



The PMC-BM3000 is CET's latest offer for monitoring applications in busbar systems, data centers, and power systems. The PMC-BM3000 features an industrial-grade capacitive touchscreen display, integrating functions such as data acquisition via communication, data processing and forwarding, and local data display. Characterized by high integration and flexible application, it serves as a communication hub for edge nodes in the Ubiquitous Power Internet of Things. It comes standard with 2 Digital Outputs for alarming and device live-status monitoring. Additionally, the device records up to 5000 SOE logs and supports storage capacity up to 365 days at 1-hour interval for historical Energy. The PMC-BM3000 offers two installation options: panel mount and wall mount, which can meet the size constraints of electrical cabinets with limited installation space. With one standard 10Base-T/100Base-TX Ethernet Port and optional up to eleven RS-485 ports support, the PMC-BM3000 becomes a vital component in any building, factory, data center, substation or utility automation systems.

Typical Applications

- Data Center, Building, Factory, and Process Automation
- Integrated Application of Temperature Monitoring for Busbars and Electrical Contacts
- Batteries, Fiber Optic Temperature Monitoring
- Industrial, Commercial and Utility Substation Metering

Features Summary

Ease of use

- Large, 10.1 inch High-Resolution Color Dot-Matrix HMI Touch Screen
- Intuitive user interface
- Easy installation with panel mount or wall mount

Data Acquisition

- Data acquisition via Ethernet or RS-485
- Modbus RTU, Modbus TCP, etc.

Data Forwarding

- Data forwarding via Ethernet or RS-485
- Modbus RTU, Modbus TCP Client, etc.

Digital Outputs

- 2 channels for alarming and device live-status monitoring
- 1xForm A mechanical relay and 1xForm B mechanical relay

Alarms

- Support Current, Voltage, Temperature, Humidity Alarms, etc.
- All alarms are gathered in real-time display and recorded in the SOE Log

SOE Log

- 5000 FIFO events support
- Alarming, warning, DO operations and clear operations
- Timestamp, characteristic data, type and description recorded

Data Recorder (DR)

- 8GB On-board Memory
- Recording interval from 15 minutes to 60 minutes
- Configurable capacity up to 60 days at 15-minute interval for scheduled recording
- Configurable capacity up to 365 days at 1-hour interval for historical Energy

Time Synchronization

- Battery-backed Real-time Clock @ 6ppm ($\leq 0.5s/day$)
- Time Sync. via Communications such as SNTP, RTC

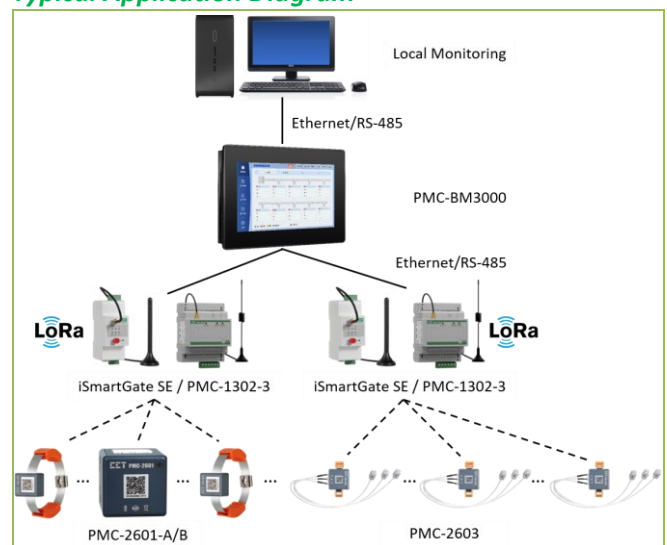
Communications

- 1x10Base-T/100Base-TX Ethernet Port with RJ45 connector
- Up to 11xoptically isolated RS-485 ports with Baud Rate from 1.2 to 38.4kbps
- Optional 1x Power-Bus
- Optional 2x LoRa port with RF range 470 MHz~510 MHz
- Standard Modbus RTU/TCP support

