PM5350P series
Technical Data Sheet

The PowerLogic PM5350P series power meters are the new benchmark in affordable, precision metering.

The PowerLogic PM5350P power meter offers all the measurement capabilities required to monitor an electrical installation in a space-efficient, single 96 x 96 mm unit.

Applications

- Panel instrumentation
- Cost allocation or energy management
- Electrical installation remote monitoring
- Sophisticated alarming
- Circuit Breaker monitoring and control

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The solution for

Markets that can benefit from a solution that includes PowerLogic PM5350P series meters:

- Buildings
- Industry
- Healthcare
- Data Centre and networks
- Infrastructure

Benefits

System integrators' benefit

- Ease of integration
- Ease of setup
- Cost effectiveness

Panel builders' benefit

- Ease of installation
- Cost effectiveness
- Aesthetically pleasing
- Simplified ordering

End users' benefit

- Ease of use
- Precision metering & sub-billing
- Billing flexibility
- Comprehensive, consistent and superior performance

Competitive advantages

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- Power quality analysis
- Load management combined with alarm and timestamping
- High performance and accuracy
- Multi-tariff capabilities
- Individual harmonics up to 31st

Power management solutions

Schneider Electric provides innovative power management solutions to increase your energy efficiency and cost savings, maximise electrical network reliability and availability, and optimise electrical asset performance.

Conformity of standards

- IEC 62053-22
- IEC 61557-12
- IEC 62053-23
- IEC 61010-1
- IEC 61326-1
- UL 61010-1
- IEC 61000-3-3

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PowerLogic PM5350P

The PowerLogic PM5350P power meter offers electrical installation measurement capabilities in a single 96 x 96 mm unit. Three-phases and neutral can be monitored simultaneously using a bright, anti-glare display with large characters and backlighting. Menus are intuitive and the meter supports English, Chinese, Hebrew, and Spanish. Its compact size and high performance make the PowerLogic PM5350P suitable for many applications.

- Applications
  - Panel instrumentation.
  - Cost allocation or energy management.
  - Electrical installation remote monitoring.
  - Alarming with under/over, digital status, control power failure, meter reset, self diagnostic issue.
  - Circuit Breaker monitoring and control with relay outputs and whetted digital inputs.
- Main characteristics
  - Easy to install
    - Mounts using two clips, no tools required. Ultra compact meter with 44 mm depth connectable up to 480 V L-L without voltage transformers for installations compliant with category III, as per IEC 61010-1. See specification table for UL voltage limits.
  - Easy to operate
    - Intuitive navigation with self-guided, language selectable menus, six lines, four concurrent values. Two LEDs help confirm normal operation.
  - Easy circuit breaker monitoring and control
    - Two relay outputs (high performance) to command most circuit breaker coils directly. Monitored switches can be wired directly without external power supply.
  - System status at a glance
    - Bright, anti-glare, backlit display plus two LEDs; orange for energy pulse or alarm and green for heartbeat/communications indication.
  - IEC 62053-22 class 0.5S accuracy for active energy
    - Accurate energy measurement for cost allocation.
  - Power Quality analysis
    - The PM5350P offers THD and TDD measurements as standard. Total Demand Distortion is based on a point of common coupling (PCC), which is a common point that each user receives power from the power source. The TDD compares the contribution of harmonics versus the maximum demand load. In addition, it has individual harmonics (odd) measurement up to 31st harmonics. These types of power quality parameters help to identify the source of harmonics that can harm transformers, capacitors, generators, motors and electronic equipment.
- Load management
    - Peak demands with Timestamping are provided. Predicted demand values can be used in basic load shedding applications.
      Alarming with timestamping
    - Over 30 alarm conditions, such as under/over conditions, digital input changes, and phase unbalance inform you of events. A time-stamped log maintains a record of the last 40 alarm events.
    - Load timer setpoint adjustable to monitor and advise maintenance requirements.
    - Performance Standard Meets IEC 61557-12 PMD/Sx/K70/0.5.

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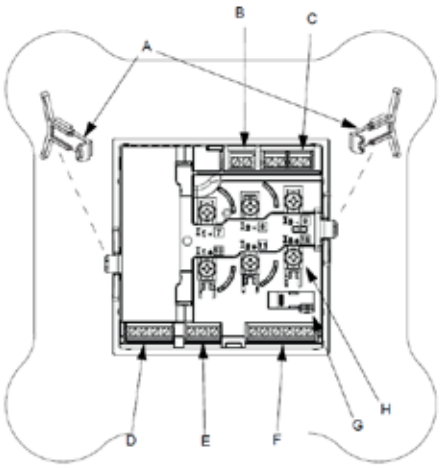

PM5350P meter parts

A Retainer clips.
B Control power supply connector.
C Voltage inputs.
D Digital outputs.
E RS-485 port (COM1).
F Digital inputs.
G Optical revenue switch.
H Current inputs.

