

Tension/compression force transducer Heavy Duty up to 200.000 lbs Model F2233



WIKA data sheet FO 51.67

Applications

- Testing and manufacturing
- Automotive crash testing

Special features

- Measuring ranges 0 ... 100 lbs to 0 ... 200,000 lbs
- For tension and compression measurement
- ASTM E74 calibration
- Relative linearity error 0.03 % F_{nom}



Tension/compression force transducer, model F2233

Description

This tension/compression force transducer F2233 is designed for Heavy Duty use in applications where high accuracy is required.

High force capability and exceptional accuracy makes this force transducer ideal for use in overload monitoring, quality assurance, calibration stands, and structural testing. Applications are material tests on ship shafts or crash testing in the automotive industry.

Note

In order to avoid overloading, it is recommended to connect the force transducer electrically during installation and to monitor the measured value.

The force must be applied axial to the centre. Torsion and bending moments must be avoided.

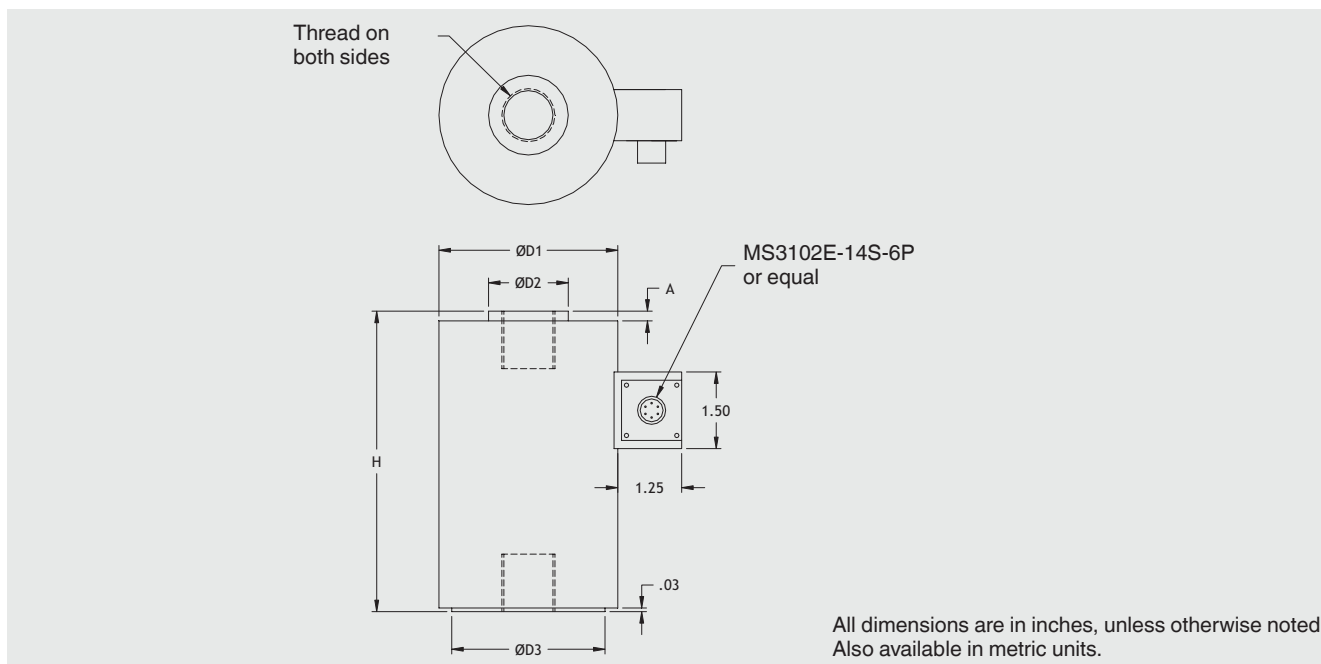
Options

- Double measurement bridge
- Metrical-type connection thread
- Cable outlet

Technical data in accordance with VDI/VDE/DKD 2638

Model F2233	
Nominal load F_{nom} lbs	100 / 250 / 500 / 1,000 / 2,000 / 5,000 / 50,000 / 75,000 / 150,000 / 200,000
Relative linearity error d_{lin}	$\pm 0.03 \% F_{nom}$ ($\pm 0.05 \% F_{nom}$ for < 250 lbs and $> 75,000$ lbs)
Relative repeatability error in unchanged mounting position b_{rg}	$0.02 \% F_{nom}$
Relative reversibility error v	$\pm 0.03 \% F_{nom}$ ($\pm 0.05 \% F_{nom}$ for < 250 lbs and $> 75,000$ lbs)
Relative deviation of zero signal $d_{S,0}$	$1 \% F_{nom}$
