

# Delta UPS - Amplon Family

R Series, Single Phase

1~3 kVA Maintenance Bypass Box

for Single UPS

## Installation & Operation Quick Guide

ENGLISH



### 1 Product Introduction

The Maintenance Bypass Box (MBB) is designed to operate in conjunction with the Delta R series 1~3kVA UPS. It ensures that the connected critical loads continue to be powered by the input power during UPS maintenance or during the unlikely event of a UPS failure.

### 2 Important Safety Instructions

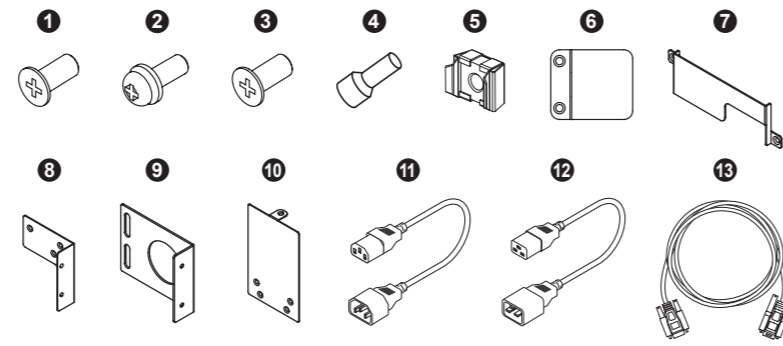
- Only qualified service personnel can perform installation and maintenance of the Maintenance Bypass Box.
- The Maintenance Bypass Box must operate in conjunction with Delta R series 1~3kVA UPS. Please refer to the following table.

Maintenance Bypass Box Model	PDB1211A230035	PDB1211A231035
Applicable to Delta R series UPS Model	R-1K	R-2K R-3K

- Before installation of the Maintenance Bypass Box, please completely turn off the UPS and cut off the input power and battery power (if applicable).
- Failure to properly install the Maintenance Bypass Box may result in severe damage to your UPS or load equipment.
- Please install the Maintenance Bypass Box in an indoor temperature controlled environment that is free of conductive contaminants.
- Do not operate the unit in an extremely dusty/ unclean area or a location near heating devices, water and excessive humidity. Do not expose the unit to direct sunlight.
- Select a location where provides good air circulation for the unit at all times.
- Properly route power cords so they cannot be walked on or damaged.
- The Maintenance Bypass Box must be well grounded due to a possible risk of current leakage.
- The Maintenance Bypass Box is not intended for use in direct patient care or in life support applications.

### 3 Package List

- Model PDB1211A230035 & PDB1211A231035



No.	Item	Q'ty	PDB1211A230035	PDB1211A231035
1	M4 Screw	6 PCS	V	V
2	M5 Screw	4 PCS	V	V
3	#6-32 Screw	3 PCS	V	V
4	Terminal	3 PCS	X	V
5	M5 Cage Nut	4 PCS	V	V
6	UPS Output Cover	1 PC	X	V
7	UPS Output Cover	1 PC	V	V
8	MBB Ear	1 PC	V	V
9	MBB Ear	2 PCS	V	V
10	MBB Ear	1 PC	V	V
11	AC Power Cord 10A	2 PCS	V	X
12	AC Power Cord 16A	2 PCS	X	V
13	RS-232 Cable	1 PC	V	V



#### NOTE:

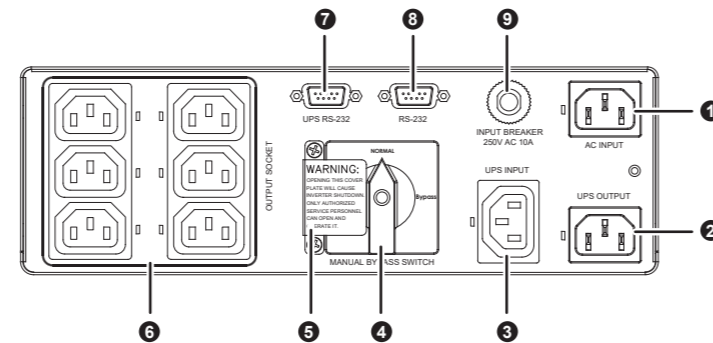
- If there is any damage or anything missing, please immediately contact the dealer from whom you purchased the unit.
- If the Maintenance Bypass Box needs to be returned, carefully repack the Maintenance Bypass Box and all of the accessories using the original packing material that came with the unit.

