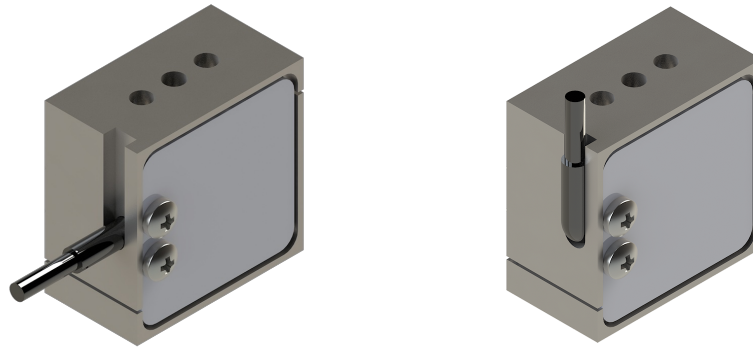


KD18s



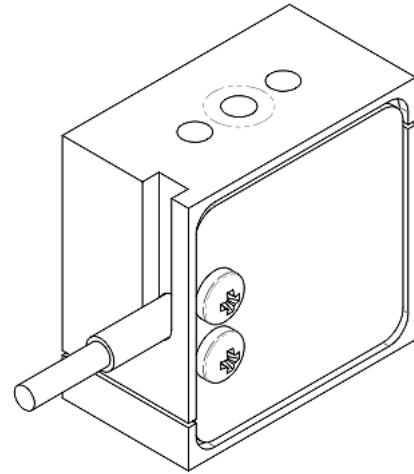
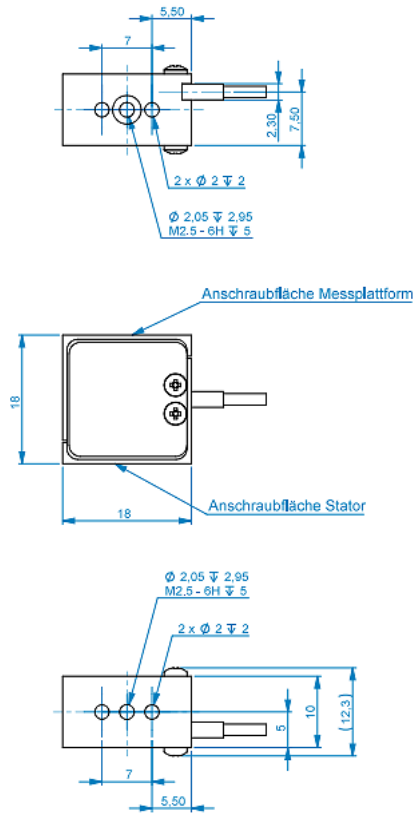
Highlights

- Ultraminiature version
- S-Form tension and compression sensor
- integrated overload protection
- radial or axial cable outlet

Description

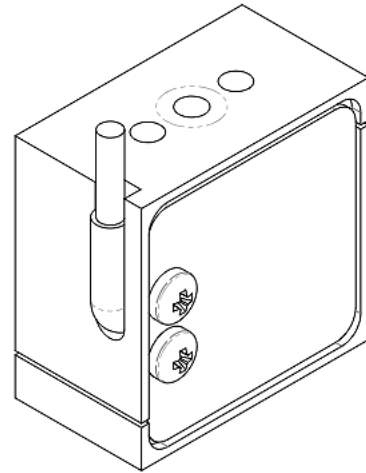
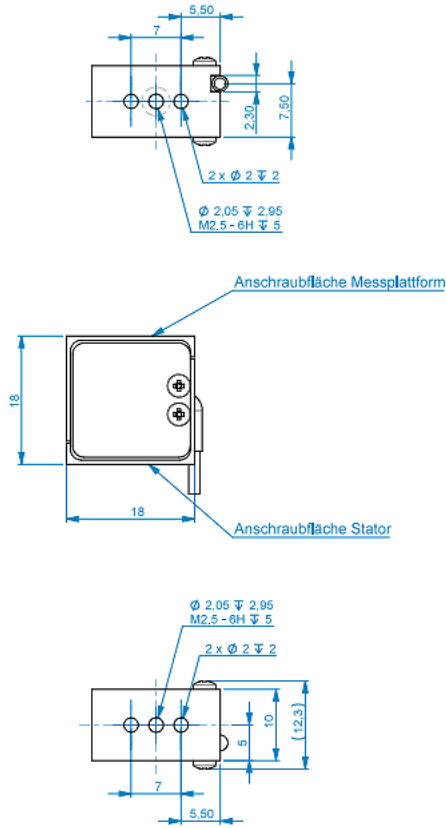
The KD18s ultra-miniature force sensor has been specially designed to measure the smallest forces for tensile and compressive measurements. Thanks to the integrated protection against overload, this force sensor is still safe to use even in the measuring range of 100 mN. The robust titanium was used to manufacture the smallest version with 100 mN. Depending on the customer application, the KD18s force sensor is offered in two versions: with the side and the vertical cable outlet.

