

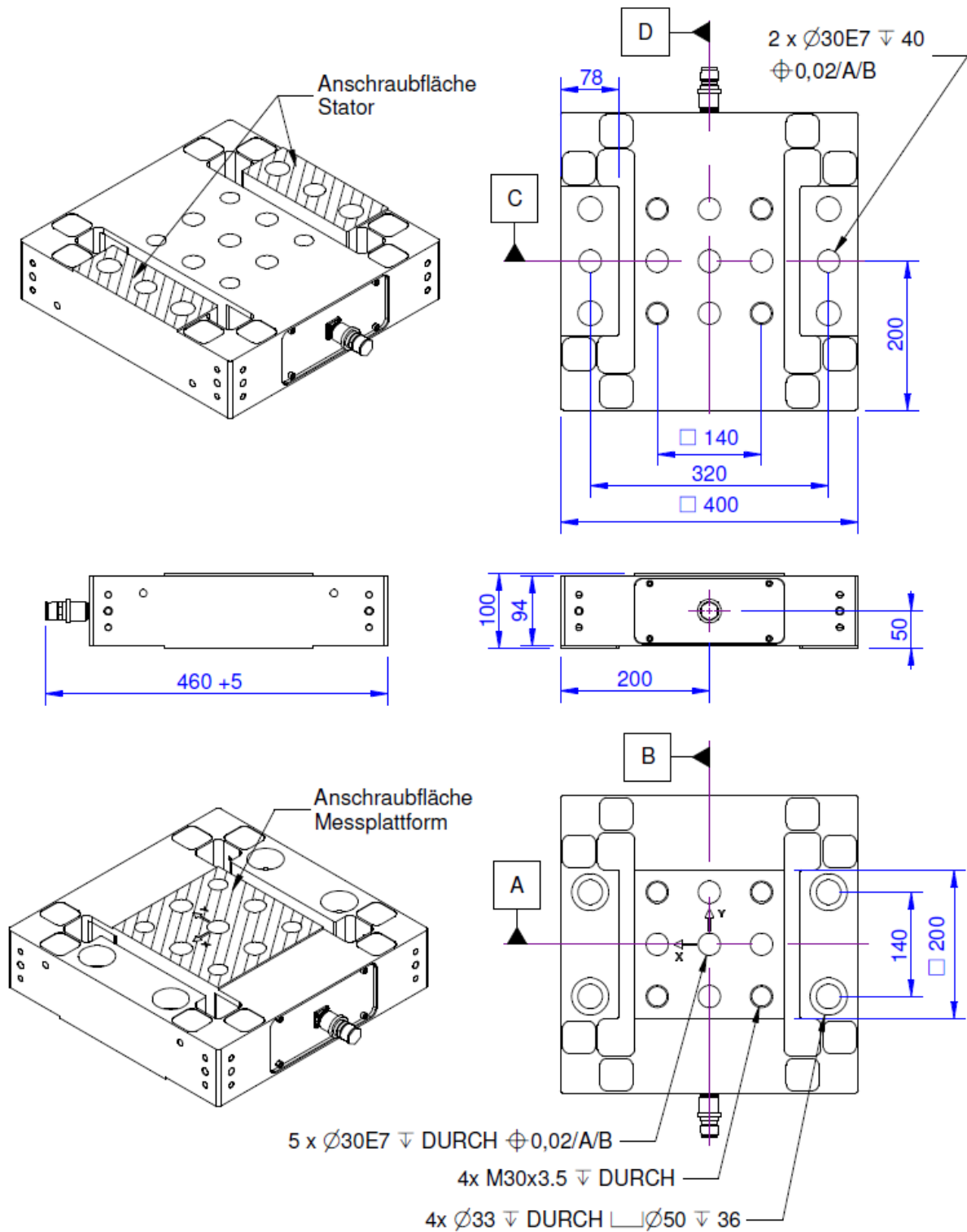
K3D400 500kN ±500kN



Description

The 3-axis sensor K3D400 is suitable for measuring force in three perpendicular axes. Force is applied onto the 200mm x 200mm platform. A test-specimen can be installed on this surface with four M30 screws. The bottom of the sensor is fixed to the bottom with four M30 screws. The screw-mounting surfaces must end flush with the sensor.

