Product data sheet

Characteristics

M8650C0C0H6E1B0A
ION8650 meter 32MB, 9S/29S/36S, 120VAC/160VDC 60Hz, Ethernet 3I+4O

Main

Range | PowerLogic
Device short name | ION8650C
Product or component type | Energy and power quality meter

Complementary

Power quality analysis | up to the 31st harmonic
| harmonic distortion
| voltage sag and swell detection
| programmability (logic and math functions)
Device application | Equipment monitoring and control
| Demand and power factor control
| Tariff metering
| Load curtailment
| Instrument transformer correction
| Co-generation and IPP monitoring
| Energy pulsing and totalisation
Type of measurement | Current
| Voltage
| Frequency
| Apparent power total
| Power factor total
| Apparent power per phase
| Power factor per phase
| Active power total
| Active power per phase
| Reactive power total
| Reactive power per phase
Supply voltage | 120...277 V AC 47...63 Hz
| 65...120 V AC 47...63 Hz
| 80...160 V DC
Network frequency | 60 Hz
Outlet standard | American
[In] rated current | 2 A
| 1 A

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.

Dec 12, 2019
| **Type of network** | 5 A  
| 3P + N  
| 3P  
| 1P + N  
| **Power consumption in VA** | 24 VA  
| **Maximum power consumption in VA** | 33 VA  
| **Display type** | FSTN transflective LCD  
| **Form designation** | 9S 3-element 4  
| 36S 2½-element 4  
| 29S 2½-element 4  
| **Sampling rate** | 1024 samples/cycle  
| **Measurement current** | 0.001…24 A  
| **Input type** | Current 0.01…20 A (impedance 0.05 Ohm)  
| **Measurement voltage** | 57…277 V AC phase to neutral  
| 100…480 V AC phase to phase  
| **Number of inputs** | 3 digital 0.001…100 mA 30 V DC  
| **Measurement accuracy** | Current 0.1 %  
| Voltage 0.1 %  
| Power 0.1 %  
| Power factor 0.1 %  
| Frequency 0.001 Hz  
| Energy 0.1 %  
| **Accuracy class** | Class 0.2S energy conforming to IEC 62053-23  
| Class 0.2 energy conforming to ANSI C12.20  
| Class 0.2S energy conforming to IEC 62053-22  
| **Number of outputs** | 2 pulse  
| 4 form C relay output  
| **Communication port protocol** | DNP3 at 300…115200 bauds  
| ION at 300…115200 bauds  
| Ansi C12.18 at <= 19200 bauds  
| IEC 61850 ed. 2 at 10/100 Mbit/s  
| TCP/IP at 10/100 Mbit/s  
| DLMS at 300…115200 bauds  
| Modbus at 57600 bauds  
| DNP3 at 10/100 Mbit/s  
| ION at 10/100 Mbit/s  
| Modbus RTU, slave at 300…115200 bauds  
| Modbus TCP, slave at 10/100 Mbit/s  
| EtherGate  
| **Communication port support** | RJ45: Ethernet  
| SUB-D 9: RS485/RS232  
| Terminal block: RS485  
| Infrared  
| **Time synchronisation protocol** | GPS: Truetime/Datum  
| IRIG-B  
| **Data recording** | Time stamping  
| Data logs  
| Historical logs  
| Alarms  
| Sag and swell logs  
| Harmonics logs  
| Revenue logs  
| Event logs  
| GPS synchronisation  
| **Transmission rate** | <= 19200 bauds  
| 10/100 Mbit/s  
| 300…115200 bauds  
| 57600 bauds  
| **Memory capacity** | 32 MB  
| **Web services** | Robust security logs  
| Web server  
| Port addressing user designed  
| Alarm notification by e-mail  
| **Ethernet service** | Enable/disable Ethernet protocols  
| SNMP-Traps and SYSLOG  
| Enable/disable serial ports  
| **Ro]**
**Environment**

| **Electromagnetic compatibility** | Electrostatic discharge immunity test conforming to IEC 61000-4-2  
Conducted RF disturbances conforming to IEC 61000-4-6  
Immunity to impulse waves conforming to IEC 61000-4-12  
Electrical fast transient/burst immunity test conforming to IEC 61000-4-4  
Susceptibility to electromagnetic fields conforming to IEC 61000-4-3  
1.2/50 µs shock waves immunity test conforming to IEC 61000-4-5  
Conducted and radiated emissions B conforming to CISPR 22 |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Mounting mode</strong></td>
<td>Socket-mounted</td>
</tr>
<tr>
<td><strong>Mounting support</strong></td>
<td>Enclosure door</td>
</tr>
<tr>
<td><strong>Type of installation</strong></td>
<td>Indoor installation</td>
</tr>
<tr>
<td><strong>Overvoltage category</strong></td>
<td>III</td>
</tr>
</tbody>
</table>
| **IP degree of protection**   | IP65 front face:  
IP51 back:                                        |
| **Relative humidity**         | 5…95 %                                          |
| **Pollution degree**          | 2                                               |
| **Ambient air temperature for operation** | -40…85 °C                                   |
| **Ambient air temperature for storage** | -40…85 °C                                   |
| **Operating altitude**        | 0…3000 m                                        |
| **Standards**                 | ANSI C12.1  
IEC 62052-11                                    |
| **Width**                     | 178 mm                                          |
| **Depth**                     | 237 mm                                          |
| **Height**                    | 178 mm                                          |
| **Net weight**                | 7 kg                                            |

**Offer Sustainability**

<table>
<thead>
<tr>
<th><strong>Sustainable offer status</strong></th>
<th>Green Premium product</th>
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</thead>
<tbody>
<tr>
<td><strong>REACh Regulation</strong></td>
<td>REACh Declaration</td>
</tr>
</tbody>
</table>
| **EU RoHS Directive**         | Compliant  
EU RoHS Declaration          |
| **Toxic heavy metal free**    | Yes                   |
| **Mercury free**              | Yes                   |
| **RoHS exemption information**| Yes                  |
| **China RoHS Regulation**     | China RoHS declaration  
Pro-active China RoHS declaration (out of China RoHS legal scope) |
| **Environmental Disclosure**  | Product Environmental Profile |
| **Circularity Profile**       | End of Life Information |
| **WEEE**                      | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

**Contractual warranty**

| **Warranty** | 18 months |