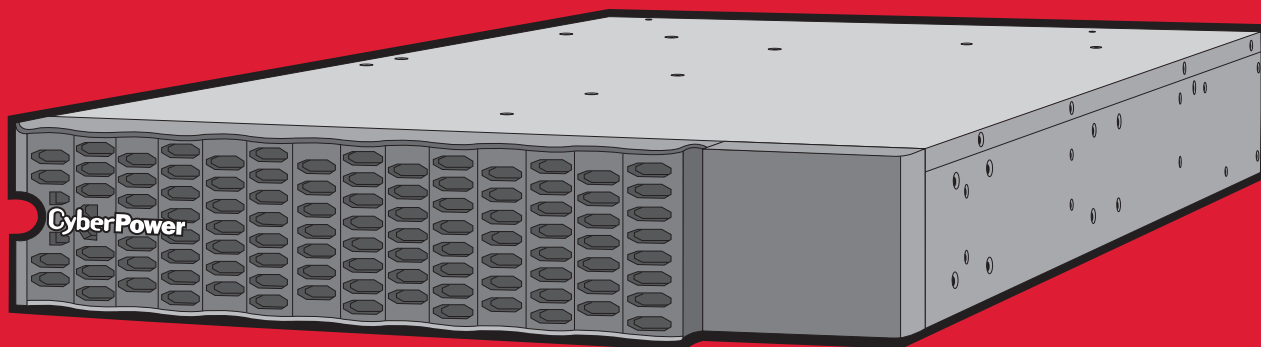




SMART APP ONLINE EXTENDED BATTERY MODULE

INSTALLATION AND OPERATION MANUAL

BPE144VL2U01



SAVE THESE INSTRUCTIONS

Please read this manual and follow the instructions for installation and operation.

SAFETY INSTRUCTIONS

PRODUCT SAFETY

RISK OF ELECTRIC SHOCK



See Installation Instructions Before Connecting To The Supply.
Do Not Disconnect Battery Connector Under Load.
Batteries replaceable by SERVICE PERSONNEL.

BATTERY



Do not dispose of batteries in fire as the battery may explode.
Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes.

TABLE OF CONTENTS

SAFETY INSTRUCTIONS	II
Product Safety	II
INTRODUCTION.....	1
UPS Extended Battery Modules	1
Unpacking Procedures	1
Whats In The Box.....	2
EXTENDED BATTERY MODULE INSTALLATION.....	3
Battery Module	3
Connection With UPS	4
HARDWARE INSTALLATION	7
Rackmount Installation.....	7
Vertical/Tower Installation.....	9
MAINTENANCE	10
Battery Replacement	10
TECHNICAL SPECIFICATIONS.....	13
TROUBLESHOOTING	14

INTRODUCTION

UPS EXTENDED BATTERY MODULES

Extended Battery Modules (EBMs) from CyberPower (BPE144VL2U01) increase battery runtimes during power outages. Each rack/tower convertible EBM uses 2U of rack space and can be installed in a tower form factor to match the UPS installation. The DC plug-and-play power connectors allow to daisy-chain additional EBMs to a UPS system. EBMs compatible with Smart App Online UPS systems also have a built-in battery charger, providing Fast Charge Technology to quickly restore the backup power supply.

