

F308 Axial Loadcell

**Standard Ranges 50, 100, 200, 500N
and 1, 1.5, 2, 2.5kN (5 to 250kgf)**

- ✓ Good repeatability
- ✓ Compact axial geometry
- ✓ Space saving male / female fixing
- ✓ Sealed to IP65
- ✓ Traceable calibration with certificate included in the standard price
- ✓ Standard 1 year warranty



Specification

Parameter	Value	Unit
Non-linearity - Terminal	± 0.1 (50 to 500N) / ± 0.35 (1 to 2.5kN)	% RL
Hysteresis	± 0.1 (50 to 500N) / ± 0.1 (1 to 2.5kN)	% RL
Creep - 20 minutes	± 0.2 (50 to 500N) / ± 0.1 (1 to 2.5kN)	% AL
Repeatability	± 0.05 (50 to 500N) / ± 0.05 (1 to 2.5kN)	% RL
Rated output - Nominal	1.2 (50 to 500N) / 1.2 (1 to 2.5kN)	mV/V
Rated output - Rationalised	1.0 (50 to 500N) / 1.0 (1 to 2.5kN)	mV/V
Rationalisation tolerance (applies to single direction calibrations)	± 0.5 (50 to 500N) / ± 0.5 (1 to 2.5kN)	% RL
Zero load output	± 4 (50 to 500N) / ± 4 (1 to 2.5kN)	% RL
Output symmetry	2.0 (50 to 500N) / 2.0 (1 to 2.5kN)	% AO
Temperature effect on rated output per $^{\circ}\text{C}$	± 0.005 (50 to 500N) / ± 0.005 (1 to 2.5kN)	% AL
Temperature effect on zero load output per $^{\circ}\text{C}$	± 0.01 (50 to 500N) / ± 0.01 (1 to 2.5kN)	% RL
Temperature range - Compensated	-10 to +50 (50 to 500N) / -10 to +50 (1 to 2.5kN)	$^{\circ}\text{C}$
Temperature range - Safe	-10 to +80 (50 to 500N) / -10 to +80 (1 to 2.5kN)	$^{\circ}\text{C}$

Excitation voltage - Recommended	10 (50 to 500N) / 10 (1 to 2.5kN)	V
Excitation voltage - Maximum	10 (50 to 500N) / 10 (1 to 2.5kN)	V
Bridge resistance	350 (50 to 500N) / 350 (1 to 2.5kN)	Ω
Insulation resistance - Minimum at 50Vdc	500 (50 to 500N) / 500 (1 to 2.5kN)	MΩ
Overload - Safe	50 (50 to 500N) / 50 (1 to 2.5kN)	% RL
Overload - Ultimate	200 (50 to 500N) / 200 (1 to 2.5kN)	% RL
Sealing	IP65	
Weight - Nominal (excluding cable)	50 (50 to 500N) / 70 (1 to 2.5kN)	g
Ranges up to 200N are manufactured in aluminium; ranges above 200N are manufactured in stainless steel.		

The F308 is a compact axial loadcell with improved EFI compared to diaphragm loadcells.

The inert base and top fixings with spanner flats allow ease of installation. The strain geometry possesses a plane with good EFI performance defined as perpendicular to the loading axis and the spanner flats. This is particularly useful when a loadcell is used to support mass with its weight acting perpendicular to the measurement axis. We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for higher temperature operation. Ranges from 500N to 2.5kN can be manufactured for fully compensated operation up to +250°C. Please consult our engineering department.

Order Codes

Code	Description
F308DFR0H0	Compression, IP65, unrationalised
F308TFR0H0	Tension, IP65, unrationalised
F308UFR0H0	Bi-directional, IP65, unrationalised
F308DFR0HN	Compression, IP65, rationalised
F308TFR0HN	Tension, IP65, rationalised
F308UFR0HN	Bi-directional, IP65, rationalised

Structural Stiffness - Nominal

Range (kN)	Stiffness (N/m)
50 (N)	1.4 x 10 ⁶
100 (N)	3.8 x 10 ⁶
200 (N)	1.1 x 10 ⁷
500 (N)	2.5 x 10 ⁷
1 to 2.5	1.1 x 10 ⁸

Notes

- AL = Applied load.
- RL = Rated load.
- AO = Average of tension and compression outputs for full load.
- Temperature coefficients apply over the compensated range.

