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## SURFACE MOUNT STRAIN GAUGES

### SM-5 Series

#### APPLICATIONS

The SM-5 vibrating wire strain gauge is designed for monitoring variations in strain, which allows stress evaluation when the material's modulus of elasticity is known. The gauge is used for:

- Metal structures: girders, piles, pipelines, pressure vessels
- Concrete structures: bridges, retaining walls, hydraulic structures
- Underground and underwater supports, linings, piers, footings

#### DESCRIPTION

The SM-5 is composed of two end pieces joined by a tube that protects a length of steel wire. An electromagnet is placed in a protective housing located at the center of the tube. The exterior forces applied on the strain gauge modify the tension in the wire and, consequently, the wires resonant frequency that is read by the electromagnet.

The SM-5 vibrating wire strain gauges are offered in two models: SM-5A and SM-5B, which differ in their mechanical supports. Both models are threaded between two anchor blocks. The SM-5A is held tight by set screws and the SM-5B by hexagonal nuts.

Unless otherwise specified, the gauge tension is factory-adjusted at mid-range and can later be modified by the user according to the anticipated strain direction.

A built-in compressed spring compensates for the wire tension and contributes to making the SM-5 a very compliant gauge.

A thermistor incorporated into the gauge supplies information on the effects of temperature on the materials.



#### FEATURES

- Long-term reliability
- High resolution and accuracy
- 3000 microstrain range with adjustable wire tension
- Very high compliance
- Rugged steel construction
- Easy to install
- Choice of mounting blocks: welded, expansion shell, or grouted
- Temperature reading
- Frequency signal easy to process and transmit over long distances

## SPECIFICATIONS

<b>MODEL</b>	<b>SM-5A, SM-5B</b>
<b>Range</b>	3000 $\mu\epsilon$
<b>Resolution</b>	1 $\mu\epsilon$ (min.)
<b>Operating temperature</b>	-20 to +80°C
<b>Active gauge length</b>	149 mm (SM-5A) 129 mm (SM-5B)
<b>Thermistor</b>	3k $\Omega$ (see model TH-T)
<b>Electrical cable</b>	IRC-41A, IRC-41AP (optional)

## ACCESSORIES

- Setting tools
- Protective cover
- Readout instruments: MB-6T(L), SENSLOG

## ORDERING INFORMATION

Please specify:

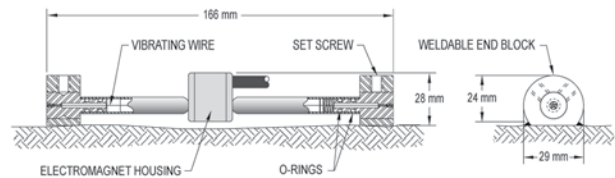
- Model
- Anchor block type: welded, bolted or grouted
- Cable length
- Accessories

## INSTALLATION

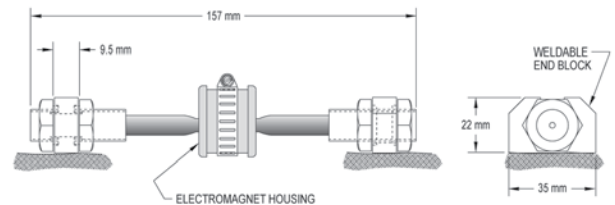
The SM-5 strain gauges are designed for quick and easy installation, while offering many possibilities:

- Anchor blocks welded to the structure
- Anchor blocks welded to a bolt or a short reinforcement bar ready to be bolted, grouted or welded to an expansion shell

A setting tool, holding a dummy gauge, allows both anchor blocks to be positioned accurately.



**Model SM-5A**



**Model SM-5B**