



PMC-D961MD

DC Multifunction Meter



The PMC-D961MD DC Multifunction Meter is CET's latest offer for the low-cost DC metering market. Housed in an industry standard DIN form factor measuring 96x96x87.2mm, it is perfectly suited for industrial, commercial and utility DC metering applications. The PMC-D961MD complies with Class 0.5 kWh Accuracy Standard and features quality construction, multifunction measurements and a bright, easy to read LCD display. The PMC-D961MD comes standard with two Front Panel LED indicators for Energy Pulsing and Communication. It provides 4xDI for status monitoring, 2xDO for Control and Alarming, and 1xSS Pulse Output for kWh Energy Pulsing applications. The standard SOE Log records meter events such as power-off, Setpoints, setup changes and DI operations in 1ms resolution. With a standard RS-485 port and an optional 10/100BaseT Ethernet Port support, the PMC-D961MD becomes a vital component of an intelligent, multifunction monitoring solution for any DC Power and Energy Management systems.

Typical Applications

- DC Inverter, DC Panel Metering and DC Charging Station
- Industrial and commercial DC metering
- DC Distribution Monitoring

Features Summary

Ease of use

- Large, Backlit Dot-Matrix LCD display with wide viewing angle
- Intuitive user interface
- LED indicators for Energy Pulsing and Communication activities
- Password protected setup via Front Panel or free setup software
- Easy installation with mounting clips, no tools required

Measurements

- Voltage, Bi-directional Current and P Import/Export
- Bi-directional kWh measurements

Demands

- Present Demands for Current and P
- Max. Demands with Timestamp for This Month & Last Month

Setpoints

- 6 user programmable Setpoints with extensive list of monitoring parameters including Voltage, Current, Power and P Demand, etc.
- Configurable thresholds, time delays and DO triggers

SOE Log

- 32 events time-stamped to ± 1 ms resolution
- Setup changes, Power On/Off, Setpoints and DI status changes as well as DO operations

Max./Min. Log

- Max./Min. Log with Timestamp for Current and P
- Configurable for This Month/Last Month

Monthly Freeze Log

- Monthly Log with Timestamps for kWh Import/Export
- Available through Modbus communication for 24 Monthly Freeze records

Inputs and Outputs

- 2xFront Panel LED indicator for Energy Pulsing and Communication
- 4xDigital Input for Status Monitoring
- 2xDigital Output for Control and Alarming
- 1xSS Pulse Output

Communications

- Standard with one RS-485 port with baud rate from 1.2kbps to 38.4kbps
- One optional 10/100BaseT Ethernet Port with RJ45 connector
- Modbus RTU and Modbus TCP support

Real-Time Clock

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

System Integration

- Supported by our PecStar® iEMS
- Easy integration into other Automation, SCADA or BMS systems via Modbus RTU

Accuracy

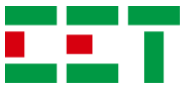
Parameters	Accuracy	Resolution
Voltage	$\pm 0.2\%$	0.001V
Current	$\pm 0.5\%$	0.001A
P	$\pm 0.5\%$	0.001W
kWh	Class 0.5	0.01kWh

Technical Specifications

DC Inputs	
Voltage Input	
Standard (Un)	1000V DC
Measurement Range	10-1500V DC
Overload	1.5xUn continuous
Current Input	
Nominal Input (In)	± 4 V (via Hall-Effect Sensor)
Measurement Range	0.8% to 120% In
Burden	<0.001 VA
Overload	1.2xIn continuous
Power Supply (L/+, N/-)	
Standard	95-250VAC, $\pm 10\%$, 47-440Hz
Burden	88-400VDC <2 VA
Digital Inputs (DI1, DI2, DI3, DI4)	
Type	Dry contact, 24VDC internally wetted
Hysteresis	20ms minimum
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Pulse Output (E+, E-)	
Type	Solid-State Pulse Output
Pulse Constant	1/10/100/400 Imp/kWh
Pulse Width	80ms $\pm$ 20ms
Communications	
RS-485 Port	
Baud Rate	1200/2400/4800/9600/19200/38400bps
Protocol	Modbus RTU
Ethernet Port (Optional)	
Speed	10/100 Mbps
Protocol	Modbus TCP
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
Mechanical Characteristics	
Panel Cutout	92x92 mm
Unit Dimensions	96x96x87.2 mm
IP Rating	IP65

