



The PMC-512-M 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-M is perfectly suited for high-density metering applications. The PMC-512-M features quality construction with multifunction and Class 1 Energy Measurements. The PMC-512-M comes standard with a built-in LCD display, one DO for control or alarming. It optionally provides up to 4xlr Input for Residual Current Measurement, 4xRTD Input for temperature measurements, as well as other I/O options for different applications. The standard SOE Log records all setup changes, alarms and DO operations in 1ms resolution. With two RS-485 ports supporting Modbus RTU and an optional 10Base-T/100Base-TX Ethernet Port, the PMC-512-M can easily be deployed in an intelligent, multi-circuit monitoring solution.

Typical Applications

- Data Center and Telecom Base Station PDUs
- Industrial Distribution Board
- Commercial & Residential LV High-Density Multi-Circuit monitoring

Features Summary

Ease of Use

- Status LEDs -Run, Comm. Activities and Phase Voltage
- Self-Diagnostic function
- Password-protected setup via the Front Panel
- Compact, DIN Rail Mount for easy installation

Measurements

- IEC 62053-21 Class 1 and IEC 62053-24 Class 1 Energy metering
- ULN & ULL per Phase and Average, Phase Angle
- Ir and I per Phase Angle
- Voltage Unbalance
- Frequency
- Temperature

Sub Meters (SM)

- Support 12x1-Φ or 4x3-Φ Sub-Meters or optional 24x1-Φ or 8x3-Φ Sub-Meters without configuration
- 12x1-Φ or 24x1-Φ SM: I, kW, kvar, kVA, PF and I Phase Angle, kWh/kvarh Imp./Exp./Net/Tot.
- 4x3-Φ or 8x3-Φ SM
 - I per Phase and Average, and In (Calculated)
 - kW, kvar, kVA, PF per Phase and Total
 - I Unbalance
 - I per Phase Angle
 - kWh/kvarh Imp./Exp./Net/Tot. and 3-Phase kWh/kvarh Imp./Exp./Net/Tot.
 - T1-T6 kWh/kvarh Imp./Exp. and T1-T6 3-Phase kWh/kvarh Imp./Exp
 - Demand for I per Phase and P/Q per Phase and Total
 - Max. Demands for I, P/Q per Phase and Total with timestamp for This Month and Last Month (or Since Last Reset and Before Last Reset)

Power Quality

- U THD, TOHD, TEHD and Individual Harmonics up to 31st
- 4x3-Φ SM or 8x3-Φ SM
 - U and I THD, TOHD, TEHD
 - U and I per Phase Individual Harmonics up to 31st
 - SM 1-4/8 Total Harmonics (per Phase I THD, TOHD, TEHD)
 - P Fund., P Harmonics, and PF Fund.
 - TDD, K-Factor and Crest Factor for Current

TOU

- Two independent sets of TOU Schedules, each supporting
 - Up to 12 Seasons
 - 20 Holidays or Alternate Days and 3 Weekdays
 - 12 Daily Profiles, each with 14 Periods
 - 6 Tariffs, each providing information for kWh/kvarh Import/Export per Phase and Total
- Switching between two TOU schedules manually or according to preprogrammed time

SOE Log

- 128 events time-stamped to 1ms resolution
- DI status changes, DO operations, Alarms, Setup changes, Self-Diagnosis

Data Recording

- 5 Data Recorders of 60 parameters each for Real-time measurements, Harmonics, Energy, Demand, Alarm, etc.
- Recording interval from 1 minute to 40 days

Freeze Logs

- 62 Daily Freeze Logs for kWh/kvarh Import/Export Total
- 31 Monthly Freeze Logs for kWh/kvarh Import/Export Total

Alarms

- Support Current, Voltage, Frequency, Unbalance, Phase Reversal, Phase Loss, Ir, IN and RTD Alarms
- Configurable Threshold and Time Delay
- All alarms are recorded in the SOE Log

Input & Output

- Up to 4xForm A Mechanical Relays for alarming and general purpose control
- Optional 12xDigital Input
 - Active Contact, 220VAC/DC external excitation
 - 1000Hz sampling for status monitoring with programmable debounce
 - Pulse counting with programmable weight for each channel for collecting WAGES (Water, Air, Gas, Electricity, Steam) information
- Optional 4xlr Input for Residual Current measurement (CT not included)
- Optional 4xRTD Input (NTC sensors not included)