Technical Specifications

Digital Outputs (DO11, DO12, DO21, DO22)	
Type	1xForm mechanical relay and 1xForm B mechanical relay
Loading	5A @ 250VAC or 30VDC
Communications	
Ethernet Protocol	Modbus TCP
Baud Rate	10Base-T/100Base-TX
RS-485 Protocol	Modbus RTU
Baud Rate	1.2/2.4/4.8/9.6/19.2/38.4kbps
Power-Bus Voltage	12~36VDC
Burden	<15W
LoRa (Optional) RF Range	470 MHz~510 MHz
Channels	32
Modulation	LoRa/GFSK/FSK etc.
RF Output Power	17±1 dBm
Receiver Sensitivity	-136±1 dBm
Baud Rate	1.2/2.4/3.8/7.5/15kbps
Comm. Distance	3000m in spacious environment
Power Supply (L/+, N/- or V1+, V1-, V2+, V2-)	
Standard	95~250VAC/DC, 47~440Hz
Optional	Dual 12~36VDC
Burden	≤18W or 24VDC/500mA
Protection	
ESD Protection	8kV (Air) & 6kV (Contact)
Isolation Protection	3kV for RS-485, 1.5kV for Ethernet Port
Environmental Conditions	
Operating Temp.	-25°C to 70°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 110 kPa
Mechanical Characteristics	
Installation	Panel Mount or Wall Mount
Unit Dimensions	280*190*52mm
IP Rating	IP65

Typical Application Diagram





Standards of Compliance

Safety Requirements	
CE LVD 2014/35/EU	EN 61010-1: 2010 + A1: 2019 EN IEC 61010-2-030: 2021 + A11: 2021
Electrical Safety in Low Voltage Distribution Systems up to 1000Vac and 1500 Vdc	IEC 61557-12: 2021 (PMD)
Products Safety Requirements and Tests	EN 61010-1: 2010 + A1: 2019
AC Voltage	2kV @ 1 minute
Insulation Resistance	>100MΩ
Impulse Voltage	6kV, 1.2/50μs
Electromagnetic Compatibility EMC 2014/30/EU (EN IEC 61326: 2021)	
Electrostatic Discharge	EN 61000-4-2: 2009
Radiated Fields	EN IEC 61000-4-3: 2020
Fast Transients	EN 61000-4-4: 2012
Surges	EN 61000-4-5: 2014 + A1: 2017
Conducted Disturbances	EN 61000-4-6: 2023
Magnetic Fields	EN 61000-4-8: 2010
Ring Wave	EN 61000-4-12: 2017
Radio Disturbance Limit	CISPR 22
Mechanical Tests	
Free Fall	IEC 60068-2-31: 2008
Vibration	IEC 60068-2-6: 2007
Shock	IEC 60068-2-27: 2008

Ordering Information

Product Code	Description
PMC-BM3000 Smart Power Monitoring Host	
Wire Communication Port	
A	1x10Base-T/100Base-TX, 7xRS-485
B	1x10Base-T/100Base-TX, 11xRS-485
C	1x10Base-T/100Base-TX, 6xRS-485+1xPower-Bus (Only applicable to 95~250VAC/DC Option)
Wireless Communication Port	
N	None
L	2xLoRa (Not applicable to Power-Bus Option)
I/O	
2	2xDO
Power Supply & Comm. Port Type	
1	1x95~250V AC/DC, RS-485 Port with Plug-in Terminals
2	2x12VDC~36VDC, RS-485 Port with RJ45 Terminals
Installation	
A	Panel Mount
B	Wall Mount
Application	
U	Integrated Application of Temperature Monitoring for Busbars and Electrical Contacts
D	Fiber Optic Temperature Monitoring (Not applicable to LoRa Option and Power-Bus Option)
PMC-BM3000 - A N 2 2 A U	PMC-BM3000-AN22AU (Standard Model)

