



POWER AVAILABILITY

2U Hardwire POD™

USER MANUAL

*Power Output
Distribution
120 Volt*



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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS



WARNING

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 receptacle. Refer all servicing to qualified service personnel.

This manual contains important instructions that should be followed during installation and operation of the 2U Hardwire POD™. This product is designed for commercial / industrial use only, with Liebert UPS systems. It is not intended for use with life support and other designated “critical” devices. Do not exceed POD or UPS rating labels.

Read all safety and operating instructions before operating the 2U Hardwire POD 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 2U Hardwire POD before cleaning. Use only a soft cloth, never liquid or aerosol cleaners.

The UPS and 2U Hardwire POD are designed for data processing equipment. Do not connect laser printers or appliances, such as hair dryers, heaters, vacuum cleaners, or electric drills, into the POD.



WARNING

Do not modify the cables in any way. The POD receptacles should match the UPS input plugs. The 2U Hardwire POD must be grounded at all times while in use. Turn off the UPS before unplugging it.

The UPS and the 2U Hardwire POD are equipped with grounded 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 Liebert representative for assistance.



CAUTION

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



CAUTION

This device is for use in a clean, temperature-controlled, indoor environment that is free of conductive contaminants. Route power supply cords so they are not walked on or pinched in any way. Refer to **Specifications on page 15** for environmental conditions.



WARNING

When the 2U Hardwire POD is in utility position (maintenance bypass mode) the power to the connected load is not filtered or conditioned by the UPS. The Liebert UPS connected equipment guarantee is not valid while in this mode of operation.

GLOSSARY OF SYMBOLS



Equipment grounding conductor



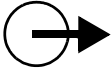
Bonded to ground



Electric phase



Indicates AC input



Indicates AC output

INTRODUCTION AND SYSTEM DESCRIPTION

Congratulations on your choice of the Liebert 2U Hardwire POD™. The 2U Hardwire POD provides maintenance bypass capability as well as power output distribution. The Liebert 2U Hardwire POD can be used on UPS in the rack mount or tower configuration.

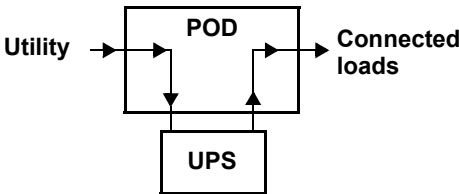
The Liebert 2U Hardwire POD provides an isolated path of power for your UPS system for preventive maintenance or service. While UTILITY and LOAD connections are hardwired, connections to and from the UPS are plug-in to allow easy connection of the UPS.

System Description

The 2U Hardwire POD has two modes of operation: **UPS** (UPS available) and **UTILITY** (maintenance bypass).

- During the **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



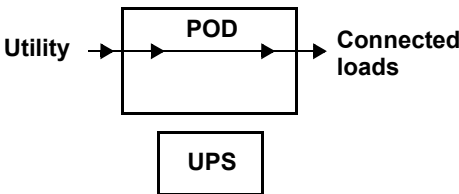
- During the **UTILITY mode**, the power is routed around (bypassing) the UPS system (see **Figure 2**). UTILITY power is supplied directly to the load through the 2U Hardwire POD.



CAUTION

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

Figure 2 Utility/maintenance bypass mode

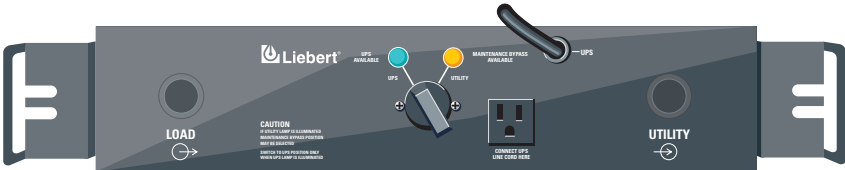


- The UPS may be turned off and removed without affecting the load.

RACK MOUNT INSTALLATION

1. Rack mount installation of the 2U POD is possible with the use of the rack mounting brackets (shipped with the POD). See **Figure 3**.
2. The rack mount brackets allow you to rack mount the POD in a 19" enclosure (23" to 19" rack adapters are available as options from Liebert if you are using 23" Foundation or equivalent cabinet).
3. The POD can be mounted to face one of four directions depending on your application, and utilizing the rack mount brackets provided.
4. Conduit entry is possible on two sides of the POD. Plan POD orientation to allow for wiring. Determine the desired position and direction for the POD, face it in that direction, and then attach the brackets to the POD 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 POD securely to the rails and then follow the startup directions for the POD in **Installation on GXT 2U UPS**.

