ME-Meßsysteme GmbH
Eduard-Maurer-Str. 9
DE-16761 Hennigsdorf

Tel +49 (0)3302 8982 4 10
Fax +49 (0)3302 8982 4 69

Mail info@me-systeme.de
Web www.me-systeme.de

KM30z 1kN

Description

The KM30z force sensor is a compact tension/pressure/force sensor. Two threads are provided for application of force: M12 coarse-feeding thread up to 10kN, M16 coarse-feeding thread for 20kN, M20 coarse-feeding thread to 50kN. The versions up to 2kN are made of aluminium alloy. Ring nuts are also available as accessories.

The protection class is IP67.

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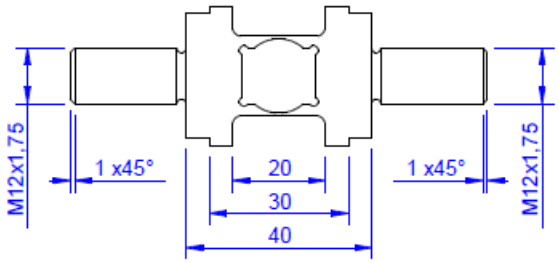
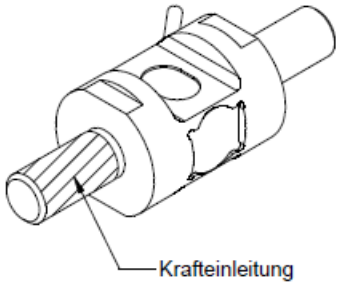
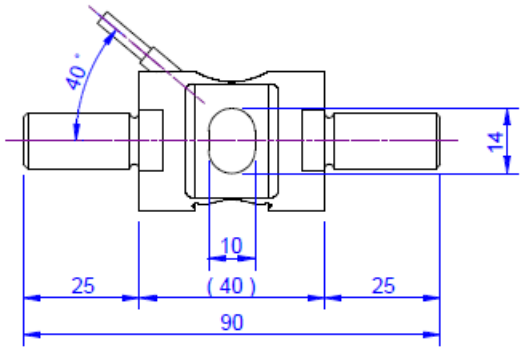
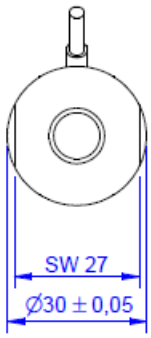
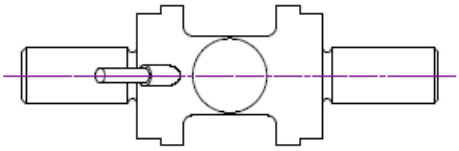
Dimensions

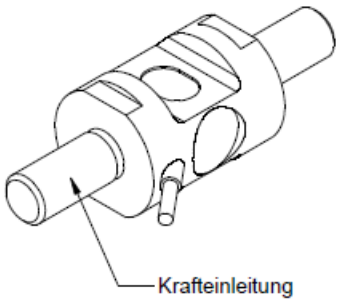












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Technical Data

Force sensor		
Type	Force sensor	
Force direction	Tension / Compression	
Rated force Fx	1	kN
Force introduction	Außengewinde	
Dimension 1	M12	
Sensor Fastening	Außengewinde	
Dimension 2	M12	
Operating force	200	%FS
Rated displacement	0.04	mm
Lateral force limit	10	%FS
Material	Aluminium alloy	
Natural frequency	10	kHz
Height	90	mm
Length or Diameter	30	mm
Torque limit	20	Nm
Bending moment limit	10	Nm

Electrical Data		
Input resistance	390	Ohm
Tolerance input resistance	40	±
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 ... 10	V
Zero signal	0.05	mV/V
Rated output	1	mV/V

Precision data		
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	ME-SYSTEME.DE / 24-4 PUR	
Cable length	3	m

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

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

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

1. The exact characteristic value is indicated in the test report.

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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

Screen - transparent.

Compressive load : positive output signal

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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.

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accessories

	Description	Description
	Elastomerlager Mx	Elastomer Support for KD9363s, 0.25t..1.0t; Dimensions: 75mm x 40mm 150mm x 55mm; 1x Mx male thread, 1x Mx female thread;
	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.
	Calibration Certificate kn/400/5	Factory calibration certificate for force to 400 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 for sensors with straingages. 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
	Ring nut	Ring nut for sensors with external thread KM16z, KM26z, KM30z
	Lock nuts set	Hexagon nuts rust-resistant A2 with M12, M16, M20 or M45 thread
	High Accuracy Calibration/1D	