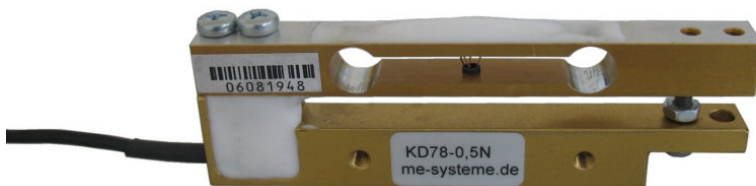


KD78 500mN ±500mN



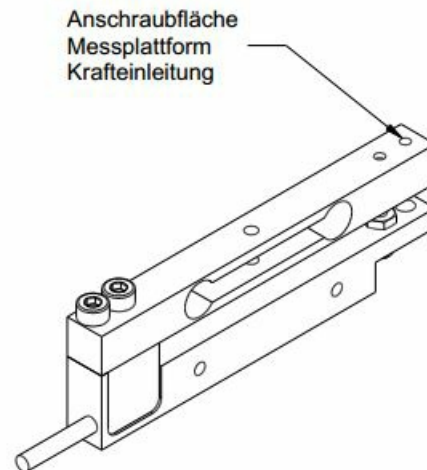
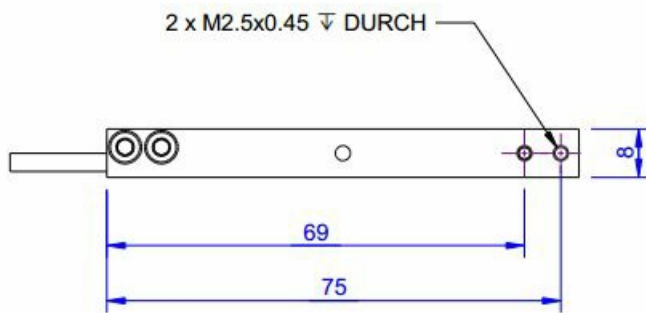
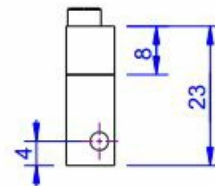
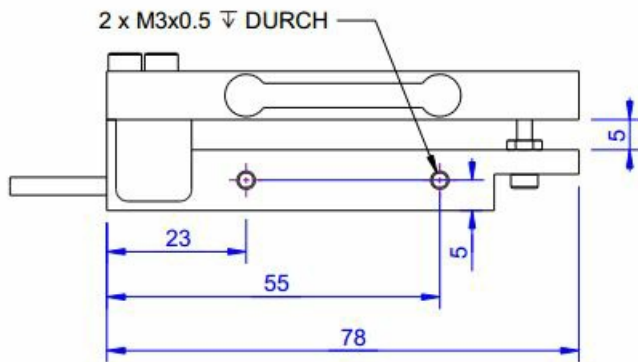
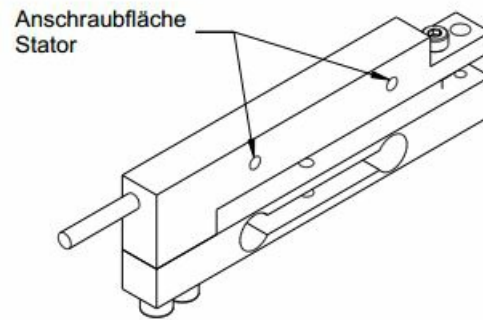
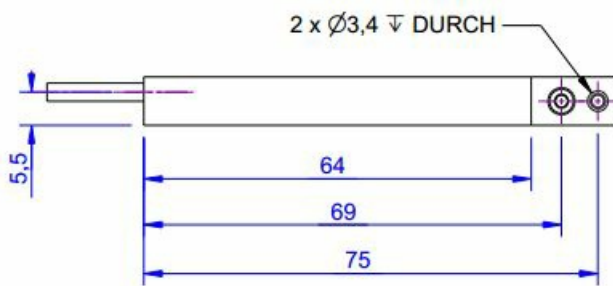
Description

The force sensor KD78 is used for force measurement in the millinewton range or for weighing purposes with a resolution of approx. 10 mg.

Due to the sensor's low weight and its high natural frequency of approx. 400Hz, high measurement rates of up to 50Hz can be realized despite the low measurement range of 0.5 newton. Also filtering in order to refine resolution can be conducted.

The best possible resolution is achieved with the 24bit measuring amplifier GSV-2.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	500 mN
Force introduction	Inner thread
Dimension 1	2xM2,5x0,45
Sensor Fastening	Inner thread
Dimension 2	2xM3x0,5
Operating force	200 %FS
Rated displacement	0.25 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	500 Hz
Height	23 mm
Length or Diameter	78 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 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 / FS
characteristic value range min	0.6 mV/V
characteristic value range max	1.2 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	0.1 %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 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.