



GeoCloud VW Node - 1 Sensor

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.

Sensor Interface

Sensor Type: Vibrating wire with temperature sensor

VW Compatibility: Frequency ranges between 200 to 6500 Hz.

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

VW Resolution: 0.001 Hz.

VW 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.

Communications

Protocol: Proprietary, 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.



GeoCloud VW Node - 4 Sensors

GeoCloud VW Node 1x

Capacity: 1 VW sensor with thermistor.

Required Connector: M12 female screw-in connector on sensor cable.

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

Operation Temperature: -40°C to +85°C.

Weatherproofing: IP68 at 1m for 24 hours.

Housing: Die cast Aluminum.

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.

Required Connector: M12 female screw-in connector on sensor cables.

Battery Life: 34400 mAh battery provides 2-15 years with 20 to 30 minute reporting intervals, including when acting as a repeater.

Operation Temperature: -40 to +185°F (-40 to +85°C).

Weatherproofing: IP68 at 1m for 24 hours.

Housing: Die cast Aluminum.

Weight: 1.65 lb (0.75 kg).

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

