

F307 3 Axis Loadcell

Standard Ranges 10kN and 20kN (1 and 2tonnef)

- ✓ Direct output from each axis without calculation
- ✓ Good output symmetry simplifies instrumentation calibration
- ✓ Simple installation
- ✓ High overload capability
- ✓ Engineering Application Sheet available
- ✓ Traceable calibration with certificate included in the standard price



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 $\hat{A}^{\circ}\text{C}$ | ±0.005 | % AL |
| Temperature effect on zero load output per $\hat{A}^{\circ}\text{C}$ | ±0.007 | % RL |
| Temperature range - Compensated | -10 to +50 | $^{\circ}\text{C}$ |
| Temperature range - Safe | -10 to +80 | $^{\circ}\text{C}$ |
| Excitation voltage - Recommended | 10 | V |
| Excitation voltage - Maximum | 10 | V |
| Bridge resistance | 700 | $\hat{\Omega}$ |
| Insulation resistance - Minimum at | 500 | M $\hat{\Omega}$ |

| | | |
|--|---|------|
| 50Vdc | | |
| 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. | | |

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°C. Please consult our engineering department.

Order Codes

| Code | Description |
|------------|--------------------------------|
| F307UF00K0 | Bi-directional, unrationalised |

Notes

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

✍ Connections

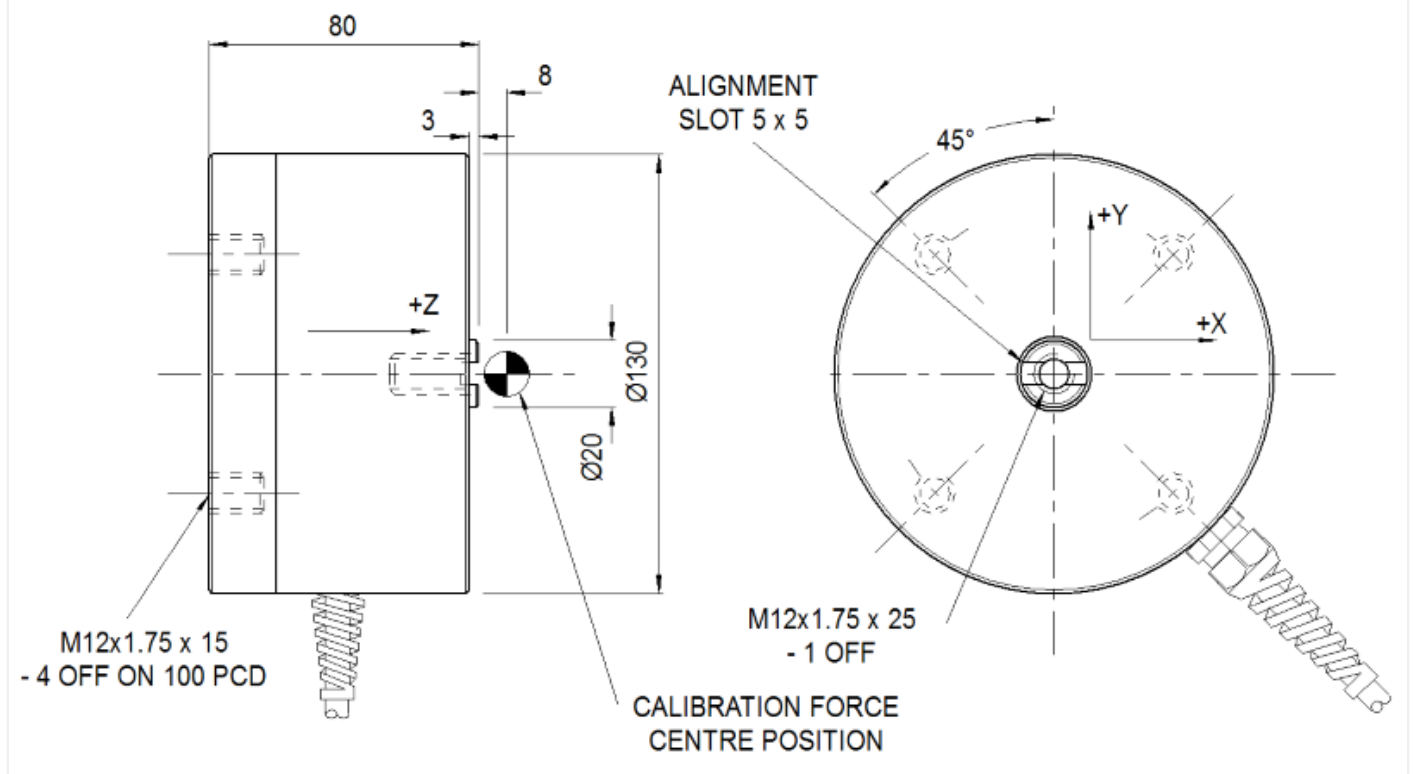
The F307 is fitted with 2 metres of PVC insulated 12 core screened cable, type 7-1-12C, terminated with a 25 pin D type plug. The screen is not connected to the loadcell body.

| 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 | | | | |

☁ Files

| Type | Title | Download |
|-----------|--------------------------------------|--------------------------|
| STEP File | F307-T/C/U-F00K0 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