# PM5350
## Functions and characteristics

PE86278


*PowerLogic PM5350.*

The PowerLogic PM5350 power meter offers all the measurement capabilities required to monitor an electrical installation in a single 96 x 96 mm unit extending only 44 mm behind the mounting surface.

With its large display, all three phases and neutral can be monitored simultaneously. The bright, anti-glare display features large characters and powerful backlighting for easy reading even in extreme lighting conditions and viewing angles. The meter menus are understood by all, with the availability of two languages (English/Chinese) included standard in the PM5350.

Its compact size and high performance make the PowerLogic PM5350 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 44mm depth connectable up to 480 VL-L without voltage transformers for installations compliant with category III.

**Easy to operate**
Intuitive navigation with self-guided, language selectable menus, six lines, four concurrent values. Two LEDs on the meter face help the user confirm normal operation (heartbeat/communications indicator LED: green and other LED orange, customizable either for alarms or energy pulse outputs).

**Easy circuit breaker monitoring and control**
The PM5350 provides two relay outputs (high performance) with capability to command most of the circuit breaker coils directly. In addition, monitored switches can be wired directly to the meter 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 PM5350 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.

**Load management**
Peak demands with time stamping are provided. Predicted demand values can be used in basic load shedding applications.

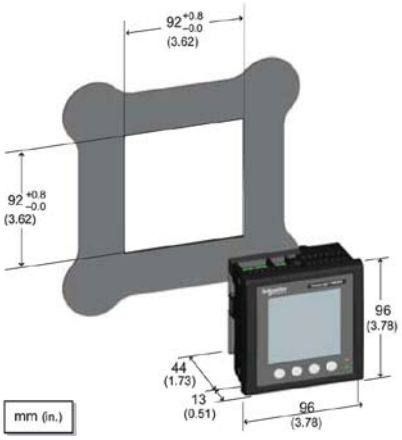
**Alarming with time stamping**
Over 30 alarm conditions, such as under/over conditions, digital input changes, and phase unbalance inform you of events. A time-stamped log maintains a record of the last 40 alarm events.

**Load timer**
Load timer setpoint adjustable to monitor and advise maintenance requirements.

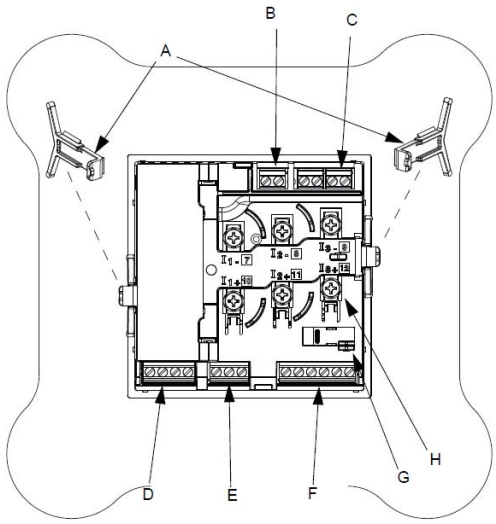
**IEC 61557-12 Performance Standard**
Meets IEC 61557-12 PMD/S/K70/0.5.

# PM5350
## Functions and characteristics (cont.)

PE86323




PE86324




**PM5350 meter parts**

**A** Retainer clips.
**B** Control power supply connector.
**C** Voltage inputs.
**D** Digital outputs.
**E** Rs485 port (COM1).
**F** Digital outputs.
**G** Optical revenue switch.
**H** Current inputs.

| | | |
|---|---|---|
| **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 | ■ |
| 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,VLN, VLL | |
| TDD, thd (Total Demand Distortion) | ■ | |
| **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 RS485 serial port (DLF3000 via the Schneider Electric website: www.schneider-electric.com) | ■ | |

