

UPS2000-G-(1 kVA-3 kVA) Battery Pack

Quick Guide

Issue 05
Date 2022-05-23



Copyright © Huawei Digital Power Technologies Co., Ltd. 2022. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Digital Power Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are the property of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei Digital Power Technologies Co., Ltd. and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied. The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Digital Power Technologies Co., Ltd.

Address: Huawei Digital Power Antuoshan Headquarters
Futian, Shenzhen 518043
People's Republic of China

Website: <https://e.huawei.com>

About This Document

Purpose

This document describes the battery packs for the UPS2000-G-(1 kVA–3 kVA) series in terms of appearance, technical specifications, installation, and connection.





Intended Audience


This document is intended for:

- Technical support engineers
- Hardware installation engineers
- Commissioning engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Remarks
 DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
 NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.

Symbol	Remarks
 NOTE	Supplements the important information in the main text. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Change History

Issue	Date	Description
05	2022-05-23	Added the ESS-36V12-9*2AHBPVBB01-C and ESS-96V12-9AHBPVBB02-C, which are applicable only in China.
04	2016-05-15	Updated the documentation.
03	2015-10-12	Added the 2 kVA UPS battery pack.
02	2015-08-10	Updated the battery pack dimensions.
01	2015-06-25	The issue is the first official release.

Contents

About This Document.....	ii
1 Safety Information.....	1
2 Appearance and Characteristics.....	2
2.1 Appearance.....	2
2.2 Characteristics.....	3
2.2.1 1 kVA UPS Battery Pack.....	3
2.2.2 2 kVA UPS Battery Pack.....	4
2.2.3 3 kVA UPS Battery Pack.....	5
3 Installing a Battery Pack.....	7
3.1 Unpacking and Checking.....	8
3.2 Installation Preparations.....	8
3.3 Procedure.....	9
3.3.1 Rack-mounted Installation.....	9
3.3.2 Tower-mounted Installation.....	10
4 Connecting Battery Packs to a UPS.....	13
4.1 Connecting Battery Packs to a 1 kVA UPS.....	13
4.2 Connecting Battery Packs to a 2 kVA UPS.....	14
4.3 Connecting Battery Packs to a 3 kVA UPS.....	15
A Acronyms and Abbreviations.....	17

1 Safety Information

- Only the designated professional technical personnel are allowed to install and operate battery packs.
- Read this document closely before operating battery packs.
- When operating the equipment, comply with local laws and regulations.
- Do not modify default parameters unless required by the document or approved by technical support engineers.
- To prevent electric shocks, use insulated tools and wear insulated gloves when connecting cables.
- To prevent personal injury, wear protective shoes when moving battery packs.
- In the case of fire, use a dry powder extinguisher. Liquid extinguishant may cause electric shocks.
- Do not touch uninsulated battery terminals. Otherwise, electric shocks may occur.
- Using incorrect battery models may cause explosion. Dispose of used batteries by following instructions.
- Cut off power supply and remove metal objects such as watches and rings before maintenance.
- Do not transport the equipment by holding the mounting ears, front panel, or wiring port covers. Move the equipment in compliance with the corresponding requirements. **Figure 1-1** shows the transportation rules.

Figure 1-1 Transportation rules



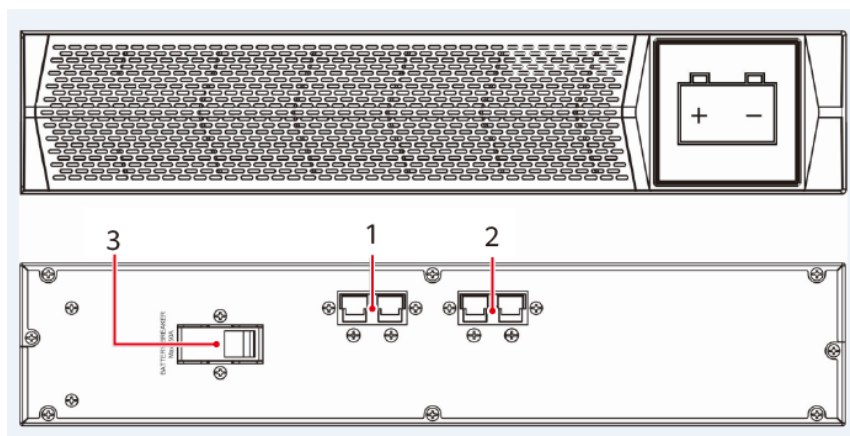
2 Appearance and Characteristics

2.1 Appearance

A rack-mounted battery pack can also be tower-mounted.