### 4 Standard Compliance

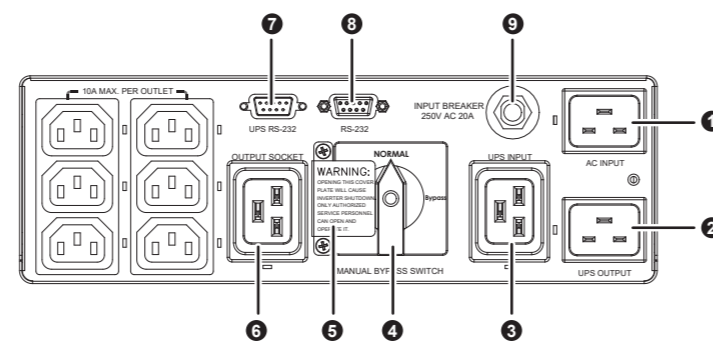
- CE
- IEC/ EN 62040-1
- IEC/ EN 62040-2 CATEGORY C2

### 5 Front View

- PDB1211A230035



- PDB1211A231035



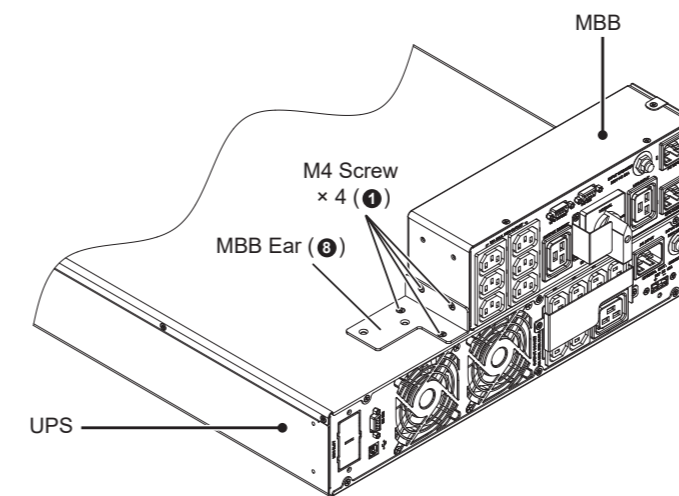
No.	Item	Connection
1	AC Input	Connects to the main AC utility.
2	UPS Output	Connects to the UPS's output socket.
3	UPS Input	Connects to the UPS's AC input.
4	Manual Bypass Switch	NA
5	Manual Bypass Switch Cover Plate	NA
6	Output Sockets	Connect to the critical loads.
7	UPS RS-232	Connects to the UPS's RS-232 port.
8	RS-232	Connects to your computer's RS-232 port.
9	Input Breaker	NA

### 6 How to Install the Maintenance Bypass Box on the UPS

- PDB1211A230035 & PDB1211A231035

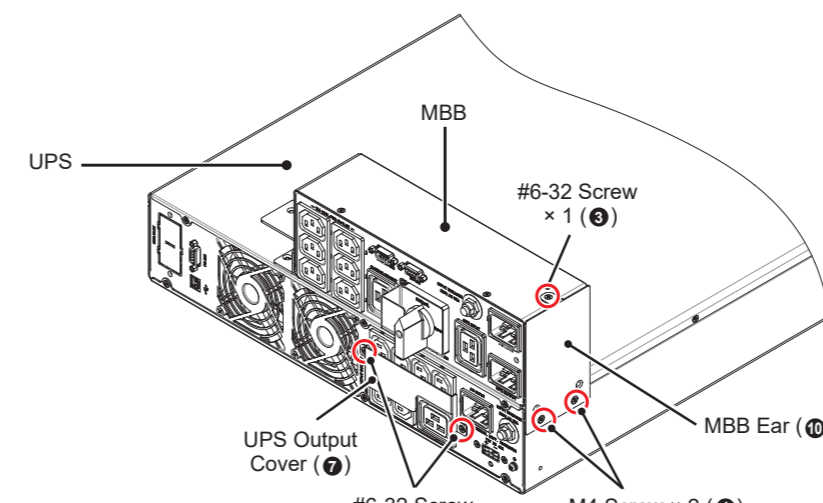
The installation is almost the same. Please refer to PDB1211A231035 for example.

