

WiSenMeshWAN: Omni Tilt & Tilt R Node Wireless Monitoring System



This internally powered sensor nodes allows measurement of tilt from the horizontal plane. With a full tilt range (360° any axis) and very high accuracy ($\pm 0.002^\circ$) and resolution ($\pm 0.0001^\circ$). The omni-axis sensors can be installed in any orientation and automatically detect the horizontal plane.

The nodes also include an integrated temperature sensor and wireless mesh radio transmitter via the external antenna.

The battery lifespan is up to 7 years at hourly readings.

WiSenMeshWAN nodes communicate via bespoke encrypted mesh radio technology can be up to 1.5km from each other or the SmartGateway. The sensors mesh together and automatically form a network relaying data off each other (up to 6 sub mesh levels of data hop) and back to a central data hub called a SmartGateway which contains the data logging functions, radio mesh control systems and external communication to the WiSen cloud based datacentre or local hosted system.

Features

- WiSenMeshWAN Node
- Omni-axis tilt 360° range
- $\pm 0.0001^\circ$ resolution
- Intelligent node/repeater
- Battery life up to 7 years
- 1 second to 1 hour variable readings
- End user configurable
- Rugged housing
- IP66
- Gravity Orientation Sensor

WiSenMeshWAN:

Omni Tilt & Tilt-R Node

	OMNI TILT NODE	OMNI TILT-R NODE
BASICS		
Primary DC Power	1 xER34615 Battery	1 xER34615 Battery
Accuracy Stop Voltage	2.7VDC	2.7VDC
Stop Voltage	2.1VDC	2.1VDC
Battery Connection	Standard Aluminium Battery Holder	Standard Aluminium Battery Holder
Working Current (DC)	Max. 17mA (Typ. 12mA)	Max. 17mA (Typ. 12mA)
Local Storage	Min. 450 Messages	Min. 450 Messages
L x W x H	80mm x 75mm x 57mm	80mm x 75mm x 57mm
Weight	0.43kg	0.43kg
PRIMARY SENSOR		
Sensor Type	MEMS Triple-Axis Tilt Sensor	MEMS Triple-Axis Tilt Sensor
Range	± 90° per axis	± 90° per axis
Accuracy	0.0020° 7.20" 0.0349mm/m (or mrad)	0.0020° 7.20" 0.0349mm/m (or mrad)
Resolution	0.0001° 0.36" 0.0017mm/m (or mrad)	0.0001° 0.36" 0.0017mm/m (or mrad)
STANDARD SYSTEM PARAMETER		
Temperature	Range: -40 to 85°C, Accuracy: ± 1°C, precision: 0.1°C	Range: -40 to 85°C, Accuracy: ± 1°C, precision: 0.1°C
Voltage	Accuracy: ±0.1V	Accuracy: ±0.1V
WIRELESS SENSOR NETWORK INTERFACE		
Protocol	WiSenMeshWAN® proprietary radio encryption	WiSenMeshWAN® proprietary radio encryption
INDUSTRIAL STANDARD		
Casing and Painting Materials	Aluminium-Alloy & Epoxy Polyester Powder Coating	Aluminium-Alloy & Epoxy Polyester Powder Coating
IP Rating	IP66	IP66
Operating Temperature	-40 ~ 85°C	-40 ~ 85°C
Certificates	CE, FCC, ACMA, RCM	CE, FCC, ACMA, RCM

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- when it has to be **right**

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