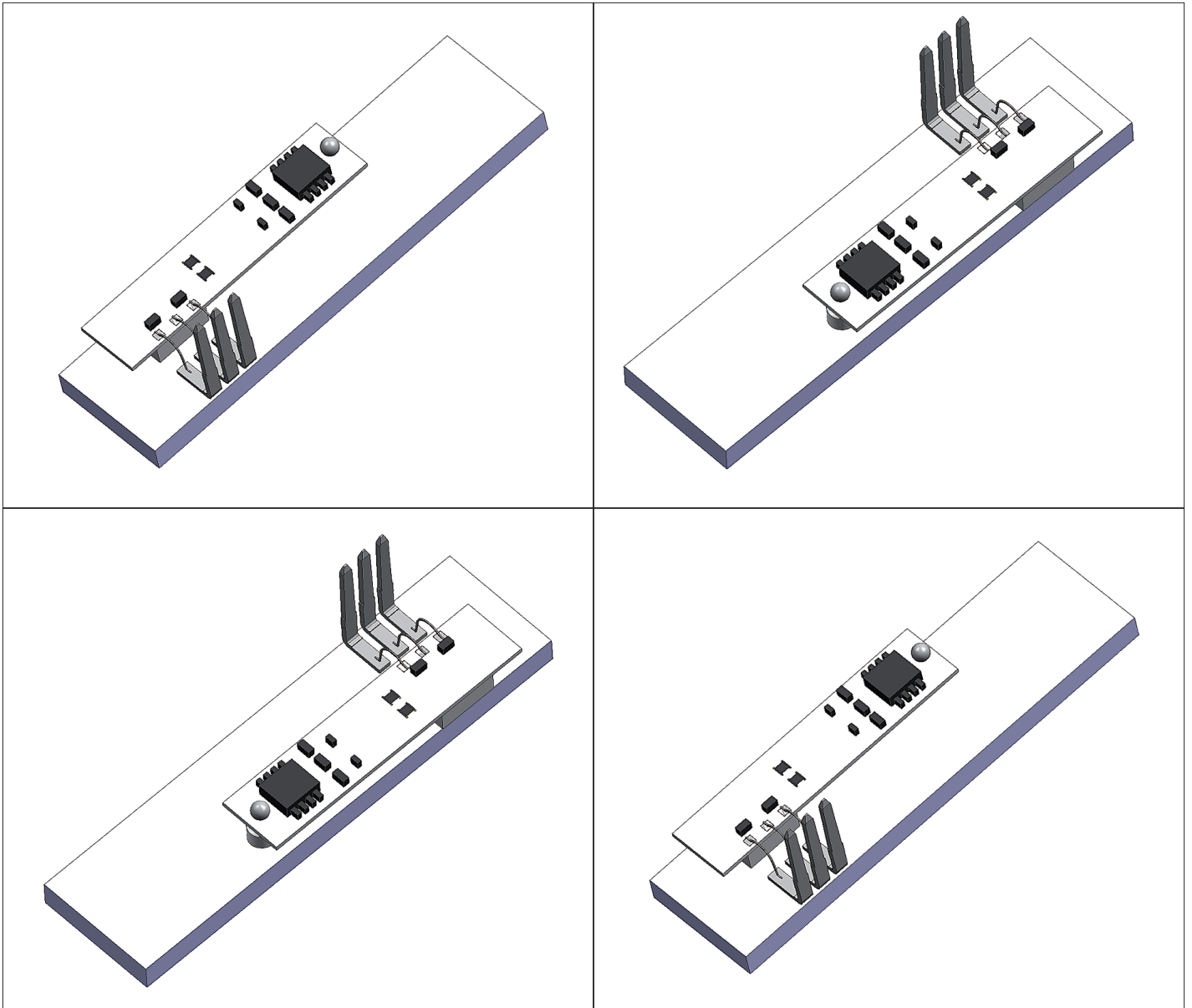


Cantilever Beam Force Cells

0 ... 265 Centi-Newton

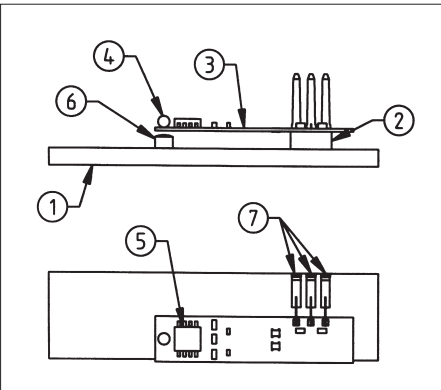


Huba Control

FEINE MESSIDEEN FÜR DRUCK UND STRÖMUNG
FOR FINE PRESSURE AND FLOW MEASUREMENT
LA FINESSE DES MESURES DE PRESSION ET DE DEBIT

Technical overview

The type series 410 measures force with the cantilever beam by an integrated piezo-resistive wheatstone bridge with front-end amplification circuit. It uses hybrid thick film technology which guarantees an excellent stability and a long operating life. The special design of the force cell ensure batch production and with fully automated assembly an ideal performance to cost ratio for high quantities.



Legend to cross-section drawing

- 1 Base (glass)
- 2 Distance base
- 3 Cantilever beam
- 4 Force centring ball
- 5 Amplification circuit
- 6 Over load stop
- 7 Electrical connections

The distinct advantages

- Compact construction for a wide range of industrial applications
- Ideal for OEM batches in high quantities
