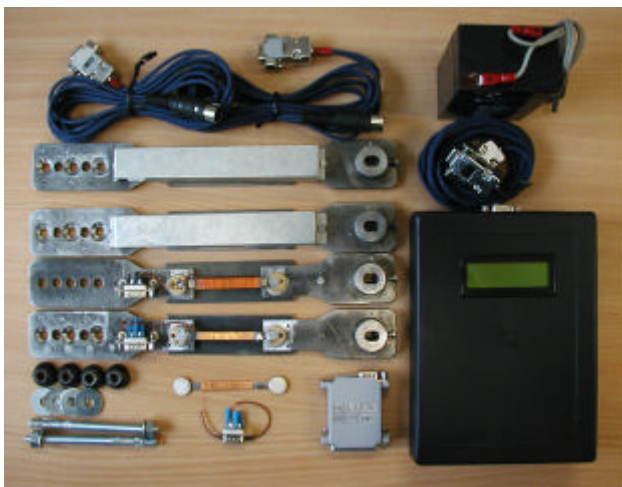
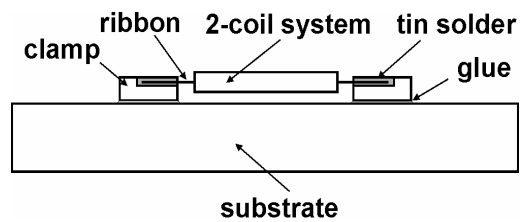


M-gauge

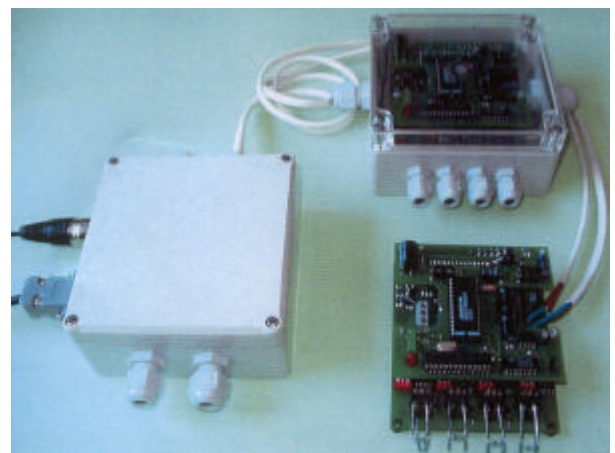
Magneto-elastic strain sensor for civil engineering structures and geotechnical applications

- High resolution, high sensitivity make the M-gauge ideal for the measurement of strain in reinforced concrete structures. The sensor integrates a Co based amorphous ribbon possessing extremely linear characteristics and insensitivity to corrosion.
- Typical sensor dimensions 60 mm x 6 mm x 5 mm (length x width x thickness) including pads. Other sensor/coils dimensions possible.
- The strain sensor provides a full range exceeding 2500 ppm (0.25 % deformation), a 10 ppm resolution and a 10 Hz bandwidth (with low cost signal conditioning), higher bandwidth available up to about 100 Hz.
- Linear temperature coefficient $13.5 \cdot 10^{-6} \text{ K}^{-1}$



LA04. Portable 4-channel unit with display and RS485 interface; application in harsh environment (tunnel Višòové)

- The sensor is connected to low cost signal readout unit (allowing for up to 256 sensors), capable of driving very long cables (500 m) with high output signals (10-100 mV). Portable signal conditioning unit has 4 channels readout, includes digital display and a serial interface.
- Typical applications include general purpose dimensional monitoring on structures such as bridges and buildings, also useful in landslides monitoring, tunnels and mines



IS01- Multichannel fixed readout unit with serial IF with up to 256 sensors

M-gauge datasheet

Uniaxial Strain Sensor	
Gauge factor	> 2500
Strain range	< 3000 ppm
Strain resolution	Better than 10 ppm
Sensor operating Temperature Range	-30 °C to +80 °C
Temperature coefficient	13.5 ± 1 ppm/°C
Linearity deviation	< 1 % with 80 A/m external axial field (1 Oe)
Sensor element size	70 x 6 x 6 mm including pads (W x L x H) weight 10g
Assembly size for harsh environment	300 x 30 x 30 mm (W x L x H) weight 500 g
Pre-loading stress	Selectable with mounting device
Mounting	Bolted or bonded
Sealing	No sealing required
Corrosion	Highly resistant to harsh atmospheric conditions
Digital Readout Unit	Portable unit LA04
Number of sensors	4
Frequency Range	DC to 20 Hz per channel, 4 Channels serial readout
Power consumption	7 W, supply voltage 6 to 24 V dc
Excitation freq.	5 kHz
Operating mode	2 coils, constant flux
Connectors	RS232 9 pin Serial (sensor), power (+12V center)
Interface	RS485 Serial
Maximum dist. from sensor to LA04 unit	5 m
Maximum distance from LA04 unit to PC	500 m (extendable with repeaters)
Readout Unit	Fixed unit IS01
Number of sensors	4 per unit, up to 64 units per common bus (256 ch.)
Frequency Range	DC to 1 Hz serial or DC to 10 Hz analog output
Power	5 W per unit, supply voltage 18 to 24 V dc
Excitation freq.	5 kHz
Operating mode	2 coils, constant flux
Interface	RS485 Serial
Maximum dist. from sensor to IS01 unit	5 m
Maximum distance from IS01 unit to PC	500 m

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