

Multifunction Energy Meter

PMC-D726M

High Accuracy Multifunction

PMC-D726M Digital Multifunction Meter is CET's latest offer for the low-cost digital power/energy metering market. Housed in an industry standard DIN form factor measuring 72mmx72mmx-71.8mm (LCD) or 72mmx72mmx76.8mm (LED), it is perfectly suited for industrial, commercial and utility metering applications. The PMC-D726M features quality construction, true RMS multifunction measurements and a LED or LCD display. Compliance with the IEC 62053-21 Class 1 kWh Accuracy Standard, it provides optimum Price to Value ratio and is a cost effective replacement for traditional analog instrumentation, capable of displaying 3-phase measurements at once. The PMC-D726M optionally provides Split-Core CT (SCCT) support for retrofit applications, two Digital Inputs for status monitoring, two Digital Outputs for control, or one 0/4-20mA Analog Output for interfacing with 3rd party SCADA system. The standard SOE Log records meter events such as power-off, setup and DI status changes in 1ms resolution. With the optional RS-485 port and Modbus RTU protocol support, the PMC-D726M becomes a vital component of an intelligent, multifunction monitoring solution for any Power and Energy Management systems.

Typical Applications

- Analog meter replacement
- Industrial, Commercial and Utility panel metering
- Substation, Factory and Building Automation
- Sub-metering and Cost Allocation
- Ideal for retrofitting with the SCCT option

Features Summary

Ease of use

- Large, bright, backlit LCD or high-contrast LED display
- Front panel kWh and kvarh LED energy pulse outputs
- Password-protected setup via front panel or free PMC Setup software
- Easy installation with mounting clips, no tools required

Measurements

- UIn, UII per phase and Average
- Current per phase and Average with calculated Neutral
- kW, kvar, kVA, P.F. per phase and Total
- Bi-directional energy measurements
- Frequency

PQ Measurements

- THD, TOHD, TEHD and Individual Harmonics up to 31st
- TDD, K-Factor and Crest-Factor
- U and I Unbalance and Phase Angles



Setpoints

- 6 user programmable setpoints with extensive list of monitoring parameters including Voltage, Current, Power, and Demand
- Configurable Threshold and Time Delay
- SOE Logging and DO trigger

SOE Log

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

TOU and Demand

- One TOU schedule, providing
 - 6 Seasons
 - 6 Daily Profiles, each with 6 Periods in 15-minute interval
 - 10 Holidays or Alternate Days
 - 4 Tariffs, each providing kWh and kvarh Imp/Exp and kVAh
- Demands and Max. Demands with Timestamp for per phase Current, kW Total, kvar Total and kVA total

Optional Inputs and Outputs

- Two Digital Inputs for Status Monitoring
- Two Digital Outputs for Control applications
- One Analog Output at 0/4-20mA
- Two Solid State Relay Output for Energy Pulsing applications

Communications

- Optically isolated RS-485 port at 1200 to 19,200 bps
- Modbus RTU support

System Integration

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

Energy Meter *DIN 72*



Accuracy

Parameters	Accuracy	Resolution
Voltage	±0.2% reading	0.1V
Current	±0.2% reading	0.001A
kW, kvar, kVA	±0.5% reading	0.001kX
kWh	IEC 62053-21 Class 1	0.01kWh
kvarh	IEC 62053-23 Class 2	0.01kvarh
P.F.	±1.0% reading	0.001
Frequency	±0.02 Hz	0.01Hz
AO	±1.0% F.S	-
Harmonics	IEC 61000-4-7 Class B	0.1%
K-Factor	IEC 61000-4-7 Class B	0.1

Technical Specifications

Voltage Inputs (V1, V2, V3, VN)

Standard	240VLN/415VLL
Range	10V to 120% Un
Starting Voltage	10V
PT Ratio	1-1,000,000 (Primary), 1-690 (Secondary)
Overload	1.2xUn continuous, 2xUn for 1s
Burden	<0.02VA per phase
Frequency	45-65Hz

Current Inputs (I11, I12, I21, I22, I31, I32)

Standard Input	5A
Optional Input	1A
CT Ratio	1-30,000 (Primary), 1-5 (Secondary)
Optional SCCT Input	2.5mA (SCCTA Option for 5A SCCT) 40mA (SCCT Option for 100-800A SCCT)
Range	0.1% to 120% In
Starting Current	0.1% In
Overload	1.2xIn continuous, 10xIn for 10s, 20xIn for 1s
Burden	<0.25VA per phase

Power Supply (L/+, N/-, GND)

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

Digital Inputs (DI1, DI2, DIC)

Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1ms minimum

Digital Outputs (DO11, DO12, DO21, DO22)

Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC

Analog Output (AO+, AO-)

Type	0-20 / 4-20 mA
Parameter	Selectable
Loading	500 Ω maximum
Overload	24 mA maximum

