Liebert® MPX™
User Manual—Global Applications
# TABLE OF CONTENTS

**IMPORTANT SAFETY INSTRUCTIONS** ................................................................. 1

Save These Instructions ................................................................. 1

1.0 **LIBERT MPX INTRODUCTION** ................................................................. 2

2.0 **LIBERT MPX SYSTEM MODULES** ............................................................... 3

2.1 MPX PRC—Power Rail Chassis/Power and Communication Bus ................. 3

2.1.1 Mounting Features ................................................................. 4

2.2 Liebert PEM—Power Entry Module/Power Input ........................................ 4

2.2.1 MPX IPC—Input Power Cord/Communication ....................................... 6

2.3 MPX BRM—Branch Receptacle Module/Power Output .................................. 6

2.4 Liebert RPC—Rack PDU Card ................................................................. 8

2.4.1 RPCBDM—RPC Basic Display Module .................................................. 8

3.0 **LIBERT MPX INSTALLATION AND ASSEMBLY** ........................................... 9

3.1 Installation in a Knurr Miracel Rack ...................................................... 9

3.1.1 Mounting Hardware Included .......................................................... 9

3.1.2 Tools Required—Field-Supplied ....................................................... 9

3.1.3 Prepare the Liebert MPX for Mounting ............................................... 9

3.1.4 Attach Brackets to a Knurr Miracel Horizontal Frame Member ............... 10

3.1.5 Attach L-Shaped Brackets to an Upright Frame Member of the Knurr Miracel 11

3.2 Liebert MPX System Assembly ................................................................. 12

3.2.1 Attach an MPX PEM or MPX BRM to the MPX PRC ................................ 12

3.2.2 Attach an MPX IPC to an MPX PEM—Variable-Capacity MPX PEM Only 15

3.2.3 Install an Optional Liebert RPC in the MPX PEM ................................ 15

3.3 Temperature/Humidity Sensor Installation—Optional ................................ 16

3.4 Install an Optional RPCBDM in the Rack ................................................ 17

3.4.1 Mounting Hardware ................................................................. 17

3.4.2 RPCBDM Installation on Knurr Miracel Frame ................................ 17

4.0 **SYSTEM FUNCTIONAL TEST** ................................................................. 19

4.1 Checklist for Liebert MPX Assembly ...................................................... 19

4.2 Test the Liebert MPX’s Functionality .................................................... 19

5.0 **OPERATION AND CONFIGURATION** .................................................... 20

5.1 Configure the Liebert RPC ................................................................. 20

5.1.1 Indicators ................................................................. 21

5.2 Operation With the Liebert RPC ............................................................. 21

5.2.1 Connect to the Liebert RPC .......................................................... 21

5.2.2 Viewing PDU and Receptacle Status: PDU Explorer and Device Explorer 21

5.3 Operation Without the Liebert RPC ....................................................... 22

6.0 **SPECIFICATIONS** ........................................................................... 23

6.1 MPX PRC—Model Number Configuration .............................................. 23

6.2 MPX PEM—Model Number Configuration .............................................. 23

6.3 MPX BRM—Model Number Configuration .............................................. 24

6.4 MPX IPC—Model Number Configuration .............................................. 25
6.5 Agency Approvals .......................................................... 26
6.6 Product Warranty Registration ............................................ 26

7.0 DIMENSIONAL DRAWINGS .............................................. 27

8.0 RECYCLING INFORMATION, FCC COMPLIANCE, MODIFICATIONS ........................................ 29

FIGURES

Figure 1 Liebert MPX assembly diagram .................................... 2
Figure 2 MPX PRC (Power Rail Chassis) components .................. 3
Figure 3 MPX PRC (Power Rail Chassis) T-slots for mounting ........ 4
Figure 4 MPX PEM (Power Entry Module) features .................... 5
Figure 5 MPX IPC connector .................................................. 6
Figure 6 MPX BRM (Branch Receptacle Module) ....................... 7
Figure 7 Liebert RPC (rack PDU card) in an MPX PEM (Power Entry Module) .................................................. 8
Figure 8 RPCBDM ............................................................. 8
Figure 9 Inserting a spring nut into a T-slot and attaching an MPX mounting screw ............................. 10
Figure 10 Attaching brackets to a horizontal frame member ........... 10
Figure 11 Attaching brackets to an upright frame member ............. 11
Figure 12 Hang Liebert MPX on a bracket ................................ 11
Figure 13 Attach a module to the MPX PRC ............................. 13
Figure 14 Liebert MPX assembled .......................................... 14
Figure 15 Quick-connect couplings on MPX IPC (input power cord) and MPX PEM (Power Entry Module) .......... 15
Figure 16 Temperature/humidity sensor mounting ....................... 16
Figure 17 RPCBDM installation in rack .................................... 17
Figure 18 RPCBDM cable connection port on Liebert RPC ............... 18
Figure 19 Liebert RPC PDU Explorer view ............................... 22
Figure 20 Liebert RPC Device Explorer view ............................. 22
Figure 21 Liebert MPX assembly dimensions, 1880mm (74") versions 27
Figure 22 Liebert MPX assembly dimensions, 1035mm (40.6") versions 27
Figure 23 RPCBDM dimensions ............................................. 28

TABLES

Table 1 MPX PRC (Power Rail Chassis) specifications .................... 23
Table 2 MPX PEM (Power Entry Module) specifications ................ 23
Table 3 MPX BRM (Branch Receptacle Module) specifications ........ 24
Table 4 MPX IPC (Input Power Cord) specifications ........................ 25
IMPORTANT SAFETY INSTRUCTIONS

MPX PRC: Power Rail Chassis
MPX PEM: Power Entry Module
MPX BRM: Branch Receptacle Module
MPX IPC: Input Power Cord
MPX RPC: Rack PDU Card

SAVE THESE INSTRUCTIONS

WARNING
The Liebert MPX contains hazardous voltage. Follow these precautions to avoid serious injury or death from electric shock.

Read This Manual
This manual contains important safety instructions. Read all safety, installation and operating instructions before installing a Liebert MPX. Adhere to all warnings on the unit and in this manual. Follow all operating and user instructions. Observe all cautions and warnings in this manual.

Install in Appropriate Location
The Liebert MPX 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.

Operate the Liebert MPX in an indoor environment only within an ambient temperature range of 41°F to 131°F (5°C to 55°C) with a relative humidity of 0% ~ 95%, non-condensing. Install it in a clean environment, free of conductive contaminants, moisture, flammable liquids, gases and corrosive substances.