Figure 3 2U Hardwire POD with rack mounting brackets



INSTALLATION ON GXT 2U UPS

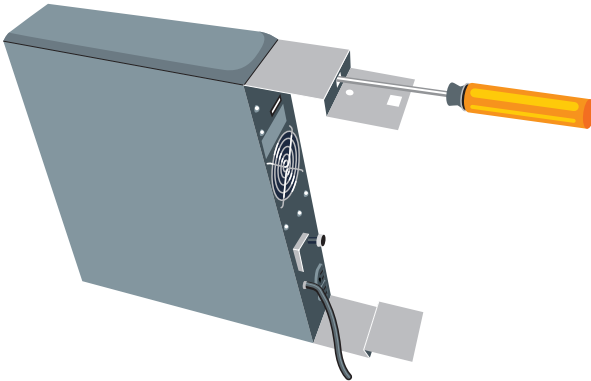


NOTE

This manual provides instructions for the 2U POD only. Refer to your UPS manual for UPS operation and installation instructions.

1. Unpack the 2U POD carefully, noting the packing method. Retain the box and packing material for possible future shipments.
2. Visually inspect the 2U POD for freight damage. Report damage to the carrier and your local dealer or Liebert representative.
3. Verify that the 2U POD UPS input cord and receptacle for the UPS are the same type of configuration as the UPS to be connected.
4. If you already have a UPS installed, turn off all connected UPS loads. Turn off the UPS and disconnect the input cord.

Figure 4 Attaching POD securing brackets to rear of UPS



5. Attach the two POD securing brackets (this is optional for GXT 2U UPS) to the rear of the UPS (see **Figure 4**). You will need a 7-in. (177.8mm) long #1 Phillips head screwdriver for this procedure (torque is 7 in-lb, or 0.8 Nm). The POD brackets have a hole to allow the screwdriver to reach the screw.

HARDWARE CONNECTIONS

Electrical Installation Considerations



CAUTION

This UPS must be installed by competent electrical personnel and wired in accordance with local/national electrical codes.



CAUTION

The utility input supply to the POD must be protected by a branch rated circuit breaker. The UPS output must also be protected with a circuit breaker connected to the load, rated to carry the input current, and be capable of breaking the maximum expected short circuit current of this branch circuit. The breaker is to be mounted within 6 feet of the POD and be readily accessible to the operator. Refer to **Table 1** for breaker specification.



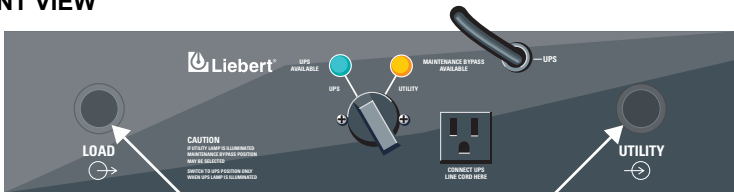
CAUTION

Before installing, open all branch circuit power at the nearest disconnect, turn UPS off, and disconnect all cords to and from the UPS.

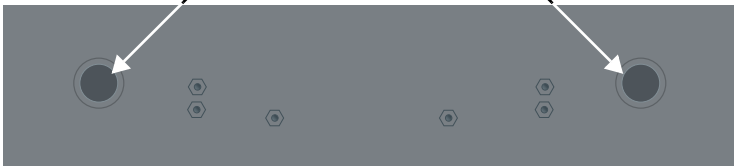
The front and bottom of the POD provide alternate conduit entry points for both the UTILITY and LOAD connections.

Figure 5 Conduit entry

FRONT VIEW



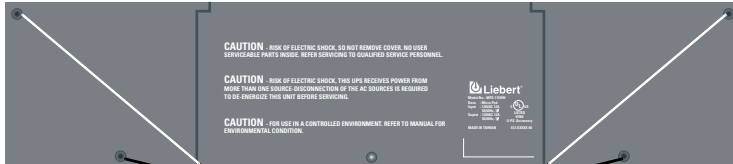
BOTTOM VIEW



Conduit Entry Knockouts

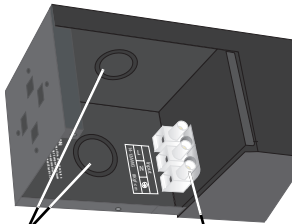
Wiring Instructions

1. Remove the wiring access doors by removing the two Phillips head screws that secure them.
2. Determine which of the two available conduit entry points are to be used. Knock out the conduit entry hole for the location and size of conduit to be used.
3. Connect conduit bushing and conduit and run utility load wiring. Inspect wiring to ensure it is not pinched. Make connections to the terminal blocks as labeled. The wiring terminals are labeled.
4. Close the wiring access doors and install the retaining screws.



