Power Xpert Branch Circuit Monitor: Meter Module Strip

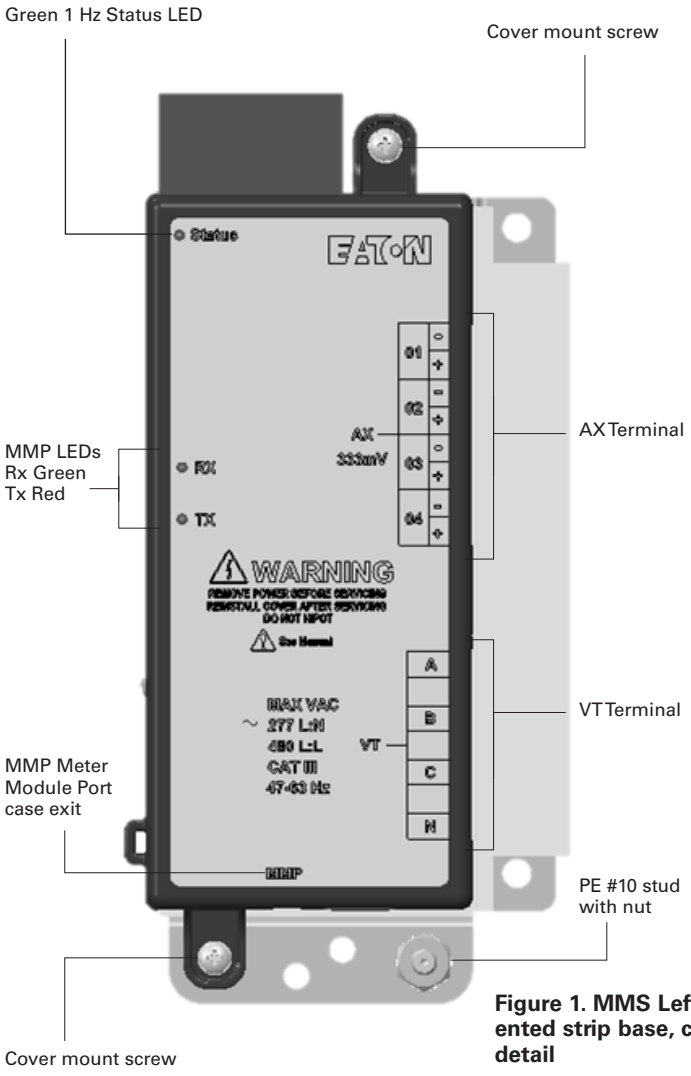

Figure 1. MMS Left oriented strip base, cover detail

⚠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.

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Overview

For use with PXBCM Power Xpert Branch Circuit Monitor -The PXBCM–MMS Meter Module Strip (MMS) is designed to be used with the following PXBCM components to form an electrical metering system:

- **PXBCM-MB** Meter Base
- **PXBCM-MME-X25-333MV** Meter Module External
- **PXBCM-MMP-CBLnn/-CBLEnn** Meter Module Port Cable and Cable Extension

Catalog Number	Description
PXBCM-MMS-L09-A	LEFT – 9CT - 1" pitch, 100A
PXBCM-MMS-L15-A	LEFT – 15CT - 1" pitch, 100A
PXBCM-MMS-L21-A	LEFT – 21 CT - 1" pitch, 100A
PXBCM-MMS-R09-A	RIGHT – 9CT - 1" pitch, 100A
PXBCM-MMS-R15-A	RIGHT – 15 CT- 1" pitch, 100A
PXBCM-MMS-R21-A	RIGHT – 21 CT - 1" pitch, 100A

PXBCM-MMS Meter Module Strips (MMS) are available in configurations to mount on either the left or right of a panel board and contain 9, 15, or 21 CTs. Four additional connections are provided for AX Auxiliary external CT connections per MMS, these can be used to monitor the panel mains or similar loads. The MMS has both load current and voltage metering circuits providing meter data to the Meter Base. Power must be supplied via the Meter Module Ports and a PXBCM-MMP-CBLnn cable for the Meter Module to operate. Onboard CTs mounted on the MMS support ANSI C12.20 class 0.5% revenue-grade applications. The accuracy of the CT inputs on the MMS AX circuits is dependent on the 333 mV CTs chosen. Typically, if 0.5% CTs are chosen then the resulting energy accumulation supports EN62053-21 1% class applications.

The MMS must be an approved accessory for use within a specific panel board. The PXBCM-MMS are installed at the factory in approved panel board such as the Eaton Pow-R-Line 1a, 2a, or 3e that ensures that the device will remain within its specified environmental ranges and provides fire and mechanical protection. The panel board uses interposing brackets to properly orient the MMS relative to the circuit breakers.

The Onboard 100A/600V max. rated CTs are arranged with a 1" pitch with a 0.484" ID and are mounted to line up the CT centers with the load conductor lugs of the panel board branch circuit breakers. During field panel board commissioning the load conductors are routed through the MMS CTs. The conductor insulation sheath should pass through CT and only be stripped at the conductor end as recommended by the circuit breaker design to attach to the breaker lug.

