

KM90e 20kN, 50kN



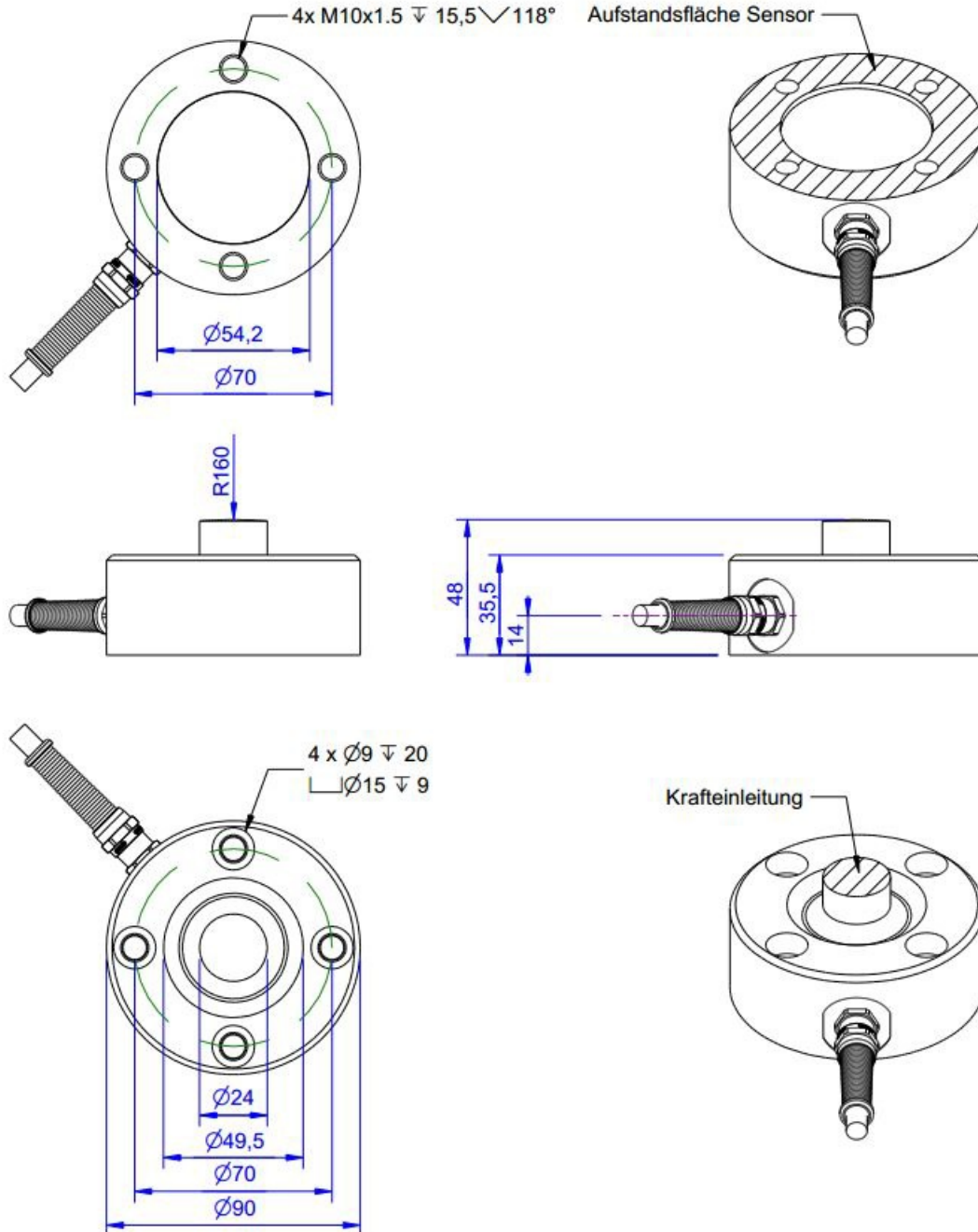
Description

The force sensor KM90 is a membrane-type force sensor for measurement of compressive forces. The force sensor is fastened to an even surface with four screws M12. 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.

Dimensions



Technical Data

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	1 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 / 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

Supply

Supply voltage f	14 ... 30 V
Current consumption from	15 mA

Connection Data

Name of the connection	Unitronic FD CP TP Plus / 3x2x0,14
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

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

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

1) The exact nominal sensitivity is indicated in the test report;




Pin Configuration

Symbol	Description	Wire colour
+Us	sensor supply	brown
-Us	sensor supply	white
+Ud	bridge output	green
-Ud	bridge output	yellow
+Uf	positive sense lead	pink
-Uf	negativ sense lead	grey

Shield - transparent.

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.



Orderoptions

Type	Description
KM90e 010/105/3.5	Output 0...10V, 100 Hz, input ± 0.1 mV/V ... 3.5 mV/V (standard type)
KM90e 4-20/105/3.5	