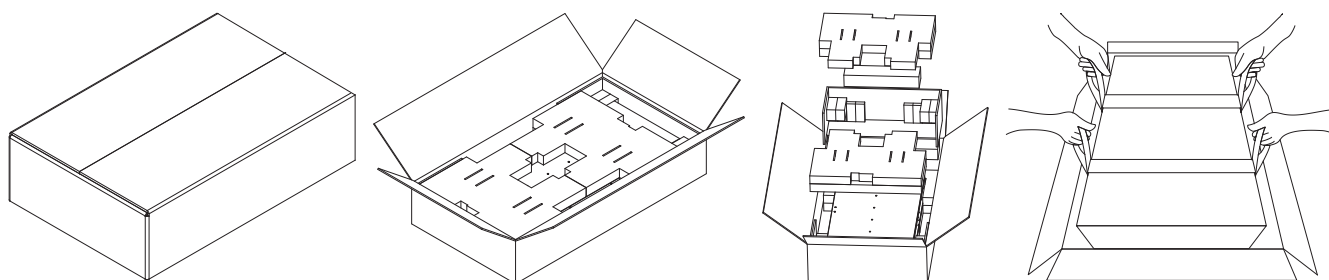
UNPACKING PROCEDURES



Information, advice, help

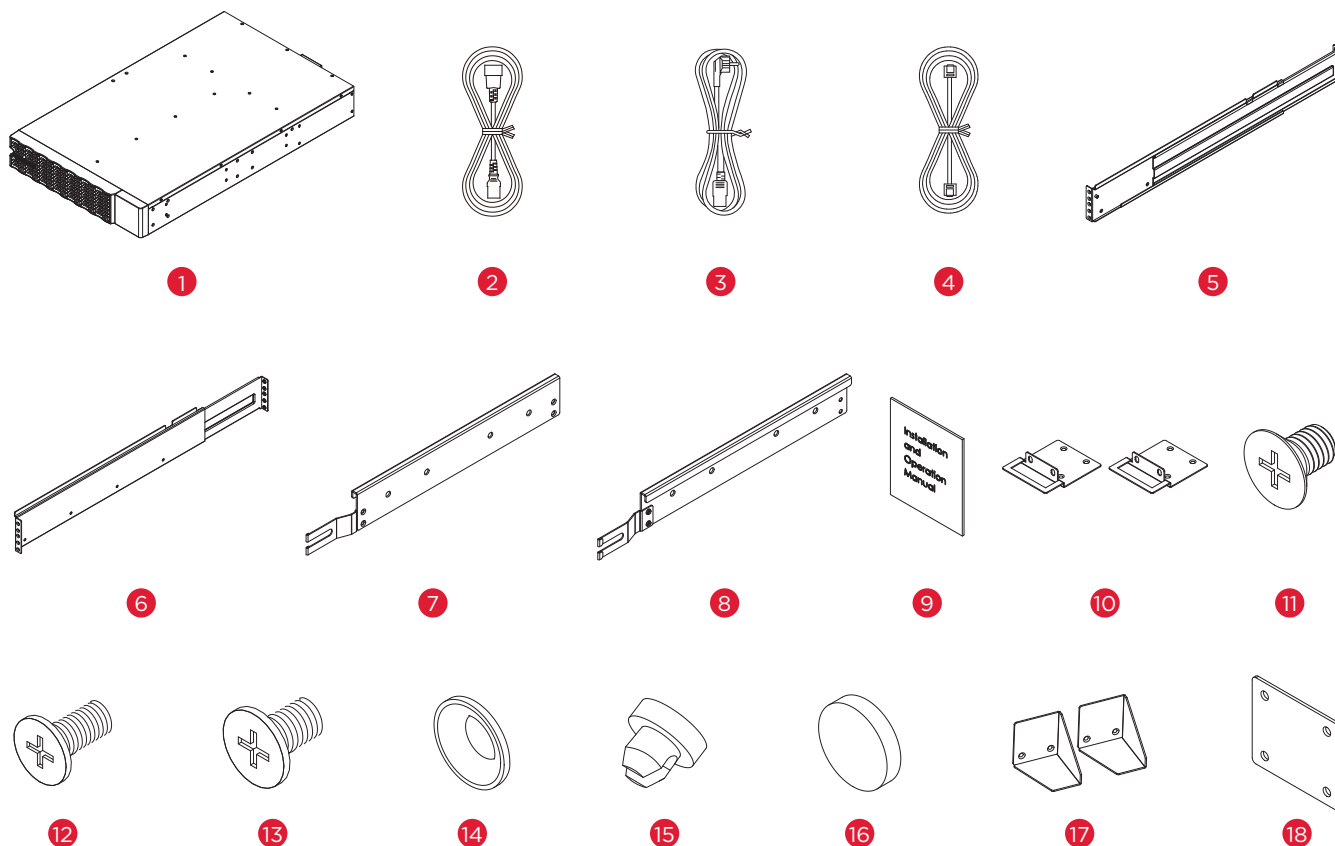
The Extended Battery Module is very heavy, please handle with care. Wear safety shoes and use a hydraulic equipment lift if one is available. At least two people are required for all handling operations, including unpacking, lifting, and installation in a rack system. Do not use the lifting straps to carry the unit around; they are provided to manually unpack the unit only.

USE LIFTING STRAPS TO REMOVE THE UNIT FROM THE BOX.



INTRODUCTION CONT.

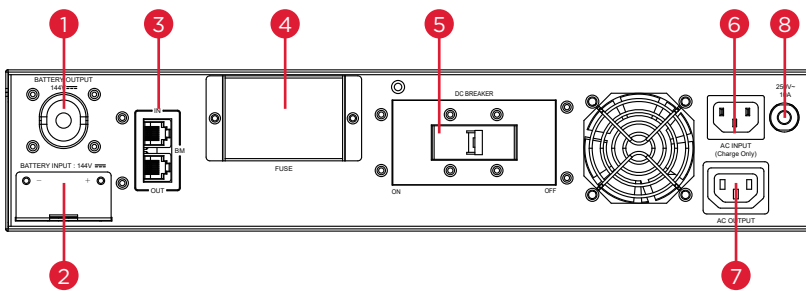
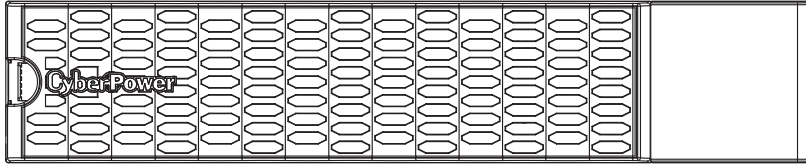
WHATS IN THE BOX



ITEM	CONTENT	QTY	ITEM	CONTENT	QTY
1	EBM	1	10	Rackmount ears	2
2	IEC320 C14 plug to IEC320 C13 power cord	1	11	Flat head screws M5X7L	8
3	Schuko plug to IEC320 C13 power cord	1	12	Pan head screws M5X12L	12
4	BM Cable	1	13	Pan head screws M5X6L	6
5	Rackmount left rail	1	14	Plastic washers	8
6	Rackmount right rail	1	15	Screw hole dust covers	18
7	Left hanging bracket	1	16	Rubber pads	12
8	Right hanging bracket	1	17	Stand	2
9	Installation and Operation Manual	1	18	Tie plate	1

EXTENDED BATTERY MODULE INSTALLATION

BATTERY MODULE



BPE144VL2U01

1. EBM DC Output Cable

Use this output cable to connect the EBM to a UPS or to the next EBM.

