PMC-220
Single-Phase Multifunction Meter



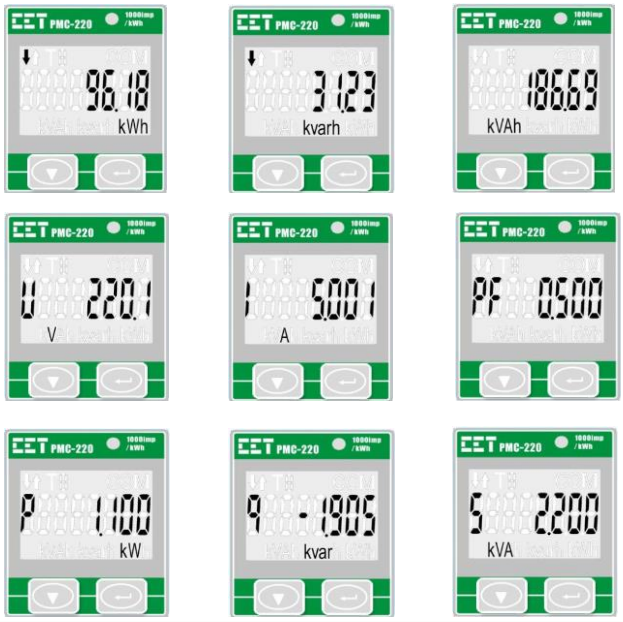
Overview

The PMC-220 Single-Phase Multifunction Meter is CET's latest offer for the low voltage energy metering market featuring DIN rail mount, compact construction, 63A direct current input and high accuracy measurements. The PMC-220 complies with the IEC 62053-21 Class 1 kWh Accuracy Standard. With the standard RS485 port and Modbus RTU protocol, the PMC-220 becomes a vital component of an intelligent, multifunction monitoring solution for any Energy Management Systems.

Features

- IEC 62053-21 Class 1
- Direct Input up to 63A without external CT
- Low starting current @ 20mA
- Multifunction measurements
  - Voltage, Current, kW, kvar, kVA, PF and Frequency
  - kWh and kvarh Imp/Exp/Tot/Net and kVAh
- 6½ digit Multifunction LCD Display
- Self- powered, no external control power required
- kWh LED Pulse Output
- Solid State Energy Pulse Output @ 1000 imp/kWh
- Standard RS-485 port with Modbus RTU support
- Easy installation with DIN rail mounting, no tools required

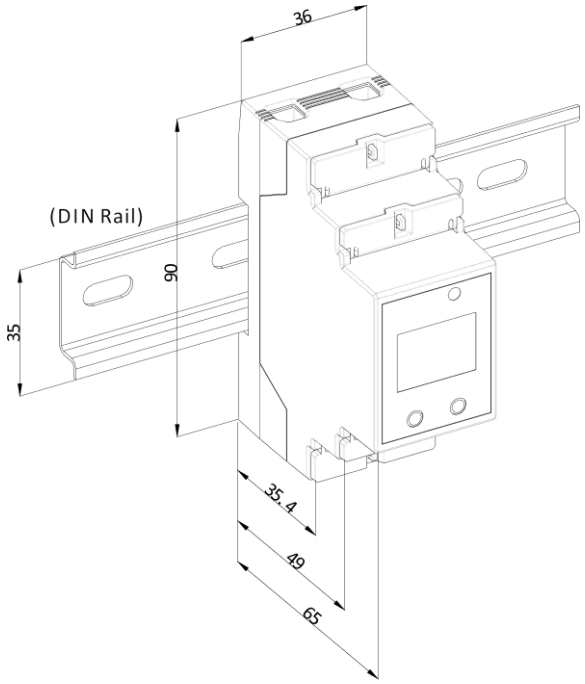
Front Panel Display



Accuracy

Parameters	Accuracy	Resolution
Voltage	±0.5% reading	0.1V
Current	±0.5% reading	0.001A
kW, kVA	IEC 62053-21 Class 1	0.001kX
kvar	IEC 62053-23 Class 2	0.001kvar
kWh	IEC 62053-21 Class 1	0.01kWh
kvarh	IEC 62053-23 Class 2	0.01kvarh
P.F	±1.0%	0.001
Frequency	±0.02Hz	0.01Hz

