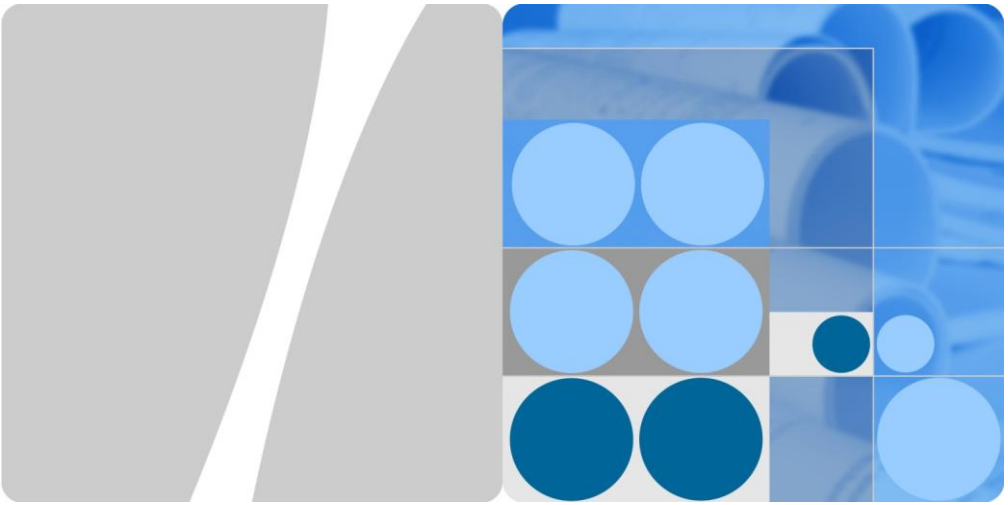


UPS2000-G-(1 kVA-3 kVA)

Quick Guide (2016, Russia)

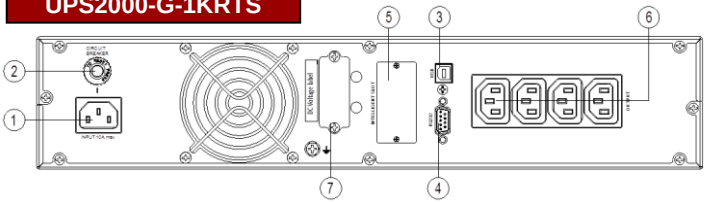
Issue: 02
Date: 2016-07-28

HUAWEI TECHNOLOGIES CO., LTD.

1 Introduction

UPS Model	Represented By	Weight	Dimensions (H x W x D)
UPS2000-G-1KRTS	1 K-standard model-rack mounted-IEC	10.7 kg	88 mm x 438 mm x 310 mm
UPS2000-G-2KRTS	2 K-standard model-rack mounted-IEC	18.5 kg	88 mm x 438 mm x 410 mm
UPS2000-G-3KRTS	3 K-standard model-rack mounted-IEC	27.9 kg	88 mm x 438 mm x 630 mm

UPS2000-G-1KRTS



(1) Mains input socket (C14)
(2) Input circuit breaker

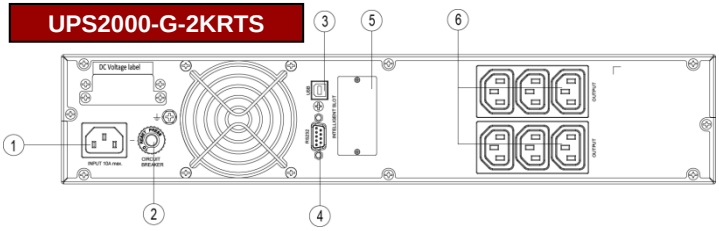
(3) Universal serial bus (USB) port (security protection mechanism supported)
(4) RS232 port

(5) Optional card slot

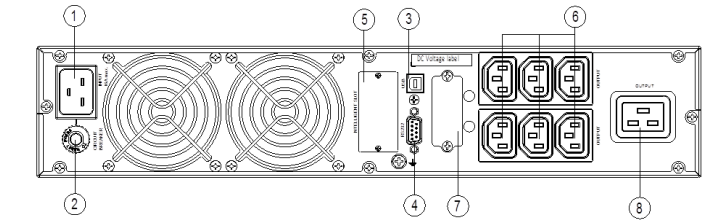
(6) Output socket (C13)

