



Wireless VW Node with Port for 1 Sensor



Wireless VW Node with Ports for 4 Sensors

GeoCloud Vibrating Wire Nodes

Vibrating wire sensors are widely used in geotechnical monitoring, especially for applications where sensors are installed in the ground or embedded in concrete. They are also used in surface applications where their physical robustness is an advantage.

GeoCloud VW Nodes obtain measurements from vibrating wire sensors, digitize them, and then transmit them via a cellular gateway to GeoCloud servers for processing and presentation.

The use of VW nodes allows collection of measurements from a wide area and eliminates the expense and difficulty of installing and maintaining long runs of cable to centrally located data loggers.

GeoCloud VW Node 1x

Capacity: 1 VW sensor with thermistor.

Battery Life: 19000 mAh battery provides 12-15 years with 20 to 30 minute reporting intervals, including when acting as a repeater.

Weight: 1.25 lb. (0.57 kg).

Dimensions: 3.5 x 3.8 x 2.4 inches (90 x 96 x 60 mm).

GeoCloud VW Node 4x

Capacity: 4 VW sensors with thermistors.

Battery Life: 34400 mAh battery provides 12-15 years with 20 to 30 minute reporting intervals, including when acting as a repeater.

Weight: 1.65 lb (0.75 kg).

Dimensions: 3.5 x 5.4 x 2 inches (90 x 136 x 50 mm).

Sensor Compatibility

Sensor Type: Vibrating wire, 200 to 6500 Hz.

Excitation: Swept sine wave, 6V peak to peak.

Resolution: 0.001 Hz.

Repeatability: ± 0.02 Hz.

Temperature sensor: 3k Ω thermistor.

Temperature Resolution: 0.05°C.

Temperature Accuracy: ± 0.1 °C.

Temperature Range: -40 to +85°C.

Hardware

Housing: Die cast Aluminum.

Connectors: Sensor cable requires M12 female screw-in connector.

Operating Temperatures: -40°C to +85°C.

Weatherproofing: IP68 at 1m for 24 hours.

Communications

Protocol: Proprietary Senceive FlatMesh network protocol, IEEE802.15.4 compliant.

Frequency: 2400-2485 MHz ISM Band.

Max Transmit power: 6.5 dBm.

Max Antenna Gain: 2.2 dBi.

Range: 980 feet (300m) point to point. Can be extended when nodes act as repeaters.

Gateway to Internet: Cellular.