 3).

- *USE POWERCHUTE® BUSINESS EDITION 6.2*

    See the *Quick Installation Guide* packaged with the UPS to install PowerChute Business Edition (PCBE).

    1. Use any PCBE Console to log on to the PCBE Server monitoring the UPS system.
    2. Double-click on the UPS system in the Status display's device list to access the 'Device Properties' dialog box for the UPS.
    3. Click 'Battery Status' under 'General'.
    4. Type in the number of external battery packs in the 'Battery Packs' dialog box and click 'Apply'.

- *ALLOW THE UPS TO DETERMINE THE NUMBER OF EXTERNAL BATTERY PACKS BY CONDUCTING A RUNTIME CALIBRATION TEST*

    In order for the UPS to conduct a valid runtime calibration test, the following conditions must be met.

    ✓ The UPS must be 100% charged. This can be accomplished if the UPS is left online, without power interruption for at least 3 hours, plus 8 hours per external battery module.

    ✓ The load on the UPS must be constant. Usually a computer connected to the UPS or some other electronic load is a good source. Whenever possible, use a load that is expected to be supported by the UPS.

    The runtime calibration test will discharge all connected batteries to 25% of their original capacity.

    See the *Quick Installation Guide* packaged with the UPS to install PowerChute Business Edition.

1. Use any PCBE Console to log on to the PCBE Server that is monitoring the UPS system.
2. Double-click on the UPS system in the Status display's device list to access the 'Device Properties' dialog box for the UPS.
3. Click 'Diagnostics' to display the 'UPS Calibration' option.
4. Note: If the 'Diagnostics' selection is not shown, select the 'Show Advanced Items' option at the bottom of the dialog box.
5. Click 'UPS Calibration'.
6. Click 'Start'.

If you are unable to install or access PowerChute, or if there is no computer connected to the UPS, you can conduct a manual calibration by pulling the plug powering the UPS until the UPS automatically shuts down due to a low battery.

Note: Before pulling the plug, you must attach and turn on a constant load for the full length of the discharge; and the internal and external batteries connected to the UPS must be fully charged, as mentioned above.