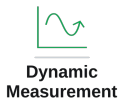


MAGNET MOUNT STRAIN SENSOR

TENSION &
COMPRESSION



- MOUNTED IN SECONDS
- $\pm 300 \dots \pm 500 \mu\epsilon$
- IP54 STEEL HOUSING



VERSIONS

Feature	Available versions
Cable length	0.5 m · 3 m (standard) · 5 m · 10 m

Any intermediate length from 0.5 to 10 m is available, as are customised versions.



OVERVIEW

Surface strain measured where it arises, without glue: the sensor holds itself on a ferromagnetic surface by its own magnet and presses the foil strain gauge, protected under a stainless steel foil, so firmly against the surface that friction takes over the task of the adhesive. Mounting takes seconds instead of the three quarters of an hour a bonded gauge needs, the surface is neither cleaned nor ground, and coats of paint do not stop the reading. Calibrated to $GF = 2.00$, the sensor reads tension and compression directly and can be exchanged without recalibrating the amplifier. It cannot be overloaded, it comes off as quickly as it went on, and it is used again — the usual instrument for checking FEM calculations and for stress analysis on flat steel structures.

MEASUREMENT

- Direct reading of the surface strain, like a bonded strain gauge
- High linearity in tension and compression
- Measuring range $\pm 300 \dots \pm 500 \mu\epsilon$, depending on the surface
- Calibrated to $GF = 2.00$ for dynamic applications
- Cannot be overloaded — an offset appears instead of damage
- Passive: no amplifier inside · external amplifier recommended
- Cyclical reset for cycles longer than 5 min · large offset range
- Smallest press-on sensor with magnet mounting

MOUNTING AND USE

- Mounted and removed in seconds with the tool included
- Holds on magnetic structures — no adhesive, no screws, no drilling
- The surface needs neither cleaning nor grinding
- Reads through coats of paint
- Sensors are interchangeable without recalibrating the amplifier
- Reusable — no single-use material, no consumables
- Under 5 minutes to fit, against at least 45 for a bonded gauge
- For checking FEM calculations and for stress analysis on flat steel



TECHNICAL DATA

MEASUREMENT

Strain gauge type	foil, GF = 2.0
Measuring range	$\pm 300 \dots \pm 500 \mu\epsilon$, depending on the surface
Reset	for cycles longer than 5 min

PRECISION

Sensitivity tolerance	$\pm 0.2 \%$
Transverse sensitivity	$0.9 \pm 0.2 \%$
Accuracy	$< \pm 0.5 \%$ FS
Linearity	$< \pm 0.5 \%$ FS
Hysteresis	$< \pm 0.2 \%$ FS
Repeatability	$< 0.2 \%$ FS
Operating temperature range	$0^\circ\text{C} \dots +50^\circ\text{C}$
Storage temperature range	$0^\circ\text{C} \dots +70^\circ\text{C}$

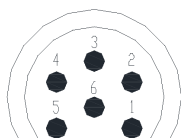
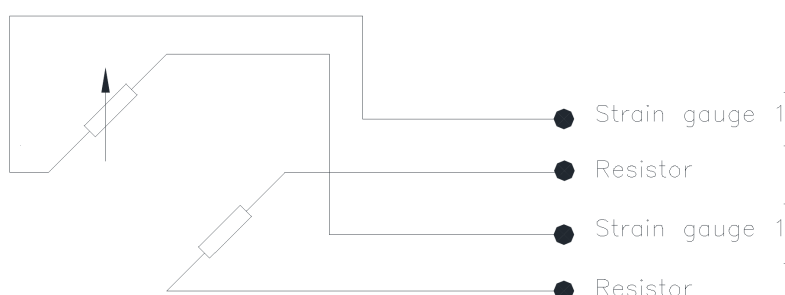
MECHANICAL PROPERTIES

Case material	steel
Dimensions	$\varnothing 34 \text{ mm} \cdot 36 \text{ mm high}$, housing 13.5 mm
Weight, including cable	200 g

MECHANICAL LIMITS

Overload capability	indefinite — an offset may occur
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ELECTRICAL CONNECTION



One quarter bridge is active; the 350 Ω completion resistor sits inside the connector.

