

## F214 Loadstud

### Standard Ranges 15, 30 and 60kN (1.5 to 6tonnef)

- ✓ Hardened stainless steel body
- ✓ Compact 'in line' installation
- ✓ Small diameter
- ✓ Low cost
- ