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KM90 20kN, 50kN

Description

The force sensor KM90 is a membrane-type force sensor for measurement of compressive forces. The force sensor is fixed with four M8 screws from above on a flat surface with M8 tapped holes. Alternatively, the sensor is attached from below with 4 M10 screws. For force transmission there exists a spherical cap with radius 100 mm.

The force sensor KM90e is a membrane-type force sensor for measurement of compressive forces. The integrated electronic GSV-15L provides an output signal 0...10 Volt or 4-20mA proportional to the applied force on the constructional element. The electronic GSV-15L offers a digital input for automatic zero adjustment, a digital input for autoscale and a digital output as threshold switch.

Environmental protection is IP 67.

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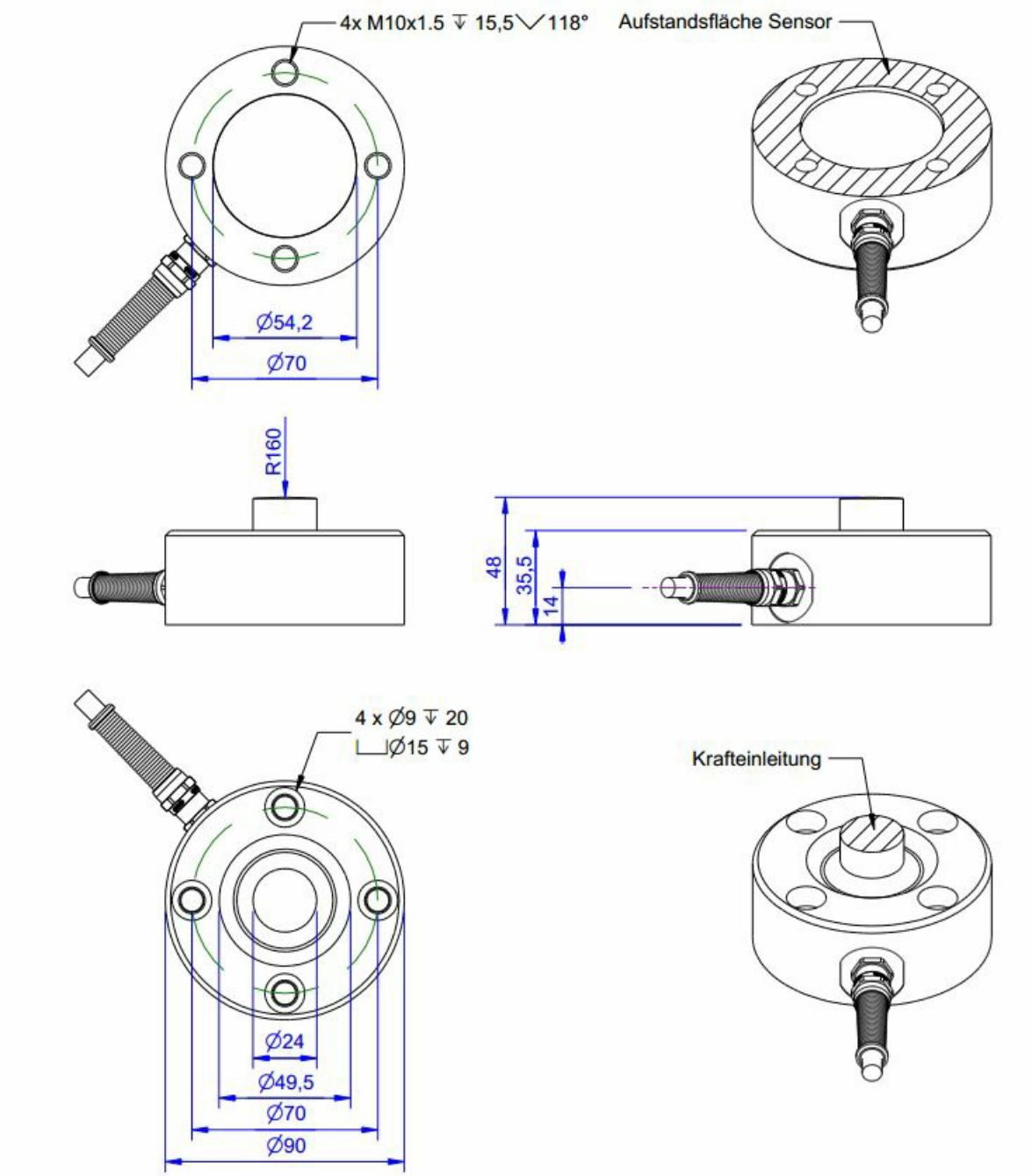
Dimensions



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Technical Data

Force sensor

Type	Load cell	
Force direction	Compression	
Force introduction	Load button	
Dimension 1	Ø24x12,5	
Sensor Fastening	Circular ring	
Dimension 2	Ø90x35,8	
Operating force	150	%FS
Rated displacement	0.07	mm
Lateral force limit	50	%FS
Material	Stainless steel	
Natural frequency	5	kHz
Height	48	mm
Length or Diameter	90	mm

Electrical Data

Input resistance	780	Ohm
Tolerance input resistance	80	±
Output resistance	700	Ohm
Tolerance output resistance	2	±
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	SUPER-PAAR-TRONIC-C /2x2x0,25	
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	IP67	

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

1) The exact nominal sensitivity 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.

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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 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 10Hz ... 25kHz, input sensitivity configurable 0.1mV/V ... 8mV/V
	High Accuracy Calibration/1D	