



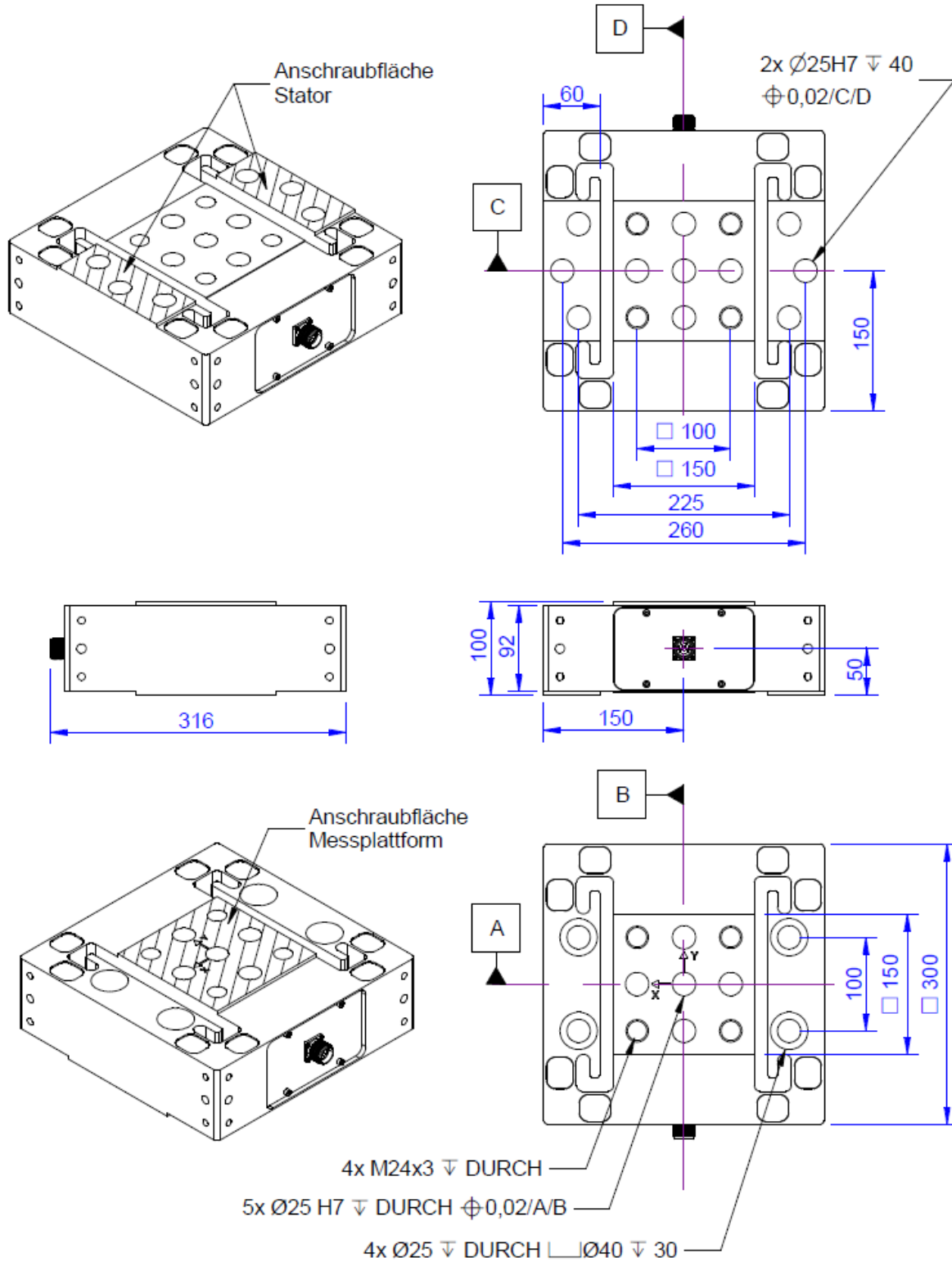
Description

The 3-axis sensor K3D300 is suitable for measuring force in three mutually perpendicular axes. Force is applied from the 150 mm x 150 mm recess. A component can be installed on this surface with four M24 screws. The bottom of the sensor is fixed to the bottom with four M24 screws. The screw-mounting surfaces must end flush with the sensor.

