



- IEC 62053-22 Class 0.5S
- Harmonics Monitoring
- Demands and Peak Demands
- Voltage & Current Phase Angles
- I/O Capabilities
- RS-485 Port at max. 38,400 bps
- Metasys N2 and BACnet MS/TP
- Large, Bright, Backlit LCD Display with Wide Viewing Angle
- Standard Tropicalization
- Industrial Grade Components
- IP52 Enclosure with No Openings
- Extended Temperature Range
- Extended Warranty

*Designed For Reliability*

*Manufactured To Last*



The PMC-53M Intelligent 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 96mmx96mmx75mm, it is perfectly suited for industrial, commercial and utility metering applications. The PMC-53M features quality construction, multifunction measurements and a large, backlit, easy to read LCD display. Compliance with the IEC 62053-22 Class 0.5S kWh Accuracy Standard, it is a cost effective replacement for analog instrumentation, capable of displaying 3-phase measurements at once. It optionally provides two Digital Inputs for status monitoring and two Digital Outputs for control, alarm or energy pulsing applications. With the Metasys N2 and BACnet MS/TP protocol support, the PMC-53M can easily be integrated into Johnson Controls or other Building Automation Systems.

### Typical Applications

- Analog meter replacement for low and medium voltage applications
- Industrial and commercial panel metering
- Substation, industrial, factory and building automation
- Sub-metering and cost allocation
- Power quality monitoring
- Simple BMS integration with Metasys N2 and BACnet MS/TP

### Accuracy

Parameters	Accuracy	Resolution
Voltage	±0.2% reading	0.01V
Current	±0.2% reading + 0.05% F.S.	0.001A
Neutral Current*	1% F.S.	0.001A
kW, kVA	IEC 62053-22 Class 0.5S	0.001k
kWh, kVAh	IEC 62053-22 Class 0.5S	0.1kWh
kvar / kvarh	IEC 62053-21 Class 2	0.001k / 0.1kvarh
P.F.	IEC 62053-22 Class 0.5S	0.001
Frequency	±0.02 Hz	0.01Hz
THD*	IEC 61000-4-7 Class B	0.1%
K-Factor*	IEC 61000-4-7 Class B	0.1
Phase angles*	±1°	0.01°

### Features Summary

#### Measurements

- VLN, VLL per phase and Average
- Current per phase and Average
- kW, kvar, kVA, PF per phase and Total
- kWh, kvarh Import / Export and kVAh Total
- Bi-directional energy measurements
- Frequency

#### Enhanced Measurements\*

- Neutral Current
  - kW Total, kvar Total, kVA Total and Current Demands/Peak Demands
  - Voltage and Current Unbalance, THD and K-Factor, Displacement PF
  - Voltage and Current Phase Angles
- \* Supported by Firmware Version 1.20.01 and Protocol Version 6.0 or later

#### Ease of use

- Large, backlit, easy to read, 5-line LCD display with wide viewing angle
- Password-protected setup via front panel or free PMC Setup software
- Easy installation with mounting clips, no tools required
- Built in alarm buzzer for optional I residual and Temperature alarms
- kWh and kvarh energy pulse outputs for accuracy testing

#### Setpoints

- 6 user programmable setpoints
- Configurable thresholds, time delays and DO triggers

#### SOE Log

- 32 events time-stamped to ±1ms resolution
- Setup changes, Setpoint and DI status changes and DO operations

#### Communications

- Optically isolated RS485 port at max. 38,400 bps
- Metasys N2 and BACnet MS/TP

#### System Integration

- Easy integration into Johnson Controls Metasys with N2 or any Building Automation Systems with BACnet MS/TP

### Optional Features

#### Digital Inputs and Outputs

- Digital Inputs - 2 volts free dry contact, 24VDC internally wetted
- Digital Outputs - 2 Form A DO (mechanical) or Solid State (SS) relays
  - 2 DO relays for ALARM, TRIP, or general purpose control
  - 2 SS relays for kWh and kvarh pulsing

