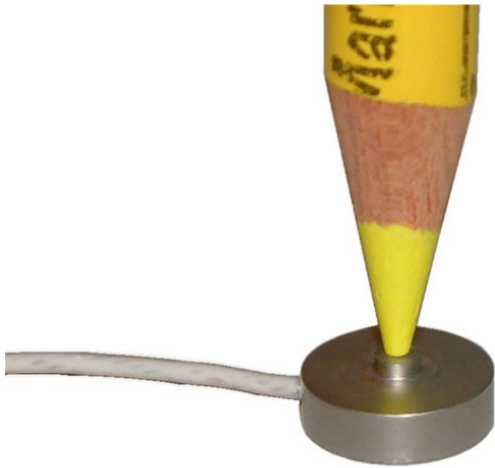


KM10 25N, 50N, 100N, 200N, 500N, 1kN



Description

The force is transmitted via the universal ball joint (diameter 2.4mm, R4) in the centre of the sensor.

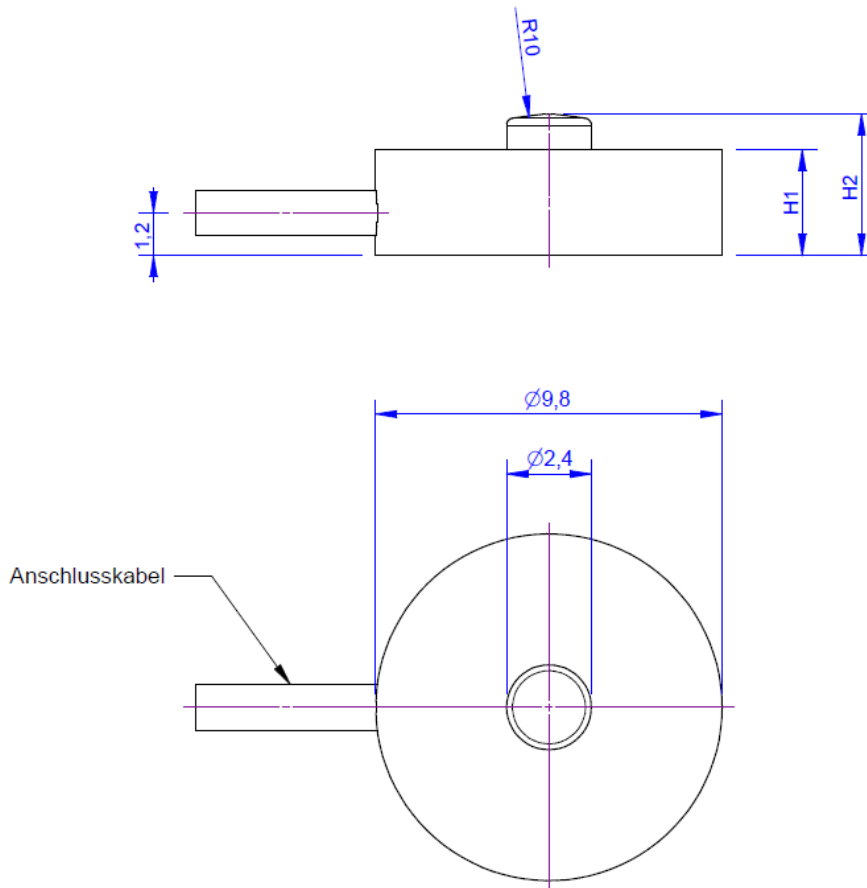
The force sensor is assembled on a flat surface. The force sensor is centered on the outer circumference, for example with 3 pins or within a 0.5 mm deep sink. The 9.8mm – 7.4mm ring forms the sensor's contact area. In the centre, a potting compound is visible up to a 7.4mm diameter. The inner ring is not used for centring.

