WiSen: **Vibrating Wire Interface**

WIRELESS MONITORING SYSTEM

Interface accessible via the internet

This internally battery powered sensor node allows intergration with upto eight external vibrating wire sensors. With wide frequency range (400~6000Hz) and very high accuracy (±0.015%) and precision (±0.002Hz@400Hz or 0.05Hz @6000Hz).

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

The node has 1, 4 or 8 channels for sensor input, an integrated temperature sensor and wireless mesh radio transmitter via the external antenna.

The battery lifespan is +10 years even at ½ hourly readings.

Sensors communicate via mesh radio technology can be up to 400m from each other or the SmartGateway. The sensors mesh together and automatically form a network relaying data off each other (up to 9 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 WiSenMeshNet cloud based datacentre.

Features

- WiSen Mesh Node
- Vibrating Wire Interface
- 1, 4 or 8 Channels
- Intelligent node/repeater
- Upto 1 second frequency
- End user configurable
- IP66
- Battery life +10 years

PART OF HEXAGON

Leica Geosystems

AMBERG TECHNOLOGIES

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Specification		
Basics	**1A07: 1 x VW Interface Node**	**1A05/1A06: 4/8 x VW Interface Node**
Battery Power	Qty. x 1 (3.6V Lithium primary D-Cell ER34615)	Qty. x 2 (3.6V Lithium primary D-Cell ER34615)
Accuracy Stop Voltage	2.1VDC	
Mesh Stop Voltage	2.1VDC	
Battery Connection	Standard Aluminium Battery Holder	
Working Current (DC)	Max. 100mA (Typ. 98mA)	
Local Storage	Min. 450 Messages during Meshing	
L x W x H	100 x 100 x 60mm	180 x 140 x 60mm
Weight	0.60kg	1.20kg
Cable Gland	Qty. 1 x EMC-CMA12 for external VW sensor connection	Qty. 4/8 x EMC-CMA12 for external VW sensor connections
Wire Connection	Spring type wiring terminal	
Externally Connected VW Sensor		
Sensor Type	Vibrating Wire Typed	
No. of Inputs	1 Channel	4/8 Channels
Sensor Connection	VW Type of 5 wires: VW+, VW-, T+, T-, GND. Note: Temperature wires (or a 3kΩ resistor) must be connected to the T+ & T- terminals so VW node can work properly; Ground wire between a node and a sensor must be connected.	
Parameter	Resonant Frequency (Hz)	
Range	400 to 6000Hz	
Accuracy	0.015% at Any Reading	
Precision	0.002Hz@400Hz or 0.05Hz@6000Hz	
Cable Length	<= 1.1km	
External Thermistor Sensor		
Parameter	Thermistor Resistor of 3kΩ@25°C	
Range	0.052kΩ to 113.096 kΩ	
Accuracy	0.12kΩ or 2°C	
Standard System Parameter		
Temperature	Range: -40 to 85°C, Accuracy: +/-1°C, typical: 0.5°C; precision: 0.1°C (Note: Only available in 1A07 Type)	
Voltage	Accuracy: +/-0.1V	
WSN Interface		
WSN Protocol	WISENMESHNET® Protocol	
Re-Calibration Method		
Inspection Period	Every 3 Years by Manufacturer (or inspected by arranged methods)	