Dimensions





Technical Data

Kraftsensoren

| | |
|----------------------|-----------------------|
| Type | 3-axis force sensor |
| Force direction | Tension / Compression |
| Rated force Fx | 500 kN |
| Rated force Fy | 500 kN |
| Rated force Fz | 500 kN |
| Force introduction | Inner thread |
| Dimension 1 | 4xM30x3,5 |
| Sensor Fastening | Through bore |
| Dimension 2 | 4xØ33 |
| Operating force | 150 %FS |
| Rated displacement | 0.3 mm |
| Material | Tool steel |
| Surface | electrogalvanized |
| Natural frequency | 10 kHz |
| Height | 100 mm |
| Length or Diameter | 400 mm |
| Torque limit | 15 kNm |
| Bending moment limit | 15 kNm |

Elektrische Daten

| | |
|---|-----------------------|
| Zero signal | 0.05 mV/V |
| Rated range of excitation voltage f | 2.5 ... 5 V |
| Operating range of excitation voltage f | 1 ... 10 V |
| Input resistance x-axis | 350 Ohm |
| Output resistance x-axis | 350 Ohm |
| Input resistance y-axis | 350 Ohm |
| Output resistance y-axis | 350 Ohm |
| Input resistance z-axis | 350 Ohm |
| Output resistance z-axis | 350 Ohm |
| Insulation resistance | 5x10 ⁹ Ohm |
| Tolerance input resistance | 5 Ohm |
| Tolerance output resistance | 5 Ohm |

Precision



| | |
|--|------------|
| Accuracy class | 1% |
| Relative linearity error | 0.2 %FS |
| Relative zero signal hysteresis | 0.02 %FS |
| Temperature effect on zero signal | 0.02 %FS/K |
| Temperature effect on characteristic value | 0.02 %RD/K |
| Relative creep | 0.1 %FS |

Connection Data

| | |
|------------------------|---|
| Connection type | 12 conductor open |
| Name of the connection | Unitronic FD CP (TP) Plus 6 x 2 x 0,14 |
| Cable length | 5 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 | IP67 |

Exzentrizität und Übersprechen

| | |
|---------------------------------------|---------------|
| Influence of eccentric load to FS | 1 %FS / 500Nm |
| Crosstalk from x to y at rated load | 1 %FS |
| Crosstalk from y to x at rated load | 1 %FS |
| Crosstalk from z to x/y at rated load | 1 %FS |
| Crosstalk from x/y to z at rated load | 2 |

Abbreviation : RD: „Reading“; FS: „Full Scale“;

1. The exact sensitivity is indicated in the test report;







Pin Configuration

| Channel | Symbol | Description | Wire colour | PIN |
|---------|--------|---------------|-------------|-----|
| X-Axis | +Us | sensor supply | brown | 2 |
| | -Us | sensor supply | white | 1 |
| | +Ud | bridge output | green | 3 |
| | -Ud | bridge output | yellow | 4 |
| Y-Axis | +Us | sensor supply | pink | 6 |
| | -Us | sensor supply | grey | 5 |
| | +Ud | bridge output | blue | 7 |
| | -Ud | bridge output | red | 8 |
| Z-Axis | +Us | sensor supply | purple | 10 |
| | -Us | sensor supply | black | 9 |
| | +Ud | bridge output | grey / pink | 11 |
| | -Ud | bridge output | red / blue | 12 |

Pressure load: positive output signal.

Shield- transparent.

accessories

| | Description | Description |
|--|-------------------------|---|
|  | Calibration Certificate | Factory calibration certificate for force from 201 kN to 1000 MN in accordance with DIN EN ISO / IEC 17025 for test materials monitoring according to DIN ISO 9001: 2008 with 5 load kn/1000/5/K3D levels and 3 series of measurements. |
|  | K3D-Transportation-Box | High-quality transport box for the 3-axis force sensor K3D400; |
|  | GSV-1A4 SubD37/2 | 4-channel strain gauge measuring amplifier for sensors with strain gauges. Adaptation of the sensor via <u>Sub-D-37 connector</u> . Output $\pm 10V$ and 4 ... 20mA via 15-pin SUB-D (female); Input sensitivity 2mV/V; |
|  | GSV-4USB SubD37 | 4-channel strain measurement amplifier with USB port with configurable input for strain gauges, temperature sensors, active sensors, displacement sensors and other sensors. Sensor connection via 1 piece Sub D37 connector |