Tension/compression force transducer S-Type up to 50 kN Model F2802

Applications

- Tension and compression force testing
- Vessel weighing
- Load monitoring in industrial plants

Tension/compression force transducer, model F2802

Special features

- Measuring ranges 0 ... 0,5 kN to 0 ... 50 kN
  [0 ... 112 lbf to 0 ... 11,241 lbf]
  [0 ... 110 lbs to 0 ... 11,023 lbs]
- Corrosion-resistant stainless steel or steel design
- Ingress protection IP65 (< 5 kN / < 1,124 lbf / < 1,102 lbs)
- Ingress protection IP67 (≥ 5 kN / ≥ 1,124 lbf / ≥ 1,102 lbs)

Description

Tension/compression force transducers are designed for static and dynamic measurements tasks in the direct flux of force. They determine the tension and compression forces in a wide scope of applications.

Force transducers of the model F2802 are used in weighing technology as well as in countless industrial applications, where high accuracy, simple installtion with force introduction via the two internal threads and a favorable price plays a decisive role.

Data sheet for similar products:
Miniature force transducer, S-type up to 2,000 N; model F2808; data sheet FO 51.68

Specifications in accordance with VDI/VDE/DKD 2638

Model F2802								
Rated force F_{nom} kN	0.5	1	2	5	10	20	30	50
Rated force F_{nom} lbf	112	225	450	1,124	2,248	4,496	6,744	11,241
Rated load F_{nom} kg	50	100	200	500	1,000	2,000	3,000	5,000
Rated load F_{nom} lbs	110	221	441	1,102	2,205	4,409	6,614	11,023
Relative linearity error din_{lin} [1)]								
Steel	±0.03 % F_{nom}							
Stainless steel	±0.05 % F_{nom}							
Relative creep, 30 min.								
Steel	±0.03 % F_{nom}							
Stainless steel	±0.05 % F_{nom}							
Relative reversibility v								
Steel	±0.03 % F_{nom}							
Stainless steel	±0.05 % F_{nom}							
Relative repetability error in unchanged mounting position b_{rg}								
Steel	±0.03 % F_{nom}							
Stainless steel	±0.05 % F_{nom}							
Relative deviation of zero signal $d_{S,0}$	±2 % F_{nom}							
Temperature effect on zero signal TK_0	≤ ±0.025 %/10 K							
Temperature effect on characteristic value TK_C	≤ ±0.025 %/10 K							
Force limit F_L	150 % F_{nom}							
Breaking force F_B	200 % F_{nom}							
Material of measuring body	■ Stainless steel ■ Alloy steel							
Rated temperature range $B_{T, nom}$	-10 ... + 40 °C [14 ... 104 °F]							
Operating temperature range $B_{T, G}$	-20 ...+ 80 °C [-4 ... 176 °F]							
Input resistance R_e	385 ± 30 Ω							
Output resistance R_a	350 ± 5 Ω							
Insulation resistance R_{is}	≥ 5,000 MΩ/DC 100 V							
Output signal (rated output) C_{nom}	2.0 ± 0.001 mV/V							
Electrical connection	Cable Ø 5 x 3,000 mm [Ø 0.2 x 118.11 in]							
Supply voltage UB	■ DC 5 ... 10 V ■ DC 12 ... 28 V integrated or cable amplifier ■ 0(4) ... 20 mA ■ DC 0 ... 10 V ■ DC 0 ... 5 V							
Protection (acc. to IEC/EN 60529)								
< 5 kN [< 1,124 lbf / < 1,102 lbs]	IP65							
≥ 5 kN [≥ 1,124 lbf / ≥ 1,102 lbs]	IP67							
Rated force F_{nom} in / Weight in kg [lbs]								
0.5 kN (112 lbf / 110 lbs)	0,3 (0,66)							
1 kN; 2 kN; 5 kN; 10 kN (225 lbf; 450 lbf; 1.124 lbf; 2.248 lbf / 221 lbs; 441 lbs, 1.102 lbs; 2.205 lbs)	0,5 (1,1)							
20 kN; 30 kN (4.496 lbf; 6.744 lbf / 4.409 lbs; 6.614 lbs)	1,3 (2,87)							
50 kN (11.241 lbf / 11.023 lbs)	1,4 (3,09)							