RS-485

- Modbus RTU
- Optically Isolated, compatible with RS-232/422/485
- 1,200 to 38,400 bps

Ethernet (Optional)

- 1x10Base-T/100Base-TX
- Modbus TCP, MQTT and SNTP

Real-Time Clock

- Battery-backed Real-time Clock with 6ppm accuracy (<0.5s per day)

System Integration

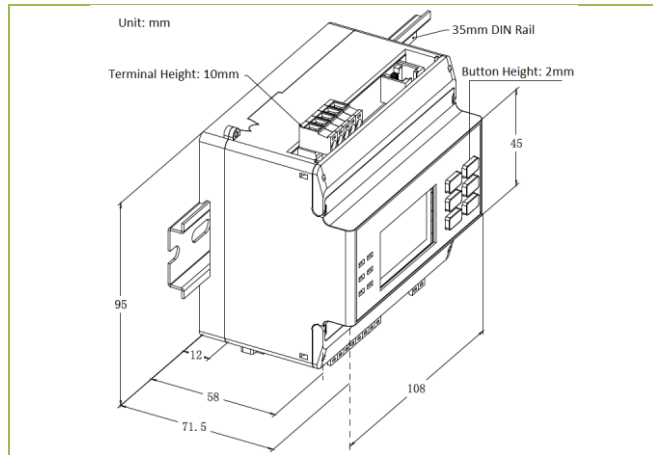
- Supported by CET's PecStar® iEMS and iEEM
- Easy integration into other Automation, Energy Management, BMS or SCADA systems via Modbus RTU/TCP

Accuracy

Parameters	Accuracy	Resolution
Voltage	±0.5%	0.01V
Current	±0.5%	0.001A
Ir	±1%	0.1mA
kW, kvar, kVA	±1.0%	0.001kX
kWh	IEC62053-21 Class 1	0.01kXh
kvarh Fund.	IEC 62053-24 Class 1	0.01kvarh
PF	±1.0%	0.001
Frequency	±0.02 Hz	0.001Hz
Harmonics	IEC 61000-4-7 Class II	0.001%
Temperature	±1.0°C	0.01°C



Dimensions and Installation



Technical Specifications

Power Supply (L/+, N/-)	
Standard Burden	95-250VAC/DC, $\pm 10\%$, 47-440Hz <4W
Voltage Inputs (UA, UB, UC, UN)	
Voltage Input (Un)	240ULN/415ULL
Range	10V to 1.2Un
Starting Voltage	10V
Overload Burden	1.2xUn continuous, 2xUn for 1s <0.02VA per phase
Frequency	45Hz to 65Hz
Current Inputs (CH1~CH4)	
I Nominal (In)	40mA
Range	0.08% to 100%
Starting Current	0.08% of In
Overload Burden	1xIn continuous, 10xIn for 10s, 20xIn for 1s <0.15VA per phase
Split-Core CT	50A/100A/200A/400A/800A/1600A to 40mA
Optional Digital Inputs (COM, IN1 ~ IN12)	
Type	Active Contact, 220V AC/DC external excitation
Hysteresis	1ms
Digital Outputs (DO11, DO12 or DO11, DO12 ~ DO41, DO42)	
Type	Form A Mechanical Relay
Loading	5A @250VAC / 30VDC
Residual Current Input (IR11, IR12 ~ IR41, IR42)	
Solid-Core CT	100A to 40mA
Range	20mA to 2000mA
RTD Inputs (TC11, TC12 or TC11, TC12 ~ TC41, TC42)	
Type	NTC Thermistors (Sensor Not Included)
Range	0°C to 140°C
Cable Length	1m/2m/3m
Communications	
RS-485 Protocol	2xRS-485
Baudrate	Modbus RTU 1,200 to 38,400 bps
Ethernet	Modbus TCP, MQTT, SNTP
Environmental conditions	
Operating Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Pollution Degree	2
Mechanical Characteristics	
Mounting	DIN Rail
Unit Dimensions	95x71.5x108mm
IP Rating	IP40