(7) External battery connector

UPS2000-G-2KRTS



UPS2000-G-3KRTS



(1) Mains input socket (C20)
(2) Input circuit breaker

(3) Universal serial bus (USB) port (security protection mechanism supported)
(4) RS232 port

(5) Optional card slot

(6) Output socket (C13)

(7) External battery connector
(8) Output socket (C19)

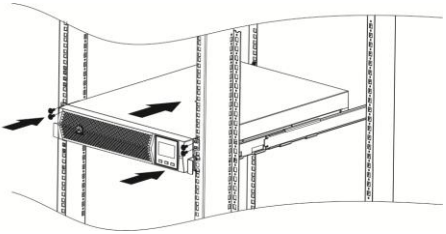
2 Installing a Single UPS

NOTICE

1. Before installation, read the *UPS2000-G-(1 kVA-3 kVA) User Manual (2016, Russia)* to get familiar with UPS information and safety precautions. UPS is short for uninterruptible power system.
2. Use insulated tools during installation and operations.
3. Only engineers certified by the manufacturer or its agents are allowed to perform UPS installation, commissioning and maintenance. Otherwise, personal injury or equipment damage may occur, and the resulting UPS faults are beyond warranty scope.

Scenario 1 UPS2000-G Rack-mounting Installation

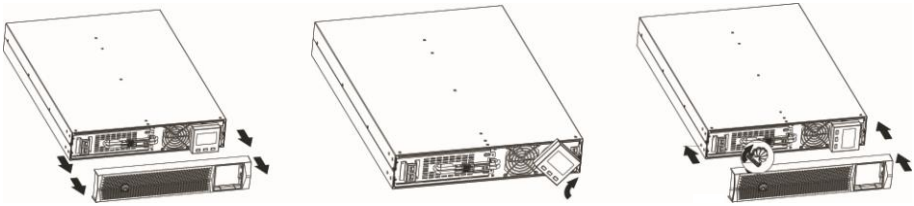
1. Install mounting brackets on UPS.
2. Install guide on the Cabinet. Then place the UPS on the guide rails. For details about how to install guide and UPS on the cabinet, see the *UPS2000-G-(1 kVA-3 kVA) Rail Assembly Quick Installation Guide.*

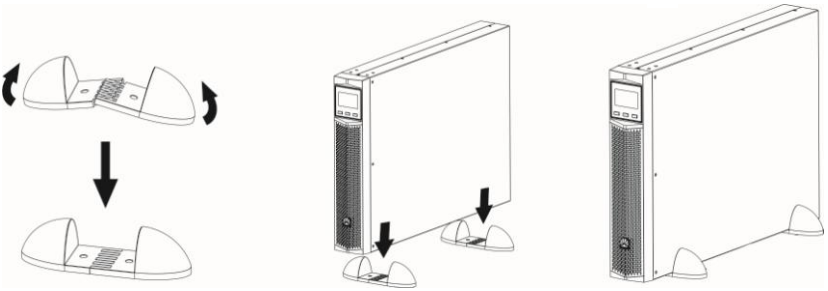


Scenario 2 UPS2000-G Tower-mounting Installation

To tower-mount a UPS, perform the following steps:

1. Remove the UPS front panel.
2. Rotate the control panel 90 degrees clockwise.
3. Rotate the logo 90 degrees clockwise on the front panel. Reinstall the front panel.
4. Assemble support bases. The minimum distance between two support bases should be 150 mm.
5. Place UPS on the support bases in sequence.
6. Adjust the UPS and the support bases to be horizontally.



