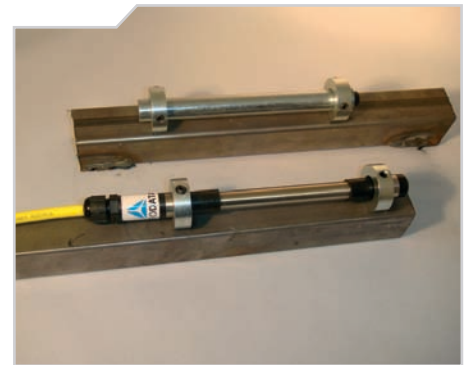


Arc-Weldable Strain Meter WSM1

date: 03/2009

HIGHLIGHTS

- Robust and sturdy construction
- High sensitivity and reliability
- Long term stability
- Easy installation and minimum protection needed after installation



Strain gauge with mounting brackets and dummy gauge (in the back)

Field of Operation

Arc-weldable strain gauges are used to measure strain in steel and cast iron members. Typical applications include monitoring strain in structural members of buildings, bridges, dams, pipelines, reinforcing bars or piles as well as monitoring load in struts used to braced excavations. It can measure in tension and compression.

Principle of operation and lay-out

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 is constructed so that a wire is held in tension between two mounting blocks that are welded to the structural member. Loading of the structural member changes the distance between the two mounting blocks and results in a change in the tension of the wire.

Our innovative system has a unique integral magnet design which incorporates a miniature magnet coil assembly positioned inside a stainless steel tube of diameter 15 mm. The same tube has a high tensile strength, heat-treated and tempered steel wire stretched between two end blocks. The wire is sealed in the tube by means of a set of double O-rings.



Typical application of WSM1 is for monitoring struts

Arc-Weldable Strain Meter WSM1

Data acquisition

Can be read either with our portable readout unit MINOS, or integrated in our automatic data acquisition system DAMOS.

Technical specifications

Model:	WSM1-55	WSM1-125
Gauge length:	55 mm	125 mm
Gauge factor:	0.482×10^{-3} microstrain/Hz ²	2.487×10^{-3} microstrain/Hz ²
Range:	± 1500 micro strain	
Sensitivity:	1 microstrain	
Material (outer body):	Stainless steel	
Coil Resistance:	140 - 160 Ohm @ 25°C	
Cable:	1 m, 4 core shielded	

Accessories:

- Brackets for arc-welding on structures
- Dummy gauge for proper installation of the brackets



Dummy gauge and mounting brackets

The following other data sheets are associated with this data sheet:

<u>Services:</u>	<i>Geotechnical Monitoring - Installation, Data Acquisition and Evaluation</i>
<u>Software:</u>	<i>DAMOS - Automatic Data Acquisition System</i>
<u>Hardware:</u>	<i>MINOS</i>