

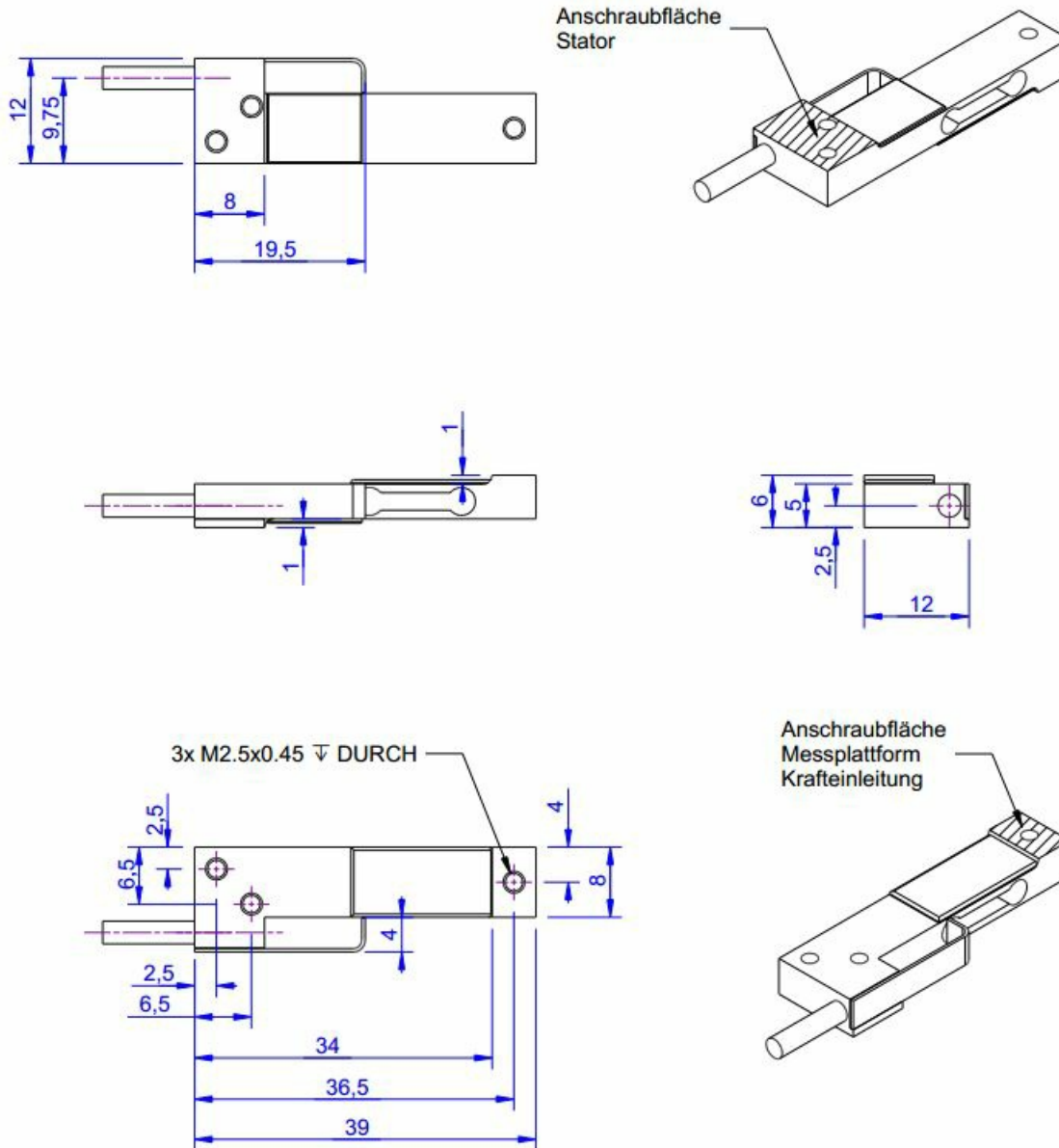
KD39 $\pm 5\text{N}$ à $\pm 20\text{N}$



Description

The force sensor KD39 is especially suitable for integration in flat measuring platforms, due to its only 6mm height and 12mm width. In measuring platforms three pieces of KD39 have a measuring plate.

Dimensions



Technical Data - Version ±5N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force Fx	5 N
Force introduction	Inner thread
Dimension 1	M2,5x0,45
Sensor Fastening	Inner thread
Dimension 2	M2,5x0,45
Operating force	200 %FS
Rated displacement	0.1 mm
Lateral force limit	200 %FS
Material	Aluminium alloy
Natural frequency	2 kHz
Height	6 mm
Length or Diameter	39 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	3 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	1 mV/V
characteristic value range min	0.9 mV/V
characteristic value range max	1.3 mV/V

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	1 m

Temperature

Rated temperature range f	-10 ... 70 °C
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Technical Data - Version ±10N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force Fx	10 N
Force introduction	Inner thread
Dimension 1	M2,5x0,45
Sensor Fastening	Inner thread
Dimension 2	M2,5x0,45
Operating force	200 %FS
Rated displacement	0.1 mm
Lateral force limit	200 %FS
Material	Aluminium alloy
Natural frequency	2 kHz
Height	6 mm
Length or Diameter	39 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	3 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	1 mV/V
characteristic value range min	0.9 mV/V
characteristic value range max	1.3 mV/V

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	1 m

Temperature

Rated temperature range f	-10 ... 70 °C
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Technical Data - Version ±20N

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force Fx	20 N
Force introduction	Inner thread
Dimension 1	M2,5x0,45
Sensor Fastening	Inner thread
Dimension 2	M2,5x0,45
Operating force	200 %FS
Rated displacement	0.1 mm
Lateral force limit	200 %FS
Material	Aluminium alloy
Natural frequency	2 kHz
Height	6 mm
Length or Diameter	39 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	3 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	1 mV/V
characteristic value range min	0.9 mV/V
characteristic value range max	1.3 mV/V

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	1 m

Temperature

Rated temperature range f	-10 ... 70 °C
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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

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-1A	Measuring amplifier in aluminum housing (IP66) for sensors with straingages. two round plugs M12, analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0 mV/V.
	GSV-6K	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