Qualified Personnel Only
Emerson strongly recommends that the MPX PEM be installed only by an individual who has been properly trained and qualified to perform electrical work.

Only personnel who understand the precautions in this manual should be permitted in the Liebert MPX’s restricted access location.

Not for Use in Safety-Critical Applications
The Liebert MPX is designed to deliver power to information technology and telecommunication equipment. The Liebert MPX is not intended for use with life support or other designated critical devices. If uncertain about its application, consult your local dealer or your Emerson representative.

Install MPX PEM Before Connecting Power
Whenever the MPX PEM is connected to power, the connectors on the bottom are energized with hazardous voltage.

Connect input power only after:
• the MPX PEM (Power Entry Module) is properly installed on the MPX PRC (Power Rail Chassis)
• the MPX IPC (Input Power Cord) is properly connected to the MPX PEM

Disconnect power before unlocking the connector screws that attach the PEM to the PRC. Never remove a PEM from the power distribution unit while input power is connected. The PEM is not hot swappable.

Only one MPX PEM (Power Entry Module) should be connected to an MPX PRC (Power Rail Chassis). Failure to comply could result in serious injury or equipment damage.

Do Not Open Covers or Insert Objects
Never open or remove the cover of any Liebert MPX module, with exception of the RPC cover on the MPX PEM module. Never insert any foreign object into a Liebert MPX, particularly into the power bus.

Do Not Service
Liebert MPX modules contain no user-serviceable parts. If you need support or have questions about your Liebert MPX, contact Emerson Network Power Distributed Processing Applications or your local Emerson representative. Do not attempt to service this product yourself.
1.0 LIEBERT MPX INTRODUCTION

The Liebert MPX is an Adaptive Rack PDU (power distribution unit) built with modular and scalable components that can be installed and reconfigured on-site to meet varying input and output power connectivity needs. The flexibility of the modules requires that the installer ensure that the modules match the power requirements of the application. Failure to do so could result in damage to the Liebert MPX and connected components. The Liebert MPX Adaptive Rack PDU family consists of the following components:

- **MPX PRC™**—(Power Rail Chassis) distributes intermodule power, communications and serves as the mounting base for all Liebert MPX components.
- **MPX PEM™**—(Power Entry Module) delivers power to the Liebert MPX and includes provisions for remote and local communication options. Detachable and non-detachable cord versions are available.
- **MPX IPC™**—(Input Power Cord) is a detachable input power cord required for some versions of MPX PEM. A variety of single- and three-phase plug types are available.
- **MPX BRM™**—(Branch Receptacle Module) distributes overload-protected output power to user loads. Hot swappable design allows for reconfiguration with choice of receptacle type, quantities, and monitoring / control to the receptacle level.
- **Liebert RPC™**—(Rack PDU Card) optional network interface card to manage and monitor power distribution to connected equipment; installs in the MPX PEM communication card slot. Allows for multiple Liebert MPXs to be interconnected and managed from a single network connection.
- **RPCBDM™**—(Basic Display Module) optional LCD for local monitoring of Liebert MPX units. Cord-connected, allowing user to select rack mounting location.

Figure 1 Liebert MPX assembly diagram
2.0 LIEBERT MPX SYSTEM MODULES

2.1 MPX PRC—Power Rail Chassis/Power and Communication Bus

The MPX PRC acts as the fundamental building block of the Liebert MPX. Power and Communications buses are integrated into the full length of the MPX PRC. The MPX BRM (Branch Receptacle Modules) and MPX PEM (Power Entry Module) lock onto the MPX PRC, adding power input, power output, monitoring and management, depending on the type of module.

The MPX PRC is available in two lengths:

<table>
<thead>
<tr>
<th>Part #</th>
<th>Length, mm (in)</th>
<th>Typical Cabinet Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPXPRC-V1880XXX</td>
<td>1880 (74.07)</td>
<td>42U</td>
</tr>
<tr>
<td>MPXPRC-V1035XXX</td>
<td>1035 (40.78)</td>
<td>23U</td>
</tr>
</tbody>
</table>

The MPXPRC-V1880XXX will accommodate up to six standard size (266 mm) MPX BRMs (Branch Receptacle Modules); the MPXPRC-V1035XXX will accept up to three MPX BRMs. Each size of MPX PRC also accepts a single MPX PEM. The PRC1035 will only accept variable capacity MPX PEM versions to retain the ability to carry the full complement of three standard size MPX BRMs.

The MPX PRC has five power bus slots that allow the connection of the MPX PEM and MPX BRM modules to three phases of power, neutral and protective earth. A communication bus provides the path through which the Liebert RPC, MPX PEM and MPX BRM modules communicate. The MPX PRC also has a module connector slot that permits secure attachment of MPX PEM and MPX BRM modules via their integral connectors. Spacer covers are available to cap off unused sections of the MPX PRC’s surface. The spacer covers reserve positions to insert MPX BRMs for future expansion.

⚠️ WARNING ⚠️

Only one MPX PEM (Power Entry Module) should be connected to an MPX PRC (Power Rail Chassis). Failure to comply could result in serious injury or equipment damage.

Figure 2 MPX PRC (Power Rail Chassis) components
2.1.1 Mounting Features

The back of the MPX PRC features T-slots running the length of the unit. These may be used for mounting the assembled units in racks, such as the Knurr® Miracel™ Rack.

Figure 3 MPX PRC (Power Rail Chassis) T-slots for mounting

This T-slot in the back of the MPX PRC (Power Rail Chassis) accepts spring nuts for easy mounting

2.2 Liebert PEM—Power Entry Module/ Power Input

WARNING

The MPX PEM contains hazardous voltage that could cause serious injury or death. This unit must be properly and securely installed on the MPX PRC (Power Rail Chassis). The Power Conductors on the bottom of the PEM are energized with hazardous voltage whenever the PEM is attached to power. If the PEM is not installed on the PRC, these conductors will be exposed. Emerson strongly recommends that the MPX PEM be installed only by an individual who has been properly trained and qualified to perform electrical work..

WARNING

Only one MPX PEM (Power Entry Module) should be connected to an MPX PRC (Power Rail Chassis). Failure to comply could result in serious injury or equipment damage.

The MPX PEM centralizes the connectivity of Liebert’s MPX’s power input and communication ports. The MPX PEM securely fastens onto the MPX PRC (Power Rail Chassis) to deliver polyphase power from its power supply cord to the power bus. The Liebert RPC is installed into the MPX PEM for its operating power and connection to the communication bus.