- Fix the MBB Ear (8) on the top cover of the UPS and at the left side of the MBB with four M4 screws (1). Please refer to Figure 1.



(Figure 1)

- Fix the MBB Ear (10) at the right side of the UPS with two M4 screws (1) and at the right side of the MBB with one #6-32 screw (3). Please see Figure 2.



(Figure 2)

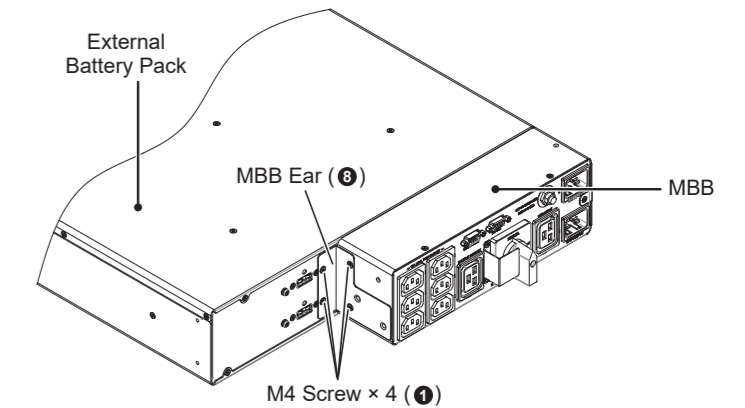
- Install the UPS Output Cover (7) at the back of the UPS with two #6-32 screws (3). Please see Figure 2.

### 7 How to Install the Maintenance Bypass Box on the External Battery Pack

- PDB1211A230035 & PDB1211A231035

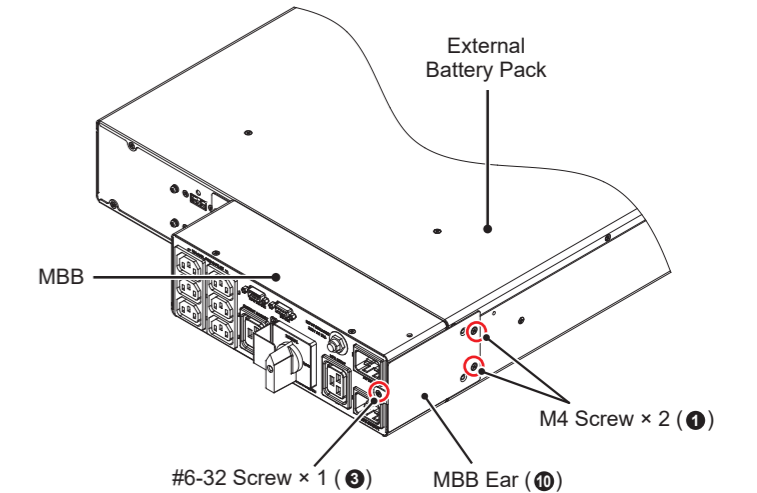
The installation is almost the same. Please refer to PDB1211A231035 for example.

- Use four M4 screws (1) to lock the MBB Ear (8) at the rear of the external battery pack and at the left side of the MBB (please see Figure 3).



(Figure 3)

- Fix the MBB Ear (10) at the right side of the external battery pack with two M4 screws (1) and at the right side of the MBB with one #6-32 screw (3). Please refer to Figure 4.