Feature guide		PM5350P	
General			
Use on LV and MV systems		■	
Basic metering with THD and min/max readings		■	
Instantaneous rms values			
Current	Total, Phases and neutral	■	
Voltage	Total, Ph-Ph and Ph-N	■	
Frequency		■	
Real, reactive, and apparent power	Total and per phase	Signed	
True Power Factor	Total and per phase	Signed, Four Quadrant	
Displacement PF	Total and per phase	Signed, Four Quadrant	
Unbalanced I, VL-N, VL-L		■	
Energy values			**Stored in non-volatile memory**
Accumulated Active, Reactive and Apparent Energy		Received/Delivered; Net and absolute;	■
Demand values			
Current average		Present, Last, Predicted, Peak, & Peak Date Time	■
Active power		Present, Last, Predicted, Peak, & Peak Date Time	■
Reactive power		Present, Last, Predicted, Peak, & Peak Date Time	■
Apparent power		Present, Last, Predicted, Peak, & Peak Date Time	■
Multi-tariff		4 tariffs	■
Peak demand with timestamping D/T for current & powers		■	■
Demand calculation	Sliding, fixed and rolling block, thermal	■	■
Synchronization of the measurement window		■	■
Other measurements			
I/O timer		■	■
Operating timer		■	■
Active load timer		■	■
Alarm counters		■	■
Power quality measurements			
THD, thd (Total Harmonic Distortion)		I, V L-N, V L-L	
TDD, thd (Total Demand Distortion)		■	
Harmonics Individual (Odd)		31st	
Data recording			
Min/max of instantaneous values, plus phase identification		■	■
Alarms with 1s timestamping		Standard 29; Unary 4; Digital 4	
Alarms stored in non-volatile memory		40 events	■
Inputs/Outputs			
Digital inputs		4 (DI1, DI2, DI3, DI4)	
Digital outputs		2 relay outputs (DO1, DO2)	
Display			
White backlit LCD display, 6 lines, 4 concurrent values		■	
IEC or IEEE visualization mode		■	
Communication			
Modbus RTU, Modbus ASCII, Jbus Protocol		■	
Firmware update via RS-485 serial port (DLF3000 via the Schneider Electric website: www.schneider-electric.com)		■	

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PowerLogic PM5350P front display

Electrical characteristics		
Type of measurement		RMS including harmonics upto 31st on three-phase AC system (3P, 3P + N) 64 samples per cycle, zero blind
Measurement accuracy	Active Energy	Class 0.5S as per IEC 62053-22 up to 9A Class 0.5 as per IEC 61557-12 up to 9A For 5 A nominal CT (for 1 A nominal CT when I > 0.15 A)
	Reactive Energy	Class 2 as per IEC 62053-23 up to 9 A Class 2 as per IEC 61557-12 up to 9 A For 5 A nominal CT (for 1 A nominal CT when I > 0.15 A)
	Active Power	Class 0.5 as per IEC 61557-12 upto 9A For 5 A nominal CT (for 1 A nominal CT when I > 0.15 A)
	Frequency★	±0.05 %
	Current, Phase★	±0.5 %
	Voltage, L-N★	±0.50 %
	Power Factor★	±0.01 Count
	Voltage Harmonics	Class 5 as per 61557-12★★
	Voltage THD/thd	Class 5 as per 61557-12★★
	Current Harmonics	Class 5 as per 61557-12★★
	Current THD/ thd	Class 5 as per 61557-12★★
	★ *Measurement applicable from 45 Hz to 65 Hz ,0.5 A to 9 A , 57 V to 347V and 0.5 Inductive , 0.5 capacitive power factor With a sinusoidal wave* ★★ *Accuracy applicable up to 15th Harmonics measured up to 31st Harmonics*	
Data update rate		1 second nominal (50/60 cycles)
Input voltage	U nom	277 V L-N
	Measured voltage with overrange & Crest Factor	Per IEC 61010-1 CAT III, 20-277 V L-N / 20-480 V L-L CAT II, 20-400 V L-N / 20-690 V L-L Per UL 61010-1 and CSA C22.2 NO. 61010-1 CAT III, 20-300 V L-L AC
	Permanent overload	700 V AC L-L, 404 V AC L-N
	Impedance	5 MΩ
	Frequency range	45 to 65 Hz
Input-current	CT ratings Secondary	1 A, 5 A nominal
	Measured voltage with overrange & Crest Factor	5 mA to 9 A
	Withstand	Continuous 20 A,10 sec/hr 50 A,1 sec/hr 500 A
	Impedance	< 0.3 MΩ
	Frequency range	45 to 65 Hz
	Burden	< 0.024 V A at 9 A
AC control power	Operating range	85 - 265 V AC
	Burden	7 VA / 4W maximum at 120 V AC, 9 VA / 5W maximum at 230 V AC, 11.9 VA /5W maximum at 265 V AC
	Frequency	45 to 65 Hz
	Ride-through time	40 mS typical at 120 V AC and maximum burden 250 mS typical at 230 V AC and maximum burden
DC control power	Operating range	100 to 300 V DC
	Burden	4 W maximum at 125 V DC, 5 W maximum at 250 V DC, 5 W maximum at 300 V DC
	Ride-through time	30 mS typical at 125 V DC and maximum burden
Real time clock	Clock drift	~0.5 seconds per day
	Battery Backup time	3 years without control power
Digital output	Number/Type	2 - Mechanical Relays
	Output frequency	0.5 Hz maximum (1 second ON / 1 second OFF - minimum times)
	Switching Current	250 V AC at 2.0 Amps, 200k cycles, resistive 250 V AC at 8.0 Amps, 25k cycles, resistive 250 V AC at 2.0 Amps, 50k cycles, COSΦ=0.4 30 V DC at 2.0 Amps, 75k cycles, resistive 30 V DC at 5.0 Amps, 12.5k cycles, resistive NOTE: The COSΦ ratings are not evaluated for UL
	Isolation	2.5 kVrms
Status Digital Inputs	Voltage ratings	ON 18.5 to 36 V DC, OFF 0 to 4 V DC
	Input Resistance	110 k Ω
	Maximum Frequency	2 Hz (T ON min = T OFF min = 250 ms)
	Response Time	10 ms
	Isolation	2.5 kVrms
Whetting output	Nominal voltage	24 V DC
	Allowable load	4 mA
	Isolation	2.5 kVrms