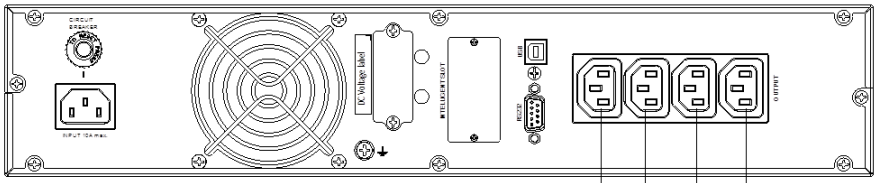


3 Installing Cables

3.1 Installing the UPS Output Power Cables

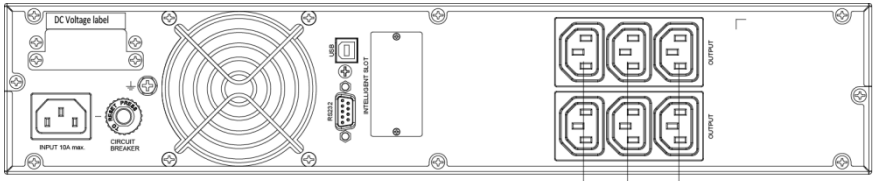
For socket-type output, connect loads to the UPS output sockets.

UPS2000-G-1KRTS



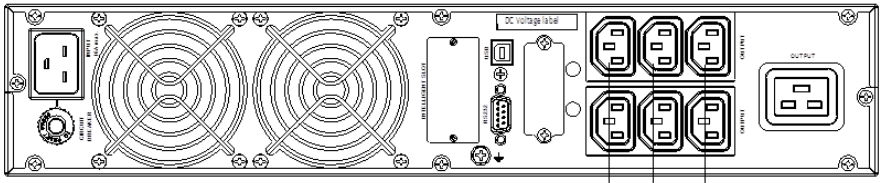
UPS load

UPS2000-G-2KRTS



UPS load

UPS2000-G-3KRTS



UPS load

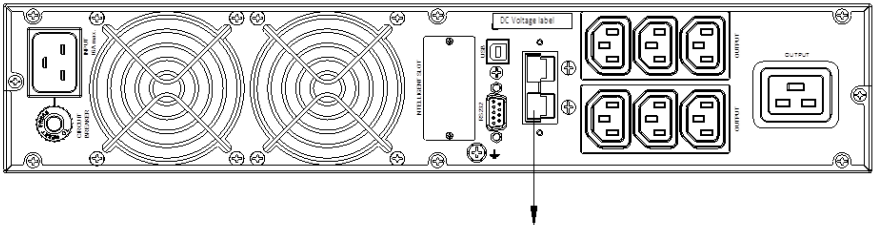
3.2 Installing the UPS Battery Cable

Connect the battery cable delivered to an external battery pack.
The installation method for 1 kVA UPS, 2 kVA UPS, and 3 kVA UPS is the same. The figure below is based on the 3 kVA UPS.
For details, see the *UPS2000-G-(1 kVA-3 kVA) Battery Pack Quick Installation Guide (2016, Russia)*.

NOTE

1. If the 1 kVA UPS needs to connect to external battery strings, each battery string must consist of two 12 V batteries connected in series. If the 2 kVA UPS needs to connect to external battery strings, each battery string must consist of four 12 V batteries connected in series. If the 3 kVA UPS needs to connect to external battery strings, each battery string must consist of six 12 V batteries connected in series.
2. The UPS provides a charge current of 1 A. If the UPS needs to connect to battery packs or battery strings, it is recommended that an external charger be purchased to increase the charge current. If an external charger is not purchased, the charge time will be long.
3. The battery pack (ESS-24V12-9*3AHBPVBB01) for 1 kVA UPS contains three group battery strings. The battery pack (ESS-48V12-9*2AHBPVBB01) for 2 kVA UPS contains two group battery strings. The battery pack (ESS-72V12-9AHBPVBB01) for 3 kVA UPS contains one group battery strings.
4. The 1 kVA UPS is allowed a maximum of one battery pack (ESS-24V12-9*3AHBPVBB01) in parallel. The 2 kVA UPS is allowed a maximum of one battery pack (ESS-48V12-9*2AHBPVBB01) in parallel. The 3 kVA UPS is allowed a maximum of three battery packs (ESS-72V12-9AHBPVBB01) in parallel.

