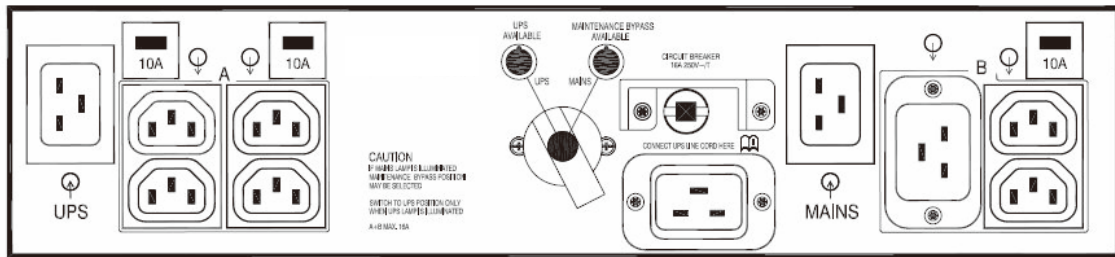


PDU 16

PDU 16

bypass and power distribution

INSTALLATION AND OPERATING MANUAL



PDU 16

OPERATING MANUAL

INDEX

- 1 CERTIFICATE AND CONDITIONS OF WARRANTY
- 2 SAFETY
- 3 INTRODUCTION AND SYSTEM DESCRIPTION
- 4 RACK MOUNT INSTALLATION
- 5 INDICATOR LAMPS
- 6 OPERATION
- 7 TECHNICAL DATA
- 8 TROUBLESHOOTING

1.1 CERTIFICATE AND CONDITIONS OF WARRANTY

(pdu16.08.01)

This certificate of warranty must NOT be sent back, but must be kept by the customer together with the purchase receipt, to be used if the product should require interventions while under warranty.

The period of validity of the warranty is calculated from the date of purchase of the new product, by the final user, from an official reseller (the date shown on the purchase receipt is used as proof).

The warranty is of the 'carry-in' type: free supply of parts and labour for repairs, with return of a product to be replaced to Eaton, or authorized centres, at the customer's cost and risk.

In order to use the warranty service, the user must respect the following rules:

- the product must be returned exclusively in its original packaging. Any damage caused during shipping in packaging other than the original is not covered by the warranty;
- the product must be accompanied by proof of purchase: a document (bill, invoice, receipt) showing the date of purchase and the information necessary to identify the product (model, serial number). The number of the authorization for return for repairs must also be attached, with a detailed description of the defect found in the product. If any of these elements is missing, the warranty is invalid. The return authorization number is issued by the service centres by telephone on receiving notification of the malfunction;
- if it is not possible to provide proof of purchase, the serial number and date of production will be used to calculate expiry of the warranty, which may lead to a reduction in the product's warranty period.

The product is not covered by warranty for damage caused by negligence (use outside the tolerance ranges: electric power supply, lightning, humidity, temperature, bad ventilation, etc.), tampering or any unauthorized intervention.

During the warranty period, Eaton may, at its discretion, decide to repair the product or replace the defective parts with new parts or with used parts that are equivalent to new parts in terms of functions and performance.

In the case of the battery, the warranty is valid if periodic recharging has been effected within the terms indicated on the packaging. It is advisable, therefore, after purchase, to check that the date of the next recharging has not passed.

OPTIONAL

Warranty for the optionals is 12 months and is of the carry-in type.


Software products

Warranty for the software is 90 days. The software is guaranteed to function in compliance with the manual and the written material accompanying the product. Hardware accessories or supports (e.g. disks, cables, etc.) attached are guaranteed from material and manufacturing defects under normal use and service, for a period of 12 months from the date of purchase.

Under no circumstances will Eaton be responsible for damages (including, without limitations, damage for loss of earnings, interruption of activity, loss of data or other economic losses) deriving from the use of this product.

