

KM12 5kN



Description

The KM12 is an ultraminiature membrane force sensor.

The force is introduced via the calotte (diameter 3mm, R15) in the center of the sensor.

The force sensor is mounted on a flat surface. The centering of the force sensor takes place at the outside range, for example with 3 pens or by a 0.5mm deep flat reduction. The 9.8mm – 7.4mm ring forms the sensor's riot surface. In the center up to diameter 7.4mm, a casting mass is visible. The inner ring is not used for centering.

For heb-securing, the riot surface can be fixed with PUR varnish on a flat surface. Due to the small dimensions, a cable with an external diameter of only 1.4mm is used. The processing of the litts AWG36 requires special tools (scalpel, Hoffmann Abisolierer-AWG36-26). The polyurethane coat is intended exclusively for fixed installation, not for mobile use.

Alternatively, a version with a central cable finish is available (cable type: MESC-4x0014, PUR coat)

Technical Data

Force sensor

Type	Load cell
Force direction	Compression
Rated force F _x	5 kN
Force introduction	Load button
Dimension 1	R15, Ø3 mm
Sensor Fastening	Circular ring
Operating force	150 %FS
Rated displacement	0.08 mm
Lateral force limit	10 %FS
Material	Stainless steel
Natural frequency	5 kHz
Height	7.5 mm
Length or Diameter	12 mm

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	20 Ohm
Output resistance	350 Ohm
Tolerance output resistance	20 Ohm
Insulation resistance	2 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 5 V
characteristic value range min	0.7 mV/V
characteristic value range max	0.9 mV/V

Precision

Accuracy class	0,5%
Relative linearity error	0.5 %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	MESC-4x0014-PUR
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.

Compressive load : positive output signal