

GW-001 (-EU) Series



Long Range Gateway with Cloud Connectivity

- Free Omega Link Standard Cloud service accessible from any connected device¹
- Enterprise Mode for non-Internet local-area network environments
- Easy one-button pairing with Smart Sensor
- Transmits up to 3.2 km²
- AES-256 Encrypted wireless link keeps your data secure
- Wireless Gateways can connect up to 100 Smart Sensors³ per unit.

GW-001: Introduction

GW-001 Series gateways are designed for long range performance and ease of use. They aggregate data from all connected sensors and transmit it to the Omega Link Cloud or Omega Enterprise Gateway where it can be securely accessed from your PC, tablet or phone.

Long Range

The Wireless Gateways utilize Sub GHz Frequency Hopping Spread Spectrum (FHSS) technology to ensure robust, long range communications to Omega Link Smart Sensors. Transmission ranges of up to 1.2 km can be achieved when the sensor is powered with the standard AA batteries, and transmission ranges of up to 3.2 km can be achieved with a Smart Sensor in range boost mode powered by an external 12 V DC power supply.²

One-Button Pairing

The Omega Link Gateway is easily paired to Omega Link Smart Sensors with the press of a button and will automatically show up on your Omega Link Cloud account. Local data logging for your Smart Sensor devices 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.

Security

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. The gateway features a Trusted Platform Module secure hardware element which protects the safety of all encryption keys and uses X.509 device certificates for secure communication between the gateway and the Omega Link Cloud.

Wireless Standard: GW-001-2

This high performance wireless gateway seamlessly connects to up to 100 long range Omega Link Smart Sensor devices. Ethernet connectivity ensures fast, easy connection to the Omega Link Cloud. Local access is also available through the built-in web server.

Wireless Pro: GW-001-3

The Wireless Pro adds both Modbus TCP and RTU RS232/RS485 device support and two USB ports to enable local smart probe connections. It also features power over Ethernet (POE) which enables the gateway to be remotely powered.



Interfaces available vary with model

Wired Standard: GW-001-0

This version is designed specifically for wired applications. It features standard Ethernet connectivity to the Cloud, plus both Modbus RTU RS232/RS485 and Modbus TCP connectivity suitable for a wide range of wired applications.

Specifications

Wireless Communication

Frequency*: 868 MHz

Range:** Up to 3.2 km

**Wireless communication is only available on qualifying variants*

***Maximum range possible when Smart Sensor is powered by USB and without obstruction*

Power

AC Adapter: DC 12 V @ 2A

Power over Ethernet*: IEEE 802.3at compatible Type 1 Class 3

**PoE only available on Wireless Pro variant*

Interface*

RJ45: 2x ports

USB: 2x USB 2.0

DC Jack: DC 12 V power input

Serial Port: RS232/RS485

Alarm: SSR 36 V DC 100 mA

Antenna: One Antenna for Sub-1G

**Interfaces available vary according to model purchased*

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

2. Clear line of sight. Actual range may vary depending on environment and sensor type.

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.

Mechanical

Dimensions: 170 mm L x 100 mm W x 42 mm H (6.69" x 3.93" x 1.65")

General

Max number of Smart Sensors: Up to 100
Smart Sensors can connect to a wireless gateway unit

Environmental

Rating: IP-40
Operating Temperature: -20°C to 65°C, non-condensing

Certifications

Safety: EN 62368-1:2014 +A11:2017 (Second Edition)
EMC: EN 301 489-1 V2.2.3 (2019-11)
Radio: EN 300 220-2 V3.1.1 (2017-02)
CE: Radio Equipment Directive 2014/53/EU
EMC Directive 2014/30/EU
ROHS Directive EU 2015/863
UKCA: Electrical Equipment (Safety) Regulations 2016
Radio Equipment Regulations 2017
RoHS Regulations 2012

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iiot-opensource@omega.com

Please include SKU of this product in your request. The subject should be:
GW001 GPL license statement request

The original source code is available on the corresponding hosting website below:
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Variants

Model Number	Description
GW-001-0	Wired IIoT Gateway Standard, Ethernet connectivity, Modbus RTU RS232/RS485 and Modbus TCP (wired applications only)
GW-001-2-EU	Wireless IIoT Gateway Standard, Ethernet connectivity, connects up to 100 Omega Link Smart Sensors- 868 MHz
GW-001-3-EU	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- 868 MHz

Smart Sensors

The Omega Link ecosystem supports a variety of Smart Sensors. Up to 100 Smart Sensors can connect to a GW-001 unit. We currently offer the following options.

Model Number	Description
SS-001-1-EU	Temperature and Humidity Smart Sensor - 868 MHz
SS-001-3-EU	Temperature, Humidity, Barometric Pressure, Light Smart Sensor - 868 MHz
SS-002-0-EU	External Thermocouple, RTD, or DIN (Contact Closure) Smart Sensor - 868 MHz

Omega Link Smart Probes

Compatible Omega Link Smart Probes are integrated with an advanced suite of IIoT Smart Core features. These features enable plug and play connectivity, alarms and notifications, data assurance, data logging, and storage.

Model Number	Description
SP-001 Series	Smart Probe IR, 6:1 field of view, with discrete I/O
SP-002 Series	Smart Probe IR, 10:1 field of view with discrete I/O
SP-003 Series	Temperature, Humidity, Barometric Pressure, Dewpoint, Humidex, and Heat Index Smart Probe with discrete I/O - Tube Housing
SP-004 Series	Temperature, Humidity, Dewpoint, Humidex, and Heat Index with discrete I/O - Tube housing or Bulkhead housing, 5" variant also available
SP-005 Series	Temperature and RTD Smart Probe with discrete I/O
SP-006 Series	Pressure Monitoring and Control Smart Probe with discrete I/O
SP-010 Series	Load Cell Smart Probe with discrete I/O
SP-013 Series	Digital Interface Smart Probe with discrete I/O
SP-014 Series	Process Monitoring Smart Probe with discrete I/O
SP-016 Series	Heat Flux Smart Probe with discrete I/O

Omega Link Smart Interface

Omega Link Smart Probe devices require an Omega Link Smart Interface to operate and connect to your Omega Link Ecosystem. There are both wired and wireless options.

Model Number	Description
IF-001	USB Smart Interface
IF-002	RS485/Modbus Smart Interface
IF-006-1-EU	Sub GHz Wireless Interface

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.

