

Multifunction Energy Meter

For Industrial & Commercial Metering

Multifunction

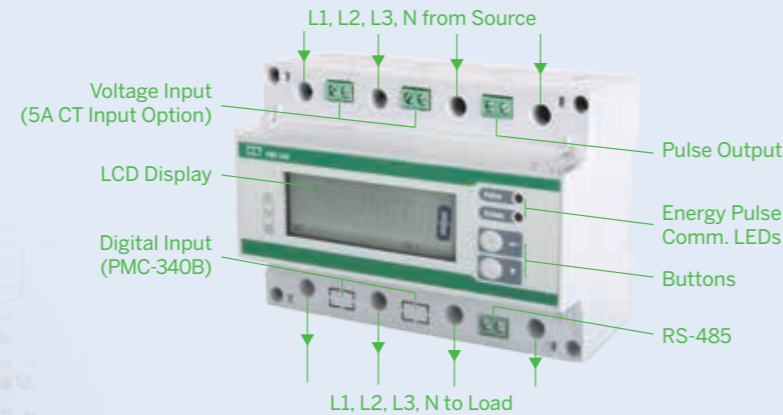
Direct Connection Energy Meter

High Accuracy

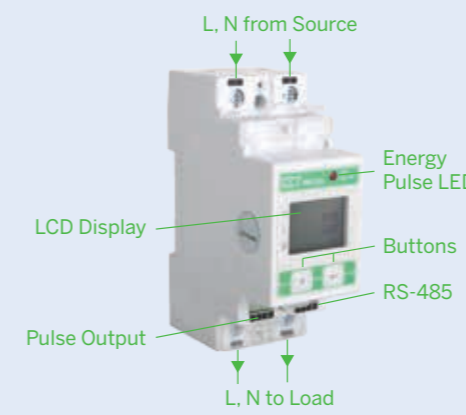
PMC-340 and PMC-220 are CET's latest offers for the low voltage energy metering market featuring DIN rail mount, high accuracy, multifunction measurements and a large, easy to read LCD display. The PMC-340 provides 3-Ø multifunction measurements with 100A Direct Input or 5A CT Input and optional Digital Inputs for status monitoring or pulse counting for WAGES information. The PMC-220 is designed for low cost 1-Ø multifunction measurement with Direct Input up to 63A. Both PMC-340 and PMC-220 come standard with a front panel LCD as well as a Solid State Relay Output for energy pulsing. The standard RS-485 port and Modbus protocol support allow them to become vital components of intelligent and multifunction monitoring solution for any Energy Management Systems.



