

KM50z 100kN

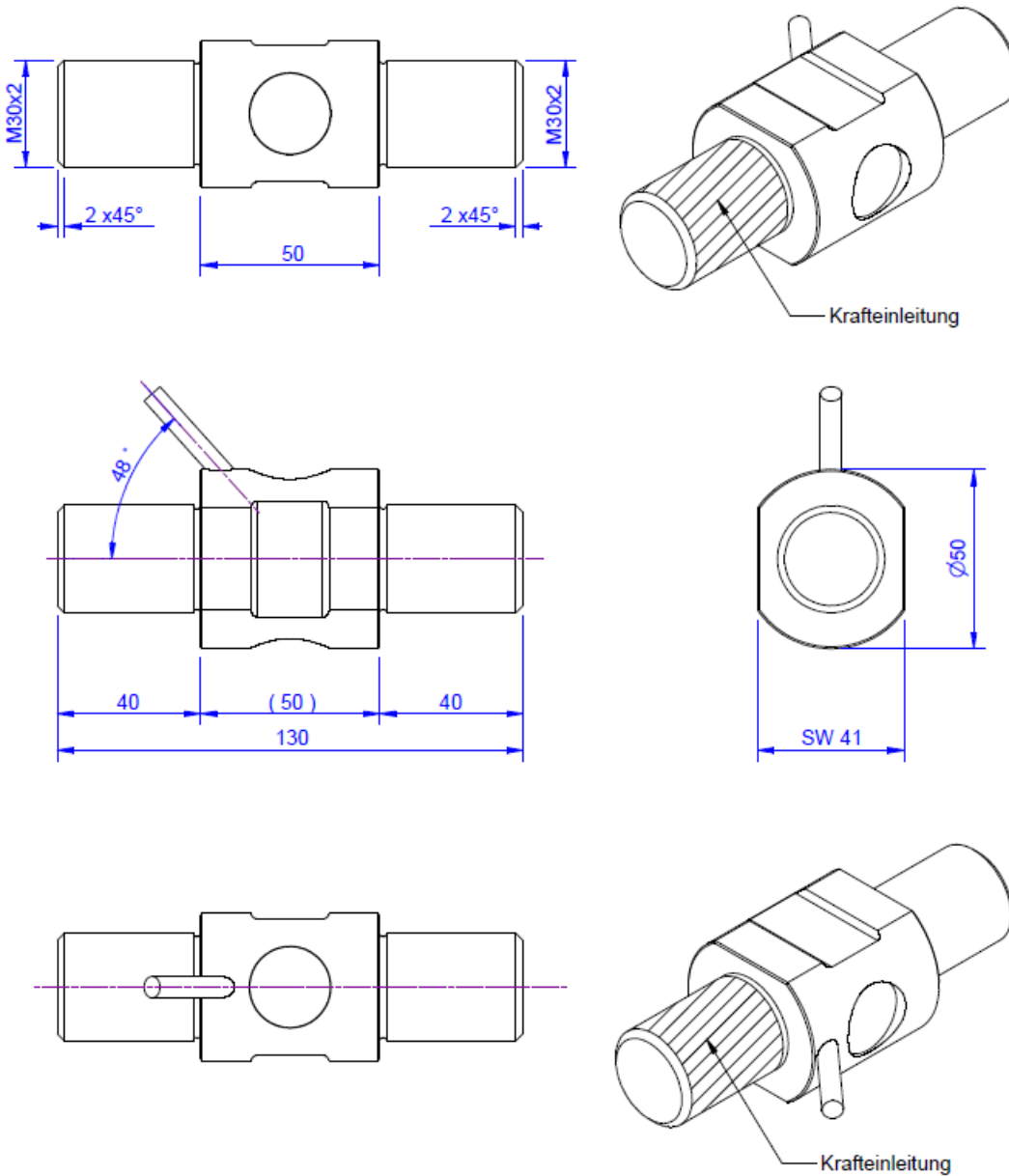


Description

The KM50z force sensor is a compact tension/compression force sensor. Two M30 coarse-feeding threads are provided for application of force.

The protection class is IP 67.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	100 kN
Force introduction	Außengewinde
Dimension 1	M30x2
Sensor Fastening	Außengewinde
Dimension 2	M30x2
Operating force	200 %FS
Rated displacement	0.04 mm
Lateral force limit	10 %FS
Material	Stainless steel
Natural frequency	10 kHz
Height	130 mm
Length or Diameter	50 mm
Torque limit	100 Nm
Bending moment limit	100 Nm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	390 ±
Output resistance	40 Ohm
Tolerance output resistance	350 ±
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	4 conductor open
Name of the connection	Unitronic FD CP Plus 4x0,14
Cable length	5 m

Temperature

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	brown
-Us	negative bridge supply	white
+Ud	positive bridge output	green
-Ud	negative bridge output	yellow

Pressure load: positive output signal.

Shield- transparent.








Mounting

When assembling attachment parts, hold the sensor in place on the installation side / do not load any fastening torque through the sensor.

The load can be inserted on the end faces.

Calibration is carried out with force via the thread, not via the end faces. When loading the sensor on the end faces, the calibration can vary by a few percent compared to the calibration with a force via the thread.

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 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