

## Product Data Sheet: FlatMesh Nano +

The FlatMesh Nano + is an extremely high precision and exceptionally stable three axis tilt sensor which reports its measurements through Senceive's FlatMesh wireless communications network to a FlatMesh Gateway.

It has been successfully applied 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
- Low profile and discreet
- Resolution of 0.0001° (0.0018mm/m) and repeatability of ±0.0005° (±0.009mm/m)
- Operational in any orientation
- Integrated long life battery
- 5 year battery life, including when acting as a relay node within the mesh communications network
- Integrated temperature sensor
- Versatile mounting options
- Waterproof to IP67 / IP68

## Physical Specifications

Parameter	Value
Diameter	58mm
Height	45mm
Total Mass	110g
Housing Material	Polycarbonate and Aluminium
Protection	IP67
(BS EN 60529: 1992 + A2: 2013)	IP68 at 2m for 24 hours
Mounting Options	Magnetic, screws, gluing, or clamping
Operating Temperature Range	-40°C to +85°C

## FlatMesh Radio Specifications

Parameter	Value
Communication Type	Proprietary FlatMesh v3 Mesh Networking Protocols IEEE 802.15.4 compliant
Frequency Band	2400 – 2485 MHz ISM Band
Maximum Transmit Power (EN 300 328 v1.8.1)	6.5dBm
Range	Up to 300m depending on the environment Consult with Senceive for your application
RF Module	Senceive FM3Node

## Tilt Sensor Specifications

Parameter	Value
Resolution	0.0001° (0.00175mm/m)
Repeatability	±0.0005° (±0.0087mm/m)
Range	±90°

## Internal Battery

Parameter	Value
Battery Type	Lithium Thionyl Chloride
Nominal Voltage	3.6V
Nominal Capacity	4400mAh
Typical Battery Life	4 – 5 years at 20-30 minute reporting intervals, including when acting as a relay node Consult with Senceive for your application

## 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: FCC ID 2AMFBFM3NT

## Ordering Information and Accessories

Model	Description
FM3NT-30	<b>FlatMesh Nano Plus</b>
FF-GS30	<b>Direct gluing plate</b> <ul style="list-style-type: none"><li>- Single use direct gluing to structures</li></ul>
FF-MK30	<b>Magnetic mounting kit</b> <ul style="list-style-type: none"><li>- Perfect for steel or cast iron structures</li></ul>
FF-T2P30	<b>Two Part Mount</b> <ul style="list-style-type: none"><li>- Track bed, screwing, gluing</li></ul>
FF-M8S30	<b>M8 Stud Mount</b> <ul style="list-style-type: none"><li>- Threaded prism mounts</li></ul>
FF-C30	<b>Clamp Mount</b> <ul style="list-style-type: none"><li>- Stakes, Scaffolding, handrails</li></ul>
FF-FL30	<b>Flange Mount</b> <ul style="list-style-type: none"><li>- Screwing or bolting directly to a structure</li><li>- Fits FlatMesh Beam Kit FF-BK-xxxx</li></ul>