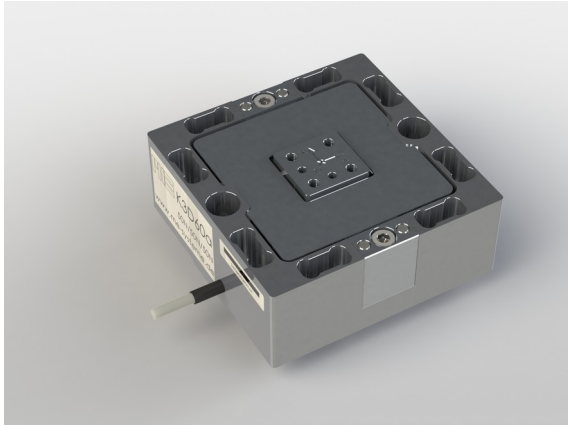


3-Axis Force Sensor K3D60a 10N

Item number: 8020



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 20N to 500N.

Up to a rated load of 100N, these sensors are made of aluminum, from a rated load of 200N these force sensors are made of stainless steel.

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

Technical Data

Basic Data	Unit
Type	3-axis force sensor
Force direction	Tension/Compression
Force introduction	Internal thread
Dimension 1	4x M3x0,5
Sensor Fastening	Through-hole
Dimension 2	2x Ø4,3
Operating force	200 %FS
Rated displacement	0.1 mm
Natural frequency f_x	1 kHz
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
Variants	10N... 500N

Electrical Data		Unit
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 from	2.5	V
Rated range of excitation voltage to	5	V
Operating range of excitation voltage from	1	V
Operating range of excitation voltage to	10	V
Input resistance x-axis	395	Ohm
ausgangswiderstandXAchse	350	Ohm
Input resistance y-axis	395	Ohm
ausgangswiderstandYAchse	350	Ohm
Input resistance z-axis	395	Ohm
ausgangswiderstandZAchse	350	Ohm
Insulation resistance	5	GOhm
Tolerance input resistance	10	Ohm
Tolerance output resistance	10	Ohm

Eccentricity and Crosstalk		Unit
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	%FS

Accuracy Data		Unit
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

Environmental Data		Unit
Rated temperature range from	-10	°C
Rated temperature range to	70	°C
Operating temperature range from	-10	°C
Operating temperature range to	85	°C
Storage temperature range from	-10	°C
Storage temperature range to	85	°C
Environmental protection	IP65	

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 Assignment

Channel	Symbol	Description	Wire color	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	