

KS180 15kN, 20kN, 30kN



Description

The KS180 force sensor is suitable for measuring forces between two bearing surfaces.

For example, this force sensor is used to measure the bearing force of pedestal bearings. The dimensions of the force sensor match the standard "LASE" pedestal bearing housing units by INA.

Other dimensions can be produced on request according to designs.



Technical Data

Kraftsensoren

| | |
|--------------------|-----------------------|
| Type | Force sensor |
| Force direction | Tension / Compression |
| Force introduction | Inner thread |
| Dimension 1 | 2xM12x1,75 |
| Sensor Fastening | Inner thread |
| Dimension 2 | 2xM12x1,75 |
| Operating force | 150 %FS |
| Rated displacement | 0.1 mm |
| Surface | electrogalvanized |

Elektrische Daten

| | |
|---|-----------------------|
| Input resistance | 390 Ohm |
| Tolerance input resistance | 40 ± |
| Output resistance | 350 Ohm |
| Insulation resistance | 2x10 ⁹ Ohm |
| 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 | 0,1% |
| Relative linearity error | 0.1 %FS |
| Relative zero signal hysteresis | 0.1 %FS |
| Temperature effect on zero signal | 0.01 %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 | 2x2x0,25/PUR |
| Cable length | 5 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 | IP65 |

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

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








Pin Configuration

| Channel | 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.

Pressure load: positive output signal

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-2T SD-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 (IP54) for sensors with strain gauges. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V. |
|  | GSV-6K | analog amplifier pcb for sensors with strain gauges. Analog output configurable; sampling frequency is 10Hz ... 25kHz, input sensitivity adjustable 0.1 mV / V ... 8 mV / V |