

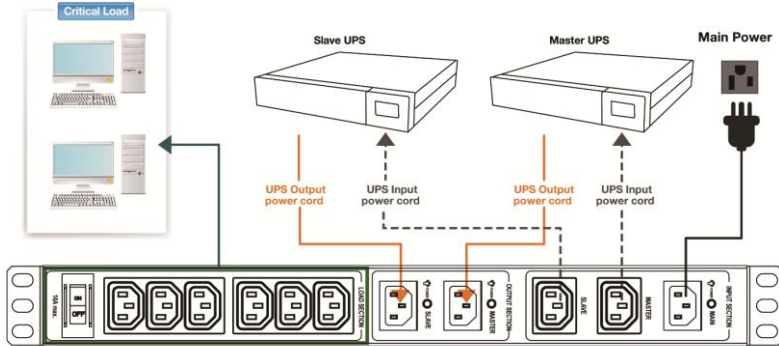
Redundant Backup Switch (RBS)

Quick Start Guide

1. Introduction

1) Working as a redundant power backup

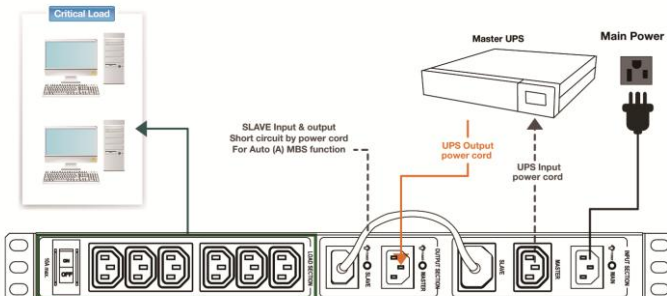
This product is designed for 1+1 redundancy power backup project with cost efficiency. Integrated with two sets of UPSs, this backup power system provides higher reliability than one UPS could. Refer system diagram as below:



When AC mains, master UPS and slave UPS are normal operated, master UPS will provide power to the connected loads. And slave UPS is in standby mode. When AC mains fails and master UPS is operated normally, master UPS will provide power to the connected load. Until master UPS runs out battery power, the backup system will automatically switch to slave UPS to power loads. When errors occur in the master UPS, this backup system will also switch to slave UPS for power backup. After master UPS is replaced or repaired, users can put master UPS back to whole system and it will automatically switch to master UPS for power backup. This is a simple and cost-effective power backup solution.

2) Working as an Automatic Maintenance Bypass Switch (ABMS)

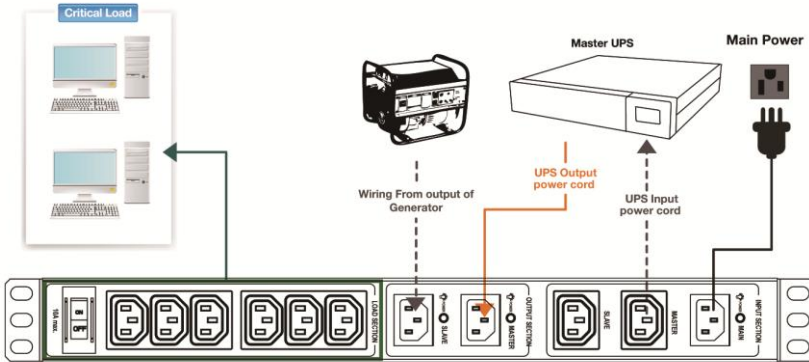
When errors occur in the master UPS, this backup system will auto transfer to bypass and AC mains will provide power to the connected loads. After master UPS is replaced or repaired, the whole system will automatically switch to master UPS for continuous power backup. Refer to system diagram as below:



3) Working as an Automatic Transfer Switch (ATS)