Connections

The loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 7-1-4C.

Excitation + = Red, Excitation - = Blue, Signal + = Yellow, Signal - = Green, Screen = Orange.

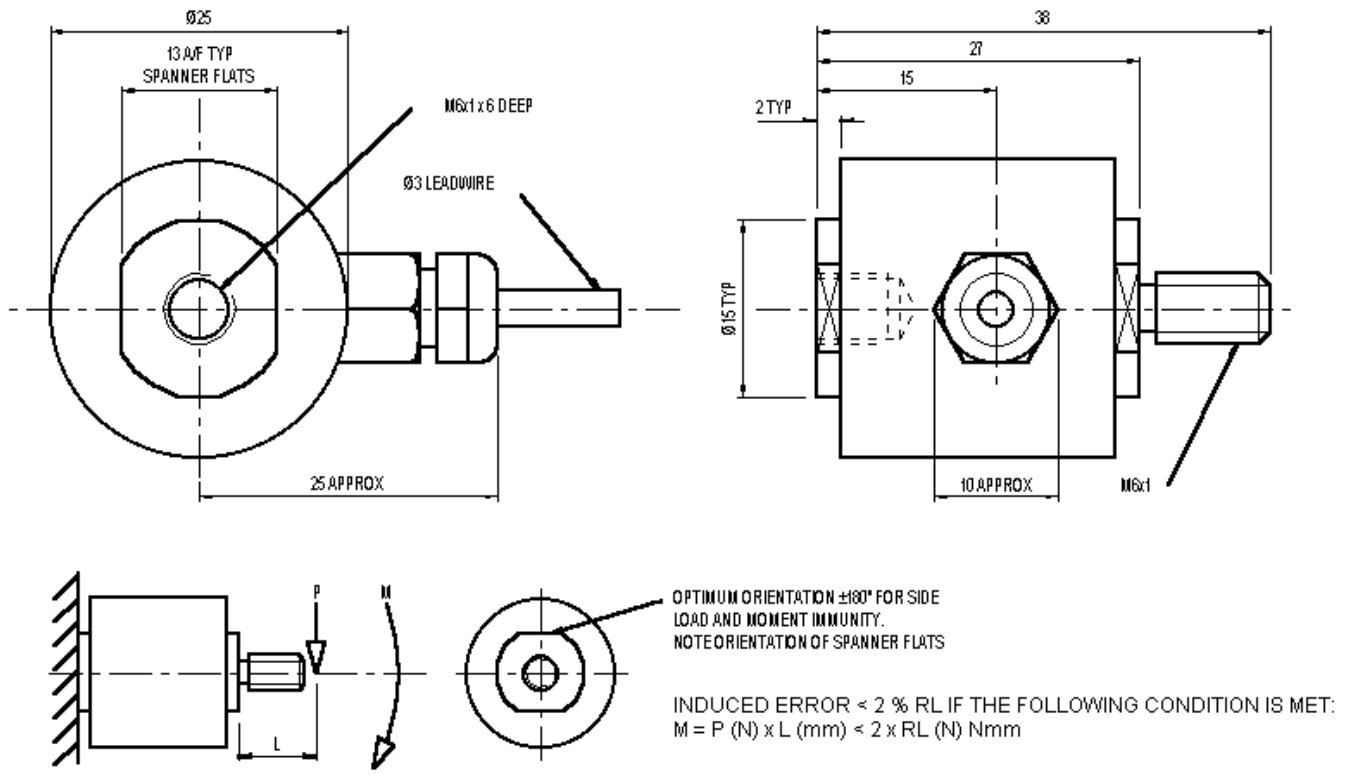
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

When this loadcell is rationalised the resistors are housed in a capsule located in the loadcell cable 100mm from the free end. Capsule dimensions are Ø10mm by 57mm.

Files

Type	Title	Download
STEP File	F308-T/D/U-FR0H0 All standard ranges	Download

Outline



Novatech Measurements Limited

83 Castleham Road, St Leonards on Sea, East Sussex, TN38 9NT, England.

Telephone: +44 (0)1424 852744

Fax: +44 (0)1424 853002

E-mail: info@novatechloadcells.co.uk