Product Data Sheet: GeoWAN Triaxial Tilt Node

The GeoWAN Triaxial Tilt Sensor Node is an extremely high precision and exceptionally stable three axis tilt sensor which reports its measurements using Senceive's GeoWAN wireless communications network to a GeoWAN Gateway.

The sensor technology has been used in many applications, including those measuring:

- Tunnel distortion
- Tunnel heave/settlement
- Embankment slippage
- Structural movement
- Rail track heave/settlement
- Rail track bed cant and twist

Key Features

- Integrated triaxial tilt sensor
- Extremely low noise performance
- Resolution of 0.0001° (0.0018mm/m) and repeatability of ±0.0005° (±0.009mm/m)
- Integrated long life battery
- Up to 12 year battery life
- Integrated temperature sensor
- Versatile mounting options
- Waterproof to IP66 / IP67 / IP68

Specifications

Physical Specifications

Dimensions	90 x 90 x 60 mm 90 x 96 x 60 mm (including vent)
Total Mass	0.6 kg (approx.)
Housing Material	Die cast aluminium body
International Protection Marking	IP66 / IP67 IP68 (1m for 24 hours)
Mounting Options	1/4" UNF holes in bottom, M4 blind holes in side Plates and brackets available for magnetic fixing, track bed, stake and pole mounting, and many other applications
Operating Temperature Range	-40°C to +85°C

CONTACT US
For information on our award-winning wireless asset condition monitoring solutions, call **+82 (0) 31 719 6077**, email wipco@wipco.co.kr, visit **www.wipco.co.kr**

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Internal Battery

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

GeoWAN Radio Specifications

Communication Type	Star Topology
Frequency Band (868variant)	863MHz - 870MHz ISM Band
Frequency Band (915variant)	902MHz - 928MHz ISM Band Frequency plan is tailored for each country
Maximum Transmit Power (868 variant)	14dBm conducted
Maximum Transmit Power (915 variant)	18dBm conducted
Maximum Antenna Gain	1.6dBi
Range	Up to 15km depending on the environment and fitted antenna Consult with Senceive for your application

Tilt Sensor Specification

Resolution R	0.0001° (0.00175mm/m)
epeatability (-IX variant)	±0.0005°(±0.0087mm/m)
Repeatability (-IXH variant)	±0.0025°(±0.0436mm/m)
Range	±90°

Sampling and Reporting

Maximum Reporting Frequency	30 seconds
Sample Storage	Stores the last 36 days of samples at a reporting interval of 30 minutes when using radio preset 1

Certifications

- Tested to conformity with all the essential requirements of the Radio Equipment Directive 2014/53/EU and RoHS Directive 2011/65/EU
- RCM (Australia) and R-NZ (New Zealand)

Ordering Information and Accessories

LR3N-IX(868)	**GeoWAN Triaxial Inclinometer** Europe
LR3N-IXH(868)	**GeoWAN Triaxial Inclinometer (High-g)** Europe
LR3N-IX(915)	**GeoWAN Triaxial Inclinometer** North America, Asia, Pacific
LR3N-IXH(915)	**GeoWAN Triaxial Inclinometer (High-g)** North America, Asia, Pacific
FF-MP-S360	**Swivel mounting kit with 360-degree adjustment range** Screw directly to vertical walls
FF-MP-V	**Vertical mounting plate** Use U-bolts to fix to poles or stakes Use glue to fix to walls where drilling is not permitted (Order with FF-MP-S360)
FF-MP-RA	**Right angle mounting bracket** Screw to concrete tunnel linings and inclined walls (Order with FF-MP-S360)
FF-MP-T2	**Track bed mounting plate kit**
FF-BK-xxxx **FF-BE**	**Tilt beam kit** See separate datasheet for more information
FA-LR-WPS	**Waterproof straight antenna** Overall node height 168mm (approx) when fitted Maximum gain +1.6dBi