UPS2000-G-3KRTS



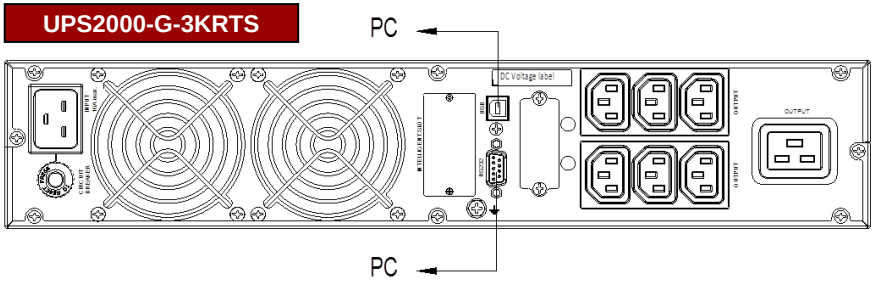
3.3 Installing the UPS Communication Cable

NOTE

1. The USB channel supports a serial data communications protocol between the UPS and the PC.
2. If you connect a DB9 connector to the RS232 port, the UPS can communicate with the PC over serial data.
3. The UPS support either USB or RS232.
4. To monitor the UPS over a PC, also need to install the monitoring software iManager NetEco 1000U. For details about how to install and use the iManager NetEco 1000U, see the *iManager NetEco 1000U User Manual*. The software and the user manual are available at http://support.huawei.com or http://support.huawei.com/enterprise.

Connect the UPS to the RS232 or USB port on a PC. Then you can monitor the UPS status using the PC as long as you have installed the monitoring software. The installation method for 1 kVA UPS, 2 kVA UPS, and 3 kVA UPS is the same. The figure below is based on the 3 kVA UPS.

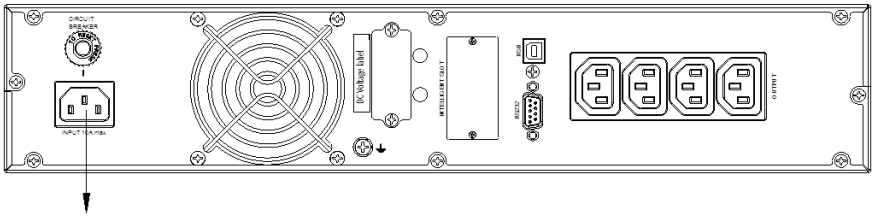
UPS2000-G-3KRTS



3.4 Installing the UPS Input Cable

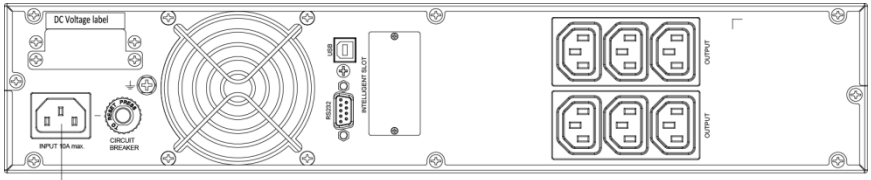
Take out input power cable from the fitting bag, and connect mains input power cable to the UPS.

UPS2000-G-1KRTS



Mains input

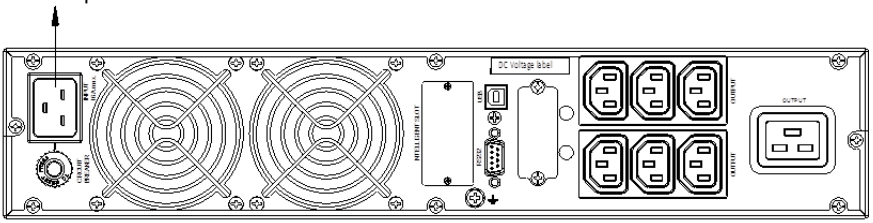
UPS2000-G-2KRTS



Mains input

UPS2000-G-3KRTS

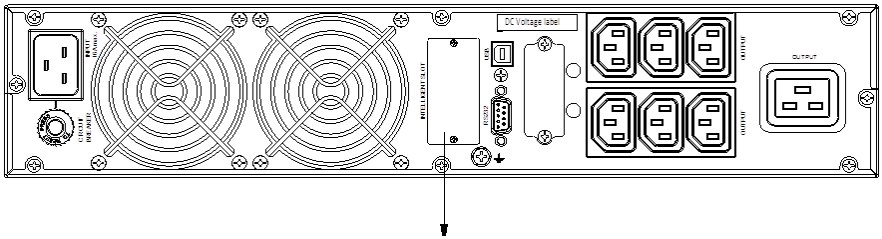
Mains input



4 Installing the Optional Card to the UPS

For the installation procedure, see the *RMS-SNMP01B SNMP Card User Manual*, *RMS-RELAY01B User Manual*, *RMS-MODBUS01B User Manual.* The installation method for 1 kVA UPS, 2 kVA UPS, and 3 kVA UPS is the same. The figure below is based on the 3 kVA UPS.