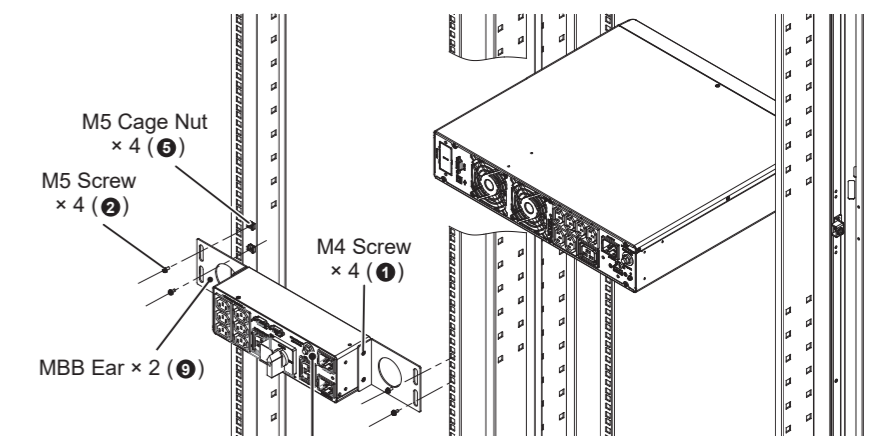


(Figure 4)

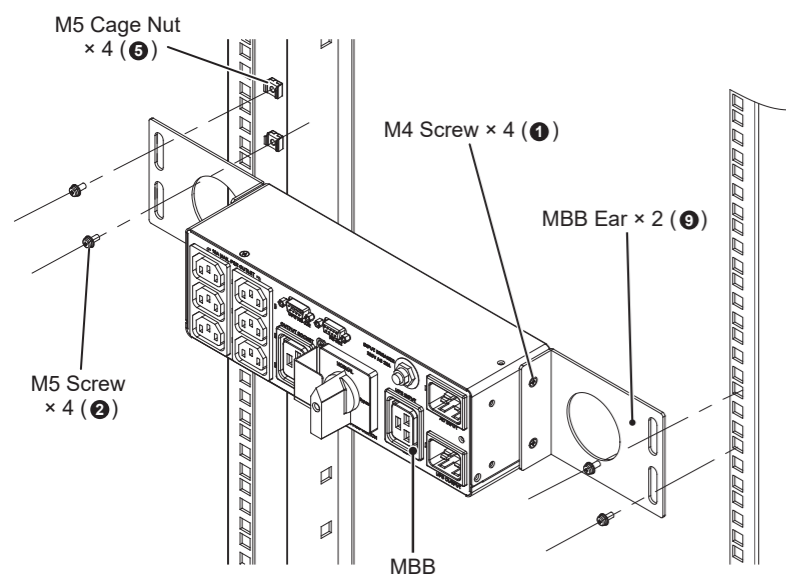
### 8 How to Install the Maintenance Bypass Box on the Rack

- PDB1211A230035 & PDB1211A231035

The installation is almost the same. Please refer to PDB1211A231035 for example.



(Figure 5)



(Figure 6)

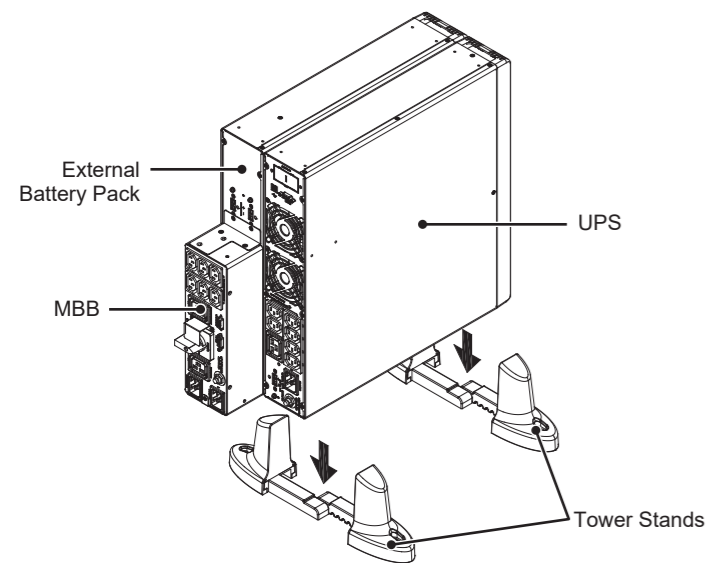
- 1 Use the four M4 screws (1) to fix the two MBB Ears (2) at the left and right sides of the MBB (please see Figure 5 and Figure 6).
- 2 Fix the four M5 cage nuts (3) at the two sides of the rack. Please note that the MBB should be installed at the rear of the UPS (please see Figure 5 and Figure 6).
- 3 Use the four M5 screws (4) to secure the MBB Ear on the rack's M5 cage nuts (3) (please see Figure 5 and Figure 6).

