GW-002-1-LTE
Long Range LTE-Enabled Wireless Gateway with Cloud Connectivity

• Includes 1 Year of Renewable LTE Service
  - Service Begins Once Device is Shipped
  - AT&T Network Coverage
• Free Layer N Standard Cloud Service
  Accessible from any Connected Device
• Easy One-Button Pairing with Smart Sensor
• Transmits up to 3.2 km
• AES-256 Encrypted Wireless Link keeps your Data Secure
• Wireless Gateways can connect up to 40 Smart Sensors per unit

LTE-Enabled Gateway
This high performance wireless gateway seamlessly connects to up to 40 long range Layer N Smart Sensor devices. LTE network-enabled connectivity ensures fast, wireless connection to the Layer N Cloud. Local access is also available through the built-in web server accessible through an RJ45 port. The GW-002-1-LTE supports wired devices including Modbus TCP and RTU RS232/RS485 through a 5-pin serial terminal and an RJ45 port (used for local configuration only). It includes one USB port to enable local smart probe connections through a wired Layer N Smart Interface.

1 Year LTE Service Included
The product is ready to go right out of the box and features an internal SIM card with 1 year of LTE service. This service is activated upon shipment and provides 1 year of connectivity from the gateway to the Layer N Cloud. Annual renewals can be purchased through the Omega website.

Easy Wireless Smart Sensor Setup
The Layer N LTE Gateway is easily paired to Layer N Smart Sensors with the press of a button and will automatically show up on your Layer N 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 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. 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 Layer N Cloud.

Long Range
Layer N Wireless Gateways utilize Sub GHz Frequency Hopping Spread Spectrum (FHSS) technology to ensure robust, long range communications to Layer N 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 a standard external 5V USB power supply.

2. Clear line of sight. Actual range may vary depending on environment and sensor type.
3. 40 smart sensors are supported at typical update intervals, on the order of 10 minutes, higher data rates or adverse environmental conditions may diminish the number of sensors supported.
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.

Specifications
Wireless Communication
Frequency*: 915 MHz
Range**: Up to 3.2 km
LTE Service Provider: AT&T
Supported LTE Bands: 2, 4, 12
*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 12V @ 2A

Interface
RJ45: 1x port (TCP Modbus local config only)
USB: 1x USB 2.0
DC Jack: DC 12V power input
Serial Port: RS232/RS485
Alarm: SSR 36VDC 100mA
Antenna: • One Antenna for Sub-1G
• One Antenna for LTE network connectivity

Environmental
Rating: IP40
Operating Temperature: -20°C to 65°C (-4°F to 149°F), non-condensing

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

LTE Gateway and Service

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GW-002-1-LTE</td>
<td>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</td>
</tr>
<tr>
<td>LTE1YR</td>
<td>1 year of LTE data service renewal</td>
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</table>

Smart Sensors
The Layer N ecosystem supports a variety of Smart Sensors. Up to 40 Smart Sensors can connect to an LTE Gateway unit. We currently offer the following options:

<table>
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<tr>
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<tr>
<td>SS-001-1-NA</td>
<td>Temperature and Humidity Smart Sensor - 915MHz</td>
</tr>
<tr>
<td>SS-002-1-NA</td>
<td>Thermocouple, RTD Temperature, Humidity, Barometric Pressure, and Light Smart Sensor</td>
</tr>
<tr>
<td>SS-002-0-NA</td>
<td>Thermocouple and RTD Smart Sensor</td>
</tr>
<tr>
<td>SS-001-3-NA</td>
<td>Temperature, Humidity, Barometric Pressure, Light Smart Sensor - 915MHz</td>
</tr>
</tbody>
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Smart Interfaces
Layer N Smart Interfaces pair with Layer N Smart Probes to enable both wired and wireless connectivity options to your gateway.

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<tr>
<td>IF-001</td>
<td>Wired USB Serial Smart Interface</td>
</tr>
<tr>
<td>IF-002</td>
<td>Wired Modbus RS485 Smart Interface</td>
</tr>
<tr>
<td>IF-006-1-NA</td>
<td>Wireless Sub-GHz Smart Interface with optional external power</td>
</tr>
</tbody>
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## Smart Probes

Compatible Layer N 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.

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<tbody>
<tr>
<td>SP-001-0</td>
<td>Smart Probe IR, 6:1 field of view</td>
</tr>
<tr>
<td>SP-001-1</td>
<td>Smart Probe IR, 6:1 field of view, with discrete I/O</td>
</tr>
<tr>
<td>SP-002-0</td>
<td>Smart Probe IR, 10:1 field of view</td>
</tr>
<tr>
<td>SP-002-1</td>
<td>Smart Probe IR, 10:1 field of view with discrete I/O</td>
</tr>
<tr>
<td>SP-003-1</td>
<td>THB Smart Probe with I/O Tube Housing</td>
</tr>
<tr>
<td>SP-004-1</td>
<td>TH Smart Probe with I/O Tube Housing</td>
</tr>
<tr>
<td>SP-004-4</td>
<td>TH Smart Probe with I/O Bulkhead Housing</td>
</tr>
<tr>
<td>SP-005-1</td>
<td>Temperature and RTD Smart Probe with discrete I/O</td>
</tr>
<tr>
<td>SP-010-1</td>
<td>Load Cell Smart Probe with discrete I/O</td>
</tr>
<tr>
<td>SP-013-1</td>
<td>Digital Interface Smart Probe with discrete I/O</td>
</tr>
<tr>
<td>SP-014-1</td>
<td>Process Monitoring Smart Probe with discrete I/O</td>
</tr>
<tr>
<td>SP-016-1</td>
<td>Heat Flux Smart Probe with discrete I/O</td>
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### 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 processes sensor data providing real-time reporting and analytics

**Modbus Support**

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

**Wireless Smart Interface**

Provides wireless integration of Smart Probes to the Layer N Gateway to create a fully customized wireless solution that fits your application

**Mobile Access**

Access your data anytime anywhere with an Internet connection