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Rear view of PowerLogic PM5350P

Feature selection

Commercial reference number	Description
METSEPM5350	RS-485 Modbus, THD, 4DI, 2Relay
	RS-485, 4DI/2Relay, Multi-level alarm, UL480V, 4DI/2Relay
	RS-485, 4DI/2Relay, Multi-level alarm, UL300V, 4DI/2Relay
METSEPM5350P	RS-485 Modbus, THD, Multi-tariff and individual harmonics 4DI/2relay
METSEPM5100	No commnication, 1DO
METSEPM5110	RS-485 Modbus, 1DO
METSEPM5111	RS-485 ModBus, 1DO, MID certified
METSEPM5310	RS-485 Modbus, 2DI/2DO
METSEPM5320	Ethernet 2DI/2DO
METSEPM5330	RS-485 Modbus, 2DI/2DO, 2Relay
METSEPM5331	RS-485 Modbus, 2DI/2DO, 2Relay, MID certified
METSEPM5340	Ethernet 2DI/2DO, 2Relay
METSEPM5341	Ethernet 2DI/2DO, 2Relay, MID certified
METSEPM5560	Modbus and Ethernet, 4DI/2DO
METSEPM5561	Modbus and Ethernet, MID certified
METSEPM5562	RMICAN approved, HW lockable, 4DI/2DO
	RMICAN approved, factory sealed, 4DI/2DO
METSEPM5563	DIN mount , no display Power meter, 4DI/2DO
	Remote Display for PM5563