2. EBM DC Input Connector

Use this input connector to daisy chain the next EBM. Remove the connector cover for access.

3. BM Port

Connection port for built-in battery management module on UPS and Extended Battery Module.

4. On-board Replaceable Fuse Cover

Replaceable fuse is accessible from the rear panel.

Serviceable only by qualified personnel.

5. DC Breaker

Use the DC breaker to disconnect battery output.

6. AC Fast Charge Input (IEC320 C14)

Connect to a 208V, 30A, AC power source, or connect to the AC Fast Charge output from an upstream EBM.

7. AC Fast Charge outlet (IEC320 C13)

Use this outlet to connect to the Fast Charge AC input of a downstream EBM.

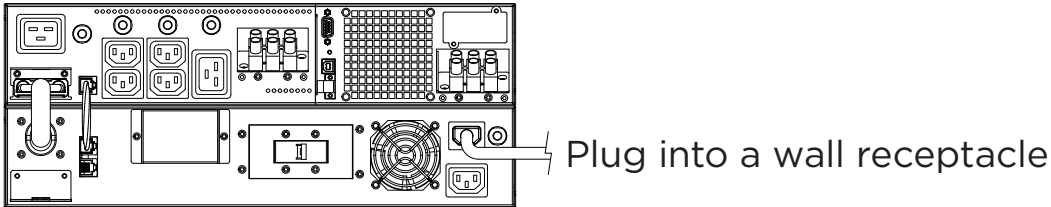
8. AC Circuit Breaker

Provides overload and fault protection.

EXTENDED BATTERY MODULE INSTALLATION CONT.

CONNECTION WITH UPS

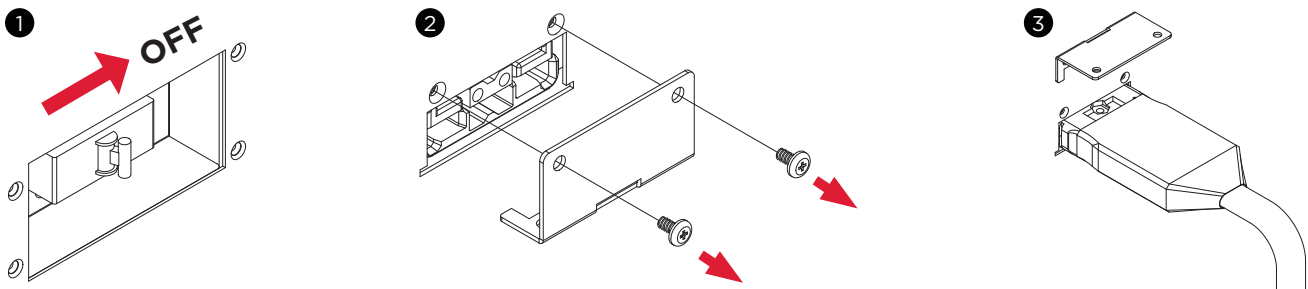
Scenario #1: UPS with one Extended Battery Module (EBM)



Step 1: Turn off the DC breaker on the EBM.

Step 2: Loosen the two screws to remove the battery cable retention bracket of the UPS.

Step 3: Use the output cable of the EBM to connect the EBM to the UPS.

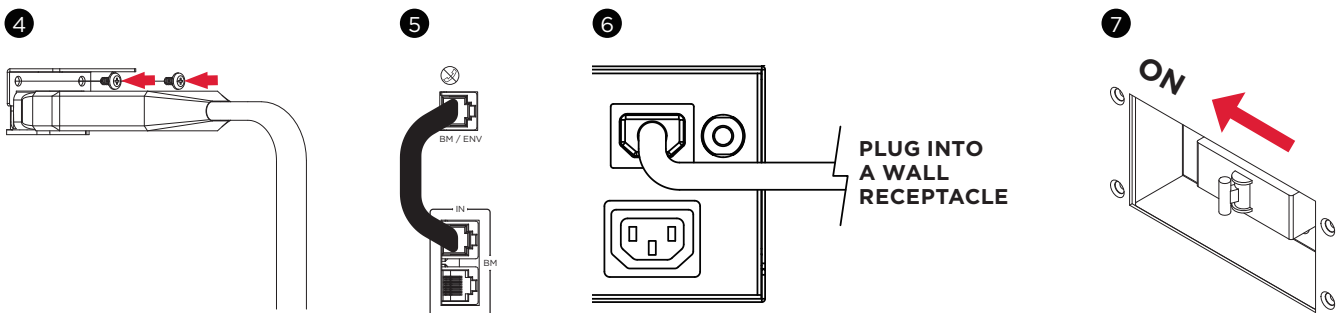


Step 4: Rotate the battery cable retention bracket and tighten the two screws to fix battery cable.

Step 5: Connect the BM/ENV port from UPS rear panel to BM port marked "IN" on the rear panel of the Extended Battery Module using the provided BM cable. Refer to illustration below.

Step 6: Use a NEMA L6-30P to IEC-320-C13 power cord to plug AC input inlet of the battery module into a wall receptacle.

