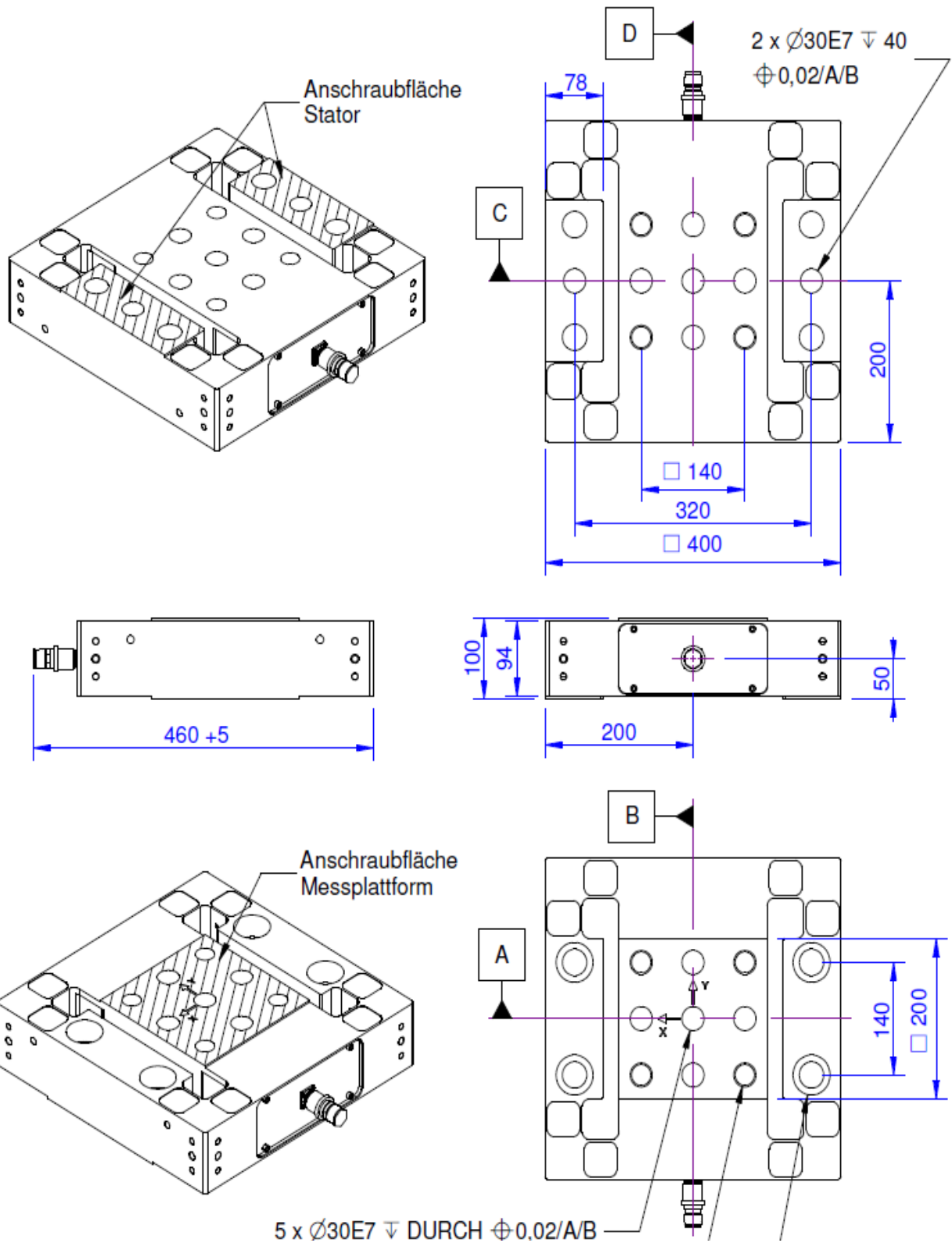




Description

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

Force sensor	
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

Electrical Data

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	0,5%
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 Unitronic FD CP (TP) Plus 6 x 2 x
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Name of the connection	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

Eccentricity and Crosstalk

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 kn/1000/5/K3D	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 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