LGW915L LoRaWAN Type III Indoor Gateway

Quick Start Guide

1. Product Overview

1.1 What Is This Product?

The LGW915L is an indoor IoT gateway built on LoRaWAN® low-power wide-area network (LPWAN) technology. It integrates Semtech's high-performance SX1302 8-channel transceiver, supports full-duplex operation, and can serve thousands of end-node devices simultaneously.

The gateway uploads data to the cloud via 4G, Wi-Fi, or wired Ethernet. It is compatible with mainstream LoRaWAN network servers (such as ChirpStack and The Things Stack), and can also work with the built-in network server (NS) or third-party IoT platforms, so you can deploy your own IoT applications quickly and flexibly. In this guide, the gateway is used with the AdoModel LoRaWAN NS cloud platform (http://adomodelcloud.com:4560/).

Key features at a glance:

- 8-channel full-duplex LoRaWAN — Semtech SX1302 transceiver, thousands of end nodes
- Indoor deployment — designed for wiring cabinets, server rooms, and industrial indoor environments
- Flexible backhaul — 4G, Wi-Fi (2.4 GHz only), or wired Ethernet
- Open ecosystem — works with mainstream LoRaWAN network servers, built-in NS, or third-party IoT platforms

Regulatory Compliance

FCC ID: 2BWC6LGW915L

This device complies with Part 15 of the FCC Rules.
RF Exposure: The antennas used with this transmitter must be installed to provide a minimum separation distance of at least 20 cm from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures. End users must follow the operating procedures in this guide to satisfy RF exposure compliance.
Caution: Any changes or modifications to this device not expressly approved by the manufacturer could void the user's authority to operate the equipment.

1.2 Where the Gateway Fits in Your System

The gateway is one link in a complete data chain. Figure 1 shows a typical AdoModel IoT deployment and the role of each component.

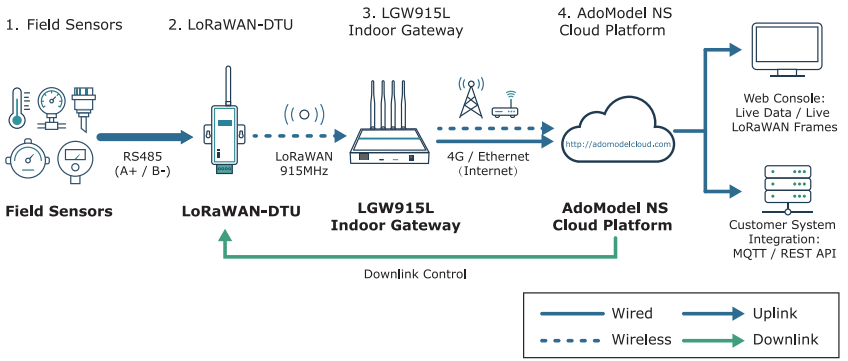


Figure 1 System architecture of a typical IoT deployment

How data flows through the system:

• **Uplink:** field sensors report their readings over an RS485 cable to a LoRaWAN-DTU, which packages the data into LoRaWAN frames and transmits them over the air. The gateway receives these radio signals and forwards them — via 4G or wired Ethernet — to the cloud, where the AdoModel LoRaWAN NS platform decodes them into application data.

• **Downlink:** commands sent from the platform travel the reverse path. The gateway transmits them over the air to the DTU, which outputs them through its RS485 port to the sensor or controller.

The role of each component:

Component	Role in the System
Field Sensor	Measures physical quantities (temperature, pressure, flow, etc.) and outputs data through its RS485 interface.
LoRaWAN-DTU	The translator between sensors and the wireless world: converts RS485 data to LoRaWAN radio frames, and vice versa.

LGW915L Gateway	The relay station between wireless and the Internet: receives LoRaWAN radio frames from end nodes and forwards them to the cloud over 4G or Ethernet.
AdoModel LoRaWAN NS Platform	The brain of the network: manages gateways and devices, decodes application data, and provides web console, downlink control, and MQTT / REST API integration.

The gateway itself never interprets your sensor data — it simply relays LoRaWAN frames. All intelligence (decoding, device management, integrations) lives in the NS platform. This separation is what allows one gateway to serve thousands of heterogeneous devices.