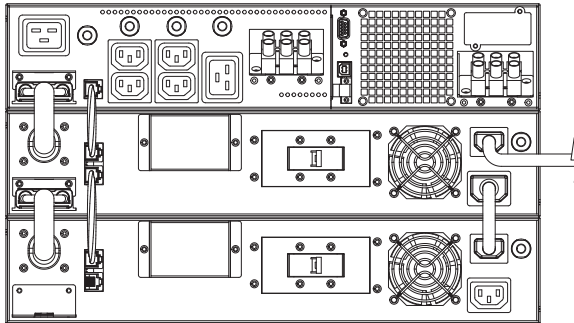
Step 7: Turn on the DC breaker of the EBM.



EXTENDED BATTERY MODULE INSTALLATION CONT.

CONNECTION WITH UPS CONT.

Scenario #2: UPS with multiple Extended Battery Modules (EBMs)

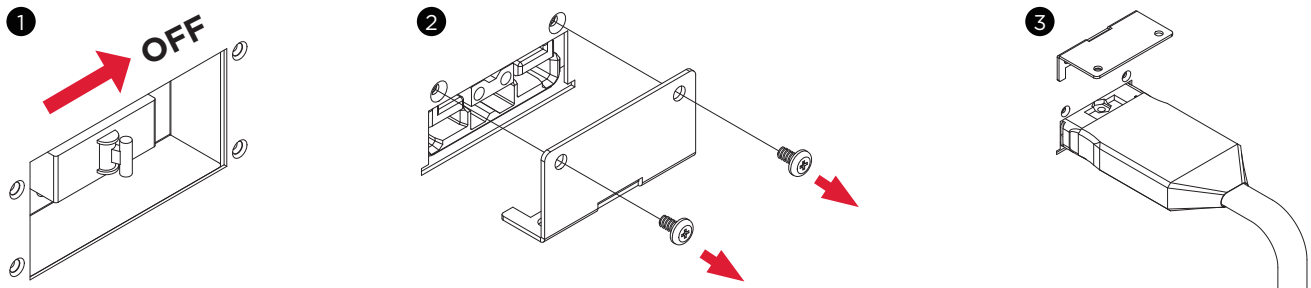


Plug into a wall receptacle

Step 1: Turn off the DC breaker on the EBM.

Step 2: Loosen the two screws to remove the battery cable retention bracket of the UPS.

Step 3: Use the output cable of the EBM to connect the EBM to the UPS.

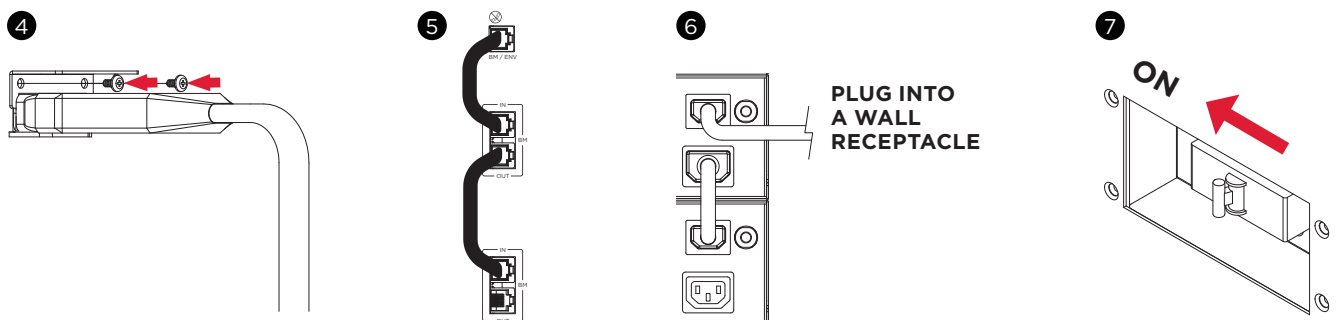


Step 4: Rotate the battery cable retention bracket and tighten the two screws to fix battery cable.

Step 5: Connect the BM/ENV port from UPS rear panel to BM port marked “IN” on the rear panel of the Extended Battery Module using the provided BM cable, and then connect another BM cable between BM port marked “OUT” and BM port marked “IN” of another Extended Battery Module. Refer to illustration below.

Step 6: Use a Schuko plug to IEC320 C13 power cord to plug AC input inlet of the battery module into a wall receptacle.

Step 7: Turn on the DC breaker of the EBM.



EXTENDED BATTERY MODULE INSTALLATION CONT.

CONNECTION WITH UPS CONT.

Step 7: Turn on the DC breaker of the 2nd EBM.

Step 8: Set the EBM number to the respective setting to match the number of installed units. To do this via the LCD control panel, go to the Configuration Menu, then scroll to the EBM Number setting, select the appropriate number and Save the configuration. This operation can also be done via the RMCARD web UI or via PowerPanel® Business Edition Agent software. Please see their respective User Manual for instructions.

EXTENDED BATTERY MODULES CONFIGURATION

Extended Battery Modules can be configured by the user to display correct estimated battery runtimes.

1. Select "Main Menu" and press the "ENTER" button to activate the "Main Menu".
2. Press the "UP" and "DOWN" buttons to select the "SET UP" ICON.
3. Press the "ENTER" button to enter the "SET UP" function.
4. Press the "UP" and "DOWN" buttons to scroll to the "External Batt" option.
5. Press the "ENTER" button to enter the "External Batt" option.
6. Press the "UP" and "DOWN" buttons to select the "Auto" or "Manual" option.
7. (a) Select "Auto" and press the "ENTER" buttons to activate the Auto detect function.
(b) Select "Manual" and press the "UP" and "Down" buttons to select the number of EBM installed then press the "ENTER" button to set.
8. You may be prompted "Save Change?" to save the selection, if so press the "ENTER" button to save the setting.
9. Press the "ESC" button to cancel or return to the previous SET UP menu.

