AC Power
For *Business-Critical Continuity™*

Liebert® MPH™

User Manual—North American & European Applications

EMERSON
Network Power

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SAVE THESE INSTRUCTIONS

This manual contains important safety instructions. Read all safety, installation and operating instructions before installing Liebert MPH power distribution units. Adhere to all warnings on the unit and in this manual. Follow all operating and user instructions. Individuals without previous training can install and operate this equipment.

- The Liebert MPH is designed for data processing equipment. The Liebert MPH is not intended for use with life support or other designated critical devices. If uncertain about its application, consult your local dealer or Emerson representative.
- Maximum load must not exceed that shown on the Liebert MPH rating label.
- Operate the Liebert MPH in an indoor environment only in an ambient temperature range of 32°F to +131°F (0°C to +55°C). Install it in a clean environment, free of conductive contaminants, moisture, flammable liquids, gases and corrosive substances.
- The Liebert MPH must be installed in a restricted-access location. A restricted-access location is an area where access is possible only through the use of a tool or lock and key or other means of security, and is controlled by the authority responsible for the location.
- Liebert MPH power distribution units have no user-serviceable parts. Under no circumstances attempt to gain internal access due to the risk of electric shock or burn.
- Do not continue to use the Liebert MPH if the LED panel or monitoring interface indicators are not in accordance with these operating instructions. Refer all faults to your local dealer, Emerson representative or Emerson Network Power Applications Engineering.
- Never block or insert any object into the Liebert MPH.
- DO NOT CONNECT equipment that could overload the Liebert MPH.
- Refer to **6.0 - Specifications** to determine the electrical ratings and specifications of your Liebert MPH. It is imperative that the power supply and connections match the specifications of the unit being installed.

WARNING

Opening or removing the cover of a Liebert MPH may expose you to lethal voltages within the power distribution unit.

Observe all cautions and warnings in this manual. Failure to do so may result in serious injury or death.

Liebert MPH units contain no user-serviceable parts. For service, contact Emerson Network Power Applications Engineering or your local Emerson representative. Do not attempt to service this product yourself.

Never work alone.

CAUTION

Connecting your Liebert MPH and rack equipment to a power supply with an incorrect rating in voltage, amperes or phase may damage the connected equipment and your Liebert MPH.

If you have questions about the power supply connections, contact Emerson Network Power Applications Engineering or your local Emerson representative.

CAUTION

The user/installer must ensure that the ratings of the electric circuit of each connected application and component meets the specified rating at each branch. The maximum load per branch is 20A.

CAUTION

Shut down and unplug all equipment in your rack enclosure before beginning to connect equipment to your Liebert MPH.

When connecting the rack equipment to the Liebert MPH's receptacles, arrange cables and connections to avoid tangling and crisscrossing the power cables. For power management purposes, record the receptacle where each piece of equipment is connected. Receptacles on the Liebert MPH have a numerical designation. The Liebert MPH with more than one circuit has the outlets named with numbers and are grouped by branch with a number referring to the proper circuit breaker.

When connecting power to the Liebert MPH's receptacles, follow generally accepted procedures, such as routing the power cables separately from low-voltage communication and control wires to prevent electromagnetic interference.

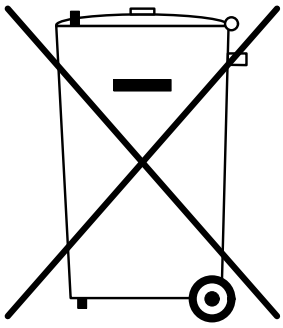
CAUTION

All configuration steps must be completed before attempting to start equipment connected to the Liebert MPH.

Notice to European Union Customers: Disposal of Old Appliances

This product uses components that are dangerous for the environment, such as electronic cards and other electronic components. Any component that is removed must be taken to specialized collection and disposal centers. If this unit must be dismantled, this must be done by a specialized center for collection and disposal of electric and electronics appliances or other dangerous substances.

This product has been supplied from an environmentally aware manufacturer that complies with the Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/CE.



The "crossed-out wheelie bin" symbol at right is placed on this product to encourage you to recycle wherever possible. Please be environmentally responsible and recycle this product through your recycling facility at its end of life. Do not dispose of this product as unsorted municipal waste. Follow local municipal waste ordinances for proper disposal provisions to reduce the environmental impact of waste electrical and electronic equipment (WEEE).

For information regarding the scrapping of this equipment, please browse **http://www.eu.emersonnetworkpower.com** ("Products session" or "Contact us" session) or call our worldwide technical support at:

- 00 80011554499 (toll free number)
- +39 0298250222 (toll number based in Italy)

ROHS Compliance

The Liebert MPH modules comply with the Restriction of Hazardous Substances Directive (ROHS), prohibiting use of six hazardous materials manufacturing of electronics, including lead-free solder.

FCC Compliance

This unit complies with the limits for a Class A device pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference that the user must correct, including the expense of all corrective modifications.

1.0 INTRODUCTION

The Liebert MPH rack PDU is a managed, single-phase or three-phase power distribution unit that offers monitoring only or monitoring along with receptacle control.

Liebert MPH units are available for mounting in either vertical, zero-U configuration and rack-mounting in standard, network enclosures. Vertical-mount units have 27 receptacles. The horizontal-mount units have nine receptacles. The output receptacles support equipment requiring connection with NEMA 5-20R, IEC60320-C13 and IEC60320-C19 plugs.

A Liebert MPH with single-phase input has a capacity up to 7.4kW (230VAC; 32A) or 3.6kW (120VAC; 30A). Three-phase input systems have a capacity up to 22.1kW (230/400VAC; 32A) or 10.7kW (120/208VAC; 30A). For further details, refer to **6.0 - Specifications**.

Remote monitoring is enabled by the included communication card, the Liebert RPC™, which permits managing the Liebert MPH over a secure Web page and SNMP-based network management system. The Liebert RPC permits interconnecting multiple Liebert MPH and / or Liebert MPX units for monitoring and management.

