

Vibrating wire strain gauge for steel – arc weldable strain gauge

DSC



The vibrating wire strain gauge type DSC for arc welding to steel structures is commonly used for monitoring compression and/or tension in struts (excavation bracing), in structural members of buildings and bridges, girder constructions, sheet pile walls, tunnel linings and other steel structures.

This strain gauge is equipped with two mounting blocks at its ends for arc welding to steel structures. Deformation occurring in structures will have an impact on the mounting blocks, their distance will change. Due to this, the current state of the vibrating wire (inside the gauge), which is connected to the blocks and held in tension, will change. The measuring base has a length of 250 mm and precise adjustments can be done by setting the thread-screw. For temperature measurements respectively corrections all strain gauges are equipped with a thermistor; optional with a Pt100. Advantages are the high level of long-term stability and flexural rigidity as well as the resistance to pressure up to 50 bar. Also available, strain gauge type DSE fitted with mounting blocks to be screwed on other materials/surfaces.

Advantages

- High measuring accuracy even under difficult circumstances
- Long-term stability and high resolution
- Vibrating Wire Sensor, measurement of frequency, strong and robust
- Reliable data transmission via cable over long distances
- Approved and successfully applied instrument

Technical data

Length:	295 mm
Weight:	ca. 0.8 kg
Standard measuring range:	2400 μ strain (0.6 mm/250 mm Base)
Distribution of measuring range:	adjustable when mounted
Active gauge length:	250 mm
Modulus of elasticity:	22.000 N/mm ²
Operating frequency:	approx. 700....1.000 Hz
Resolution:	< 0.02 % (0,48 μ strain)
Linearity under Calibration Conditions FSO:	< \pm 0.5 %
Coefficient of thermal expansion of the wire:	11.8 E 10 ⁻⁶
Operating temperature:	-20...+70 °C
Temperature sensor standard/optional:	thermistor/ PT100

Options

- with thermistor, cable pre-attached at factory, standard PE without inner jacket, copper shielding, 4-core cable 4 x 0,5 mm², \varnothing 7,5 mm
- with thermistor, cable pre-attached at factory, standard PE with inner jacket made of PVC, copper shielding, 4-core cable 4 x 0,5 mm², \varnothing 10 mm
- with temperature sensor PT100 DIN B, cable pre-attached at factory, 6-core cable 6 x 0,5 mm², \varnothing 10 mm
- with thermistor, with cable connector for direct measurements, gauge equipped with Lemosa 4-pole connector, water pressure-tight
- with temperature sensor PT 100 DIN B, with cable connector for direct measurements, gauge equipped with Lemosa 6-pole connector, water pressure-tight
- Standard measuring range 0,6 mm / 250 mm (500 mm), standard set for 50% elongation and 50 % compression, others available on request
- Other models available on request