# Normal force sensor, type 0250

## For the precise measurement of normal forces at bearing points

BROSA normal force sensors are used in bearing points to record the reaction forces occurring there in a defined direction. This simple solution means that the measurement of bearing forces can be integrated into the existing design with little effort. This is possible because the normal force sensor, like all force sensors from BROSA, can be individually adapted to the installation situation. A calibration that corresponds to the respective installation situation also ensures high measuring accuracy.

### Applications

- Bearing loads
- Plant engineering
- Mechanical engineering

### Features

- Customer-specific design
- Integrated amplifier
- High overload capacity
- Compact design
- Durable design (verification on request)
- Temperature compensated
- High EMC resistance

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## Technical data

| | |
|---|---|
| Accuracy | ≤ 1.0 % FS |
| Measuring range | 20 kN to 1000 kN |
| Limit load | ≥ 150 %, optional 300 % |
| Breaking load | ≥ 300 %, optional 500 % |
| Linearity error | ≤ 0.5 % FS |
| Hysteresis | ≤ 0.5 % FS |
| Reproducibility | ≤ 0,1 % FS |
| Temperature range | -40 to +80 °C |
| Temperature coefficient | ≤ 0,0035 % / °K |
| Supply voltage | 9 to 36 VDC |
| Output signal | 4 to 20 mA, optional redundant<br>CANopen, optional Safety<br>PROFINET, optional PROFIsafe<br>IO-Link, optional redundant PL c |
| Degree of protection | IP 67, optional IP 69, according to DIN EN 60529 |
| Interference immunity | Up to 200 V/m HF, 100 mA BCI<br>according to ISO 11452, DIN EN 61000-4, ISO 7637 |
| Interference emission | DIN EN 55025 |
| Climatic tests | DIN EN 60068-2 |
| Vibration resistance | DIN EN 60068-2 |
| Electrical connections | M12x1, 5-pins |
| Electrical protection | Reverse polarity protection, overvoltage protection<br>and short-circuit protection |
| Material | Stainless steel |

## Options

| | |
|---|---|
| Safety classification according to<br>DIN EN ISO 13849-1 | PL c, PL d (PL e*) |
| Explosion protection | ATEX Ex i |
| Ex classification | II 2G Ex ib IIC T4 Gb / IECEx Ex ib IIC T4 Gb |
| Passive Design | Output ~ 1 mV / V |

Other requirements can be implemented by agreement.
* When used in higher-level systems according to DIN EN ISO 13849-1

ISO 9001
ISO 14001
2014/34/EU