

F232/3

Multi Axis Loadcell

Standard Ranges $\pm 10\text{kg}$ to $\pm 500\text{kg}$ ($\pm 100\text{N}$ to $\pm 5\text{kN}$)

- ◆ 2 & 3 axis versions
- ◆ Custom force ranges
- ◆ Simple installation
- ◆ Direct output from each axis without calculation
- ◆ Standard 2 year warranty



The F232 measures forces in two axes at 90° and the F233 measures forces in 3 mutually perpendicular axes. Apart from error evaluations, each output is pure and requires no mathematical manipulation. The loadcell is moment sensitive requiring calibration to be carried out at a specified force centre. The standard centre is specified in the specification. If this is not suitable for your application please consult our engineering department about alternative calibrations.

The F232/3 is ideally suited to many industrial and scientific applications, including automotive and medical research.

We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for higher temperature operation. Please consult our engineering department.

The loadcell can be manufactured with force ranges to suit the application. The Z axis can have a different force range from the X and Y axes. Please consult our engineering department about the viability of the required ranges. The example shown in the picture and drawing is a $\pm 50\text{kg}$ model; there will be small differences in the dimensions for other ranges.

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. |
|------------------------|--|

| |
|--|
| Most F232/3 loadcells are manufactured to special requirements and are given an F232-Zxxxx or F233-Zxxxx number. |
|--|

F232/3 Specification

| Parameter | Value | Unit |
|---|------------------|------|
| Non-linearity - Terminal | ±0.5 | % RL |
| Hysteresis | ±0.5 | % RL |
| Creep - 20 minutes | ±0.1 | % AL |
| Repeatability | ±0.02 | % RL |
| Maximum cross talk | 3 | % RL |
| Calibration force centre | x=0, y=0, z=-4.5 | mm |
| Rated output - Nominal | 1.2 | 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 | ±0.01 | % 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 X & Y axis | 350 | Ω |
| Z axis | 700 | Ω |
| Insulation resistance - Minimum at 50Vdc | 500 | MΩ |
| Overload - Safe | 50 | % RL |
| Overload - Ultimate | 100 | % RL |
| Weight - Nominal (excluding cable) | 200 | g |

Manufactured in aluminium or stainless steel, depending on the load range.

| Structural stiffness - Nominal | | | | | |
|--------------------------------|-----------------------|--------------|-----------------------|------------|-----------------|
| Range (N) | Stiffness (N/m) | Range (kN) | Stiffness (N/m) | Range (kN) | Stiffness (N/m) |
| 100 (per axis) | 4.3 x 10 ⁶ | 5 (per axis) | 2.1 x 10 ⁸ | | |

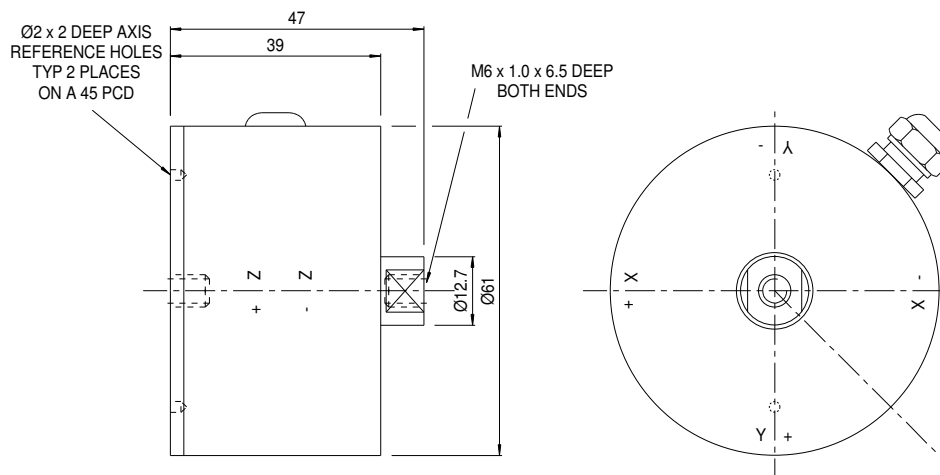
Notes

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 F232 is fitted with 2 metres of PVC insulated 9 core screened cable type 7-1-9C. The F233 is fitted with 2 metres of PVC insulated 12 core screened cable type 7-1-12C. The screen is not connected to the loadcell body.

| Function | Wire Colour | | |
|--------------|----------------|--------|-----------|
| | X axis | Y axis | Z axis |
| Excitation + | Red | Violet | Orange |
| Excitation - | Blue | Black | Turquoise |
| Signal + | Yellow | Brown | Pink |
| Signal - | Green | White | Grey |
| Screen | Orange (thick) | | |



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

04/2009

NOVATECH MEASUREMENTS LTD

83 CASTLEHAM ROAD, ST LEONARDS ON SEA, EAST SUSSEX, TN38 9NT, ENGLAND

Tel: 01424 852744

email: info@novatechloadcells.co.uk

Fax: 01424 853002

www.novatechloadcells.co.uk