The model of the standard battery pack for the 1 kVA UPS with long backup time is ESS-36V12-9*2AHBPVBB01 (or ESS-36V12-9*2AHBPVBB01-C, applicable only in China). The model of the standard battery pack for the 2 kVA UPS with long backup time is ESS-72V12-9AHBPVBB01. The model of the standard battery pack for the 3 kVA UPS with long backup time is ESS-96V12-9AHBPVBB02 (or ESS-96V12-9AHBPVBB02-C, applicable only in China). The three models of battery packs have similar appearances. This document uses the standard battery pack (ESS-96V12-9AHBPVBB02) for the 3 kVA UPS with long backup time as an example, as shown in [Figure 2-1](#).

Figure 2-1 Appearance and external ports of the standard battery pack (ESS-96V12-9AHBPVBB02) for the 3 kVA UPS with long backup time



(1) DC port 1

(2) DC port 2

(3) Protection switch

Table 2-1 lists the input and output ports on the battery pack.

Table 2-1 Input and output ports on the battery pack

No.	Port	Port Type
1	DC port 1	SA50 x 2
2	DC port 2	SA50 x 2

2.2 Characteristics

2.2.1 1 kVA UPS Battery Pack

Model

ESS-36V12-9*2AHBPVBB01 (or ESS-36V12-9*2AHBPVBB01-C, applicable only in China)

Interior

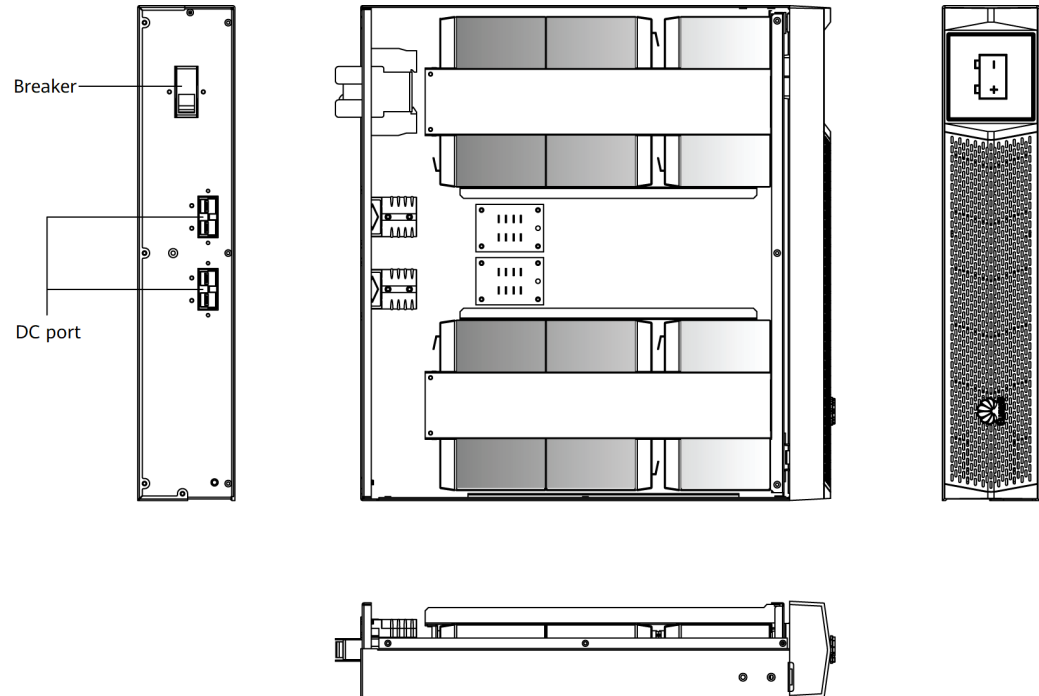
Contains two battery strings. Each string contains three 9 Ah/12 V DC batteries. The output voltage of the battery pack is 36 V DC.

