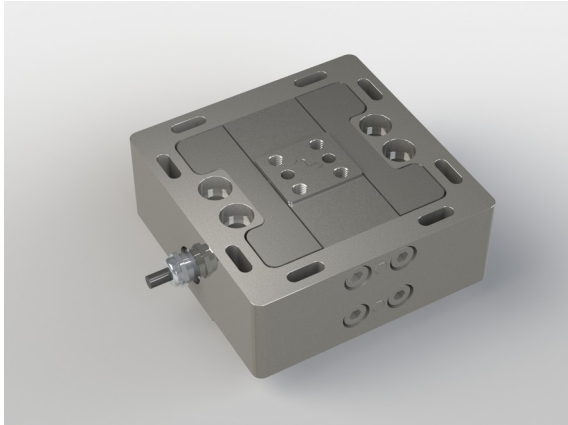


## 3-Axis Force Sensor K3D160 2kN

Item number: 4557



The 3-axis sensor **K3D160** is suitable for measuring force in three mutually perpendicular axes.

Force is applied from the 42mm x 50mm recess. A component can be installed on this surface with four M10 screws. The bottom of the sensor is fixed to the bottom with four M12 screws.

### Application areas

Areas of application are, for example, force measurement during production processes, force control in handling machines, force measurement during assembly processes, three-dimensional load measurement, measurement of friction forces.

## Technical Data

Basic Data		Unit
Type	3-axis force sensor	
Force direction	Tension/Compression	
Rated force Fx	2	kN
Rated force Fy	2	kN
Rated force Fz	2	kN
Force introduction	internal thread	
Dimension 1	4xM10	
Sensor Fastening	Durchgangsbohrung	
Dimension 2	4xØ14	
Operating force	150	%FS
Rated displacement	0.08	mm
Material	tool steel	
Natural frequency	2	kHz
Dimensions	160 x 160 x 66	mm
Height	66	mm
Length or Diameter	160	mm
Torque limit	1	kNm
Bending moment limit	1	kNm
Variants	2kN... 50kN	

Electrical Data		Unit
Rated output x-axis	1	mV/V
Rated output y-axis	1	mV/V
Rated output z-axis	1	mV/V
Zero signal	0.05	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	740	Ohm
ausgangswiderstandXAchse	700	Ohm
Input resistance y-axis	740	Ohm
ausgangswiderstandYAchse	700	Ohm
Input resistance z-axis	740	Ohm
ausgangswiderstandZAchse	700	Ohm
Insulation resistance	5	GOhm
Tolerance input resistance	10	Ohm
Tolerance output resistance	5	Ohm

Eccentricity and Crosstalk		Unit
Allowed torque according of eccentric load	1000	Nm
Influence of eccentric load to FS	1	%FS / 500Nm
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	0.4	%FS
Relative zero signal hysteresis	0.1	%FS
Temperature effect on zero signal	0.02	%FS/K
Temperature effect on characteristic value	0.01	%RD/K
Relative creep	0.1	%FS

Environmental Data		Unit
Rated temperature range from	-10	°C
Rated temperature range to	50	°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	IP67	

Abbreviation : RD: „Reading“; FS: „Full Scale“The exact nominal sensitivity is indicated in the test report

## Pin Assignment

Channel	Symbol	Description	Wire color	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.