

Tension/compression force transducer

For material testing up to 500 kN

Model F2822

WIKA data sheet FO 51.50

Applications

- Load monitoring in industrial plants
- Material testing machines
- Production lines
- Measuring, testing and control equipment
- Special equipment and machinery construction

Special features

- Measuring ranges 0 ... 5 kN up to 0 ... 500 kN
- Ultra compact design
- Simple installation, low installation height
- Protection IP66



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.

Due to their robustness and low height, F2822 force transducers are used in harsh industrial environments as well as in laboratories or test fields. They have a bore through the center, with an internal thread for the force introduction

Note

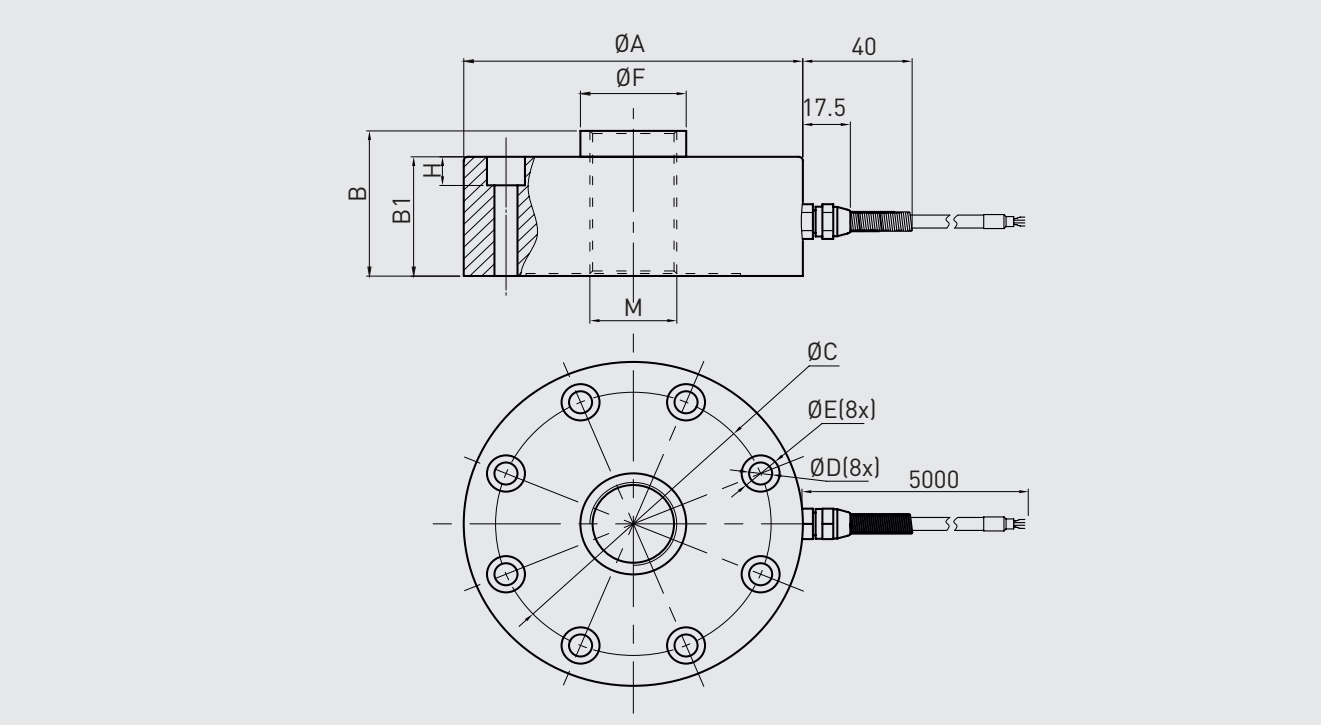
In order to avoid overloading, it is necessary to connect the force transducer electrically during installation and to monitor the measured value.

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 F2822	
Rated force F_{nom} kN	5, 10, 20, 50, 70, 100, 200, 250, 300, 400, 500
Relative linearity error d_{lin}	$\pm 0.05 \% F_{nom}$
Relative reversibility v	$\pm 0.05 \% F_{nom}$
Relative creep, 30 min.	$\pm 0.05 \% F_{nom}$
Relative repeatability error in unchanged mounting position b_{rg}	$\pm 0.03 \% F_{nom}$
Relative deviation of zero signal $d_{S,0}$	$\pm 1 \% F_{nom}$
Temperature effect on zero signal TK_0	$\leq \pm 0.03 \%/10^\circ C$
Temperature effect on characteristic value TK_C	$\leq \pm 0.03 \%/10^\circ C$
Force limit F_L	$150 \% F_{nom}$
Breaking force F_B	$200 \% F_{nom}$
Material	Steel
Rated temperature range $B_{T,nom}$	$-10 \dots +60^\circ C$
Operating temperature range $B_{T,G}$	$-20 \dots +80^\circ C$
Input resistance R_e	$750 \pm 10 \Omega$
Output resistance R_a	$700 \pm 5 \Omega$
Insulation resistance R_{is}	$\geq 5,000 M\Omega/DC 100 V$
Output signal (rated output) C_{nom}	$2.0 \pm 1 \% mV/V$
Electrical connection	Cable $\varnothing 5 \times 5.000 mm$
Excitation voltage ■ 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)	IP66
Weight in kg ■ 5, 10, 20, 50, 70 kN ■ 100, 200, 250 kN ■ 300, 400, 500 kN	1.8 4.5 7

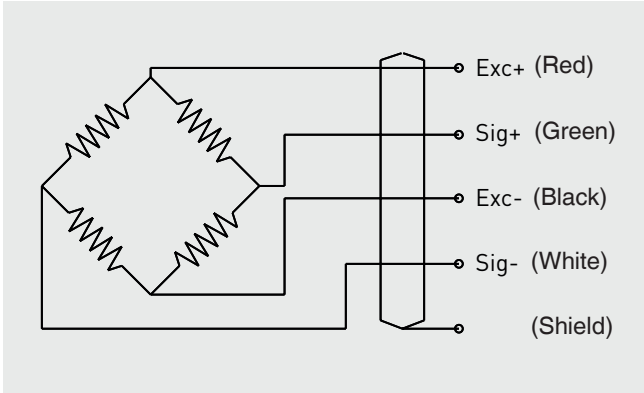
Dimensions



Rated force in kN	Dimensions in mm								
	A	B	B1	C	D	E	F	H	M
5, 10, 20, 50, 70	105	37	34	89	6.5	10,5	32	7.2	M16 x 1.5
100, 200, 250	125	56	46	101.8	10.5	18	39	11	M30 x 1.5
300, 400, 500	145	65	54	116.8	12.5	20	60	14	M40 x 1.5

Pin assignment

Electrical connection	
Excitation voltage (+)	Red
Excitation voltage (-)	Black
Signal (+)	Green
Signal (-)	White
Screen \oplus	Screen



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