SET UP ITEMS		AVAILABLE SETTINGS	DEFAULT SETTINGS
External Batt	Auto	If UPS has EQM function, the UPS will Auto detect the external batt number.	None
	Manual	= [0] [1] [2] [3] [4] [5] [6] [7] [8] [9] [10] Sets the actual EBM (extended battery modules) number to get the correct estimated runtime.	0

HARDWARE INSTALLATION

CyberPower Extended Battery Module (EBM) can be installed in a rackmount or vertical/tower orientation. This versatility is especially important to growing organizations with changing needs that value having the option to position an EBM on the floor or in a rackmount system. Note that the included rack mounting hardware is only compatible with square hole racks. Please follow the instructions below for the respective mounting methods.

RACKMOUNT INSTALLATION



Caution: Important Instructions

To prevent the risk of fire or electric shock, only use the supplied hardware to attach the mounting brackets.

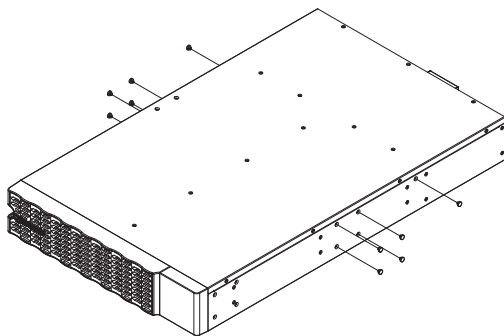
Step 1: Remove the dust covers

Remove ten dust covers from the screw holes as shown below.

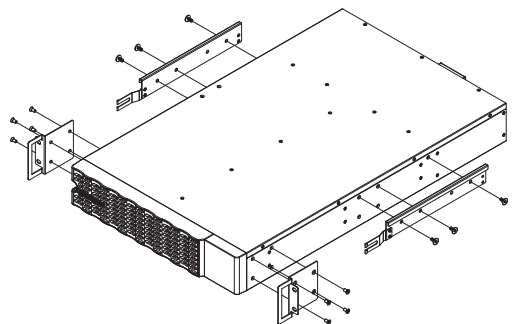
Step 2: Rackmount ear & hanging bracket installation

Attach two rackmount ears to the EBM using eight black M5X7L flat head screws and tighten two hanging brackets using six silver M5X6L pan head screws.

1



2



Step 3: Rackmount rail Installation

The mounting depth of the included rackmount rails can adjust from 20.5 in to 36 in (52 cm to 91.5 cm). Select the proper holes in the rack for positioning the EBM in the rack. The EBM takes up 2 rack units: rack hole positions 1 through 6.

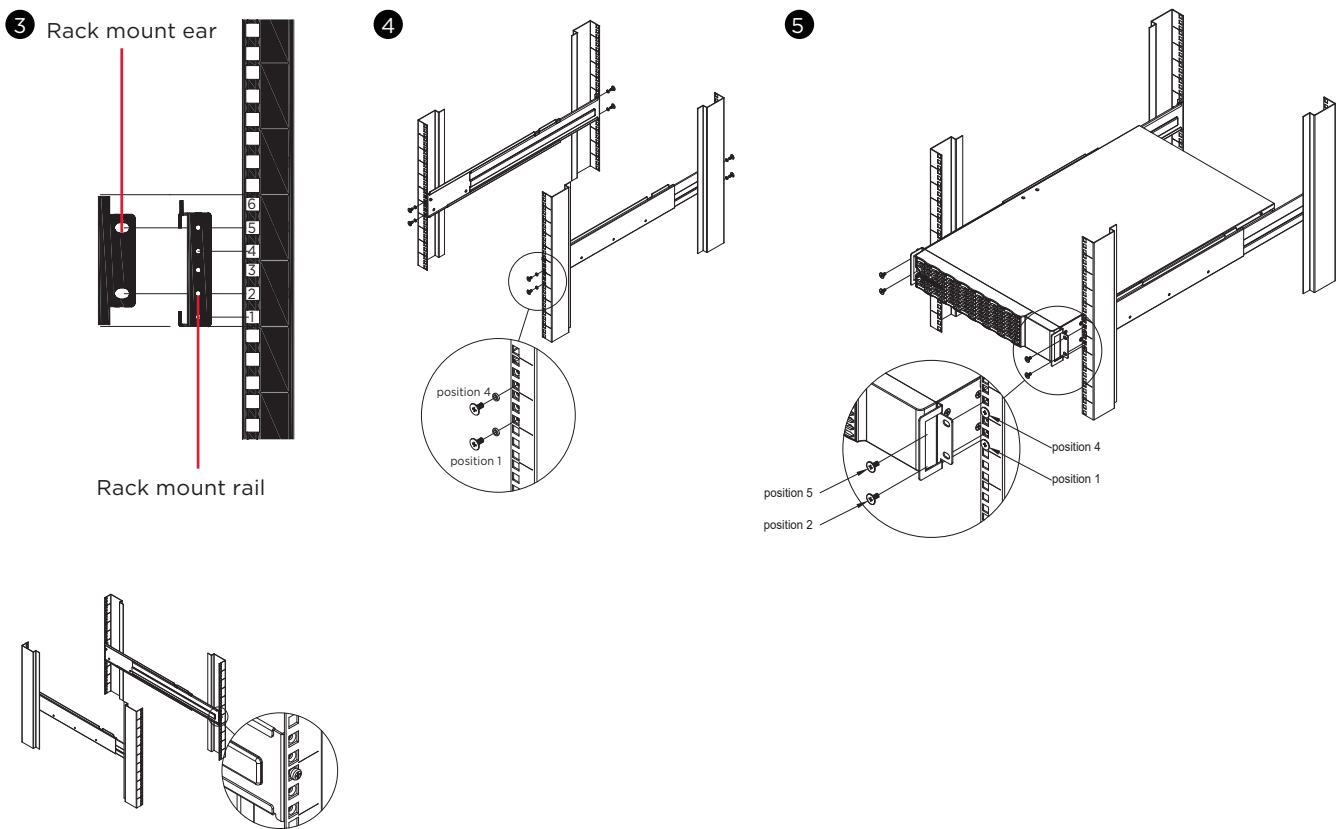
Position the guide screws on the back of the rackmount rails into the rear rack square holes to temporarily support the rails in place.

