

WiSenMeshWAN: Interface Node Vibrating Wire Wireless Monitoring System



This internally powered sensor node allows integration with upto four external vibrating wire sensors. With wide frequency range (400~6000Hz) and very high accuracy ($\pm 0.015\%$) and precision ($\pm 0.002\text{Hz}@400\text{Hz}$ or $0.05\text{Hz}@6000\text{Hz}$).

The nodes automatically excite the vibrating wire in the connected devices at required intervals and collate data for the frequency (Hz) and resistance (K Ω).

The node can have multiple channels for sensor input, an integrated temperature sensor and wireless mesh radio transmitter via the external antenna.

The battery lifespan is up to 10 years even at 30-minute 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
- Vibrating Wire Interface
- 1 or 4 Channels
- Intelligent node/repeater
- 1 second to 1 hour variable readings
- End user configurable
- IP66
- Battery life up to 10 years



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WiSenMeshWAN: Interface Node Vibrating Wire

	VIBRATING WIRE (VW) INTERFACE 1CH	VIBRATING WIRE (VW) INTERFACE 4CH
GENERAL		
Battery Power	1 xER34615 Battery	4 xER34615 Battery
Accuracy Stop Voltage	2.1VDC	2.1VDC
Mesh Stop Voltage	2.1VDC	2.1VDC
Battery Connection	Standard Aluminium Battery Holder	Standard Aluminium Battery Holder
Working Current (DC)	Max. 60mA (Typ. 48mA)	Max. 60mA (Typ. 48mA)
Local Storage	Min. 450 Messages	Min. 450 Messages
L x W x H	100mm x 100mm x 60mm	180mm x 140mm x 60mm
Weight	0.60kg	1.20kg
Cable Gland	1 x EMC-CMA12 for external VW sensor connection	1 x EMC-CMA12 for external VW sensor connection
Wire Connection	Spring type wiring terminal	Spring type wiring terminal
EXTERNALLY CONNECTED VW SENSOR		
Sensor Type	Vibrating Wire interface for 3rd party device, Maximum cable length 1km	Vibrating Wire interface for 3rd party device, Maximum cable length 1km
No. of Inputs	1 Channel	4 Channels
Sensor Connection	VW Type of 5 wires: VW+, VW-, T+, T-, GND.	VW Type of 5 wires: VW+, VW-, T+, T-, GND.
Resonant Frequency (Hz) Range	400 to 6000Hz	400 to 6000Hz
Accuracy	0.015% any reading	0.015% any reading
Precision	0.002Hz@400Hz or 0.05Hz@6000Hz	0.002Hz@400Hz or 0.05Hz@6000Hz
EXTERNAL THERMISTOR SENSOR		
Parameter	Thermistor Resistor of 3kΩ@25°C	Thermistor Resistor of 3kΩ@25°C
Range	0.052kΩ to 113.096 kΩ	0.052kΩ to 113.096 kΩ
Accuracy	0.12kΩ or 2°C	0.12kΩ or 2°C
STANDARD SYSTEM PARAMETER		
Temperature	Range: -40 ~ 85°C, Accuracy: ±1°C, precision: 0.1°C	Range: -40 ~ 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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