Basic Features

- Appearance: black
- Panel material: plastic
- Rear panel color: gray (SECC/SGCC)
- Dimensions (H x W x D): 88 mm x 438 mm x 410 mm
- Weight: 17.3 kg

Graphics of the Interior

Figure 2-2 ESS-36V12-9*2AHBPVBB01 or ESS-36V12-9*2AHBPVBB01-C battery pack interior



2.2.2 2 kVA UPS Battery Pack

Model

ESS-72V12-9AHBPVBB01

Interior

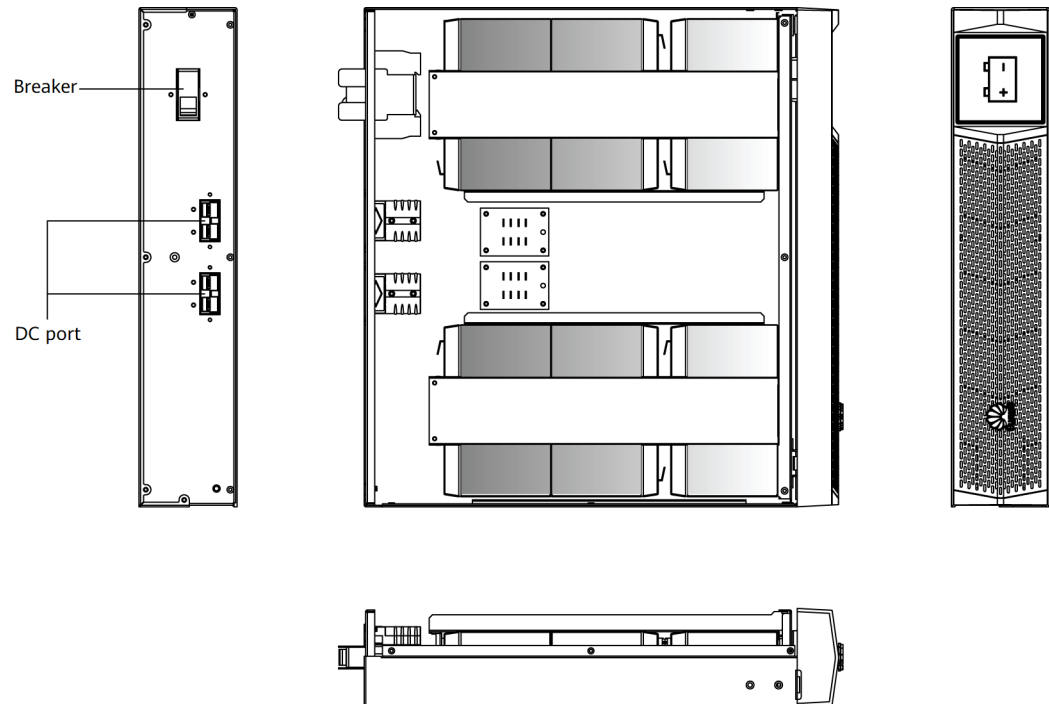
Contains one battery string with six 9 Ah/12 V DC batteries. The output voltage of the battery pack is 72 V DC.

Basic Features

- Appearance: black
- Panel material: plastic
- Rear panel color: gray (SECC/SGCC)
- Dimensions (H x W x D): 88 mm x 438 mm x 410 mm
- Weight: 21.7 kg

Graphics of the Interior

Figure 2-3 ESS-72V12-9AHBPVBB01 battery pack interior



2.2.3 3 kVA UPS Battery Pack

Model

ESS-96V12-9AHBPVBB02 (or ESS-96V12-9AHBPVBB02-C, applicable only in China)