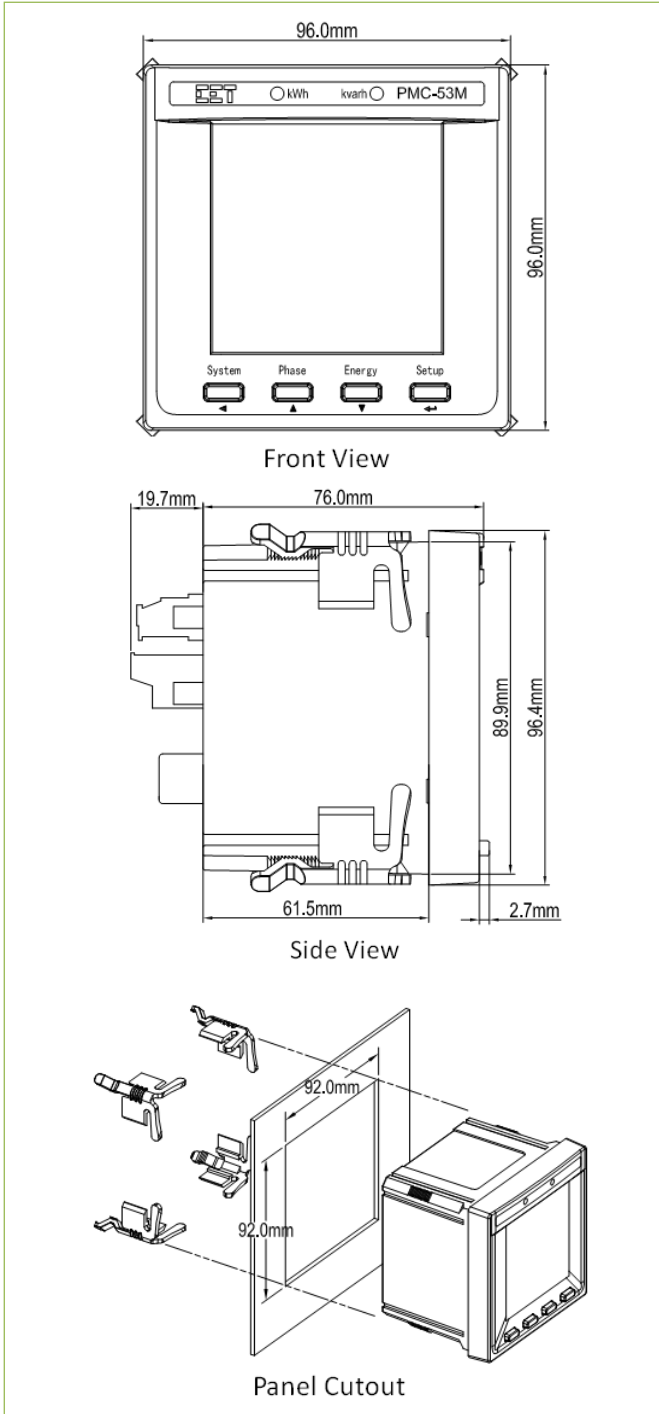
**Technical Specifications**

Voltage Inputs (V1, V2, V3, VN)	
Standard	240VLN/415VLL
Optional	57.7VLN/100VLL
Range	10% to 110% Un
PT Ratio	1-2200
Overload	1.1xUn continuous, 2xUn for 1s
Burden	<0.1VA per phase
Frequency	45-65Hz
Current Inputs (I11, I12, I21, I22, I31, I32)	
Standard	5A
Optional	1A
Range	0.1% to 120% In
CT Ratio	1-6,000 (5A) or 1-30,000 (1A)
Overload	1.2xIn continuous, 20xIn for 1s
Burden	<0.3VA per phase
Power Supply (L+, N-, GND)	
Standard	95-250VAC/DC, $\pm 10\%$ , 47-440Hz
Burden	<3W
Digital Inputs (DI1, DI2, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	40ms minimum
Digital Outputs (DO11, DO12, DO21, DO22)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC or 30VDC
Pulse Outputs (kWh, kvarh)	
Type	Form A Solid State Relay
Isolation	Optical
Max. Load Voltage	80V
Max. Forward Current	50mA
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 (3.62"x3.62")
Unit Dimensions	96x96x75 mm (3.8"x3.8"x3.0")
IP Rating	52
Shipping Weight	0.55 kg
Shipping Dimensions	170x160x150 mm (6.7"x6.3"x5.9")
Measurement Category	III


**Standards of Compliance**

Safety Requirements		
CE LVD 2006 / 95 / EC		EN61010-1-1-2001
Insulation		IEC 60255-5-2000
Dielectric test: 2kV @ 1 minute		
Insulation resistance: >100M $\Omega$		
Impulse voltage: 5kV, 1.2/50 $\mu$ s		
Electromagnetic Compatibility CE EMC Directive 2004/108/EC (EN 61326: 2006)		
Immunity Tests		
Electrostatic discharge		IEC 61000-4-2: 2008 Level III
Radiated fields		IEC 61000-4-3: 2008 (10 V/m)
Fast transients		IEC 61000-4-4: 2004 Level III
Surges		IEC 61000-4-5: 2005 Level III
Conducted disturbances		IEC 61000-4-6: 2008 Level III
Magnetic Fields		IEC 61000-4-8: 2009 Level IV
Oscillatory waves		IEC 61000-4-12: 2006 Level III
Electromagnetic Emission		IEC 60255-25: 2000
Emission Tests		
Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment		EN 55011: 2009 (CISPR 11)
Limits and methods of measurement of radio disturbance characteristics of information technology equipment		EN 55022: 2006+A1: 2007 (CISPR 22)
Limits for harmonic current emissions for equipment with rated current $\leq 16$ A		EN 61000-3-2: 2006+A1: 2009
Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current $\leq 16$ A		EN 61000-3-3: 2006
Emission standard for residential, commercial and light-industrial environments		EN 61000-6-3: 2007
Electromagnetic Emission Tests for Measuring Relays and Protection Equipment		IEC 60255-25: 2000
Mechanical Tests		
Vibration Test	Response	IEC 60255-21-1:1998 Level I
	Endurance	IEC 60255-21-1:1998 Level I
Shock Test	Response	IEC 60255-21-2:1998 Level I
	Endurance	IEC 60255-21-2:1998 Level I
Bump Test		IEC 60255-21-2:1998 Level I

## Device View and Dimensions



## Ordering Information



**Ceiec  
Electric  
Technology**

Version 20140708

Product Code	Description
<b>PMC-53M Intelligent Multifunction Meter</b>	
<b>Basic Function</b>	
M	3-phase real-time multi-function parameters
<b>Input Current</b>	
5	5A
1	1A
<b>Input Voltage</b>	
1	57.7/100V
3	240/415V
9	415V Delta
<b>Power Supply</b>	
2	95-250VAC/VDC, 47-440Hz
3	20-60VDC
<b>System Frequency</b>	
5	50Hz
6	60Hz
<b>I/O</b>	
X	None
B*	2DI + 2DO
C*	2DI + 2 SS Pulse Outputs
<b>Display Screen</b>	
C	LCD
<b>Residual and RTD Inputs</b>	
X	None
<b>Communications</b>	
C	1xRS-485 Port, BACnet MS/TP + Metasys N2
<b>Display Language</b>	
E	English
PMC-53 M - 5 3 Z 5 X C X C E	PMC-53M-5325XCXCE (Standard Model)

\* Additional charges apply

## Your Local Representative



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