A Liebert MPH can be monitored locally with an RPC BDM™, an optional display module that connects directly to the communication card. The display module can be handheld, mounted in or on the rack or mounted on a nearby wall.

Multiple Liebert MPHs can be centrally managed with Liebert Nform™, which adds group-based receptacle management.

Figure 1 Liebert MPH units—horizontal, 1U rack-mount and vertical, zero-U mount

1.1 General Characteristics

- Input current 16 to 32A European Union versions or 20 to 30A North American versions
- Single-phase and three-phase power input
- Input voltages 120VAC, 120/208VAC, 208VAC, 230VAC, 230/400VAC, 240VAC
- Line-to-Line and Line-to-Neutral Output
- Output Receptacles: NEMA and IEC
- Input connection by fixed cords, 10 feet (3m) long
- Input power cord plugs: L5-20P, L5-30P, L6-20P, L6-30P, L15-30P, L21-30P, IEC-C20, IEC309 3-wire 32A, IEC309 5-wire 32A

For details, refer to **6.0 - Specifications**. Refer to **Table 2** for the dimensions.

1.1.1 North American Input / Output Systems

120VAC, Single-Phase Input - Vertical-Mount

L5-20P or L5-30P plug connection, 10 ft. (3m) input power cord, 20 or 30A; 27x 5-20R (T-blade) receptacles; 68.25 in. (1735mm) long

120VAC, Single-Phase Input / Output - Rack-Mount

L5-20P or L5-30P plug connection, 10 ft. (3m) input power cord, 20 or 30A; 9x 5-20R (T-blade) receptacles; 1U tall

200-240VAC, Single-Phase Input / Output - Vertical-Mount

L6-20P or L6-30P plug connection, 10 ft. (3m) input power cord, 20 or 30A, 27x IEC-C13 or 21x IEC-C13 plus 6x IEC-C19 receptacles; 68.25 in (1735mm) long

200-240VAC, Single-Phase Input / Output - Rack-Mount

L6-20P or L6-30P plug connection, 10 ft. (3m) input power cord, 20 or 30A; 9x IEC-C13 receptacles; 1U tall

120/208VAC, Three-Phase Input / 208 & 120VAC Output - Vertical-Mount

L21-30P or L15-30P plug connection, 10 ft. (3m) input power cord, 20 or 30A; 27x IEC-C13 or 21x IEC-C13 plus 6x IEC-C19 or 21x IEC-C13 plus 6x 5-20R receptacles or 15x IEC-C13 plus 6x IEC-C19 plus 6x 5-20R receptacles; 68.25 in. (1735mm) long

1.1.2 European Input / Output Systems

230VAC, Single-Phase Input / Output - Vertical-Mount

IEC-C20 or IEC-309 plug connection, 3m (10 ft.) input power cord, 16 or 32A, 27x IEC-C13 or 21x IEC-C13 plus 6x IEC-C19; 68.25 in (1735mm) long

230VAC, Single-Phase Input / Output - Rack-Mount

IEC-C20 or IEC-309 plug connection, 3m (10 ft.) input power cord, 16 or 32A; 9x IEC-C13 receptacles; 1U tall

400VAC, Three-Phase Input / 230VAC Output - Vertical-Mount

IEC-309 plug connection, 3m (10 ft.) input power cord, 32A; 27x IEC-C13 or 21x IEC-C13 plus 6x IEC-C19 receptacles; 1735mm (68.25 in.) long

2.0 INSTALLATION IN KNURR RACK—VERTICAL, ZERO-U MOUNT

A Liebert MPH can be installed in a Knurr rack on the frame members using field-supplied Knurr hardware. The unit can be installed on the face or the side of frame members.

2.1 Mounting Hardware and Tools Required

Factory-Supplied

- Brackets: 2
- Screws, 6-32 x 1/4": 8

Field-Supplied

- Spring-nuts, supplied with Knurr rack
- fasteners, supplied with Knurr rack
- Phillips screwdriver

2.2 Install a Liebert MPH in a Knurr Rack

Determine where in the Knurr rack the Liebert MPH will be installed and follow the applicable instructions below. Installation requires attaching two brackets to the Liebert MPH, inserting four spring nuts into the rack and using the brackets to attach the Liebert MPH to the rack. Refer to **Figures 2**, **3** and **4**. (Refer to **Table 2** for the dimensions of the Liebert MPH.)

The bracket is intended for attaching the Liebert MPH to the face of a frame member.

1. Use four of the 6-32 screws to attach a bracket to each end of the Liebert MPH. The supplied brackets have four holes that match holes on each end of the Liebert MPH.
   - If mounting on horizontal frame members, attach the brackets in-line, as shown in the left side of **Figure 2**.
   - If mounting on avertical frame member, attach the brackets at a right angle to the Liebert MPH as shown in the right side of **Figure 2**.
2. Tighten the screws firmly.
3. Insert two spring nuts into the appropriate T-slot on the frame member.

   Position the spring nuts to accommodate screws inserted through slots in the brackets. To move the spring nuts, press down on each with a small, pointed object and slide each into position.
4. Hold the Liebert MPH in place and attach the top of the unit to the rack with tool-less fasteners.
5. Tighten the screws firmly.
6. Repeat **Steps 3** through **5** for the lower bracket on the lower end of the Liebert MPH.