2.1 SAFETY

(pdu16.01.01)

 **DO NOT ATTEMPT TO SERVICE THIS PRODUCT YOURSELF. OPENING OR REMOVING THE COVER MAY EXPOSE YOU TO DANGEROUS VOLTAGES, EVEN WHEN THE AC CORD IS DISCONNECTED FROM THE ELECTRICAL SOCKET. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.**

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and operation of the PDU 16


This product is designed for commercial / industrial use only, with UPS systems. It is not intended for use with life support and other designated “critical” devices. Do not exceed PDU or UPS rating labels.

Do not exceed PDU or UPS rating labels.

Read all safety and operating instructions before operating the PDU 16 and the connected UPS system. Adhere to all warnings on the unit and in this manual. Follow all operating and user instructions.

Turn the UPS off and unplug the PDU 16 before cleaning. Use only a soft cloth, never liquid or aerosol cleaners.


The UPS and PDU 16 are designed for data processing equipment. Do not plug laser printers or appliances, such as hair dryers, heaters, vacuum cleaners, or electrical drills, into the UPS output sockets.

 **DO NOT MODIFY THE CABLES IN ANY WAY. THE PDU SOCKETS SHOULD MATCH THE UPS SOCKETS. THE PDU 16 MUST BE EARTHED AT ALL TIMES WHILE IN USE. TURN OFF THE UPS BEFORE UNPLUGGING IT.**


The UPS and the PDU 16 are equipped with earthed plugs (plug types vary depending on model). Do not defeat the safety purpose of this plug. If unable to fully insert the plug into the designated socket, contact a qualified electrician or your local dealer or representative for assistance.

Route power supply cords so they are not walked on or pinched in any way.

 **Risk of electric shock, do not remove cover, no user serviceable parts inside. Refer servicing to qualified service personnel.**

 **This device receives power from multiple sources. Before servicing this device, remove all connections. Before servicing the UPS, follow “Maintenance of UPS” instructions in the user manual for your UPS.**

 **For use in a controlled environment. Refer to manual specifications for environmental conditions.**

 **WHEN THE PDU 16 IS IN MAINS POSITION (MAINTENANCE BYPASS) MODE, THE POWER TO THE CONNECTED LOAD IS NOT FILTERED OR CONDITIONED BY THE UPS. CONNECTED EQUIPMENT GUARANTEE IS NOT VALID WHILE IN THIS MODE OF OPERATION.**

2.2 GLOSSARY OF SYMBOLS

(pdu16.01.02)

PDU POWER DISTRIBUTION UNIT



Indicates AC Input



Indicates AC Output



Consult the manual for additional information

MAINS MAINS lamp indicates local power is available and the load may be transferred to bypass

UPS [A05]

3.1 INTRODUCTION

Congratulations on your choice of the PDU 16. The PDU 16 provides maintenance bypass capability as well as power output distribution. The PDU 16 can be used on UPSs in the rack mount or tower configuration. (pdu16.02.01)

The PDU 16 provides an isolated path of power for your UPS system for preventive maintenance or service.

3.2 SYSTEM DESCRIPTION

The PDU 16 has two modes of operation: UPS (UPS available) and MAINS (maintenance bypass) (pdu16.02.02)

In UPS mode, the power is routed through the UPS system delivering conditioned power to the load, as shown in Figure 1.

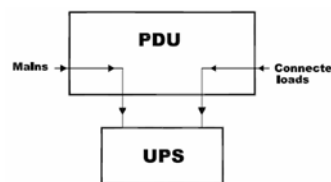


Figure 1

UPS mode of operation.

In MAINS mode, the power is routed around (bypassing) the UPS system (see Figure 2). Mains power is supplied directly to the load through the PDU 16.

⚠ Battery back-up and conditioned power are NOT available during the MAINS mode of operation.