Extract screws to remove wiring access doors

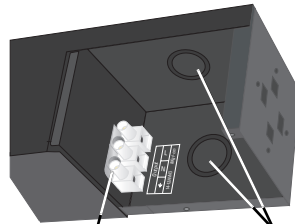
Left Side of POD



Knockouts for Conduit

Input Terminal Block Connections

Right Side of POD



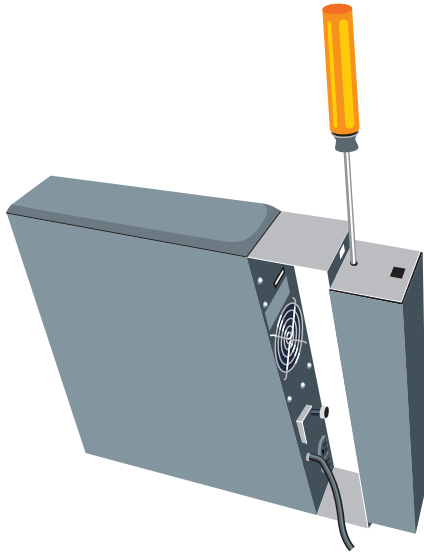
Output Terminal Block Connections

Knockouts for Conduit

APPLY FEED POWER

1. Next attach the POD to the securing brackets (see Figure 7). The POD can be installed to face one of three different directions utilizing the same mounting procedures. Select the direction of mounting to accommodate the conduit entry connections.

Figure 7 Attaching POD to securing brackets



2. Make sure the 2U POD rotary switch is in the UTILITY position. Close the branch circuit breaker providing UTILITY input power.



WARNING

The 2U POD is now electrically live. The UTILITY lamp (amber) should now be illuminated.

3. Plug the UPS input cord into the receptacle on the front of the 2U POD labeled “CONNECT UPS LINE CORD HERE.”



WARNING

The UPS system is now electrically live.

4. Connect the 2U POD UPS output cord (labeled “CONNECT TO UPS OUTPUT RECEPTACLE”) to the output of the UPS system.

START EQUIPMENT

1. Turn on all loads hardwired to the output of the POD. The 2U POD now powers your equipment in the UTILITY mode.
2. Turn ON the loads and ensure all are up and operating properly.
3. Start the UPS according to its specific user manual.
4. Verify that the UPS lamp (green) on the 2U POD is illuminated. If so, transfer the rotary switch from UTILITY to UPS. The load is now being supplied with conditioned power through the UPS.
5. Before any operation or procedure, always verify that both the UPS lamp (green) and the UTILITY lamp (amber) are illuminated before changing the status of the rotary switch.

INDICATOR LAMPS

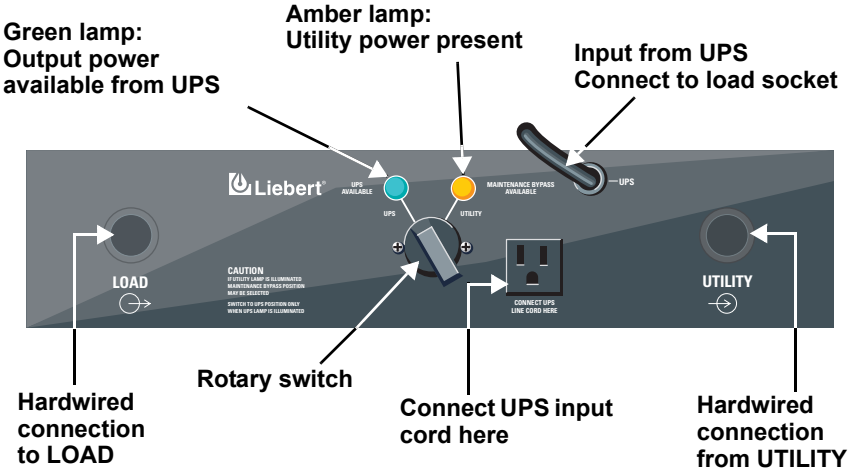
Utility

This amber lamp is illuminated when utility power is present. It signals that you may transfer the loads to maintenance bypass (UTILITY mode) operation via the rotary switch. During a utility power outage, this light will be off and the UPS will supply battery back-up power to the connected loads if in UPS position.

