

KD34s $\pm 250\text{mN}$, $\pm 500\text{mN}$, $\pm 1\text{N}$, $\pm 2\text{N}$, $\pm 5\text{N}$, $\pm 10\text{N}$



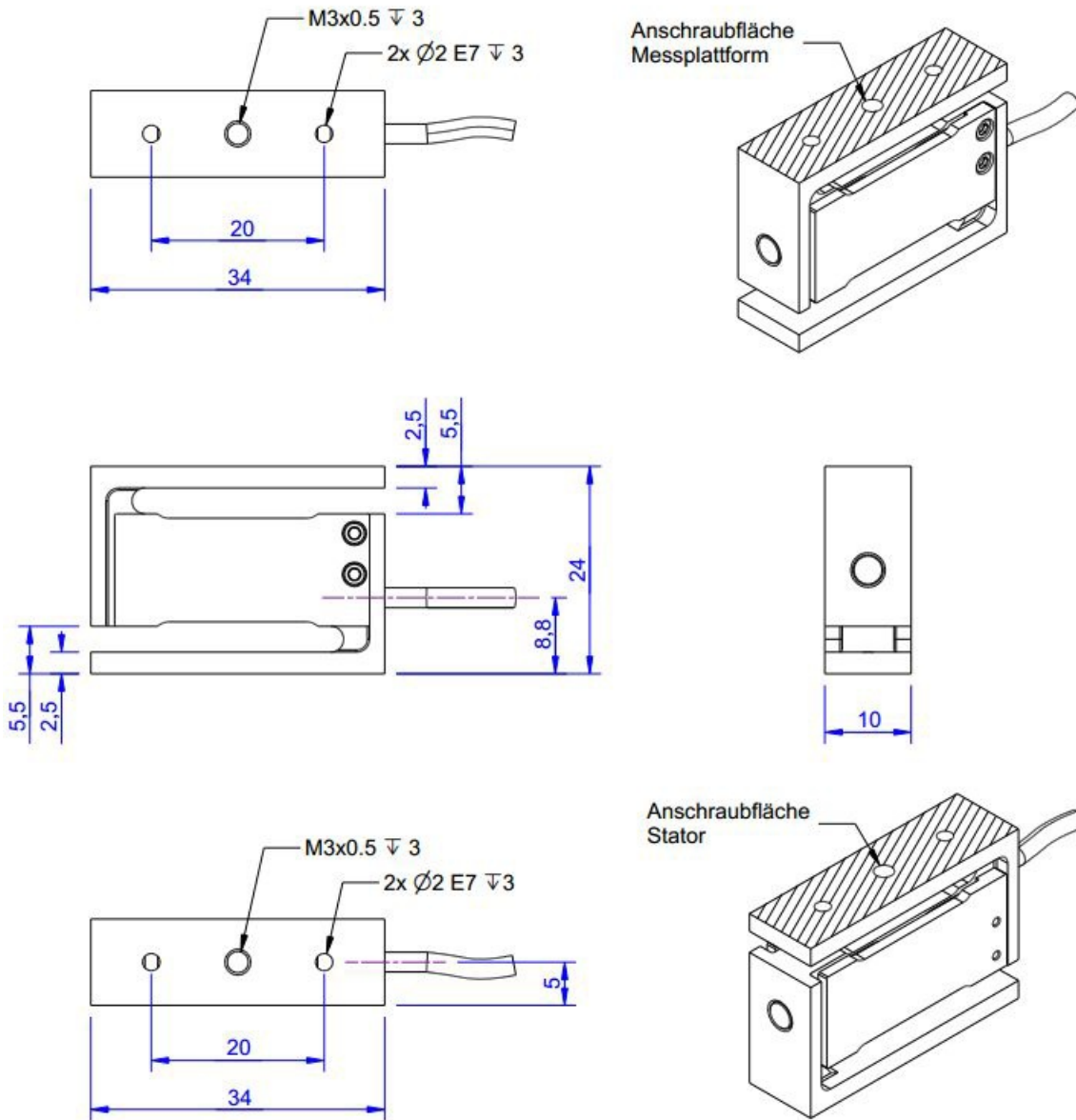
Description

The force sensor KD34s was specially designed for measuring of the smallest forces. Due to integrated stop against overload is this sensor also in measuring range of 0,25 N and 0,5 N even safer to use. In the 0,5 N version special strain gauges of platinum-nickel alloy are used with higher input sensitivity by factor 2 to conventional strain gauges of constantan.

The measured displacement is therefore not more than 0,25mm at 0,5N.

In addition to M3 threads for the force transmission, force sensor also has boreholes diameter $\varnothing 2$, which are used for orientation of the force sensor or for mounting of adapters.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Force introduction	Inner thread
Dimension 1	M3x0,5
Sensor Fastening	Inner thread
Dimension 2	M3x0,5
Operating force	200 %FS
Rated displacement	0.2 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	1 kHz
Height	24 mm
Length or Diameter	34 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 ±
Output resistance	350 Ohm
Tolerance output resistance	1.5 ±
Insulation resistance	5x10 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	0.5 mV/V / FS

Precision

Accuracy class	0,1%
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-31V-4
Cable length	2 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;

Pressure load: positive output signal



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.*



Manual

Recommended Amplifier Series for the measurements of low forces: GSV-2

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. Compressive Force</p>
 <p>GSV-2TSD-DI</p>	<p>Measuring amplifier in desktop-housing for sensors with straingages. Serial port RS232, USB port, analogue output -5V...+5V, limiting frequency 260Hz, input sensitivity 3.5mV/V.</p>
 <p>GSV-3USB</p>	<p>Measuring amplifier in aluminum housing (IP54) for sensors with straingages. 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 straingages. Analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0mV/V.</p>