

Tension/compression force transducer

Up to 1,000 N

Model F2812

WIKA data sheet FO 51.49

Applications

- Tension/compression force testing
- Tank weighing
- Load monitoring in industrial plants
- Riveting machine
- Welding machine

Special features

- Measuring ranges 0 ... 50 N up to 0 ... 1,000 N
- Ultra compact design
- Corrosion-resistant stainless steel design
- Protection IP65



Tension/compression force transducer, model F2812

Description

Tension/compression force transducers are designed for static and dynamic measurement tasks in the direct flux of force. They determine the tension and compression forces in a wide scope of applications.

Force transducers of this series are used in weighing technology as well as in countless industrial applications, where high accuracy, simple installation with force introduction via the two internal threads and a favorable price plays a decisive role.

Note

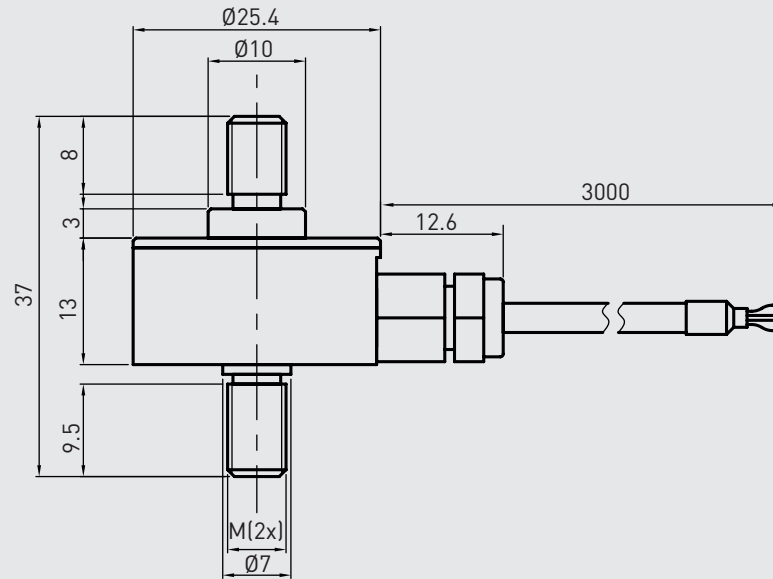
In order to avoid overloading, it is necessary to connect the force transducer electrically during installation and to monitor the measured value.

The force to be measured must be applied concentrically and free of transverse force. The force transducers are to be mounted on a level surface.

Specifications in accordance with VDI/VDE/DKD 2638

| Model F2812 | |
|---|--|
| Rated force F_{nom} N | 50, 100, 150, 200, 300, 500, 600, 1,000 |
| Relative linearity error d_{lin} | $\pm 0.05 \% F_{nom}$ |
| Relative reversibility v | $\pm 0.05 \% F_{nom}$ |
| Relative repeatability error in unchanged mounting position b_{rg} | $\pm 0.25 \% F_{nom}$ |
| Relative deviation of zero signal $d_{S,0}$ | $\pm 2 \% F_{nom}$ |
| Temperature effect on zero signal TK_0 | $\leq \pm 0.2 \% / 10 \text{ }^\circ\text{C}$ |
| Temperature effect on characteristic value TK_C | $\leq \pm 0.2 \% / 10 \text{ }^\circ\text{C}$ |
| Force limit F_L | $120 \% F_{nom}$ |
| Breaking force F_B | $200 \% F_{nom}$ |
| Material | Stainless steel |
| Rated temperature range $B_{T, nom}$ | $-10 \dots +60 \text{ }^\circ\text{C}$ |
| Operating temperature range $B_{T, G}$ | $-20 \dots +80 \text{ }^\circ\text{C}$ |
| Input resistance R_e | $700 \pm 30 \text{ } \Omega$ |
| Output resistance R_a | $700 \pm 5 \text{ } \Omega$ |
| Insulation resistance R_{is} | $\geq 5,000 \text{ M}\Omega / \text{DC } 100 \text{ V}$ |
| Output signal (rated output) C_{nom} | $2.0 \pm 10 \% \text{ mV/V}$ |
| Electrical connection | Cable $\varnothing 3 \times 3,000 \text{ mm}$ |
| Excitation voltage <ul style="list-style-type: none"> ■ Standard ■ Option | DC 10 V (max. 15 V) DC 12 ... 28 V integrated or cable amplifier 0(4) ... 20 mA DC 0 ... 10 V DC 0 ... 5 V |
| Protection (acc. to IEC/EN 60529) | IP65 |
| Weight in kg | 0.1 |

Dimensions

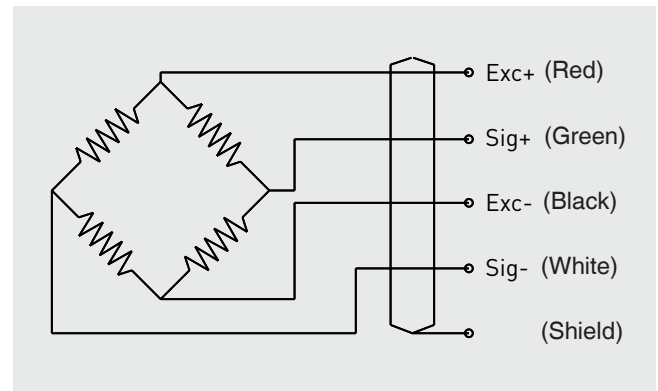


Dimension in mm.

| Rated force in N | M |
|-----------------------------|----|
| 50, 100, 150, 200, 300, 500 | M5 |
| 600, 1,000 | M6 |

Pin assignment

| Electrical connection | |
|------------------------|--------|
| Excitation voltage (+) | Red |
| Excitation voltage (-) | Black |
| Signal (+) | Green |
| Signal (-) | White |
| Screen ⊕ | Screen |



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