The MPX PEM is available in North American and European models with either Variable-Capacity or Fixed-Capacity configurations. Both configurations’ power supply cords are available in a variety of single- and three-phase NEMA and IEC plug styles and ratings.

The Variable-Capacity models require connection of a detachable MPX IPC (See 2.2.1 - MPX IPC—Input Power Cord/Communication) to its power inlet. The power input ratings are determined by the plug type. The user may change the MPX IPC with a different plug type and ratings from single phase to three-phase to suit his/her needs.

NOTE

Up to 30A (24A) per phase is supported for North American models; up to 32A per phase is supported for European models.

The Fixed-Capacity models are physically larger and have non-detachable power supply cords.

NOTE

Up to 60A (48A) per phase is supported for North American models; up to 63A per phase is supported for European models.
All models provide metering of the polyphase inputs, including individual line voltage and current, total kW and total kWh. Additionally, individual line current alarming and operational status are supported.

Other important features include:

- Three visual indicators alert the user to the current condition of each power input.
- Audible alarm is enabled during certain overcurrent conditions. The audible alarm may be tested or silenced by pressing the button.

Figure 4 MPX PEM (Power Entry Module) features
2.2.1 MPX IPC—Input Power Cord/Communication

The MPX IPC is a detachable input power cord that permits changing the input power source for Variable-Capacity versions of the MPX PEM. A variety of single- and three-phase NEMA and IEC plug types are available. The MPX IPC is not required for the Fixed-Capacity MPX PEM.

**WARNING**

Do not connect the MPX IPC to power until the MPX PEM is attached to the MPX PRC and the MPX IPC is attached to the MPX PEM. If the MPX PEM is not attached to the MPX PRC, conductors with hazardous voltage will be exposed when power is connected.

![MPX IPC connector](image)

---

2.3 MPX BRM—Branch Receptacle Module/Power Output

The MPX BRM provides output power distribution to user load equipment. All MPX BRMs include output receptacles (NEMA, Schuko or IEC) that are overload-protected by 100% rated hydraulic-magnetic circuit breakers.

MPX BRMs are hot-swappable to allow user installation without powering down the Liebert MPX. Up to three standard sized (266mm) MPX BRMs can be deployed on a Liebert MPX utilizing the MPX PRC (Power Rail Chassis) for typical 23U racks and up to six standard size MPX BRMs (Branch Receptacle Modules) for units utilizing the 1880mm MPX PRC for typical 42U racks. All MPX BRMs include an LED ID indicator that uniquely identifies the individual module with a numeric value.

North American and European models of the MPX BRM are available in the following versions and features:

- Branch Monitoring version of the MPX BRM provides aggregate metering, including voltage, current, kW, kVA and kW-h. Additionally, current alarming and operational status are supported.
- Receptacle Management version of the MPX BRM provides the same features as the Branch Monitoring models, plus the control, metering and current alarming of individual receptacles. The receptacles may either be turned On or Off remotely or programmed for automatic power-on sequencing.
Other important features include:

- A numeric indicator to provide module identification and operational status
- For Receptacle Management versions, a visual indicator per receptacle alerts the user to the current condition of the load.
- The circuit breaker may be opened with the use of a tool. Open circuit breaker detection causes the numeric indicator to flash.
- Voltage phasing is determined by the power blade configuration on the bottom of each MPX BRM, and is clearly marked on the color coded label.
- IEC C13 receptacle types are provided with retaining clips to provide strain relief for the Load's power supply cord.

Figure 6  MPX BRM (Branch Receptacle Module)
2.4 Liebert RPC—Rack PDU Card

The Liebert RPC centralizes local and remote management for the Liebert MPX. It provides Web and SNMP management for systems connected to an Ethernet network. The Liebert RPC also serves as the connection point for multiple support capabilities and devices including the RPC Basic Display Module (RPCBDM), various optional environmental sensors and “sibling” connection to other Liebert MPX or Liebert MPH systems. The Liebert RPC is equipped with RJ-45 jacks for all connections and requires no custom cables. The card supports 10 and 100 Mbit Ethernet and provides for in-the-field upgrade of firmware. The Liebert RPC is user-installed in a slot in the MPX PEM (Power Entry Module).

Figure 7 Liebert RPC (rack PDU card) in an MPX PEM (Power Entry Module)

2.4.1 RPCBDM—RPC Basic Display Module

The optional RPCBDM provides local display of monitored data for all connected Liebert MPX and Liebert MPH systems. Display information is accessed via a navigation switch on the RPCBDM. The RPCBDM 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 MPX or Liebert MPH Rack PDUs connected in a Rack PDU Array™.

Figure 8 RPCBDM
3.0 **Liebert MPX Installation and Assembly**

All configuration steps must be completed before attempting to startup equipment connected to the Liebert MPX.

3.1 **Installation in a Knurr Miracel Rack**

Emerson recommends installing the MPX PRC (Power Rail Chassis) in the rack, then attaching the Liebert MPX modules to it.

Before beginning, consider how cables will be routed in the rack. Placing the MPX PEM (Power Entry Module) at the end of the MPX PRC that is nearest the entry point for its input power cable can ease cable routing and help separate control and power cables to reduce electromagnetic interference.

A Liebert MPX can be installed in a Knurr Miracel rack on either the upright or horizontal frame member with the included hardware. The unit can be installed on the face of the frame member or on the side of the frame member.

Installation requires inserting two spring nuts into the Liebert MPX, screwing Liebert MPX mounting screws into the spring nuts and attaching two brackets to the Knurr Miracel frame members. The Liebert MPX hangs on the brackets and is supported by the Liebert MPX mounting screws.

⚠️ **WARNING**

Only one MPX PEM (Power Entry Module) should be connected to an MPX PRC (Power Rail Chassis). Failure to comply could result in serious injury or equipment damage.

