robustel

R3000LG-OG robustOS

IP67 Outdoor LoRaWAN Gateway
Cost-effective 8 channel Gateway with advanced features

INTRODUCTION

Robustel R3000 LG-OG is an IP67 outdoor LoRaWAN gateway with a myriad of advanced features not usually found on such devices. Unique features include:

Smart Roaming – Unique network selection algorithm for intelligent network selection when using 3G/4G backhaul with roaming SIMs – gives highest possible resilience

RobustVPN – make easy inbound connections to Robustel Gateways on ANY SIM or on any broadband connection. No fixed IP of DynDNS services required

Built-in LNS – Optional built-in LoRaWAN Network Server for applications that require local processing of network data – minimizes network traffic

The R3000LG-OG is based on Robustel's best-selling router, the R3000. With many tens of thousands being sold annually, Robustel can achieve economies of scale on the R3000 series as a whole that many peers in the IoT market cannot reach. For this reason, Robustel can offer a very stable, industrial designed outdoor LoRa gateway at very attractive prices.

All of the latest models support Global LTE (4G) communications by virtue of the adoption of the latest Global cellular module technology.

KEY FEATURES

> Supports global LoRaWAN ISM frequency bands
> Compatible with LoRaWAN and private protocols
> Compatible with any LoRaWAN Network Server
> Up to 8 channels supports receive data simultaneously
> RobustOS Operating System with extensive SDK
> Backhaul option supports 3G, 4G and Ethernet
> Supports dual SIM + Smart Roaming for high availability cellular Comms
> IP67 ingress protection withstanding water, dust and other extreme weather conditions
> PoE power – single cable instllation
> Easy wall or pole mounting options

APPLICATION EXAMPLE

Asset Tracking
Gas Monitor
Water Meter
Trash Container Management
Vending Machine
Fire Detection

LoRa RF
LoRaWAN

R3000 LG-OG

Cellular & Ethernet WAN

TCP/IP SSL
LoRaWAN

LoRaWAN Server

Application Server

TCP/IP SSL
Secure Payload
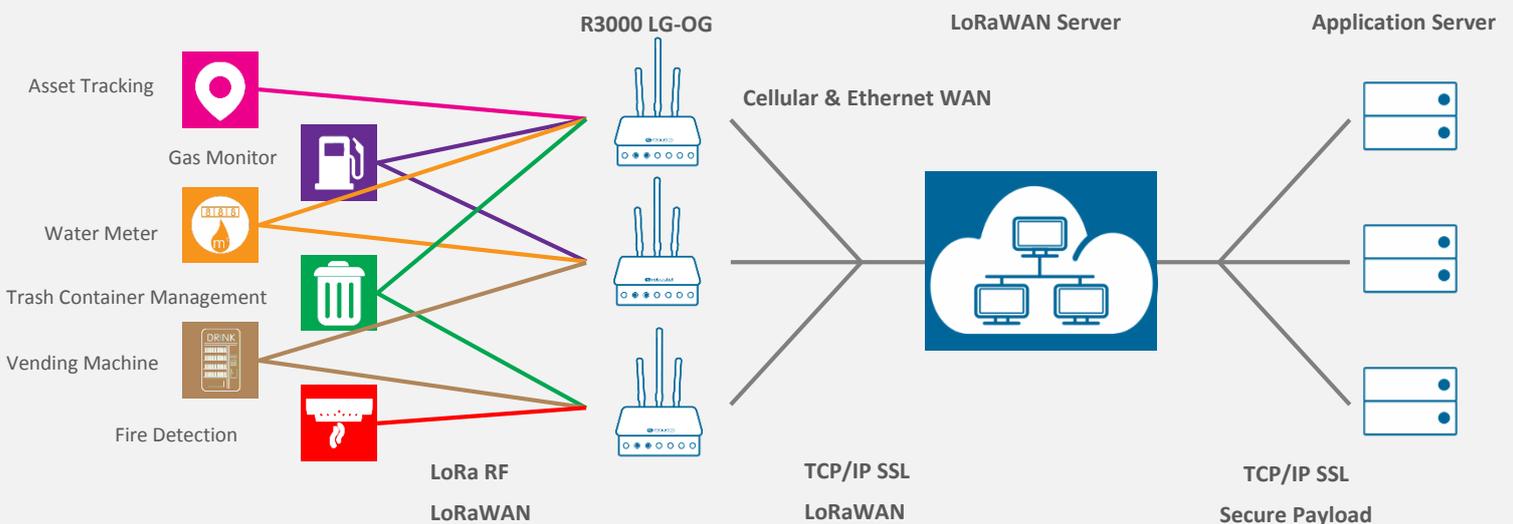
SPECIFICATIONS

LoRa Interface
Number of antennas	1
Connector	M16, female
Standards	863-870 MHz (Europe)
	470-510 MHz (China)
	915-927 MHz (Australia)
	902-928 MHz (North America)
	920-928 MHz (Japan)
Max transmitted power	+24.5 dBm
Max sensitivity	-142 dBm
Reception capacity	Supports 8 channels, and each channel can receive data simultaneously
	Supports 1 MHz bandwidth demodulation
Communication range	15 km