Step 4: Adjust rackmount rails to fit your rack

Adjust the rail depth to match your rack depth. Attach each rackmount rail to your rack with two black M5X12L pan head screws and two plastic washers at the front of the rack (square holes 1 and 4 as shown below). Secure each rail to the rear of the rack with two black M5X12L pan head screws and two plastic washers.

HARDWARE INSTALLATION CONT.

RACKMOUNT INSTALLATION CONT.

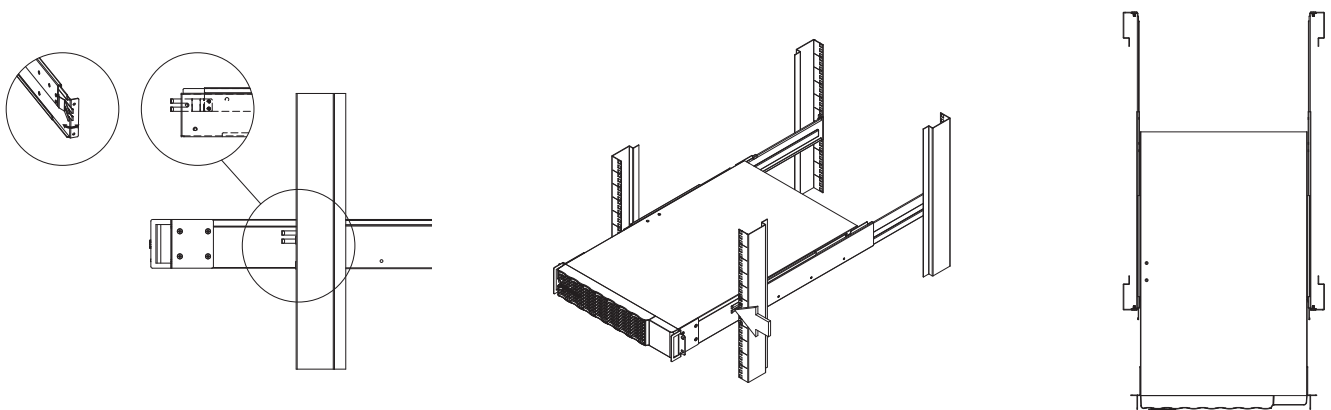


Step 5: Place and secure the EBM on the rails

Slide the hanging brackets on the EBM on to the rails mounted in the rack with the front of the unit facing toward you. Secure the EBM to your rack with four black M5X12L pan head screws at the front of the rack (square holes 2 and 5 as shown above).

NOTE: To slide the EBM out from the rack

The EBM will be secured by a safety locking mechanism midway of pulling it out of the rack. Use both hands to hold the EBM and press the safety locking tab to pull the EBM out.



HARDWARE INSTALLATION CONT.

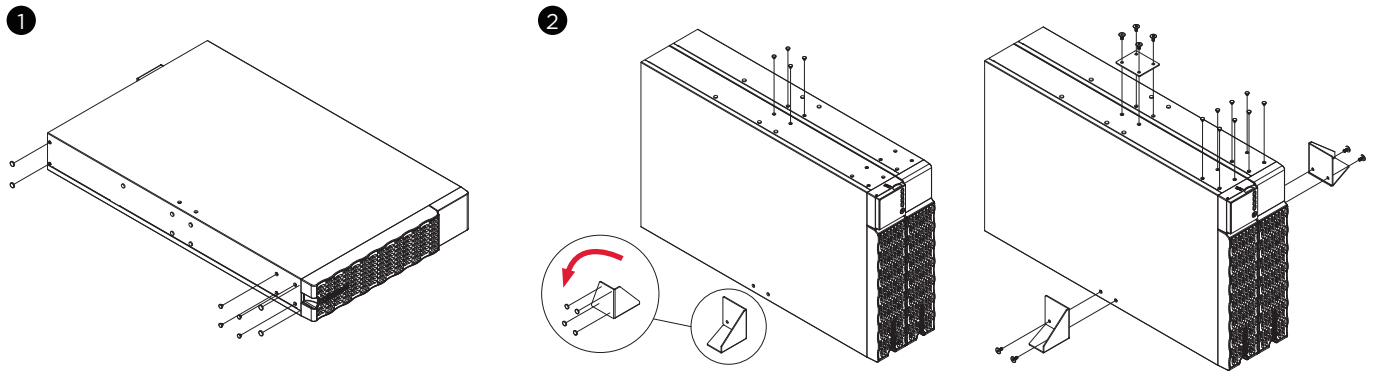
VERTICAL/TOWER INSTALLATION

Step 1: Adhere rubber pads

Adhere four circular rubber pads to the left hand side of the extended battery module. This will become the bottom side. Insert the dust covers into the open screw holes on bottom.

