

SenseNet Geophone Sensor Node

- *Providing acceleration, velocity and displacement*
- *Measuring vibrations below the μg region*
- *Measuring structural vibrations from 0.05 Hz to 1000 Hz*
- *All sensors are remotely configurable*
- *Build in temperature sensor*
- *Simple installation*

Use this uniquely high quality instrument in applications like:

Seismic recording – Site Response Analysis - Natural Input Modal Testing - Operational Modal Testing - Vibration Level Testing - Civil Engineering Structural Monitoring

The SenseNet Geophone Sensor Node is a general purpose vibration instrument for seismic applications and measurements on medium size and large structures providing the user with accurate acceleration, velocity and displacement values in a wide frequency range. The instrument is based on a rugged and very low noise inductive sensor element. Each unit comprises up to 3 independent sensor elements configured in a tri-axis configuration. Each sensor element has its own 24 bit A/D converter. The casing protects the electronic components from all kinds of weather conditions and harsh environmental situations.

Additional information. The sensor element provides a signal that is proportional to velocity. This signal is integrated and differentiated to obtain displacement and acceleration. The sensor elements are individually calibrated and digitally corrected for phase and amplitude errors. Time synchronization is done through the common data interface connection. The low noise floor of the instrument ensures a good signal-to-noise ratio for any measurements, even at the most quiet sites on Earth. The node connects to the SenseNet Base station.

Physical properties

Casing	Aluminium and cast epoxy
Casing surface	Powder coating
Water resistance	w/cable: IP68, w/plug: IP67
Plug	Bulgin Micro Buccaneer 400, 4 pol
Temperature range	Industrial: -40 to +85 Deg. C.
Recommended application	Outdoor and industrial environment

Instrument properties

Amplitude errors	+/- 0.05	dB
Phase errors	+/- 0.5	deg
Non-linearity	<0.3	(%)
Dynamic range	130	dB
Covered range	165	dB
Max. displacement	+/- 4	mm
Max. velocity	+/- 127	mm/s
Max. acceleration	+/- 0.36	g
Max. shock acceleration	100	g
Time synchronization	<0.5	ms
Dimensions (l x w x h)	120x95x58	mm
Weight	550	g