

SS-001 (-NA) Series



Wireless Smart Sensor with Cloud Connectivity

- SS-001 Series: Temperature, Humidity, Barometric Pressure, and Light sensor
- Free Layer N Standard Cloud service accessible from any connected device¹
- Easy setup with one-button pairing
- Wireless communication up to 3.2 km when powered with USB²
- AES-256 Encrypted wireless link keeps your data secure
- Local data logging up to 10,649 data points³



Introduction: SS-001

The Layer N SS-001 Smart Sensor utilizes precision internal sensing elements to accurately measure temperature, humidity, barometric pressure, and/or light, depending on the model. When the rugged model is securely inserted in the protective cover, the device can be used for a wide range of rugged sensing applications. Smart Sensors provide a long-range wireless sub GHz interface that transmits sensor readings to the Layer N Cloud or OEG. Easily pair to a Layer N Gateway through a one-button pairing system. The device can be powered by internal batteries or USB power.

Intuitive Configuration

Configure your Layer N 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.

Long Range

The SS-001 utilizes Sub GHz Frequency Hopping Spread Spectrum (FHSS) technology to ensure robust, long range communications. Transmission ranges of up to 1.2 km can be achieved with the standard AA batteries and transmission ranges of up to 3.2 km can be achieved when powered by a standard 5 V USB².

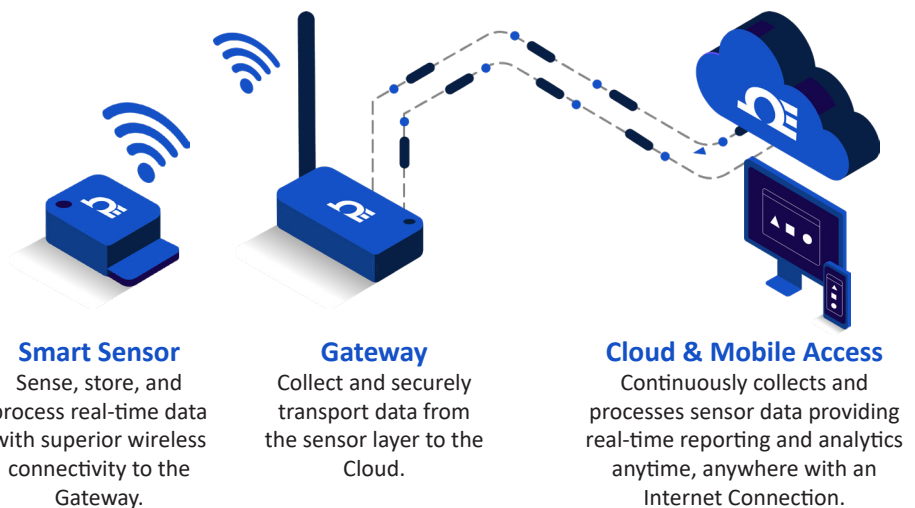
Security and Access Control

Layer N 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 Layer N Smart probes connect to validated Omega devices.

One-Button Pairing

The SS-001 is easily paired to the Layer N Gateway with the press of a button and will automatically show up on your Layer N Cloud account. The Layer N Gateway can connect up to 100 Smart Sensors⁴ 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 Layer N Cloud keep you informed on the status of all your vital processes.

How Do Layer N 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.

1. Visit <https://omega.com/en-us/cloud> for subscription options. Total number of sensors that can connect to Layer N Cloud varies with subscription tier.

2. Actual range may vary depending on environment.

3. The number of data points available are on a per sensor basis. Local Data can be downloaded using downloadable SYNC configuration software.

4. 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.

Specifications

Wireless Communication

Frequency: 915 MHz

Range: Up to 3.2 km*

*When powered by USB, without obstruction

Power

Alkaline Battery: 2x AA batteries (included)

Lifetime: Up to 1.5 years with frequency of 1 reading per hour

USB Power*: 500mA @ 5V

*Micro USB cable not included

Environmental

Operating Conditions for Base Unit

Battery Powered: -15°C to 55°C, non-condensing

USB Power: -20°C to 65°C, non-condensing

Rating: IP40

General

Software: Compatible with SYNC configuration software and Layer N Cloud

Certifications

Contains IC ID: 8205A-SS001XNA

Contains FCC ID: WR3SS001XNA

| Measurement | Range | Accuracy |
|----------------------------------|-----------------------|---------------------|
| Temperature | -20°C to 70°C | ±0.3°C |
| Humidity @ 25°C | 0% to 80% | ±2.5% |
| | 80% to 100% | ±3.5% |
| Barometric Pressure @ 25°C | 700 mbar to 1100 mbar | ±4 mbar |
| Barometric Pressure @ Full Range | 300 mbar to 1100 mbar | ±6 mbar |
| Light | 0-43691 illuminance | Relative level only |

Wireless Sub GHz Smart Sensor

| Model Number | Description |
|--------------|---|
| SS-001-1-NA | Temperature and Humidity Smart Sensor - 915MHz |
| SS-001-3-NA | Temperature, Humidity, Barometric Pressure, Light Smart Sensor - 915MHz |

Layer N Wireless Gateways

A Layer N Wireless Gateway is **required** to connect your Smart Sensor to the Layer N Cloud.

| Model Number | Description |
|--------------|---|
| GW-001-2-NA | Wireless IIoT Gateway Standard, Ethernet connectivity, connects up to 100 Layer N Smart Sensors- 915 MHz |
| GW-001-3-NA | Wireless IIoT Gateway Pro, Ethernet connectivity, power over Ethernet, connects up to 100 Layer N Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 2x USB ports- 915 MHz |
| GW-002-1-LTE | Wireless LTE IIoT Gateway Pro connects up to 40 Layer N Smart Sensors, Modbus RTU RS232/RS485 and Modbus TCP, 1x RJ45 port, 1x USB port - 915 MHz |

Your Data at a Glance with the Layer N Cloud

The Layer N 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.