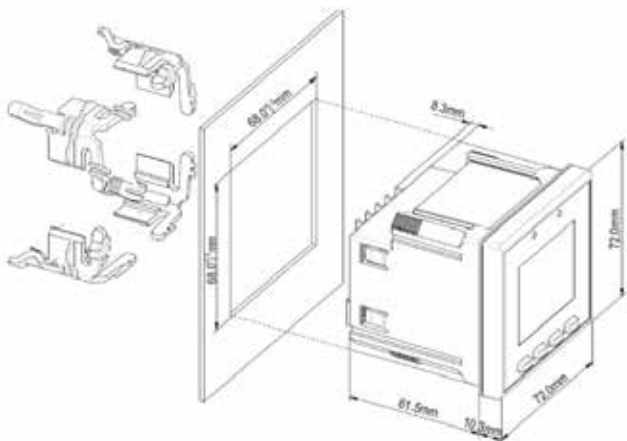
Environmental Conditions

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

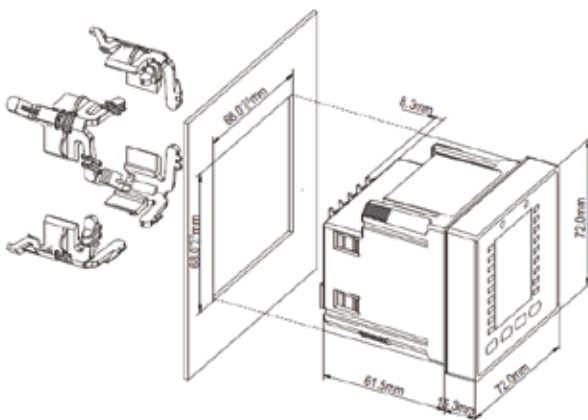
Mechanical Characteristics

Panel Cutout	68x68 mm
Unit Dimensions	72x72x71.8 mm (LCD), 72x72x76.8 mm (LED)
IP Rating	52
Shipping Weight	0.802 kg
Shipping Dimensions	125x110x80 mm

Device Dimensions



Panel Cutout (LCD)



Panel Cutout (LED)

Split-Core CTs

Split-Core CTs Model # (PMC-SCCT)	Rating	Aperture (mm)	Output Wire	I _{max}	Accuracy	Rated Load	Max. Burden
100A-40mA-16-A	100A/40mA	φ16.1±1	2m	120A	1.0	20Ω	0.046VA
200A-40mA-24-A	200A/40mA	φ24.1±1	2m	240A	0.5	10Ω	0.023VA
400A-40mA-35-A	400A/40mA	φ35.1±1	2m	480A	0.5	10Ω	0.023VA
800A-40mA-A	800A/40mA	80x50	2m	960A	0.5	10Ω	0.023VA
5A-2.5mA-10-A	5A-2.5mA	φ10.2±1.5	2m	20A	1.0	200Ω	0.02VA

Insulation=100MΩ/500VDC
 UL94-V0 rated
 Open-Circuit Protection @ 6-8V
 22AWG Output Wire (S1=White, S2=Black)

Standards of Compliance

Safety Requirements	
CE LVD 2006 / 95 / EC	EN 61010-1: 2010 EN 61010-2-030: 2010
Insulation	IEC 62052-11: 2003 IEC 62053-22: 2003 AC Voltage Test: 4kV @ 1 minute Insulation Resistance: >100MΩ Impulse Voltage: 6kV, 1.2/50μs

Ordering Information

Product Code									Description
PMC-D726M									3-Phase Multifunction Meter (DIN72)
Display Screen	-								LED
	L								LCD
Input Current		5							5A
		1							1A
		SCCT*							For use with 100A,200A,400A and 800A SCCTs with 40mA Output
		SCCTA*							For use with 5A SCCT with 2.5mA Output
Input Voltage			3					250V/415V	
Power Supply				2					95/250V AC/DC, 47-440Hz
System Frequency					5				45-65Hz
Digital I/O Analog Output						X			None
						A*			2×DI
						C*			1×AO
						D*			2×DI+2×DO
							E*		
Communications							X		None
							A		1×RS-485Port, Modbus
Display Language								E	English
PMC-D726M	-	5	3	2	5	X	A	E	PMC-D726M-5325XAE (LED Example)
	L	5	3	2	5	X	A	E	PMC-D726M-L5325XAE (LCD Example)

*Additional charges apply

EMC

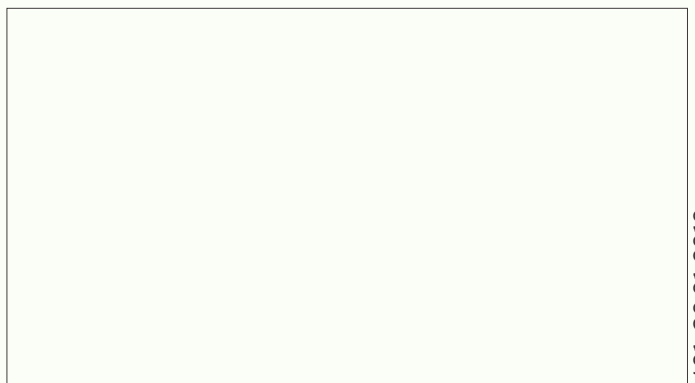
CE EMC Directive 2004 / 108 / EC (EN 61326: 2013)

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: 2006
Conducted Disturbances	EN 61000-4-6: 2009
Magnetic Fields	EN 61000-4-8: 2010
Voltage Dips and Interruptions	EN 61000-4-11: 2004
Oscillatory Waves	EN 61000-4-12: 2006
Emission Tests	
Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment	EN 55011: 2009 + A1: 2010 (CISPR 11)
Limits and methods of measurement of radio disturbance characteristics of information technology equipment	EN 55022: 2010 + AC: 2011 (CISPR 22)
Limits for harmonic current emissions for equipment with rated current ≤16 A	EN 61000-3-2: 2006 + A1: 2009 + A2: 2009
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

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V.01 30.01.2019