Interior

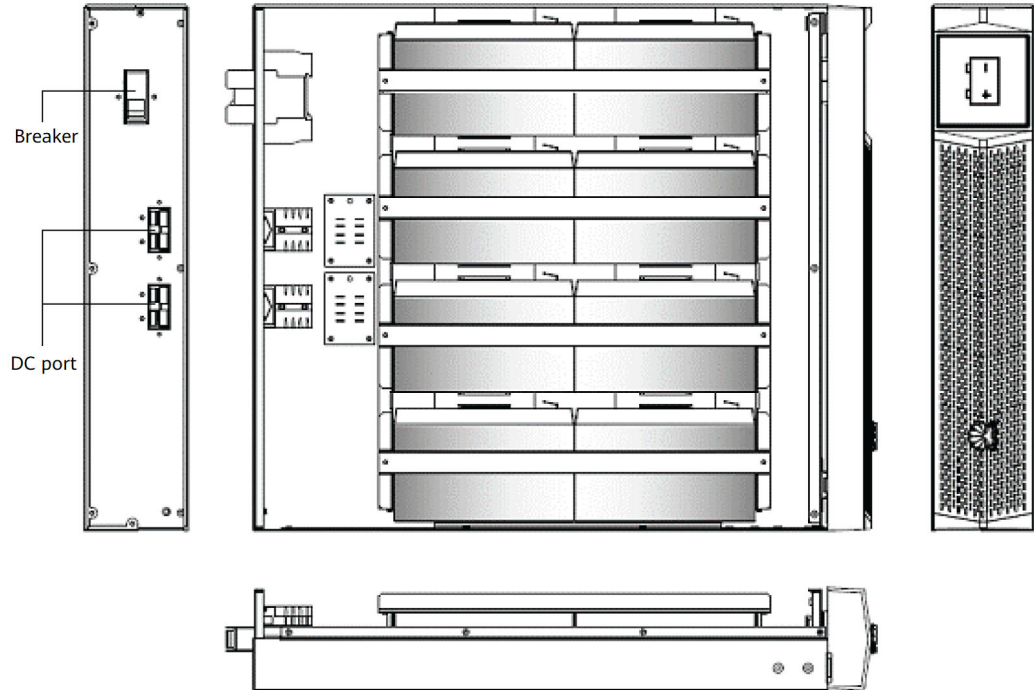
Contains one battery string with eight 9 Ah/12 V DC batteries. The output voltage of the battery pack is 96 V DC.

Basic Features

- Appearance: black
- Panel material: plastic
- Rear panel color: gray (SECC/SGCC)
- Dimensions (H x W x D): 88 mm x 438 mm x 510 mm
- Weight: 28.9 kg

Graphics of the Interior

Figure 2-4 ESS-96V12-9AHBPVBB02 or ESS-96V12-9AHBPVBB02-C battery pack interior



3 Installing a Battery Pack

NOTICE

Only battery packs of the same model can be installed or used for replacement. Do not use battery packs of different models together. For details, see the nameplate on the enclosure. The following figures are for reference only.

Figure 3-1 Same model

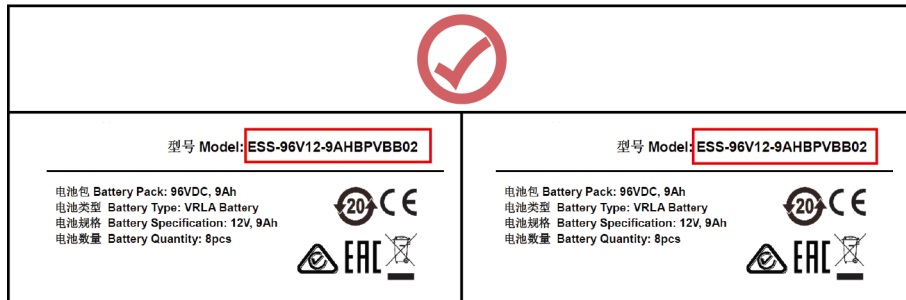


Figure 3-2 Different models



Figure 3-3 Different voltages



3.1 Unpacking and Checking

After a battery pack is delivered onsite, unpack it and check as follows:




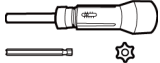
- If any damage is found on the battery pack appearance, contact the carrier immediately.
- Check that the battery pack barcode (on the rear of the pack, near the wiring port) is consistent with that specified in the order. If not, contact the local Huawei office immediately.
- Do not transport the equipment by holding the mounting ears, front panel, or wiring port covers.
- Do not wear rings, watches, or other metal objects when moving the battery pack.

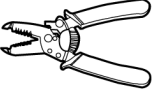


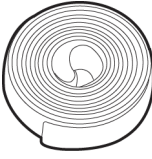
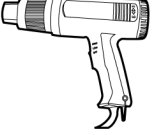


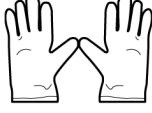

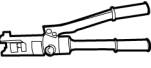

3.2 Installation Preparations

NOTICE

Get tools insulated to prevent electric shocks.