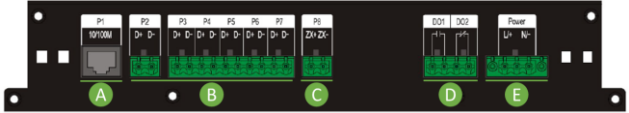
Notes:
 1. It supports the Modbus RTU protocol for downward data acquisition and the Modbus TCP protocol for upward communication.
 2. The Ethernet port only supports electrical interfaces and complies with the 10Base-T/100Base-TX specification.

Your Local Representative



Revision Date: June 2, 2026

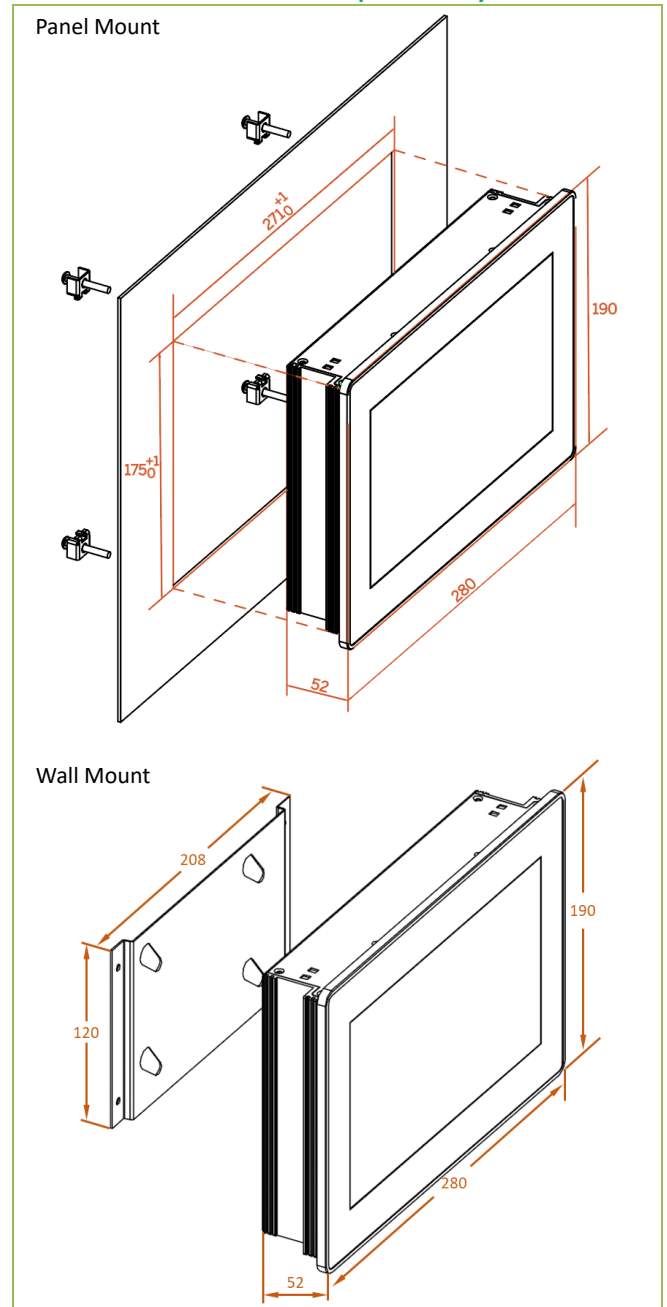
Terminals Diagram



**1x10Base-T/100Base-TX, 6xRS-485+1xPower-Bus Option
(Only applicable to 95~250VAC/DC Option)**

	Description
A	1x10Base-T/100Base-TX Ethernet Port
B	6xRS-485 Port
C	1xPower-Bus
D	2xDO
E	Power Supply

Dimensions and Installation (Unit: mm)



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