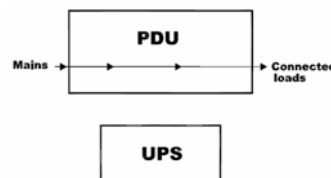
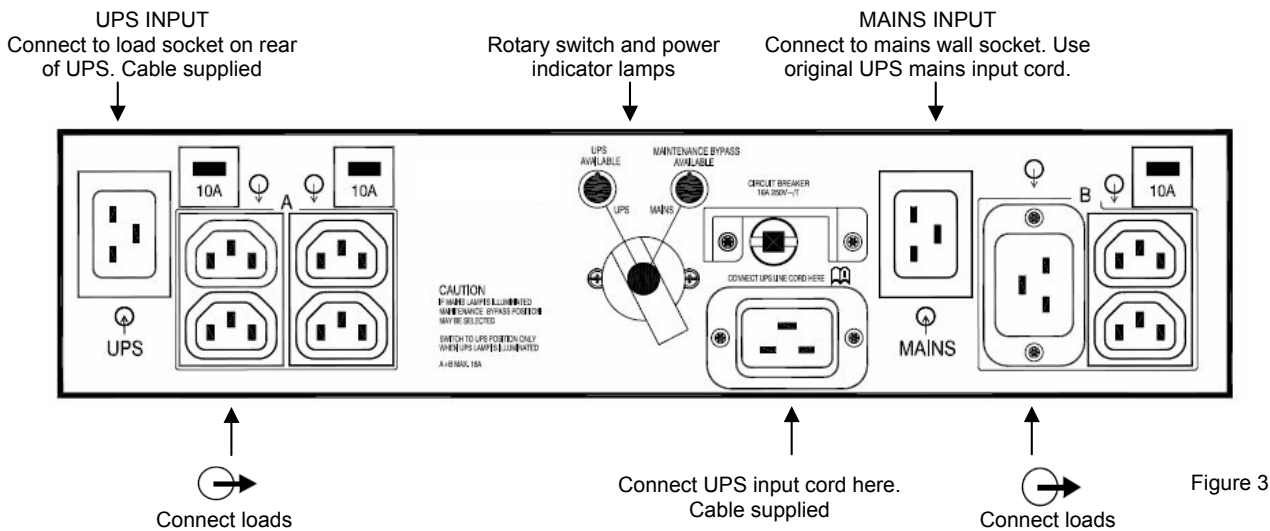


Figure 2

MAINS/maintenance bypass mode

The UPS may be turned off and removed without affecting the load.

4.1 PDU 16 connections



4.2 RACK MOUNT INSTALLATION

(pdu16.03.01)

1. Rack mount installation of the PDU 16 is possible with the use of the rack mounting brackets (shipped with the PDU) See Figure 4.
2. The rack mount brackets allow you to rack mount the PDU 16 in a 19" enclosure (23" to 19" rack adapters would have to be purchased separately if you are using the 23" or equivalent cabinet).
3. The PDU 16 can be mounted to face one of four directions depending on your application, and utilizing the rack mount brackets provided.
4. Determine the desired position and direction for the PDU, face it in that direction, then attach the brackets to the PDU with the screws provided.
5. Consult your rack/enclosure manufacturer's recommendations for specific rack mounting hardware that will be required.
6. The holes on the rack mount bracket are notched for easy installation. Tighten the PDU securely to the rails and then follow the startup directions for the PDU in the previous section, PDU 16 connections.