3.1.1 **Mounting Hardware Included**

- Z-shaped brackets: 2
- L-shaped bracket: 2
- Spring-nuts, M5: 6
- Screws, M5x10: 6
- Liebert MPX mounting screws, 2

3.1.2 **Tools Required—Field-Supplied**

- Slotted screwdriver
- 4mm Allen wrench

3.1.3 **Prepare the Liebert MPX for Mounting**

1. Insert two spring nuts into the T-slot on the back of the MPX PRC, one near either end (see Figure 9 for how to insert a spring nut).
2. Position the spring nuts where the brackets to be used will be positioned (either the Z-shaped or L-shaped brackets). To move a spring nut, press down on it with a small, pointed object and slide it into position.
3. Thread an MPX mounting screw into the spring nut and tighten a few turns. Leave enough space for the bracket to slip over the screw’s head and rest on the body of the screw.
3.1.4 Attach Brackets to a Knurr Miracel Horizontal Frame Member

1. Insert two spring nuts into the T-slot on the upper horizontal frame member.
   a. To use the Z-shaped bracket, insert the spring nuts into the T-slot on the face of the horizontal frame member (see Figure 10).
   b. To use the L-shaped bracket, insert the spring nuts into the T-slot on the thinner side of the horizontal frame member (see Figure 10).
2. 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.
3. Hold the bracket in place and attach it with two of the M5x10 screws with hex heads.
4. Tighten the hex-head screws firmly with the Allen wrench.
5. Repeat Steps 1 through 4 for the lower horizontal frame member. The brackets must be directly in line with each other for the Liebert MPX to be installed.
6. After the brackets are attached, hang the Liebert MPX in the rack by inserting the Liebert MPX mounting screws into the slots on the brackets (see Figure 12).
7. Tighten the Liebert MPX mounting screws securely.
3.1.5 Attach L-Shaped Brackets to an Upright Frame Member of the Knurr Miracel

1. Insert two spring nuts into the T-slot on a rear upright frame member (see Figure 11).
2. 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.
3. Hold an L-shaped bracket in place and attach it with two of the M5x10 screws with hex heads.
4. Tighten the hex-head screws firmly with the Allen wrench.
5. Repeat Steps 1 through 4 for the lower L-shaped bracket. The brackets will attach the Liebert MPX more securely if one is near the top of the unit and one is near the bottom.
6. After the brackets are attached, hang the Liebert MPX in the rack by inserting the Liebert MPX mounting screws into the slots on the brackets (see Figure 12).
7. Tighten the Liebert MPX mounting screws securely.

Figure 11 Attaching brackets to an upright frame member

![L-Shaped Bracket on Knurr Miracel Upright Frame Member](image)

Figure 12 Hang Liebert MPX on a bracket

![MPX mounting screw fits through the center of the bracket and slips into a slot](image)

![The lower screw on the back of the MPX PRC will sit in the bottom of the middle slot in either type of mounting bracket used](image)
3.2 Liebert MPX System Assembly

3.2.1 Attach an MPX PEM or MPX BRM to the MPX PRC

⚠️ WARNING
The MPX PEM contains hazardous voltage that could cause serious injury or death. This unit must be properly and securely installed on the MPX PRC (Power Rail Chassis). Emerson strongly recommends that the MPX PEM be installed only by an individual who has been properly trained and qualified to perform electrical work.

Only one MPX PEM (Power Entry Module) should be connected to an MPX PRC (Power Rail Chassis). Failure to comply could result in serious injury or equipment damage.

Whenever the MPX PEM is connected to power, the connectors on the bottom are energized with hazardous voltage.

Connect input power only after:
- the MPX PEM (Power Entry Module) is properly installed on the MPX PRC (Power Rail Chassis)
- the MPX IPC (Input Power Cord) is properly connected to the MPX PEM

Connect input power to the Liebert MPX only while the MPX IPC is properly connected to the MPX PEM. Failure to do so may subject the user to hazardous voltages.

Tools Required
- Tamper-resistant Torx screwdriver bit, included with MPX PEM
- No. 2 Phillips screwdriver, field-supplied

Before beginning to assemble the Liebert MPX:
- Ensure that utility power is not connected to any module or component.
- Ensure that no equipment is connected to the MPX BRM (Branch Receptacle Module).
- Ensure that the circuit breaker on the MPX BRM is Off.

After the MPX PRC (Power Rail Chassis) has been installed in the rack, it is ready for attachment of an MPX PEM (Power Entry Module) and then the MPX BRMs (Branch Receptacle Modules).

Emerson strongly recommends attaching the MPX PEM first, positioning it at either end of the MPX PRC. The module’s position will not adversely affect operation, but placing it at the end of the chassis will ease cable routing and separation of power and control cables in the rack.

Proper orientation of the MPX PRC is required to allow for the best use of the top or bottom entry into your rack. If cables will enter through the top of the rack, be sure that the MPX PRC has the power bus to the right side. This will put the MPX PEM in a position where the input cord will be closest to the top of the rack.

If cables will enter through the bottom of the rack, be sure that the MPX PRC is oriented so that the power bus is to the left side. This will put the MPX PEM in a position where the input cord will be closest to the bottom of the rack.

To balance the loads, be sure that the installed MPX BRMs have more than one unique line configuration (L1-L2, L2-L3, L3-L1, L1-N, L2-N, L3-N). This will help to ensure that none of the phases is overloaded.

If the MPX PEM is a Variable-Capacity model, an MPX IPC (input power cord) is required. Last, an optional Liebert RPC (rack PDU card) can be installed.

Never attach more than one MPX PEM to an MPX PRC. Attaching more than one MPX PEM can damage connected equipment and the Liebert MPX.
Disconnect Loads Before Adding or Removing MPX BRMs

During normal operation, MPX BRMs (Branch Receptacle Modules) are hot-swappable. While adding or removing an MPX BRM, no user loads can be connected to the MPX BRM. Attempting to do so may damage the Liebert MPX or connected equipment.

To attach either the MPX PEM or a MPX BRM:

1. Orient the module so that the power conducting tabs fit into the power bus on the MPX PRC and the communication contacts will fit into the MPX PRC’s communication bus (see Figure 13).
2. Make sure that the integral connectors at each end of the module are oriented so they will fit into the slot on the MPX PRC (Power Rail Chassis).
3. Press the module firmly onto the MPX PRC.
4. Secure the module to the Power Rail Chassis with the Integral Connectors; there is one on each end.
   a. Use a screwdriver to press each connector down. (Integral Connectors on the MPX PEM have tamper-resistant Torx heads; Integral Connectors on the MPX BRM have Phillips heads.)
   b. Turn the screw until it locks and tightens, about three-quarters of a turn.

   ![Figure 13 Attach a module to the MPX PRC]

   **NOTE**
   Do not overtighten the connector on either end cap. Overtightening can damage the equipment.

   **WARNING**
   Do not remove screws that affix the end cap. Removing the end cap will expose energized parts with hazardous voltage.