Temperature effect on zero signal TK_0	$< \pm 0.015 \% \text{ of F.S. } / 10 \text{ }^\circ\text{F}$
Temperature effect on characteristic value TK_C	$< \pm 0.008 \% \text{ Reading} / 10 \text{ }^\circ\text{F}$
Force limit F_L	$150 \% F_{nom}$
Material	Stainless steel
Rated temperature range $B_{T, nom}$	$-1 \dots 85 \text{ }^\circ\text{C}$ ($30 \dots 185 \text{ }^\circ\text{F}$)
Operating temperature range $B_{T, G}$	$15 \dots 71 \text{ }^\circ\text{C}$ ($60 \dots 160 \text{ }^\circ\text{F}$)
Output signal (rated output) C_{nom}	$3 \text{ mV/V} \pm 0.25 \%$
Input-/output resistance R_e/R_a	350Ω
Insulation resistance	$> 5 \text{ G}\Omega$ with 50 V
Electrical connection	Connector MS3102E-14S-6P or equal
Rated range of excitation voltage $B_{U, nom}$	DC 10 V
Supply voltage	
■ Standard	DC $12 \dots 28 \text{ V}$
■ Option	$0(4) \dots 20 \text{ mA}$ DC $0 \dots 10 \text{ V}$ Integrated or cable amplifier
Protection (acc. to IEC/EN 60529)	IP65
Calibration (standard)	Positive in tension

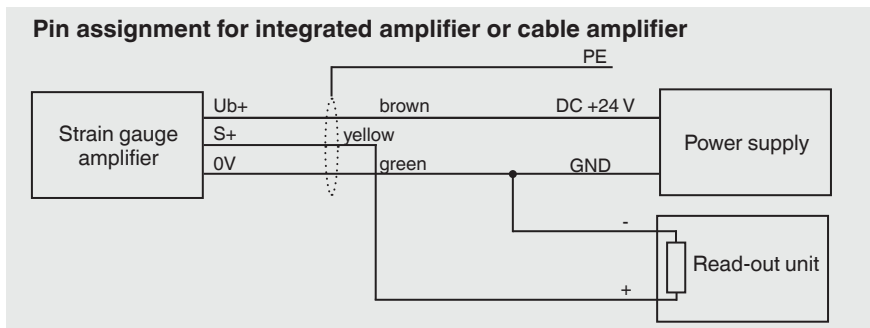
Dimensions in inches



Nominal load lbs	Dimensions in inches					
	H	ØD1	ØD2	ØD2	A	Thread
100	2.75	2.00	0.63	1.90	0.09	3/8-24 UNF x 7/16
250 / 500	2.75	2.00	0.63	1.90	0.18	3/8-24 UNF x 7/16
1,000 / 2,000 / 3,000 / 4,000	4.13	2.50	0.75	2.00	0.18	1/2-20 UNF x 5/8
5,000 / 7,500 / 10,000	5.88	3.50	1.56	3.00	0.19	1-14 UNF x 1-1/8
15,000 / 20,000 / 30,000	8.50	5.00	2.38	4.30	0.63	1 1/2- 12 UNF x 2
50,000 / 75,000	12.00	6.00	3.63	5.50	0.69	2-12 UNF x 2 1/2
100,000 / 150,000	15.80	7.50	4.80	6.80	0.69	3-8 UNF x 4 1/2
200,000	21.00	9.00	7.50	8.10	0.75	4-8 UN x 5 1/2

Pin assignment

Electrical connection	
Excitation voltage (+)	Pin A&B
Excitation voltage (-)	Pin C&D
Signal (+)	Pin F
Signal (-)	Pin E



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