Accessories

Split-Core CT	
Models	PMC-SCCT-50A-40mA-16-A ($\varnothing=16\text{mm}$) PMC-SCCT-100A-40mA-16-A ($\varnothing=16\text{mm}$) PMC-SCCT-200A-40mA-24-A ($\varnothing=24\text{mm}$) PMC-SCCT-400A-40mA-35-A ($\varnothing=35\text{mm}$) PMC-SCCT-800A-40mA-A (80x50) PMC-SCCT-1600A-40mA-A (130x55)
Primary Input	50A/100A/200A/400A/800A/1600A
Secondary Output	40mA
Range	0.15%-120%In
Accuracy	Class 0.5
Frequency	50Hz / 60Hz
Operating Temp.	-20°C to +50°C
Residual Current Solid-Core CT	
Models	CT517103/CT517203/CT517303/CT517403
Phase Current Range	0-630A
Aperture	$\varnothing 100$
NTC Thermistors	
NTC-1044	4xNTC Sensor as one set, each with insulated metal protective sleeve (Yellow, Green, Red and Black), optional cable length of 1m, 2m or 3m

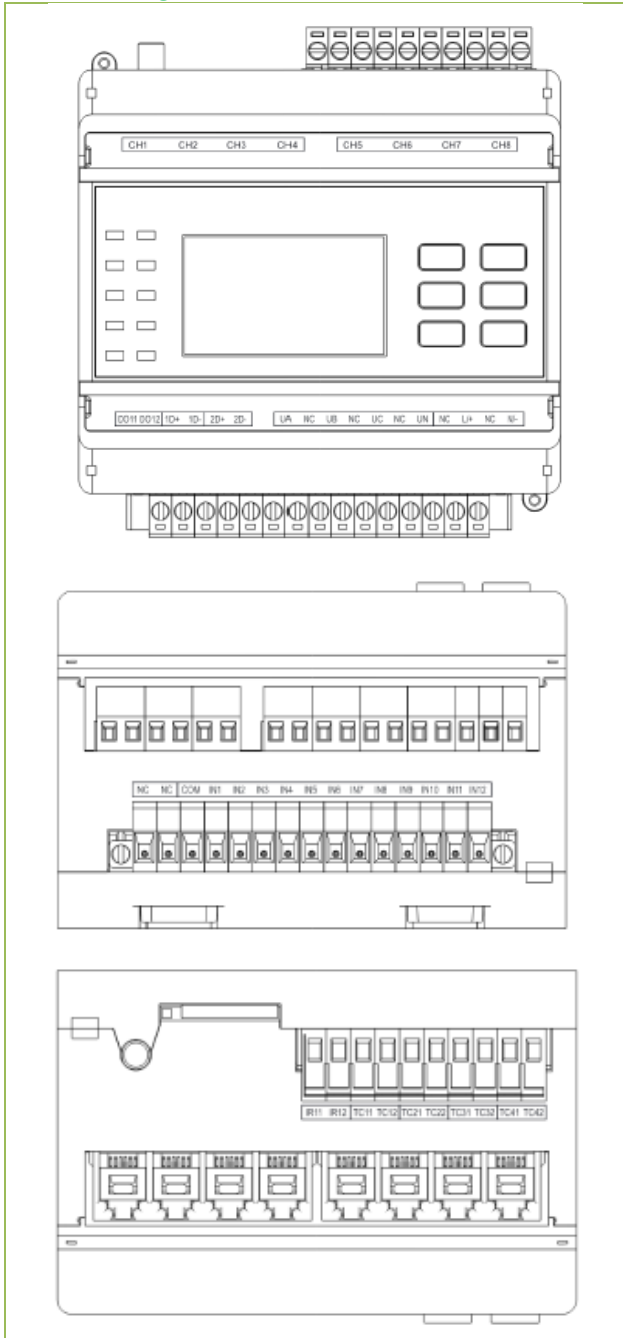
Standards of Compliance

Safety Requirements	
CE LVD Directive 2014 / 35 / EU	EN61010-1: 2010 EN 61010-2-030: 2010
Electrical Safety in Low Voltage Distribution Systems up to 1000Vac and 1500 Vdc	IEC 61557-12: 2018 (PMD)
Insulation	IEC 62052-11: 2003 IEC 62053-22: 2003
AC Voltage: 2kV @ 1 minute	
Insulation Resistance: >100M Ω	
Impulse Voltage: 6kV, 1.2/50 μs	
Electromagnetic Compatibility	
EMC Directive 2014 / 30 / EU (EN 61326: 2013)	
Immunity Tests	
Electrostatic discharge	EN 61000-4-2: 2009
Radiated fields	EN 61000-4-3: 2006+A1: 2008+A2: 2010
Fast transients	EN 61000-4-4: 2012
Surges	EN 61000-4-5: 2014+A1: 2017
Conducted disturbances	EN 61000-4-6: 2014
Magnetic Fields	EN 61000-4-8: 2010
Voltage Dips and Interruptions	EN 61000-4-11:2004+A1: 2017
Ring Wave	EN 61000-4-12: 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 $\leq 16\text{ A}$	EN 61000-3-2: 2014
Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current $\leq 16\text{ A}$	EN 61000-3-3: 2013
