

PMC-D721MD

DC Multifunction Meter



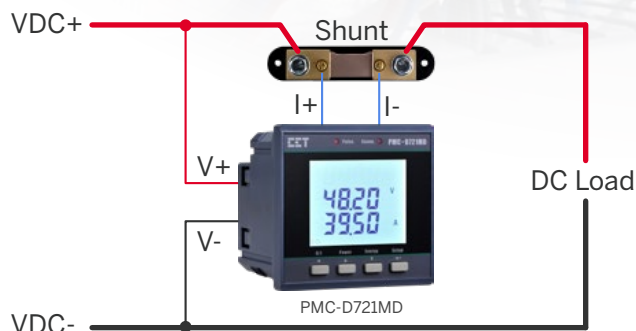
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Overview

The PMC-D721MD DC Multifunction Meter is CET's latest offer for the low-cost DC metering market. Housed in an industry standard DIN form factor measuring 72x72x71.8mm, it is perfectly suited for industrial, commercial and utility DC metering applications. The PMC-D721MD complies with Class 0.5 kWh Accuracy Standard and features quality construction, multifunction measurements and a bright, easy to read LCD display. The PMC-D721MD comes standard with two Front Panel LED indicators for Energy Pulsing and Communication. It provides two Digital Inputs for status monitoring and two Solid State Pulse Outputs for kWh Energy Pulsing applications. The standard SOE Log records meter events such as power-off, setup changes and DI operations in 1ms resolution. With a standard RS-485 port and Modbus protocol support, the PMC-D721MD becomes a vital component of an intelligent, multi-function monitoring solution for any DC Power and Energy Management systems.

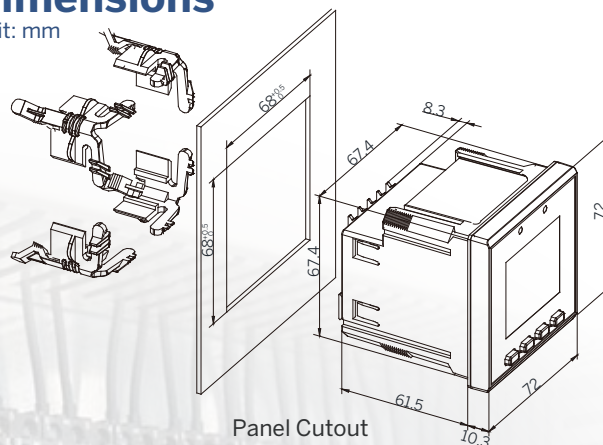
Typical Applications

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



Dimensions

Unit: mm



Features Summary

Ease of use

- Large, backlit 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 PMC Setup software
- Easy installation with mounting clips, no tools required

Measurements

- Voltage, Current and kW
- Bi-directional kWh measurements

Inputs and Outputs

- 2 x Front Panel LED indicators for Energy Pulsing and Communication
- 2 x Digital Input for Status Monitoring
- 2 x Solid State Relay for kWh Imp and kWh Exp Pulse Output

SOE Log

- 32 events time-stamped to ± 1 ms resolution
- Record all setup and Digital Input status changes

Communications

- Standard with one RS-485 port
- Modbus RTU support at 1,200 to 19,200 bps

System Integration

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

Accuracy

Parameters	Accuracy	Resolution
Voltage	± 0.2%	0.1V
Current	± 0.2%	0.01A
kW	± 0.5%	0.001kW
kWh	Class 0.5	0.1kWh

Technical Specifications

DC Inputs

Voltage Input	Standard (Un)	1000V DC
	Measurement Range	1% to 120% Un
	Starting Voltage	10V DC
	Overload	1.2xUn continuous, 2xUn for 1s
Current Input	Nominal Input (In)	100mV DC (via Shunt Output), configurable for Shunts rated at 50, 60, 75 and 100mV
	Measurement Range	1% to 120% In
	Starting Current	0.2% of In
	Max. Shunt Current	10,000A
	Overload	1.2xIn continuous, 10xIn for 10s, 20xIn for 1s

Power Supply (L/+, N/-)

Standard	95-250VAC/DC, ± 10%, 47-440Hz
Burden	<2W

Digital Inputs

Type	Dry contact, 24VDC internally wetted
Hysteresis	20ms minimum

Pulse Outputs

Type	Front Panel LED/Solid State DO
Pulse Constant	25/100/400/1000/3200 Imp/kWh
Pulse Width	80ms ± 20ms

Communications

RS-485	Modbus RTU
Baud Rate	1200/2400/4800/9600/19200bps

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

Mechanical Characteristics

Panel Cutout	68x68mm
Unit Dimensions	72x72x71.8mm
IP Rating	52
Shipping Weight	0.34kg
Shipping Dimensions	125x110x80mm

Standards of Compliance

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	IEC62052-11: 2003 IEC62053-22: 2003
Dielectric Test:	4kV @ 1 minute
Insulation Resistance:	>40MΩ
Impulse Voltage:	6kV, 1.2/50μs

EMC Compatibility

CE EMC Directive 2014/30/EC (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
Voltage Dips and Interruptions	EN61000-4-11: 2004+A1: 2017
Ring Wave	EN61000-4-12: 2017

Emission Tests

Limits and Methods of Measurement of Electromagnetic Disturbance Characteristics of Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment	EN55011: 2016
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	EN55032: 2015
Limits for Harmonic Current Emissions for Equipment with Rated Current ≤ 16 A	EN61000-3-2: 2014
Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current ≤ 16 A	EN61000-3-3: 2013
Emission Standard for Industrial Environments	EN61000-6-4: 2007+A1: 2011

Mechanical Tests

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

Ordering Information

Product Code	Description
PMC-D721MD	DC Multifunction Meter
Display Screen	L LCD
Input Current	1 0-100mV DC (via external Shunt Resistor)
Input Voltage	1 0-1000V DC
Power Supply	2 90-250V AC/DC, 47-440Hz
I/O	A 2×DI + 2×Pulse Output
Communications	A 1×RS-485 Port
Language	E English
PMC-D721MD	L 1 1 2 A A E PMC-D721MD-L112AAE (Standard Model)

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