

## 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 2 year warranty



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.

Details of our other loadcell families can be found in the Product List and the Loadcell Specifier Guide. If you require a copy please contact our sales department or look on our web site at [www.novatechloadcells.co.uk](http://www.novatechloadcells.co.uk).

Note: EFI = Extraneous Force Immunity, see Engineering Application Sheet E008 for details.

<b>Ordering Codes:</b>		See the loadcell ordering code sheet for more details. Add range in the required units.	
F308TFR0H0	Tension, IP65, unrationalised	F308TFR0HN	Tension, IP65, rationalised
F308DFR0H0	Compression, IP65, unrationalised	F308DFR0HN	Compression, IP65, rationalised
F308UFR0H0	Bi-directional, IP65, unrationalised	F308UFR0HN	Bi-directional, IP65, rationalised

## F308 Specification

Parameter	50 to 500N	1 to 2.5kN	Unit
Non-linearity - Terminal	±0.1	±0.35	% RL
Hysteresis	±0.1	±0.1	% RL
Creep - 20 minutes	±0.2	±0.1	% AL
Repeatability	±0.05	±0.05	% RL
Rated output - Nominal	1.2	1.2	mV/V
Rated output - Rationalised	1.0	1.0	mV/V
Rationalisation tolerance (applies to single direction calibrations)	±0.5	±0.5	% RL
Output symmetry	2.0	2.0	% AO
Zero load output	±4	±4	% RL
Temperature effect on rated output per °C	±0.005	±0.005	% AL
Temperature effect on zero load output per °C	±0.01	±0.01	% RL
Temperature range - Compensated	-10 to +50	-10 to +50	°C
Temperature range - Safe	-10 to +80	-10 to +80	°C
Excitation voltage - Recommended	10	10	V
Excitation voltage - Maximum	10	10	V
Bridge resistance	350	350	Ω
Insulation resistance - Minimum at 50Vdc	500	500	MΩ
Overload - Safe	50	50	% RL
Overload - Ultimate	200	200	% RL
Sealing	IP65	IP65	
Weight - Nominal (excluding cable)	50	70	g

Ranges up to 200N are manufactured in aluminium; ranges above 200N are manufactured in stainless steel.  
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.

Structural stiffness - Nominal					
Range (N)	Stiffness (N/m)	Range (N)	Stiffness (N/m)	Range (kN)	Stiffness (N/m)
50	$1.4 \times 10^6$	100	$3.8 \times 10^6$	1 to 2.5	$1.1 \times 10^8$
200	$1.1 \times 10^7$	500	$2.5 \times 10^7$		

### Notes

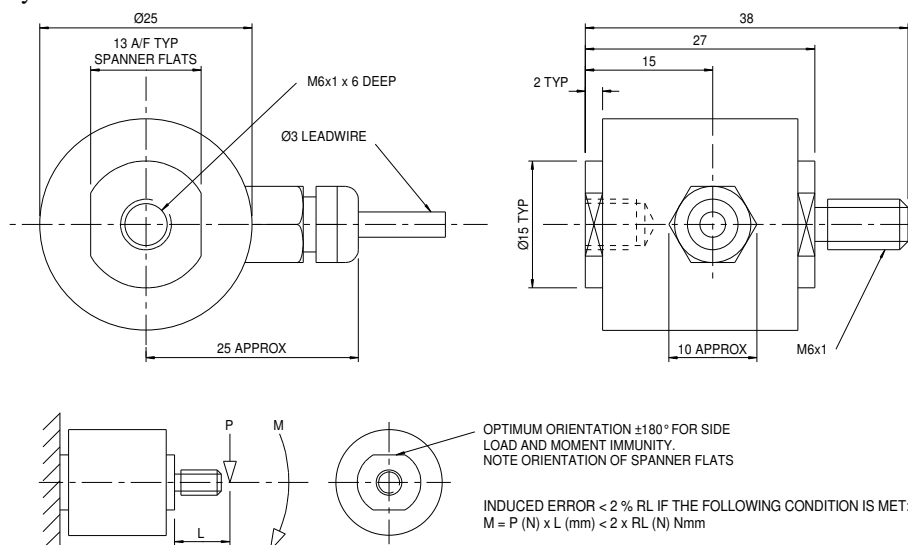
- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.
- AO = Average of tension and compression outputs for full load.

### Connections

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

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

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



To optimise the performance the F308 end faces should be maintained parallel under load.

Novatech reserves the right to vary the foregoing details without prior notice

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