Table 3-1 Installation tools

Appearance, Specifications, and Name			
Multimeter	Phillips screwdriver (PH2 x 150 mm, PH3 x 250 mm)	Flat-head screwdriver (2 mm x 80 mm)	Torque screwdriver
			
Wire stripper	Insulation tape	Cotton cloth	Heat-shrink tubing

Appearance, Specifications, and Name			
			
Heat gun	Electrician's knife	Protective gloves	ESD gloves
			
Insulated gloves	Hydraulic pliers	Cable tie	-
			-

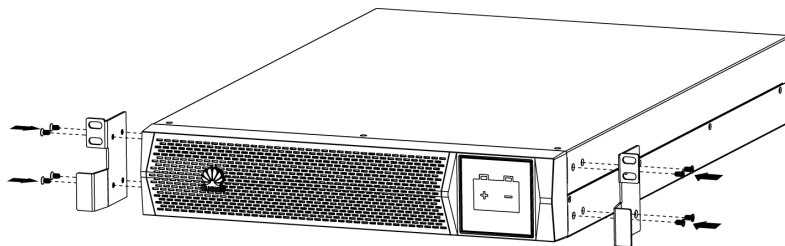
3.3 Procedure

Battery packs of rack-mounted UPSs can either be rack-mounted or tower-mounted.

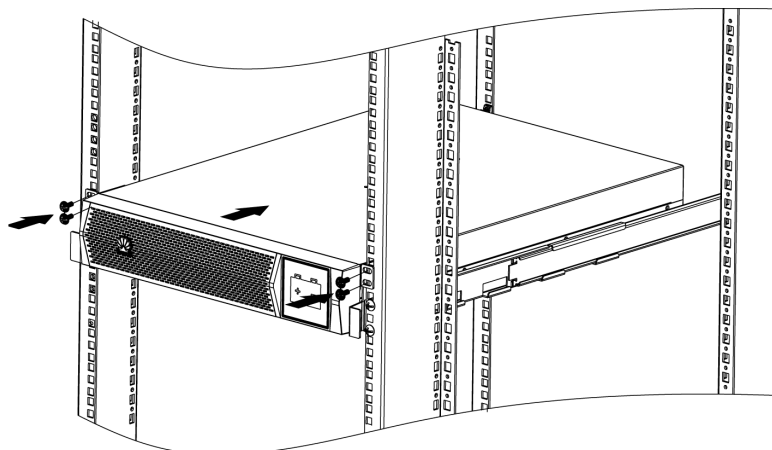
3.3.1 Rack-mounted Installation

Procedure

Step 1 Install mounting ears.



Step 2 Install the battery pack.



NOTE

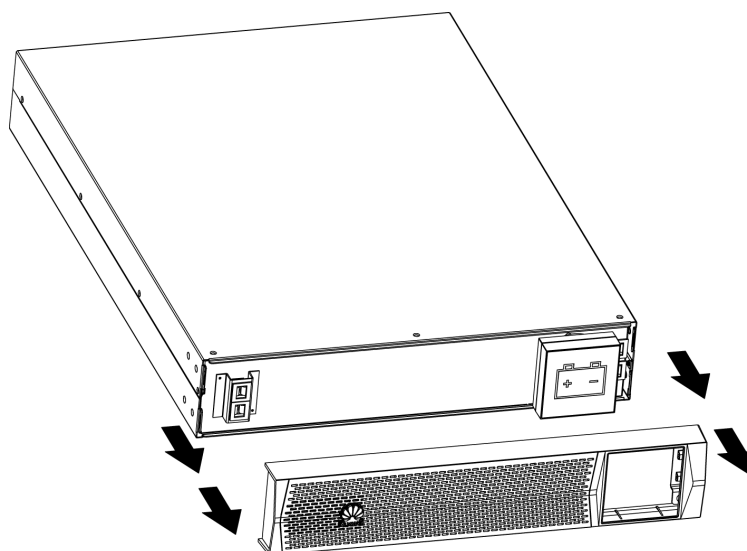
The recommended torque for tightening the screws is 3 N·m.

