Technical Data Sheet

N3B3F10A

Load Cell, 3-axial

Location: Steering Column

Force direction
F_x, M_y, M_z

Application
Measurement of forces and moments in the steering column

Equivalent types
Customized version

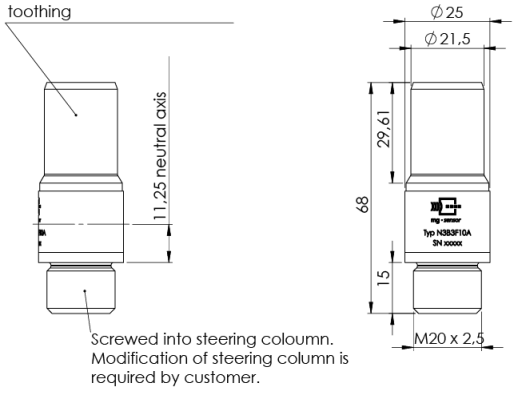
Measurement specification
Resistive
Strain gauges

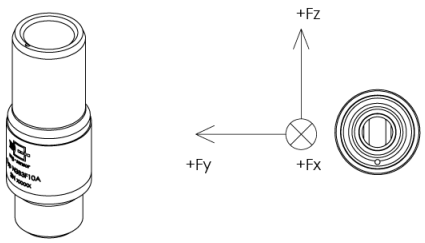
Options
Polarity according to customer specifications

Technical description

The applied force causes compression or strain of the base body. The deformation is measured using strain gauges. The wiring of multiple strain gauges for a full bridge circuit compensates for the temperature influence on the zero signal and the cross-influence from other force and torque application.

Dimensions





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Airport Boulevard B 210
77836 Rheinmuenster
Germany

Tel. +49 7229 6996-90
Fax +49 7229 6996-919

info@mg-sensor.de
www.mg-sensor.com

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Technical specification

	Unit	Value		
		F_x	M_y	M_z
Measuring range	kN Nm	20	 150	 150
Sensitivity[1)]	µV/V/kN µV/V/Nm	95	 13.3	 13.3
Output signal[1), 2)]	mV/V	1.9	2.0	2.0
Bridge resistance	Ω	700	350	350
Zero signal[1)]	mV/V	≤ 0.05		
Amplitude non-linearity[3)]	%	≤ 1.0		
Hysteresis[3)]	%	≤ 1.0		
Channel cross talk[3)]	%	≤ 5.0		
Supply voltage	V	2–15		
Ultimate load	%	150		
Insulation resistance	MΩ	> 100		
Temperature range	°C	-30…+70		
Weight (approximate)	g	130		

All values measured at 10 V sensor supply voltage and at 23 °C.

[1)] Typical value

[2)] At nominal load

[3)] Relative nominal range

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