

Miniature tension/compression load cell from 1.5 N Model F2220



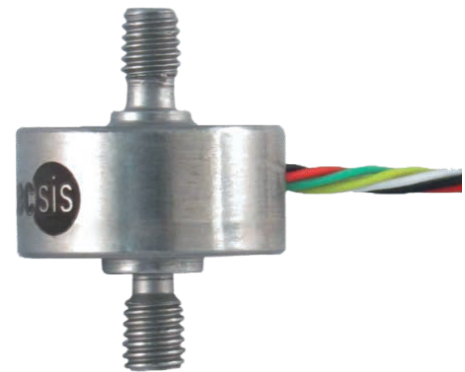
WIKA Data sheet FO 51.16

Applications

- Construction and apparatus
- Production lines, manufacturing plant
- Measurement and control facilities
- Special equipment and machinery construction
- Cable force measurements

Special features

- Ease of assembly
- Small geometries
- Stainless steel version



Miniature tension/compression load cell, model F2220

Description

This tension/compression load cell is widely used where it is necessary to measure directly in the force line. It is possible, for example, to measure the actual force in ropes and rods.

The force is applied to this tension/compression load cell via threaded bolts, which are located on each side of the cylindrical body. The force application has to be centrally, torsion and bending moments are to be avoided.

Note

To prevent overload, it is advantageous to connect up the transducer electrically during installation and to monitor the measured value. In mounting the force transducer torsion and bending moments have to be avoided.

The force must be applied at the centre and without radial stress.

Measuring ranges

0 ... 1.5 N up to 0 ... 5,000 N

Specific information

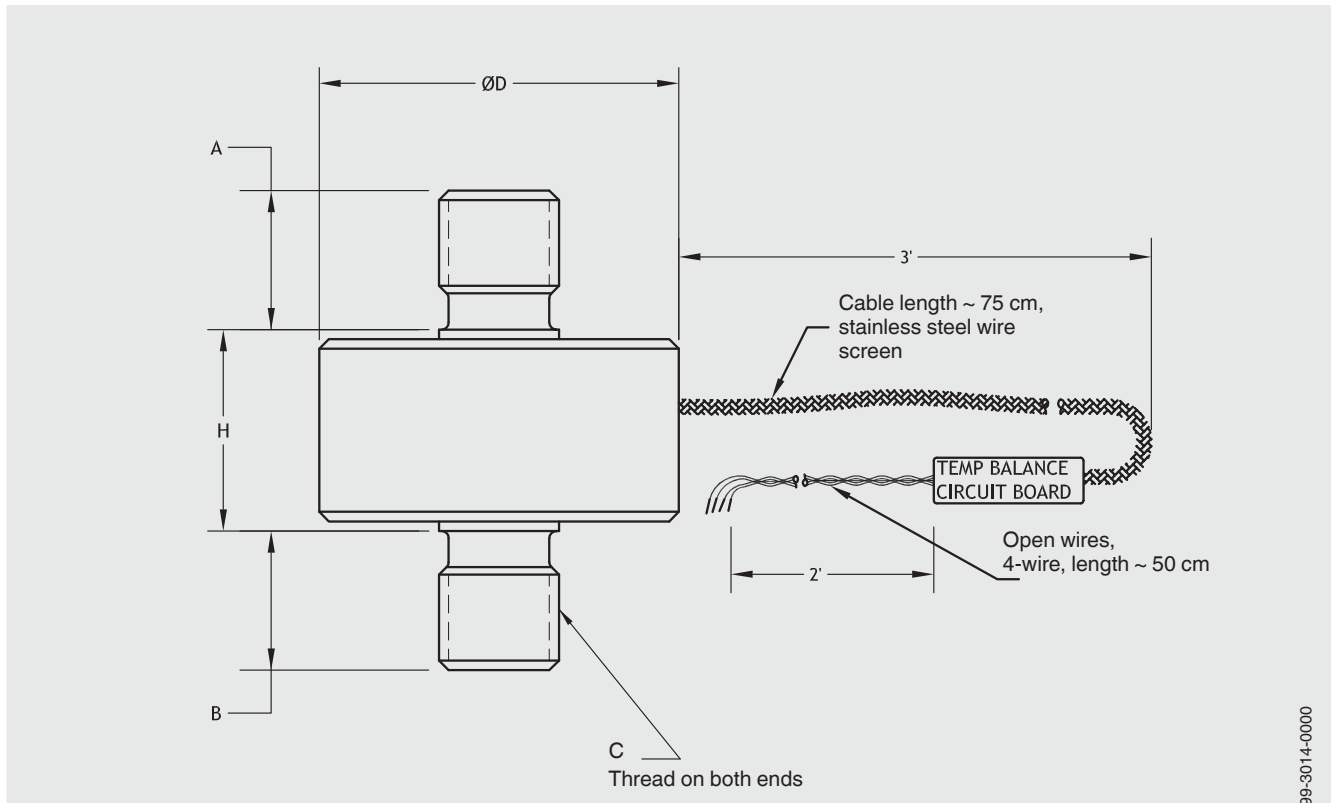
Option: high temperature version up to 250 °C

Technical data in accordance with VDI/VDE/DKD 2638

Model F2220												
Rated force F_{nom} in N	1.50	2.50	5	10	20	50	100	200	500	1,000	2,000	5,000
Relative linearity error d_{lin}	±0.5 % of F.S.											
Relative reversibility error v	±0.5 % of F.S.											
Relative repeatability error in unchainged mounting position b_{rg}	±0.1 % of F.S.											
Force limit F_L	150 % F_{nom}											
Breaking load F_B	> 300 % F_{nom}											
Permissible oscillation stress F_{rb}	±70 % F_{nom} in accordance with DIN 50100											
Relative creep, 30 min. at F_{nom}	≤ ±0.1 % of F.S.											
Nominal deflection s_{nom}	< 0.1 mm											
Rated temperature $B_{T, nom}$	+15 ... +70 °C (optional +15 ... +120 °C or +15 ... +250 °C) Other temperature ranges on request											
Operating temperature $B_{T, G}$	-54 ... +120 °C											
Reference temperature T_{ref}	23 °C											
Temperature effect on												
■ characteristic value TK_C	≤ ±0.1 % of F.S./10 K											
■ zero signal TK_0	≤ ±0.2 % of F.S./10 K											
Protection type	IP65 in accordance with EN/IEC 60529											
Insulation resistance R_{is}	> 5 GΩ of 50 V											
Analog output												
■ Output signal (characteristic value) C	2 mV/V (up to 5 N: 15 mV/V)											
■ Input-/output resistance R_e/R_a	350 Ω (max. 5 N: 500 Ω)											
■ Option	Cable integrated amplifier 0(4) ... 20 mA, DC 0 ... 10 V											
■ Supply voltage	2 ... 5 V (max. 5 V), DC 12 ... 28 V for cable amplifier											
■ Electrical connection	Cable 1.5 m, open wires, 4-wire											
Material of measuring device	Stainless steel 17-4 PH											
Weight incl. cable in g	5 ... 30 depending on nominal load											

F. S. = full scale value

Dimensions in mm



Nominal load in N	Dimensions in mm				
	ØD	H	A	B	C
1.5 ... 5	12.7	7.4	4.8	4.6	M3 x 0.5
10 ... 500	12.7	7.4	4.8	4.6	
1,000 ... 5,000	19.1	9.7	7.9	7.9	M6 x 1.0

Electrical connection	
Supply (-)	Black
Supply (+)	Red
Signal (+)	White
Signal (-)	Green

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