



Description

The force sensor KM55 is exceptionally suitable for measuring preload of bolts on account of its flat construction and its through hole.

But the internal bore 12 mm is also suitable for introduction of a force transmission. With a spherical cap the force transmission can be centered and made free of lateral force .

Through the introduction of half liners or prisms these force sensors can be adapted to the measurement of rolling forces.

The six Ø4,3mm thread holes on the bottom side permit the attachment of the sensor or the fitting of a prism.

Technical Data

Force sensor	
Type	Load cell
Force direction	Compression
Rated force Fx	10 kN / 20 kN / 50 kN
Force introduction	Through bore
Dimension 1	Ø12
Sensor Fastening	Through bore
Dimension 2	6x Ø4,30
Operating force	150 %FS
Rated displacement	0.07 mm
Lateral force limit	50 %FS
Material	Stainless steel
Natural frequency	5 kHz
Height	16 mm
Length or Diameter	55 mm

Electrical Data

Input resistance	780 Ohm
Tolerance input resistance	80 ±
Output resistance	700 Ohm
Tolerance output resistance	10 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	1%
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

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

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

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.

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 strain gauges. 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 strain gauges. 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 strain gauges. 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	