# PM5350
## Functions and characteristics (cont.)

PB102030-51


*Front screen view of PM5350.*

| Electrical characteristics | | | |
|---|---|---|---|
| Type of measurement | | | True rms up to the 15th harmonic on three-phase (3P, 3P + N)<br>32 samples per cycle, zero blind |
| Measurement accuracy | Current, Phase (1) | | ±0.30% |
| | Voltage, L-N (1) | | ±0.30% |
| | Power Factor (1) | | ±0.005 |
| | Power, Phase | | IEC 61557-12 Class 0.5; For 5 A nominal CT (for 1 A nominal CT when I > 0.15A)<br>±0.5% from 0.25 A to 9.0 A at COS φ = 1<br>±0.6% from 0.50 A to 9.0 A at COS φ = 0.5 (ind or cap) |
| | Frequency (1) | | ±0.05% |
| | Real Energy | | IEC 62053-22 Class 0.5S; IEC 61557-12 Class 0.5;<br>For 5 A nominal CT (for 1 A nominal CT when I > 0.15A)<br>±0.5% from 0.25 A to 9.0 A at COS φ = 1<br>±0.6% from 0.50 A to 9.0 A at COS φ = 0.5 (ind or cap)<br>IEC 61557-12 Class 0.5 |
| | Reactive Energy | | IEC 62053-23 Class 3, IEC 61557-12 Class 2<br>For 5 A nominal CT (for 1 A nominal CT when I > 0.15A)<br>±2.0% from 0.25 A to 9.0 A at SIN φ = 1<br>±2.5% from 0.50 A to 9.0 A at SIN φ = 0.5 (ind or cap) |
| Data update rate | | | 1 second nominal (50/60 cycles) |
| Input-voltage | VT primary | | 1.0 MV AC max, starting voltage depends on VT ratio. |
| | $U_{nom}$ | | 277 V L-N |
| | Measured voltage with overrange & Crest Factor | | 20 to 690 V AC L-L<br>20 to 400 V AC L-N |
| | Permanent overload | | 700 Vac L-L, 404 Vac L-N |
| | Impedance | | 10 MΩ |
| | Frequency range | | 45 to 70 Hz |
| Input-current | CT ratings | Primary | Adjustable 1 A to 32767 A |
| | | Secondary | 1A, 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 70 Hz |
| | Burden | | < 0.024 VA at 9 A |
| AC control power | Operating range | | 85 - 265 V AC |
| | Burden | | 4.1 VA / 1.5 W typical, 6.7 VA / 2.7 W max at 120 V AC<br>6.3 VA / 2.0 W typical, 8.6 VA / 2.9 W max at 230 V AC<br>9.6 VA / 3.5 W maximum at 265 V AC |
| | Frequency | | 45 to 65 Hz |
| | Ride-through time | | 100 mS typical at 120 V AC and maximum burden<br>400 mS typical at 230 V AC and maximum burden |
| DC control power | Operating range | | 100 to 300 V DC |
| | Burden | | 1.4 W typical, 2.6 W maximum at 125 V DC<br>1.8 W typical, 2.7 W maximum at 250 V DC<br>3.2 W maximum at 300 V DC |
| | Ride-through time | | 50 mS typical at 125 V DC and maximum burden |
| Real time clock | Ride-through time | | 30 seconds |
| 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, 200 k cycles, resistive<br>250 V AC at 8.0 Amps, 25 k cycles, resistive<br>250 V AC at 2.0 Amps, 100 k cycles, COSΦ=0.4<br>250 V AC at 6.0 Amps, 25 k cycles, COSΦ=0.4<br>30 V DC at 2.0 Amps, 75 k cycles, resistive<br>30 V DC at 5.0 Amps, 12.5 k cycles, resistive |
| | 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 kΩ |
| | 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 |

*(1) Measurements taken from 45 Hz to 65 Hz, 0.5 A to 9 A, 57 V to 347 V & 0.5 ind to 0.5 cap power factor with a sinusoidal wave.*

# PM5350
## Functions and characteristics (cont.)

| | | |
|---|---|---|
| **Mechanical characteristics** | | |
| Weight | | 250 g |
| IP degree of protection (IEC 60529) | | IP51 front display, IP30 meter body |
| Dimensions | W x H x D | 96 x 96 x 44 mm (depth of meter from housing mounting flange)<br>96 x 96 x 13 mm (protrusion of meter from housing flange) |
| Mounting position | | Vertical |
| Panel thickness | | 6.35 mm maximum |
| **Environmental characteristics** | | |
| Operating temperature | Meter | -25 °C to 70 °C |
| | Display | -20 °C to +70 °C<br>(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. |
| **Electromagnetic compatibility** | | |
| Electrostatic discharge | | IEC 61000-4-2(2) |
| Immunity to radiated fields | | IEC 61000-4-3(2) |
| Immunity to fast transients | | IEC 61000-4-4(2) |
| Immunity to impulse waves | | IEC 61000-4-5(2) |
| Conducted immunity | | IEC 61000-4-6(2) |
| Immunity to magnetic fields | | IEC 61000-4-8(2) |
| Immunity to voltage dips | | IEC 61000-4-11(2) |
| 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(2) |
| Flicker emissions | | IEC 61000-3-3(2) |
| **Safety** | | |
| Europe | | CE, as per IEC 61010-1 |
| U.S. and Canada | | cULus as per UL61010-1, IEC 61010-1 (2nd Edition) |
| Measurement category (Voltage and current inputs) | | CAT III for MAINS supply up to 277 V L-N / 480 V L-L (1) nominal; CAT II for MAINS supply up to 400 V L-N / 690 V L-L (1) nominal |
| Overvoltage Category (Control power) | | CAT III |
| Dielectric | | As per IEC 61010-1<br>Double insulated front panel display |
| Protective Class | | II |
| **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 the comunication port using DLF3000 software |
| Isolation | | 2.5 kVrms, double insulated |
| **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 | | 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 |

*(1) V L-L is limited to 700 V AC*
*(2)* As per IEC 61557-12