

## K3D60a $\pm 10\text{N}$ , $\pm 20\text{N}$ , $\pm 50\text{N}$ , $\pm 100\text{N}$ , $\pm 200\text{N}$ , $\pm 500\text{N}$



### Description

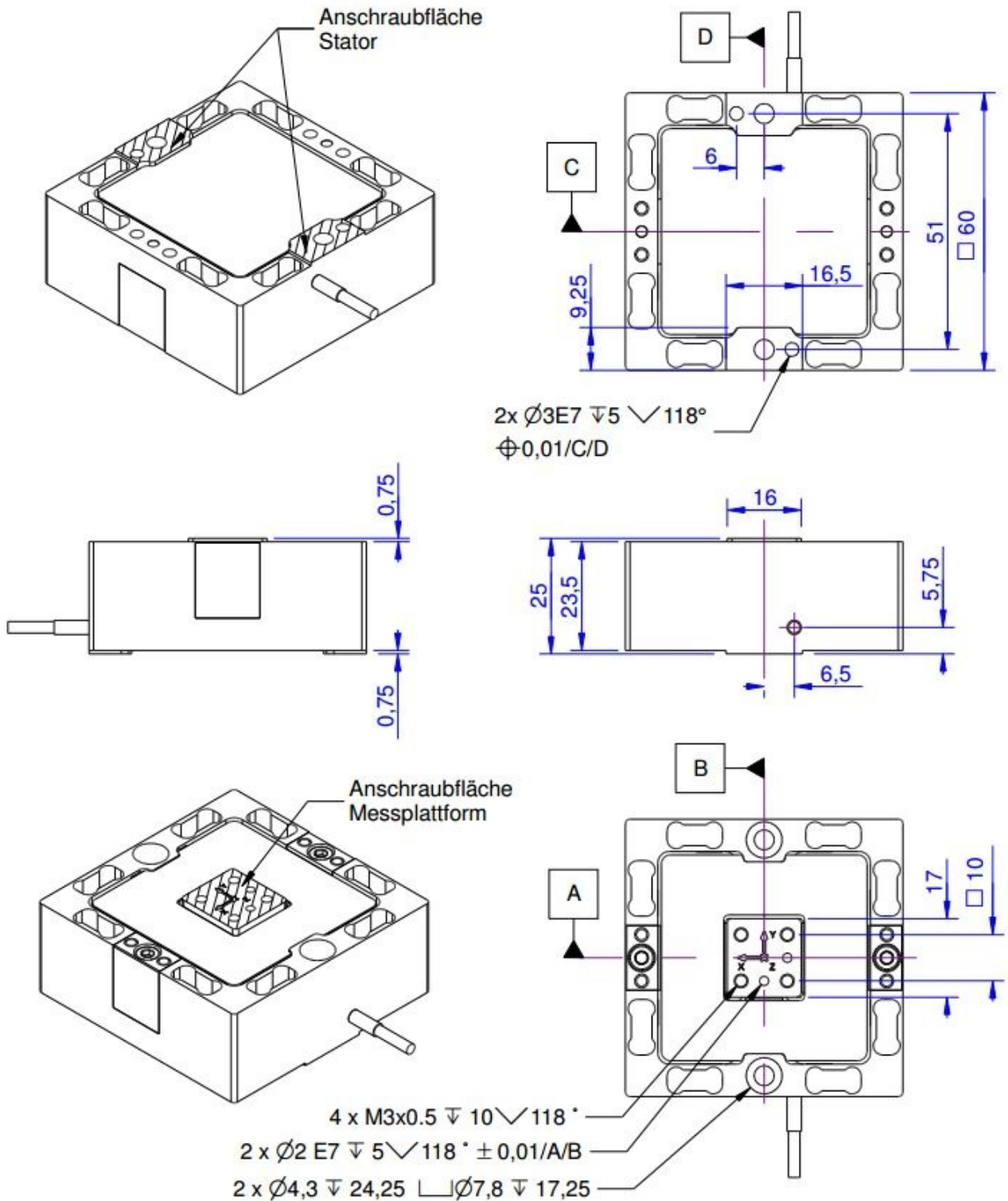
The K3D60a three-axis sensor is suitable for measuring force on three mutually perpendicular axes.

The new 3-axis sensor K3D60a is a further development of the series K3D60 and it is available in the measuring ranges  $\pm 20\text{N}$  to  $\pm 500\text{N}$ .

Up to a rated load of  $\pm 100\text{N}$ , these sensors are made of aluminum, from a rated load of  $\pm 200\text{N}$  these force sensors are made of stainless steel.

The sensor K3D60 (11/2009 ... 02/2016) 2016 was replaced by the improved implementation K3D60a.

## Dimensions





## Technical Data

### Kraftsensoren

Type	3-axis force sensor	
Force direction	Tension / Compression	
Force introduction	Inner thread	
Dimension 1	4x M3x0,5	
Sensor Fastening	Through bore	
Dimension 2	2x Ø4,3	
Operating force	200	% FS
Rated displacement	0.1	mm
Dimensions	60 x 60 x 25	mm x mm x mm
Height	25	mm
Length or Diameter	60	mm
Torque limit	20	Nm
Bending moment limit	20	Nm

### Elektrische Daten

Rated output x-axis	0.5	mV/V / FS
Rated output y-axis	0.5	mV/V / FS
Rated output z-axis	0.5	mV/V / FS
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	395	Ohm
Output resistance x-axis	350	Ohm
Input resistance y-axis	395	Ohm
Output resistance y-axis	350	Ohm
Input resistance z-axis	395	Ohm
Output resistance z-axis	350	Ohm
Insulation resistance	5	GOhm
Tolerance input resistance	10	Ohm
Tolerance output resistance	10	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	STC-32T-12
Cable length	3 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

### Exzentrizität und Übersprechen

Influence of eccentric load to FS	1	%FS / 10Nm
Crosstalk from x to y at rated load	2	%FS
Crosstalk from y to x at rated load	2	%FS
Crosstalk from z to x/y at rated load	2	%FS
Crosstalk from x/y to z at rated load	2	

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

1) The exact rated output is reported in the test report .

2) K3D60a with 370 and 390 Ohm input impedance and 350 ohm output resistance



## Pin Configuration

Channel	Symbol	Description	Wire colour	PIN
1	+Us	positive bridge supply	brown	
	-Us	negative bridge supply	white	
	+Ud	positive bridge output	green	
	-Ud	negative bridge output	yellow	
2	+Us	positive bridge supply	pink	
	-Us	negative bridge supply	grey	
	+Ud	positive bridge output	blue	
	-Ud	negative bridge output	red	
3	+Us	positive bridge supply	purple	
	-Us	negative bridge supply	black	
	+Ud	positive bridge output	orange	
	-Ud	negative bridge output	transparent	

## accessories

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GSV-1A4  
SubD37/2

4-channel strain gauge measuring amplifier for sensors with strain gauges. Adaptation of the sensor via Sub-D-37 connector. Output  $\pm 10V$  and 4 ... 20mA via 15-pin SUB-D (female); Input sensitivity 2mV/V;

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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

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