UPS2000-G-3KRTS



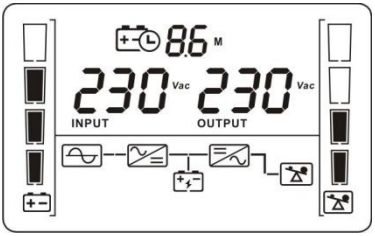
5 Verifying the Installation

No.	Item	Acceptance Criterion
1	Cable routing	Cable routing meets engineering requirements.
2	Cable connections	Power cables and battery cables are tightened to specified torques using a torque wrench, connected correctly, and free of damage.
3	Cable connections for USB ports and network ports	Cables to USB ports and network ports are connected correctly and securely.
4	Labels	Labels are neatly attached to both ends of each cable, and the information on the labels is concise and understandable.
5	Ground cable connection and upstream circuit breaker for the UPS	The ground cable is securely connected to the ground bar in the equipment room. An upstream circuit breaker of proper specifications is installed on the UPS input end.
6	Distances between cable ties	Distances between cable ties are the same, and no burr exists.
7	Operating environment	Clean the conductive air and other sundries.

6 Operations

LCD Panel

ON/MUTE SELECT OFF/ENTER



6.1 Setting Key UPS Parameters

NOTICE

1. The 1 kVA UPS with standard backup time have two built-in batteries, the 2 kVA UPS with standard backup time have four built-in batteries, the 3 kVA UPS with standard backup time have six built-in batteries.
2. If the 1 kVA UPS needs to connect to external battery strings, each battery string must consist of two 12 V batteries connected in series. If the 2 kVA UPS needs to connect to external battery strings, each battery string must consist of four 12 V batteries connected in series. If the 3 kVA UPS needs to connect to external battery strings, each battery string must consist of six 12 V batteries connected in series.
3. The UPS provides a charge current of 1 A. If the UPS needs to connect to battery packs or battery strings, it is recommended that an external charger be purchased to increase the charge current. If an external charger is not purchased, the charge time will be long.
4. Set the battery capacity to the total capacity of all batteries actually connected. Set the battery capacity for the backup time model based on site requirements. The default value is 9 Ah. For example, if six batteries (9 Ah, 12 V) are connected in series to form a battery string, and two of such battery strings are connected in parallel and then to the UPS, set battery capacity to 27 Ah (9 Ah + 9 Ah + 9 Ah). This parameter affects the backup time calculation. Incorrect setting will cause incorrect display of the backup time on the LCD.
5. When the battery pack/batteries connect to the UPS for the first time, you must do a battery self-check manually, in order to confirm the battery connection is normal. The method is: hold down ON/MUTE on the front panel for 5 seconds, then the UPS transfer to battery mode to do a shallow discharge test, after 10 seconds it automatically back to line mode.
6. Charge the batteries used for the first time for 5 hours. Otherwise, the battery discharge time will decrease.

NOTE

1. In the preset mode, LCD will return to the main page with 10 seconds of no operation.
2. The UPS performs a battery self-check automatically once a week. If batteries are faulty, an alarm is generated.

If this is the initial startup, set system parameters such as output voltage, output frequency, and battery parameters as required.

1. After power on the UPS, hold down SELECT for 5 seconds. The UPS enters the preset mode.
2. In the preset mode, press SELECT for more than 3 seconds is used to select the next option, press ON/MUTE for more than 3 seconds is used to select a previous option, and press OFF/ENTER for more than 3 seconds is used to confirm your selection. The meaning of LCD display character see the 7.1 Character Display Description in page 9. Set voltage level to 200 V, 208 V, 220 V, 230 V (default), or 240 V. Set output frequency level to 50 Hz, 60 Hz, and AUT (default). The default value of battery capacity is 9 Ah for the UPS, and the value can range from 0 Ah to 999 Ah.