1.3 What This Guide Helps You Accomplish

This guide walks you through everything needed to get a single gateway from the box to a working connection with the AdoModel LoRaWAN NS platform. Follow the chapters in order; by the end you will have:

- unpacked and verified the shipment (Chapter 2);
- installed the antennas, SIM card (optional), and mounting hardware (Chapters 3–4);
- powered the gateway and connected it to the Internet via Ethernet, 4G or Wi-Fi (Chapter 5);
- opened the gateway web console and verified its platform connection settings (Chapters 6–7);
- seen the gateway appear online on the AdoModel LoRaWAN NS platform (Chapter 8);
- learned what the platform can do for you once the gateway is online (Chapter 9).

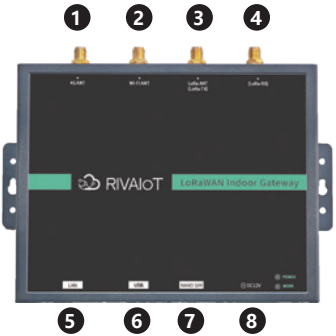
If anything does not work as described, turn to Chapter 10 (Troubleshooting).
Connecting end-node devices (e.g., a LoRaWAN-DTU with sensors) to the network is covered in a companion document, the LoRaWAN-DTU Quick Start Guide.

2. Packing List

					
LoRaWAN Type III Indoor Gateway	Rubber Antenna 4 4G/WIFI/ LORA	Power Adapter 1	Micro USB Cable 1	Fixing Screws 1 set	Certificate of Conformity Quick Installation Manual

3. Interfaces

Familiarize yourself with the gateway's connectors before installation. Figure 2 shows the interface layout; the tables list each interface.



Number	Interface Definition
1	4G antenna
2	Wi-Fi antenna
3	LoRa antenna (full/half-duplex)
4	LoRa antenna (full-duplex models)

Number	Interface Definition
5	Ethernet port
6	Micro USB port
7	SIM card slot
8	DC power jack

Figure 2 Interface layout

WARNING: The gateway does not support hot-swapping. Always power off the device before inserting or removing the SIM card.

4. Installation

No special tools are required. Install the accessories in the order below.

4.1 Installing the Antennas

1.Screw the four antennas (4G / Wi-Fi / LoRa ×1 or ×2) clockwise onto the corresponding interfaces on the top of the device.

WARNING: Never power on the gateway with a LoRa antenna port left open — transmitting without an antenna may damage the radio front end.



Figure 3 Antenna installation

4.2 Inserting the SIM Card / Connecting Ethernet (choose the backhaul)

1.For 4G backhaul: insert the Nano SIM card into the SIM slot with the metal contacts facing the correct orientation (device powered off).
2.For Ethernet backhaul: connect the network cable from your router or switch to the gateway's Ethernet port.

4.3 Wall Mounting (optional)

1.Fix the mounting ears on the left and right sides of the device using the supplied screws.
2.Hang the device on the wall with appropriate hardware for the surface.
The gateway can also be placed flat on a desk or shelf.

4.4 Powering the Gateway

1.Connect the included DC 12 V adapter to the gateway's DC power jack and to a power outlet.
2.The gateway boots automatically.

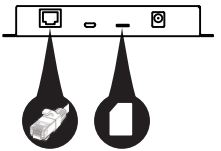


Figure 4 Ethernet / SIM card connection

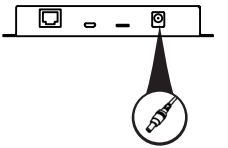


Figure 5 DC 12V power supply connection

5. Power On & Network Backhaul

The gateway supports three backhaul options:

Backhaul	Best for	What to do
Ethernet (recommended)	Fixed installations with a wired network available	Connect the Ethernet cable (Section 4.2) — the gateway obtains an IP address automatically (DHCP). No further configuration is needed.
4G (cellular)	Sites without wired network access	Insert the SIM card (Section 4.2, power off first) — the modem dials up automatically after power-on.
Wi-Fi	Sites with an existing Wi-Fi network	Power on, then configure the Wi-Fi connection (STA mode) on the gateway web console (Chapter 6 → Network → Wi-Fi). 2.4 GHz networks only — 5 GHz Wi-Fi is not supported.

5.1 Post Power-On Checks

- ✓ The power adapter indicator is lit.
- ✓ The Ethernet cable is firmly seated (if used).

Once powered and connected to the Internet, the gateway automatically starts sending data to the NS platform. In a good network environment the gateway comes online within 1–3 minutes of power-on (up to ~5 minutes). You will verify this on the platform in Chapter 8, after checking the web console settings in Chapters 6–7.