Figure 2 Attach brackets to the Liebert MPH

In-Line Bracket Attachment on Liebert MPH (used for mounting on horizontal frame members)

90-Degree Bracket Attachment on Liebert MPH (used for mounting on a vertical frame member)

Figure 3 Inserting a spring nut into a T-slot

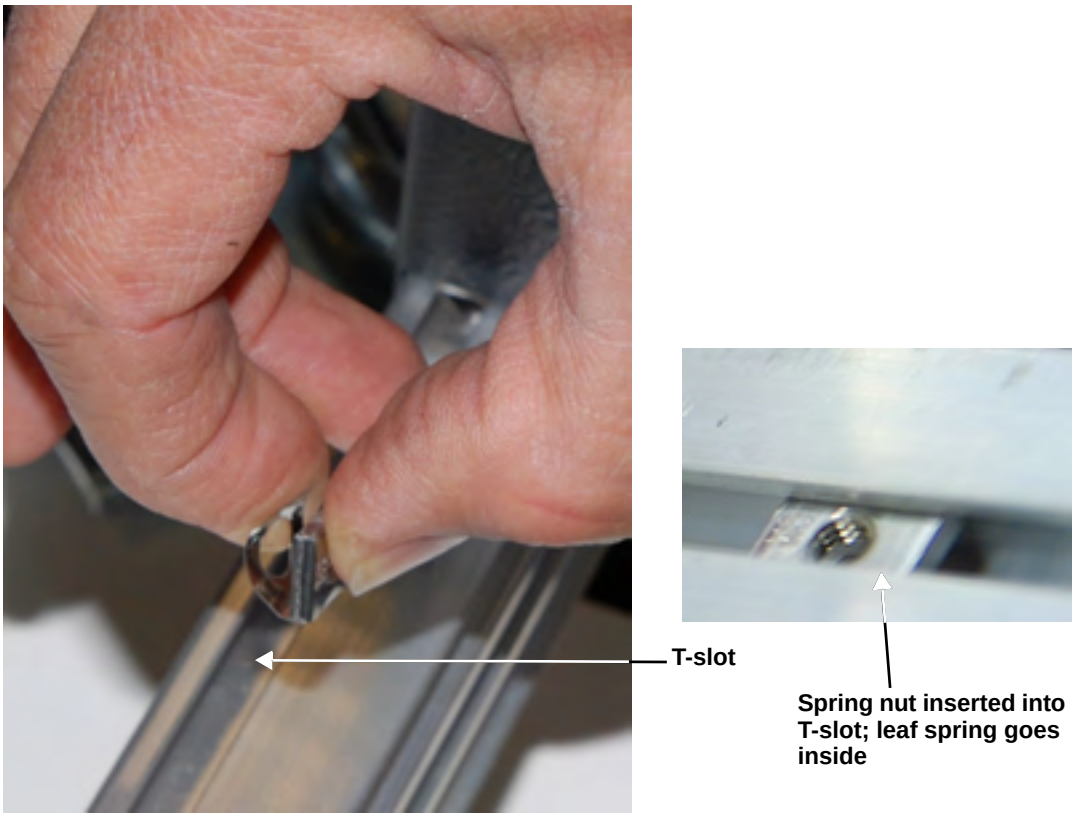
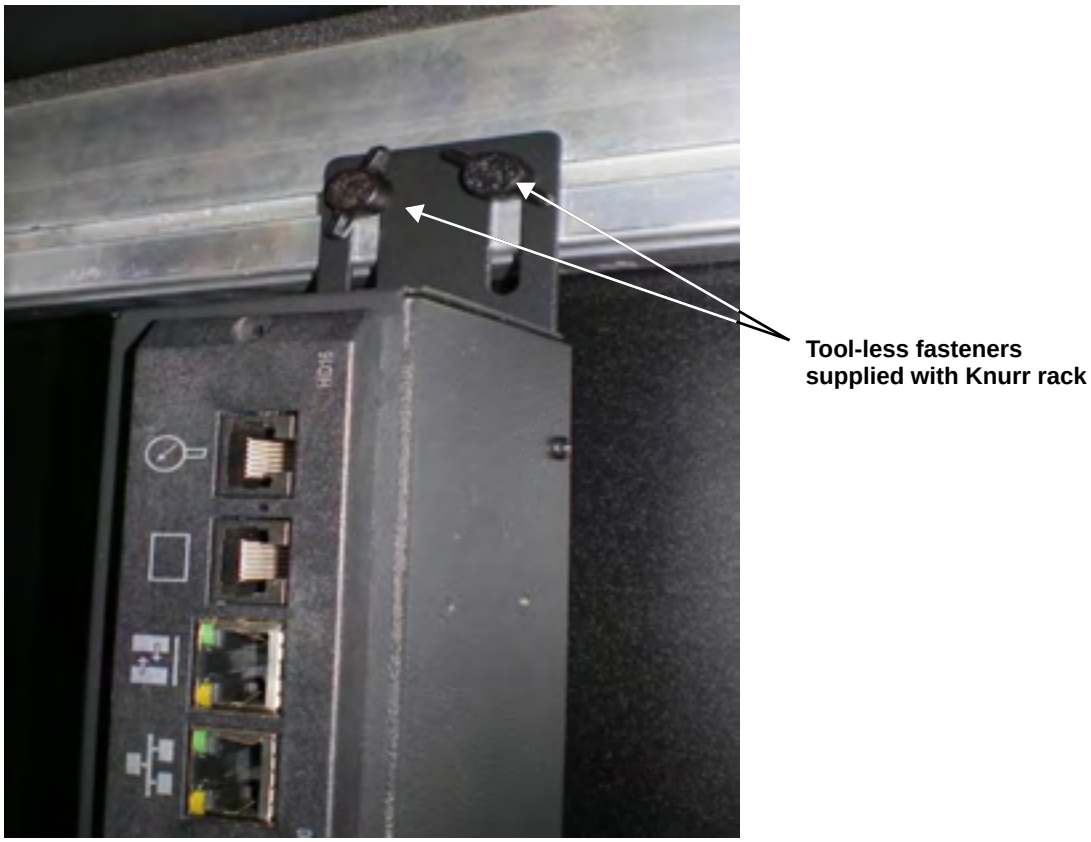