Dimensions



Variante mit Kabel horizontal

Dimensions



Variante mit Kabel vertikal

Technical Data - Version 0,1N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	0,1 N
Force introduction	Inner thread
Dimension 1	M2,5
Sensor Fastening	Inner thread
Dimension 2	M2,5
Operating force	200 %FS
Rated displacement	0,2 mm
Lateral force limit	100 %FS
Material	titanium
Natural frequency	1 kHz
Height	18 mm
Length or Diameter	18 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	1,5 Ohm
Insulation resistance	5 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	0,5 mV/V / FS

Precision

Relative linearity error	0,02 %FS
Relative zero signal hysteresis	0,02 %FS
Temperature effect on zero signal	0,02 %FS/K
Temperature effect on characteristic value	0,01 %RD/K
Relative creep	0,1 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-32T-4
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	IP65

Technical Data - Version 2N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	2 N
Force introduction	Inner thread
Dimension 1	M2,5
Sensor Fastening	Inner thread
Dimension 2	M2,5
Operating force	200 %FS
Rated displacement	0.2 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	1 kHz
Height	18 mm
Length or Diameter	18 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	1.5 Ohm
Insulation resistance	5 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	0.5 mV/V / FS

Precision

Relative linearity error	0.02 %FS
Relative zero signal hysteresis	0.02 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-32T-4
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	IP65

Technical Data - Version 10N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	10 N
Force introduction	Inner thread
Dimension 1	M2,5
Sensor Fastening	Inner thread
Dimension 2	M2,5
Operating force	200 %FS
Rated displacement	0.2 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	1 kHz
Height	18 mm
Length or Diameter	18 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	1.5 Ohm
Insulation resistance	5 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	0.5 mV/V / FS

Precision

Relative linearity error	0.02 %FS
Relative zero signal hysteresis	0.02 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-32T-4
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	IP65








Pin Configuration

Symbol	Description	Wire colour
+Us	positive bridge supply	red
-Us	negative bridge supply	black
+Ud	positive bridge output	green
-Ud	negative bridge output	white

Pressure load: positive output signal.

Shield- transparent.

accessories

Description	Description
 <p>Calibration Certificate kn/20/5</p>	<p>Factory calibration certificate for force to 20 kN in accordance with DIN EN ISO / IEC 17025 and ISO 9000 for test materials monitoring according to DIN ISO 9001: 2008 with 5 load levels and 3 series of measurements.</p> <p>Compressive Force</p>
 <p>GSV-2TSD-DI</p>	<p>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.</p>
 <p>GSV-6K</p>	<p>Analogue measuring amplifier in plug housing for sensors with strain gauges. Analogue output configurable, TEDS, sampling frequency 1Hz ... 25kHz, input sensitivity configurable 0.1mV/V ... 8mV/V</p>
 <p>GSV-3USB</p>	<p>Measuring amplifier in aluminum housing for sensors with strain gauges. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V.</p>
 <p>GSV-1H</p>	<p>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.</p>