

PowerLogic products: High-accuracy energy and power quality¹

| | Advanced metering | | | | | Intermediate metering | | | | Basic multi-function metering | | | | | | | | Basic energy metering ¹ | | Multi-circuit and wireless metering | | | | | |
|--|-------------------|-----------|-----------|-----------|-----------|-----------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|------------------------------------|----------------|-------------------------------------|-----------|-----------|-----------|-----------|-------|
| | ION9000 | ION8650 | | | CM4000T | ION7650 | ION7550 | ION7400 | PM8000 | PM5000 series | | | | ION6200 | EM3500 | | PM3000 series | EM4200 | iEM3000 series | PowerLogic energy meter | EM4900 | BCPM | EM4800 | EM4000 | |
| Features ² | | A | B | C | | | | | | PM5500 | PM5340 | PM5330 | PM5110 | | EM3500 | EM3555 | | | | | | | | | |
| Inputs, outputs and control power | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3-phase / single-phase | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | |
| Digital in and out / analog in and out | 46 / 24 | 16 / 4 | 16 / 4 | 16 / 4 | 24 / 4 | 20 / 8 | 20 / 8 | 36 / 24 | 36 / 24 | 6 / - | 4 / - | 4 / - | 1 / - | 2 / - | 3 / - | 3 / - | 2 / 2 | - / - | 1 / 1 | 1 / - | - / - | - / - | 2 / - | 2 / - | |
| Power supply options | AC / - | AC / DC | AC / DC | AC / DC | ■/■ | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / DC | AC / - | AC | AC | AC | AC | AC | AC | |
| Power and energy measurements | | | | | | | | | | | | | | | | | | | | | | | | | |
| Voltage, current, frequency, power factor | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| Power / demand | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | |
| Energy / time-of-use (energy per shift) | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | |
| IEC / ANSI energy accuracy class (% of reading) | 0.1 | 0.2(1) | 0.2(1) | 0.2(1) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.2 | 0.5 | 0.5 | 0.2 | 0.5 | 1 | 1 | 1 | .5 | .5 | |
| Loss compensation | ■ | ■ | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Power quality analysis | | | | | | | | | | | | | | | | | | | | | | | | | |
| EN50160 compliance reporting / IEC 61000-4-30 Class A or S | ■/A | ■/A | ■/S | -/- | ■/- | ■/A | -/- | ■/S | ■/S | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | |
| Flicker measurement | ■ | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Transient detection duration | 20 μs | 17 μs | 20 μs | - | 200 ns | 17 μs | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Sag and swell monitoring / disturbance direction detection | ■/■ | ■/- | ■/- | ■/- | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | |
| Harmonic distortion: total / individual / inter | ■/■/■ | ■/■/■ | ■/■/- | ■/■/- | ■/■/- | ■/■/■ | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | ■/■/- | |
| Waveform capture | ■ | ■ | - | - | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| On-board data and event logging | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trending / forecasting / billing | ■/■/■ | ■/-/■ | ■/-/■ | ■/-/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | |
| Minimum / maximum | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | -/- | -/- | -/- | ■/■ | -/- | -/- | -/- | -/- | -/- | -/- | |
| Events and alarms with timestamps | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| Timestamp resolution (seconds) | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | - | - | - | - | - | 1 | 1 | |
| Time sync.: Network / GPS / IRIG-B / DCF77-B / PTP | ■/■/■/■/■ | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | ■/■/■/-/- | |
| Setpoints, alarms and control | | | | | | | | | | | | | | | | | | | | | | | | | |
| Log alarm conditions / call out on alarm | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | -/- | -/- | -/- | -/- | ■/■ | -/- | - | - | - | -/- | -/- | |
| Trigger data logging / waveform capture | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | ■/■ | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | -/- | |
| Trigger relay or digital output | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | ■ | - | ■ | - | - | - | - | |
| Special features | | | | | | | | | | | | | | | | | | | | | | | | | |
| Custom programming: arithmetic / boolean / modular | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | ■/■/■ | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | -/-/- | |
| Downloadable firmware | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | ■ | - | - | - | - | - | - | |
| Communications | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ports: Ethernet: Copper / Fiber | 2 / - | 2 / ■ | 2 / ■ | 2 / ■ | 1 / ■ | 2 / ■ | 2 / ■ | 2 / ■ | 2 / - | 2 / - | 1 / - | - / - | - / - | - / - | - / - | - / - | - / - | - / - | - / - | - / - | - / - | 1 / - | 1 / - | 1 / - | 1 / - |
| Ethernet-to-serial gateway | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | |
| Telephone modem | - | ■ | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | ■ | ■ | |
| Modem-to-serial gateway | - | ■ | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Infrared port | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| RS485 / RS232 | ■ / - | ■ / ■ | ■ / ■ | ■ / ■ | ■ / ■ | ■ / ■ | ■ / ■ | ■ / ■ | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | ■ / - | |
| Misc: Web server / email / SNMP / XML | ■/■/■/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/■/■ | ■/■/■/■ | ■/■/■/■ | ■/■/■/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | |
| Protocols: Modbus ³ / DNP / MV-90 / DLMS | ■/■/■/- | ■/■/■/- | ■/■/■/- | ■/■/■/- | ■/■/-/■ | ■/■/■/- | ■/■/■/- | ■/■/■/- | ■/■/■/- | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | |
| Protocols: IEC61850 / Jbus / M-Bus / LON / BACnet | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | -/-/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | ■/■/-/■ | |

¹ This is not a complete list of meter models, features and specifications; please refer to the website www.schneider-electric.us/powermonitoring, catalog, technical data sheets or product brochures for more detail.

² Specifications represent maximum capabilities with all options installed; some options are not available concurrently.

³ ION8600, ION7650, ION7550, PM5000, PM8000, and ION9000 offer Modbus Master capabilities.