

Compression force transducer

Standard version up to 100 kN

Model F1821

WIKA data sheet FO 51.59

Applications

- Equipment manufacturing
- Production lines
- Measuring and control systems
- Automation industry
- Laboratory

Special features

- Measuring ranges 0 ... 200 N to 0 ... 100 kN
- Relative linearity error 0.5 % F_{nom}
- Material: Stainless steel, IP66
- Low installation height, easy to install
- For harsh ambient conditions



Compression force transducer, model F1821

Description

The model F1821 compression force transducer is available in measuring ranges up to 100 kN. Its compactness enables a universal and reliable use in industry and laboratories.

This force transducer is easy to handle and its small dimensions predestine it particularly for use in narrow structures with limited space in which compression forces must be measured.

Notes

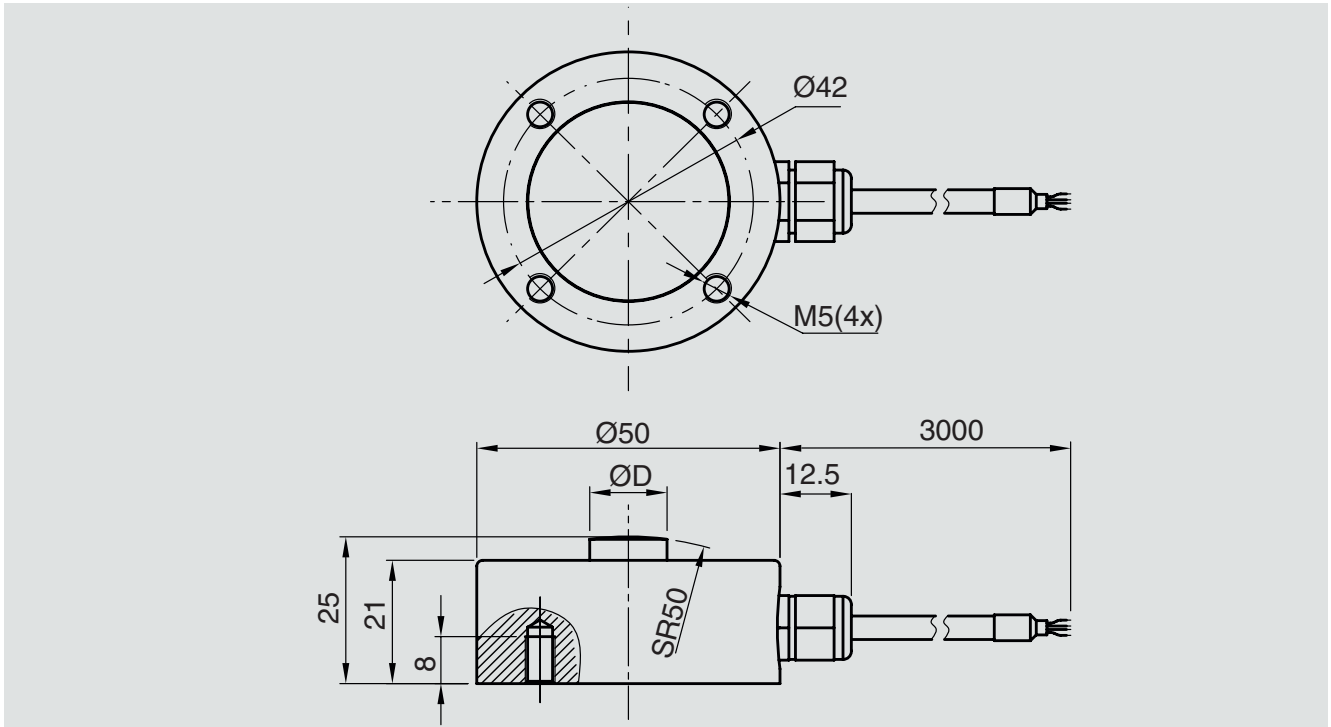
To avoid overloading, it is advantageous to connect the force transducer electrically during assembly and to monitor the measured value.

The measuring force must be introduced through the centre and free of transverse force. When assembling the force transducer, care should be taken that the support surface is flat.

Specifications per VDI/VDE/DKD 2638

Model F1821	
Rated force F_{nom} kN	0.2 / 0.3 / 0.5 / 1 / 1.5 / 2 / 3 / 5 / 10 / 15 / 20 / 30 / 50 / 60 / 75 / 100
Relative linearity error d_{lin}	0.5 % F_{nom}
Relative reversibility error v	0.5 % F_{nom}
Relative span in unchanged mounting situation b_{rg}	0.1 % F_{nom}
Relative deviation of zero signal $d_{S,0}$	± 3 % F_{nom}
Temperature effect on the zero signal TK_0	0.05 % $F_{nom}/10$ °C
Temperature effect on the characteristic value TK_C	0.05 % $F_{nom}/10$ °C
Limit force F_L	150 % F_{nom}
Breaking force F_B	200 % F_{nom}
Material of the measuring body	Stainless steel
Rated temperature range $B_{T, nom}$	-10 ... +60 °C
Service temperature range $B_{T, G}$	-20 ... +80 °C
Input resistance R_e	385 \pm 10 Ω
Output resistance R_a	350 \pm 5 Ω
Insulation resistance R_{is}	$\geq 5,000$ M Ω /DC 100 V
Output signal (rated characteristic value) C_{nom}	1.5 \pm 10 % mV/V
Electrical connection	Cable $\varnothing 4 \times 3,000$ mm
Voltage supply	DC 5 ... 10 V (max. 15 V)
Ingress protection (per IEC/EN 60529)	IP66
Weight	0.4 kg

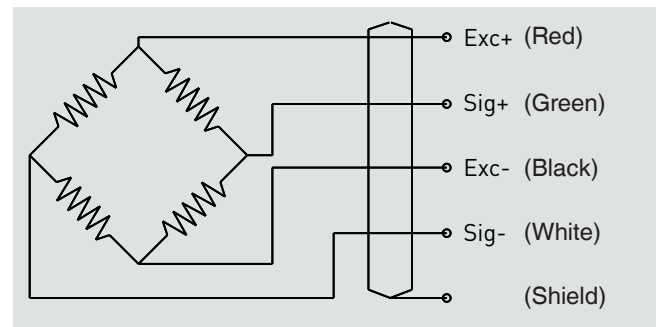
Dimensions in mm



Rated force in kN	Dimensions in mm
	øD
0.2 / 0.3 / 0.5 / 1 / 1.5 / 2 / 3 / 5 / 10 / 15 / 20	13
30 / 50	16
60 / 75 / 100	21

Pin assignment

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



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