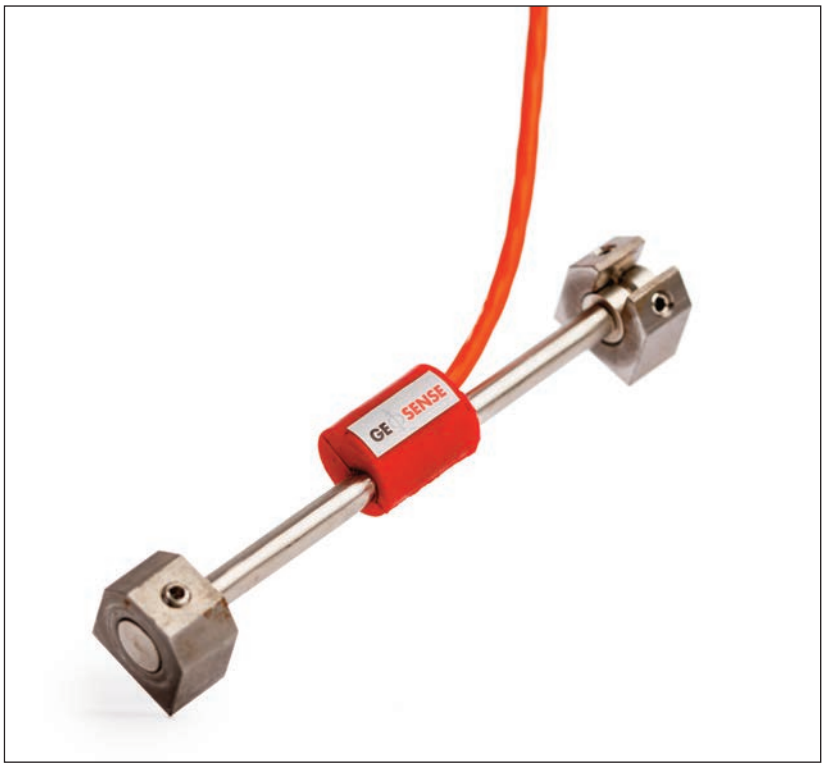
DATASHEET

VW Strain Gauge - Surface Mount

VWS-2000 SERIES



Applications

Measurement of stress and strain deformation in:

- Steel struts
- Excavation support systems
- Driven and bored piles
- Tunnel linings
- Bridges & arches
- On-board truck weighing

Features

- Reliable long term performance
- Rugged, suitable for demanding environments
- Range of mounting blocks
- Insensitive to long cable lengths.
- High accuracy
- Integral Thermistor
- Suitable for remote reading and data logging

Geosense® VWS-2000 series vibrating wire surface strain mount gauges are designed for the long term monitoring of steel or concrete structures. Gauges may be attached to steel structures by arc welding or, using alternative end blocks, bonded or grouted into concrete.

The strain gauge operates on the principle that a tensioned wire, when plucked, vibrates at its resonant frequency. The square of this frequency is proportional to the strain in the wire.

The gauge consists of two end blocks with a tensioned steel wire between them. The end blocks can be attached by either arc welding, bonding or groutable anchors to steel or concrete.

Around the wire is a magnetic coil which when pulsed by a vibrating readout or data logger interface plucks the wire and measures the resultant resonant frequency of vibration.

As the steel or concrete surface undergoes strain the end blocks will move relative to each other. The tension in the wire between the blocks will change accordingly thus altering the resonant frequency of the wire.

CE

VIBRATING WIRE TECHNOLOGY

GEOSENSE

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Specifications

Model	VWS-2000	VWS-2010
Gauge length	150mm	89mm
Overall length	156mm	95mm
Resolution	3.6 με	1.25 με
Strain Range	3000 με	3000 με
Accuracy[1]	±0.1 to ±0.5% FS	±0.1 to ±0.5% FS
Non linearity	<0.5% FS	<0.5% FS
Temperature	-20°C to +80°C	-20°C to +80°C
Frequency range	850-1550	900-2000

1 ±0.1% with individual calibration, ±0.5% FS with standard batch calibration

VWS-2000 vibrating wire strain gauges may be read by the VW-2106 or any vibrating wire readout device and may be readily data logged using Campbell Scientific or any other data loggers with vibrating wire interface modules.

VWS-2000 gauges are suitable for long term continuous excitation thus allowing for continuous low frequency dynamic readings which is applicable to the display of loads in weighing systems for trucks or investigations into bridge loads.

Vibrating wire strain gauges output a frequency signal, and are therefore insensitive to resistance changes in connecting cables caused by contact resistance or leakage to ground.

Cable may be readily and simply extended on site without special precautions. Gauges may be read up to 1000 metres away from their installed location without change in calibration.

Anchor Types:

Arc Weld Grout Bolt/bond

Ordering Information

- Gauge length
- Anchor type
- Cable length
- Readout
- Setting tool
- Spacing jig
- Dummy gauge

Specifications may change without prior notice

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