UPS Available

This green lamp is illuminated when there is output power available from the UPS. It signals that it is safe to transfer the connected loads from utility power back to UPS output power.

Figure 8 Indicator lamps on 2U Hardwire POD



OPERATION

Transfer to Maintenance Bypass

To transfer to maintenance bypass (UTILITY) from UPS, follow the following steps:

1. Ensure the Utility lamp (amber lamp) is illuminated. If the lamp is not illuminated, refer to the **Troubleshooting** section.
2. Transfer the rotary switch from UPS to UTILITY.
3. Turn the UPS off.
4. Disconnect the two cables connecting the UPS to the 2U Hardwire POD.
5. You may now service/remove the UPS.

Transfer to UPS

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

1. Reconnect the UPS to the 2U Hardwire POD. Start the UPS according to the instructions in the UPS user manual.
2. Verify that UPS lamp (green lamp) on the 2U Hardwire POD is illuminated. If so, transfer the rotary bypass switch from UTILITY to UPS. If the lamp does not illuminate, refer to the **Troubleshooting** section.

TROUBLESHOOTING

Problem	Cause	Solution
UTILITY lamp (amber) not illuminated.	UTILITY not present.	Call qualified service personnel to restore power.
	Utility Branch Circuit Breaker may be open.	Verify that the branch circuit breaker is closed.
	2U Hardwire POD input power not connected to UTILITY.	Refer to 2U Hardwire POD installation instructions in this manual: <ul style="list-style-type: none"> • Installation on GXT 2U UPS and • Rack Mount Installation.
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 2U Hardwire POD.	Refer to 2U Hardwire POD installation instructions in this manual: <ul style="list-style-type: none"> • Installation on GXT 2U UPS and • Rack Mount Installation.
2U Hardwire POD will not start some / all connected loads.	Input power cannot support load.	Verify that utility and UPS are on, all circuit protectors are closed, and load is within the rating of the power source.
Utility or UPS circuit protectors trip after resetting.	Overcurrent protection on 2U Hardwire POD connected load.	Recalculate load requirements.

SPECIFICATIONS

Transfer Time (to and from maintenance bypass)	< 6 milliseconds
Operating Ambient Temperature	32°F to 104°F (0°C to +40°C)
Storage Ambient Temperature	-4°F to 140°F (-20°C to +60°C)
Dimensions with brackets W x D x H: in. (mm)	3.5 x 3.0 x 15.5 (88.0 x 77.0 x 394.0)
Humidity	0 to 95% non-condensing
Agency/Standards	UL1778, c-UL, ISTA Procedure 1A
Electrical Rating	See Model Label on POD

Table 1 Breaker specifications

Model VA - Volt Rating	Input Current Rating at 120V*	Recommended (Maximum) External Overcurrent Protection	Recommended Wire (including ground wire) (75°C copper wire)	Maximum Wire Accepted by Terminal Block	Terminal Tightening Torque
MP2-115HW	12A	15A	14 AWG	8 AWG	20 in-lb
MP2-120HW	16A	20A	12 AWG	8 AWG	20 in-lb
MP2-130HW	24A	30A	10 AWG	8 AWG	20 in-lb

* See POD Rating Plate for Alternate Output Voltages

This POD is intended for use with a UPS meeting all of the following requirements:

- UPS input cord is compatible with the rating and type of receptacle on the POD labeled “CONNECT UPS LINE CORD HERE.”
- UPS output receptacle is compatible with the POD input power connector labeled “UPS.”
- Available utility is compatible with the POD input connection and an appropriately sized branch circuit breaker has been provided.

Product Warranty Registration

To register for warranty protection:

- Visit the **Quick Links** section of our Web site at:
<http://www.liebert.com>
- Click on **Product Warranty Registration** and fill in the form.

If you have any questions, please contact us at:

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Outside the US: 614-841-6755

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POWER AVAILABILITY

2U Hardwire POD™

USER MANUAL

The Company Behind the Products

With over a million installations around the globe, Liebert is the world leader in computer protection systems. Since its founding in 1965, Liebert has developed a complete range of support and protection systems for sensitive electronics:

- Environmental systems—close-control air conditioning from 1 to 60 tons
- Power conditioning and UPS with power ranges from 300 VA to more than 1000 kVA
- Integrated systems that provide both environmental and power protection in a single, flexible package
- Monitoring and control—from systems of any size or location, on-site or remote
- Service and support through more than 100 service centers around the world and a 24/7 Customer Response Center

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