

Lierda OG45 Series LoRaWAN Gateway Specification

Version: Rev2.0

Date: 24/07/18

Status: Controlled Version

File Revision History

Version	Date	Reviser	Reviewer	Change content
Rev1.0	24-03-18			Initial version
Rev2.0	24-07-18			Remove half duplex

1 OG45 LoRaWAN® Base Station Gateway



Product Image

2 Product Introduction

OG45 is an outdoor IoT gateway based on LoRa low-power wide-area network technology. It is equipped with the Semtech high-performance multi-channel transceiver SX1302, supports full-duplex mode, and can connect to over 2000 nodes. The communication distance can reach up to 15 kilometers. OG45 adopts an IP67 waterproof and dustproof casing, supports short-term operation and alarm under abnormal power failure, and meets the requirements of various outdoor complex environments for LoRa® network coverage.

OG45 can transmit data to cloud servers via 4G network, Wi-Fi, or wired Ethernet. OG45 is Not only does it perfectly connect with the Lierda cloud platform, and compatible with various mainstream LoRaWAN® network servers (TTN, ChirpStack, etc.), but also

allows users to quickly deploy their own IoT applications and achieve customized smart services through built-in network server .

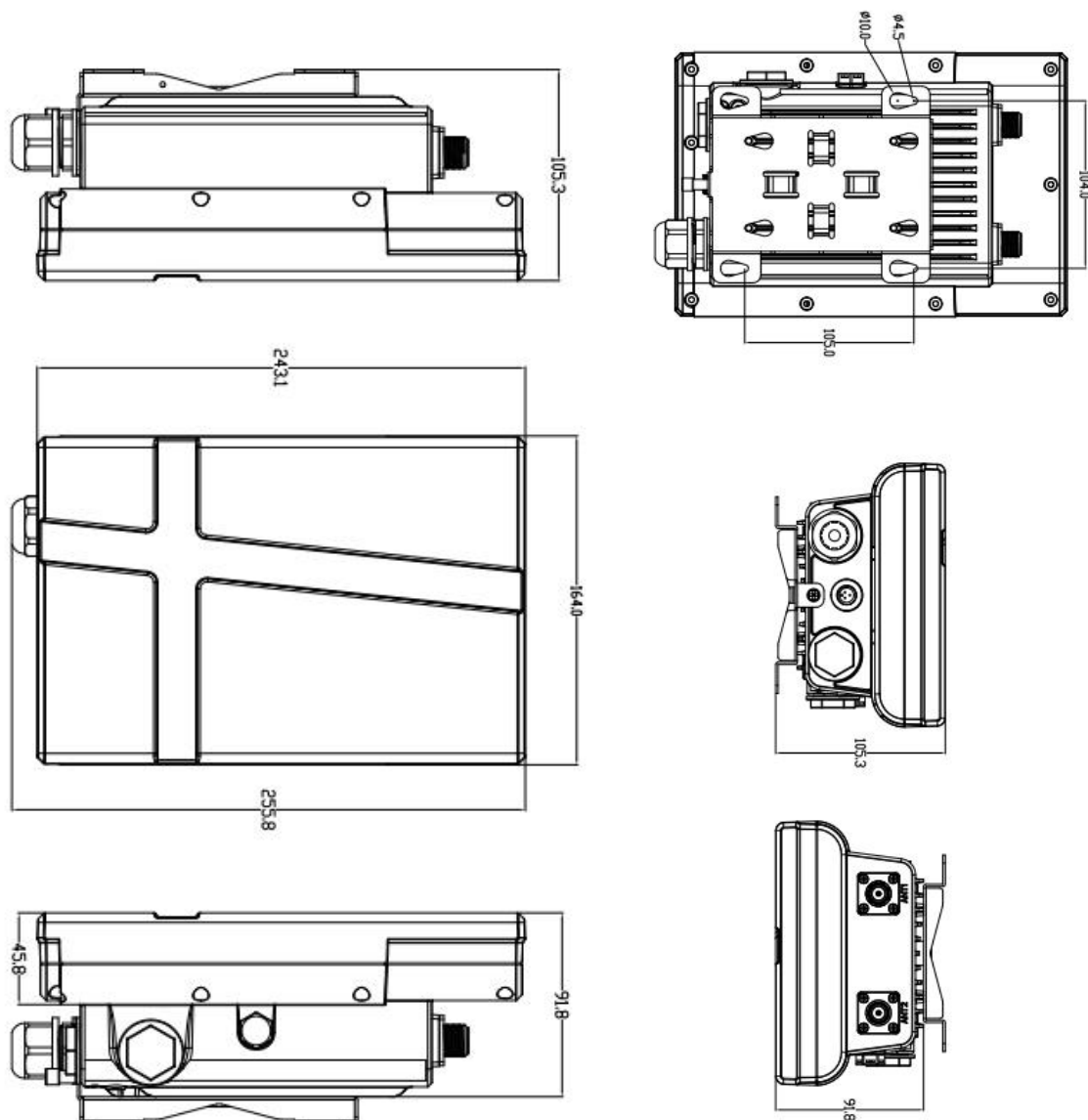
3 Product advantages

- 1) Adopt NXP A53 quad-core processor, strong data processing capability, stable operation;
- 2) Adopt Semtech high-performance 8-channel SX1302 chip, support full-duplex transmission;
- 3) Support multiple network access options such as Ethernet, Wi Fi, and cellular.
- 4) Compatible with mainstream LoRaWAN® network server platforms such as TTN, ChirpStack;
- 5) Built-in network server and provide MQTT API for easy and fast application deployment;
- 6) Support bottom noise scanning and provide reliable channel deployment suggestions;
- 7) Provide Node-RED visual IoT programming tool;
- 8) Wide temperature range design, IP67 high protection level, support various outdoor application scenarios;
- 9) Support wall-mounted or pole-mounted installation.

4 Application Solutions



5 Product Size(mm)



6 Product Specifications

<p>Basic Specifications</p>	<p>Protection level: IP67 Dimensions: 240×164×90.9 mm Product power supply: 802.3 af standard PoE power supply or DC 12V power supply (M12 aviation interface) Power consumption of the product: not more than 4.8W Operating temperature: -40℃~70℃ Storage temperature: -40℃~85℃ Relative humidity: 0%~95% at 25℃ (non-condensing) Installation method: wall-mounted or pole-mounted installation</p>
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	Electromagnetic isolation protection: 1.5 kV RMS
Hardware System	Processor: 4-core processor, 1.5 GHz, 64-bit ARM Cortex-A53 Memory: 512 MB DDR4 RAM Flash storage: 8 GB eMMC