----End

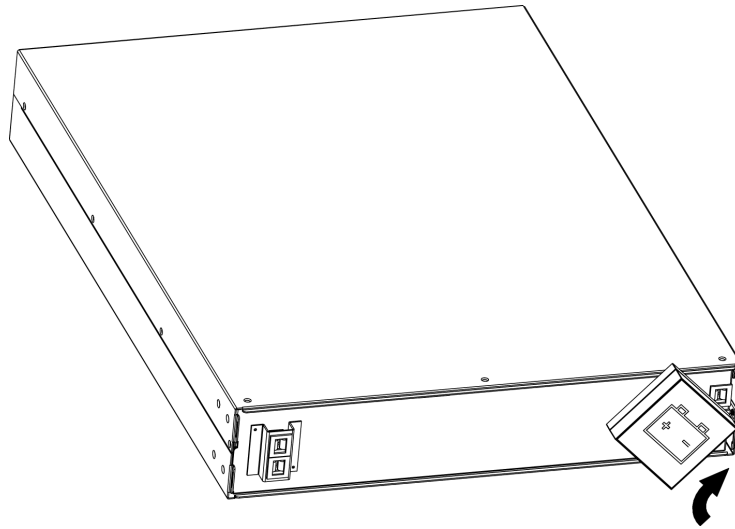
3.3.2 Tower-mounted Installation

Procedure

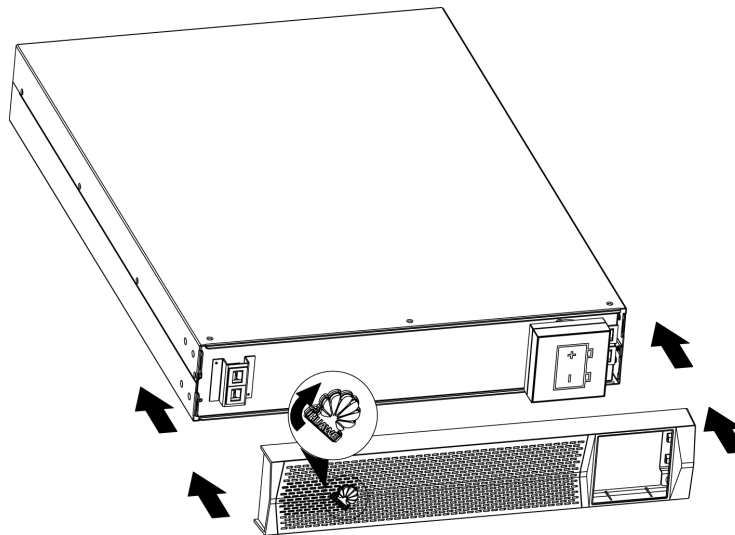
Step 1 Remove the front panel.



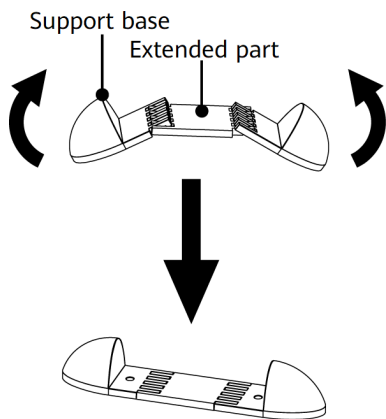
Step 2 Adjust the battery pack panel as shown in the following figure.



Step 3 Adjust the Huawei logo and reinstall the front panel.



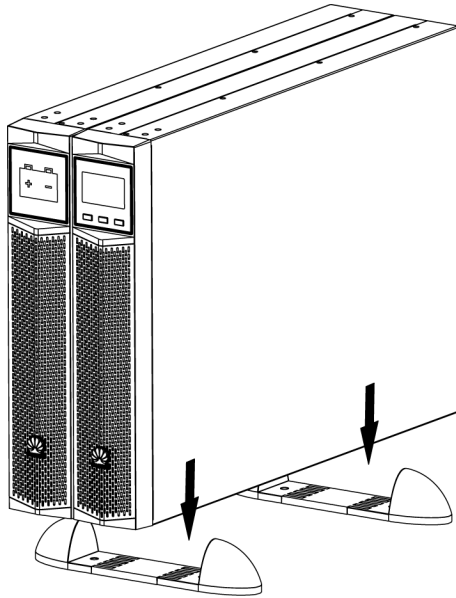
Step 4 Assemble the support base and extension kit.



NOTE

The support base installed here is the standard configuration of the UPS. The standard configuration of the battery pack contains only the extension kit.