## 9 How to Install the Maintenance Bypass Box on the Tower Stands

### • PDB1211A230035 & PDB1211A231035

The installation is almost the same. Please refer to PDB1211A231035 for example.

Follow 7 How to Install the Maintenance Bypass Box on the External Battery Pack to fix the MBB on the external battery pack, stack the UPS on the external battery pack, stand them upright and place them into the tower stands that has been adjusted to the 4U width (please see Figure 7).



(Figure 7)

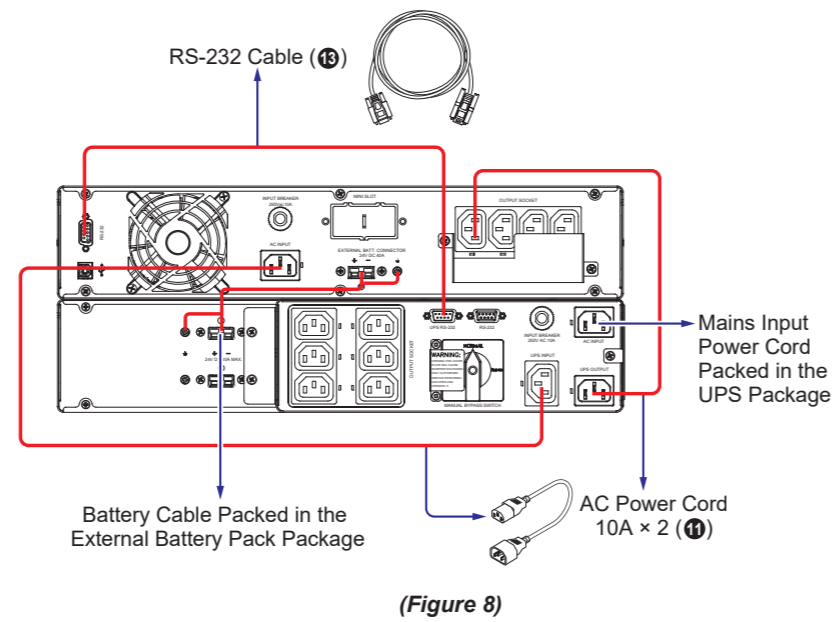
## 10 Wiring

### ! WARNING:

Before wiring:

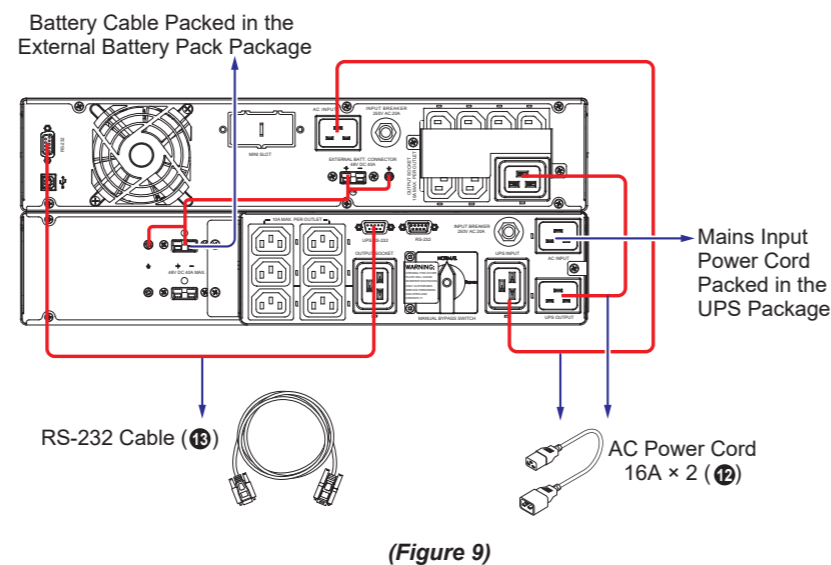
1. Follow 2 Important Safety Instructions.
2. When connecting the Maintenance Bypass Box to the mains and the loads, you must install protective devices. The protective devices must be approved components that meet safety certifications.
3. Ensure that all of the breakers/ switches are in the OFF position before wiring.
4. Please refer to the following figures for the wiring connection with the UPS.