Technical characteristics

Modèles	K3D300 (±50kN)	K3D300 (±100kN)	K3D300 (±200kN)
Fx [kN]	50	100	200
Fy [kN]	50	100	200
Fz [kN]	50	100	200
Connectique	Connecteur	Connecteur	Connecteur
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Dimensions



K3D300_±50kN.pdf | K3D300_±100kN.pdf | K3D300_±200kN.pdf

Specification : Model K3D300 - ± 50 kN

Force sensor	
Type	3-axis force sensor
Force direction	Tension / Compression
Rated force Fx	50 kN
Rated force Fy	50 kN
Rated force Fz	50 kN
Force introduction	Inner thread
Dimension 1	4xM24x3
Sensor Fastening	Through bore
Dimension 2	4x $\varnothing 25$
Operating force	150 %FS
Rated displacement	0.2 mm
Material	Tool steel
Surface	electrogalvanized
Natural frequency	5 kHz
Height	100 mm
Length or Diameter	300 mm
Torque limit	4 kNm
Bending moment limit	4 kNm

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	Connector
Name of the connection	M23 Binder 623 Flanschstecker; inkl. Stecker mit Anschlusskabel
Cable length	5 m

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

Temperature	
Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C

Specification : Model K3D300 - $\pm 50\text{kN}$

Storage temperature range f	-10 ... 85 °C
Environmental protection	IP67

Electrical Data

Zero signal	0.1 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	700 Ohm
Output resistance x-axis	700 Ohm
Input resistance y-axis	700 Ohm
Output resistance y-axis	700 Ohm
Input resistance z-axis	350 Ohm
Output resistance z-axis	350 Ohm
Insulation resistance	5 GOhm
Tolerance input resistance	5 Ohm
Tolerance output resistance	5 Ohm

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

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

Specification : Model K3D300 - ±100kN

Force sensor

Type	3-axis force sensor
Force direction	Tension / Compression
Rated force Fx	100 kN
Rated force Fy	100 kN
Rated force Fz	100 kN
Force introduction	Inner thread
Dimension 1	4xM24x3
Sensor Fastening	Through bore
Dimension 2	4xØ25
Operating force	150 %FS
Rated displacement	0.2 mm
Material	Tool steel
Surface	electrogalvanized
Natural frequency	8 kHz
Height	100 mm
Length or Diameter	300 mm
Torque limit	8 kNm
Bending moment limit	8 kNm

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	Connector
Name of the connection	M23 Binder 623 Flanschstecker; inkl. Stecker mit Anschlusskabel
Cable length	5 m

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

Temperature

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C

Specification : Model K3D300 - $\pm 100\text{kN}$

Storage temperature range f	-10 ... 85 °C
Environmental protection	IP67

Electrical Data

Zero signal	0.1 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	700 Ohm
Output resistance x-axis	700 Ohm
Input resistance y-axis	700 Ohm
Output resistance y-axis	700 Ohm
Input resistance z-axis	350 Ohm
Output resistance z-axis	350 Ohm
Insulation resistance	5 GOhm
Tolerance input resistance	5 Ohm
Tolerance output resistance	5 Ohm

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

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

Specification : Model K3D300 - ±200kN

Force sensor	
Type	3-axis force sensor
Force direction	Tension / Compression
Rated force Fx	200 kN
Rated force Fy	200 kN
Rated force Fz	200 kN
Force introduction	Inner thread
Dimension 1	4xM24x3
Sensor Fastening	Through bore
Dimension 2	4xØ25
Operating force	150 %FS
Rated displacement	0.2 mm
Material	Tool steel
Surface	electrogalvanized
Natural frequency	10 kHz
Height	100 mm
Length or Diameter	300 mm
Torque limit	12 kNm
Bending moment limit	12 kNm

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	Connector
Name of the connection	M23 Binder 623 Flanschstecker; inkl. Stecker mit Anschlusskabel
Cable length	5 m

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

Temperature	
Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C

Specification : Model K3D300 - $\pm 200\text{kN}$

Storage temperature range f	-10 ... 85 °C
Environmental protection	IP67

Electrical Data

Zero signal	0.1 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	700 Ohm
Output resistance x-axis	700 Ohm
Input resistance y-axis	700 Ohm
Output resistance y-axis	700 Ohm
Input resistance z-axis	350 Ohm
Output resistance z-axis	350 Ohm
Insulation resistance	5 GOhm
Tolerance input resistance	5 Ohm
Tolerance output resistance	5 Ohm

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

1. The exact nominal 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/200/5/K3D	Factory calibration certificate for force from 21 kN to 200 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.
	K3D-Transportation-Box	High-quality transport box for the force sensor K3D300;
	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