Mechanical characteristics		
Weight		250 g
IP degree of protection (IEC 60529)		Designed to IP51 front display, IP30 meter body (Excluding connectors)
Dimensions	W x H x D	96 x 96 x 44 mm (depth of meter from housing mounting flange) 96 x 96 x 13 mm (protrusion of meter from housing flange)
Mounting position		Vertical
Panel thickness		6.35 mm max
Environmental characteristics		
Operating temperature	Meter	-25 °C to 70 °C
	Display	-20 °C to 70 °C (Display functions to -25 °C with reduced performance)
Storage temp.	Meter + display	-40 °C to 85 °C
Humidity rating		5 % to 95 % RH at 50 °C (non-condensing)
Pollution degree		2
Altitude		≤ 3000 m max
Indoor use only	Not suitable for wet locations	
Electromagnetic compatibility		
Electrostatic discharge		IEC 61000-4-2★
Immunity to radiated fields		IEC 61000-4-3★
Immunity to fast transients		IEC 61000-4-4★
Immunity to impulse waves		IEC 61000-4-5★
Conducted immunity		IEC 61000-4-6★
Immunity to magnetic fields		IEC 61000-4-8★
Immunity to voltage dips		IEC 61000-4-11★
Radiated emissions		FCC part 15 class A, EN 55011 class A
Conducted emissions		FCC part 15 class A, EN 55011 class A
Harmonics		IEC 61000-3-2★
Flicker emissions		IEC 61000-3-3★
Safety		
Europe		CE, as per IEC 61010-1 3rd Edition
U.S. and Canada		UL 61010-1 and CAN/CSA-C22.2 No. 61010, 3rd Edition
Measurement category (Voltage inputs)		Per IEC 61010-1 CAT III, 20-277 V L-N / 20-480 V L-L CAT II, 20-400 V L-N / 20-690 V L-L Per UL 61010-1 and CSA C22.2 NO. 61010-1 CAT III, 20-300 V L-L
Current Inputs (sensor connected)		Require external Current Transformer for Insulation
Overvoltage Category (Control power)		CAT III
Overvoltage Category (Relay)		CAT II
Dielectric withstand		As per IEC 61010-1 Double insulated front panel display
Protective Class		Class II
Double insulation at user-accessible area	Included	
Communication		
RS-485 port		2-Wire, 9600,19200 or 38400 baud, Parity - Even, Odd, None, 1 stop bit if parity Odd or Even, 2 stop bits if None; Modbus RTU, Modbus ASCII (7 or 8 bit), JBUS
Firmware and language file update		Update via communication port using DLF3000 software
Isolation		2.5 kVrms
Human machine interface		
Display type		Monochrome Graphics LCD
Resolution		128 x 128
Backlight		White LED
Viewable area (W x H)		67 x 62.5 mm
Keypad type		4-button
Indicator Heartbeat / Comm activity		Green LED
Energy pulse output / Active alarm indication (configurable)		
Type		Optical, amber LED
Wavelength		590 to 635 nm
Maximum pulse rate		2.5 kHz

Rear of meter - open

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Rear view retainers - installation

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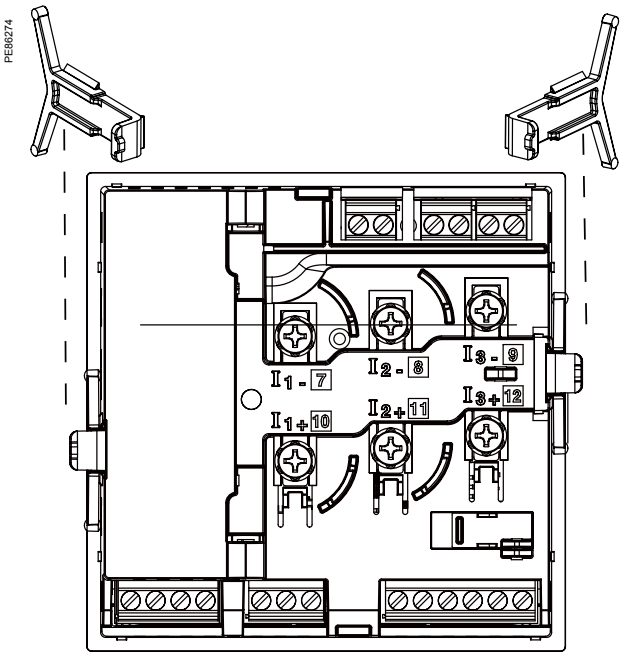
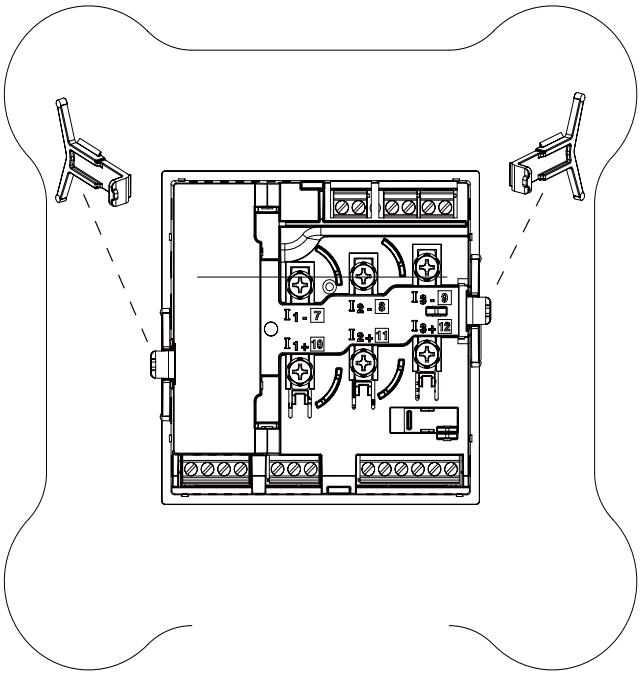


For detailed installation instructions see the product's Installation Guide.

Rear view retainers - users



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