Figure 4 Attaching a Liebert MPH to a Knurr rack horizontal frame member

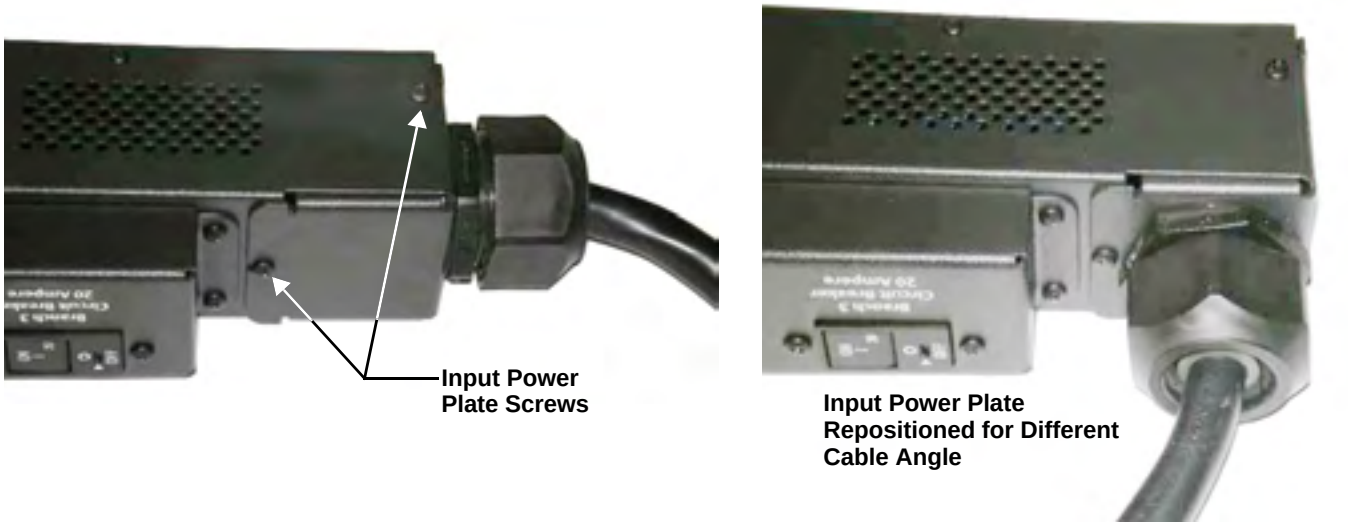


2.3 Reposition Input Power Cord

The Liebert MPH is shipped from the factory with the input power cord entering from the end of the unit. The cord can be repositioned 90° if it will need to enter from the front. To reposition the cord:

1. Remove the four screws retaining the input power plate.
2. Reposition 90° so that power cord enters from front.
3. Reinstall the screws and tighten them.

Figure 5 Reposition input power cord



3.0 INSTALLATION IN KNURR RACK—HORIZONTAL RACK-MOUNT

A Liebert MPH can be installed in a Knurr Miracel rack in only 1U of equipment space.

3.1 Mounting Hardware and Tools Required

Factory-Supplied

- L-shaped bracket: 2
- Screws, 6-32 x 1/4": 8

Field-Supplied

- Phillips screwdriver

3.2 Install a Liebert MPH in a Knurr Rack

3.2.1 Attach Mounting Brackets to the Liebert MPH

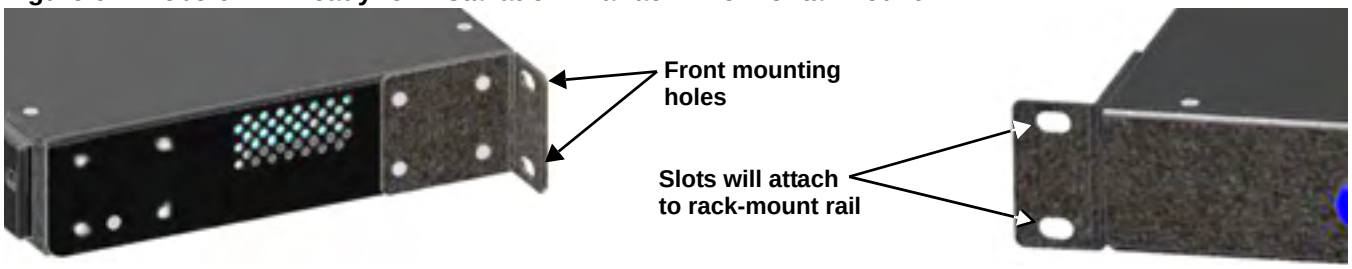
Before attaching the horizontal-mount brackets to the Liebert MPH, determine whether to attach the brackets to the front edge or rear edge of the unit. This will depend, in part, on whether the Liebert MPH would be best placed in the front of the rack or in the rear for routing power and communication wires. Bracket location also determines whether the Liebert MPH display is viewed from the front or rear of the rack.

When mounting the Liebert MPH, position the unit for ease of access and clearance. (Refer to **Table 2** for the dimensions of the Liebert MPH.)

To attach the brackets:

1. Hold one mounting bracket against the side of the Liebert MPH, making sure that the end of the bracket with the round holes is against the unit.
2. Attach the bracket to the unit with four Phillips head screws, tightening them firmly.
3. Repeat **Steps 1** and **2** for the bracket on the opposite side of the Liebert MPH.

Figure 6 Liebert MPH ready for installation in a rack—horizontal-mount



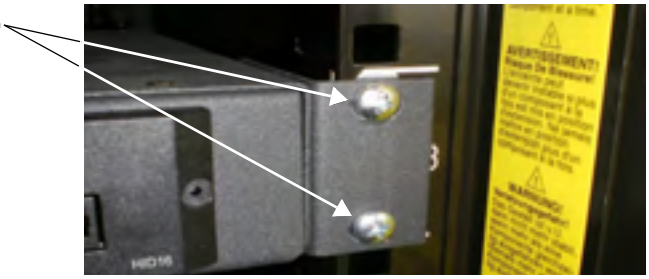
3.2.2 Attach the Liebert MPH to Rack Rails

Determine where the Liebert MPH would be best placed in the rack for routing power and communication wires.