- High resistance to temperatures
- No mechanical aging
- No mechanical creep

Measuring ranges

0 ... 53 cN / 0 ... 160 cN / 0 ... 265 cN

Overload

max. 1000 cN

Temperature

Medium and ambient 0 °C ... +70 °C
Storage -10 °C ... +70 °C

Output and power supply

5 VDC voltage is used for factory calibration.

Zero point at 0.3 Volt < ± 2% fs
Full scale at 2.8 Volt < ± 30% fs

The signal varies ratiometrically with supplied voltage.

The non-ratiometrical value of the output signal is with a change of power supply of ± 5% at
typ. 0.5% fs
max. 1.0% fs

Load

$R_L \geq 50 \text{ k}\Omega$; $C_L \leq 10 \text{ nF}$

Current consumption

At 50 kOhm load / 5 VDC power supply
< 3 mA

Dynamic response

Response time < 1 ms
Load cycle < 1000 Hz

Electrical connections

PIN-Connections, Rast 2.5

Protection standard

IP 00

Mounting

Fix the force sensor on the base plate (glass) ensuring there is no mechanical stress.

Weight

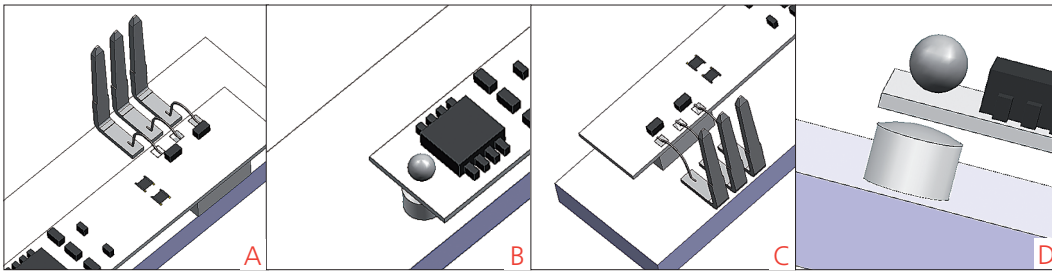
Ca. 7.1 g

Packaging

Cardboard boxes with blister-pack inserts (returnable)