Terminate the secondary of up to 4, 333mV external CTs, rated for the application, to the Auxiliary AX terminal block on the MMS. This is an in-line terminal block with each circuit as sequential pairs, The odd terminals are negative X2 (typically black) inputs and the even are for the positive X1 inputs (typically white). The terminal pairs are numbered adjacent to the terminals and also on the cover label. Note that external CTs must provide basic isolation between primary load cables to secondary output, qualified to:

- UL/IEC61010-1
- UL2808
- UL/ANSI C57.13
- IEC 60044

The VT Voltage Terminal block at the bottom of the MMS provides metering inputs to monitor the modules load mains connections. Phase A,B,C inputs should be equipped with a fuse or breaker sized to protect the wiring and provided with a disconnect. To gain access to the AX or VT terminal blocks and the Meter Module Port the MMS cover must be temporary removed by unscrewing the two Philips screw mounts. See figures 1 & 2 for wiring details. (Right side MMS are mirror imaged). When the wiring is complete replace the cover.

PXBCM-MMS Meter Module Strip Specifications

- Weight 09/15/21 – 1.0/1.5/2.0 lb
- Width 1.4-3.0"(3.5-7.5cm), Height 2.5" (6.4cm)
- Length 09/15/21: 16.9/22.9/28.9" (43/58.2/73.5 cm)
- Housing NEMA 1, IP20,Pollution Degree 2
- Operational/ Storage Temp. -20 to +70ºC /-45 to +85ºC
- Elevation 0-3000m, Humidity 5-95% noncondensing
- CE mark
- Safety: IEC/EN/UL61010-1, UL file # E185559,
- CNL evaluation to CAN/C22.2 No 1010.1.92
- EMC EN61326 – IEC61000-4-X level 3
- Emissions conducted and radiated as part of PXBCM system - FCC part 15 & CISPR 11/22 class B
- MMP Meter Module Ports – 2X2 connector
  - 2 pair cable 1 pair power, 2nd data coms
  - Use PXBCM-MMP-CBLnn –CBLEnn cables

VT - Voltage Terminal Metering Inputs

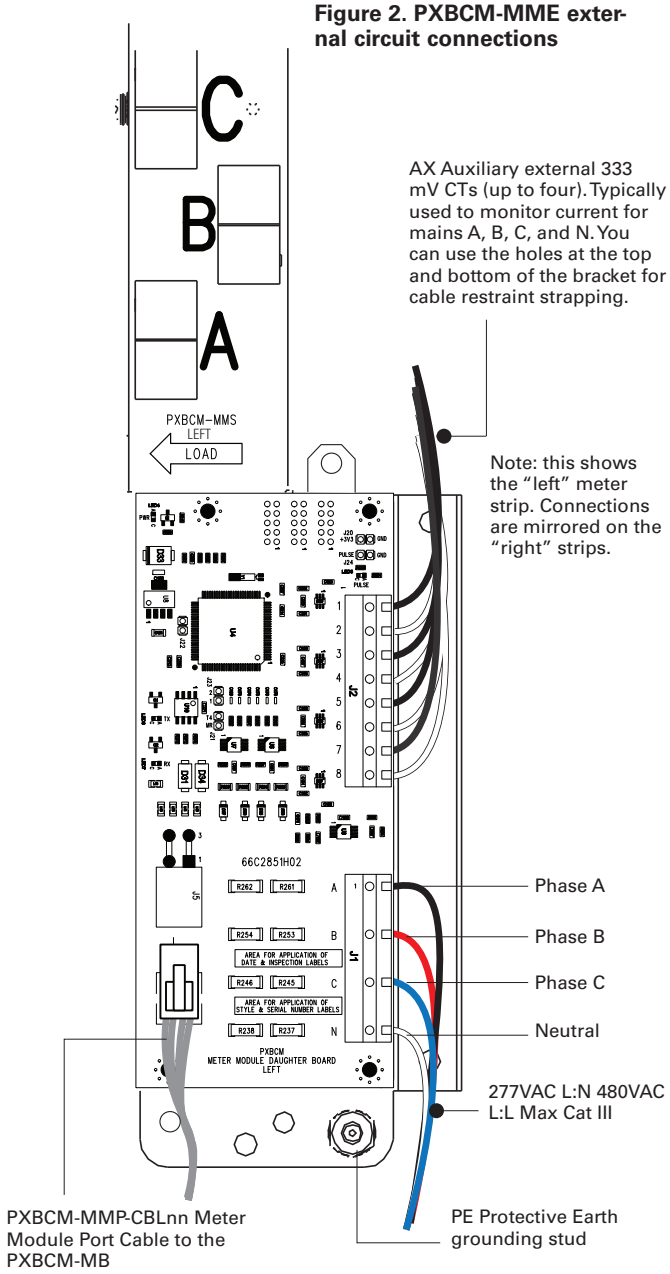
- 47 – 63 Hz., CAT III, 5 M ohm input impedance A/B/C/N
- WYE 277VAC L:N(G) 480VL:L maximum nominal rating
- Floating delta, corner grounded delta, and high-impedance Wye not supported without the use of an interposing PT Potential Transformer.
- 4 Position fixed terminal block Va, Vb, Vc, Vn,
  - 24-12AWG – ferrules recommended
- **PE** - Protective Earth grounding stud at base of MMS bracket - #8 stud

AX CT Current Terminal Metering Inputs

- 333mV secondary CT input to MMS at maximum external CT Primary rating
- Primary load rating determined by external CT
- In line terminal block 24-14AWG
  - Ferrules recommended for stranded wire

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

Figure 2. PXBCM-MME external circuit connections



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