6. Accessing the Gateway Web Console

The gateway is managed through a built-in web console. There are four ways to reach it:

- **Option 1 — USB connection:** connect directly to the gateway with the supplied Micro USB cable. Works even before the gateway has any network set up.
- **Option 2 — Ethernet via your LAN:** connect the gateway to your router or switch and look up its IP address with the supplied LoraGW_IPScan tool.
- **Option 3 — Direct Ethernet connection (server mode)**: plug your computer straight into the gateway's ethernet port; the gateway assigns an IP address to the computer automatically. No network infrastructure or extra tools needed.
- **Option 4 — Remote access via the CMP platform:** if the gateway is already online, open its web console remotely through the AdoModel IoT Management Platform (CMP) without going on site.

6.1 Option 1: USB Connection

1. Locate the Micro USB port on the bottom of the gateway.
2. Use the supplied Micro USB cable to connect the gateway to your computer.
3. Open a web browser on the computer and enter the default gateway address:
   http://192.168.0.100:8088

The web console login page appears (Figure 6).

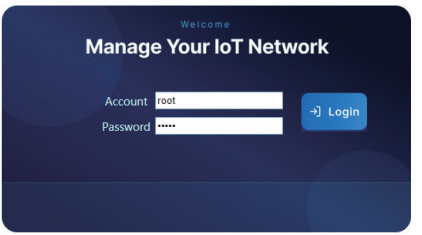


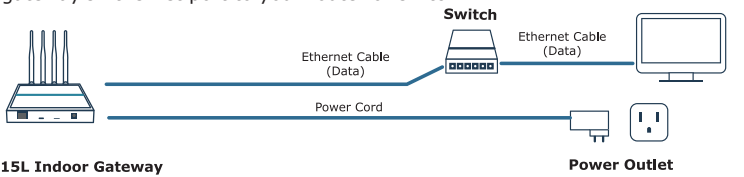
Figure 6 Gateway web console login page

Default value
Username/Password: root/admin

6.2 Option 2: Ethernet via Your LAN

Use this method when the gateway is (or will be) installed on a local area network with a router or switch — the typical case for Ethernet-backhaul installations.

1.Connect the gateway's Ethernet port to your router or switch.



2.Make sure the network has DHCP enabled — the gateway obtains its IP address automatically by default.

3.Power on the gateway and wait about 40 seconds for it to finish booting and obtain an IP address.

4.On a computer connected to the same LAN, open supplied LoraGW_IPScan tool to find the gateway's IP address. The tool can be downloaded from www.adomodeltech.com or obtained from your account manager.

5.Enter the IP address followed by port 8088 in a browser — for example, if the search tool reports 172.16.10.107, enter: **http://172.16.10.107:8088**

NOTE: After logging in, you can switch the gateway to a static IP on the web console (Network → Ethernet) to suit your network environment.

6.3 Option 3: Direct Ethernet Connection (Server Mode)

1.Using an ethernet cable, connect your computer's network port directly to the gateway's Ethernet port.
2.Power on the gateway and wait about 3 minutes. The gateway automatically assigns an IP address to your computer.
3.Once the computer has obtained a valid IP address, open a browser and enter the server-mode address: **http://192.168.100.105:8088**

NOTE: Do not set the last octet of the server-mode IP into the .240–.250 range — those addresses are reserved for the gateway's internal DHCP pool.

6.4 Option 4: Remote Access via the CMP Platform

NOTE: This option requires the gateway to be already connected to the Internet (4G, Ethernet, or Wi-Fi) and shown as Online in CMP.

1.Log in to the AdoModel IoT Management Platform (CMP): http://adomodelcloud.com/ (account provided by your account manager).
2.Click "Device Management" to expand the menu, then click "Group".
3.Enter the gateway ID (IMEI) in the search box and click "Search" .
4.Click "View" on the found device.
5.Under the operation column, click "Remote Configuration"(Figure 7).
6.Confirm the device status is "Online", then click "Enable Remote Connection". Wait until a dialog confirms success and shows the "Open Configuration Page" and "Close Remote Connection" buttons.
7.Click "Open Configuration Page" — the gateway web console login page opens.

