

### Description

Type DE strain transducers are distinguished by their compact and robust design. They are screwed to existing machine components and measure the strain in the force shunt. Extremely high forces can also be recorded through this indirect measurement.

Strain transducers have been optimised for three measuring ranges: strains from  $0...±250\ \mu\epsilon$ ,  $0...±500\ \mu\epsilon$  or  $0...±750\ \mu\epsilon$ . Strain transducers deliver a digital CANopen output signal.

Use of strain transducers has proved extremely successful, particularly in mechanical engineering and on large machine plants.

### Features

- | For strains up to  $±750\ \mu\epsilon$
- | Encased design IP 67
- | Optional: analog current and voltage output

### Applications

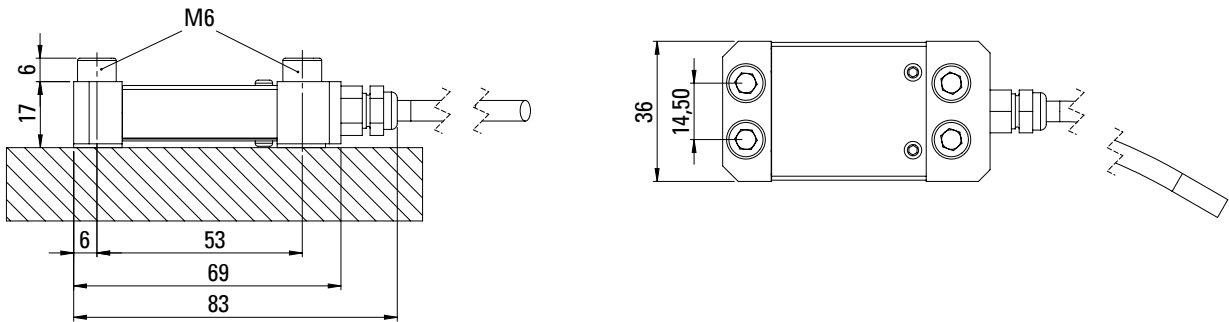
- | Force measurement on forming presses
- | Use on wind turbines
- | Applications on injection moulding machines

## Selection table

Type	Nominal strain	Limit strain
DE 1.0	$\pm 250 \mu\epsilon$	$\pm 500 \mu\epsilon$
DE 1.1	$\pm 500 \mu\epsilon$	$\pm 1000 \mu\epsilon$
DE 1.2	$\pm 750 \mu\epsilon$	$\pm 1500 \mu\epsilon$

1  $\mu\epsilon$  = 0.001 mm/m, i.e. 1  $\mu\epsilon$  is equivalent to 0.001 mm strain per metre

## Dimensions



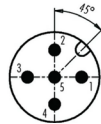
Dimensions in mm

## Technical data

Measurement principle	Strain gauge
Accuracy	$\pm 0.5\%$ f.s.
Max. power consumption	60 mA
Temp. coefficient of gain	0,2% f.s./10 K
Temp. coefficient of zero	0,2% f.s./10 K
Reference temperature	20 °C
Nominal temperature range	-10 °C to +80 °C
Working temperature range	-30 °C to +80 °C
Power supply	9...36 V DC
Output signal	CANopen (DS301, DS404)
Cable configuration *	white: UB+ blue: UB- black: CAN-H grey: CAN-L shield applied on one side
Cable	HELU Supertronic 330-C PURoe, ozone resistant, 4x0.14 mm <sup>2</sup> , length 2 m
Material	Stainless steel
Degree of protection	IP 67
Vibration resistance	20 g, 100 h, 50...150 Hz

\*alternatively:

Connector socket M12x1	PIN 1: GND 2: UB+ 3: GND 4: CAN-H 5: CAN-L
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## Options

Analog current and voltage output

## Mounting instructions

The mounting surface should have a flatness of 0.1 mm.  
M6x25 screws (strength class 12.9) are recommended for fixing the sensor.  
The screws should be tightened diagonally with a torque of 16 Nm (max. 18 Nm).