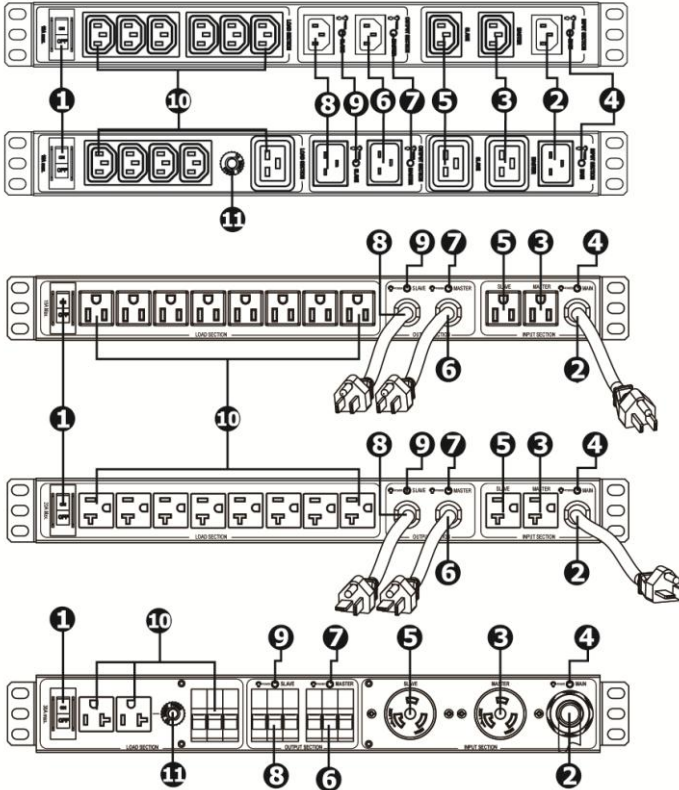
When AC mains and master UPS are normally operated, the master UPS will provide power to the connected loads. When AC mains fail and the master UPS is operated normally, the master UPS will provide power to the connected loads. Until the master UPS runs out of battery power, this backup system will automatically switch to the generator to power the loads. When errors occur in the master UPS, this backup system will also switch to the generator for power backup. After the master UPS is replaced or repaired, the whole system will automatically switch to the master UPS for continuous power backup. Refer to the system diagram as below:

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2. Product Overview

Front View:



- ❶ Power switch
- ❷ AC input
- ❸ Master UPS input connector
- ❹ Power on/off indicator
- ❺ Slave UPS input connector
- ❻ Master UPS output connectors/terminals
- ❼ Master UPS indicator
- ❽ Slave UPS output connectors/terminals
- ❾ Slave UPS indicator
- ❿ Output receptacles/terminals for loads
- ⓫ Circuit breaker

3. Important Safety Warnings

Please strictly comply with all operating instructions in this manual strictly. Keep this manual in a safe place and read the following instructions carefully before installing the unit. Do not operate this unit before carefully reading all warnings and operating instructions.

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CAUTION: The product must be used indoor only.

CAUTION: Do not place the unit near liquid or in an excessively damp environment.

CAUTION: Do not place the product directly in the sun or near a hot source.

CAUTION: Do not let liquid or foreign objects enter the product.

CAUTION: Ground the product using a 2P + ground sockets.

CAUTION: When installing the product, ensure that the sum of the leakage currents of the product and the devices it supplies not exceed 3.5mA.

Special symbols

The following are examples of symbols used on the RBS to alert you to important information:



RISK OF ELECTRIC SHOCK – Observe the warning associated with the risk of electric shock symbol



CAUTION: REFER TO OPERATOR'S MANUAL – Refer to your manual or quick guide for additional information, such as important operating and maintenance instructions.



This symbol indicates that you should not discard waste electrical or electronic equipment in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.

4. Installation

Inspection

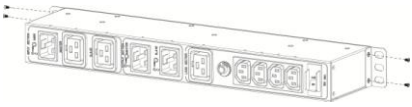
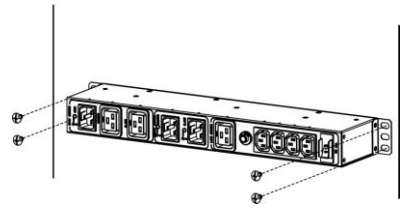
Remove the unit from the shipping package and inspect it for damage that may occur during transportation. Notify the carrier and place of purchase if any damage is found. The shipping package contains:

- Redundant backup system module x 1
- Quick guide x 1
- Power cord x 2
- Screws and mounting ears

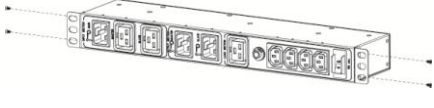
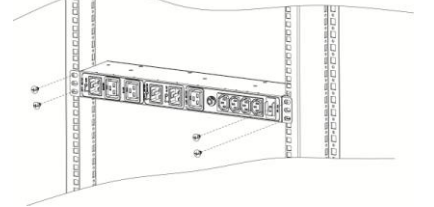
Mounting the Unit

The unit can be mounted either on a wall or in a standard 19" rack chassis. Follow below steps to install the unit on the wall or in a rack chassis.

Wall mounting:

	<p>Fasten the mounting ears to the unit by using the screws provided.</p>
<p>WALL</p> 	<p>With ears attached securely, users can mount the unit to a wall as shown.</p>

Rack mounting:

	<p>Fasten the mounting ears to the unit by using the screws provided.</p>
	<p>With ears attached securely, users can mount the unit in a standard 19" rack as shown.</p>

NOTE: If the temperature around the unit will rise above 40 °C, ventilation is required.

