



LR3G-R Gateway



The GeoWAN LR3G-R Gateway is a fully autonomous, solar and battery-powered solution, acting as an always-on base station for a GeoWAN wireless sensor network. It sends data samples to the cloud using an ethernet connection, Wi-Fi or cellular networks.

Although typically one gateway can cover an entire monitoring zone, additional gateways can be installed with no further configuration allowing for redundant data backhaul and improved network coverage.

No fixed IP address is required for the cellular service; the Gateway simply initiates the connection with Senceive's infrastructure over the Internet.

Key features

- Integrated solar charging circuit connected to internal lithium-ion rechargeable battery pack
- Integrated LTE, UMTS/HSPA+ and GSM/GPRS/EDGE Modem
- Waterproof, industrial design with rugged aluminium and plastic enclosure
- Incorporates bracket for mounting to pole
- All components are waterproof to IP67, even when using Ethernet
- Gateway firmware is remotely upgradeable over the air reducing costly site visits
- Wide temperature range suitable for extreme conditions

GeoWAN LR3G-R Gateway



Physical Specifications

Parameter	Value
Dimensions without mounting plate	240 mm x 240 mm x 89.5 mm
Total Mass	4.6 kg gateway only
Housing Material	Aluminium and plastic
International Protection Marking	IP67
Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
Relative Humidity	0% to 95%
Mounting Options	Pole or wall mounting
Range	Up to 15 km depending on the environment and fitted antenna Consult with Senceive for your application

GeoWAN Radio Specifications

Parameter	Value
Communication Type	Digital Spread Spectrum Radio using LoRa modulation type
Frequency Band	ISM band depends on region 868 MHz (868 configuration) 902-915 MHz (902 configuration) 915-928 MHz (915 configuration) 920 MHz (920 configuration) 923 MHz (923 configuration)
Maximum Transmit Power	14 dBm (868 configuration) 20 dBm (902 configuration) 20 dBm (915 configuration) 14 dBm (920 configuration) 14 dBm (923 configuration)
Range	Up to 15 km depending on the environment Consult with Senceive for your application
Maximum Network Size	Typically up to 1000 nodes Consult with Senceive to determine the optimal system configuration

GeoWAN LR3G-R Gateway



Cellular Radio Specifications (Standard)

Feature	Specifications
EG95-E for EMEA Region (Europe, Middle East, and Africa)	LTE FDD: B1/B3/B7/B8/B20/B28A
	WCDMA: B1/B8
	GSM/EDGE: B3/B8
EG95-NA for North America Region	LTE FDD: B2/B4/B5/B12/B13
	WCDMA: B2/B4/B5
EC25-J for Japan Region	LTE FDD: B1 / B3 / B8 / B18 / B19 / B26
	LTE TDD: B41
	WCDMA: B1 / B6 / B8 /B19
EC25-AU for Brazil Region	LTE-FDD: B1 / B2 / B3 / B4 / B5 / B7 / B8 / B28
	LTE-TDD: B40
	WCDMA: B1 / B2 / B5 / B8
	GSM/EDGE: B2 / B3 / B5 / B8
Supported SIM Cards	3 V and 1.8 V
SIM Form Factor	Nano SIM

Power Input

Parameter	Value
Power Requirements	PoE (IEEE 802.3af) 12V DC Compatible with Battery pack and solar
Input Voltage	12 V
Power Required	30 W
Average Power	5 W

GeoWAN LR3G-R Gateway



Battery Pack Specifications

Parameter	Value
Battery Type	Cathode: Lithium iron phosphate Anode: Graphite.
Weight	8kg
Dimensions (L/W/H)	499 x 280 x 75 mm
International Protection Marking	IP65
Nominal Capacity	50 Ah
Nominal Voltage	12.8 V
Operating Voltage Range	10 ~ 14.6 V
Operating Temperature	Charging Temperature: 0° C ~ 45° C Discharging Temperature: -20° C ~ 65° C

Solar Panel Specifications

Parameter	Value
Dimensions (L/W/H)	795 x 580 x 30 mm
International Protection Marking	IP67
Peak power	80 W & 130 W
Operating temperature	-40° C to +85° C

Certifications

- CE, tested to conformity with all the essential requirements of the Radio Equipment Directive 2014/53/EU and RoHS Directive 2011/65/EU
- FCC Grant of Equipment Authorization
- RCM/RSM (Australia and New Zealand)
- ISED (Canada)
- JRL (Japan)
- KC (South Korea)
- WPC (India)
- Anatel (Brazil)

GeoWAN LR3G-R Gateway



Ordering Information and Accessories

Model	Description
LR3G-R868-UK	GeoWAN Gateway EU868 with LTE & UK Plug United Kingdom
LR3G-R868-EMEA	GeoWAN Gateway EU868 with LTE & EU Plug Europe
LR3G-R915-NA	GeoWAN Gateway US915 Gateway with LTE & NA Plug North America
LR3G-R915-LA-NZ-AU	GeoWAN Gateway AU915 with LTE & LA-NZ-AU Plug Australia
LR3G-R915-BR	GeoWAN Gateway AU915 Gateway with LTE & BR Plug Brazil
FP-BP-RA	GeoWAN Gateway Solar Battery
FP-SP80-RA	GeoWAN Gateway Solar Panel 80W + Mounting Kit & cables
FP-SP130-RA	GeoWAN Gateway Solar Panel 130W + Mounting Kit & cables
FP-AC180-EU	GeoWAN Gateway Solar Battery Charger (EU)
FP-AC180-UK	GeoWAN Gateway Solar Battery Charger (UK)
FP-AC180-US	GeoWAN Gateway Solar Battery Charger (US)
FP-AC180-LA-NZ-AU	GeoWAN Gateway Solar Battery Charger (AU)
FA-LR3G-R3N	GeoWAN Gateway 3dBi Antenna 860-930MHz
FA-LR3G-R5N-915	GeoWAN Gateway 5dBi Antenna 902-928MHz
FA-LR3G-R5N-868	GeoWAN Gateway 5dBi Antenna 863-870MHz