PMC-512-A

AC Multi-Circuit Power Monitor

- Data Center and Telecom Base Station PDUs
- Industrial and Commercial Distribution Boards
- Other High-Density, Multi-Circuit Monitoring Applications

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Product Introduction

PMC-512-A is CET's latest offer for the economical multi-circuit monitoring of Data Centers, Telecom Base Stations, Industrial & Commercial Buildings. Housed in a compact DIN Rail Mount enclosure, the PMC-512-A is perfectly suited for high-density metering applications. The PMC-512-A features quality construction with multifunction and Class 1 Energy Measurements. The PMC-512-A comes standard with a built-in LCD display, 12xDIs for status monitoring, 1xDO for control or alarming and 1xAI for temperature measurement or other analogue input applications. The standard SOE Log records all setup changes, alarms and DI/DO operations in 1ms resolution. With dual RS-485 as standard feature supporting Modbus RTU, the PMC-512-A can easily be deployed in a stand-alone system with an optional 7" touch-screen HMI that supports up to 32 devices over a RS-485 network, or simultaneously with a centralized monitoring and control system for an AC power distribution network.

Feature Highlights

Multi-Circuit Monitoring

- 12x1-Ø or 4x3-Ø Sub-Meters (SM)
- 4xVirtual Meters (VM) for the arbitrary aggregation of SMs
- 12xDigital Inputs for Trip Status monitoring
- 1xDO for Alarming or Control
- 1xAI (0-20/4-20mA)

Embedded Data Recording

- 4MB Log memory
- Up to 60 parameters at min. 1-minute recording interval for 5,000 logs with Timestamps
- Non-volatile storage for data redundancy in the event of networking error

Alarming

- 4 Alarm Levels for Voltage, Current and AI
- Frequency, Unbalance, DI, Phase Reversal & Phase Loss Alarms
- Programmable Digital Output Trigger
- Facilitate comprehensive monitoring and alarming for Mains & Branch Circuits

Basic Features

Measurements

- Class 1 Accuracy for Energy Measurements
- 1-Ø SM: Voltage, Current, Phase Angle, Frequency, Loading Factor, P, Q, S, PF, kWh, kvarh Import/Export, KVAh
- 3-Ø SM: ULN & ULL per phase and average, I per phase and average, Unbalance, Phase Angle, Frequency, P, Q, S, PF per phase and total, kWh, kvar Import/Export, KVAh Total
- VM: P, Q, S Total, kWh, kvarh Import/Export, KVAh Total

Demand Measurements

- 1-Ø SM: Current, P, Q, S
- 3-Ø SM and VM: P, Q, S Total
- Max. Demands for This Month and Last Month
- Ability to reset any Max. Demands

Power Quality

- THD, TOHD, TEHD
- Individual Harmonics up to 31st
- U and I Unbalance

Data Recording

- 4MB Log memory
- Up to 60 parameters @ min. 1-min recording interval for 5,000 logs with Timestamps
- 24 Monthly Energy Logs
  - 1-Ø SM, 3-Ø SM and VM: kWh, kvarh Import/Export & kVAh
- 1,000 Daily Freeze Logs
  - 1-Ø SM: Current, P, Q, S, kWh, kvarh Import/Export & kVAh
  - 3-Ø SM and VM: P, Q, S Total, kWh, kvarh Import/Export & kVAh

SOE

- 512 events time-stamped to ±1ms resolution
- DI/DO changes, Alarms, Setup changes, Self-Diagnosis