5. Repeat Steps 1 through 4 for each additional module.

If the unit being assembled is based on the PRC1035, it will accommodate up to three Standard MPX BRMs. The PRC1880 will accommodate up to six 266mm Standard MPX BRMs in addition to the MPX PEM (Power Entry Module).

The PRC1035 is 1035mm long and fits a typical 23U rack; the PRC1880 is 1880mm long and fits a typical 42U rack.

**NOTE**

The Liebert MPX will operate properly if spaces exist between modules, but adding modules will be hampered unless the space left is the size of a standard MPX BRM. Decorative covers are available to reserve the proper space on the MPX PRC and to protect any unused sections of the unit’s surface.
Figure 14  Liebert MPX assembled

MPX PRC  
(Power Rail Chassis)  
(under modules)

Liebert RPC  
(Rack PDU Card)

MPX BRMs  
(Branch Receptacle Modules)

MPX PEM  
(Power Entry Module)
3.2.2 Attach an MPX IPC to an MPX PEM—Variable-Capacity MPX PEM Only

**WARNING**

The MPX PEM contains hazardous voltage that could cause serious injury or death. This unit must be properly and securely installed on the MPX PRC (Power Rail Chassis). Emerson strongly recommends that the MPX PEM be installed only by an individual who has been properly trained and qualified to perform electrical work. Whenever the MPX PEM is connected to power, the connectors on the bottom are energized with hazardous voltage.

Connect input power only after:
- the MPX PEM (Power Entry Module) is properly installed on the MPX PRC (Power Rail Chassis)
- the MPX IPC (Input Power Cord) is properly connected to the MPX PEM

Connect input power to the Liebert MPX only while the MPX IPC is properly connected to the MPX PEM. Failure to do so may subject the user to hazardous voltages.

Variable-Capacity MPX PEM (Power Entry Module) versions require an MPX IPC (input power cord) to connect to utility power. The MPX IPC is available with various input plugs for single-phase or 3-phase and up to 30A (32A European version).

Quick-connect couplings are attached to the MPX IPC to ease proper connection to the MPX PEM (Power Entry Module). The connectors fit only one way, mating the proper input, ground and neutral wires on the power cord to the MPX PEM.

To attach the MPX IPC to an MPX PEM:
1. Ensure that utility power is not connected to any module or component.
2. Ensure that the MPX IPC is not connected to utility power.
3. Insert the quick-connect coupling on the MPX IPC into the connector on the MPX PEM. It will lock into place. Tug on the cord to determine whether it is securely attached to the MPX PEM.

Figure 15 Quick-connect couplings on MPX IPC (input power cord) and MPX PEM (Power Entry Module)

---

3.2.3 Install an Optional Liebert RPC in the MPX PEM

Installing a Liebert RPC (rack PDU card) in the MPX PEM (Power Entry Module) permits monitoring a Liebert MPX either over a network or with an MPX BDM (basic display module). For complete details, refer to the Liebert RPC user manual, SL-20825, or quick-start guide, SL-20826, each available in the monitoring area of Liebert's Web site, www.liebert.com

1. Locate the communication card bay on the MPX PEM. You might need to remove a cover.
2. Insert the Liebert RPC into the MPX PEM and secure it with the provided screws.
3. The Liebert RPC has four ports designated by icons: a LAN port, Expansion/Management port, Display port, and Sensor port. Connect an Ethernet cable (not included) to the LAN port, identified by the icon on the right:
4. Connect the Ethernet cable to a computer.
3.3 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 Miracel 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 MPX monitoring methods.

Only one mounting method is addressed in this manual: attaching a single sensor with a bracket to a Knurr Miracel 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](http://www.liebert.com)

To install a sensor on a Knurr Miracel 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 16.
   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 Miracel 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 16).
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](http://www.liebert.com)

---

**Figure 16** Temperature/humidity sensor mounting

![Temperature/humidity sensor mounting diagram](image-url)
3.4 Install an Optional RPCBDM in the Rack

The RPCBDM (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 17). Either method permits moving the RPCBDM to a different place in the same rack or to another rack.

3.4.1 Mounting Hardware

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

Tools Required

- Flat-blade screwdriver

3.4.2 RPCBDM 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 RPCBDM will be installed (refer to Figure 9).
3. Insert the Liebert MPX screw into the spacer sleeve.
4. Insert the Liebert MPX screw into the spring nut and tighten securely with the screwdriver.
5. Hang the RPCBDM on the Liebert MPX screw with the hooded mounting slot on the back of the RPCBDM (see Figure 17).
6. Connect the RPCBDM to the Liebert RPC with an Ethernet cable.

Be certain to connect the cable to the correct port on the Liebert RPC (see Figure 18).

Figure 17 RPCBDM installation in rack
Figure 18  RPCBDM cable connection port on Liebert RPC

RPCBDM cable connection port on Liebert RPC
4.0 SYSTEM FUNCTIONAL TEST

4.1 Checklist for Liebert MPX Assembly

Follow these guidelines steps to verify that all components are properly assembled. Failure to follow these steps and in the documented sequence could result in a serious injury or equipment damage.

___ 1. MPX PRC (Power Rail Chassis) is securely attached to the rack.
___ 2. MPX PEM (Power Entry Module) is attached to the MPX PRC. Ensure that the MPX PEM is securely locked onto the MPX PRC.
___ 3. Power input cable is attached to the MPX PEM, if applicable. Variable-Capacity models have detachable cables with quick-connect couplings; Fixed-Capacity models have integral cables.
___ 4. Optional Liebert RPC (Rack PDU Card) is installed in the MPX PEM.
___ 5. MPX BRM (Branch Receptacle Modules) are installed; the number of modules that may be attached varies according to the length of the Power Rail Chassis.
___ 6. Maximum electrical load is within values shown on the Liebert MPX module rating labels.
___ 7. The input power supply ratings and connections match the specifications of the unit being installed.

4.2 Test the Liebert MPX’s Functionality

Perform these steps to determine whether the Liebert MPX is ready for use. Failure to follow these steps in the documented sequence could result in serious injury or equipment damage.

