SS-015 (-NA) Series

Long Range Wireless Process and Digital Pulse Input Smart Sensor

- 3 configurable Process/Digital Pulse Inputs
- Process Inputs: 4-20 mA, 0-1.0 V$_{DC}$, 0-2.0 V$_{DC}$
- Digital Pulse Inputs: Rate, Pulse Width, Pulse Delay, Duty Cycle, Counter
- Wireless communication up to 3.2 km
- IP65 Environmental Rating
- Easy setup with one-button pairing
- AES-256 encrypted wireless link keeps your data secure
- Local data logging up to 10,649 data points

Introduction: SS-015
The Omega Link SS-015 Smart Sensor provides an easy way to integrate process and digital pulse inputs to your Omega Link Ecosystem. SS-015 Smart Sensors provide a long-range wireless sub GHz interface for devices that produce both process and digital signals and transmits them to the Omega Link Cloud or OEG. External process and digital signal devices connect to the SS-015 through an M12 5-pin connector (M12.5-S-M-FM screw terminal accessory sold separately) and easily pair to an Omega Link Gateway through a one-button pairing system. The device can be powered by internal batteries, USB power, or an optional external power source (sold separately).

The SS-015 may be configured to monitor up to 3 industry standard process signals including 4-20 mA, 0-1.0 V$_{DC}$, and 0-2.0 V$_{DC}$.

Security and Access Control
Omega Link wireless products are designed with state of the art security features to protect your data with robust AES-256 encryption and advanced PKA-EC521bit (NIST) elliptic-curve cryptography to protect your data. Password protection ensures that access to device data is restricted and only accessible by authorized users. Device Authentication ensures that Omega Link Smart probes connect to validated Omega devices.

Intuitive Configuration
Configure your Omega Link Smart Sensor using our free SYNC configuration software. Configurable features include selective data extraction, measurement and device traceability, local alarms, and adaptive transmission rates to reduce data congestion and extend battery life.

One-Button Pairing
The SS-015 is easily paired to the Omega Link Gateway with the press of a button and will automatically show up on your Omega Link Cloud account. The Omega Link Gateway can connect up to 100 Smart Sensors per unit. Local data logging keeps your data secure in the event of a power or network outage. Reports, History, and E-mail alerts from the Omega Link Cloud keep you informed on the status of all your vital processes.

How Do Omega Link Smart Sensors Work?

Smart Sensor
Sense, store, and process real-time data with superior wireless connectivity to the Gateway.

Gateway
Collect and securely transport data from the sensor layer to the Cloud.

Cloud & Mobile Access
Continuously collects and processes sensor data providing real-time reporting and analytics anytime, anywhere with an Internet Connection.

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Specifications

Wireless Communication
Frequency: 915 MHz
Range*: Up to 1.2 km in low power mode
Up to 3.2 km in high power mode
*Clear line of sight. Actual range may vary depending on environment.

Power
Alkaline Battery: 2x C-Cell batteries (included)
Lifetime: Up to 1.5 years with a frequency of 1 reading per hour
External Power: 5 VDC @ 1.75 W
*External power adapter optional. External power specification based on Omega specific power adaptor.

Environmental
Operating Conditions for Base Unit:
-20°C to 70°C (-4°F to 158°F), 90% RH non-condensing
Rating: IP65

Signal Excitation Power: Nominal 3.3 VDC @ 100 mA
Low Power Sensor Signal Excitation Power: Nominal 3.3 VDC, current limited to 30 mA

Digital Inputs
ON: 1.0 VDC
OFF: 0.7 VDC
Internal Pull Up/Down: 1.5k to 3.0 VDC
Comparator (Clock) Input: 100 mV, 500 mV, 1.0 VDC, 2.0 VDC

Analog Inputs
Type | Range | Resolution | Min | Max | Accuracy | Input Independence
--- | --- | --- | --- | --- | --- | ---
Current Loop | 0-24 mA | ±0.1 mA | 0 mA | 24 mA | ±0.2 mA | 50 ohm
Voltage | 0-1.0 VDC | ±10 mV | 0 VDC | 1.2 VDC | ±10 mV | 100k ohm
Voltage | 0-2.0 VDC | ±10 mV | 0 VDC | 2.5 VDC | ±20 mV | 100k ohm

Certification
Contains FCC ID: WR3-MOD16370915
Contains IC ID: 8205A-MOD16370915

M12 5-Pin Female Connector

<table>
<thead>
<tr>
<th>Pin</th>
<th>Process/Analog</th>
<th>Digital</th>
<th>Mixed Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excitation Power (3.3 VDC, 100 mA)</td>
<td>Excitation Power (3.3 VDC, 100 mA)</td>
<td>Excitation Power (3.3 VDC, 100 mA)</td>
</tr>
<tr>
<td>2</td>
<td>Process 0</td>
<td>DIN 0/Pulse A</td>
<td>DIN 0/Pulse A</td>
</tr>
<tr>
<td>3</td>
<td>Ground Reference</td>
<td>Ground Reference</td>
<td>Ground Reference</td>
</tr>
<tr>
<td>4</td>
<td>Process 2</td>
<td>DIN 2/Enable/Direction/Pulse B</td>
<td>Process 0</td>
</tr>
<tr>
<td>5</td>
<td>Process 1</td>
<td>DIN 1/Reset</td>
<td>DIN 1/Reset</td>
</tr>
</tbody>
</table>

1. Actual range may vary depending on environment.
2. The number of data points available are on a per sensor basis. Local Data can be downloaded using downloadable SYNC configuration software.
3. 100 sensors are supported at typical update intervals, on the order of 60 minutes. Higher data rates or adverse environmental conditions may diminish the number of sensors supported.
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Omega Link Wireless Gateways
An Omega Link Wireless Gateway is **required** to connect your Smart Sensor to the Omega Link Cloud.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>GW-001-2-NA</td>
<td>Wireless IIoT Gateway Standard, Ethernet connectivity, connects up to 100 Omega Link Smart Sensors- 915 MHz</td>
</tr>
<tr>
<td>GW-001-3-NA</td>
<td>Wireless IIoT Gateway Pro, Ethernet connectivity, power over Ethernet, connects up to 100 Omega Link Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 2x USB ports- 915 MHz</td>
</tr>
<tr>
<td>GW-002-1-LTE</td>
<td>Wireless LTE IIoT Gateway Pro connects up to 40 Omega Link Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 1x RJ45 port, 1x USB port - 915 MHz</td>
</tr>
</tbody>
</table>

Wireless Sub GHg Smart Interface

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<tr>
<td>SS-015-NA</td>
<td>Wireless Sub-GHz Process and Digital Pulse Smart Sensor</td>
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Accessories
An optional M12 5-pin screw terminal adapter is recommended for users who will connect wire leads directly to the SS-015.

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<tr>
<td>M12.5-S-M-FM</td>
<td>M12 5-pin screw terminal adapter</td>
</tr>
<tr>
<td>UNIV-AC-100/240-5-M8</td>
<td>Universal AC adapter with M8 connector</td>
</tr>
</tbody>
</table>

Your Data at a Glance with the Omega Link Cloud
The Omega Link Cloud consolidates and brings your data to you when you need it, wherever you are. The intuitive cloud interface allows you to monitor and store your data, set alarms and alerts, and provides insights on device activity. Visit the OMEGA website for more details.