



Product Data Sheet

GeoWAN Millivolt Sensor Node

The GeoWAN Millivolt Sensor Node brings a wide variety of resistive bridge sensors into the GeoWAN system. It uses the integrated long range radio transceiver to report its measurements through Senceive’s GeoWAN wireless communications network to a GeoWAN Gateway.

Examples of the sensors supported:

- Pressure sensors (differential, absolute)
- Foil strain gauges
- Torque sensors
- Load cells
- Load pins
- Moisture sensing
- Conductivity

Key features

- Waterproof, robust connectors for simple installation
- Regulated sensor stimulus
- 24-bit sensing performance
- Integrated long life battery
- Up to 12 year battery life
- Integrated temperature sensor
- Versatile mounting options
- Waterproof to IP66 / IP67 / IP68

GeoWAN Millivolt Sensor Node



Physical Specifications

Parameter	Value
Dimensions (excluding antenna and vent)	90 x 90 x 60 mm
Dimensions (excluding antenna)	90 x 96 x 60 mm
Total Mass	0.57 kg (approx.)
Housing Material	Die cast aluminium body
Internal Protection Marking	IP66 / IP67 IP68 (1 m for 24 hours)
Mounting Options	1/4" UNF holes in bottom, M4 blind holes in side Plates and brackets available for magnetic fixing, trackbed, stake and pole mounting, and many other applications
Operating Temperature Range	-40°C to +85°C

Internal Battery

Parameter	Value
Battery Type	Lithium Thionyl Chloride, non-rechargeable
Nominal Voltage	3.6 V
Nominal Capacity	19000 mAh
Typical Battery Life	12 years at 30 minute reporting intervals when using radio preset 1 Consult with Senceive for your application

Millivolt Sensor Interface

Parameter	Value
Range	±0.625 V (±125 mV/V)
Resolution	74.5 nV (14.9 nV/V)
Repeatability	±2.5 µV (±0.5 µV/V)
Stimulus	5.0 ±0.1 V, 150 mA max



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GeoWAN Radio Specifications

Parameter	Value
Communication Type	Star Topology
Frequency Band (868 variant)	863 MHz - 870 MHz ISM Band
Frequency Band (902 variant)	902 MHz - 928 MHz ISM Band
Frequency Band (915 variant)	915 MHz - 928 MHz ISM Band
Maximum Transmit Power (868 variant)	14 dBm conducted
Maximum Transmit Power (902 variant)	18 dBm conducted
Maximum Transmit Power (915 variant)	18 dBm conducted
Maximum Antenna Gain	1.8 dBi
Range	Up to 15 km depending on the environment and fitted antenna Consult with Senceive for your application

Sampling and Reporting

Parameter	Value
Maximum Reporting Frequency	30 seconds
Sample Storage	Stores the last 49 days of samples at a reporting interval of 30 minutes

Certifications

- 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
- ACB ISED Canada Certificate: 24373-LR3N
- RCM (Australia and New Zealand)

GeoWAN Millivolt Sensor Node



Ordering Information and Accessories

Model	Description
LR3N-MV5(868)	GeoWAN Millivolt Sensor Node Europe
LR3N-MV5(902)	GeoWAN Millivolt Sensor Node North America, South America
LR3N-MV5(915)	GeoWAN Millivolt Sensor Node Australia, New Zealand, Chile, Brazil
FS-MV5CON	Sensor Connector With screw terminals for easy installation
FF-MP-S360	Swivel mounting kit with 360-degree adjustment range Screw directly to vertical walls
FF-MP-V Order with FF-MP-S360	Vertical mounting plate Use U-bolts to fix to poles or stakes Use glue to fix to walls where drilling is not permitted
FF-MP-H	Horizontal mounting plate
FF-MP-HM	Horizontal magnetic mounting plate
FF-MP-T2	Trackbed mounting plate kit
FF-MP-M2	Magnetic mounting kit High degree of adjustability, perfect for cast iron lined tunnels
FA-LR-WPS	Waterproof straight antenna Overall node height 168 mm (approx) when antenna fitted Maximum gain +1.8 dBi