NOTE

For more parameters setting information, see the *UPS2000-G-(1 kVA-3 kVA) User Manual*.

6.2 Starting the UPS to Inverter Mode

When the UPS is connected to the Mains Input, it is no output. Hold down ON/MUTE on the front panel for over 5 seconds to make it transfer to inverter mode output. The default output of inverter mode is 230 V.

6.3 Shutting Down the UPS

- Normal Mode: If the UPS is originally in normal mode, hold down OFF/ENTER for over 2 seconds will enable the UPS to enter the standby mode or bypass mode (if set or enabled before).
- Battery mode: Hold down OFF/ENTER for over 2 seconds to turn off the UPS in battery mode.

7 FAQ

7.1 Character Display Description

Acronym	Display	Description	Acronym	Display	Description
ENA		Enable	FRE		Frequency
DIS		Disable	BVU		Bypass overvoltage
ESC		Escape	BVL		Bypass undervoltage
CF		Frequency conversion	CAP		Capacity
TP		Temperature	DT		Discharge time
CH		Charging	ECO		ECO mode
FU		Bypass frequency unstable	VU		High voltage
EE		EEPROM error	VL		Low voltage
VOT		Voltage	AUT		Constant-frequency mode
BUZ		Buzzer off	AST		Automatic startup

7.2 Buzzer Alarm Tone Description

Alarm Type	Buzzer Alarm Tone
Battery mode	Beeps once every 4 seconds.
Minor alarm	Beeps once every second.
Overload	Beeps twice every second.
Critical alarm	Buzzes continuously.
Bypass mode	Beeps once every 10 seconds.

8 Troubleshooting

Symptom	Possible Cause	Measures
The main power is normal, but no indicator turns on and the buzzer generates no tone.	The mains input power cable is disconnected.	Check the input power cable.
	The mains input power cable is incorrectly connected to the UPS output end.	Correctly connect the mains input power cable to the UPS input terminal.
and blink on the LCD and the buzzer beeps once every second.	The external or internal batteries are incorrectly connected.	Check that all batteries are connected correctly.
and blink on the LCD and the buzzer beeps twice every second.	The UPS is overloaded.	Remove surplus load from the UPS output end.
	The UPS is overloaded and supplying power to devices in bypass mode.	Remove surplus load from the UPS output end.
	The UPS is overloaded server times within a short period of time. The UPS is locked in bypass mode and loads are directly connected to the main power source.	Remove surplus load from the UPS output end, and then shut down and restart the UPS.
The battery backup time is shorter than the time given in specifications.	Batteries are not fully charged.	Charge batteries for at least 5 hours and then check the battery capacity. If the battery capacity is still insufficient, contact the dealer.
	Batteries are faulty.	Contact the dealer to replace batteries.

9 Alarm Handling

NOTE

For more alarm handling, see the *UPS2000-G-(1 kVA-3 kVA) User Manual (2016, Russia)*.

Alarm ID	Alarm Cause ID	Alarm Name	Alarm Severity	Alarm Clear Mode	Trigger Condition	Impact on the System	Repair Proposal
10	1	Bypass voltage abnormal	Minor	This alarm is automatically cleared.	The bypass voltage is outside the scope.	The UPS remains in the current state. If the UPS works in bypass mode, it transfers to standby mode and has no output.	Possible causes: The bypass input voltage is abnormal. Measures: Check whether the bypass input voltage exceeds the configured range. If yes, change the range or wait until the bypass input recovers.
	2	Bypass frequency abnormal	Minor	This alarm is automatically cleared.	The bypass frequency is outside the bypass frequency range.	The UPS remains in the current state. If the UPS works in bypass mode, it transfers to standby mode and has no output.	Possible causes: The bypass input frequency is abnormal. Measures: Check whether the bypass input frequency exceeds the configured range. If yes, change the range or wait until the bypass input recovers.
22	1	Battery disconnected	Minor	This alarm is automatically cleared.	Batteries are not connected, connected improperly, or damaged.	The power supply from the UPS is not affected.	• Possible cause: No batteries are connected. Measure: Connect batteries. • Possible cause: The batteries are in poor contact. Measure: Check the battery cable connection. If battery cables are loose, connect them securely.

