

Compression force transducer with strain gauge

Up to 100 kN [22,480 lbf]

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 [0 ... 45 lbf] to 0 ... 100 kN [0 ... 22,480 lbf]
- Relative linearity error 0.5 % F_{nom}
- Stainless steel version
- Low installation height, easy to install
- Ingress protection IP66

**Compression force transducer, model F1821**Standard
articles

Description

The F1821 compression force transducer is suitable for harsh environmental conditions and available in measuring ranges 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.

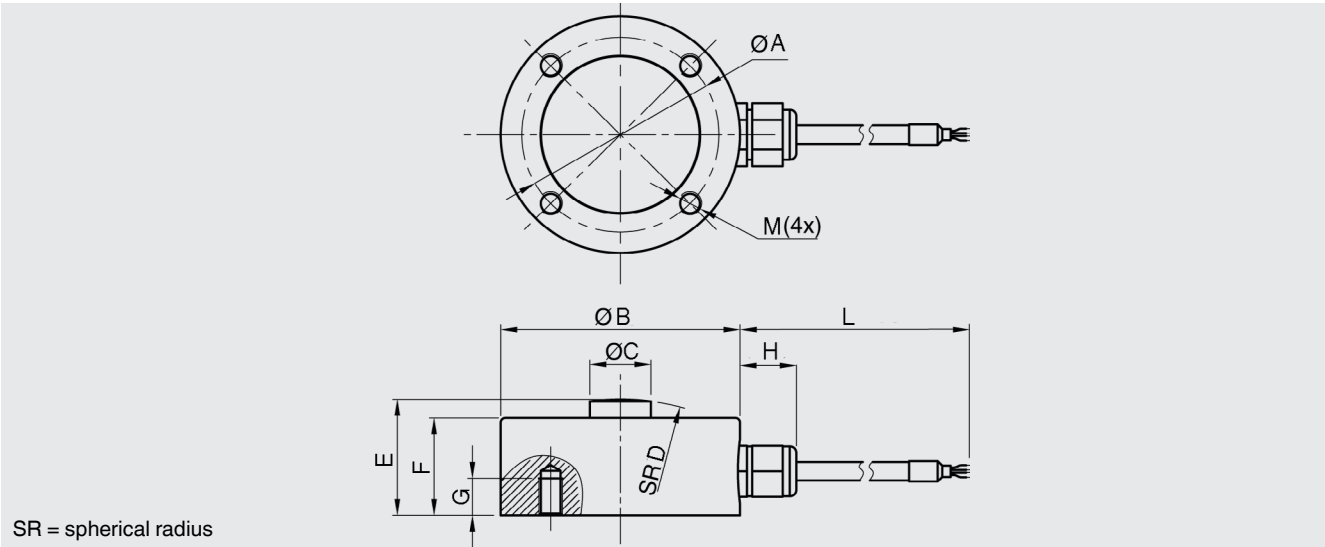
Specifications per VDI/VDE/DKD 2638

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
Rated force F_{nom} lbf	45	67.44	112	225	337	450	674	1,124
	2,250	3,372	4,500	6,744	11,240	13,500	16,881	22,250
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 % $F_{nom}/10$ 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 ... +40 °C [-50 ... +104 °F]							
Service temperature range $B_{T,G}$	-20 ... +80 °C [-68 ... +176 °F]							
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 $\pm$ 0.15 mV/V							
Electrical connection	Cable $\varnothing 4 \times 3,000$ mm [$\varnothing 0.2$ in $\times$ 118 in]							
Voltage supply	DC 5 ... 10 V (max. 15 V)							
Ingress protection (per IEC/EN 60529)	IP66							
Weight	0.4 kg [0.88 lbs]							

Approvals

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

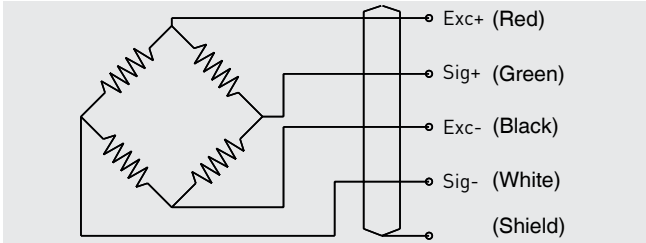
Dimensions in mm [in]



Rated force in kN [lbf]	Dimensions in mm [in]									
	ØA	ØB	ØC	SR D	E	F	G	H	L	M
0.2 [45] / 0.3 [67.44] / 0.5 [112] / 1 [225] / 1.5 [337] / 2 [450] / 3 [674] / 5 [1,124] / 10 [2,250] / 15 [3,372] / 20 [4,500]	42 [1.65]	50 [1.97]	13 [0.51]	50 [1.97]	25 [0.98]	21 [0.83]	8 [0.32]	12.5 [0.49]	3,000 [118]	M5
30 [6,744] / 50 [11,240]	42 [1.65]	50 [1.97]	16 [0.63]	50 [1.97]	25 [0.98]	21 [0.83]	8 [0.32]	12.5 [0.49]	3,000 [118]	M5
60 [13,500] / 75 [16,861] / 100 [22,500]	42 [1.65]	50 [1.97]	21 [0.83]	50 [1.97]	25 [0.98]	21 [0.83]	8 [0.32]	12.5 [0.49]	3,000 [118]	M5

Pin assignment

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



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