The rack-mount Liebert MPH is installed horizontally in standard rack face position on the rails using the square, EIA-spaced holes. They use four captive nuts snapped into the rail holes and four screws to attach the Liebert MPH brackets to the rail.

As with all Liebert rack-mount equipment, obtain the appropriate size rack-mounting hardware kit for captive nuts and screws.

Figure 7 Rack-mounting the Liebert MPH



4.0 INSTALLING OPTIONAL ITEMS

4.1 RPC BDM—Basic Display Module

The RPC BDM provides local display of electrical status for all connected Liebert MPH systems. Display information is accessed via a navigation switch on the RPC BDM. The RPC BDM is cable-connected to the Liebert RPC allowing the user to locate the display to suit the local reading requirements. A 2-meter cable and general mounting provisions are provided. A single display can be used for up to four Liebert MPH connected in a Rack PDU Array™.

Figure 8 RPC BDM

4.2 Install an Optional RPC BDM in the Rack

The RPC BDM (Basic Display Module) can be mounted in the rack with either the included hardware or with a cable tie through the slot on the back of the module (see **Figure 9**). Either method permits moving the RPC BDM to a different place in the same rack or to another rack.

4.2.1 Mounting Hardware

- Spring nut M5: 1
- Spacer sleeve: 1
- Special MPH screw: 1
- Cable clip: 1

Tools Required

- Flat-blade screwdriver

4.2.2 RPC BDM Installation on Knurr Miracel Frame

1. Determine the mounting location in the rack.
2. Insert a spring nut into a T-slot on the frame member where the RPC BDM will be installed (refer to **Figure 3**).
3. Insert the Liebert MPH screw into the spacer sleeve.
4. Insert the Liebert MPH screw into the spring nut and tighten securely with the screwdriver.
5. Hang the RPC BDM on the Liebert screw with the hooded mounting slot on the back of the RPC BDM (see **Figure 9**).
6. Connect the RPC BDM to the Liebert RPC with an Ethernet cable.
   Be certain to connect the cable to the correct port on the Liebert RPC (see **Figure 10**).

Figure 9 RPC BDM installation in rack

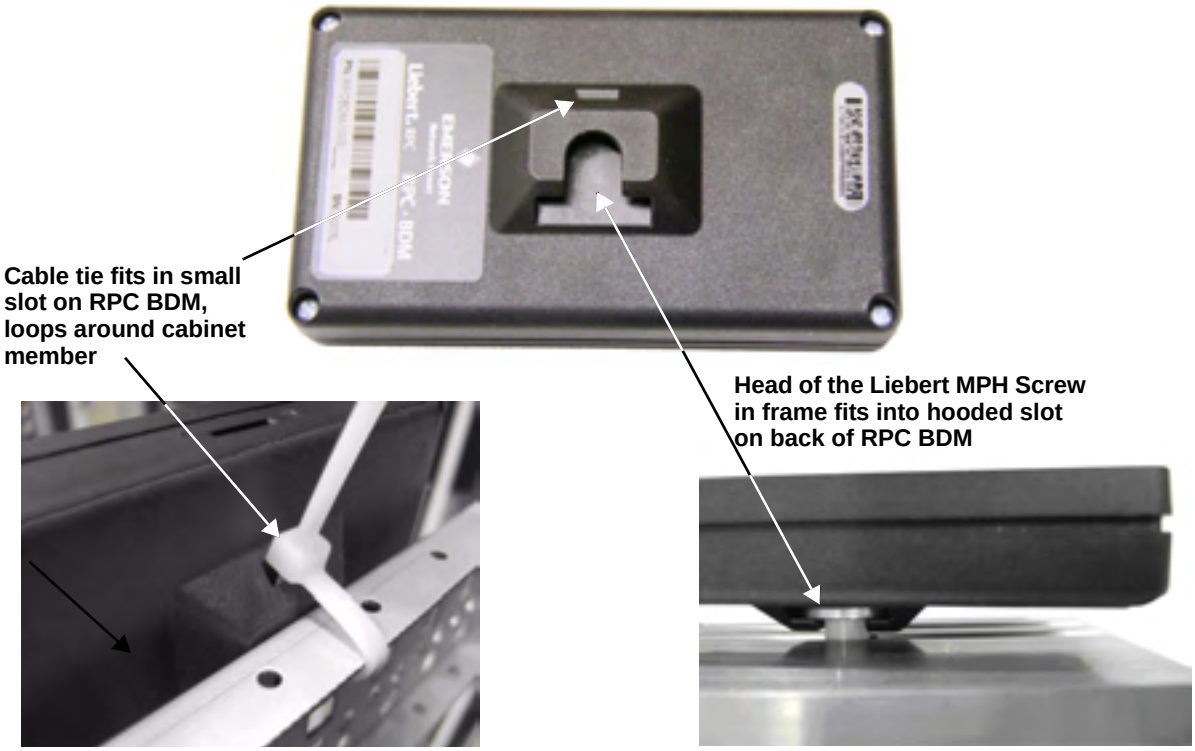
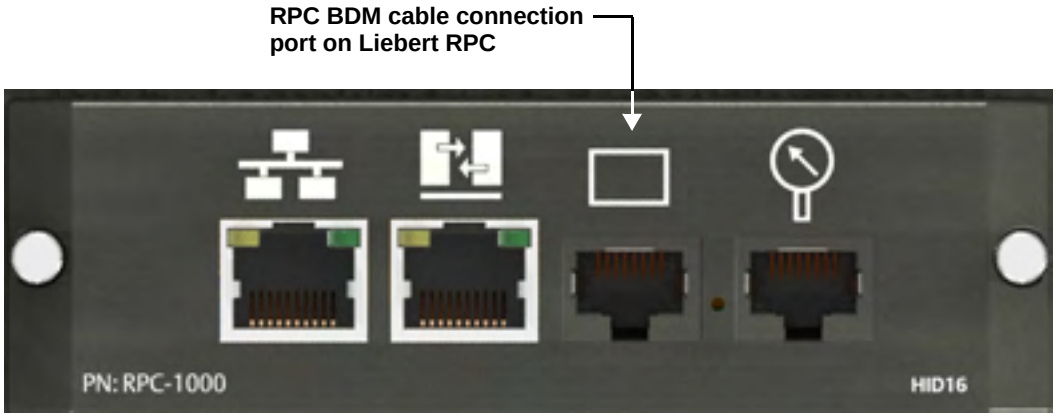


