

Compression force transducer Standard version to 300 kN Model F1811

WIKA data sheet FO 51.56

EAC

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
- Ingress protection IP66



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.

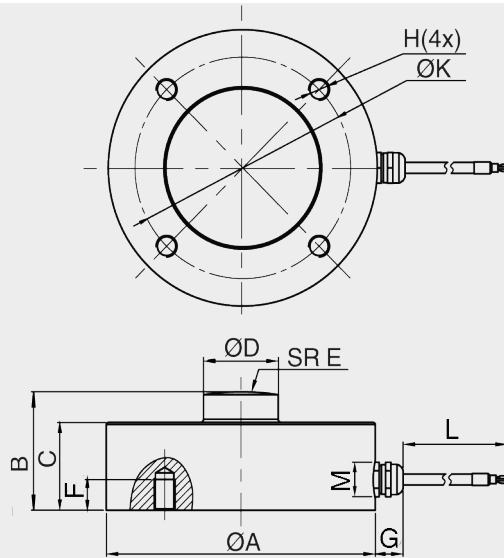
Specifications per VDI/VDE/DKD 2638

Model F1811									
Rated force F_{nom} kN	2.5	5	10	20	30	50	100	200	300
Rated force F_{nom} lbf	552	1,124	2,250	4,500	6,744	11,240	22,500	45,000	67,443
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 % $F_{nom}/10$ K								
Temperature effect on the characteristic value TK_C	0.05 % $F_{nom}/10$ K								
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 [-50 ... +140 °F]								
Service temperature range $B_{T, G}$	-20 ... +80 °C [-68 ... +176 °F]								
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 0.15 mV/V								
Electrical connection	Cable \varnothing 5 x 5,000 mm [\varnothing 0.197 in x 197 in]								
Voltage supply	DC 10 V (max. 15 V)								
Ingress protection (per IEC/EN 60529)	IP66								
Weight									
2.5 kN ... 100 kN	1.2 kg [2.65 lbs]								
200 kN	1.6 kg [3.53 lbs]								
300 kN	3.2 kg [7.05 lbs]								

Approvals

Logo	Description	Country
	EU Declaration of Conformity	European Union
	EMC Directive	
	RoHS Directive	
	EAC (Option)	Eurasian Economic Community
	EMV-Directive	

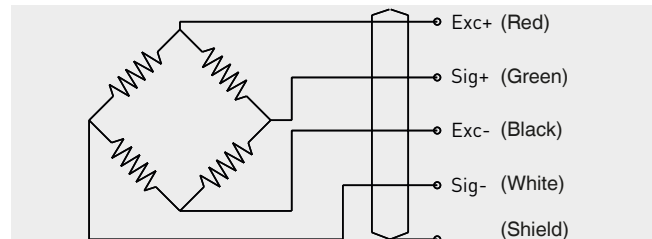
Dimensions in mm [in]



Rated force in kN [lbf]	Dimensions in mm [in]										
	ØA	B	C	ØD	SR E	F	G	ØK	H	L	M
2.5 [552] / 5 [1,124] / 10 [2,250] / 20 [4,500] / 30 [6,744] / 50 [11,240] / 100 [22,500]	82 [3.23]	44 [1.73]	32 [1.26]	22 [0.87]	50 [1.97]	14 [0.55]	13 [0.51]	68 [2.67]	M8	5,000 [197]	15.7 [0.62]
200 [45,000]	100 [3.94]	48 [1.89]	36 [1.41]	28 [1.10]	100 [3.94]	14 [0.55]	13 [0.51]	80 [3.15]	M8	5,000 [197]	15.7 [0.62]
300 [67,443]	126 [4.96]	54 [2.12]	40 [1.57]	35 [1.38]	100 [3.94]	14 [0.55]	13 [0.51]	101 [3.98]	M10	5,000 [197]	15.7 [0.62]

Pin assignment

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



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