

KD24s $\pm 2\text{N}$, $\pm 10\text{N}$, $\pm 20\text{N}$, $\pm 50\text{N}$, $\pm 100\text{N}$, $\pm 200\text{N}$, $\pm 500\text{N/VA}$, $\pm 1\text{kN/VA}$



Description

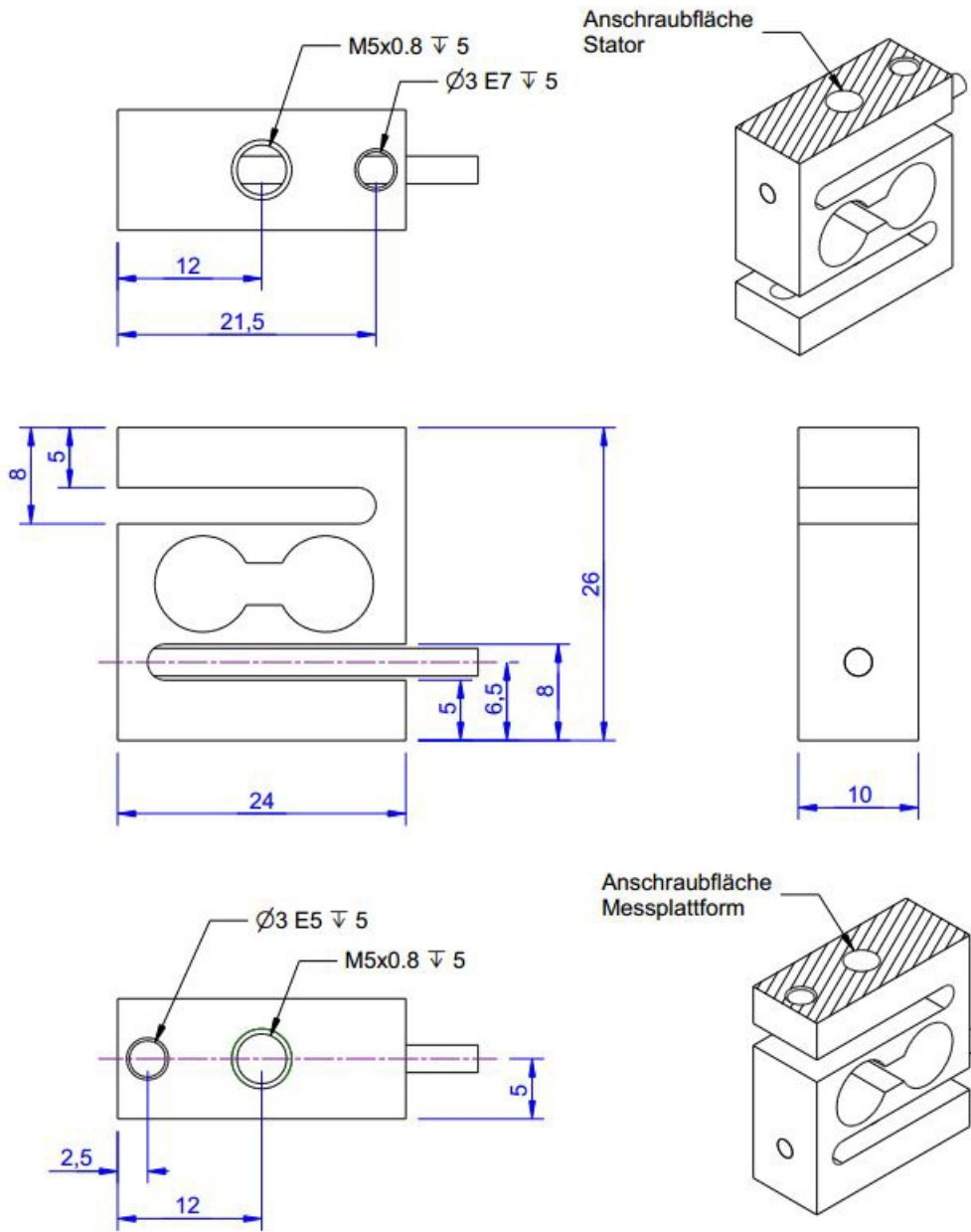
The force sensor KD24S is the smallest s-shaped force sensor. It is excellently suited for testing tasks in quality assurance as well as in material testing. Inward and outward force transmission are arranged centrally. Under loading the force transmission brackets are moved parallel.

