

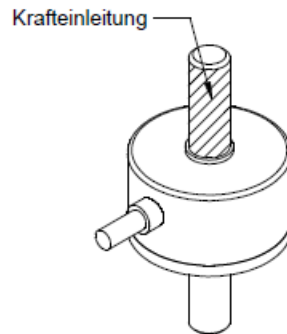
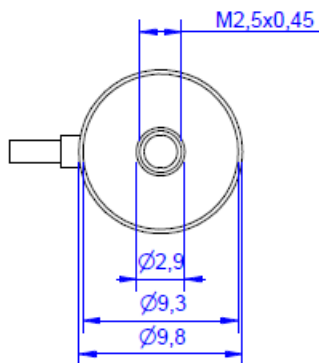
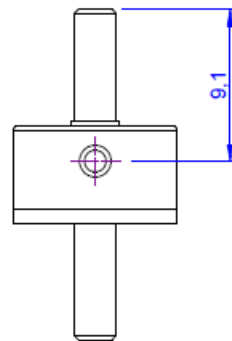
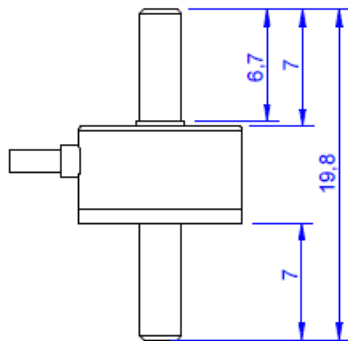
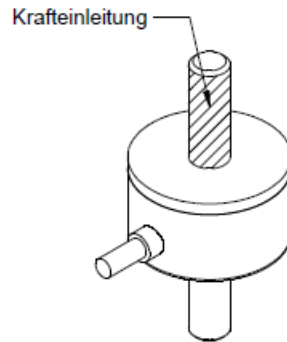
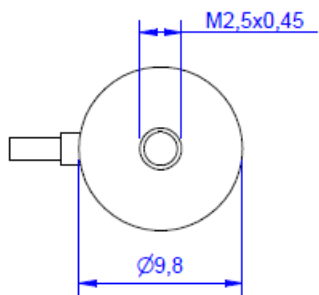
KM10z 50N



Description

The KM10z membrane force sensor is ultra-miniature sensor for force and pressure measurement. The force is applied on two M2.5 thread. In the application of force is necessary to ensure that no bending moments greater than 0.1 Nm be initiated.

Dimensions



Technical Data

Force sensor

Type	Load cell
Force direction	Tension / Compression
Rated force F _x	50 N
Force introduction	Außengewinde
Dimension 1	M2,5x0,45
Sensor Fastening	Außengewinde
Dimension 2	M2,5x0,45
Operating force	150 %FS
Rated displacement	0.04 mm
Lateral force limit	10 %FS
Material	Stainless steel
Natural frequency	5 kHz
Height	19.8 mm
Length or Diameter	9.8 mm
Torque limit	5 Nm
Bending moment limit	0.2 Nm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 ±
Output resistance	350 Ohm
Insulation resistance	2x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 5 V
Zero signal	0.05 mV/V
characteristic value range min	0.5 mV/V / FS
characteristic value range max	1 mV/V / FS

Precision data

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

Environmental data

Rated temperature range f	-10 ... 70 °C
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Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP67

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

1. The exact nominal sensitivity is indicated in the test report.

2. Values in () for compression and tension fluctuating measurement values

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.

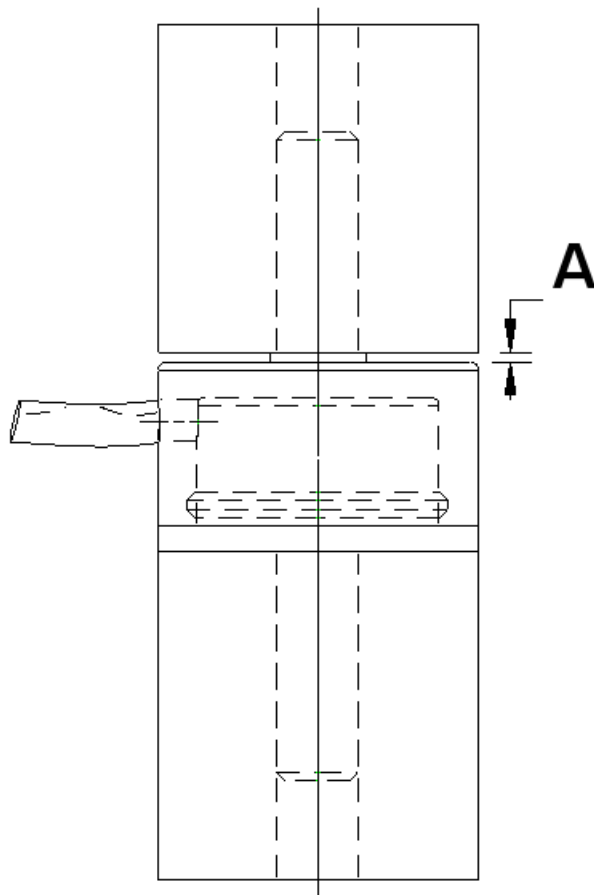
Pressure load : positive output signal

Mounting

Installation instructions: When assembling attachment parts, hold the sensor in place on the installation side / do not guide any tensioning torque through the sensor. Attachment parts may be supported on adjustable feet on the end faces, if preferred

Note: We recommend that the sensor KM10z with rated load 500N to use only for pressure measurements! Thread the sensor only suitable for sensor mounting, not suitable for tension!

Installation



Gap "A" may not be closed, is necessary for the function of the force sensor.

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 strain gauges. 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 strain gauges. Serial port RS232, USB port, analogue output -5V...+5V, limiting frequency 260Hz, input sensitivity 3.5mV/V.
	GSV-3USB	Measuring amplifier in aluminum housing for sensors with strain gauges. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V.
	GSV-6K	Analogue measuring amplifier in plug housing for sensors with strain gauges. Analogue output configurable, TEDS, sampling frequency 1Hz ... 25kHz, input sensitivity configurable 0.1mV/V ... 8mV/V