DATASHEET

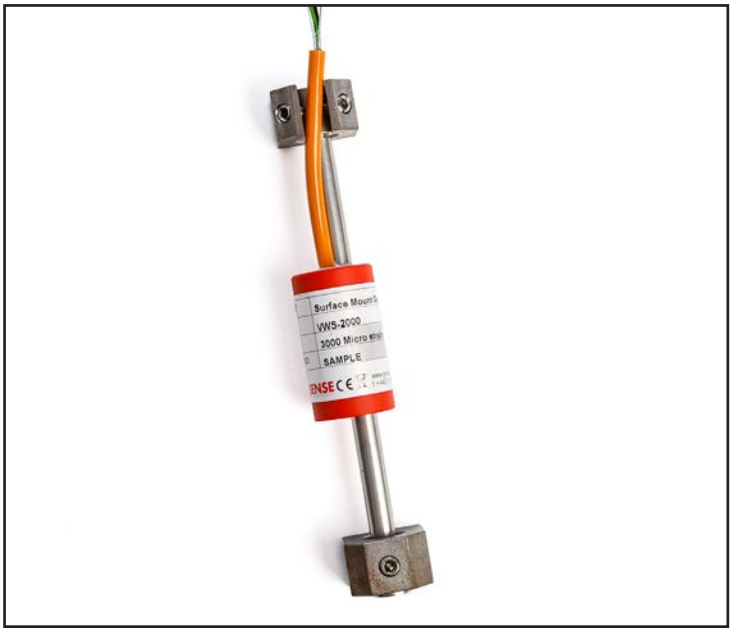
VW Strain Gauge Surface Mount VWS-2000 Series

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.

GEOSENSE

VW Strain Gauge Surface Mount VWS-2000 Series

Overview



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.

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

VW Strain Gauge Surface Mount VWS-2000 Series

Specifications

GENERAL		
Model	VWS-2000	VWS-2010
Gauge length	150mm	89mm
Overall length	156mm	95mm
Resolution	1 με	1 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	850-1550Hz	900-2000Hz
Thermistor type	3K[2]	$3K^2$
Thermistor accuracy	0.2°C	0.2°C
Thermal coefficient of expansion	12.0ppm/°C	12.0ppm/°C
Cable	Type 900 - VW Sensor with Foil Screen & Drain Wire	

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

[1] ±0.1% with individual calibration, ±0.5% FS with standard batch calibration
[2] Other ranges available on request

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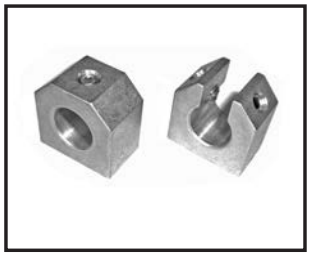
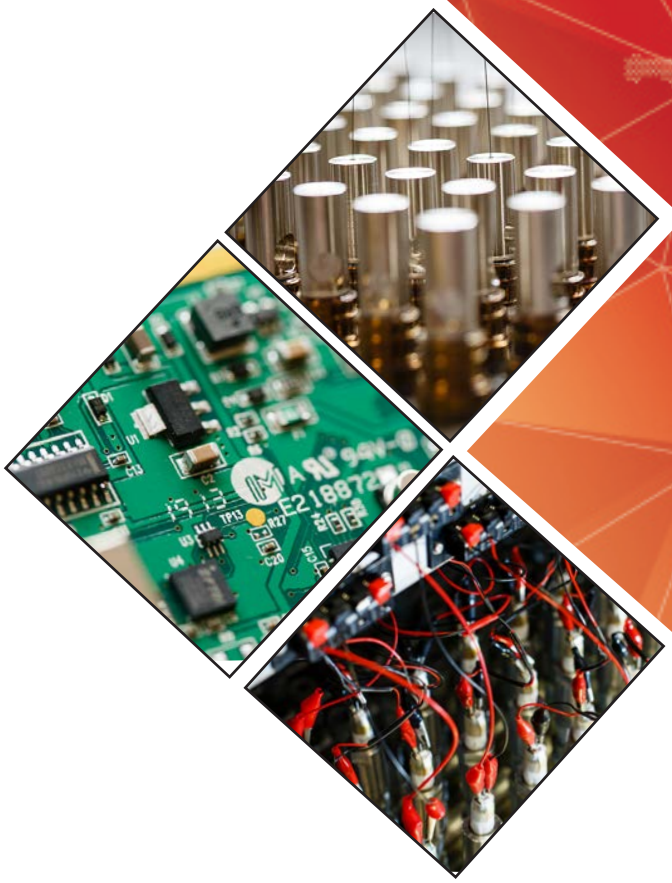
ANCHOR TYPES



Arc Weld

Grout

Bolt/Bond



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