



F307

3 Axis Loadcell

Standard Ranges ± 10 and ± 20 kN x, y and z (± 1 and ± 2 tonne x, y and z)

- ◆ **Direct output from each axis without calculation**
- ◆ **Good output symmetry simplifies instrumentation calibration**
- ◆ **Simple installation**
- ◆ **High overload capability**
- ◆ **Engineering Application Sheet available**



The F307 loadcell provides a bi-directional direct measurement of the X, Y and Z components resulting from a force vector. Apart from error evaluations, each output is pure and requires no mathematical manipulation.

The F307 is ideally suited to many industrial and scientific applications, including automotive research. The performance specification is valid for moments up to 50Nm. For applications up to 200Nm please see the F307 Engineering Application Sheet.

The loadcell can be manufactured with force ranges to suit the application. The axes can have different force ranges. Please consult our engineering department about the viability of the required ranges.

We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for fully compensated operation up to $+250^{\circ}\text{C}$. Please consult our engineering department.

Details of our other loadcell families can be found in 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.

Ordering Codes:	See the loadcell ordering code sheet for more details. Add ranges in the required units.		
F307UF00H0	Bi-directional, unrationalised		

F307 Specification

Parameter	Value		Unit
Non-linearity - Terminal	±0.3		% RL
Hysteresis	±0.4		% RL
Creep - 20 minutes	±0.1		% AL
Repeatability	±0.02		% RL
Maximum cross talk	3		% RL
Rated output - Nominal	1.5		mV/V
Zero load output	±4		% RL
Temperature effect on rated output per °C	±0.005		% AL
Temperature effect on zero load output per °C	±0.007		% RL
Temperature range - Compensated	-10 to +50		°C
Temperature range - Safe	-10 to +80		°C
Excitation voltage - Recommended	10		V
Excitation voltage - Maximum	10		V
Bridge resistance	350		Ω
Insulation resistance - Minimum at 50Vdc	500		MΩ
Structural stiffness - X and Y	6.2 x 10 ⁷ (10kN)	6.6 x 10 ⁷ (20kN)	N/m
Structural stiffness - Z	8.7 x 10 ⁷ (10kN)	9.4 x 10 ⁷ (20kN)	N/m
Overload - Safe	50		% RL
Overload - Ultimate	100		% RL
Overload moment - Safe	250		Nm
Overload moment - Ultimate	500		Nm
Weight - Nominal (excluding cable)	3.1		kg

All standard ranges are manufactured in stainless steel.

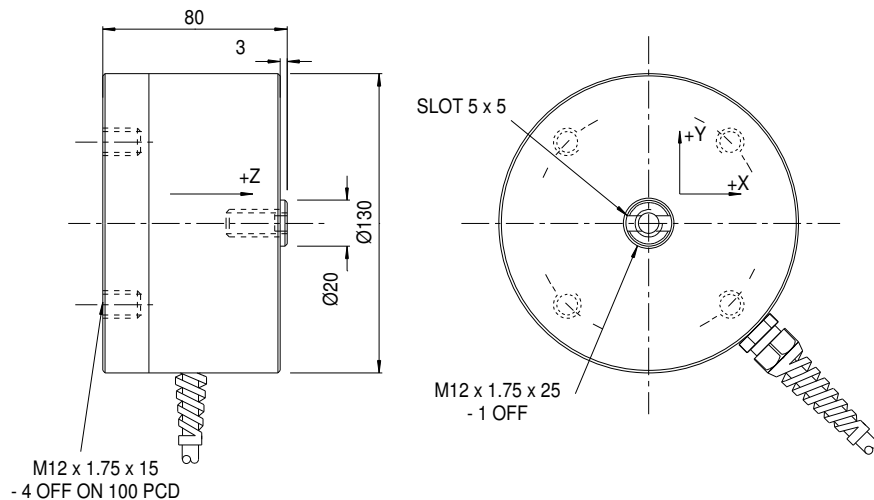
Notes

1. AL = Applied load.
2. RL = Rated load.
3. Temperature coefficients apply over the compensated range.
4. Values apply to all axes unless otherwise specified.

Connections

The F307 is fitted with 2 metres of PVC insulated 12 core screened cable, type 7-1-12C, terminated with a 25 pin D type plug. The screen is not connected to the loadcell body.

Function	Wire colours and pin numbers					
	X axis		Y axis		Z axis	
Excitation +	Red	1	Violet	9	Orange	14
Excitation -	Blue	2	Black	10	Turquoise	15
Signal +	Yellow	3	Brown	11	Pink	16
Signal -	Green	4	White	12	Grey	17
Screen	Orange (thick)			5, 13 and 18		



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

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