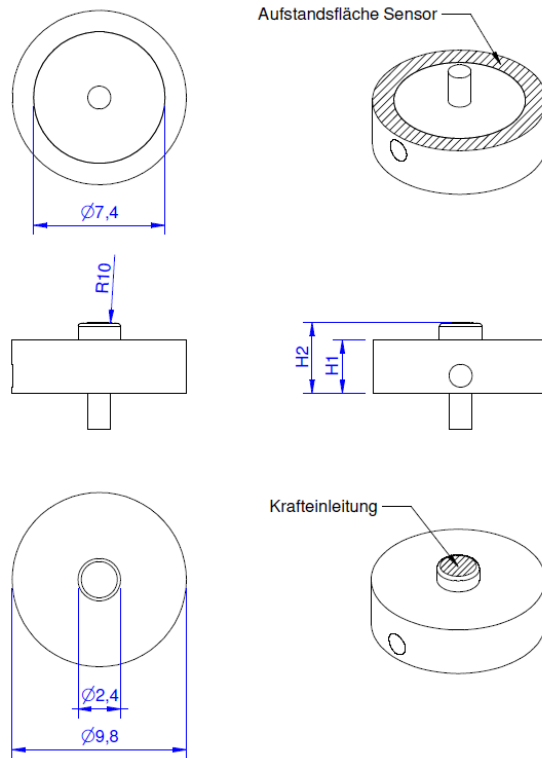
To protect against lift-off, the contact area can be fixed on a flat surface with PUR lacquer. Due to its small dimensions, a Teflon cable with an outer diameter of just 1.4mm is used. Processing the AWG36 stranded wires requires a special tool (scalpel, Hoffmann stripper-AWG36-26). The Teflon coating is intended exclusively for fixed installation, not for mobile use.

A version with a central cable outlet is available as an alternative to a lateral cable outlet.

Cable type in this version is STC-31v-4RWBG, PVC, Diameter 2,2mm;

Dimensions





| Nennlast | Höhe (H1) in mm | Höhe (H2) in mm |
|----------|-----------------|-----------------|
| 25N | 3 | 4 |
| 50N | 3 | 4 |
| 100N | 3 | 4 |
| 200N | 3 | 4 |
| 500N | 3 | 4 |
| 1000N | 3,5 | 4,5 |

Technical Data

Force sensor

| | |
|---------------------|-----------------|
| Type | Load cell |
| Force direction | Compression |
| Force introduction | Load button |
| Dimension 1 | Ø2,4 |
| Sensor Fastening | Circular ring |
| Dimension 2 | Ø9,8x1,2 |
| Operating force | 150 %FS |
| Rated displacement | 0.08 mm |
| Lateral force limit | 10 %FS |
| Material | Stainless steel |
| Natural frequency | 5 kHz |
| Height | 4 mm |
| Length or Diameter | 9.8 mm |

Electrical Data

| | |
|---|---------------|
| Input resistance | 350 Ohm |
| Tolerance input resistance | 20 Ohm |
| Output resistance | 350 Ohm |
| Insulation resistance | 2 GOhm |
| Rated range of excitation voltage f | 2.5 ... 5 V |
| Operating range of excitation voltage f | 1 ... 5 V |
| Zero signal | 0.1 mV/V |
| characteristic value range min | 0.5 mV/V / FS |
| characteristic value range max | 1.1 mV/V / FS |

Precision

| | |
|--|------------|
| Accuracy class | 1% |
| Relative linearity error | 0.1 %FS |
| Relative zero signal hysteresis | 0.05 %FS |
| Temperature effect on zero signal | 0.02 %FS/K |
| Temperature effect on characteristic value | 0.02 %RD/K |
| Relative creep | 0.1 %FS |

Connection Data

| | |
|------------------------|------------------|
| Connection type | 4 conductor open |
| Name of the connection | STC-36T-4 |
| Cable length | 3 m |

Temperature

| | |
|-------------------------------|---------------|
| Rated temperature range f | -10 ... 70 °C |
| Operating temperature range f | -10 ... 85 °C |
| Storage temperature range f | -10 ... 85 °C |
| Environmental protection | IP64 |



Abbreviation: RD: „Reading“; FS: „Full Scale“;

1) The exact nominal sensitivity is indicated in the test report;







Pin Configuration

| Symbol | Description | Wire colour |
|--------|------------------------|-------------|
| +Us | positive bridge supply | red |
| -Us | negative bridge supply | black |
| +Ud | positive bridge output | green |
| -Ud | negative bridge output | white |

Screen - transparent.

Pressure load : positive output signal

accessories

| | Description | Description |
|---|---------------------------------|---|
|  | Calibration Certificate kn/20/5 | Factory calibration certificate for force to 20 kN in accordance with DIN EN ISO / IEC 17025 for test materials monitoring according to DIN ISO 9001: 2008 with 5 load levels and 3 series of measurements. |
|  | GSV-1H | Measuring amplifier in top-hat rail housing for sensors with straingages. Analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0mV/V. |
|  | GSV-2TSD-DI | Measuring amplifier in desktop-housing for sensors with straingages. Serial port RS232, USB port, analogue output -5V...+5V, limiting frequency 260Hz, input sensitivity 3.5mV/V. |
|  | GSV-3USB | Measuring amplifier in aluminum housing (IP54) for sensors with straingages. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V. |