

DAdx 50-220mm



Description

The two half-shells of the strain sensor DAdX are mounted on pillars to measure the compressive force of e.g. punches or the pretensioning force of tools. This strain sensor is suitable, like the DA40 and DA54, for both static and dynamic force monitoring.

As the strain sensor can be installed afterwards, it is a universal, retrofit sensor for monitoring force and load. The strain sensor is durable and resistant to oil and moisture.

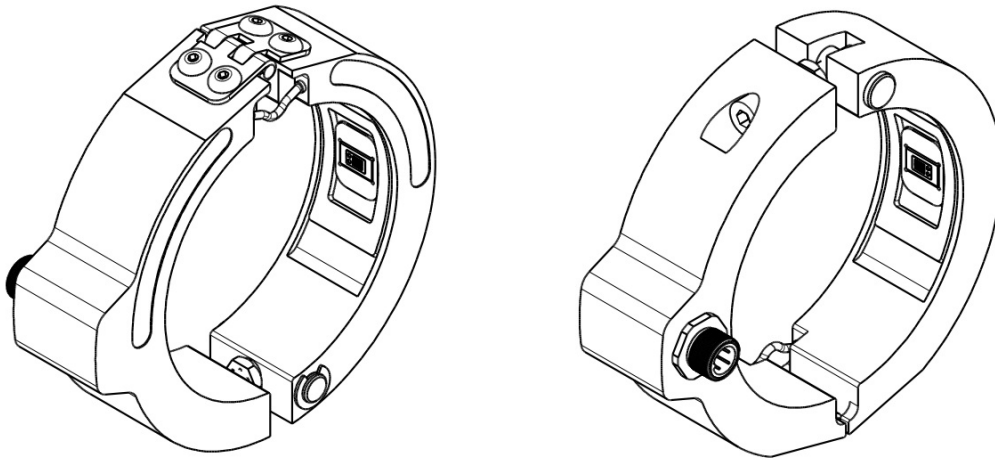
This strain sensor with aluminum half-shells achieves the same performance as the direct application of strain gages. This includes high resolution and low drift. Every half-shell contains a completely wired strain gage full bridge, which is pressed and glued on the corresponding component by a special pressing mechanism, when the strain sensor is being screwed on. The housing serves as a mounting frame for the strain gage application. Possible bending forces in the column are compensated by parallel connection of the two strain gage full bridges.

Individual versions of the half-shells, e.g. with strain gage half-bridges in 90°-arrangement or with strain gage half-bridges for the torque measurement are possible.

Before screwing on the strain sensor, the surface of the component must be ground and cleaned in the zone of the strain gage. The strain gage is durably protected against moisture by a special, oil-resistant seal.

The zero balancing of the strain gage is carried out after the installation of the strain sensor by the strain gage measuring amplifier GSV-2 or GSV-1. Strains from 0.1 $\mu\text{m}/\text{m}$ onwards can be displayed. This corresponds to a mechanical stress of about 0.02N/mm² on a component surface of steel. With the combination of strain sensor and measuring amplifier GSV-2, switching thresholds from about 1 $\mu\text{m}/\text{m}$ onwards (corresponding to 0.2N/mm²) can be monitored, if a zero balancing is carried out periodically.

Dimensions



Technical Data

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	7 Ohm
Output resistance	350 Ohm
Tolerance output resistance	7 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal to	-2 mV/V
Zero signal from	2 mV/V
Rated output	1.3 mV/V

Precision

Temperature effect on zero signal	0.005 mV/V/10K
Temperature effect on characteristic value	1 %v.S./10K

Connection Data

Connection type	4 conductor open
Name of the connection	Lapp FD 4x0,14/PUR
Cable length	10 m

Temperature

Rated temperature range f	-10 ... 65 °C
Operating temperature range f	-20 ... 85 °C
Environmental protection	IP65

Basis Data

Type	Dehnungsaufnehmer
Nominal strain	1000 µm/m
Operating strain	150 %
Fastening	schrauben (M6)
Material	Aluminium alloy









Pin Configuration

Symbol	Description	Wire colour
+Us	positive bridge supply	brown
-Us	negative bridge supply	white
+Ud	positive bridge output	green
-Ud	negative bridge output	yellow

*Compressive load: positive output signal.
Shield- transparent.*

accessories

Description	Description
 M-Bond-31	gelatinous, 2-component adhesive in 50 ml double cartridge, 50ml Methacrylate, 50ml Hardener; Operating temperature -55 ° C ... 120 ° C
 Mixing-tool Pack10	Mixing nozzles for double cartridge 50g M-Bond-30 and M-Bond-31; package of 10;
 WS-14	Dispensing gunl for 37ml and 50ml double cartridges.
 UHU-Plus-Endfest-300 50ml	
 UHU Static mixer	static mixer for use with UHU-Plus-Endfest-300
 UHU Dosing gun	discharger for 50ml UHU double cartridges