Step 2: Attach the base stands and attach the dust covers

Stand the EBM on its side with the rubber pads facing down. If installing the EBM together with a UPS, remove the four dust covers first and secure the tie plate between the UPS and the EBM using four silver M5X6L pan head screws. Adhere four circular rubber pads to each tower stand and screw on to the EBM and UPS using four silver M5X6L pan head screws for added stability as shown below. Insert the dust covers into the open screw holes on top.



MAINTENANCE

Storage

To store your EBM for an extended period of time, cover and store it with the battery fully charged. Recharge the battery every three months to ensure battery life.

Battery Replacement

Please read and follow the Safety Instructions before servicing the battery. Battery replacement should be performed by trained personnel who are familiar with the procedures and safety precautions. Make a note of the Replacement Battery part number.

Safety Precautions



Warning: High voltage – Risk of Electric Shock

Only use replacement batteries that are certified by Cyber Power Systems. Use of incorrect battery type is an electrical hazard that could lead to explosion, fire, electric shock, or short circuit.

Batteries contain an electrical charge that can cause severe burns. Before servicing batteries, please remove any conductive materials such as jewelry, chains, wrist watches, and rings.

Do not open or mutilate the batteries. Electrolyte fluid is harmful to the skin/eyes and may be toxic.

To avoid electric shock, turn off and unplug the EBM from the wall receptacle before servicing the battery.

Only use tools with insulated handles. Do not lay tools or metal parts on top of the EBM or battery terminals.

Replacement Batteries

Please refer to the front side of the EBM for the model number of the correct replacement batteries. For battery procurement, go to www.CyberPower.com, or contact your local dealer.

When the UPS LCD displays Service Battery, use PowerPanel® Business Edition Agent software or log on to the RMCARD to perform a runtime calibration to verify battery capacity is sufficient and acceptable.

MAINTENANCE CONT.

Battery Disposal



Do Not Discard

Batteries are considered hazardous waste and must be disposed of properly. Contact your local government for more information about proper disposal and recycling of batteries. Do not dispose of batteries in fire.

Cyber Power Systems encourages environmentally sound methods for disposal and recycling of its UPS products.

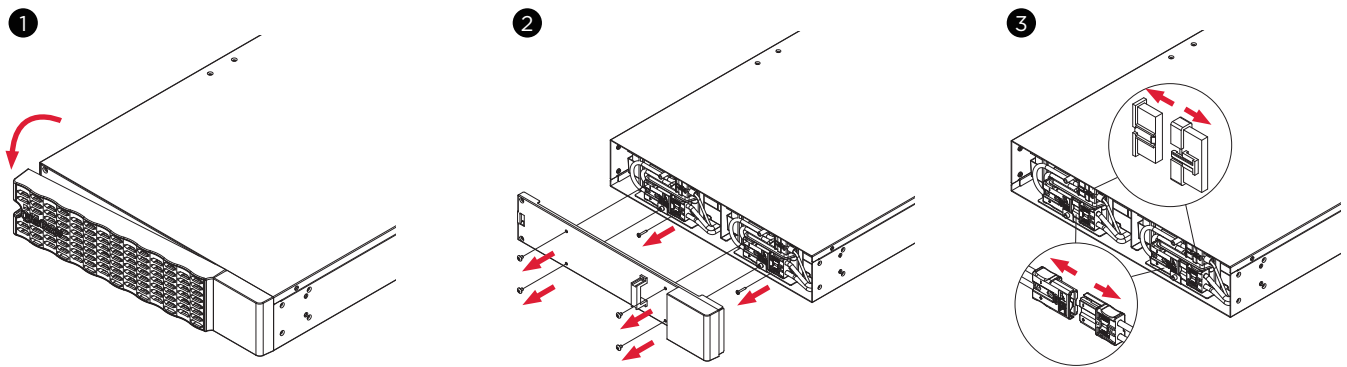
Please dispose and/or recycle your UPS and batteries in accordance with local regulations.

BATTERY REPLACEMENT CONT.

Step 1: Remove the front panel.

Step 2: Unscrew and open the battery access door. Loosen the two screws on the battery connectors.

Step 3: Disconnect the battery and battery management module connector.



MAINTENANCE CONT.

