

# เอกสารข้อมูลผลิตภัณฑ์

ข้อมูลจำเพาะ



## PowerLogic PM8000 - PM8213 LV DC - DIN rail mount meter - intermediate metering

METSEPM8213

### Main

|                           |                   |
|---------------------------|-------------------|
| Range                     | PowerLogic        |
| Product name              | PowerLogic PM8000 |
| Device short name         | PM8213            |
| Product or component type | Power meter       |

### Complementary

|                        |                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power quality analysis | conforming to EN 50160: 2010 compliance report<br>conforming to IEEE 519: 2014 compliance report<br>conforming to IEC 61000-4-30: class S power quality measurement<br>up to the 63rd harmonic<br>harmonic distortion<br>waveform capture<br>voltage sag and swell detection<br>programmability (logic and math functions)<br>conforming to IEC 62586 power quality monitoring |
| Device application     | WAGES metering<br>Power monitoring                                                                                                                                                                                                                                                                                                                                             |
| Type of measurement    | Current<br>Voltage<br>Frequency<br>Active and reactive power total<br>Apparent power total<br>Power factor total<br>Active and reactive power per phase, rms<br>Apparent power per phase, rms<br>Power factor per phase, rms                                                                                                                                                   |
| Supply voltage         | 20...60 V DC +/- 10 %                                                                                                                                                                                                                                                                                                                                                          |
| Network frequency      | 60 Hz<br>50 Hz                                                                                                                                                                                                                                                                                                                                                                 |
| [In] rated current     | 1 A<br>10 A<br>5 A                                                                                                                                                                                                                                                                                                                                                             |
| Poles description      | 3P<br>1P + N<br>3P + N                                                                                                                                                                                                                                                                                                                                                         |
| Power consumption in W | 17 W                                                                                                                                                                                                                                                                                                                                                                           |
| Display type           | Without display                                                                                                                                                                                                                                                                                                                                                                |
| Sampling rate          | 256 samples/cycle                                                                                                                                                                                                                                                                                                                                                              |
| Measurement current    | 50...10000 mA                                                                                                                                                                                                                                                                                                                                                                  |
| Analogue input type    | Voltage (impedance 5 MOhm)<br>Current (impedance 0.3 mOhm)                                                                                                                                                                                                                                                                                                                     |
| Measurement voltage    | 57...400 V AC 42...69 Hz between phase and neutral                                                                                                                                                                                                                                                                                                                             |

|                             |                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | 100...690 V AC 42...69 Hz between phases                                                                                                                                                                                                                                                                                                                                    |
| Frequency measurement range | 42...69 Hz                                                                                                                                                                                                                                                                                                                                                                  |
| Number of inputs            | 3 digital 30 V AC<br>3 digital 60 V DC                                                                                                                                                                                                                                                                                                                                      |
| Measurement accuracy        | Current +/- 0.1 %<br>Voltage +/- 0.1 %<br>Active energy +/- 0.2 %                                                                                                                                                                                                                                                                                                           |
| Accuracy class              | Class 0.2S active energy conforming to IEC 62053-22<br>Class 0.2 active energy conforming to ANSI C12.20<br>Class 0.2 active power conforming to IEC 61557-12<br>Class 0.5S reactive energy conforming to IEC 62053-24<br>Class 0.5 power factor conforming to IEC 61557-12<br>Class 0.2 voltage conforming to IEC 61557-12<br>Class 0.2 current conforming to IEC 61557-12 |
| Number of outputs           | 1 pulse                                                                                                                                                                                                                                                                                                                                                                     |
| Information displayed       | Voltage<br>Current<br>Frequency<br>Power<br>Energy consumption<br>Harmonic distortion                                                                                                                                                                                                                                                                                       |
| Communication port protocol | Modbus RTU at 115 kbauds - 2-wire<br>ION at 115 kbauds - 2-wire<br>DNP3<br>IEC 61850<br>Modbus TCP/IP<br>Ethernet Modbus TCP/IP daisy chain at 10/100 Mbit/s<br>RSTP 801.1d 2004                                                                                                                                                                                            |
| Communication port support  | ETHERNET<br>Screw terminal block: RS485                                                                                                                                                                                                                                                                                                                                     |
| Communication network type  | IPv6 (internet protocol)                                                                                                                                                                                                                                                                                                                                                    |
| Data recording              | Event logs<br>Min/max of instantaneous values<br>Time stamping<br>GPS synchronisation<br>Alarm logs<br>Data logs<br>Trending/forecasting<br>Sag and swell logs<br>Waveform logs<br>Sequence of event recording<br>Harmonics logs                                                                                                                                            |
| Memory capacity             | 512 MB                                                                                                                                                                                                                                                                                                                                                                      |
| Web services                | Customizable home page<br>File upload/download via FTP<br>File upload/download via SFTP<br>Web server<br>Alarm notification by e-mail<br>Viewing of captured waveform (FTP)<br>Viewing of captured waveform (web)<br>HTTPS server                                                                                                                                           |
| Communication service       | DHCP<br>SNMP<br>SMTP e-mail notification<br>RSTP support<br>NTP time synchronization<br>PTP time synchronization                                                                                                                                                                                                                                                            |
| Cybersecurity               | Robust security logs<br>Syslog protocol support<br>Password protection<br>Port hardening<br>Enable/disable communication ports                                                                                                                                                                                                                                              |
| Mounting mode               | Clip-on                                                                                                                                                                                                                                                                                                                                                                     |
| Mounting support            | DIN rail                                                                                                                                                                                                                                                                                                                                                                    |
| Installation category       | III                                                                                                                                                                                                                                                                                                                                                                         |
| Safety Construction         | III400...690 V conforming to IEC 61010-1:ed. 3<br>III400...690 V conforming to EN 61010-1:ed. 3<br>III347...600 V conforming to UL 61010-1:ed. 3<br>III347...600 V conforming to CSA C22.2 No 61010-1:ed. 3                                                                                                                                                                 |
| Standards                   | IEC 62053-24<br>IEC 62052-11<br>IEC 61557-12                                                                                                                                                                                                                                                                                                                                |