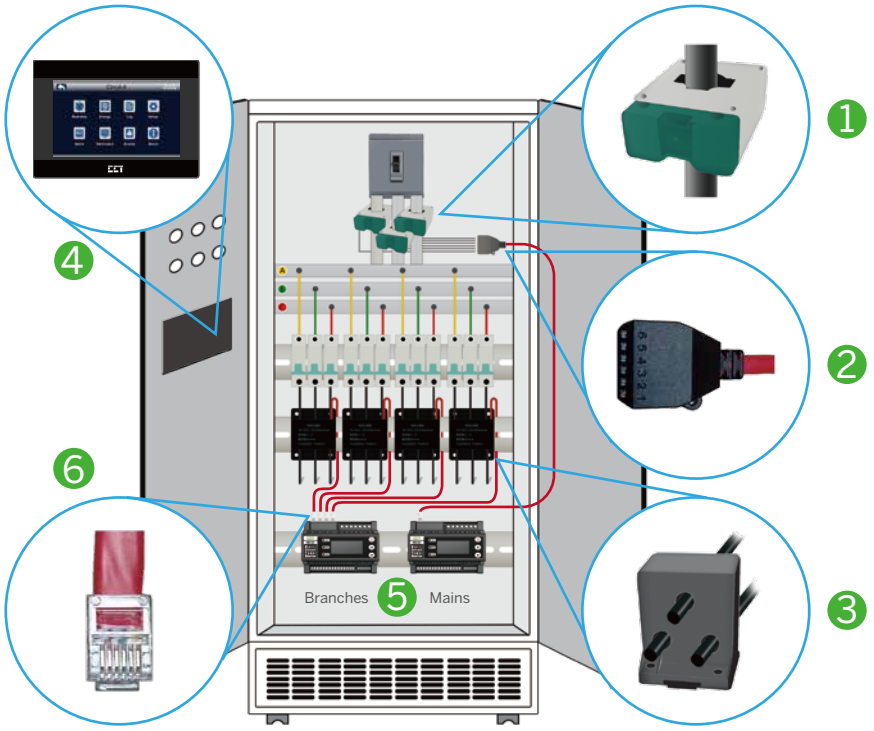
Inputs & Outputs

- 12xDI with external excitation @ 48VDC
- 1xDO, mechanical relay @ 250VAC/5A or 30VDC/5A
- 1xAI, 0-20/4-20mA

Communications

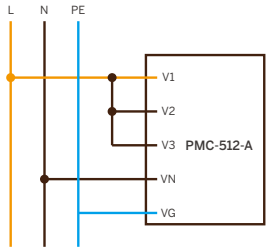
- 2xRS-485, Modbus RTU protocol
- Baud rate @ 1,200 to 57,600 bps

Overall Setup

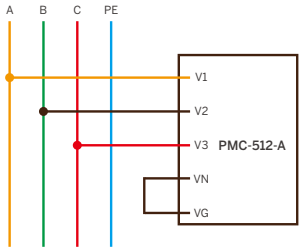


1. **Mains Solid-Core/Split-Core CTs**
   1 for each phase
2. **6-position CT wiring adapter with RJ12 connector for 1-Ø CT**
   1 Adapter for 3x1-Ø CTs
3. **Molded Case 3-Ø CT (Max. 100A)**
   3x1-Ø Circuits or 1x3-Ø Circuit
4. **PMC-512-HMI**
   - 7" TFT Touch-Screen Color LCD Display @ 800x480
   - Requires 24VDC Power Supply
   - Supports 32xPMC-512-A
5. **PMC-512-A**
6. **RJ12 connector**

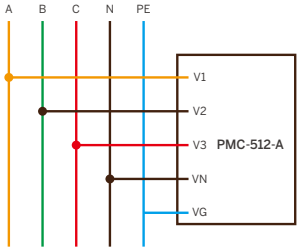
Wiring



Single-Phase



3P3W Delta



3P4W Wye

Ordering Information

Product Code									Description
PMC-512 AC Multi-Circuit Power Monitor									
Basic Function	A								AC Multi-Circuit Power Monitor with 3-Ø Voltage & 12xCurrent Inputs for 12x1-Ø or 4x3-Ø Sub-Meters, 4 Virtual Meters, Data Recorder with 4MB memory, 12xDI, 1xDO, 1xAI and 2xRS-485
Display Screen		L							LCD
Input Current			A						External CT with 100A-1600A Primary and 40mA Secondary
			B						External CT with 5A Primary and 1.667mA Secondary
Input Voltage				3					240VAC (3x240ULN/415ULL)
Power Supply					2				95-250VAC/VDC, 47-440Hz
					3				20-60VDC
Frequency						5			45-65Hz
DI							A		12xDI, 48VDC External Excitation
Display Language								E	English
PMC-512	A	L	A	3	2	5	A	E	PMC-512-ALA325AE (Standard Model)

Technical Specifications

Accuracy

Voltage/Current	±0.5%
P, Q, S	±1.0%
kWh, kVAh	IEC62053-21: 2003 Class 1
kvarh	IEC62053-24: 2014 Class 1
PF	±1.0%
Frequency	±0.02Hz

Power Supply

48VDC Power Supply	20-60VDC±10%, <2W
240V Power Supply	95-250VAC/DC 47-440Hz, <2W