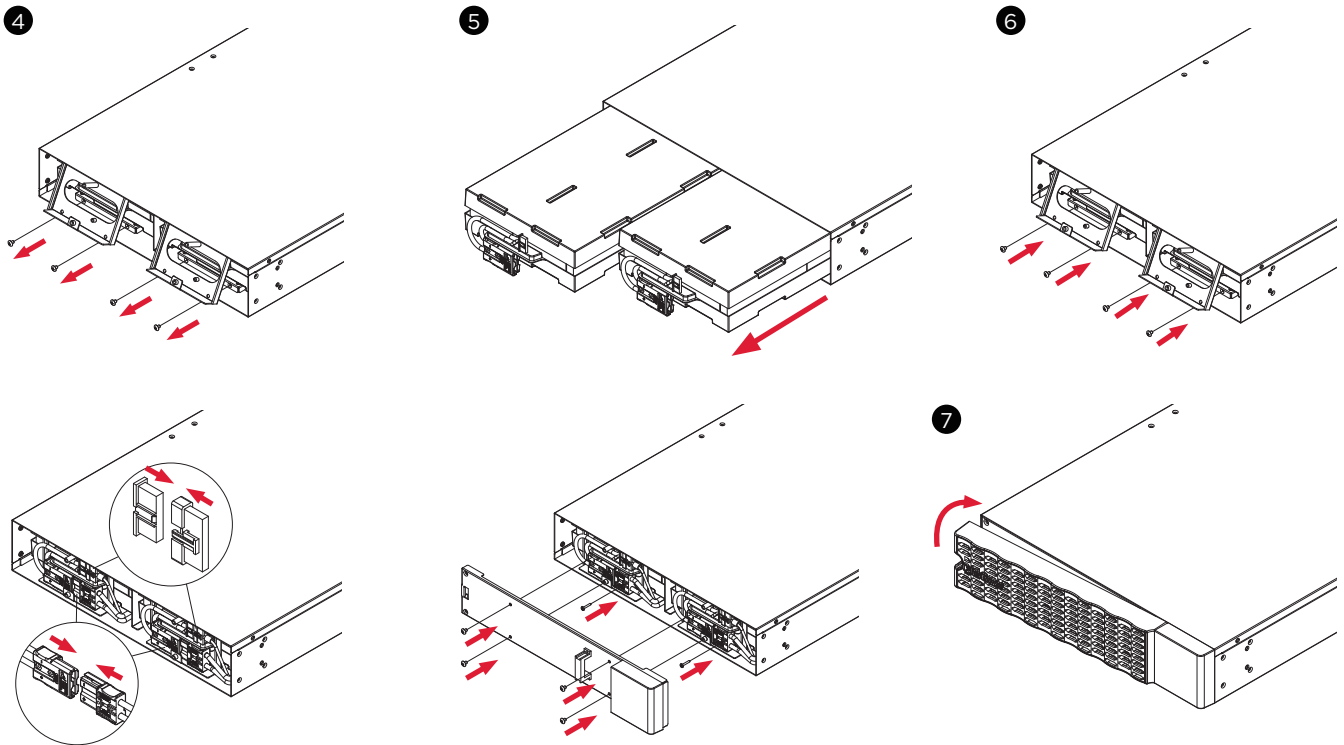
BATTERY REPLACEMENT CONT.

Step 4: Unscrew the battery retention bracket and then open it

Step 5: Pull the battery trays out slowly and then put the new battery trays into the compartment.

Step 6 : Assemble battery retention cover and the battery connectors. Tighten the battery access door.

Step 7: Install the front panels. Execute a battery test via the LCD control panel. To do this go to the Main Menu and select the Diagnostics Icon, then select Battery Test and Activate. After Battery test, go back to the Main Menu then select the Set UP icon, then select Batt Install Date to set the battery installation date. This operation can also be done via PowerPanel® Business Edition Agent or the RMCARD web interface. Please see their respective User Manuals for detailed instructions.



TECHNICAL SPECIFICATIONS

MODELS	BPE144VL2U01
CONFIGURATION	
AC Input Voltage	180~280 V
DC Output Voltage	144 Vdc
DC Output Current	55 A
PHYSICAL	
Dimensions	L x W x H = 28.3 x 17.05 x 3.4 in (7.2 x 43.3 x 8.65 cm)
Net Weight	96.8 lb (44 Kg)
BATTERY	
Specifications	(12) 12 V/9 Ah
Replacement Battery Cartridge	(2) RB1290X6D
Recharge Time 0-90% (Typical)	4 hours
Hot-Swappable	Yes
Built-in Charger	Yes
ENVIRONMENT	
Operating Temperature	32 °F to 104 °F (0 °C to 40 °C)
Operating Relative Humidity	0 to 90% Non-Condensing
SAFETY	
Conformance Approvals	CE, RCM, EAC
RoHS	RoHS Compliant

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
WARNING		
BAT Disconnected	No battery power is being detected by the UPS.	Check the battery connector and the battery breaker.
Battery Failure	UPS has failed a Battery Test.	Check the battery connector and the battery breaker. Contact technical support to replace battery if under the warranty period.
Replace Battery	Battery will soon need to be replaced due to insufficient runtime.	Install new batteries, execute battery test, and reset the replace battery date.
Service Battery	The Battery Replacement Date has reached the recommended 3 year maintenance period.	Perform a runtime calibration to verify battery capacity is sufficient and acceptable. If batteries have been recently replaced, then reset the Battery Replacement Date using PowerPanel® Business Edition Agent software, RMCARD web interface or through the LCD control panel on the UPS (See LCD Configuration Settings).
FAULT		
Over Charge	Battery is overcharged.	Remove the battery connector and check charger voltage. Contact CyberPower for repair.
Charger Failure	Charger has failed.	

CyberPower

Cyber Power Systems, Inc. | www.CyberPower.com

Copyright © 2019 Cyber Power Systems, Inc. All rights reserved.