



Product Data Sheet

GeoWAN 2.0 Crack Sensor Node (2 ports)



The GeoWAN 2.0 Crack Sensor Node (2 ports) interfaces to a linear displacement sensor. Its high precision sampling circuit powers the sensor and reports its measurements through Senceive's GeoWAN wireless communications network to a GeoWAN Gateway.

Successfully applied in many applications, including those measuring:

- Crack movement
- Pile separation
- Structural movement
- Expansion joint monitoring

Integrated software:

- WebMonitor (Data visualisation)
- Senceive.io (Data management)
- NFC (In-field hardware management tool)

Key features

- Waterproof, robust connectors for simple installation
- Automatic sensor type detection
- Extremely low noise performance
- 16-bit resolution (65,536 steps over the full scale)
- Changeable batteries
- Up to 12 year battery life
- Integrated temperature sensor
- Versatile mounting options
- Waterproof to IP66 / IP68

GeoWAN 2.0 Crack Sensor Node



Physical Specifications

Parameter	Value
Dimensions (L x W x H)	120 x 105 x 64 mm
Total Mass	448 g (approx.) including D-size battery
Housing Material	PC plastic body and lid cover with die cast aluminium base
Mounting Options (size and number of holes for mounting plate connection)	M4 holes in bottom, Plates and brackets available for magnetic fixing, trackbed, stake and pole mounting, and many other applications
Internal Protection Marking	IP66 IP68 (1m for 24 hours)
Operating Temperature Range	-40°C to +80°C

Internal Battery

Parameter	Value
Battery Type	Lithium Thionyl Chloride, non-rechargeable, D-cell
Nominal Voltage	3.6 V
Nominal Capacity	19000 mAh
Typical Battery Life	12 years at 30 minute reporting intervals when using radio preset 1 <i>Consult with Senceive for your application</i>
Recommended options*	Senceive: SP-C03282-1 Saft: LS33600

*Batteries from other suppliers may work but we provide no guarantee on performance

Crack Sensor Interface

Parameter	Value
Circuit Topology	Voltage divider
Stimulus	2.5 V, 100 mA max
Resolution	0.0015% of full scale
Noise Level	0.005% of full scale (typical peak to peak)

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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
Frequency Band (923A variant)	922.0 MHz - 923.4 MHz ISM Band
Frequency Band (923B variant)	923.2 MHz - 924.6 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 Transmit Power (923A variant)	14 dBm conducted
Maximum Transmit Power (923B variant)	14 dBm conducted
Internal Antenna Maximum Gain	+0.17 dBi (internal)
Range (with internal antenna)	Up to 12 km depending on the environment Trackbed: 1 km Tunnel: 2 km Urban: 2.3 km Line of Sight: 12 km <i>Consult with Senceive for your application and/or external antenna options</i>

Sampling and Reporting

Parameter	Value
Maximum Reporting Frequency	30 seconds
Sample Storage*	Stores up to 75,000 sampling cycles in a circular buffer

*Retrieval is only available locally via NFC. The unit is not intended to operate as an offline data logger and requires a network connection to maintain an accurate clock

Certifications - to be obtained

- 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)

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GeoWAN 2.0 Crack Sensor Node



Ordering Information and Accessories

Model	Description
L3N1-CS2(868)	GeoWAN 2.0 Crack Sensor Node (two port) Europe
L3N1-CS2(902)	GeoWAN 2.0 Crack Sensor Node (two port) North America
L3N1-CS2(915)	GeoWAN 2.0 Crack Sensor Node (two port) Australia, New Zealand
L3N1-CS2(923A)	GeoWAN 2.0 Crack Sensor Node (two port) Asia 923A Region
L3N1-CS2(923B)	GeoWAN 2.0 Crack Sensor Node (two port) Asia 923B Region

Accessories	Description
FS-CS25 Use with FF-CS1	Potentiometric 25 mm crack sensor IP67 rated, with 1 metre cable and connector Other cable lengths available on request
FS-CS125 Use with FF-CS1	Potentiometric 125 mm crack sensor IP67 rated, with 1 metre cable and connector Other cable lengths available on request
FS-CS200 Use with FF-CS1	Potentiometric 200 mm crack sensor IP67 rated, with 1 metre cable and connector Other cable lengths available on request
FS-DW150	Potentiometric 150 mm draw wire sensor IP65 rated, with connector fitted
FF-MP-S360N	Swivel mounting kit with 360-degree adjustment range Screw directly to vertical walls
FF-MP-V (Order with FF-MP-S360N)	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-RSN	G2.0 Right angle swivel mount Screw to concrete tunnel linings and inclined walls
FF-MP-M2N	G2.0 two-part magnetic mounting kit High degree of adjustability, perfect for cast iron lined tunnels
FF-MK-N	G2.0 Magnetic mounting kit Perfect for steel or cast iron structures
FS-CSCON11	Premium Connector for Potentiometric Crack Sensor
SP-C03282-1	G2.0 ER34615 3.6V 19Ah Battery Senceive provided, suitable for GeoWAN 2.0 nodes
FA-G2-SMA	Replacement G2.0 Lid for External Antenna (SMA)

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