Figure 10 RPC BDM cable connection port on Liebert RPC



4.3 Temperature/Humidity Sensor Installation—Optional

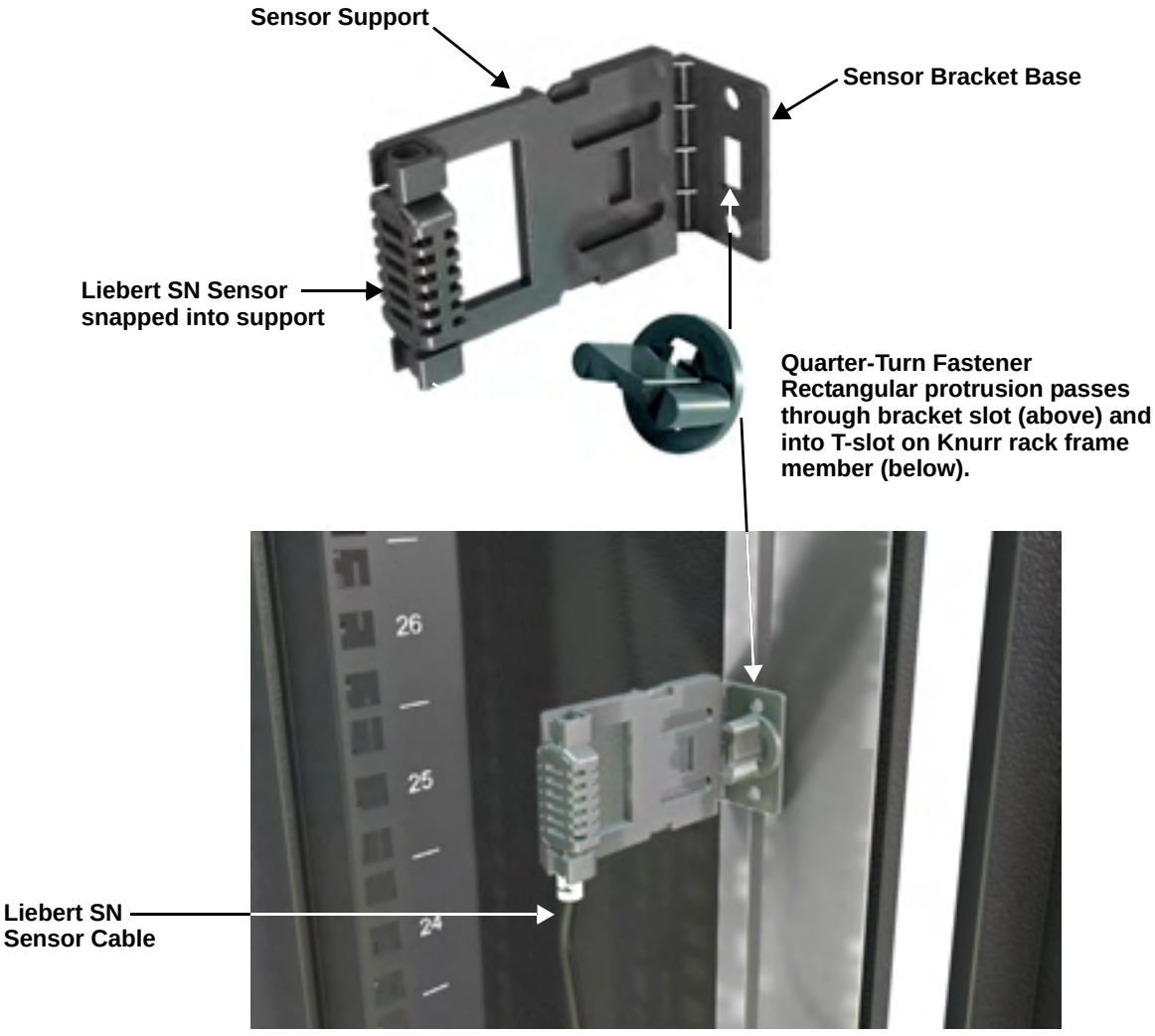
Optional Liebert SN temperature/humidity sensors are available to assist in monitoring conditions in the rack. Liebert SN sensors are designed for installation in a Knurr rack without tools, but each may be placed in any area to monitor temperature and humidity levels. Each connects to the Liebert RPC, which makes readings available to Liebert monitoring methods.

Only one mounting method is addressed in this manual: attaching a single sensor with a bracket to a Knurr rack frame member. For details on other mounting locations and methods, refer to the Liebert SN quick-start guide, SL-20840, or to the Liebert RPC user manual, SL-20825. Each is available at Liebert's Web site, **www.liebert.com**

To install a sensor on a Knurr rack frame member:

1. Assemble the Liebert SN and sensor bracket:
   a. Insert the sensor bracket base into one end of the sensor support as shown in **Figure 11**.
   b. Snap the sensor into the other end of the sensor support.
2. Choose where in the rack to install the sensor assembly. Emerson recommends placing the sensor in the area that is likely to be warmest.
3. Hold the sensor bracket on a T-slot on the Knurr rack frame where the sensor will be placed.
4. Insert the included quarter-turn fastener through the rectangular hole in the sensor bracket base and into the T-slot (see **Figure 11**).
5. Turn the fastener clockwise 90 degrees, a quarter of a turn.
6. Route the sensor cable to the Liebert RPC and insert it into the card's external sensor port.
   For further details, refer to the Liebert RPC user manual, SL-20825, which shipped with the card and is available at Liebert's Web site: **www.liebert.com**