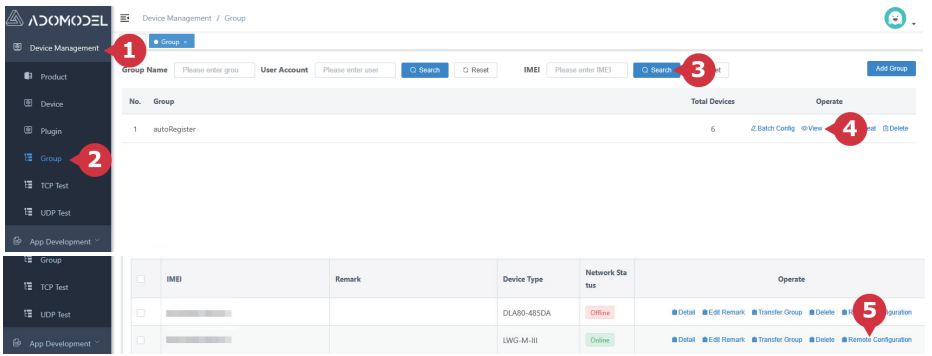


Figure 7 Remote Configuration in CMP

6.5 Logging In

On the login page, enter the default credentials: Username/Password: root/admin

7. Connecting to the AdoModel Platform

The gateway is factory-configured for the North American band (US915) and for the AdoModel LoRaWAN NS platform. In most cases you do not need to change anything on this page — just verify that the settings match the table below.

7.1 Verifying the NS Settings

1.Open the gateway web console (Chapter 6).
2.Go to "LoRaWAN Management" → "Parameter Config" .
3.Verify the following values:

Setting	Expected value (North America)
NS server address	adomodelcloud.com
Uplink port	915
Downlink port	915
Band	US915 (US_902-928)
Frequency points	0–7

NOTE: If any value differs, correct it, click "Application" to save, then reboot the gateway for the change to take effect.

7.2 Using a Different Network Server

If you operate your own LoRaWAN network server (e.g., ChirpStack or The Things Stack), enter its address and ports on the same page. Frequency-plan customization is beyond the scope of this guide — see the companion Gateway Web Configuration Guide and the LoRaWAN band / custom frequency-point reference.

8. Verifying the Gateway Is Online

8.1 Log In to the NS Platform

1.Open http://adomodelcloud.com:4560/ in your browser.
2.Log in with the account provided by your account manager.

NOTE: If your gateway has not yet been registered on the platform, follow the registration procedure described in the companion **LoRaWAN-DTU(LGW-L) Quick Start Guide**, or contact your account manager.

8.2 Check the Gateway Status

1.Click the "Gateway" tab on the left side.
2.Enter the gateway MAC ID in the "Search" box and locate your gateway (Figure 8). If it does not exist, click the "CREATE" button in the upper left corner to create it.

NOTE: Gateway ID rule: if the MAC ID on the label has 15 digits, append a "0" at the end to make 16 digits before entering it on the platform (e.g., 866999……7 → 866999……70).

3.Check the status dot:

- **Green dot —** the gateway is online and connected to the platform. You are done with this guide's setup path; continue to Chapter 9 to learn what the platform offers.
- **Red dot —** the gateway is offline. After power-on (or a new registration), the gateway typically comes online within 1–3 minutes in a good network environment, and within about 5 minutes at most. If it is still offline after 5 minutes, see Chapter 10.

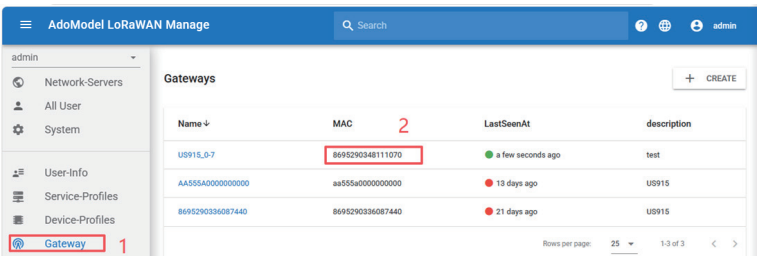


Figure 8 Gateway list on the NS platform — green dot indicates online

8.3 Alternative Check via CMP

You can also confirm that the gateway has Internet access from the CMP platform (http://adomod-elcloud.com/): search the gateway ID as described in Section 6.4; an "Online" status means the backhaul link works. If the gateway is online in CMP but offline on the NS platform, re-check the NS settings of Chapter 7.

