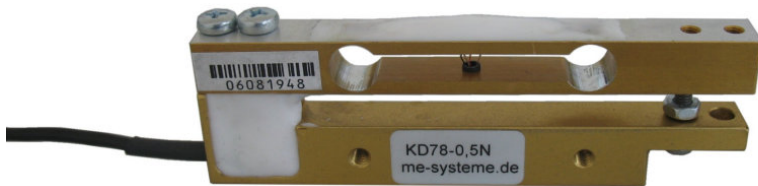


KD78 500mN \pm 500mN



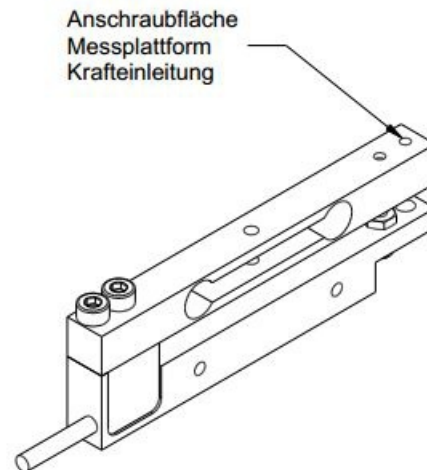
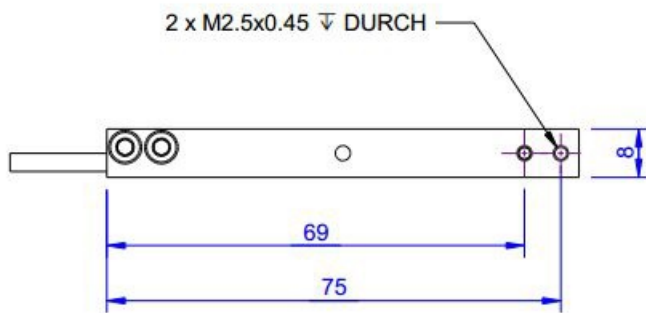
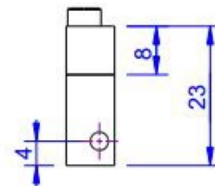
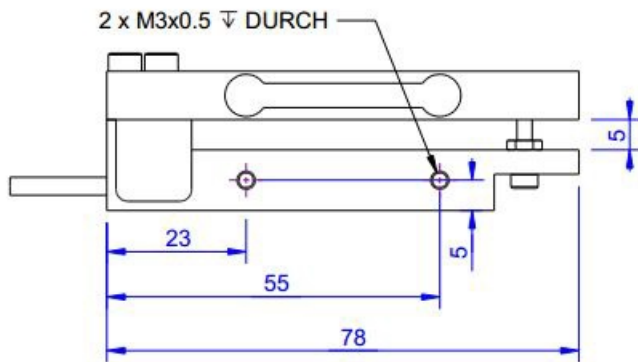
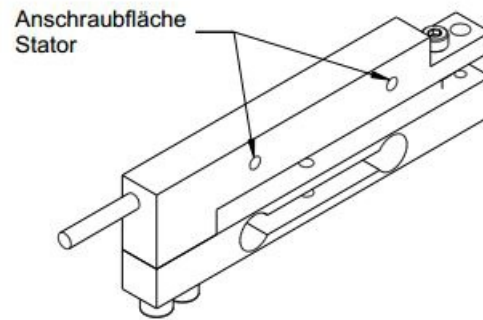
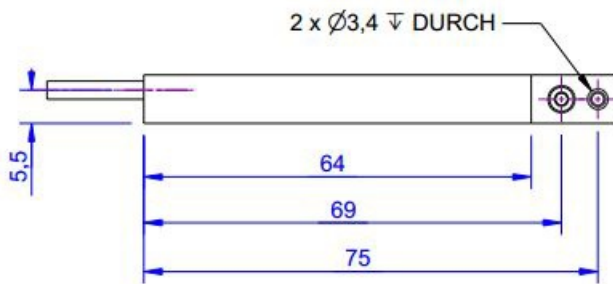
Description

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 Fx | 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 | 2x10 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 | 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 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. |