Dimensions and Installation



Terminals and Wiring Diagram



No.	Terminal	Labels	Description
1	1 2	L, N	Input Terminals
2	5 6	E+, E-	Pulse Output Terminals
3	7 8	D+, D-	RS485 Terminals
4	3 4	L', N'	Output Terminals

Designed For Reliability *Manufactured To Last*

PMC-220
Single-Phase Multifunction Meter

Technical Specifications

Inputs (L, N)	
Voltage (Un)	240VAC
Range	0.4 to 1.1 Un
Current (Ib / Imax)	5A / 63A
Starting Current	0.4% Ib (0.02A)
Minimum Current	5% Ib (0.25A)
Frequency	45Hz-65Hz
Power Supply	Self-powered from 0.4 to 1.1 Un
Maximum Wire Size	25 mm^2 (4AWG)
Torque for Current Inputs	2.5 N.m
Communications	
RS-485	Modbus RTU
Maximum Wire Size	1.5mm^2 (16AWG)
Torque for RS485 Terminals	0.45 N.m
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	
Unit Dimensions	36x65x90mm
Shipping Weight	0.18kg
Shipping Dimensions	120x103x42mm
Mounting	DIN-Rail Mounting

Standards of Compliance

Safety Requirements		
Insulation		IEC 60255-5-2000
Dielectric test		2kV @ 1 minute
Insulation resistance		>100MΩ
Impulse voltage		10kV, 1.2/50μs
Electromagnetic Compatibility EMC 2004/108/EC (EN 61326: 2006)		
Immunity Tests		
Electrostatic discharge		IEC 61000-4-2:2001 Level IV
Radiated fields		IEC 61000-4-3:2002 (10 V/m)
Fast transients		IEC 61000-4-4:2004 Level IV
Surges		IEC 61000-4-5:2005 Level IV
Conducted disturbances		IEC 61000-4-6:2006 Level III
Magnetic Fields		IEC 61000-4-8:2009 Level IV
Oscillatory waves		IEC 61000-4-12:2006 Level III
Radio Disturb		CISPR 22：2006 Class B
Mechanical Tests		
Vibration Test	Response	IEC 60255-21-1 Level I
	Endurance	IEC 60255-21-1 Level I
Shock Test	Response	IEC 60255-21-2 Level I
	Endurance	IEC 60255-21-2 Level I
Bump Test		IEC 60255-21-2 Level I

Ordering Information

Product Code	Description
PMC-220 Digital Single-Phase Energy Meter	
Input Current	
C	5A (63A Max), Direct Input
Input Voltage	
3	95V-240V AC ±10%
System Frequency	
5	45Hz-65Hz
Communications	
A	1xRS-485
Language	
E	English

PMC-220	-	C	3	5	A	E	PMC-220-C35AE (Standard Model)

Modbus Map

Register	Property	Description	Format	Scale/Unit
0000	RO	V	Float	V
0002	RO	I	Float	A
0004	RO	kW	Float	kW
0006	RO	kvar	Float	kvar
0008	RO	kVA	Float	kVA
0010	RO	P.F.	Float	-
0012	RO	Frequency	Float	Hz
0014-0039	Reserved			
0040	RW	kWh Import	INT32	x0.01, kWh
0042	RW	kWh Export	INT32	x0.01, kWh
0044	RO	kWh Net	INT32	x0.01, kWh
0046	RO	kWh Total	INT32	x0.01, kWh
0048	RW	kvarh Import	INT32	x0.01, kvarh
0050	RW	kvarh Export	INT32	x0.01, kvarh
0052	RO	kvarh Net	INT32	x0.01, kvarh
0054	RO	kvarh Total	INT32	x0.01, kvarh
0056	RW	kVAh	INT32	x0.01, kVAh

Contact us

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