

Digital Three-Phase Energy Meter



The PMC-340-A6 Digital Three-Phase Energy Meter is CET's latest offer for the low voltage power/energy metering market featuring DIN-Rail mount, high accuracy, multifunction true RMS measurements and a large, easy to read LCD display. The PMC-340-A6 complies with the IEC 62053-21: 2020 & AS 62053.21: 2023 Class 0.5 for 100A Direct Connected Input and IEC 62053-22: 2020 & AS 62053.22: 2023 Class 0.5S for CT Input. The PMC-340-A6 comes standard with a LED as well as a Solid State Pulse Output for energy pulsing. The PMC-340-A6 provides 16MB on-board non-volatile memory for Data Recording and 1xDigital Input for status monitoring and pulse counting for collecting WAGES (Water, Air, Gas, Electric and Steam) information. The standard RS-485 port and Modbus protocol support allows the PMC-340-A6 to become a vital component of an intelligent, multifunction monitoring solution for any Power and Energy Management Systems.

Typical Applications

- DIN-Rail mount energy metering
- Industrial, Commercial and Utility Substation Metering
- Building, Factory and Process Automation
- Sub-metering and Cost Allocation
- NMI compliant Energy Management

Features Summary

Ease of use

- Large, easy to read LCD for both data viewing and configuration
- Two LED indicators for Energy Pulsing and communication activities
- Password protected setup via Front Panel or free PMC Setup software
- Easy installation with DIN-Rail mounting, no tools required
- Direct Connected Input up to 100A without external CT

Basic Measurements

- Multifunction True RMS measurements
 - ULN, ULL, I, Phase Angle, In (calculated), P, Q, S, PF, dPF
 - Per-phase and Total kWh and kvarh Imp./Exp./Tot./Net and kVAh, 4-Quadrant kvarh as well as kWh/kvarh Imp./Exp./Tot./Net per Tariff
 - Voltage and Current THD, TOHD, TEHD, Individual Harmonics up to 31st and Unbalance
 - Current K-Factor, Crest Factor, TDD, TDD Odd and TDD Even
 - Demand and Max. Demand for I, P, Q, S, ULN, ULL and Temperature
 - Temperature and Operating Time
- Max./Min. Log
- 12 monthly recording of kWh, kvarh Imp./Exp./Tot./Net, kVAh and kvarh Q1-Q4 as well as kWh, kvarh Imp./Exp. and kVAh per Tariff
- Two TOU schedules, each providing
 - 12 Seasons
 - 20 Daily Profiles, each with 14 Periods
 - 90 Holidays or Alternate Days
 - 5 Tariffs, each providing the following information
 - kWh/kvarh Import/Export, kVAh
 - P/Q/S Max. Demands

SOE Log

- 128 events time-stamped to $\pm 1\text{ms}$ resolution

Setpoint

- 20 user-programmable Setpoints with extensive list of monitoring parameters including Voltage, Current, Power, Temperature and DI Status, etc.
- Configurable thresholds and time delay

Pulse Outputs

- 1 Front Panel LED and 1 Solid State Pulse Output for energy pulsing application

Tamper Detection and Alarm

- DI connected to external switch as Setpoint Parameter for Tamper Alarm
- Built-in sensors for Magnetic Tamper Detection
- Alarm Events are stored in SOE Log

Digital Input

- 1 channel for external status monitoring or pulse counting
- Self-excited, internally wetted at 5VDC

Data Recorder

- Two Data Recorder Log of Max. 16 parameters
- Recording Interval from 1 second to 40 days
- Configurable Recording Depth (Max. 65535) and Recording offset
- Capable of recording 16 parameters at 5-min interval for over 7 months
- Available parameters: U, I, P, Q, S, PF, Freq., Temperature, kWh Imp./Exp., kvarh Imp./Exp., Demands and Max. Demands for U, I, P/Q/S Total and DI Pulse Counter

Communications

- Optically isolated RS-485 port, baud rate from 1,200 to 38,400 bps
- Modbus RTU protocol

Security

- Programmable Password protection for configurations on Front Panel
- 3-level independent security Comm. password protection and different access permissions

Real-Time Clock

- Battery backed RTC @ 6ppm ($\leq 0.5\text{s/day}$)
- Battery Life > 10 years

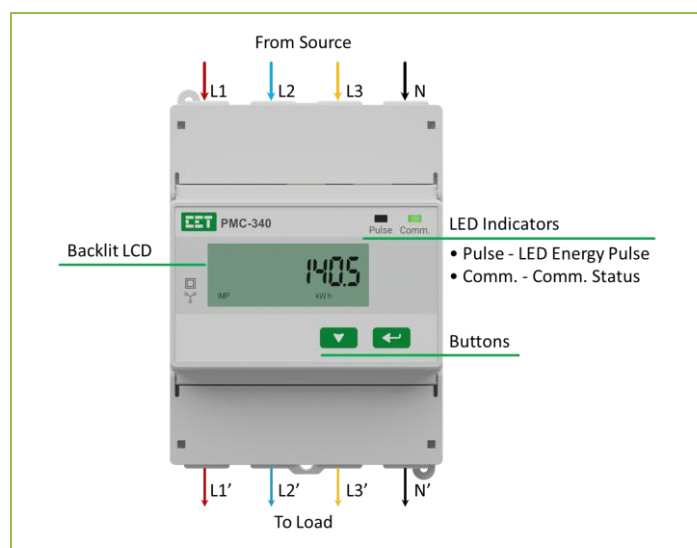
System Integration

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

Accuracy

Parameters	Accuracy		Resolution
	Direct Connected Input	CT Input	
Voltage	$\pm 0.2\%$		0.01V
Current	$\pm 0.2\%$		0.001A
P, Q, S	$\pm 0.5\%$		0.001W/var/VA
kWh, kVAh	IEC 62053-21: 2020 & AS 62053.21: 2023 Class 0.5	IEC 62053-22: 2020 & AS 62053.22: 2023 Class 0.5S	0.01kxh
kvarh	IEC 62053-24: 2020 Class 1		0.01kvarh
PF	$\pm 0.5\%$		0.001
Frequency	$\pm 0.02\text{Hz}$		0.01Hz
In (Cal.)	$\pm 1.0\%$		0.001A
THD	IEC 61000-4-7 Class II		0.001%
Temperature	$\pm 1^\circ\text{C}$		0.1 $^\circ\text{C}$

