

KM70z 200KN 200kN

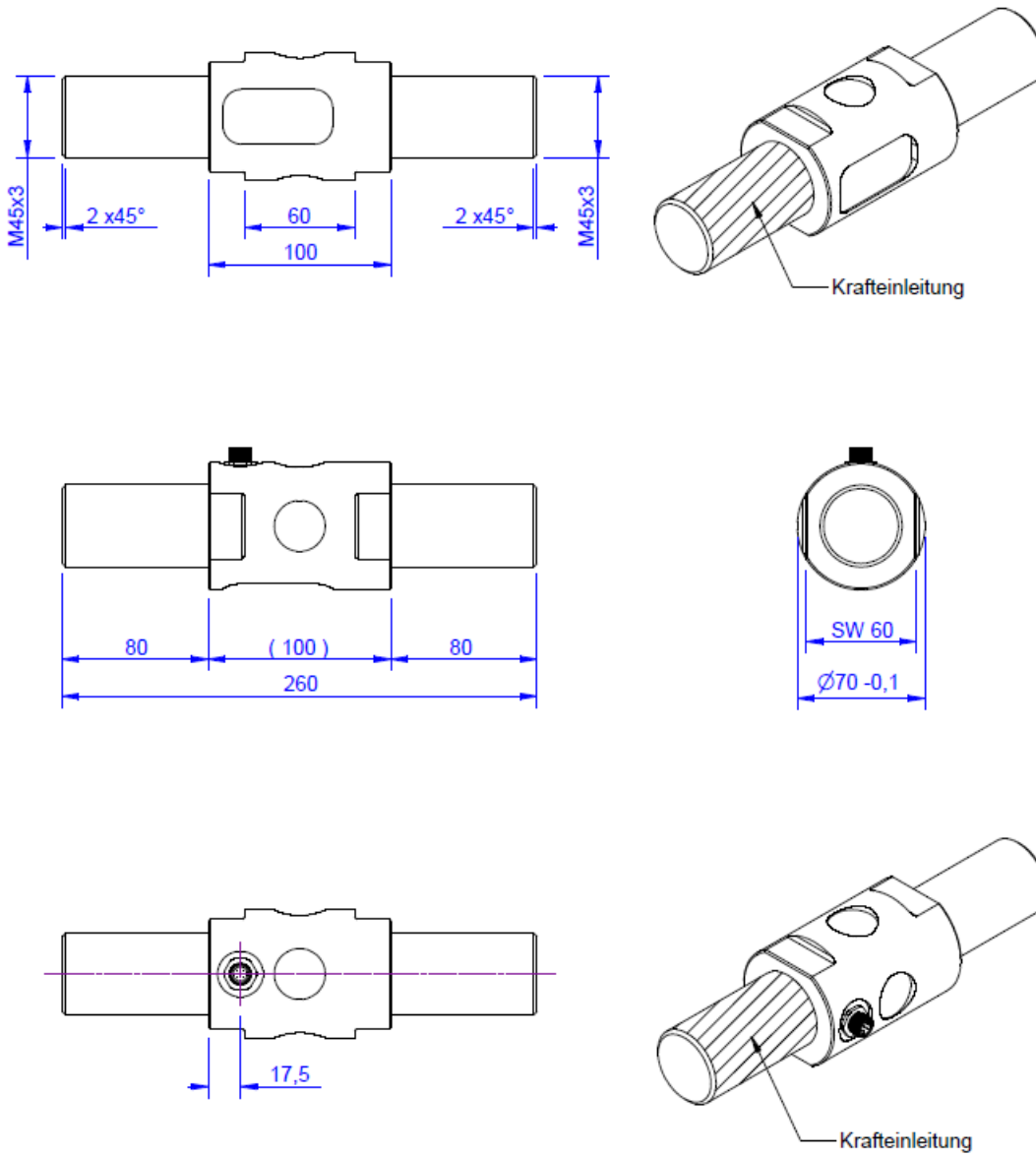


Description

The KM70z force sensor is a tension/compression force sensor with compact dimensions. Two M45x3 coarse-feeding threads are provided for application of force.

The protection class is IP67. Connection is made with an M12 connector. 10m assembled connecting cable is included in scope of delivery.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	200 kN
Force introduction	Außengewinde
Dimension 1	M45x3
Sensor Fastening	Außengewinde
Dimension 2	M45x3
Operating force	200 %FS
Rated displacement	0.04 mm
Lateral force limit	10 %FS
Material	Stainless steel
Natural frequency	10 kHz
Height	260 mm
Length or Diameter	70 mm
Torque limit	500 Nm
Bending moment limit	500 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 ... 10 V
Zero signal	0.05 mV/V
Rated output	1 mV/V / FS

Precision

Accuracy class	0,5%
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	Connector
Name of the connection	round plug connector M12, 4-pole, male

Temperature

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



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	PIN
+Us	positive bridge supply	brown	1
-Us	negative bridge supply	white	2
+Ud	positive bridge output	blue	3
-Ud	negative bridge output	black	4






Compressive load: positive output signal.



Mounting

When assembling attachment parts, hold the sensor in place on the installation side / do not conduct any tensioning torque through the sensor. Attachment parts may be supported on the adjustable foot on the end faces, if preferred. The sensor is calibrated with application of force via the thread, not via the end faces. The calibration can deviate by a few percent when force is applied via the end faces.

accessories

	Description	Description
	Calibration Certificate kn/200/5	Factory calibration certificate for force to 200 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 (IP54) for sensors with strain gauges. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V.
	GSV-6K	analog amplifier pcb for sensors with strain gauges. Analog output configurable; sampling frequency is 10Hz ... 25kHz, input sensitivity adjustable 0.1 mV / V ... 8 mV / V