1. Ensure that all circuit breakers on the MPX BRMs are Off.
2. Connect the Liebert MPX unit to input power.
   • Validate that only one MPX PEM (Power Entry Module) is installed on the MPX PRC (Power Rail Chassis).
   • Verify that the MPX PEM (Power Entry Module) and MPX BRM [Branch Receptacle Module(s)] operating voltages are the same and match the input power source.
3. Connect equipment to the MPX BRMs.
4. Make sure the equipment to be connected to the Liebert MPX is switched Off.
5. Attach communication cables to the Liebert RPC, if one is installed in the Liebert MPX.
6. Switch On the circuit breaker of each MPX BRM where the load is connected.
7. Check the Phase Power Indicators on the MPX PEM to verify that input power is present. The appropriate number of lights on the MPX PEM should be green and lit but not flashing:
   • input power is 3-phase—all lights should be green
   • input power is single-phase—one light should be green
   • input power is 208-240 L1 and L2 should be green.
8. Verify that each attached MPX BRM is displaying a non-repeated identifying number in the Number Indicator beside the circuit breaker (these may not be in sequential order).
9. Switch On the test equipment or connected load to verify proper operation.
10. If any MPX BRMs are Receptacle Management versions, the lights beside the receptacles should be lit.
5.0 **OPERATION AND CONFIGURATION**

A Liebert MPX can be operated with or without the optional Liebert RPC (rack PDU card). The card employs a Web-based interface to enhance monitoring and control, enabling users to manage rack equipment locally or from a remote location. The Liebert RPC can be used to determine power usage, switch receptacles on some units On and Off and troubleshoot input power supply problems.

The Liebert RPC will manage and monitor different types of MPX BRMs (Branch Receptacle Modules) installed on the same Liebert MPX. The feature can be valuable when some rack equipment connected to the Liebert MPX requires closer monitoring than other equipment.

The Liebert RPC supports managing and monitoring the Liebert MPX with SNMP, Liebert Nform™, Liebert SiteScan® and third-party management systems.

When connecting the rack equipment to the Liebert MPX’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 MPX have a numerical designation. A Liebert MPX 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.

5.1 **Configure the Liebert RPC**

The Liebert RPC is factory-configured for DHCP. If you require a Static or BootP network configuration, be sure to change the Boot Mode, as described below:

1. Insert an additional Ethernet cable (not included) into the Liebert RPC’s Expansion/Management port, identified by the icon on the right:

   - **NOTE**
   
   *The Liebert RPC’s Expansion/Management port should be used ONLY for local configuration through interconnection to a computer or for interconnecting an additional Liebert MPX or Liebert MPH.*

2. Insert the other end of the Ethernet cable into a computer.

3. Configure the computer’s IP settings to communicate on a 192.168.1.X network:

   - IP address 192.168.1.20
   - Subnet mask 255.255.255.0
   - Default gateway 192.168.1.1

4. To connect to the card, open a Web browser and enter [http://192.168.1.10](http://192.168.1.10) into the URL field, then press Enter.

5. Once the Rack PDU Web page is displayed, click the **Configure** tab, then click **Network Settings** in the left pane.

6. When prompted for a user name and password, enter **Liebert** (case sensitive) for both.

   - **NOTE**
   
   *Control and configuration capabilities are protected by a username and password combination. After entering Liebert for both the startup default username and password, change both for security purposes.*

7. Click **OK**.

8. Click **Edit** in the right pane.

9. The default Speed/Duplex for the Ethernet port is **Auto** (automatic). To change this, choose from the Speed/Duplex drop-down list.

10. Choose the Boot Mode: **DHCP**, **Static** or **BootP**. (The default is **DHCP**.)

11. Click **Save** to save any changes (or **Reset** to cancel). A Notice window displays a reminder to reinitialize the card.

12. Click **OK**.

13. Make other changes as needed in the **Configuration** tab.

14. To complete the configuration, click **Reinitialize** in the left pane. A **Reinitialize** button appears in the right side of the window.

15. Click **Reinitialize** in the right pane to commit the changes and reboot the card. The card is now fully operational.
5.1.1 Indicators

NOTE
Do not continue to use the Liebert MPX 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 Distributed Processing Applications Engineering.

One or more Phase Power Indicators on the MPX PEM (Power Entry Module) should be green and lit but not flashing to indicate that input power is present and within tolerance. If input power is 3-phase, all three Phase Power Indicators should be lit green; and if input power is single-phase, one Phase Power Indicator should be lit green.

Each MPX BRM should display a non-repeated identifying number in the LED beside the circuit beaker.

If any MPX BRMs are receptacle management versions, the LEDs beside the receptacles should be lit.

5.2 Operation With the Liebert RPC

Instructions for operating a Liebert MPX equipped with a Liebert RPC (rack PDU card) are more fully detailed in the card’s user manual, SL-20825, available at the Liebert Web site: www.liebert.com

5.2.1 Connect to the Liebert RPC

After the Liebert RPC (rack PDU card) is installed and configured, the card is ready to be used to monitor and manage the Liebert MPX as described below. If the card is not installed and configured, refer to 3.2.3 - Install an Optional Liebert RPC in the MPX PEM and 5.1 - Configure the Liebert RPC.

1. Open a Web browser (Liebert recommends using Microsoft’s Internet Explorer®) and enter http://192.168.1.10 into the URL field, then press Enter to display the Liebert MPX’s Web page.
2. When prompted for a user name and password, enter Liebert (case sensitive) for both. Control and configuration capabilities are protected by a username and password combination. After entering Liebert for both the startup default username and password, change both for security purposes (refer to the user manual, SL-20825).
3. Access information about the Liebert MPX or configure the Liebert MPX by clicking on the appropriate tabs and viewing choices (refer to the views in Figure 20).

5.2.2 Viewing PDU and Receptacle Status: PDU Explorer and Device Explorer

The PDU Explorer permits browsing components from the highest level of the Liebert MPX to the receptacle level. The PDU Explorer is Web-based software that displays a hierarchical view of the system. Using PDU Explorer, the user is able to browse components starting at the PDU level, through to the branches of the PDU, and down to the receptacles of those branches.
The Device Explorer shows the status and identification of all receptacles on a single PDU. This list can be sorted by the supplied fields, allowing quick navigation. Associated links navigate to the PDU Explorer for viewing or configuring a receptacle.

5.3 Operation Without the Liebert RPC

The Liebert MPX can be operated without the optional Liebert RPC (rack PDU card) but with reduced functionality.