### • PDB1211A230035



(Figure 8)

### • PDB1211A231035



(Figure 9)

### NOTE:

For UPS model UPS302R2002N035, its output that connects to the MBB is in terminal format but not in socket format. Thus, when connecting the UPS model UPS302R2002N035 with the MBB, please cut off the end of the provided AC Power Cord (2) that should connect to the UPS's OUTPUT SOCKET, and attach the three provided terminals (4) to the cut-off area. Only qualified service personnel can perform the action mentioned above.


## 11 Start-up Operation

### • PDB1211A230035 & PDB1211A231035

All the equipment and the UPS system must be properly connected and there must be acceptable AC voltage present. Please refer to the UPS's *Installation & Operation Quick Guide* and the External Battery Pack's *Installation & Operation Quick Guide* for more information.

### NOTE:

The cover plate of the Maintenance Bypass Box's MANUAL BYPASS SWITCH must still be installed.

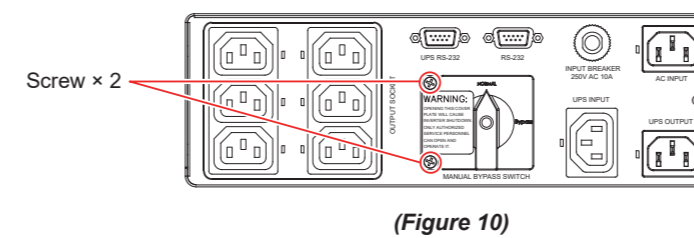
- 1 Verify if the AC power cord meets with N, L & G of the wall socket.
- 2 Plug the AC power cord into the wall socket.
- 3 Press and hold the ON button of the UPS for 3 seconds and release it after you hear one beep.
- 4 The UPS starts self-inspection. When the graph  appears on the display, the UPS runs in on-line mode.

## 12 Maintenance

### • PDB1211A230035 & PDB1211A231035

The installation is almost the same. Please refer to PDB1211A230035 for example

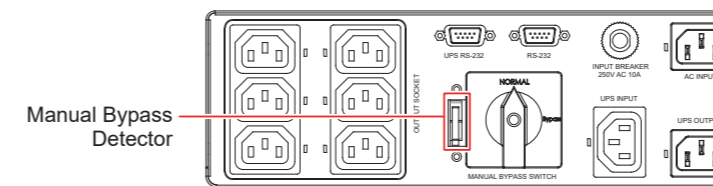
- 1 Unscrew the screws shown in Figure 10 to remove the cover plate of the MANUAL BYPASS SWITCH.



(Figure 10)

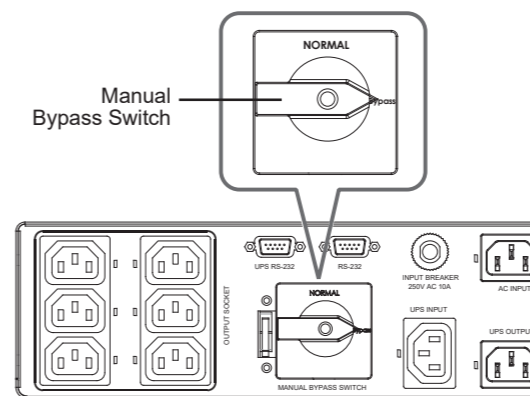
### NOTE:

Under the cover plate, there is a manual bypass detector (please see Figure 11). Once the cover plate is removed, the detector will be automatically activated to send a message to the UPS. The message is to ask the UPS to transfer into bypass mode. If there is a power interruption while the UPS is running in bypass mode, the connected loads won't be protected.



(Figure 11)

- 2 After you confirm that the UPS has been run in bypass mode, switch the MANUAL BYPASS SWITCH to the BYPASS position (please see Figure 12).

