# Power Xpert Branch Circuit Monitor: Meter Base

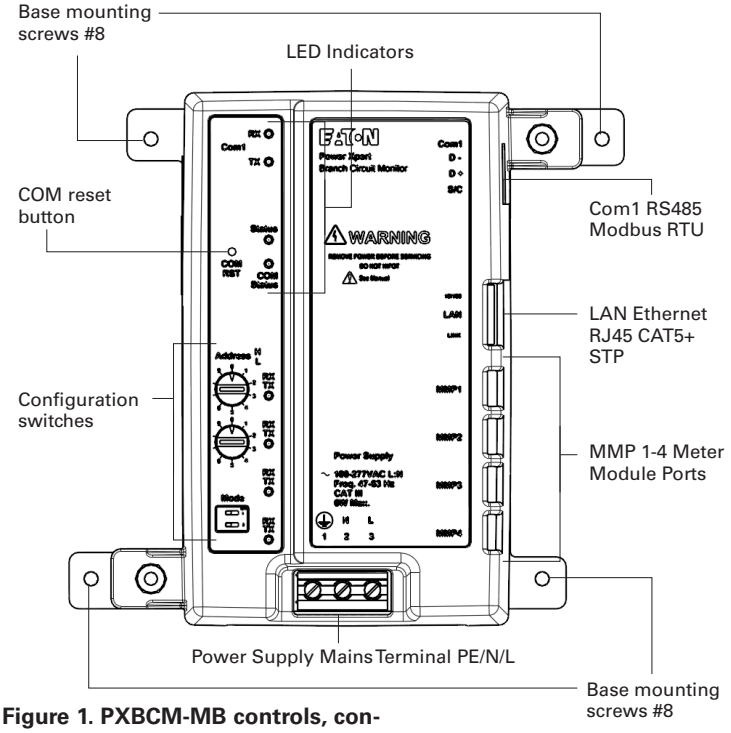


**Figure 1. PXBCM-MB controls, connectors and indicators**

⚠WARNING!

BE SURE THAT ALL SYSTEM POWER IS OFF WHEN COMMISSIONING A PXBCM SYSTEM INCLUDING THE INSTALLATION OF THE PXBCM-MB METER BASE AND ASSOCIATED COMPONENTS.

## Overview

**For use with PXBCM Power Xpert Branch Circuit Monitor** - The PXBCM-MB Meter Base (MB) is designed to be used with the PXBCM–MME Meter Module External and/or –MMS Meter Module Strip. The Meter Base sources power to and collects data from the Meter Modules through the Meter Module Ports and Cables.

- **PXBCM-MMS**-(L/R 9/15/21)-A Meter Module Strip
- **PXBCM-MME-X25-333MV** Meter Module External
- **PXBCM-MMP-CBLnn/-CBLEnn** Meter Module Port Cable and Cable Extension

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The PXBCM-MB is the data acquisition module/gateway of the PXBCM system. The PXBCM-MB aggregates the meter data from up to four PXBCM-MMS and PXBCM-MME meter modules. You can access the data from all channels (including virtual meters) through the RS485 COM1 Modbus port using the RS-485 RTU protocol, or the LAN Modbus TCP connection, or view it directly through the onboard web server.

The Modbus address is set through a pair of rotary switches (Address H-L) on the front of the PXBCM-MB housing. Indicator lights show device status (Status) as well as communications status for both LAN Ethernet and Com1 Modbus. A mode switch determines user access security levels.

The PXBCM-MB must be housed in an appropriate NEMA or UL enclosure that ensures the device will remain within its specified environmental ranges and provides fire and mechanical protection. In retrofit panel board applications the MB must be mounted in an enclosure external from the monitored assembly gear, unless the MB is an approved accessory for the panel board.

Each Meter Module has the following LED Indicators

- Com1 Rx/Tx Green/Red LEDs – RS485 Modbus
- MMP 1-4 Rx/Tx Green/Red LED – Meter Module Port communications
- LAN Ethernet LEDs in RJ45 jack
  - Link Green on = Link Active, blink for TxRx
  - 10/100 Speed - Amber off/on
- Status Green/Red bicolor LED –
  - Green ~ 1Hz blink – Normal heart beat
  - Red – Application alarm
- Com Status: Green/Red bicolor LED:
  - Green on = DHCP, Green off = Fixed IP
  - Red on = communications reset mode

## PXBCM-MB Meter Base Specifications

- Weight ~ 1 lb
- W/H/D: 7.0”(17.6 cm)/6.3”(15.8cm)/2.6”(6.6cm)
- Each Meter Base can interface to 1-4 Meter Modules (-MMS &/or –MME)
- Housing NEMA 1, IP20
- Pollution Degree 2
- Operational Temperature range -20 to +70ºC
- Storage Temperature range -45 to +85ºC
- Elevation 0-3000m