AC Voltage & Current

Voltage Input		Un=240ULN/415ULL, Range=10V to 1.2Un
Current Input	Solid-Core CT	PMC-CT-100A-40mA-3P-A (3-Ø)
		PMC-CT-250A-40mA-3P-A (3-Ø)
		PMC-CT-630A-40mA-3P-A (3-Ø)
		PMC-CT-100A-40mA-12-A (1-Ø)
		PMC-CT-250A-40mA-A (1-Ø)
		PMC-CT-400A-40mA-A (1-Ø)
		PMC-CT-800A-40mA-A (1-Ø)
	Split-Core CT	PMC-SCCT-100A-40mA-16-A (1-Ø)
		PMC-SCCT-200A-40mA-24-A (1-Ø)
		PMC-SCCT-400A-40mA-35-A (1-Ø)
		PMC-SCCT-800A-40mA-A (1-Ø)
		PMC-SCCT-1600A-40mA-A (1-Ø)
		PMC-SCCT-5A-1.667mA-10-A (1-Ø)

Input & Output

Digital Input	12xDI, 48VDC External Excitation
Digital Output	1xDO, Normally Open, 250VAC/5A or 30VDC/5A
Analog Input	1xAI, 0-20/4-20mA

Communications

RS-485	2xRS-485, Modbus protocol, 1,200-57,600 bps

Environmental Conditions

Operating Temp.	-25°C to 70°C
Storage Temp.	-40°C to 85°C
Humidity	5% to 95% (non-condensing)
Atmospheric Pressure	70kPa to 106kPa
Altitude	⩽2,000m

Mechanical Tests

Spring Hammer Test	IEC62052-11: 2003
Vibration Test	IEC62052-11: 2003
Shock Test	IEC62052-11: 2003

Safety Standards

Safety Requirements

CE LVD 2014/35/EU	EN61010-1: 2010, EN61010-2-030: 2010
Electrical Safety in Low Voltage Distribution Systems up to 1000Vac and 1500 Vdc	IEC61557-12: 2018 (PMD)
Insulation AC Voltage: 2kV @ 1 minute Insulation Resistance: >100MΩ Impulse Voltage: 6kV, 1.2/50μs	IEC62052-11: 2003 IEC62053-21: 2003 EN61010-1: 2010

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EMC Compatibility

CE EMC Directive 2014/30/EU (EN61326: 2013)

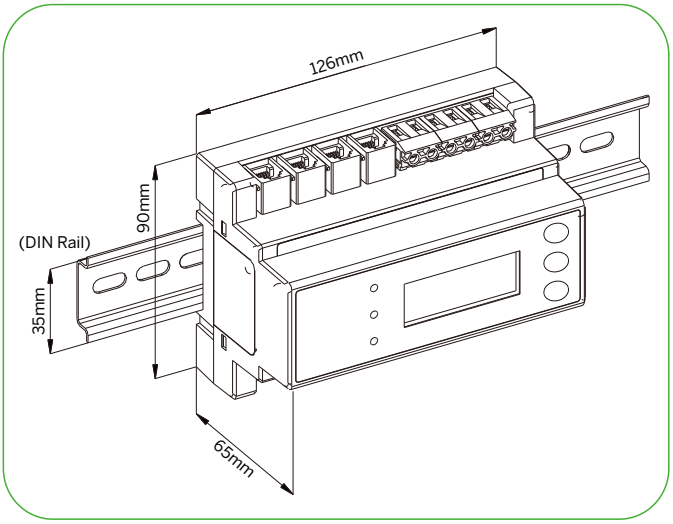
Immunity Tests

Electrostatic Discharge	EN61000-4-2: 2009
Radiated Fields	EN61000-4-3: 2006 +A1: 2008 +A2: 2010
Fast Transients	EN61000-4-4: 2012
Surges	EN61000-4-5: 2014 +A1: 2017
Conducted Disturbances	EN61000-4-6: 2014
Magnetic Fields	EN61000-4-8: 2010
Oscillatory Waves	EN61000-4-12: 2017
Voltage Dips and Interruptions	EN61000-4-11: 2004 +A1: 2017

Emission Tests

Limits and Methods of Measurement of Electromagnetic Disturbance Characteristics of Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment	EN55011: 2016
Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment	EN55032: 2015
Limits for Harmonic Current Emissions for Equipment with Rated Current ⩽16A	EN61000-3-2: 2014
Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current ⩽16A	EN61000-3-3: 2013
Emission Standard for Industrial Environments	EN61000-6-4: 2007 +A1: 2011
Testing and Measurement Techniques-Ring Wave ImmunityTest	EN61000-4-12: 2017

Dimensions



Your Local Representative

V.00 14.08.2020