Force Sensor KM115 50kN

Item number: 2890



The force sensor KM 115 is a membrane force sensor for measuring compressive forces. It is fastened to an even surface with four screws M12. A spherical cap with a radius of 160 mm is provided for the force transmission.

Option: KM115i with integrated measuring amplifier, 4...20 mA or 0...10 V, featuring auto-zero and auto-scale functions as well as a threshold detector.

Environmental protection is IP 67.

Optional special version

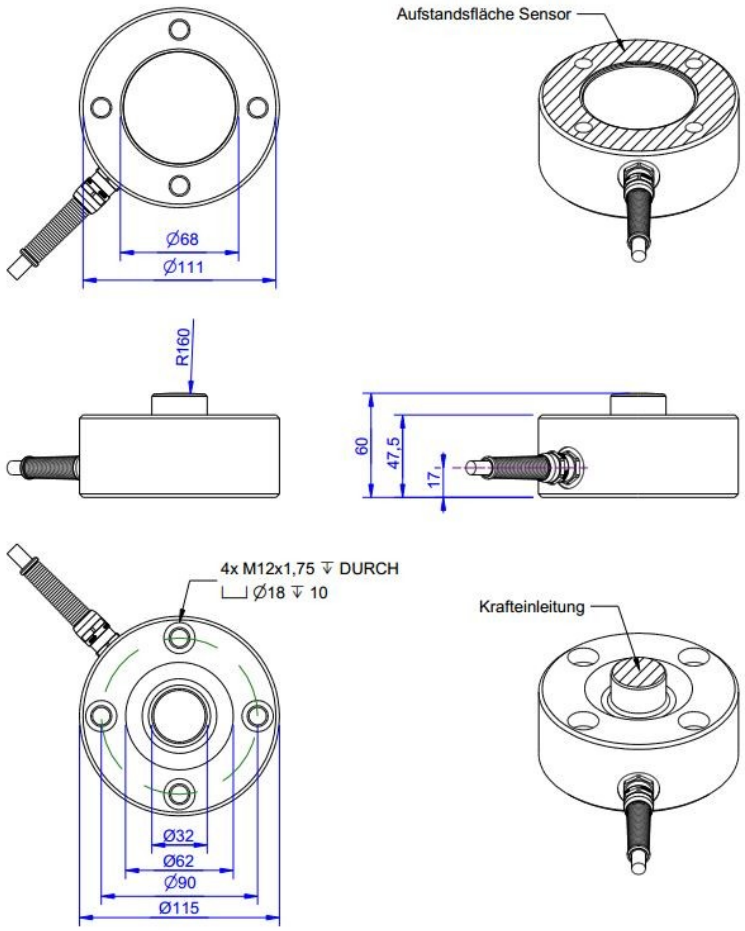
- Protection class IP68: from rated force 200 N
- Temperature range -40°C to 180°C
- Vacuum version > 10^{-5} mbar
- Pressure range up to 8 bar
- Suitable for cleanrooms

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Stand: 07.11.2026

Technical Drawing



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Technical Data

Basic Data		Unit
Type	Force load cell	
Force direction	Compression	
Rated force Fx	50	kN
Force introduction	Load button	
Dimension 1	Ø32	
Sensor Fastening	Circular ring	
Dimension 2	Ø111x21,5	
Operating force	150	%FS
Rated displacement	0.08	mm
Lateral force limit	50	%FS
Material	Stainless steel	
Natural frequency fx	5	kHz
Dimensions	Ø115 mm x 60 mm	
Height	60	mm
Length or Diameter	115	mm
Variants	50kN...200kN	

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Electrical Data		Unit
Input resistance	800	Ohm
Tolerance input resistance	100	±
Output resistance	700	Ohm
Tolerance output resistance	10	±
Insulation resistance	5x10^9	Ohm
Rated range of excitation voltage from	2.5	V
Rated range of excitation voltage to	5	V
Operating range of excitation voltage from	1	V
Operating range of excitation voltage to	10	V
Zero signal	0.05	mV/V
Rated output	1	mV/V / FS

Accuracy Data		Unit
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

Analog Output	Unit

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Environmental Data		Unit
Rated temperature range from	-10	°C
Rated temperature range to	70	°C
Operating temperature range from	-10	°C
Operating temperature range to	85	°C
Storage temperature range from	-10	°C
Storage temperature range to	85	°C
Environmental protection	IP67	

Abbreviation: RD: „Reading“; FS: „Full Scale“;1) The exact nominal sensitivity is indicated in the test report;

Pin Assignment

Channel	Symbol	Description	Wire color	PIN
	+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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