1) Relative linearity error is specified in chapter 3.2.6 according to VDI/VDE/DKD 2638

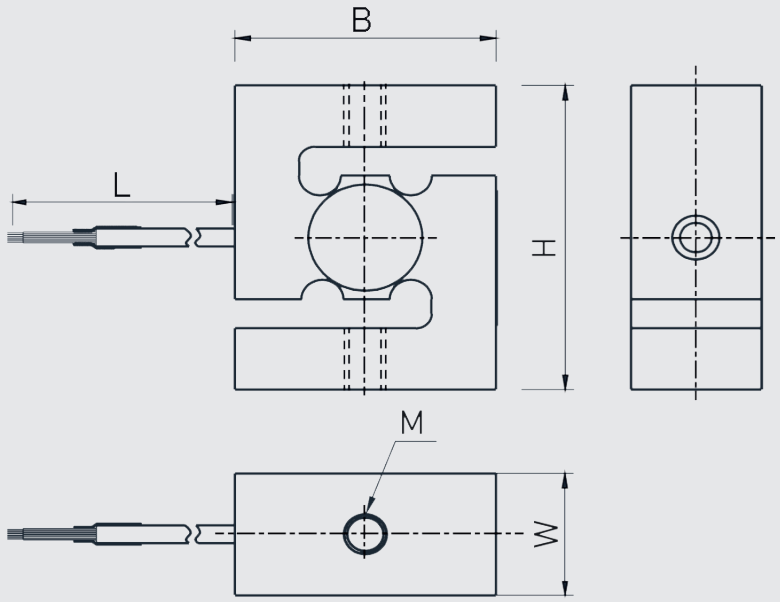
Approvals

Logo	Description	Region
CE	**EU declaration of conformity** RoHS directive	European Union

Optional approvals

Logo	Description	Region
EAC	**EAC** RoHS directive	Eurasian Economic Community

Dimensions in mm

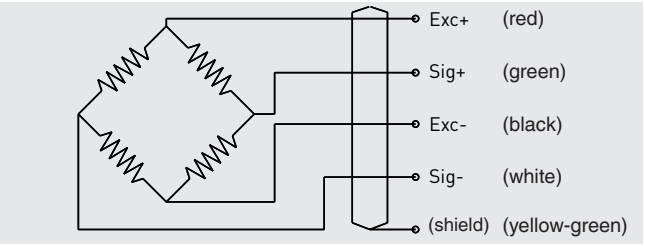


Rated force in kN	Dimensions in mm				
	B	H	W	M	L
0.5	50.8	63.5	25.4	M8	3,000
1 / 2	50.8	76.2	25.4	M12	3,000
5 / 10	57.2	87.3	31	M12	3,000
20 / 30	68.8	100	36.5	M24 x 2	3,000
50	76.2	114.3	36.5	M24 x 2	3,000

Rated force in lbf	Rated force in lbs	Dimensions in inch				
		B	H	W	M	L
112	**110**	2	2.5	1	M8	118.11
225 / 450	**221 / 441**	2	3	1	M12	118.11
1,124 / 2,248	**1,102 / 2,205**	2.25	3.44	1.22	M12	118.11
4,496 / 6,744	**4,409 / 6,614**	2.71	3.94	1.44	M24 x 2	118.11
11,241	**11,023**	3	4.50	1.44	M24 x 2	118.11

Pin assignment

Electrical connection		
Supply voltage +	Exc+	Red
Supply voltage -	Exc-	Black
Signal +	Sig+	Green
Signal -	Sig-	White
Shield ⏚	Shield	Yellow-green



Note

In order to avoid overloading, it is necessary to connect the force transducer electrically during installation and to monitor the measured value. The force to be measured must be applied concentrically and free of transverse force. The force transducers are to be mounted on a level surface.

WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
info@wika.de
www.wika.de