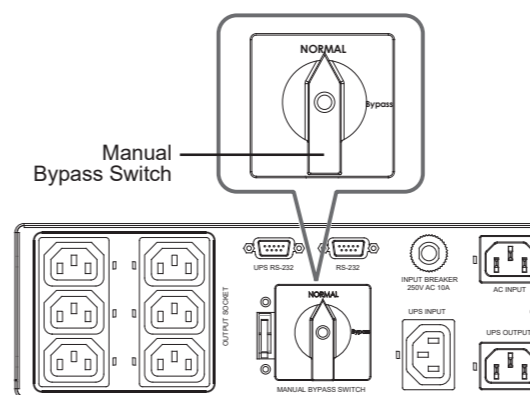


(Figure 12)

### NOTE:


If there is a power interruption while the MANUAL BYPASS SWITCH is in the BYPASS position, the connected loads won't be protected.

- 3 Disconnect the power cables from the 'UPS INPUT' and 'UPS OUTPUT' sockets on the Maintenance Bypass Box.
- 4 Disconnect the battery cables from the UPS and the external battery pack(s).
- 5 Disconnect all of the communication cables from the rear panel of the UPS
- 6 Now, the UPS and the external battery pack(s) can be removed to perform maintenance.
- 7 Once the maintenance is complete, re-install the UPS and the external battery pack(s).
- 8 Reconnect all of the power cables, battery cables and communication cables.
- 9 After you confirm that the UPS has been run in bypass mode, switch the Maintenance Bypass Box's MANUAL BYPASS SWITCH to the NORMAL position (please see Figure 13)



(Figure 13)

- 10 Re-install the cover plate of the MANUAL BYPASS SWITCH on the Maintenance Bypass Box. This will automatically inactivate the manual bypass detector.
- 11 Make sure that the AC input is normal. After confirmation, press and hold the ON button of the UPS for 3 seconds and release it after you hear one beep.

- 12 The UPS starts self-inspection. When the graph  appears on the display, the UPS runs in on-line mode.
- 13 The UPS system is ready for normal operation. Please refer to the UPS's user manual for more information.

### NOTE:

If you encounter any problems that you cannot solve, please ask your local dealer or customer service for more information. Do not attempt to solve the problems if you are not trained for it.

## 13 Technical Specifications

Model No.	PDB1211A230035	PDB1211A231035	
Input	Nominal Voltage	200/208/220/230/240 Vac	
	Frequency	50/60Hz	
	Current (Max.)	10A 16A	
	Connection	IEC C14 IEC C20	
Output	Nominal Voltage	200/208/220/230/240 Vac	
	Frequency	50/60Hz	
	Power (Max.)	1000VA & 900W for 220/230/240Vac 900VA & 810W for 200/208Vac	3000VA & 2700W for 220/230/240Vac 2700VA & 2430W for 200/208Vac
	Connection	IEC C13 x 6	IEC C13 x 6 IEC C19 x 1
Environment	Operating Altitude	1000 meters (without derating)	
	Operating Temperature	0 ~ 40°C (32 ~ 104°F)	
	Storage Temperature	-15 ~ 50°C (5 ~ 122°F)	
	Relative Humidity	5 ~ 95% (non-condensing)	
Physical	Dimensions (W x D x H)	270 x 75 x 88mm 270 x 75 x 88mm	
	Weight	1.1 Kg 1.2 Kg	

### NOTE:

1. Refer to the rating label for the safety rating.
2. All specifications are subject to change without prior notification.

## 14 Warranty

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship within the warranty period. If the product has any failure problem within the warranty period, Seller will repair or replace the product at its sole discretion according to the failure situation.

This warranty does not apply to normal wear or to damage resulting from improper installation, operation, usage, maintenance or irresistible force (i.e. war, fire, natural disaster, etc.), and this warranty also expressly excludes all incidental and consequential damages. Maintenance service for a fee is provided for any damage out of the warranty period. If any maintenance is required, please directly contact the supplier or Seller.

### ! WARNING:

The individual user should take care to determine prior to use whether the environment and the load characteristic are suitable, adequate or safe for the installation and the usage of this product. The Quick Guide must be carefully followed. Seller makes no representation or warranty as to the suitability or fitness of this product for any specific application.

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