

K3D35

Capteur de force 3 axes 500mN à 10N par axe



K3D35 $\pm 500\text{mN}$



Description

Le capteur de force 3 composantes K3D35 mesure en simultané les forces F_x , F_y , F_z sur trois axes perpendiculaires. Les étendues de mesure sur chaque axes sont comprises entre $\pm 0,5\text{ N}$ et $\pm 10\text{ N}$. La précision globale est de 1%.

Le capteur de force 3 composantes K3D35 s'installe aisément sur des machines-outils, des bras, ou des bancs de tests. L'introduction des efforts et la fixation au stator/banc sont réalisées par 4 taraudages M3x0,5, en respectant les couples de serrages.

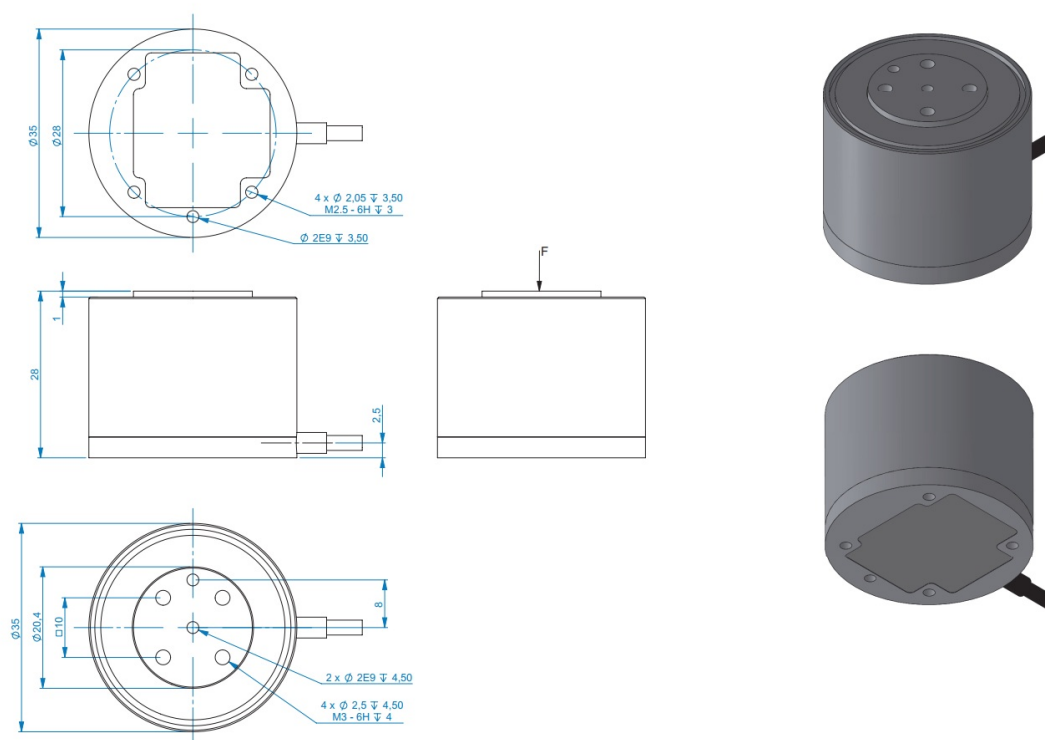
Une distance de 1 mm doit être conservée entre les pièces d'adaptation et le corps du capteur.

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Dimensions



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Technical Data - Version 500 mN par axe

Force sensor

Type	3-axis force sensor
Force direction	Tension / Compression
Rated force Fx	500 mN
Rated force Fy	500 mN
Rated force Fz	500 mN
Force introduction	Inner thread
Dimension 1	4x Innengewinde M3, 2x Passbohrung Ø2mm E9
Sensor Fastening	Inner thread
Dimension 2	4x Innengewinde M2,5, 1x Passbohrung Ø2mm E9
Operating force	150 %FS
Material	Aluminium alloy
Dimensions	Ø35 x 28 mm x mm

Precision

Relative linearity error	0.2 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	1 %FS / K
Temperature effect on characteristic value	0.1 %RD / K
Relative creep	0.5 %FS