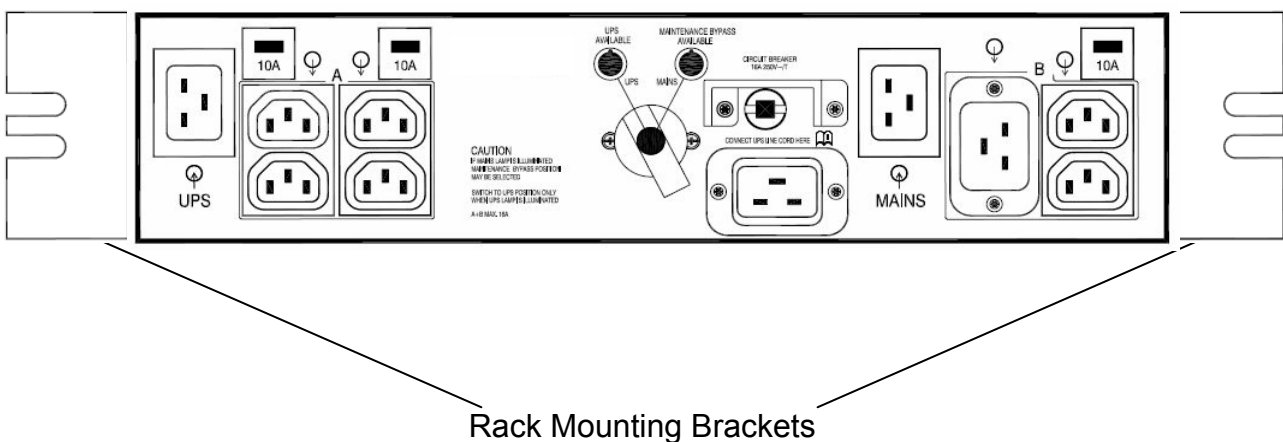


Figure 4

PDU 16 with rack mounting brackets

5.1 MAINS INDICATOR LAMP

(pdu16.04.01)

This orange lamp is illuminated when mains power is present (see Figure 5). It signals that you may transfer the loads to maintenance bypass (MAINS mode) operation via the rotary switch. During a mains power outage, this lamp will be off and the UPS will supply battery back-up power to the connected loads.

ENGLISH

5.2 UPS INDICATOR LAMP

(pdu16.04.02)

This green lamp is illuminated when there is output power available from the UPS (see Figure 5). It signals that it is safe to transfer the connected loads from mains power back to UPS output power.