|                        |                                                         |
|------------------------|---------------------------------------------------------|
|                        | IEC 62053-22<br>IEEE 1588<br>IEC 62586-2<br>IEC 61326-1 |
| Product certifications | CE<br>CULus<br>N998                                     |
| Width                  | 90.5 mm                                                 |
| Depth                  | 90.8 mm                                                 |
| Height                 | 90.5 mm                                                 |
| Net weight             | 528 g                                                   |

Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility         | Electrostatic discharge conforming to IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test conforming to IEC 61000-4-3<br>Electrical fast transient/burst immunity test conforming to IEC 61000-4-4<br>Surge immunity test conforming to IEC 61000-4-5<br>Conducted RF disturbances conforming to IEC 61000-4-6<br>Magnetic field at power frequency conforming to IEC 61000-4-8<br>Voltage dips and interruptions immunity test conforming to IEC 61000-4-11<br>Immunity to impulse waves conforming to IEC 61000-4-12<br>Conducted and radiated emissions conforming to EN 55022<br>Conducted and radiated emissions conforming to EN 55011<br>Conducted and radiated emissions conforming to FCC part 15<br>Conducted and radiated emissions conforming to ICES-003<br>Conducted RF disturbances (2...150 Hz) conforming to CLC/TR 50579<br>Surge withstand conforming to IEEE C37.90.1 |
| IP degree of protection               | IP30 conforming to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Relative humidity                     | 5...95 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Ambient air temperature for operation | -25...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Ambient air temperature for storage   | -40...85 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Operating altitude                    | 3000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 14.0 cm   |
| Package 1 Width              | 14.0 cm   |
| Package 1 Length             | 18.5 cm   |
| Package 1 Weight             | 0.854 kg  |
| Unit Type of Package 2       | P06       |
| Number of Units in Package 2 | 32        |
| Package 2 Height             | 45.0 cm   |
| Package 2 Width              | 80.0 cm   |
| Package 2 Length             | 60.0 cm   |
| Package 2 Weight             | 37.592 kg |
| Unit Type of Package 3       | S03       |
| Number of Units in Package 3 | 8         |
| Package 3 Height             | 30.0 cm   |
| Package 3 Width              | 30.0 cm   |
| Package 3 Length             | 40.0 cm   |
| Package 3 Weight             | 7.273 kg  |

Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| EU RoHS Directive          | Compliant<br><a href="#">EU RoHS Declaration</a>                                                                            |
| Mercury free               | Yes                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |