

# 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.

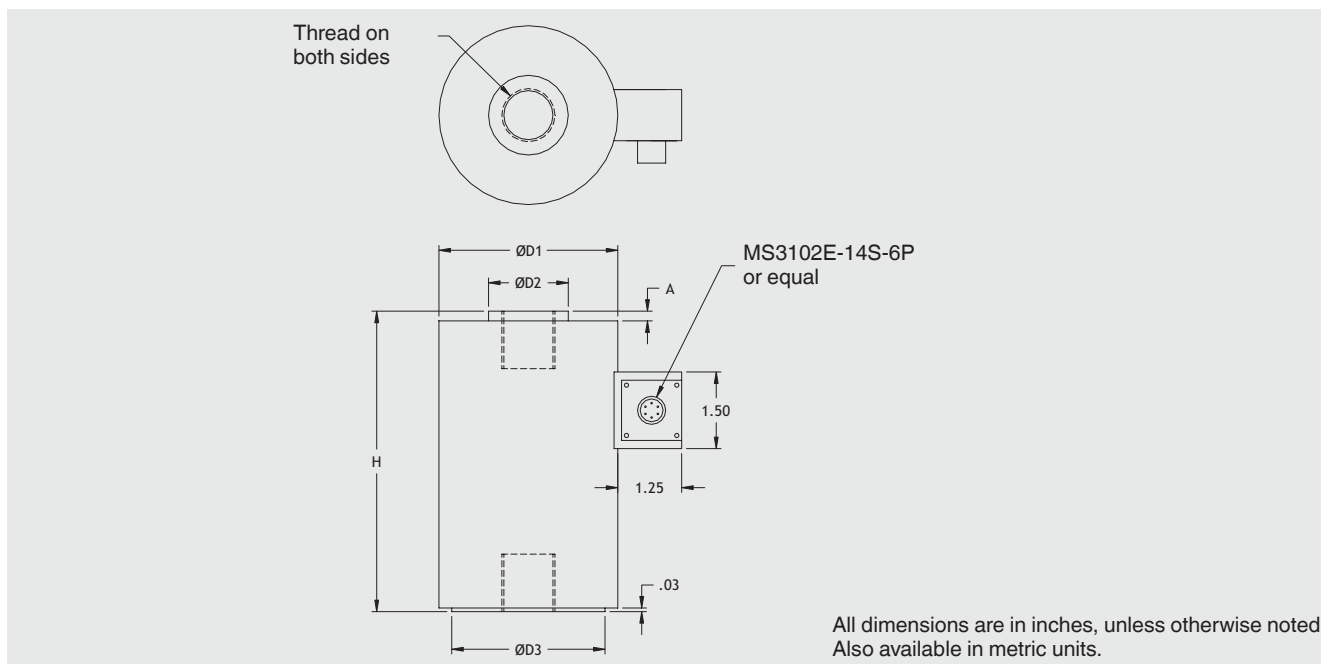
### Options

- 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 $R_e/R_a$	$350 \Omega$
Insulation resistance	$> 5 \text{ G}\Omega$ with $50 \text{ V}$
Electrical connection	Connector MS3102E-14S-6P or equal
Rated range of excitation voltage $B_{U, nom}$	DC $10 \text{ V}$
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

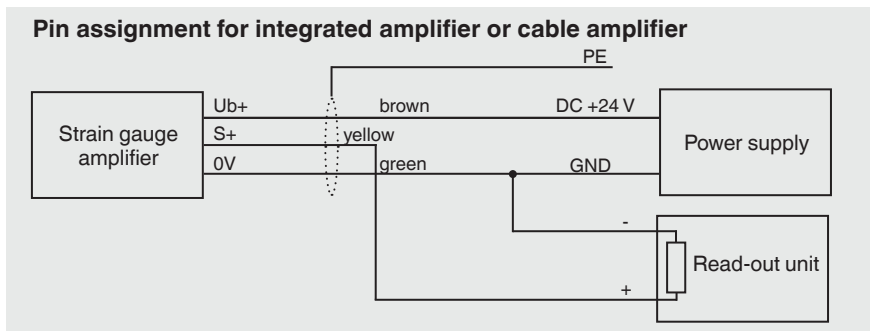
## Dimensions in inches



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



© 2018 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.  
 The specifications given in this document represent the state of engineering at the time of publishing.  
 We reserve the right to make modifications to the specifications and materials.