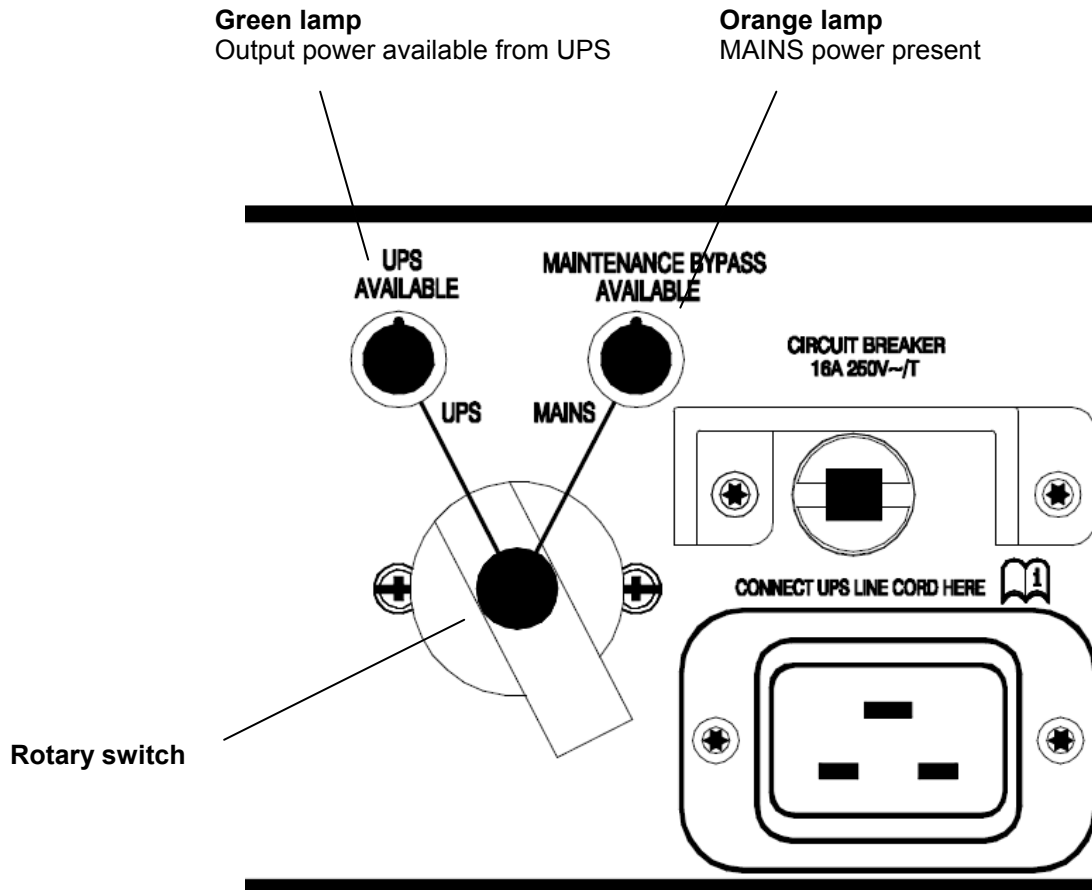


Figure 5 Indicator lamps on PDU 16

6.1 TRANSFER TO MAINTENANCE BYPASS

(pdu16.05.01)

To transfer to maintenance bypass (mains) from UPS, use the following steps:

1. Ensure the MAINS lamp (orange) is illuminated. If the lamp is not illuminated, refer to Troubleshooting section.
2. Transfer the rotary switch from UPS to MAINS, provide the MAINS lamp is illuminated on the PDU 16.
3. Turn the UPS off.
4. Disconnect the two cables connecting the UPS to the PDU 16.
5. You may now service the UPS.

6.2 TRANSFER TO UPS

(pdu16.05.02)

To transfer to UPS from maintenance bypass (mains), use the following steps:

1. Reconnect the UPS to the PDU 16. Start the UPS according to the instructions in the UPS user manual.
2. Verify that UPS lamp (green) on the PDU 16 is illuminated. If so, transfer the rotary bypass switch from MAINS to UPS. If the lamp does not illuminate, refer to Troubleshooting section.
3. Conditioned power is now being supplied through the UPS.

7.1 TECNICAL DATA

(pdu16.06.01)

Transfer Time (to and from maintenance bypass)	< 6 ms
Operating Ambient Temperature	0°C to +40°C (32°F to 104°F)
Storage Ambient Temperature	-20°C to +60°C (-4°F to 140°F)
Dimensions W x D x H: mm (in.)	88 x 77 x 394 (3.5 x 3.0 x 15.5)
Weight: kg (lbs)	4.5 (10)
Humidity	0 to 95% non-condensing
Agency/Standards	CE, EN 60950, ISTA Procedure 1A
Electrical Rating	See Model Label on MicroPDU

This PDU 16 is intended for use with a UPS meeting all the following requirements:

- UPS input cord is compatible with the rating and type of socket on the PDU 16 labeled "CONNECT UPS LINE CORD HERE".
- UPS output socket is compatible with the PDU 16 input power connector labeled "UPS"
- Available mains socket is compatible with the PDU 16 input power connector labeled "MAINS".
- The user must provide a suitable mains power cord with the appropriate country connector. This will usually be the original UPS power cord which has been removed from the UPS mains output.

8.1 TROUBLESHOOTING

(pdu16.07.01)

Problem	Cause	Solution
MAINS lamp (orange) not illuminated.	Mains not present.	Call qualified service personnel to restore power to socket.
	Input cord not connected to mains.	Refer to PDU 16 installation instructions in this manual.
UPS Available lamp (green) not illuminated.	UPS output power not present.	Turn on UPS. Refer to UPS user manual.
	UPS input and/or output cord not connected to PDU 16.	Refer to PDU 16 installation instructions in this manual.
PDU 16 will not start some/all connected loads.	PDU 16 output circuit breaker has tripped.	Reset PDU 16 circuit protectors.
PDU 16 circuit protectors trip after resetting.	Overcurrent on PDU 16 socket.	Recalculate load requirements, distribute load among other PDU 16 sockets.