- Humidity 5-95% noncondensing
- UL file # E185559, UL Standard UL61010-1
- CNL evaluation to CAN/C22.2 No 1010.1.92
- CE mark
- EMC EN61326 – IEC61000-4-X level 3
- Emissions conducted and radiated as part of PXBCM system.
  - FCC part 15 class B
  - CISPR 11/22 class B

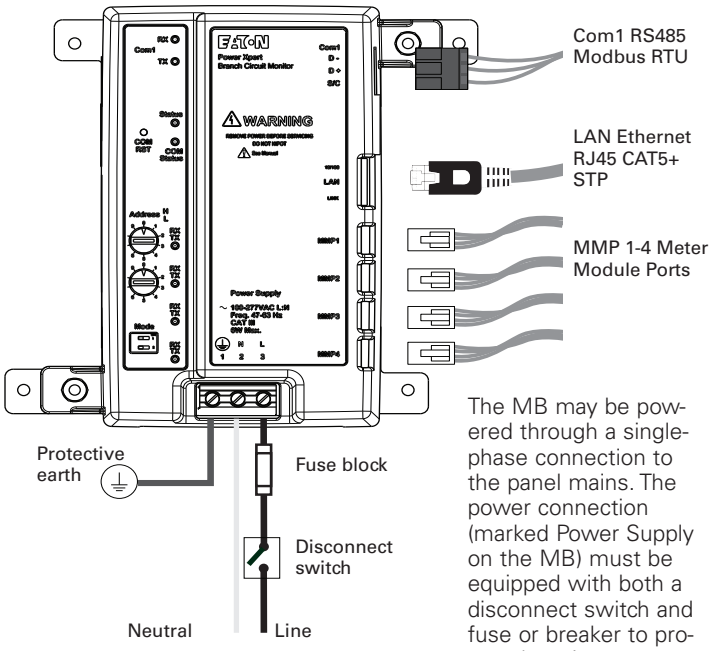
### External Circuit Connections

- **Com1** RS485 Modbus Slave RTU:
  - 9600 – 115.2K(default) baud
  - –D, +D, Com/Shield
  - Use RS485 cable – 4K'=<19.2Kb,2K' above
- **LAN** Ethernet RJ45 CAT5 10/100 base T
  - Use STP Cat5+ for full EMC compliance
- **MMP1-4** Meter Module ports:
  - 2 pair cable 1 pair power, 2nd coms
  - Use PXBCM-MMP-CBLnn –CBLEnn cables
  - Each MMP is separately isolated
- **Power Supply** mains 100-277VAC L:N
  - +/-10%, CAT III, 47-63 Hz , 6W
  - Double insulated
  - 320VAC Surge filter clamp L:N, L:G, N:G - **Do not high pot!**
  - Provide external line fuse or breaker sized to protect wiring
  - 3 position fixed terminal block 1/2/3 = PE/N/L, supporting 12 AWG (2.5mm) wire.

A detailed product identification label is on the left side of each Meter Base. This information can also be viewed through the PXBCM web configuration with a browser via the LAN Ethernet port.

**Figure 1. Example PXBCM-MB Product ID Label.**

Please refer to the PXBCM Install Guide IB150003EN for complete system detail: www.eaton.com/meters




The MB may be powered through a single-phase connection to the panel mains. The power connection (marked Power Supply on the MB) must be equipped with both a disconnect switch and fuse or breaker to protect the wire.

**Figure 2. PXBCM-MB external circuit connections.**

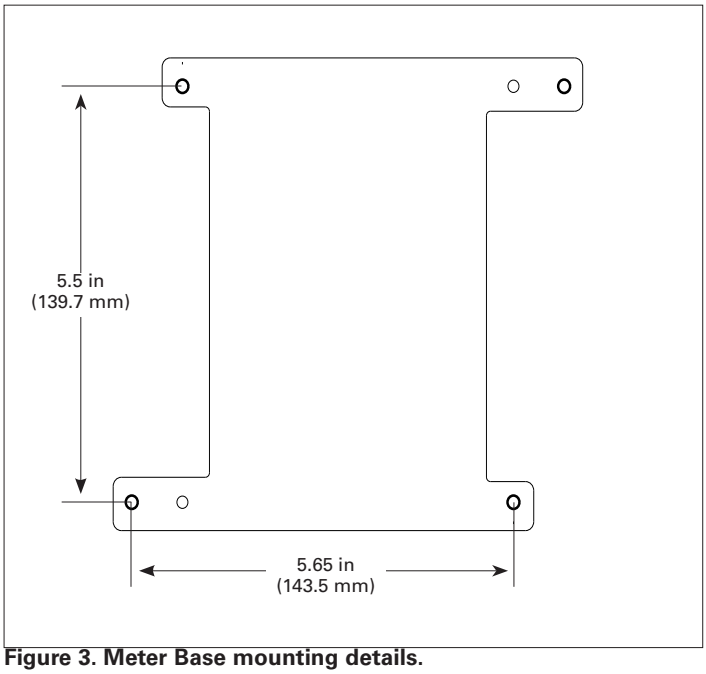



**Figure 3. Meter Base mounting details.**

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