Cellular Interface
Number of antennas	2 (MAIN + AUX)
Connector	M16, female
SIM	2 (3 V & 1.8 V)
Standards	2G/3G/4G

Ethernet Interface
Number of ports	2 x 10/100 Mbps
Connector	M12, 4Pin&8Pin

GPS Interface
Number of antennas	1
Connector	SMA-K with 50 ohms impedance (inside)
Acquisition sensitivity	GPS: greater than -148 dBm
Horizontal position accuracy	GPS: 5 m

Software (Basic features of RobustOS)
LoRaWAN protocols	V1.0 Class A/Class C and V1.0.2 Class A/Class C
Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPs, DNS, ARP, BGP, RIP, OSPF, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc.
VPN tunnel	IPsec, OpenVPN, GRE
Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Management	Web, CLI, SMS

App Center (Available Apps for RobustOS)
Apps*	lm_csq, Preferred PLMN, RCMS, LoRiot, L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language

*Request on demand. For more Apps please visit www.robustel.com.

Power Supply and Consumption
Input voltage	PoE IEEE 802.3af/at Class A/B, 36V-48V
Power consumption	Idle: 4W
	Data link: 12W (peak)

Physical Characteristics
Ingress protection	IP67
Housing & Weight	Plastic, 3070 g
Dimensions	310 x 245 x 93.4 mm
Installations	Wall mounting and pole mounting

Approvals
Regulatory	CE , RCM, FCC
Environmental	RoHS2.0, WEEE

AUX   LORA   MAIN

AUX   LORA   MAIN

ETHO POE   ETH1

ETH0 POE   ETH1
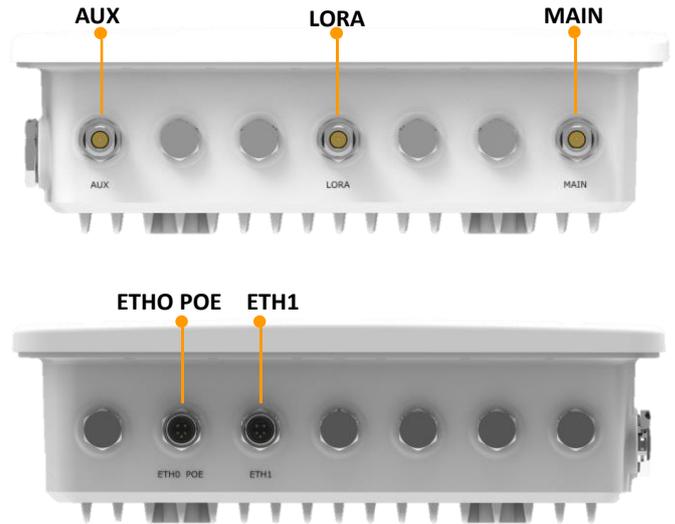
ORDERING INFORMATION

	868MHz	915MHz	470MHz
LoraWAN Network			
Cellular Air Interface	GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/ TD-SCDMA/FDD LTE/TDD LTE		
4G*	Global:B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28; B38/B39/B40/B41		
3G	Global: B1/B2/B4/B5/B6/B8/B19		
2G	Global: B2/B3/B5/B8		
	-40 to +75 °C		
Storage Temperature	-40 to +85 °C		
Relative Humidity	5 to 95% RH		

*For more information about 4G frequency bands in different countries, please contact your Robustel sales representative.

OPTIONAL ACCESSORIES INFORMATION

PN	Name	Specifications
E003100	Fiberglass-reinforced Cellular Antenna	200mm, 800-2700MHz,3/4.5dBi
E003144	N-male fiberglass-reinforced plastic lora antenna(868/915)	Φ25×360±5mm,860~930MHz,2dBi
E003145	N-male fiberglass-reinforced plastic lora antenna(470)	Φ18×435±10mm,470～510 MHz,2dBi
E005079	M12 4-PIN power supply connector	plastic material, female head plug, 4-PIN, IP67, for making power cable
E005005	4-PIN M12 to RJ45 Ethernet Cable	Length: 2 meters, Black, Wire diameter:0.5mm
E005007	8-PIN M12 to RJ45 Ethernet Cable	Length: 2 meters, Black, Wire diameter:0.5mm, for POE
E005150	M12-4PIN male Connector	plastic material, male head plug, 4-PIN, IP67, for making ethernet cable
E005151	M12-8PIN male Connector	plastic material, male head plug, 8-PIN, IP67, for making poe ethernet cable
E015109	Wall Mounting Kit	Dimensions: 240*175*1.5 mm, Material: Aluminum Plate
E005032	50~120 mm Pole Mounting Kit	50~120 mm Diameter Adjustable, 0.6 mm Thickness, 12 mm Width, Material: Stainless Steel
E005033	100~230 mm Pole Mounting Kit	100~230 mm Diameter Adjustable, 0.6 mm Thickness, 12 mm Width,Material: Stainless Steel
E005034	200~300 mm Pole Mounting Kit	200~300 mm Diameter Adjustable, 0.6 mm Thickness, 12 mm Width,Material: Stainless Steel