PMC-340



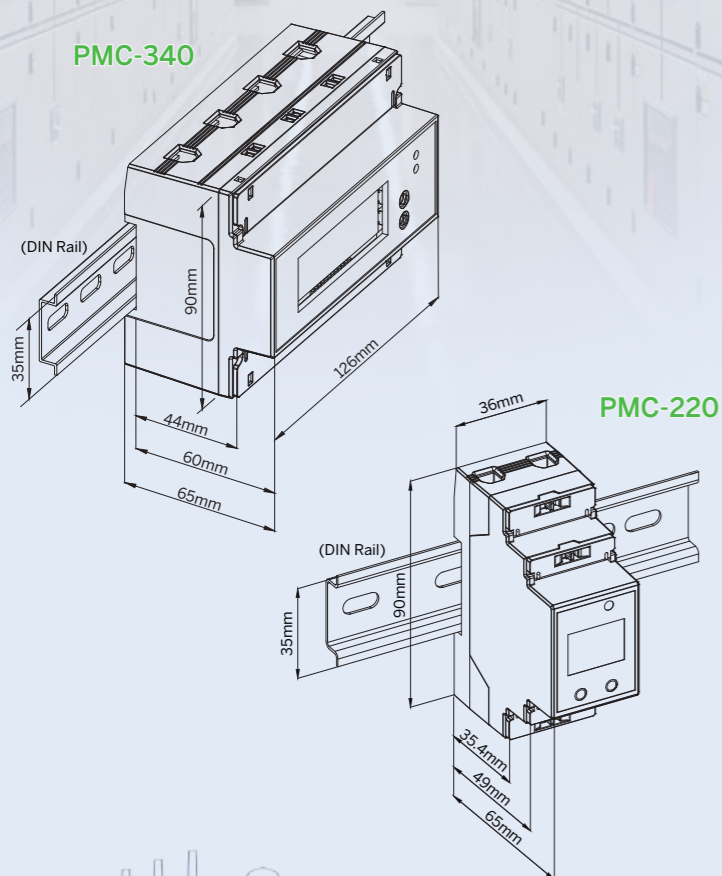
PMC-220



Typical Applications

- DIN rail mount energy metering
- Industrial and commercial metering
- Substation, building and factory automation
- Sub-metering
- Harmonic monitoring (PMC-340)

Dimension



Features

	3-Ø PMC-340	1-Ø PMC-220
Meter Type	Three-Phase Multifunction Energy Meter	Single-Phase Multifunction Energy Meter
Dimensions	126x90x65mm	36x90x65mm
Accuracy	IEC 62053-21 Class 1 (100A) and 62053-22 Class 0.5S (5A CT)	IEC 62053-21 Class 1
Current Input	100A Direct Input and 5A CT Input	63A Direct Input
Power Supply	Self-powered, no external control power required	Self-powered, no external control power required
Display	Large, Easy to read LCD	6½ digit Multifunction LCD
LED Indicator	Two LED indicators for energy pulsing and communication status	kWh LED Pulse Output
Solid State O/P	1 Solid State Energy Pulse Output	1 Solid State Energy Pulse Output
Communication	Standard RS-485 port with Modbus RTU support	Standard RS-485 port with Modbus RTU support
Digital Input	3 Optional DIs for status monitoring, pulse counting or tariff switching	/
Access	Password Protected	Password Protected
Integration	Easy integration into other Automation or SCADA systems	Easy integration into other Automation or SCADA systems

Measurements

	PMC-340	PMC-220
V/I, Power, PF, Freq.	Voltage, Current, kW, kvar, kVA, PF and Frequency	Voltage, Current, kW, kvar, kVA, PF and Frequency
Energy	Per phase and Total kWh and kvarh Imp/Exp/Tot/Net and kVAh	Total kWh and kvarh Imp/Exp/Tot/Net and kVAh
Harmonics	THD, TOHD, TEHD and Individual up to 31 st	/
Demand	I1, I2, I3, kW/kvar/kVA Total Demands and Max. Demands	/
Min/Max	Min/Max Log	/
Data Recorder	16 measurements @ 10-minute intervals for 197 days	/
TOU	2 TOU Schedules and Monthly Energy Log of kWh/kvarh/kVAh	/
SOE	16 SOE events time-stamped to 1ms resolution	/

Accuracy

	3-Ø PMC-340		1-Ø PMC-220	
	Accuracy	Resolution	Accuracy	Resolution
Voltage (U)	± 0.5%	0.01V	± 0.5%	0.1V
Current (I)	± 0.5%	0.001A	± 0.5%	0.001A
kW, kVA	± 1.0%	0.01kX	± 1.0%	0.001kX
kvar	± 1.0%	0.01kvar	± 1.0%	0.001kvar
kWh	Class 1 Direct Input	0.01kXh	Class 1 Direct Input	0.01kXh
kVAh	Class 0.5S 5A CT Input	0.01kXh	/	/
kvarh	IEC 62053-23 Class 2	0.01kvarh	IEC 62053-23 Class 2	0.01kvarh
P.F.	± 1.0%	0.001	± 1.0%	0.001
Frequency	± 0.02 Hz	0.001Hz	± 0.02 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class B	0.1%	/	/

