Force Sensor KR34 22/10/50kN

Item number: 16994

Highlights

- Hardness HRC 62...64
- ground contact surfaces
- rated force 50 kN
- inner diameter 10.3 mm
- outer diameter 22 mm

The KR34 ring force sensors are suitable for measuring prestressing forces in cables, e.g., for applications measuring force in prestressed concrete.

The contact surfaces are ground flat and parallel, and the material 1.2379 (X153CrMoV12) is hardened to HRC 62-64. The sensor is characterized by a very small outer diameter. Therefore, a Kevlar-sheathed flat ribbon cable is used as the connecting cable, which is tangentially bonded to the sensor body and covered with heat-shrink tubing. The M12 circular connector allows the connecting cable to be extended to the desired length using a standard sensor-actuator cable from the "M12" series.

The GSV-6T3 M12/CAN three-channel measuring amplifiers, which connect via M12 sockets, are particularly suitable for connection. By connecting multiple measuring amplifiers in a line configuration via the CAN bus, a cost-effective and robust multi-channel measuring system for the construction site can be implemented. Software such as GSVmulti or GSVgrid is used for data acquisition.

Optional special version

- Pressure range up to 8 bar

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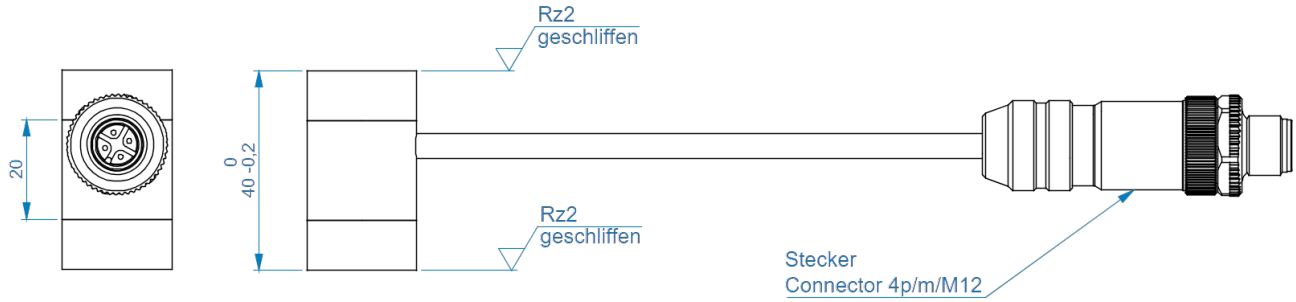
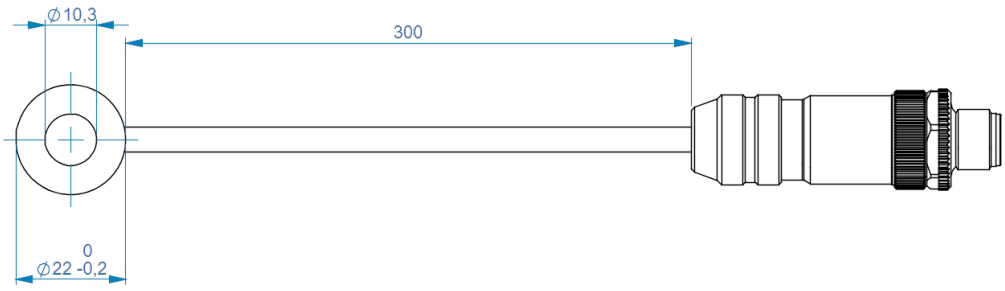
Stand: 15.04.2026

Technical Drawing





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Technical Data

Basic Data		Unit
Type	Kraftsensor	
Force direction	Compression	
Rated force Fx	50	kN
Force introduction	Fläche	
Dimension 1	Ø22x6	
Sensor Fastening	Ringfläche	
Operating force	150	%FS
Rated displacement	0.05	mm
Material	tool steel	
Natural frequency fx	10	kHz
Dimensions	Ø22 x 40... Ø39 x 40	mm²
Height	40	mm
Length or Diameter	22	mm
Variants	50 kN ... 250 kN	

Electrical Data		Unit
Input resistance	700	Ohm
Tolerance input resistance	10	Ohm
Output resistance	700	Ohm
Tolerance output resistance	10	Ohm
Insulation resistance	2	GOhm
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 tolerance	0.05	mV/V
Characteristic value range from	2.5	mV/V
Characteristic value range to	3.5	mV/V

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Accuracy Data		Unit
Accuracy class	1	
Relative linearity error	0.2	%FS
Relative zero signal hysteresis	0.1	%FS
Temperature effect on zero signal	0.02	%FS/K
Temperature effect on characteristic value	0.02	%RD/K
Relative creep	0.1	%FS
Environmental Data		**Unit**
Rated temperature range from	-5	°C
Rated temperature range to	70	°C
Operating temperature range from	-20	°C
Operating temperature range to	85	°C
Environmental protection	IP66	

Abbreviation: RD: „Reading“; FS: „Full Scale“;
1) The exact nominal sensitivity is indicated in the test report;
2) Temperature range information refers to cables in the moving state. Possible with cable at rest down to -30°C.

Pin Assignment

Channel	Symbol	Description	Wire color	PIN
	+Us	positive bridge supply	brown	1
	-Us	negative bridge supply	white	2
	+Ud	positive bridge signal	green	3
	-Ud	negative bridge signal	yellow	4

Compressive load: positive output signal. Shield connected to sensor housing.

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