

## KM90e 20kN, 50kN



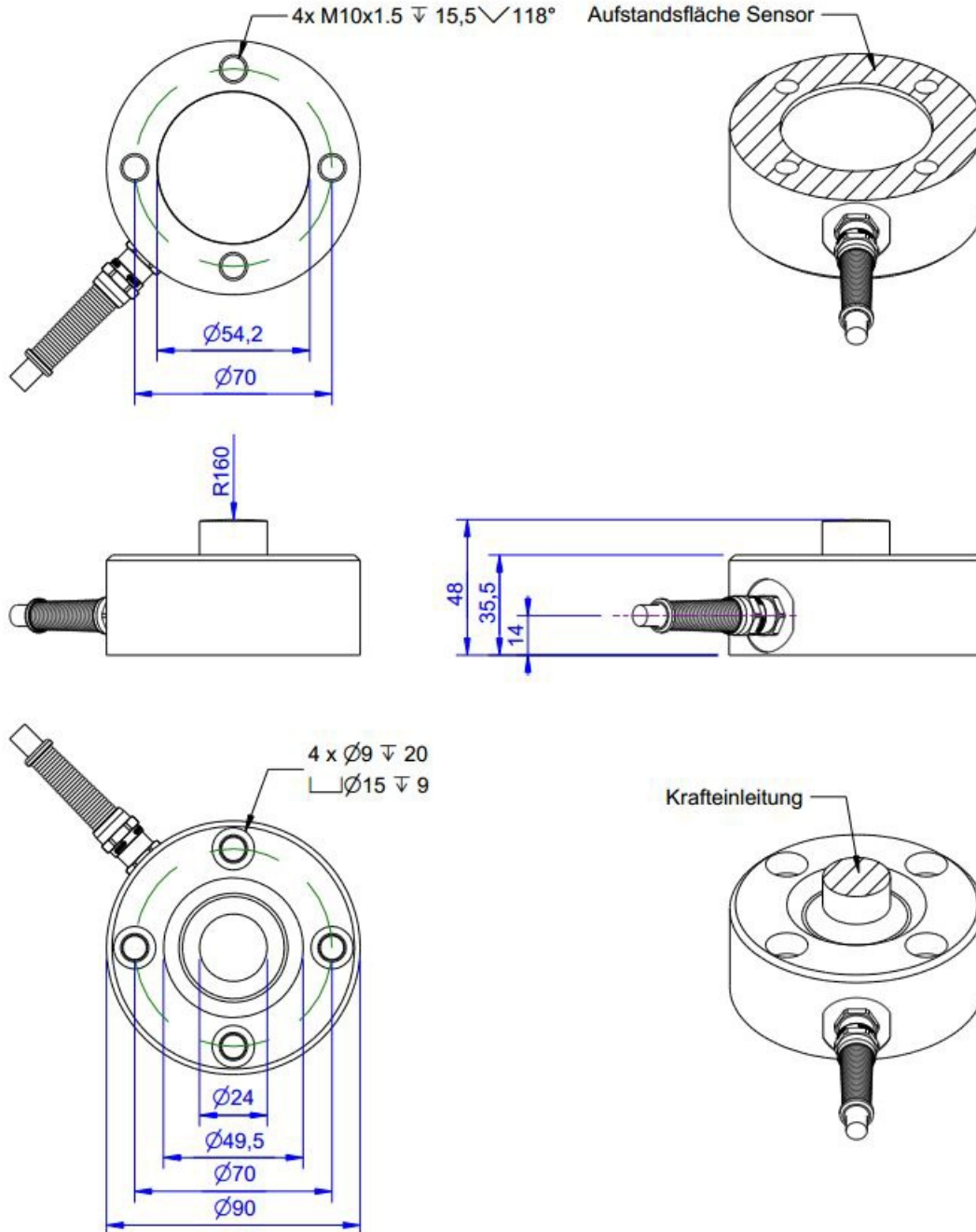
### Description

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

### 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	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
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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;




## 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 $\pm 0.1$ mV/V ... 3.5 mV/V (standard type)
KM90e 4-20/105/3.5	