Emission standard for industrial environments	EN 61000-6-4: 2007+A1: 2011
Mechanical Tests	
Spring Hammer Test	IEC 62052-11: 2003
Vibration Test	IEC 62052-11: 2003
Shock Test	IEC 62052-11: 2003



PMC-512-M Multi-Circuit Power Monitor

Terminal Diagrams



Ordering Information

Version 20251210	
Product Code	Description
PMC-512 Multi-Circuit Power Monitor	
Basic Function	
M	Multi-Circuit Power Monitor with Backlit 8.8W LCD Display, 16MB On-board Memory, supporting Real-time RMS measurements, Data Recorder, Daily and Monthly Freeze Logs, Demands, Multi-Tariff TOU, standard with 2xRS-485 ports
Branch Feeders	
4	4x3-Phase SM (12x1-Φ or 4x3-Φ Sub-Meters)
8*	8x3-Phase SM (24x1-Φ or 8x3-Φ Sub-Meters)
Input Current	
SCCT	External Split-Core CT with 50A, 100A, 200A, 400A, 800A, 1600A Primary and 40mA Secondary
Input Voltage	
3	240VAC (3x240VLN/415VLL)
Power Supply	
2	95-250VAC/DC ± 10%, 47-440Hz
Frequency	
5	45-65Hz
I/O	
N	1xDO
A*	12xDI (220VAC/DC) + 1xIR + 4xNTC + 1xDO
B*	4xDO + 4xIR + 4xNTC
Expansion Comm.	
N	None
ETH*	1xEthernet Port
Display Language	
E	English
PMC-512 - M 4 SCCT 3 2 5 N N E PMC-512-M4SCCT325NNE (Standard Model)	

* Additional charges apply

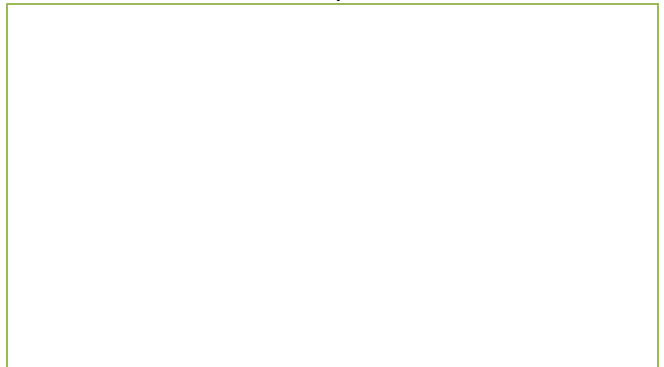
1) Please refer to PMC-512-M Accessories for CTs and NTC Sensor options.

2) Branch Feeders Option "8" is only available with I/O Option "N" or "A" + Expansion Comm. Option "N".

3) I/O Option "N" and "A" is only available with Expansion Comm. Option "N".

I/O Option "B" is only available with Branch Feeders Option "4" + Expansion Comm. Option "ETH"

Your Local Representative



Revision Date: December 23, 2025

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Designed For Reliability

Manufactured To Last