LoRaWAN	Antenna: 1 N-type female external antenna interface (domestic version), 2 N-type female external antenna interfaces (overseas version), Channels: 8 (full duplex) Frequency band: CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4) Receiver sensitivity: -140dBm @292bps Transmit power: 27dBm Max Protocol: V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C
Ethernet port	Quantity: 1×10/100/1000 Mbps (Supports 802.3af standard PoE power supply) Transmission mode: Full duplex
Wi-Fi interface	Antenna: 1 built-in antenna Standard and frequency band: IEEE 802.11 b/g/n, 2.4GHz Operating modes: STA mode or AP mode (customer login configuration) Security encryption: WEP/WPA/WPA2 authentication, supports WEP/TKIP/AES encryption
Cellular network (optional)	Antenna: 1 built-in antenna SIM interface: 1 (2FF) Network standard: Seven-mode full network access, supports mobile/China Unicom/China Telecom 2G, 3G, and 4G
GPS interface	Antenna interface: 1 built-in antenna Positioning technology: GPS Sensitivity: -167dBm in tracking mode, -149dBm in acquisition mode, -161dBm in reacquisition mode Horizontal positioning accuracy: autonomous positioning less than 2.5m CEP
Other interfaces	Reset button: 1 Debug serial port: 1× Type-C interface LED indicator lights: 1× SYS, 1× LoRa, 1× LTE Built-in: watchdog, real-time clock, timer
Software functions	Network protocols: PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet,

	<p>SSH, MQTT etc.</p> <p>VPN: DMVPN, IPsec, OpenVPN, PPTP, L2TP, GRE</p> <p>Firewall: Access Control (ACL), DMZ, port forwarding, MAC address binding, url filtering</p> <p>Device management: Web page , CLI , SMS , on-demand dialing , SNMP v1/v2/v3</p> <p>Multi-level users: Support for administrator and read-only user permissions</p> <p>App : Node-RED</p>
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7 Product Selection

Series	Product Model	Wi-Fi	POE	GPS	Cellular and frequency bands
OG45 Series	L-LRNOG45-78CG4 (470MHz, 27dBm, CN470, with 4G module, Note: CN470 gateway only supports full-duplex mode. Downlink only supports 500M-510M)	Support	Support	Support	LTE FDD: B1/B3/B5/B8 LTE TDD: B38/B39/B40/B41 3G: B1/B8@WCDMA, B34/B39@TD-SCDMA, BC0@CDMA2000 1x/EVDO GSM: 900/1800MHz
	L-LRNOG45-88DG4 (868MHz, 27dBm, EU868, with 4G module)				FDD: B1/B3/B7/B8/B20/B28A TDD: B38/B40/B41 WCDMA: B1/B8 GSM/EDGE: B3/B8
	L-LRNOG45-98AG4 (915MHz, 27dBm, AU915, with 4G module)				FDD: B1/B2①/B3/B4/B5/B7/B8/B28 TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8
	L-LRNOG45-98SG4 (915MHz, 27dBm, AS923, with 4G module)				FDD: B1/B3/B5/B7/B8/B20 TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8
	L-LRNOG45-98KG4 (915MHz, 27dBm, KR920, with 4G module)				FDD: B1/B3/B5/B7/B8/B20 TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8
	L-LRNOG45-98UG4 (915MHz, 27dBm, US915, with 4G module)				FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5

Notes

If you need to know more about cellular frequency band information, please consult the corresponding agent or sales representative.
