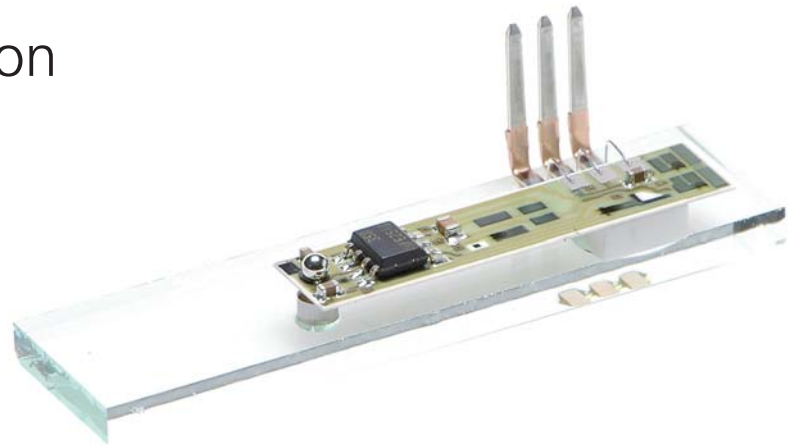


Cantilever Beam force cell type 410

Measuring range
0 ... 53 – 265 Centi-Newton



The type 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.

- 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

Technical overview

Measuring pressure

0 ... 53 – 265 Centi-Newton

Operating conditons

| | | |
|--------------------|------------------|----------------|
| Temperature | Medium / ambient | 0 ... +70 °C |
| | Storage | -10 ... +70 °C |
| Tolerable overload | | < 1000 cN |

Electrical overview

| | | |
|-------------------------------|---|--|
| Output | The signal varies ratiometrically with supplied voltage. | |
| | The non-ratiometrical value of the output signal is with a change of power supply of $\pm 5\%$: | typ. 0.5 % fs max. 1.0 % fs |
| Power supply | Factory calibration | 5 VDC |
| Load | | $R_L \geq 50 \text{ k}\Omega$; $C_L \leq 10 \text{ nF}$ |
| Current consumption | At 50 k Ω Load / 5 VDC power supply | < 3 mA |
| Electromagnetic compatibility | The product is designed exclusively for installation in equipment. The customer is responsible for CE conformity. | |

Dynamic response

| | |
|---------------|-----------|
| Response time | < 1 ms |
| Load cycle | < 1000 Hz |

Protection standard

IP 00

Electrical connection

PIN connector, RAST 2.5

Mounting instruction

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

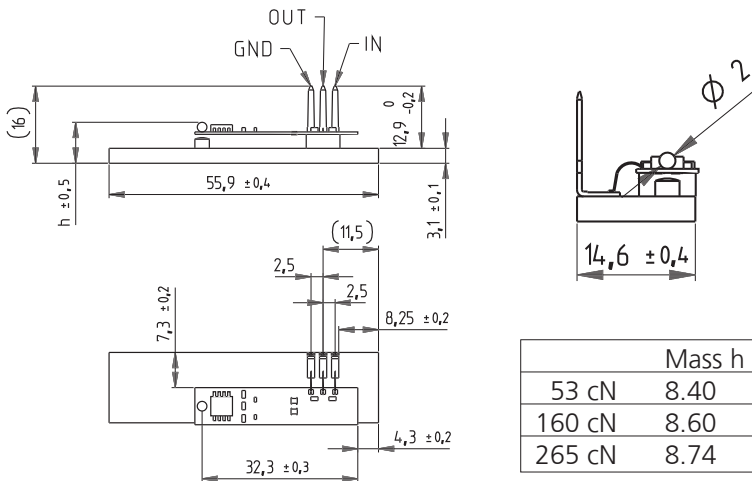
Weight

~ 7.1 g

Packaging

Multiple packaging in cardboard boxes with blister pack inserts (40 pcs¹⁾)

Dimensions in mm / Electrical connections



Accuracy

| Parameter | | Unit | |
|--|------|----------|------------|
| Tolerance zero point | max. | % fs | ± 2.0 |
| 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 ²⁾ | max. | % fs/10K | ± 0.3 |
| TC sensitivity ²⁾ | max. | % fs/10K | ± 0.1 |

Order code selection table

| | | 1 | 2 | 3 | 4 | 5 |
|-----------------------|------------------------------|----------------|---|---|---|---|
| | | 410. X X X X X | | | | |
| Measuring range | 0 ... 53 cN | 9 | 2 | | | |
| | 0 ... 160 cN | 9 | 4 | | | |
| | 0 ... 265 cN | 9 | 5 | | | |
| Output / power supply | 0.3 ... 2.8 V 5 VDC | | | 1 | | |
| Electrical connection | PIN connection, RAST 2.5 | | | | 1 | |
| Compensation | With temperature compensated | | | | | 1 |

¹⁾ Minimal order quantity

²⁾ TC = Temperature coefficient

Huba Control AG
Headquarters

Industriestrasse 17
5436 Würenlos
Telefon +41 (0) 56 436 82 00
Telefax +41 (0) 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG
Niederlassung Deutschland

Schlattgrabenstrasse 24
72141 Walddorfhäslach
Telefon +49 (0) 7127 23 93 00
Telefax +49 (0) 7127 23 93 20
info.de@hubacontrol.com

Huba Control SA
Succursale France

Rue Lavoisier
Technopôle Forbach-Sud
57602 Forbach Cedex
Téléphone +33 (0) 387 847 300
Télécopieur +33 (0) 387 847 301
info.fr@hubacontrol.com

Huba Control AG
Vestiging Nederland

Hamseweg 20A
3828 AD Hoogland
Telefoon +31 (0) 33 433 03 66
Telefax +31 (0) 33 433 03 77
info.nl@hubacontrol.com

Huba Control AG
Branch Office United Kingdom

Unit 13 Berkshire House
County Park Business Centre
Shrivenham Road
Swindon Wiltshire SN1 2NR
Phone +44 (0) 1993 776667
Fax +44 (0) 1993 776671
info.uk@hubacontrol.com