Figure 11 Temperature/humidity sensor mounting



5.0 USING THE LIEBERT MPH

The Liebert MPH is ready for use after it has been installed in the rack and equipment has been connected to the output receptacles. Refer to the Liebert RPC user manual, SL-20825, available at the Liebert Web site, for full details on controlling and monitoring the Liebert MPH: **www.liebert.com**

Emerson recommends following these steps when starting a Liebert MPH:

1. Shut down and unplug all equipment in the rack from input power sources.
2. If the Liebert MPH will be monitored over a network, connect an Ethernet cable to the network port on the factory-installed Liebert RPC (for details, refer to the Liebert RPC manual, SL-20825, available at the Liebert Web site: **www.liebert.com**).
3. Connect input power to the Liebert MPH.
4. Route the rack equipment's power cables to the Liebert MPH, following proper procedures and good practices, such as segregating power cables from control cables and keeping cable bends to recommended angles.
5. Connect the rack equipment's input power cables to the Liebert MPH, recording where each piece of rack equipment is connected, using the branch and receptacle numbers on the Liebert MPH.
6. Post the connection information on or near the rack and at any remote monitoring location.
7. Verify input power is present and LEDs are illuminated.
8. Verify that branch protection is closed.
9. Switch On the connected rack equipment one piece at a time and verify that each is operating properly.
10. Ensure that the maximum electrical load per branch is 20A.
11. Monitor and control the Liebert MPH as detailed in the Liebert RPC manual, SL-20825, available at the Liebert Web site: **www.liebert.com**

6.0 SPECIFICATIONS

Table 1 Liebert MPH—Model numbers and specifications

Part Number	Input						Output	Form Factor
	Voltage	Rated Amps	Max. Continuous Amps	kW	Phase	Plug	Receptacle Configuration	
Monitoring Level - Basic								
North American Applications								
MPH-NBV27NXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) IEC-C13	Vertical
MPH-NBV27NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(27) IEC-C13	Vertical
MPH-NBV27NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(27) IEC-C13	Vertical
MPH-NBV27NOXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NBV27NOXF30	208-240	30	24	4.9	1	NEMA L6-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NBV27NOXJ30	208	30	24	8.6	3	NEMA L15-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NBV27AXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBV27AXXD30	120	30	24	2.8	1	NEMA L5-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBV27AXXC30	120	20	16	1.9	1	NEMA L5-20	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBV27AMXH30	208/120	30	24	8.6	3	NEMA L21-30	(15) C-13 & (6) NEMA 5-20R T-Slot; (6) IEC-C-19	Vertical
MPH-NBV27ANXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) NEMA 5-20R T-Slot	Vertical
MPH-NBR09NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(9) IEC-C13	Rack mount
MPH-NBV27NXXJ30	208	30	24	8.6	3	NEMA L15-30	(27) IEC-C13	Vertical
MPH-NBR09NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(9) IEC-C13	Rack mount
MPH-NBR09AXXD30	120	30	24	2.8	1	NEMA L5-30	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NBR09AXXC30	120	20	16	1.9	1	NEMA L5-20	(9) NEMA 5-20R T-Slot	Rack mount
European Applications								
MPH-EBV27NXXR30	400/230	32	32	12.8	3	IEC-309	(27) IEC-C13	Vertical
MPH-EBV27NXXQ30	230	32	32	7.3	1	IEC-309	(27) IEC-C13	Vertical
MPH-EBV27NXXO30	230	16	16	3.6	1	IEC-C20	(27) IEC-C13	Vertical
MPH-EBV27NOXR30	400/230	32	32	12.8	3	IEC-309	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-EBV27NOXQ30	230	32	32	7.3	1	IEC-309	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-EBV27NOXO30	230	16	16	3.6	1	IEC-C20	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-EBR09NXXQ30	230	32	32	7.3	1	IEC-309	(9) IEC-C13	Rack mount
MPH-EBR09NXXO30	230	16	16	3.6	1	IEC-C20	(9) IEC-C13	Rack mount
Monitoring Level - Controlled								
North American Applications								
MPH-NCV27NXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) IEC-C13	Vertical
MPH-NCV27NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(27) IEC-C13	Vertical
MPH-NCV27NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(27) IEC-C13	Vertical
MPH-NCV27NOXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NCV27NOXF30	208-240	30	24	4.9	1	NEMA L6-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NCV27NOXJ30	208	30	24	8.6	3	NEMA L15-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NCV27AXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCV27AXXD30	120	30	24	2.8	1	NEMA L5-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCV27AXXC30	120	20	16	1.9	1	NEMA L5-20	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCV27AMXH30	208/120	30	24	8.6	3	NEMA L21-30	(15) IEC-C-13 & (6) NEMA 5-20R T-Slot; (6) IEC-C-19	Vertical
MPH-NCV27ANXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) NEMA 5-20R T-Slot	Vertical
MPH-NCV27NXXJ30	208	30	24	8.6	3	NEMA L15-30	(27) IEC-C13	Vertical
MPH-NCR09NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(9) IEC-C13	Rack mount
MPH-NCR09NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(9) IEC-C13	Rack mount
MPH-NCR09AXXD30	120	30	24	2.8	1	NEMA L5-30	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NCR09AXXC30	120	20	16	1.9	1	NEMA L5-20	(9) NEMA 5-20R T-Slot	Rack mount