9. What the Platform Can Do for You

Once your gateway is online, the AdoModel LoRaWAN NS platform is your window into the network. Highlights:

- Applications & device management — organize end-node devices into applications; register devices, manage activation keys (OTAA), and monitor device status.
- Live Data — view decoded application data from your devices in real time.
- Live LoRaWAN Frames — inspect raw LoRaWAN protocol frames (e.g., JoinRequest / JoinAccept) for network debugging.
- Downlink control — send commands to devices from the platform (e.g., through the downlink tool).
- Integration — retrieve your data via standard RESTful APIs and MQTT subscriptions for custom application development.

A quick end-to-end walkthrough — registering the gateway and a LoRaWAN-DTU node, and testing uplink/downlink data — is provided in the companion LoRaWAN-DTU Quick Start Guide. The complete platform documentation is available separately (AdoModel NS Platform User Guide).

10. Troubleshooting

Symptom	Possible cause	What to do
Web console page will not open (USB)	Cable not seated; wrong address; browser cache	Re-seat the Micro USB cable; confirm the address http://192.168.0.100:8088; try another browser or clear the cache.
Web console page will not open (CMP remote)	Gateway not Online in CMP	Remote configuration only works when the gateway has Internet access. Use a local method (USB 6.1, LAN 6.2, or direct ethernet 6.3) instead.
Login fails	Wrong credentials	Use the defaults root / admin. If the password was changed and lost, restore factory settings or contact support.
Gateway never comes online on the NS platform	No backhaul link; wrong gateway ID on the platform; NS settings mismatch	1) Check that the ethernet/4G link works (CMP status, Section 8.3). 2) Compare the gateway ID on the platform with the label on the device. 3) Verify the NS settings (Chapter 7). 4) Power the gateway off for about 15 seconds and power it on again.
4G backhaul does not connect	SIM not detected; no data plan; weak signal	Power off, re-insert the SIM (contacts facing down), power on; confirm the SIM has an active data plan; attach both 4G antennas and check signal coverage at the site.

For further assistance, contact your agent or sales representative, or visit www.adomodeltech.com.

Appendix A: Specifications

Key specifications of the gateway (from the LGW-L-III Product Specification; refer to the full specification sheet for details):

Item	Specification
Processor	ARM Cortex-A7
Storage	NAND + LPDDR2 (4 Gb + 2 Gb)
LoRaWAN channels	8 (full-duplex / half-duplex)
Frequency band	LoRaWAN US915, LTE FDD B2/4/5/12/17
Receiving sensitivity	-143 dBm
Transmission power	Max. 30 dBm

LoRaWAN antenna	2× SMA-type female connectors, external antenna, 50 Ω
LoRaWAN protocol	V1.0.4 and V1.0.2, Class A / C
Ethernet port	1× 10/100/1000 Mbps
Wi-Fi	2.4 GHz only (5 GHz not supported); client or AP mode
Cellular network	2 built-in antennas (main + diversity)
SIM port	1 (Nano SIM)
Other interfaces	Reset button ×1; Micro-B debug interface ×1
Power supply	DC 12 V adapter
Power consumption	Avg. 3.4 W; peak 5 W
Protection level	Flame-retardant grade V0; aluminum casing
Operating temperature	-40 °C to +85 °C
Storage temperature	-50 °C to +100 °C
Relative humidity	10%–90% RH, non-condensing
EMC protection	Contact discharge 4 kV; air discharge 8 kV
Installation	Desktop placement or wall mounting

Appendix B: Default Parameters

Parameter	Default value
Web console address (USB)	http://192.168.0.100:8088
Web console address (direct ethernet, server mode)	http://192.168.100.105:8088
Web console username / password	root / admin
Ethernet mode	DHCP (IP lookup via supplied LoraGW_IPScan)
NS server address	adomodelcloud.com
NS uplink / downlink port	915 / 915
Band / frequency points	US915, points 0–7
NS platform web address	http://adomodelcloud.com:4560/
CMP platform web address	http://adomodelcloud.com/

Related Documents

- **LoRaWAN-DTU(LGW-M) Quick Start Guide** — end-to-end system setup: gateway + DTU node + platform, uplink/downlink testing.
- **LGW-M/LGW-L Gateway Web Configuration Guide** — complete reference for the gateway web console (advanced network, LoRaWAN, and system settings).
- **AdoModel LoRaWAN NS Platform User Guide** — complete reference for the NS platform.