

Compression force transducer Standard version up to 300 kN Model F1811

WIKA data sheet FO 51.56

Applications

- Measuring and control systems
- Production lines
- Presses
- Platform scales for trucks

Special features

- Measuring ranges 0 ... 2.5 kN to 0... 300 kN
- Relative linearity error 0.1 % F_{nom}
- Stainless steel version, completely welded
- Low installation height, easy to install
- IP67



Compression force transducer, model F1811

Description

Due to its compact design, the model F1811 force transducer is used very often in industrial applications such as production lines and control units. The spherical calotte (spherical load application button) allows for a very simple force introduction. Compression force transducers are used for the determination of compression forces in a wide variety of applications and are suitable for static and dynamic measuring requirements.

Note

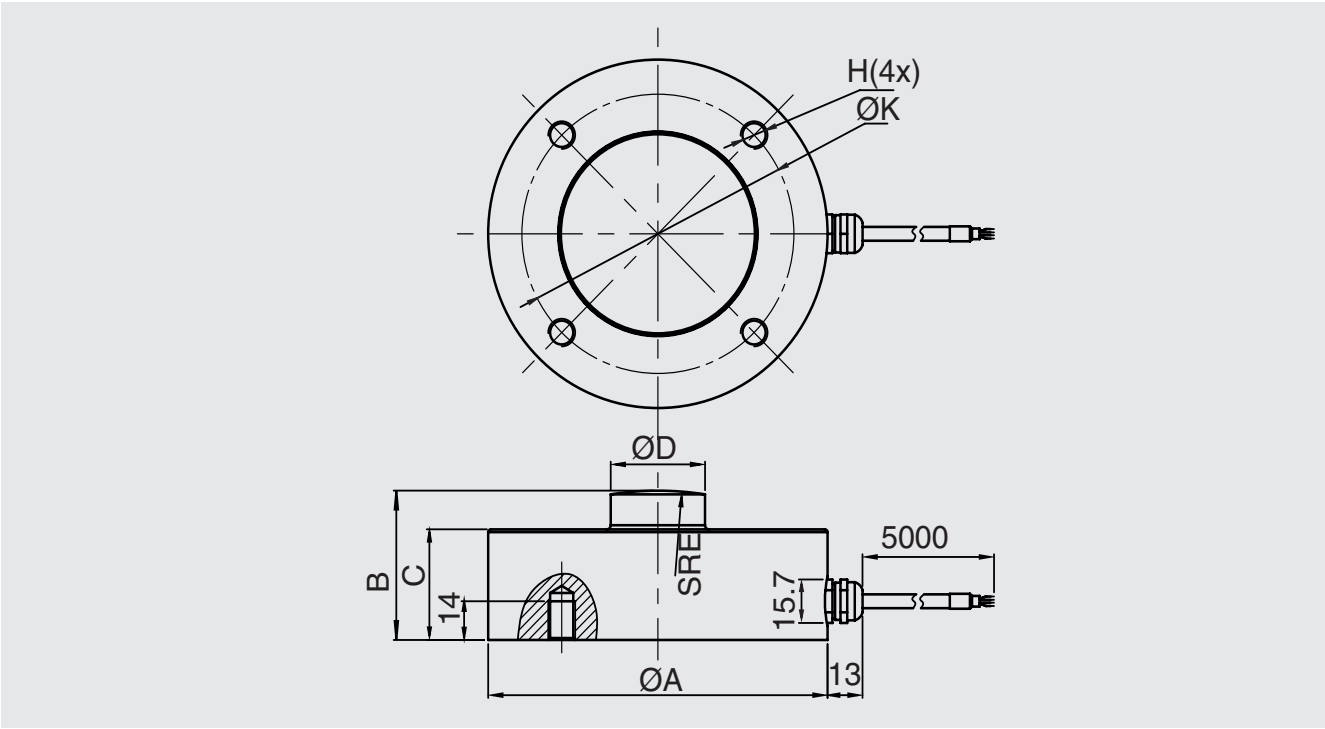
To avoid overloading, it is advantageous to connect the force transducer electrically during assembly and to monitor the measured value.

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 F1811	
Rated force F_{nom} kN	2.5, 5, 10, 20, 30, 50, 100, 200, 300
Relative linearity error d_{lin}	0.1 % F_{nom}
Relative creep, 30 min. at F_{nom}	0.1 % F_{nom}
Relative reversibility error v	0.1 % F_{nom}
Relative span in unchanged mounting situation b_{rg}	0.1 % F_{nom}
Relative deviation of zero signal $d_{S,0}$	± 2 % 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	750 \pm 10 Ω
Output resistance R_a	700 \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 $\varnothing 5 \times 5,000$ mm
Voltage supply	DC 10 V (max. 15 V)
Ingress protection (per IEC/EN 60529)	IP67
Weight	
■ 2.5 kN ... 100 kN	1.2 kg
■ 200 kN	1.6 kg
■ 300 kN	3.2 kg

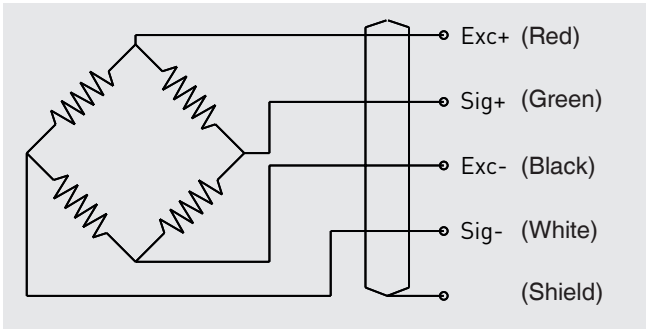
Dimensions in mm



Rated force in kN	Dimensions in mm						
	ØA	B	C	ØD	E	ØK	H
2.5, 5, 10, 20, 30, 50, 100	82	44	32	22	50	68	M8
200	100	48	36	28	100	80	M8
300	126	54	40	35	100	101	M10

Pin assignment

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



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