Alarm ID	Alarm Cause ID	Alarm Name	Alarm Severity	Alarm Clear Mode	Trigger Condition	Impact on the System	Repair Proposal
25	1	Battery overvoltage	Critical	This alarm must be manually cleared.	The voltage of each battery exceeds 15 V (when the UPS is started).	This alarm is generated because there are more batteries than required. The impact is as follows: • If battery packs are connected before the startup, the UPS fails to start. • If battery packs are connected during the running of the UPS, the UPS transfers to bypass mode.	• Possible cause: The actual number of batteries does not meet requirements. Measure: Check that the actual number of batteries meets requirements. • Possible cause: The charger is abnormal. Measure: Check that the charger voltage is normal immediately after the batteries are disconnected.
			Minor	This alarm is automatically cleared after the UPS transfers to battery mode.	The voltage of each battery exceeds 14.7 V.	The UPS automatically transfers to battery mode. When the battery undervoltage alarm is generated, the UPS automatically transfers to normal mode and starts the charger for charging.	
26	1	Battery undervoltage	Critical	This alarm must be manually cleared.	The voltage of each battery is lower than 5 V (when the UPS is started).	This alarm is generated because there are more batteries than required. The impact is as follows: • If battery packs are connected before the startup, the UPS fails to start. • If battery packs are connected during the running of the UPS, the UPS transfers to bypass mode.	• Possible cause: The actual number of batteries does not meet requirements. Measure: Check that the actual number of batteries meets requirements. • Possible cause: The mains is abnormal, and the batteries are overdischarged. Measure: Connect to the mains in non-battery test state.

Alarm ID	Alarm Cause ID	Alarm Name	Alarm Severity	Alarm Clear Mode	Trigger Condition	Impact on the System	Repair Proposal
26	1	Battery undervoltage	Minor	This alarm is automatically cleared.	The voltage of each battery is lower than 11.28 V.	The power supply from the UPS is not affected.	• Possible cause: The actual number of batteries does not meet requirements. Measure: Check that the actual number of batteries meets requirements. • Possible cause: The mains is abnormal, and the batteries are overdischarged. Measure: Connect to the mains in non-battery test state.
		Battery time low warning	Minor	This alarm is automatically cleared.	Indicate battery discharge time remain is short, the warning will start while the discharge time only remain 3mins.	The power supply from the UPS is not affected.	• Possible cause: The mains is abnormal, and the batteries discharge time is coming. • Measure: Connect to the mains in non-battery test state.
29	1	Battery requiring maintenance	Minor	This alarm is automatically cleared.	The battery voltage is lower than the battery replacement voltage (11 V) when batteries are in self-check mode.	The power supply from the UPS is not affected.	• Possible cause: The actual number of batteries does not meet requirements. Measure: Check that the actual number of batteries meets requirements. • Possible cause: The battery is damaged. Measure: Contact the dealer or Huawei technical support to replace batteries.
			Minor	This alarm is automatically cleared.	The voltage of each battery is lower than 5 V, or is higher than 15 V (when the UPS is not started).	The UPS remains in the current state and cannot start.	

Alarm ID	Alarm Cause ID	Alarm Name	Alarm Severity	Alarm Clear Mode	Trigger Condition	Impact on the System	Repair Proposal
42	17	Internal fault	Critical	This alarm must be manually cleared.	The bus voltage is higher than 450 V.	If this alarm is generated during the running of the UPS, the UPS transfers to bypass mode.	• Possible cause: The mains has experienced a transient high voltage. Measure: Rectify the fault and restart the UPS. • Possible cause: The output supplies power to special loads such as the inductive and rectification loads. Measure: Check that the load types are supported by the UPS. • Possible cause: The hardware is damaged. Measure: Contact the dealer or Huawei technical support.

For more information, refer to the channels provided on the following page.

Scan here for technical support (enterprise):

Apple Store

Google Play

Huawei App Store

Scan here for technical support (carrier):

Apple Store

Google Play

Huawei App Store

Scan here for more documents:

Support-E

Support

WeChat

You can also log in to Huawei technical support website:
http://support.huawei.com/enterprise
http://support.huawei.com

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