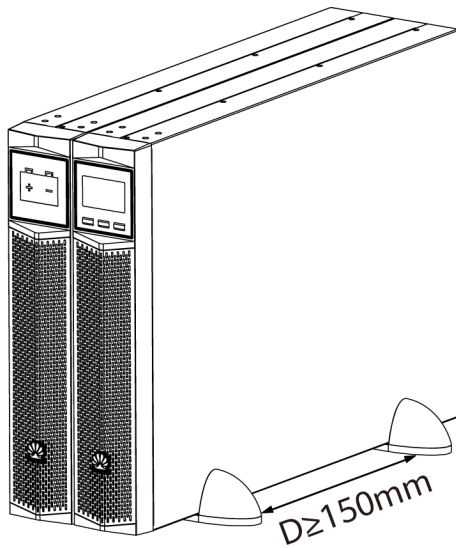
Step 5 Install the battery pack.



NOTE

The assembled UPS and battery pack are 300 mm deep in total.

Step 6 Complete the installation.



----End

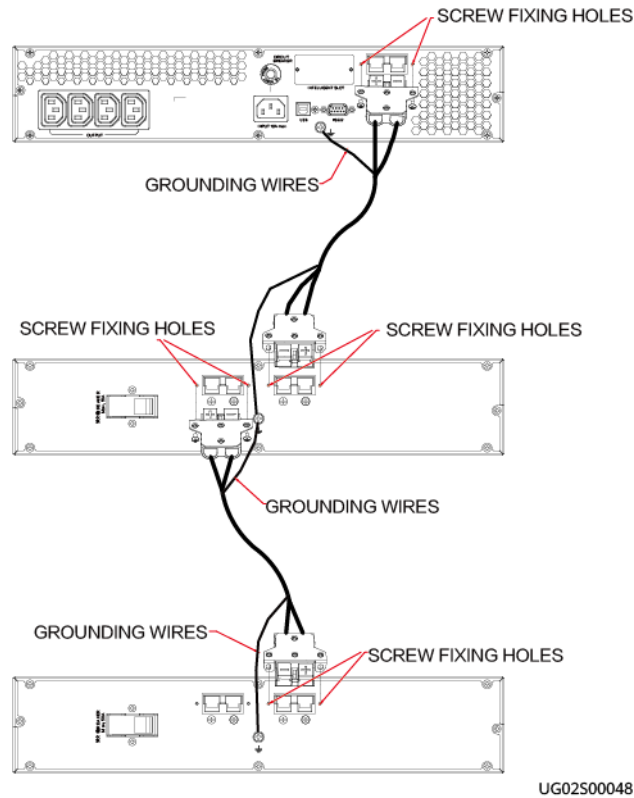
4 Connecting Battery Packs to a UPS

4.1 Connecting Battery Packs to a 1 kVA UPS

Figure 4-1 shows the connection between the ESS-36V12-9*2AHBPVBB01 (or ESS-36V12-9*2AHBPVBB01-C, applicable only in China) battery packs and a 1 kVA UPS. Use the battery cables delivered with the battery packs to connect battery packs to the UPS and to connect battery packs in parallel.

- A maximum of two ESS-36V12-9*2AHBPVBB01 (or ESS-36V12-9*2AHBPVBB01-C, applicable only in China) battery packs can be connected in parallel. Two battery packs connected in parallel are used as an example.
- A battery pack has two output ports with the same functions for parallel connection. If one of the output ports is used to connect to a UPS or battery packs connected in parallel, the other can be used to connect to an external charger.
- Before connecting cables, ensure that the circuit breakers on the battery packs are OFF.

Figure 4-1 Connection between the ESS-36V12-9*2AHBPVBB01 or ESS-36V12-9*2AHBPVBB01-C battery packs and a UPS