Technical Specifications

	3-Ø PMC-340	1-Ø PMC-220
Voltage (Un)	240VLN	240VAC
Range	0.7 to 1.1 Un	0.4 to 1.1 Un
Burden	<10VA/phase	<0.5VA
Direct Input		
Current (Ib/Imax)	20A/100A	5A/63A
Starting Current	0.4% Ib (0.08A)	0.4% Ib (0.02A)
Burden	<4VA/phase	<2VA
Power Supply	Self-powered	Self-powered
Maximum Wire Size	35mm ² (3AWG)	25mm ² (4AWG)
Maximum Torque	2.5 N.m	2.5 N.m
CT Input		
Current (In/Imax)	5A/6A	/
Range	(0.1%-120%) In	/
Starting Current	0.1% In	/
Burden	<0.5VA/phase	/
Frequency	45-65Hz	45-65Hz
SS Pulse Output		
Pulse Constant	1/10/100/1000/3200 imp/kWh or imp/kvarh	1000 imp/kWh or imp/kvarh
Isolation	Optical	Optical
Max. Load Voltage	80V	80V
Max. Forward Current	50mA	50mA
Pulse Width	60-150ms	60-100ms
Communications		
RS-485	Modbus RTU	Modbus RTU
Baud Rate	1200/2400/4800/9600/19200 bps	1200/2400/4800/9600/19200 bps
Maximum Wire Size	1.5mm ² (16AWG)	1.5mm ² (16AWG)
Maximum Torque	0.45 N.m	0.45 N.m

Environmental and Mechanical Specifications

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
Pollution Degree	2

Mechanical Characteristics

	PMC-340	PMC-220
Mounting	DIN Rail	
Unit Dimensions	126x90x65mm	36x90x65mm
Shipping Dimensions	165x140x110mm	120x103x42mm
Shipping Weight	0.62kg	0.18kg
IP Rating	IP51 (Front), IP30 (Body)	

Mechanical Tests

		PMC-340	PMC-220
Vibration Test	Response	IEC 62052-11: 2003 Level I	IEC 60255-21-1 Level I
	Endurance	IEC 62052-11: 2003 Level I	IEC 60255-21-1 Level I
Shock Test	Response	IEC 62052-11: 2003 Level I	IEC 60255-21-2 Level I
	Endurance	IEC 62052-11: 2003 Level I	IEC 60255-21-2 Level I
Bump Test		IEC 62052-11: 2003 Level I	IEC 60255-21-2 Level I

EMC Compatibility

CE EMC Directive 2014/30/EU (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
V Dips, Interruptions & Variations	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: 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
Testing and measurement techniques - Ring wave immunity test	EN 61000-4-12: 2006

Safety Standards

Safety Requirements

CE LVD 2014/35/EU	EN 61010-1: 2010, EN 61010-2-030: 2010
Insulation	IEC 60255-5-2000
Dielectric Test	2kV @ 1 minute
Insulation Resistance	>100MΩ
Impulse Voltage	6kV, 1.2/50μs
Electrical safety in low voltage distribution systems up to 1000 Vac and 1500 Vdc	IEC 61557-12: 2008 (PMD)

Ordering Information

Product Code	Description
PMC-340	Three-Phase Multifunction Energy Meter
Basic Function	A Basic Model
	B Model A + 3xDI + 2MB Log Memory
Input Current	A 20A (100A Max), Direct Input
	B 5A (6A), CT Input
Input Voltage	3 240VLN/415VLL
Frequency	5 45Hz-65Hz
Reserved	X None
Communications	A 1xRS-485 Port
Language	E English
PMC-340	A A 3 5 X A E PMC-340-AA35XAE (Standard Model)

Product Code	Description
PMC-220	Single-Phase Multifunction Energy Meter
Input Current	C 5A (63A Max), Direct Input
Input Voltage	3 95V-240V AC ±10%
Frequency	5 45Hz-65Hz
Communications	A 1xRS-485 Port
Language	E English
PMC-220	C 3 5 A E PMC-220-C35AE (Standard Model)

* Additional charges apply

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