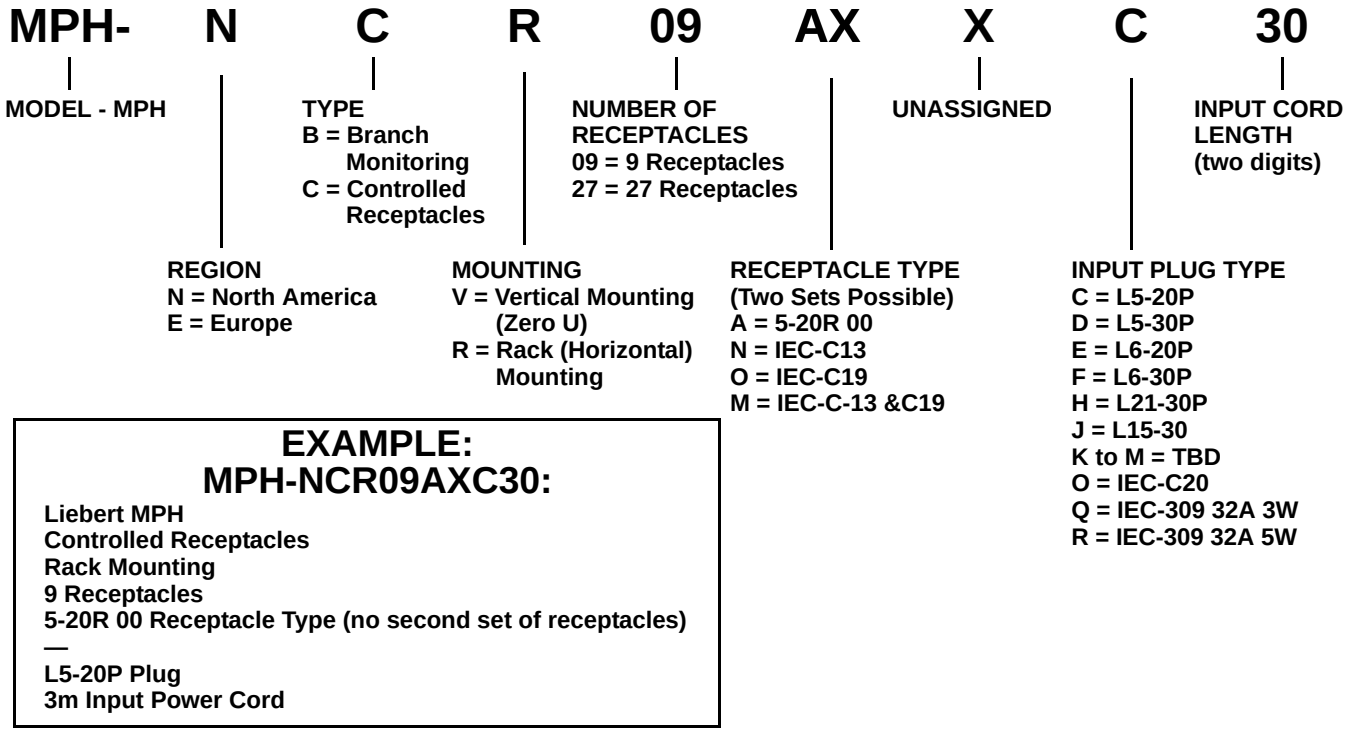
Table 1 Liebert MPH—Model numbers and specifications (continued)

Part Number	Input						Output	Form Factor
	Voltage	Rated Amps	Max. Continuous Amps	kW	Phase	Plug	Receptacle Configuration	
European Applications								
MPH-ECV27NXXR30	400/230	32	32	12.8	3	IEC-309	(27) IEC-C13	Vertical
MPH-ECV27NXXQ30	230	32	32	7.3	1	IEC-309	(27) IEC-C13	Vertical
MPH-ECV27NXXO30	230	16	16	3.6	1	IEC-C20	(27) IEC-C13	Vertical
MPH-ECV27NOXR30	400/230	32	32	12.8	3	IEC-309	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-ECV27NOXQ30	230	32	32	7.3	1	IEC-309	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-ECV27NOXO30	230	16	16	3.6	1	IEC-C20	(21) IEC C-13 & (6) IEC-C-19	Vertical
MPH-ECR09NXXQ30	230	32	32	7.3	1	IEC-309	(9) IEC-C13	Rack mount
MPH-ECR09NXXO30	230	16	16	3.6	1	IEC-C20	(9) IEC-C13	Rack mount

Table 2 Liebert MPH dimensions

Vertical-Mount W x D x H, in. (mm)	Rack-Mount W x D x H, in. (mm)
1.97 x 3.13 x 68.1 (50 x 80 x 1730)	17.25 x 7.0 x 1.73 (438 x 178 x 44 mm)

Figure 12 Model number nomenclature



EXAMPLE:
MPH-NCR09AXC30:

Liebert MPH
Controlled Receptacles
Rack Mounting
9 Receptacles
5-20R 00 Receptacle Type (no second set of receptacles)
—
L5-20P Plug
3m Input Power Cord

6.1 Agency Approvals

120V and 208V Single-Phase and Three-Phase Units

- UL 60950-1 Information Technology Equipment
- CAN/CSA-C22.2 No. 60950-1-03 Information Technology Equipment
- FCC, Title 47, Part 15 Subpart B for Class B operation as defined by ANSI Standard C63.4
- ROHS Compliant
- ISTA Procedure 1A and 2A

230V and 400V Three-Phase Units

- CE Markings Directive 93/68EEC according to the Low-Voltage Directive (LVD)
- CE Markings Directive 73/23/EEC
- CE Markings GS mark (safety tested) according to DIN EN 60950-1 (VBE 0805-1) 2006/95/EC and EMC Directive (EMD) 2004/108/EC according to the Low-Voltage Directive (LVD)
- Electromagnetic Compatibility (EMC) Directive 89/336/EEC
- European Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (ROHS and WEEE Compliant)
- IEC 61709
- ISTA Procedures 1A and 2A

6.2 Product Warranty Registration

To register for warranty protection, visit the **Service and Support** section of the Liebert Web site at:

www.liebert.com

Click on **Product Registration** and fill out the form.

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SL-20827_REV4_10-10

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