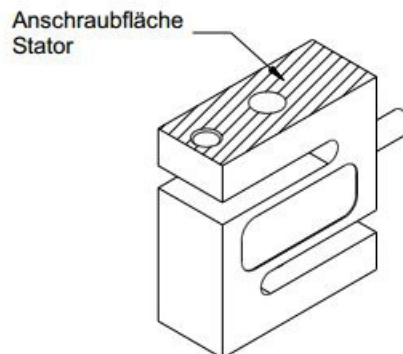
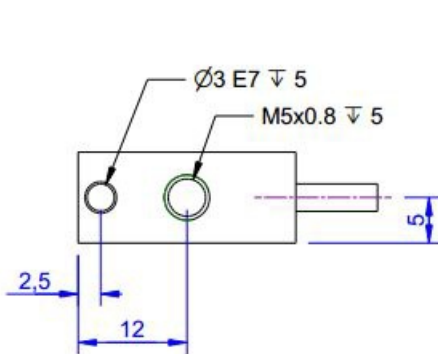
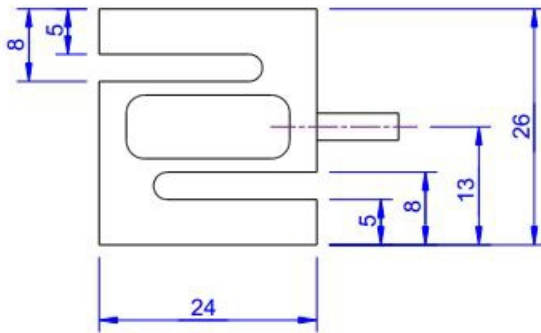
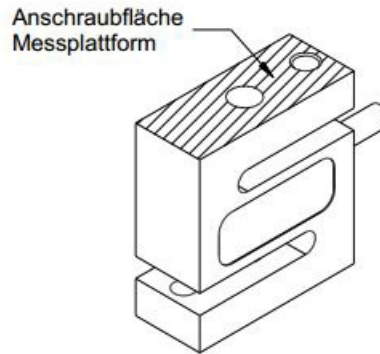
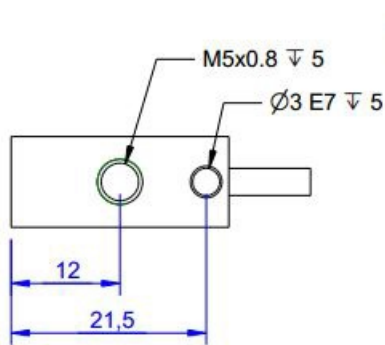
Like the KD40s the force sensor KD24S is constructed as a multi-range sensor. The accuracy of 0.1% is already reached at an output of 0.5 mV/V.

Sensors from 2 to 20N can be operated with 4 times and sensors from 50 to 100N with two times their nominal force range.

It is recommended to fix the sensor cable side (bottom side on picture) on the non-moving side of force transmission.

Dimensions





Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Force introduction	Inner thread
Dimension 1	M5x0,8
Sensor Fastening	Inner thread
Dimension 2	M5x0,8
Operating force	200 %FS
Rated displacement	0.075 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	2 kHz
Height	26 mm
Length or Diameter	24 mm

Electrical Data

Input resistance	440 Ohm
Tolerance input resistance	50 Ohm
Output resistance	350 Ohm
Tolerance output resistance	2 Ohm
Insulation resistance	2 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

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“;
The exact characteristic value is indicated in the test report;*







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
	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 straingages. Analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0mV/V.
	GSV-2TSD-DI	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.
	GSV-3USB	Measuring amplifier in aluminum housing (IP54) for sensors with straingages. Limiting frequency 1250Hz, input sensitivity 2 / 3,5 / 10 mV/V.