After the unit is installed and assembled, connect rack equipment to the receptacles, connect input power and by switch on the circuit breaker on each MPX BRM (Branch Receptacle Module). Startup the rack equipment according to the manufacturer’s instructions.
6.0 SPECIFICATIONS

6.1 MPX PRC—Model Number Configuration
- Prefix: MPXPRC-
- Mounting: V = Vertical
- Length: 1035 = Short (40-3/4"; 1035mm); 1880 = Standard (74"; 1880mm)

Table 1 MPX PRC (Power Rail Chassis) specifications

<table>
<thead>
<tr>
<th>Model #</th>
<th>Length, mm (in.)</th>
<th>Maximum Modules</th>
<th>Maximum Rated Amperage</th>
<th>Rated Voltage L-L/ L-N</th>
<th>Unit Weight lb (kg)</th>
<th>Application Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPXPRC-V1880xxx</td>
<td>1880 (74.07)</td>
<td>6</td>
<td>1 (220 mm)</td>
<td>63</td>
<td>230/400 VAC</td>
<td>4.76 (2.16)</td>
</tr>
<tr>
<td>MPXPRC-V1035xxx</td>
<td>1035 (40.78)</td>
<td>3</td>
<td>1 (220 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2 MPX PEM—Model Number Configuration
- Prefix: MPXPEM-
- Region: North America = N; European = E
- Type: V = Variable-Capacity; H = Fixed-Capacity
- Size: A = Short (220mm), Variable-Capacity; B = Standard (266mm), Fixed-Capacity
- Communications: X = RPC Slot (RPC not installed)
- Input Power:
  - Variable-Capacity
    Available-Capacity: Amps; XA = 30A (24A) (NA) & 32A (EU)
  - Fixed-Capacity
    Plug Type: XV = 50A (CS8365C-3-Phase 3-Wire); XW = 60A (IEC309 3P4W+PE 9 o’clock blue wire); XX = 60A (48A) IEC309 3P3W+PE 9-o’clock blue wire; XZ = (European) 63A (IEC309 3P4W+PE 6 o’clock red wire; 3P4W+PE)
- Cord Length:
  - Variable-Capacity: XX = No integrated cord (requires MPX IPC)
  - Fixed-Capacity: Length in meters, two digits (e.g. 30 = 3.0 meters)

Table 2 MPX PEM (Power Entry Module) specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Capacity</th>
<th>Maximum Ratings (V, I, Hz)</th>
<th>Input (Single/Three-Phase)</th>
<th>Length, mm</th>
<th>Application Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPXPEM-NVAXXXXAX</td>
<td>Variable</td>
<td>120/208 - 240 VAC, 30A (24A), 60Hz</td>
<td>Either</td>
<td>220</td>
<td>North America</td>
</tr>
<tr>
<td>MPXPEM-NHBXXW30</td>
<td>Fixed</td>
<td>120/208-240 VAC, 60A (48A), 60Hz</td>
<td>3-Phase</td>
<td>266</td>
<td>North America</td>
</tr>
<tr>
<td>MPXPEM-NHBXX30</td>
<td>Fixed</td>
<td>250 VAC, 60A (48A), 60Hz</td>
<td>3-Phase</td>
<td>266</td>
<td>North America</td>
</tr>
<tr>
<td>MPXPEM-NHBXXV30</td>
<td>Fixed</td>
<td>208-240 VAC, 50A (40A), 60Hz</td>
<td>3-Phase</td>
<td>266</td>
<td>North America</td>
</tr>
<tr>
<td>MPXPEM-EVAXXXXAX</td>
<td>Variable</td>
<td>230/400 VAC, MAX 32A, 50Hz</td>
<td>Either</td>
<td>220</td>
<td>European</td>
</tr>
<tr>
<td>MPXPEM-EHBXXZ30</td>
<td>Fixed</td>
<td>230/400 VAC, MAX 63A, 50Hz</td>
<td>3-Phase</td>
<td>266</td>
<td>European</td>
</tr>
</tbody>
</table>

1. Requires MPX IPC; refer to Table 4
6.3 MPX BRM—Model Number Configuration

- **Prefix**: MPXBRM
- **Region**: North America = N; European = E
- **Type**: B = Branch Monitoring; R = Receptacle Management
- **Size and OL Protection**:
  - **Size**: B = Standard (266mm)
  - **OL Protection**: A = 120V, 20amp; C = 230V, 20A; D = 208-240V, 20A
- **Output Power**:
  - **Number of Receptacles**: 3, 4 or 6 (per availability)
  - **Receptacle Type**: A = 5-20R; N = IEC-C13; O = IEC-C19; P = Schuko (CEE 7/4)

**Phase Configuration**: 1N = L1-N; 2N = L2-N; 3N = L3-N; 12 = L1-L2; 23 = L2-L3; 31 = L3-L1

### Table 3 MPX BRM (Branch Receptacle Module) specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Receptacle Type</th>
<th># of Outlets</th>
<th>Outlet Rating, V/A</th>
<th>Max Rating, V</th>
<th>Overcurrent Rating, A</th>
<th>Voltage Configuration</th>
<th>Length mm</th>
<th>Unit Weight lb (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North American Applications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPXBRM-NRBA6A1N</td>
<td>NEMA 5-20R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRBA6A2N</td>
<td>NEMA 5-20R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRBA6A3N</td>
<td>NEMA 5-20R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRDB4O12</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L1-L2</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRDB4O23</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L2-L3</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRDB4O31</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L3-L1</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRBD6N12</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L1-L2</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRBD6N23</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L2-L3</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-NRBD6N31</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L3-L1</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td><strong>European Applications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPXBRM-ERBC3P1N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC3P2N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC3P3N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC4O1N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC4O2N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC4O3N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC6N1N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC6N2N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td>MPXBRM-ERBC6N3N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.5 (1.13)</td>
</tr>
<tr>
<td><strong>BRANCH MONITORING MODULES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>North American Applications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPXBRM-NBBA6A1N</td>
<td>NEMA 520R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBA6A2N</td>
<td>NEMA 520R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBA6A3N</td>
<td>NEMA 520R</td>
<td>6</td>
<td>120/16</td>
<td>125</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD4O12</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L1-L2</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD4O23</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L2-L3</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD4O31</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>208-240/16</td>
<td>250</td>
<td>20</td>
<td>L3-L1</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD6N12</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L1-L2</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD6N23</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L2-L3</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-NBBD6N31</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>208-240/12</td>
<td>250</td>
<td>20</td>
<td>L3-L1</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
</tbody>
</table>
Table 3  MPX BRM (Branch Receptacle Module) specifications (continued)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Receptacle Type</th>
<th># of Outlets</th>
<th>Outlet Rating, V/A</th>
<th>Max Rating, V</th>
<th>Overcurrent Rating, A</th>
<th>Voltage Configuration</th>
<th>Length, mm</th>
<th>Unit Weight, lb (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPXBRM-EBBC3P1N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC3P2N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC3P3N</td>
<td>Schuko CEE 7/4</td>
<td>3</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC4O1N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC4O2N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC4O3N</td>
<td>IEC C19 Sheet J</td>
<td>4</td>
<td>230/16</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC6N1N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L1-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC6N2N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L2-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
<tr>
<td>MPXBRM-EBBC6N3N</td>
<td>IEC C13 Sheet F</td>
<td>6</td>
<td>230/10</td>
<td>250</td>
<td>20</td>
<td>L3-N</td>
<td>266</td>
<td>2.3 (1.03)</td>
</tr>
</tbody>
</table>