ELECTRICAL PROPERTIES

Bridge resistance	350 Ω
Nominal input resistance	350 Ω
Bridge configuration	1 x quarter bridge active · 350 Ω completion resistor inside the connector
Supply voltage	5 V DC, max 8 V DC
Supply current	$< 15 \text{ mA}$
Amplifier	none built in — the sensor is passive
Recommended amplifiers	MBA100 · VDA · DU-1D monitor
Connection	6-pole connector, cable 0.5 ... 10 m
Check at the connector	350 Ω measurable across the bridge

MOUNTING

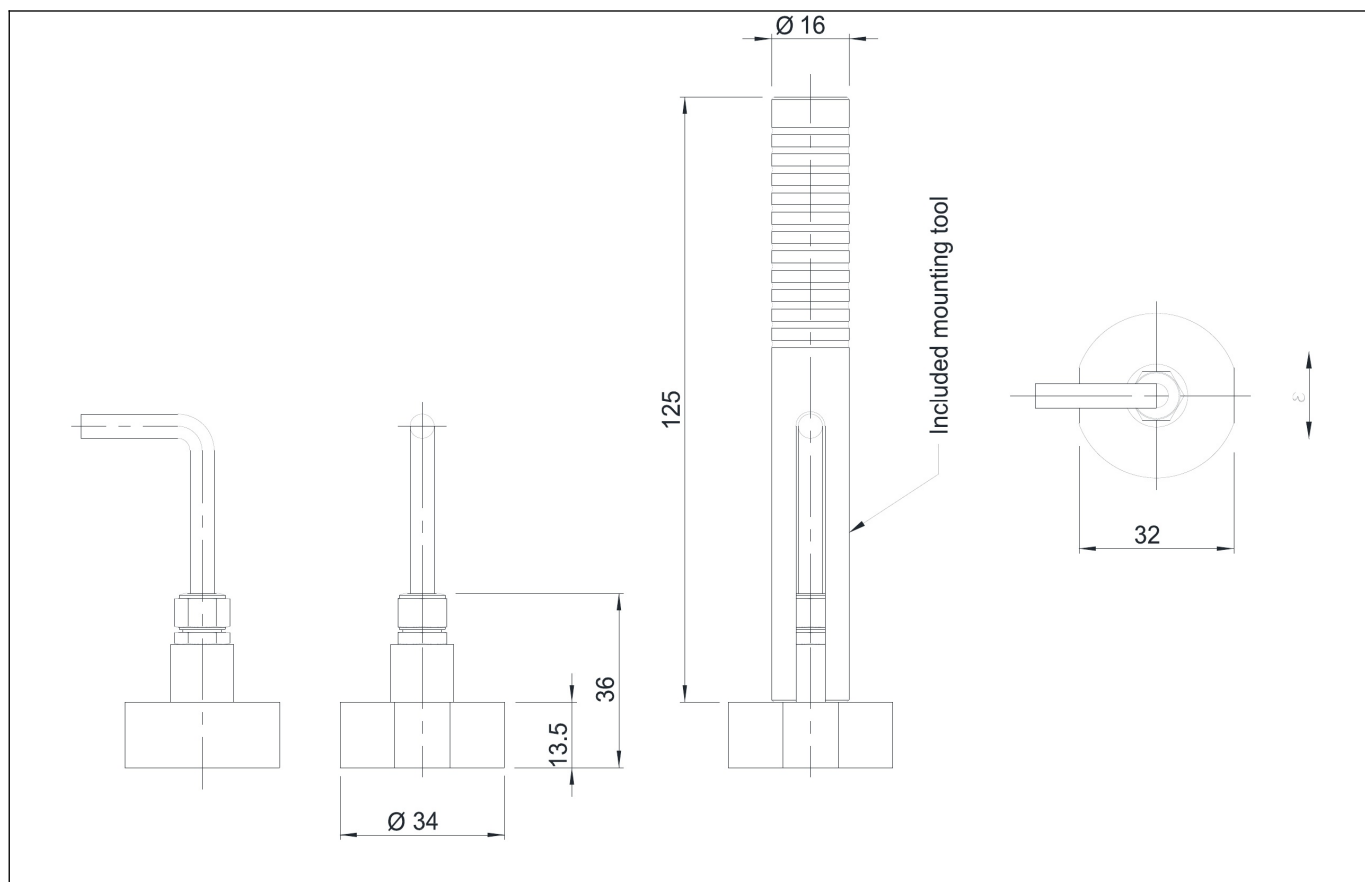
Delivered with	sensor with cable and connector · mounting tool, $\varnothing 16 \text{ mm}$, 125 mm long
Alignment	the strain gauge is aligned in the axial direction, $\pm 5 \%$
Protective foil	stainless steel · after several hundred mountings it can rupture, which does not affect the reading as long as alignment and 350 Ω hold

OPTION C
(CONNECTOR
OUTPUT)

Strain gauge 1	1
Resistor	4
Strain gauge 1	2
Resistor	5



DIMENSIONS (mm)



COMPLIANCE AND CERTIFICATION

Protection Rating	IP54	
Compliance	CE · UKCA · RoHS	
Certifications		European conformity — RoHS 2011/65/EU, applied standard EN IEC 63000:2018 · CE marking since 31.05.2022
		United Kingdom conformity — Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, applied standard EN IEC 63000:2018 · UKCA marking since 01.08.2022
		declared for the whole range, all cable lengths and customised versions included

