

# Technical Data Sheet



## N5B3H11A



### Load Cell, 5-axial

Location: Steering Column

Force direction

$F_x, F_y, F_z, M_x, M_z$

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

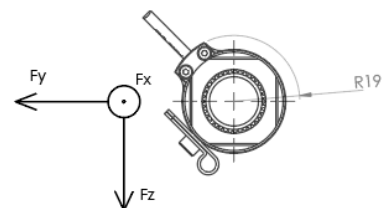
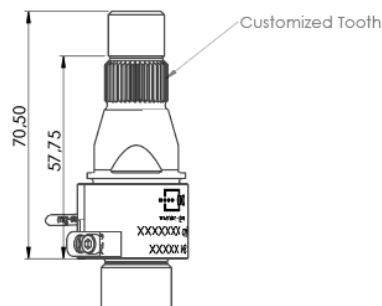
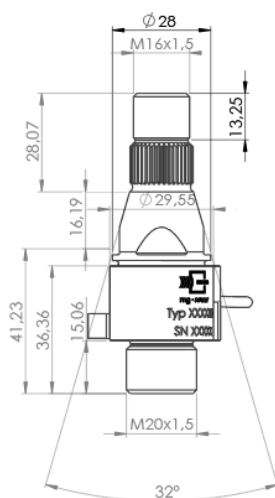


### Technical description

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



# Technical Data Sheet



**mg · sensor**  
P U R E P R E C I S I O N

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### Technical specification

|                                       | Unit               | Value          |                |                |                |                |
|---------------------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|
|                                       |                    | F <sub>x</sub> | F <sub>y</sub> | F <sub>z</sub> | M <sub>y</sub> | M <sub>z</sub> |
| Measuring range                       | kN<br>Nm           | 20             | 10             | 10             | 200            | 200            |
| Sensitivity <sup>1)</sup>             | μV/V/kN<br>μV/V/Nm | 95             | 200            | 200            | 11.5           | 11.5           |
| Output signal <sup>1), 2)</sup>       | mV/V               | 1.9            | 2.0            | 2.0            | 2.3            | 2.3            |
| Bridge resistance                     | Ω                  | 700            | 350            | 350            | 350            | 350            |
| Zero signal <sup>1)</sup>             | mV/V               | ≤ 0.05         |                |                |                |                |
| Amplitude non-linearity <sup>3)</sup> | %                  | ≤ 1.0          |                |                |                |                |
| Hysteresis <sup>3)</sup>              | %                  | ≤ 2.0          |                |                |                |                |
| Channel crosstalk <sup>3)</sup>       | %                  | ≤ 5.0          |                |                |                |                |
| Supply voltage                        | V                  | 2–15           |                |                |                |                |
| Ultimate load                         | %                  | 150            |                |                |                |                |
| Insulation resistance                 | MΩ                 | > 100          |                |                |                |                |
| Temperature range                     | °C                 | -30...+70      |                |                |                |                |
| Weight (approximate)                  | g                  | 200            |                |                |                |                |

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

<sup>1)</sup> Typical value

<sup>2)</sup> At nominal load

<sup>3)</sup> Relative nominal range