Eccentricity and Crosstalk

Influence of eccentric load to FS	1 %FS/10mm
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	1

Temperature

Rated temperature range f	15 ... 30 °C
Operating temperature range f	10 ... 40 °C
Storage temperature range f	10 ... 40 °C

Electrical Data

characteristic value range min	1 mV/V
characteristic value range max	2 mV/V
nullsignaltoleranz	2 mV/V
Rated range of excitation voltage from	2.5 mV/V
Input resistance x-axis	500 Ohm
Output resistance x-axis	500 Ohm
Input resistance y-axis	500 Ohm
Output resistance y-axis	500 Ohm
Input resistance z-axis	500 Ohm

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Capteur de force 3 axes 500mN à 10N par axe



Technical Data - Version 2N par axe

Force sensor		
Type	3-axis force sensor	
Force direction	Tension / Compression	
Rated force Fx	2	N
Rated force Fy	2	N
Rated force Fz	2	N
Force introduction	Inner thread	
Dimension 1	4x Innengewinde M3, 2x Passbohrung Ø2mm E9	
Sensor Fastening	Inner thread	
Dimension 2	4x Innengewinde M2,5, 1x Passbohrung Ø2mm E9	
Operating force	150	%FS
Material	Aluminium alloy	
Dimensions	Ø35 x 28	mm x mm
Precision		
Relative linearity error	0.2	%FS
Relative zero signal hysteresis	0.05	%FS
Temperature effect on zero signal	1	%FS / K
Temperature effect on characteristic value	0.1	%RD / K
Relative creep	0.5	%FS
Eccentricity and Crosstalk		
Influence of eccentric load to FS	1	%FS/10mm
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	1	
Temperature		
Rated temperature range f	15 ... 30	°C
Operating temperature range f	10 ... 40	°C
Storage temperature range f	10 ... 40	°C
Electrical Data		
characteristic value range min	1	mV/V
characteristic value range max	2	mV/V
nullsignaltoleranz	2	mV/V
Rated range of excitation voltage from	2.5	mV/V
Input resistance x-axis	500	Ohm
Output resistance x-axis	500	Ohm
Input resistance y-axis	500	Ohm
Output resistance y-axis	500	Ohm
Input resistance z-axis	500	Ohm

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Capteur de force 3 axes 500mN à 10N par axe



Technical Data - Version 10N par axe

Force sensor

Type	3-axis force sensor
Force direction	Tension / Compression
Rated force Fx	10 N
Rated force Fy	10 N
Rated force Fz	10 N
Force introduction	Inner thread
Dimension 1	4x Innengewinde M3, 2x Passbohrung Ø2mm E9
Sensor Fastening	Inner thread
Dimension 2	4x Innengewinde M2,5, 1x Passbohrung Ø2mm E9
Operating force	150 %FS
Material	Aluminium alloy
Dimensions	Ø35 x 28 mm x mm

Precision

Relative linearity error	0.2 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	1 %FS / K
Temperature effect on characteristic value	0.1 %RD / K
Relative creep	0.5 %FS

Eccentricity and Crosstalk

Influence of eccentric load to FS	1 %FS/10mm
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	1

Temperature

Rated temperature range f	15 ... 30 °C
Operating temperature range f	10 ... 40 °C
Storage temperature range f	10 ... 40 °C

Electrical Data

characteristic value range min	1 mV/V
characteristic value range max	2 mV/V
nullsignaltoleranz	2 mV/V
Rated range of excitation voltage from	2.5 mV/V
Input resistance x-axis	500 Ohm
Output resistance x-axis	500 Ohm
Input resistance y-axis	500 Ohm
Output resistance y-axis	500 Ohm
Input resistance z-axis	500 Ohm

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Output resistance z-axis	500	Ohm
Tolerance input resistance	100	Ohm
Tolerance output resistance	100	Ohm

- Abbreviations: RD: Actual value ("Reading"); FS: Full Scale;
- For the electrical data alternatively: 1000±200 Ohm possible
- The exact characteristic value is shown in the test report

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Pin Configuration

Channel	Symbol	Description	Wire colour
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

Pressure load: positive output signal.

Shield- transparent.