Order code selection table

		410. 9	X	X	X	X
Measuring ranges	0 ... 53 cN	2				
	0 ... 160 cN	4				
	0 ... 265 cN	5				
Output / Power supply	Output 0.3 ... 2.8 V, Power supply 5 VDC		1			
Electrical connection	PIN-Connection, Rast 2.5			1		
Compensation	Temperature compensated					1



Versions

- A – PIN-Connections
- B – Force centring ball
- C – Identification code
- D – Overload stop

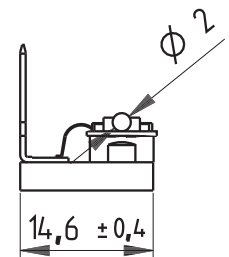
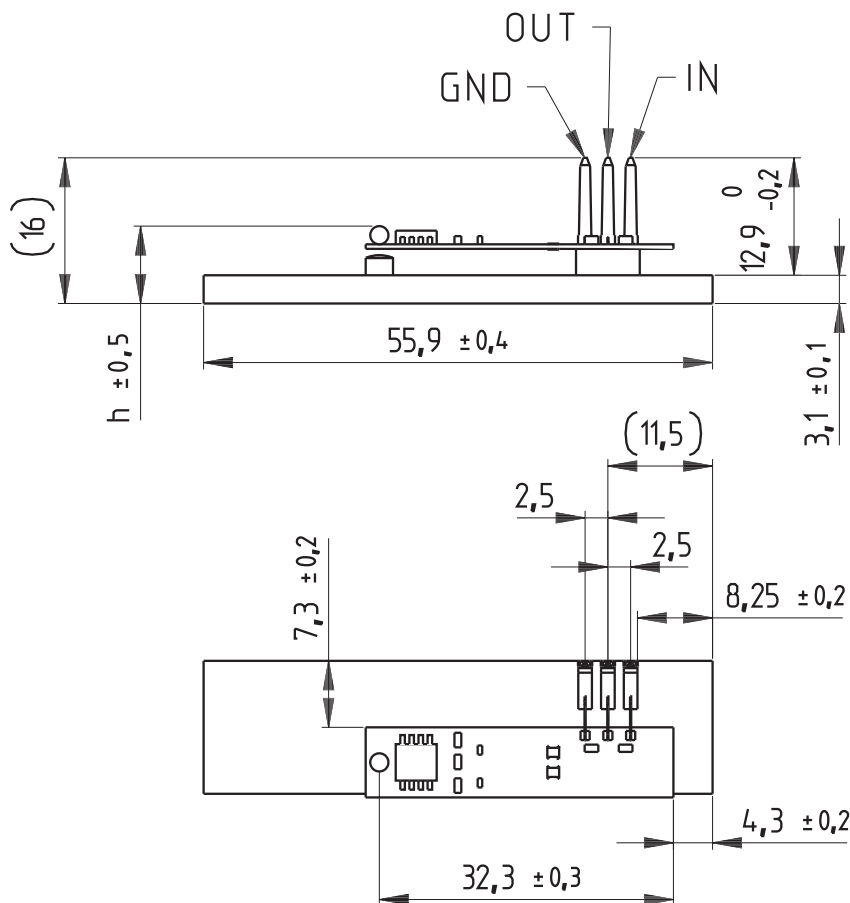
Accuracy

Parameter		Unit	
Tolerance zero point	max.	% fs	± 1.0
Tolerance full scale	max.	% fs	± 30.0
Resolution		% fs	0.1
Total of linearity, hysteresis and repeatability	max.	% fs	± 0.2
Long term stability acc. to DIN EN 60770		% fs	± 0.5
TC zero point ¹⁾	max.	% fs/10K	± 0.3
TC sensitivity ¹⁾	max.	% fs/10K	± 0.1

¹⁾ TC = Temperature-Coefficient

Dimensions in mm

Electrical connections



	Dimension h
53 cN	8.40
160 cN	8.60
265 cN	8.74

Electromagnetic compatibility

The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity.

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