Compression force transducer
Miniature design to 1,000 N
Model F1814

Applications

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

Special features

- Measuring ranges 0 ... 50 N to 0 ... 1,000 N
- 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

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..

Data sheet for similar products:

Compression force transducer, Standard version to 300 kN, model F1811, data sheet FO 51.56
Compression force transducer, Miniature design to 5 kN, model F1818, data sheet FO 51.58
Compression force transducer, Standard version to 100 kN, model F1821, data sheet FO 51.59
Compression force transducer, Standard version from 1 t, model F1848, data sheet FO 51.76

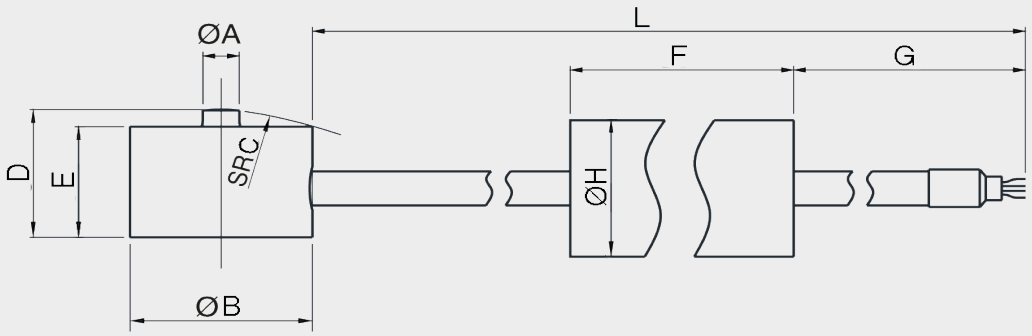
Specifications per VDI/VDE/DKD 2638

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
CE	**EU Declaration of Conformity** ■ EMC Directive ■ RoHS Directive	European Union
EAC	**EAC (Option)** EMV-Directive	Eurasian Economic Community

Dimensions in mm [in]

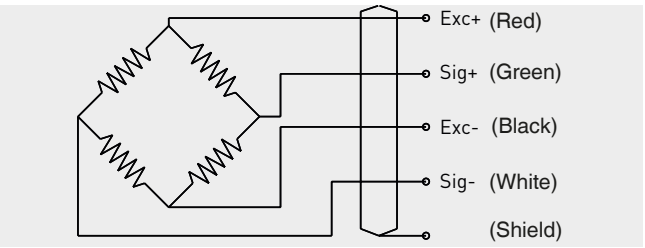


SR = spherical radius

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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