Appearance and Terminals



Designed For Reliability

Manufactured To Last

Technical Specifications

Inputs (L1, L2, L3, N)			
Voltage (Un)	220VAC	230VAC	240VAC
Overrange (%Un)	125%	120%	115%
Range (V)	88-276VAC (Self-powered)		
Burden	<2VA/phase		
Direct Input			
Current (In/Imax)	10A/100A		
Range	0.4% In to Imax		
Starting Current (Ist)	0.4% In (40mA)		
Minimum Current (Imin)	5% In (0.5A)		
Burden	<0.2VA/phase		
CT Input			
Current (In/Imax)	1A/10A		
Range	0.1% In to Imax		
Starting Current (Ist)	0.1% In (1mA)		
Minimum Current (Imin)	1% In (0.01A)		
Burden	<0.2VA/phase		
Frequency	45Hz-65Hz		
Solid State Energy Pulse Output (Selectable - kWh/kvarh)			
Isolation	Optical		
Max. Load Voltage	80V		
Max. Forward Current	50mA		
Pulse Width	30-500ms configurable		
Pulse Constant	1-0xFFFFFFFF configurable		
Direct Connected Input	500 imp./kWh (default)		
CT Input	10000 imp./kWh (default)		
Communications			
RS-485	Modbus RTU		
Baud Rate	1.2/2.4/4.8/9.6/19.2/38.4 kbps		
Maximum Wire Size	1.5mm² (16AWG)		
Maximum Torque	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	70 kPa to 106 kPa		
Pollution Degree	2		
Mechanical Characteristics			
Mounting	DIN Rail		
Unit Dimensions	72x95x70mm		
IP Rating	51 (Front), 30 (Body)		

Ordering Information

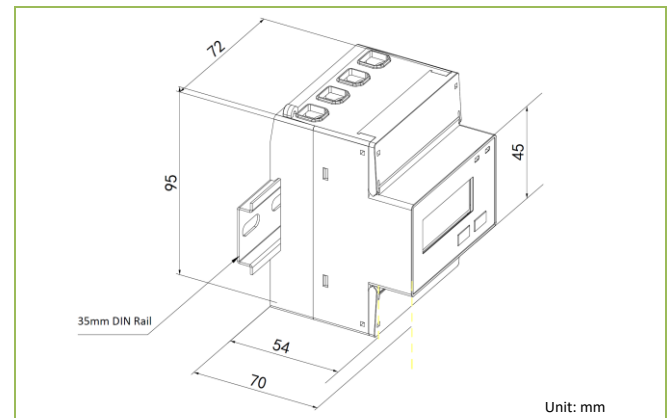
Version 20250110									
Product Code		Description							
PMC-340 Digital Three-Phase Energy Meter									
Basic Function									
A6		3-Phase Metering, Bi-directional Energy, Demands and Max. Demands, Max. & Min., Monthly Energy Log, Multi-Tariff TOU, Setpoint, SOE Log, Data Recorder Log, 16MB Log Memory							
Display									
L		7-segment Backlit LCD Display							
Input Current**									
A		10A (100A), Direct Connected Input							
B		1A (10A), CT Input							
Input Voltage									
3		110-240V LN/190-415V LL (-20% to +15%)							
System Frequency									
5		45-65Hz							
I/O**									
A		1xSS Pulse Output							
B		1xDI							
C		1xSS Pulse Output + 1xDI							
Communications									
A		1xRS-485 Port							
Protocol									
M		Modbus							
Display Language									
E		English							
PMC-340 - A6 L A 3 5 A A M E		PMC-340-A6LA35AAME (Standard Model)							

**Device with Input Current "A" can work with I/O option "A" or "B"
Device with Input Current "B" is only available with I/O option "C".

Standards of Compliance

Safety Requirements	
CE LVD 2014/35/EU	EN 61010-1: 2010 + A1: 2019 EN 61010-2-030: 2010
Electrical Safety in Low Voltage Distribution Systems up to 1000Vac and 1500 Vdc	IEC 61557-12: 2021 (PMD)
Products Safety Requirements and Tests NMI	IEC 62052-31: 2015 AS 62052.31: 2017+A1:2021 M13-1
AC Voltage Impulse Voltage	4kV @ 1 minute 6kV, 1.2/50μs
Electromagnetic Compatibility	
EMC 2014/30/EU (EN 61326: 2013)	
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: 2014 + A1: 2017
Conducted Disturbances	EN 61000-4-6: 2014
Magnetic Fields	EN 61000-4-8: 2010
Voltage Dips & Interruptions	EN 61000-4-11: 2004 + A1: 2017
Ring Wave	EN 61000-4-12: 2017
Mechanical Tests	
Spring Hammer Test	IEC 62052-31: 2015 & AS 62052.31: 2017 + A1:2021
Vibration Test	IEC 62052-11: 2020 & AS 62052.11: 2023
Shock Test	IEC 62052-11: 2020 & AS 62052.11: 2023
Revenue Metering Approval	
NMI M13-1 of Australia	Approval Mark: NMI XX/X/XXX

Dimensions and Installation



Your Local Representative



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