6.4 MPX IPC—Model Number Configuration

- **Prefix:** MPXIPC-
- **Region:** North America = N; European = E
- **Input Power and Connection:**
  - **Plug Type:** XB = 5-20P, XC = L5-20P, XD = L5-30P;XE = L6-20P, XF = L6-30P; XG = L21-20P, XH = L21-30P; XO = IEC-C20; XQ = IEC309 3W 32A, XR = IEC309 5W 32A
  - **Cord Length:** Length in meters, two digits (e.g. 30 = 3.0 meters)

Table 4  MPX IPC (Input Power Cord) specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Capacity, A</th>
<th>Input Plug Type</th>
<th>Rating, V</th>
<th>Length, ft (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 VAC - Single-Phase Input / Output - North American Applications</td>
<td>30</td>
<td>NEMA L5-30P Locking</td>
<td>120</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXD30XXX</td>
<td>30</td>
<td>NEMA L5-30P Locking</td>
<td>120</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>208 VAC - Single-Phase Input / Output - North American Applications</td>
<td>30</td>
<td>NEMA L6-30P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXF30XXX</td>
<td>30</td>
<td>NEMA L6-30P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>208 VAC - Three-Phase Input / 120/208VAC Single Phase Output - North American Applications</td>
<td>20</td>
<td>NEMA L21-20P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXG30XXX</td>
<td>20</td>
<td>NEMA L21-20P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXH30XXX</td>
<td>30</td>
<td>NEMA L21-30P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>208 VAC - Three-Phase Input / 208VAC Output - North American Applications</td>
<td>20</td>
<td>NEMA L15-20P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXI30XXX</td>
<td>20</td>
<td>NEMA L15-20P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-NXJ30XXX</td>
<td>30</td>
<td>NEMA L15-30P Locking</td>
<td>208-240</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>230 VAC - Single-Phase Input/ 230 VAC Single-Phase Output - European Application</td>
<td>32</td>
<td>IEC309 2P/ 3W 6h</td>
<td>230/400</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-EXQ30XXX</td>
<td>32</td>
<td>IEC309 2P/ 3W 6h</td>
<td>230/400</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>230/400 VAC - Three Phase Input / 230 VAC Single-Phase Output - European Applications</td>
<td>32</td>
<td>IEC309 4P/ 5W 6h</td>
<td>230/400</td>
<td>10 (3.0)</td>
</tr>
<tr>
<td>MPXIPC-EXR30XXX</td>
<td>32</td>
<td>IEC309 4P/ 5W 6h</td>
<td>230/400</td>
<td>10 (3.0)</td>
</tr>
</tbody>
</table>

* These models of the MPX IPC are to be used only with Variable-Capacity models of the MPX PEM.
6.5 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.
- ISTA Procedure 1A and 2A
- RoHS Compliant

230V Single-Phase and 400V Three-Phase Units
- 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)
- CE Conformity according to:
  - Low-Voltage Directive 2006/95/EC (LUD)
  - Restriction of Certain Hazardous Substances Directive 2002/95/EC (RoHS)
- European Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- ISTA Procedure 1 A and 2A
- ROHS and WEEE Compliant, Basic Test for Purchased Products according to International Safe Transit Association

6.6 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.

For warranty registration in Europe, the Middle East and Africa, contact technical support at:

00 80011554499 (toll free number)
+39 0298250222 (toll number based in Italy)
7.0 **DIMENSIONAL DRAWINGS**

Figure 21 Liebert MPX assembly dimensions, 1880mm (74") versions

![TOP VIEW](image1.png)

![SIDE VIEW](image2.png)

Figure 22 Liebert MPX assembly dimensions, 1035mm (40.6") versions

![TOP VIEW](image3.png)

![SIDE VIEW](image4.png)
Figure 23  RPCBDM dimensions

SIDE VIEW

Top
Communication Connection
Mounting Slot
Rear

0.8" (21mm)
1.1" (29mm)

SIDE VIEW

Front View

LCD Screen

4.5" (116mm)
2.6" (66mm)

REAR VIEW

Mounting Slot

0.787" (20mm)
0.063" (1.6mm)
0.122" (3.1mm)
0.059" (1.5mm)
0.472" (12.0mm)

DETAIL A

See Detail A

See Detail A
8.0  **Recycling Information, FCC Compliance, Modifications**

**Notice to European Union Customers: Disposal of Old Appliances**

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

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.

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](http://www.eu.emersonnetworkpower.com) (“Products session” or “Contact us” session) or call our worldwide technical support:

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

**RoHS Compliance**

The Liebert MPX 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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment Off and On, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorienting or relocating the receiving antenna.
- Increasing the separation between the equipment and receiver.
- Connecting the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Seeking assistance from the local Emerson representative or an experienced radio/TV technician.

**Do Not Modify**

Users should be aware that this product must be assembled and operated as stated in this document. Modifying the Liebert MPX or any module may void the user’s authority to operate the equipment.
Ensuring The High Availability Of Mission-Critical Data And Applications.

Emerson Network Power, the global leader in enabling business-critical continuity, ensures network resiliency and adaptability through a family of technologies—including Liebert power and cooling technologies—that protect and support business-critical systems. Liebert solutions employ an adaptive architecture that responds to changes in criticality, density and capacity. Enterprises benefit from greater IT system availability, operational flexibility and reduced capital equipment and operating costs.

While every precaution has been taken to ensure the accuracy and completeness of this literature, Liebert Corporation assumes no responsibility and disclaims all liability for damages resulting from use of this information or for any errors or omissions. © 2009 Liebert Corporation.

All rights reserved throughout the world. Specifications subject to change without notice.

© Liebert is a registered trademark of Liebert Corporation.

All names referred to are trademarks or registered trademarks of their respective owners.

SL-20820_REV02_11-09

Emerson Network Power.
The global leader in enabling Business-Critical Continuity.