SS-001 Series

Wireless Smart Sensors with Cloud Connectivity

layer by OMEGA

- **SS-001: Temperature, Humidity, Barometric Pressure, and Light sensors**
- **Free Layer N Standard Cloud service accessible from any connected device[1]**
- **Easy setup with one-button pairing**
- **Transmits up to 1.2 km with standard AA batteries[2]**
- **Transmits up to 3.2 km when powered with USB[2]**
- **AES-256 Encrypted wireless link keeps your data secure**
- **Local data logging up to 10,649 data points[3]**

Layer N SS-001 Smart Sensors utilize precision internal sensing elements to accurately measure environmental conditions for a wide range of applications.

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 5V micro USB cable[2].
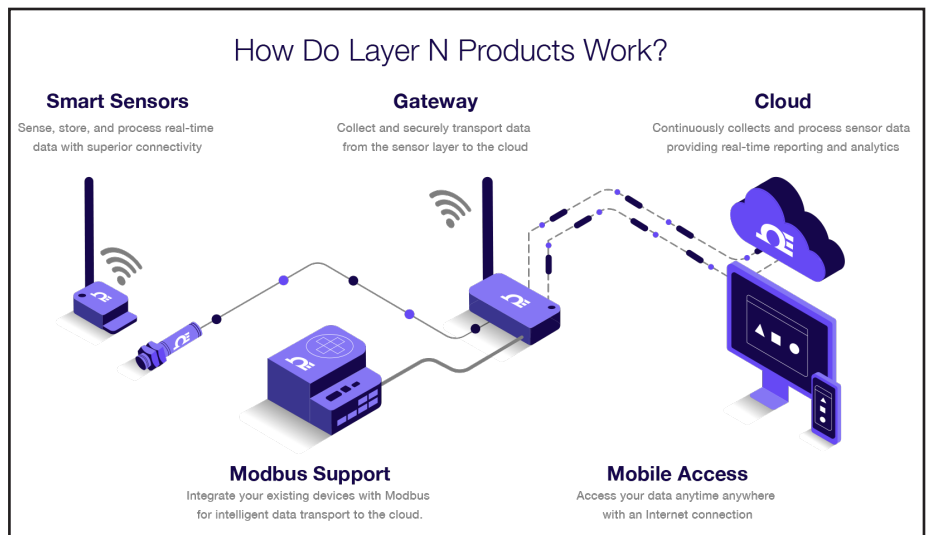
Advanced Features

Advanced Omega Level N features may be configured through SYNC software and include selective data extraction, measurement and device traceability, local alarms and adaptive transmission rates to reduce data congestion and extend battery life.

Plug and Play

Layer N Smart Sensors are 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 256 Smart Sensors[4] 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.

Secure

Layer N wireless products are designed with state of the art security features to protect your data with robust AES256 encryption and advanced PKA-EC521bit (NIST) elliptic-curve cryptography to protect your data.

How Do Layer N Products Work?

Smart Sensors
Sense, store, and process real-time data with superior connectivity

Gateway
Collect and securely transport data from the sensor layer to the cloud

Cloud
Continuously collects and process sensor data providing real-time reporting and analytics

Modbus Support
Integrate your existing devices with Modbus for intelligent data transport to the cloud.

Mobile Access
Access your data 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. 256 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: -15ºC to 55ºC, non-condesning
   USB Power: -20ºC to 65ºC, non-condensing
Rating: IP40

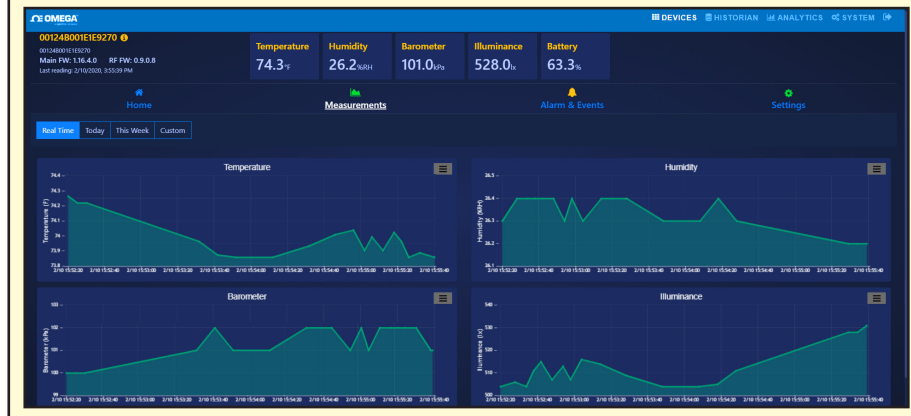**General**
Software: Compatible with SYNC configuration software and Layer N Cloud

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

Your Data at a Glance with Layer N Cloud
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.

Variants

The SS-001 is available in two variants of measurement suites: Temperature and Humidity or Temperature, Humidity, Barometric Pressure, and Light. Both operate on a frequency of 915 MHz

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

Gateway

A Wireless Gateway is **required** to connect the SS-001 to the Layer N Cloud. We currently offer the following options.

Model Number	Description
GW-001-0	Wired IIoT Gateway Standard
GW-001-2-NA	Wireless IIoT Gateway Standard
GW-001-3-NA	Wireless IIoT Gateway Pro