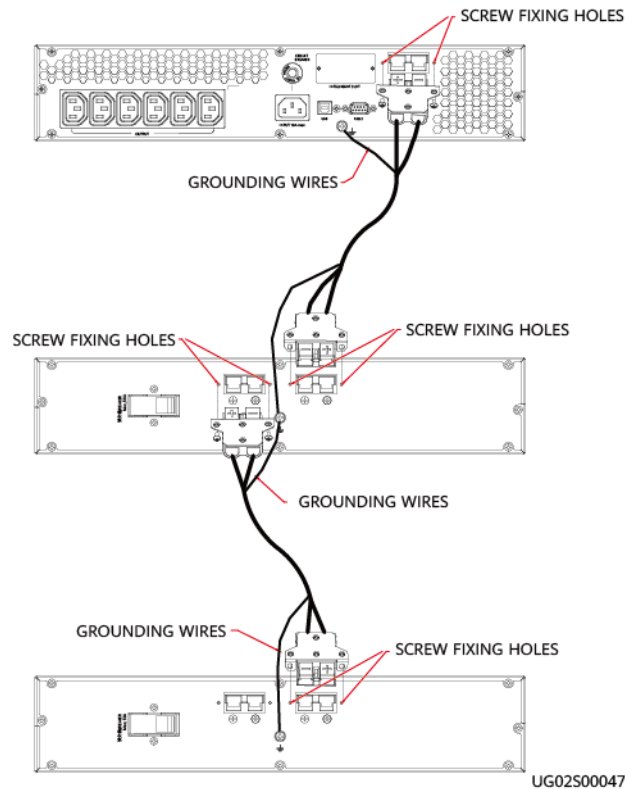


4.2 Connecting Battery Packs to a 2 kVA UPS

Figure 4-2 shows the connection between the ESS-72V12-9AHBPVBB01 battery packs and a 2 kVA UPS. Use the battery cables delivered with the battery packs to connect the battery packs to the UPS and to connect battery packs in parallel.

- A maximum of four ESS-72V12-9AHBPVBB01 battery packs can be connected in parallel. Two battery packs connected in parallel are used as an example.
- A battery pack has two output ports with the same functions for parallel connection. If one of the output ports is used to connect to a UPS or battery packs connected in parallel, the other can be used to connect to an external charger.
- Before connecting cables, ensure that the circuit breakers on the battery packs are OFF.

Figure 4-2 Connection between the ESS-72V12-9AHBPVBB01 battery packs and a UPS

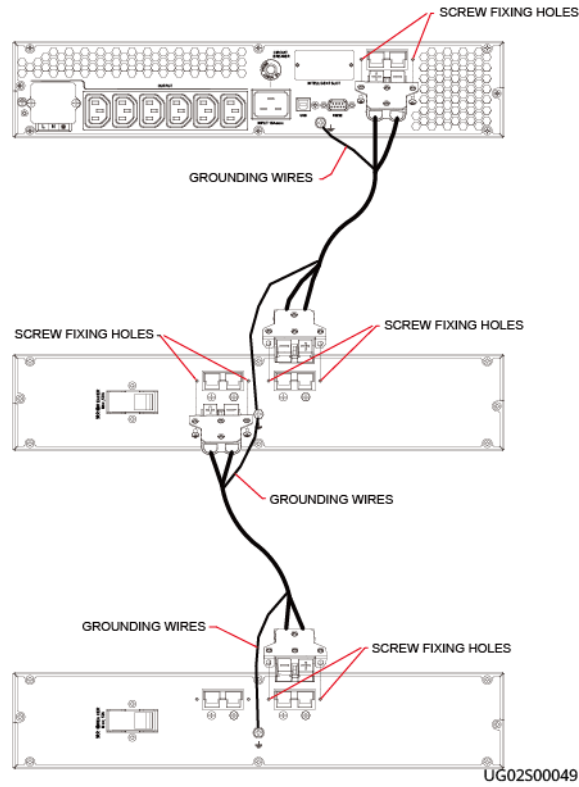


4.3 Connecting Battery Packs to a 3 kVA UPS

Figure 4-3 shows the connection between the ESS-96V12-9AHBPVBB02 (or ESS-96V12-9AHBPVBB02-C, applicable only in China) battery packs and a 3 kVA UPS. Use the battery cables delivered with the battery packs to connect the battery packs to the UPS and to connect battery packs in parallel.

- A maximum of four ESS-96V12-9AHBPVBB02 (or ESS-96V12-9AHBPVBB02-C, applicable only in China) battery packs can be connected in parallel. Two battery packs connected in parallel are used as an example.
- A battery pack has two output ports with the same functions for parallel connection. If one of the output ports is used to connect to a UPS or battery packs connected in parallel, the other can be used to connect to an external charger.
- Before connecting cables, ensure that the circuit breakers on the battery packs are OFF.

Figure 4-3 Connection between the ESS-96V12-9AHBPVBB02 or ESS-96V12-9AHBPVBB02-C battery packs and a UPS



A Acronyms and Abbreviations

U

UPS

uninterruptible power system