

Compression force transducer with strain gauge

Miniature design up to 1,000 N [225 lbf]

Model F1814

WIKA data sheet FO 51.57



Applications

- Equipment manufacturing, production lines
- Measuring and control systems
- Precision engineering
- Materials testing machinery
- Laboratory

Special features

- Measuring ranges 0 ... 50 N [0 ... 11 lbf] to 0 ... 1,000 N [0 ... 225 lbf]
- Relative linearity error 1 % F_{nom}
- Stainless steel or aluminium version
- Low installation height, easy to install
- Ingress protection IP64



Miniature compression force transducer, model F1814

Standard
articles



Description

The model F1814 miniature compression force transducer, with measuring ranges to 1,000 N, is particularly suitable for use in areas where installation space is critical.

Due to its very small dimensions and solid construction, this miniature force transducer, manufactured from stainless steel or aluminium, can be used in the widest range of industrial areas, in test facilities and in the laboratory..

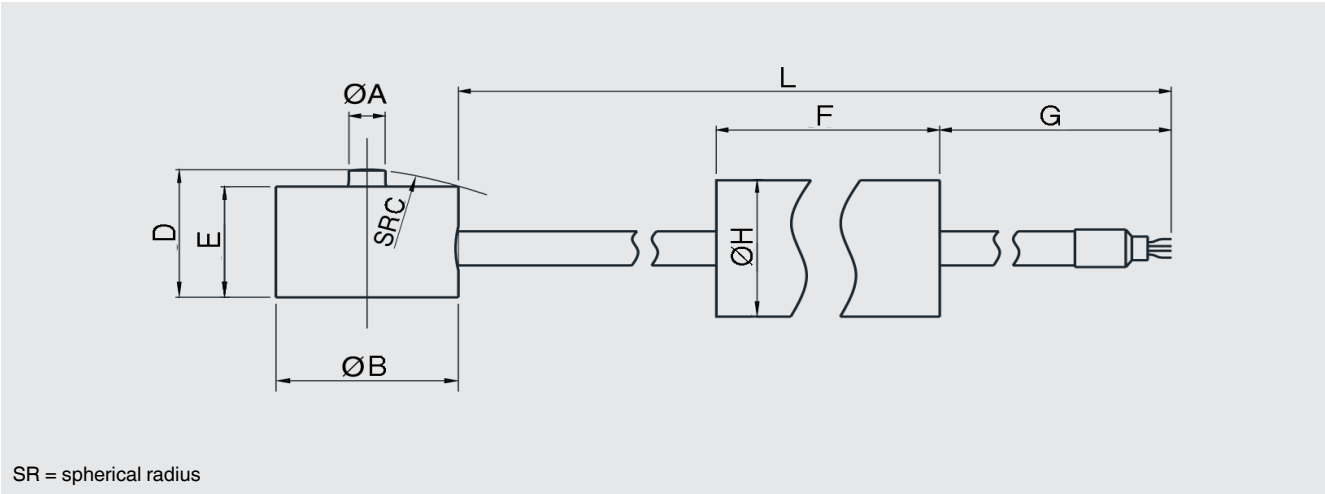
Specifications per VDI/VDE/DKD 2638

Model F1814						
Rated force F _{nom} N	50	100	200	300	500	1,000
Rated force F _{nom} lbf	11.24	22.5	45	67.44	112	225
Relative linearity error d _{lin}	1 % F _{nom}					
Relative reversibility error v	0.5 % F _{nom}					
Relative span in unchanged mounting situation b _{rg}	0.5 % F _{nom}					
Limit force F _L	120 % F _{nom}					
Breaking force F _B	150 % F _{nom}					
Material of the measuring body						
30 N	Aluminium					
≥ 50 N	Stainless steel					
Service temperature range B _{T, G}	-20 ... +80 °C [-68 ... +176 °F]					
Input resistance R _e	1,030 ±80 Ω					
Output resistance R _a	1,030 ±80 Ω					
Insulation resistance Ris	≥ 5,000 MΩ/DC 100 V					
Output signal (rated characteristic value) C _{nom}	1.0 ±0.1 mV/V					
Electrical connection	Cable Ø 2 × 3,000 mm [Ø 0.1 in x 118 in]					
Voltage supply	DC 5 V (max. 7 V)					
Ingress protection (per IEC/EN 60529)	IP64					
Weight	0.1 kg [0.22 lbs]					

Approvals

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

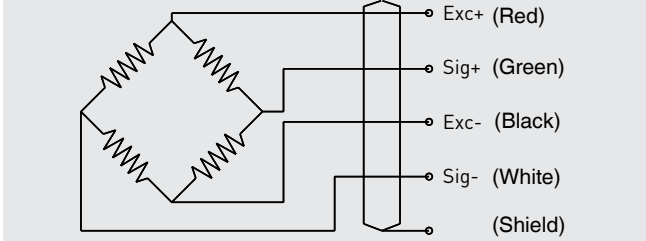
Dimensions in mm [in]



Rated force in N [lbf]	Dimensions in mm [in]								
	ØA	ØB	SR C	D	E	F	G	ØH	L
50 [11.24] / 100 [22.5]	1.5 [0.06]	10 [0.39]	5 [0.19]	6 [0.24]	5.2 [0.20]	50 [1.97]	150 [5.90]	8 [0.31]	3,000 [118]
200 [45] / 300 [67.44]	2 [0.08]	10 [0.39]	8 [0.31]	6 [0.24]	5.2 [0.20]	50 [1.97]	150 [5.90]	8 [0.31]	3,000 [118]
500 [112] / 1,000 [225]	2.5 [0.1]	10 [0.39]	10 [0.39]	6 [0.24]	5.2 [0.20]	50 [1.97]	150 [5.90]	8 [0.31]	3,000 [118]

Pin assignment

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



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