Designed For Reliability

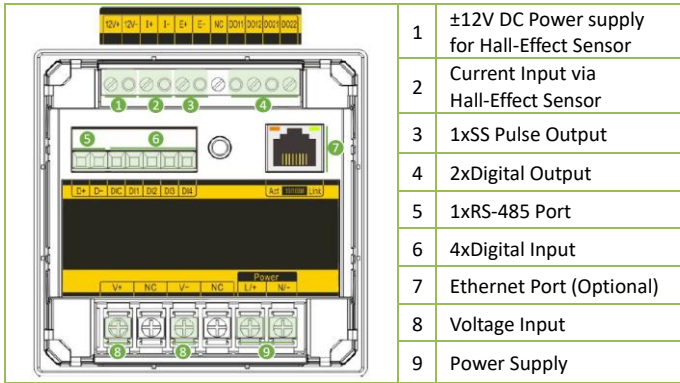
Manufactured To Last



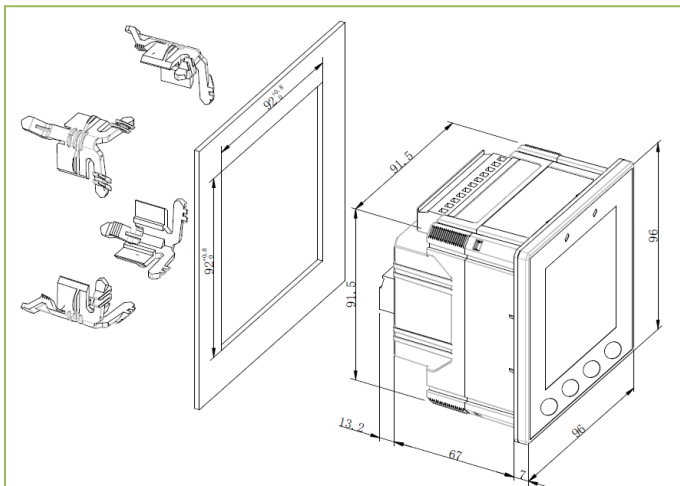
PMC-D961MD

DC Multifunction Meter

Rear Panel



Installation and Dimensions



Ordering Information

Version 20241120	
Product Code	Description
PMC-D961MD DC Multifunction Meter	
Basic Function	
L	DIN96 Panel Mounting, Dot-Matrix LCD display, 1xDC Voltage Input, 1xDC Current Input and Bi-directional kWh measurements, Demands, Max./Min. Logs, Monthly Freeze Logs, Setpoints and SOE Logs
Input Current	
2	1 x ±4V Input via Hall-Effect Sensor
Input Voltage	
5	10-1500V DC
Power Supply	
2	95-250V AC, 47-440Hz 88-400V DC
I/O	
A	4xDI + 2xDO + 1xPulse Output
Communications	
A	1xRS-485 Port
E*	1xRS-485 Port + 1x10/100BaseT Ethernet Port
Display Language	
E	English
PMC-D961MD - L 2 5 2 A A E PMC-D961MD-L252AAE (Standard Model)	

*Additional charges apply.

1) Please refer to Accessories sheet for Hall-Effect sensors' order information.

2) ±12V DC Power supply required for Hall-Effect Sensors will be supplied by PMC-D961MD device. No additional power supply is required.



Version 20241205

PMC-D961MD Accessories					
Split-Core Hall-Effect Sensor					
Model #	Specification	Accuracy	Dimension (mm)	Burden (W)	Cable Length
PMC-DCT-200A-4V-A	200(300)A	Class 1	Round hole, φ35	0.3	Not included
PMC-DCT-400A-4V-A	400(600)A	Class 1	Square hole, 42x15	0.3	Not included
PMC-DCT-600A-4V-A	600(900)A	Class 1	Square hole, 42x15	0.3	Not included
PMC-DCT-800A-4V-A	800(1200)A	Class 1	Square hole, 64x16	0.3	Not included
PMC-DCT-1000A-4V-A	1000(1500)A	Class 1	Square hole, 104x36	0.3	Not included
PMC-DCT-2000A-4V-A	2000(3000)A	Class 1	Square hole, 104x36	0.3	Not included

The cables for connecting PMC-D961MD to Hall-Effect Sensors are not included. The recommended wire size is 0.5 - 1.0 mm².

Standards of Compliance

Safety Requirements	
CE LVD 2014 / 35 / EU	EN 61010-1: 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
Dielectric test:	1.5kV @ 1 minute
Insulation resistance:	>100MΩ
Impulse voltage:	6kV, 1.2/50μs
Electromagnetic Compatibility CE EMC Directive 2014 / 30 / EC (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	EN 55011: 2016
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	EN 55032: 2015
Limits for Harmonic Current Emissions for Equipment with Rated Current ≤16 A	EN 61000-3-2: 2014
Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current ≤16 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
Shock Test	IEC 62052-11: 2003
Vibration Test	IEC 62052-11: 2003

CET Electric Technology Inc.

E: sales@cet-global.com

W: www.cet-global.com

Your Local Representative



Revision Date: December 12, 2024

Designed For Reliability

Manufactured To Last