

ARC WELDABLE VIBRATING WIRE STRAIN GAUGE

DATASHEET ST2

PRODUCTS



FEATURES

- Robust, reliable and easy to use.
- Can be used with long cable lengths with no degradation of signal.
- Strain gauge can be adjusted to allow for the most effective use of the range.
- Integral thermistor.
- Gauge and coils are re-useable.
- Suitable for remote reading and data-logging.



The Soil Instruments Vibrating Wire Arc Weldable Strain Gauge is used for measuring strain in steel members and consists of a coil assembly, vibrating wire element and two weldable anchors.

O-ring seals are utilised between the protective tube and the gauge end blocks to provide water proofing and allow the tube to remain unstressed.

After installation, changes in strain are monitored by the coil assembly mounted on the gauge.

The gauges can be read individually or remotely/automatically as part of a data collection system.

TECHNICAL APPLICATIONS

THE SOIL INSTRUMENTS ARC WELDABLE STRAIN GAUGE

The Arc Weldable gauge is designed to measure strain in steel and cast iron members on buildings, bridges, dams, pipelines as well as on reinforcing bars within mass concrete or piles. It can measure in tension and compression.

The sensor is installed by removing the two mounting blocks and placing them (using a setting bar as a template) onto the steel to be monitored and then arc welding them in place. Once the welds have cooled the gauge is refitted into the blocks and tensioned as necessary. If not already fitted, the pickup coil is then slid into place and secured with cable ties.



FOR DETAILS ON:

- Vibrating Wire Spot weldable Strain Gauge, see datasheet ST1.
- Concrete Surface Mount Strain Gauge, see datasheet ST3
- Vibrating Wire Embedment Strain Gauge, see data sheet: ST4.
- Vibrating Wire Handheld Readout, see data sheet: RO-1-VW-3.

TYPICAL APPLICATIONS INCLUDE

- Steel Members and Struts.
- Monitoring of strain due to load.
- Bridges & Dams.
- Monitoring strain and load during construction and service life.
- Piles and Mass concrete.
- Monitoring strains in reinforcing bars during construction, pile testing and service life.

SENSOR

Range	3000 Microstrain
Resolution ¹	1 Microstrain
Accuracy 2	±0.1% FS
Temperature Range	-20 to 80°C
Active Gauge Length	141.4mm
Excitation Method	Pluck or Sweep
Material	Stainless Steel
Weight	50g
Dimensions	157 x 12.7mm Ø

COIL HOUSING

Type	Encapsulated, Detachable With Thermistor
Standard Cable Lengths ³	3, 10, 25m
Thermistor Type	NTC 3k Ω
Thermistor Accuracy	±0.5°C
Thermistor Resolution ₁	±0.1°C
Weight (coil only)	12g
Cable Weight /m	30g
Cable Type	4 Core PUR Sheath, Foil Screen & Drain Wire 4mm Ø

MOUNTING BLOCKS

Material	Steel
Dimensions	25 x 25 x 16mm
Weight / Pair	105g

OPTIONAL PROTECTIVE COVER

Material	Powder Coated Steel / Polystyrene Lining
Dimensions	280 x 100 x 60mm
Weight	670g

¹Dependant On Readout²±0.1%FS With Individual Calibration, ± 0.5%FS With Standard Batch Calibration³Other Lengths Available

ORDERING INFORMATION

PART NO. DESCRIPTION

ARC-WELDABLE VIBRATING WIRE STRAIN GAUGE

ST2-1.1	Sensor with specified cable length
ST2-1.2	Sensor with 3metre cable length
ST2-1.3	Sensor with 10metre cable length
ST2-1.4	Sensor with 25metre cable length

TOOLS REQUIRED FOR INSTALLATION

ST2-2.1	Installation kit (Includes setting jig & spacer)
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CONNECTING CABLE AND FITTINGS

CA-3.1-4-IC	4 core, Instrument cable, 7/0.20, screened
CA-4.1	Joint sealing kit
CA-4.2	Coloured adhesive tapes
CA-4.3	Crimping tool
CA-4.4	Crimping sleeves

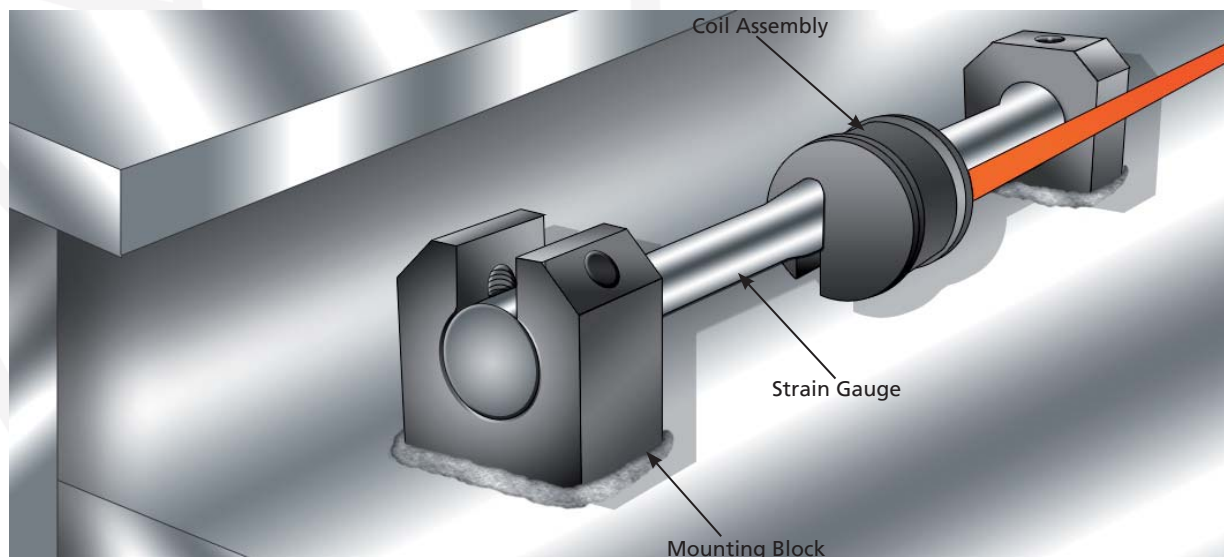
INSTALLATION ACCESSORIES

ST2-3.1	Mounting block sets (additional)
ST1-3.5	Nylon ties (additional)

READOUTS

RO-1-VW-3	Vibrating wire handheld readout
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ARC WELDABLE VIBRATING WIRE SURFACE MOUNT STRAIN GAUGE



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