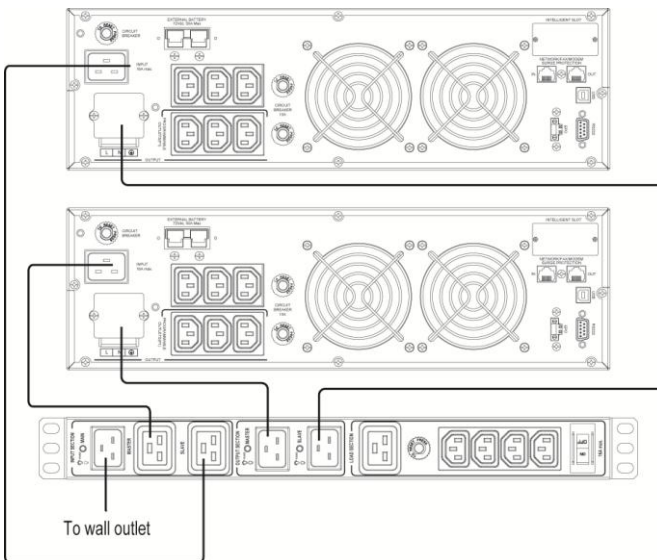
Connecting to wall outlet

Plug the input power cord of the unit to the wall outlet. The Power on/off indicator will light up when the mains is normal. Power on/off indicator will be off when AC power fails.

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Connecting to Master/Slave UPSs

Connect from output socket of Master UPS to output socket of the unit. Connect from AC input on Master UPS to input socket of the unit. Connect from output socket of Slave UPS to output socket of the unit. Connect from AC input on Slave UPS to input socket of the unit. Refer to cable connection as below:



Connecting to loads

Simply plug the loads into output receptacles of the unit.

5. Operation

Power On/Off

Turn on Master and Slave UPSs and put the power switch in “ON” position. Then, connected equipment will be powered on.

Power Failure

When utility power fails, the power on/off indicator will be off. Master UPS will back up the power. At the same time, Slave UPS will switch to battery mode. After 3 to 5 seconds, it will return back to AC mode because Master UPS provides power. When Master UPS runs out the battery, the whole system will have Slave UPS to provide power. If Slave UPS runs out the battery and utility power still fails, the whole system will shut down. Master UPS and Slave UPS will auto restart while utility power is back.

Master UPS Failure

When Master UPS fails, Master UPS indicator is off. The whole system will automatically have Slave UPS to provide power. At that time, please repair or replace the Master UPS. After maintenance service is done, simply plug Master UPS into the unit by following installation procedure. When turning on the power of Master UPS, the whole system will automatically switch to Master UPS to provide power.

Slave UPS Failure

When Slave UPS fails, Slave UPS indicator is off. Please repair or replace the Slave UPS. After maintenance service is done, simply reconnect Slave UPS to the unit by following same installation procedure. Then, Slave UPS will be in standby mode after turning on the power.

NOTE:

This power backup system provides highly flexibility to users. It's not necessary to have same capacity or spec for Master and Slave UPSs. But whole capacity of the system is depending on the smaller capacity of UPS unit.

6. Specifications

MODEL		IEC-10A	IEC-16A	NEMA-15A	NEMA-20A	TB-30A
INPUT						
Input Voltage		200/208/220/230/240 VAC		100/110/115/120/127VAC		
Acceptable Input Voltage Range		100 - 280 VAC		60-180VAC		
Input Frequency		40-70 Hz				
Nominal Input Current		10 A	16 A	15A	20A	30A
OUTPUT						
Output Voltage		200/208/220/230/240 VAC		100/110/115/120/127VAC		
Maximum Output Current		10 A	16 A	15A	20A	30A
Transfer Time	Master UPS -> Slave UPS	10 ms max.				
	Slave UPS -> Master UPS	4 ms max.				
CONNECTION						
Mains Connector		1 x IEC-C14	1 x IEC-C20	1 X NEMA CORD 5-15P	1 X NEMA CORD 5-20P	1 X NEMA CORD 5-30P
UPS Input Connector		2 x IEC-C13	2 x IEC-C19	2 X NEMA-5-15R	2 X NEMA-5-20R	2 X NEMA -L5-30
UPS Output Connector		2 x IEC-C14	2 x IEC-C20	2X NEMA CORD 5-15P	2X NEMA CORD 5-20P	2 X TB-30A
Load Connectors		6 x IEC-C13	4 x IEC-C13 and 1 x IEC-C19	8X NEMA-5-15R	8X NEMA-5-20R	2 X NEMA-5-20R and 1 X TB-30A
INDICATORS						
Power LED		Green lighting				
Master UPS LED		Green lighting				
Slave UPS LED		Yellow lighting				
PHYSICAL						
Dimension, D X W X H (mm)		98 X 438 X 50				112 X 438 X 60
Net Weight (kgs)		1.8		2.4	2.7	3.1
ENVIRONMENT						
Operating Temperature		0-90 % RH @ 0- 40°C (non-condensing)				

* Product specifications are subject to change without further notice.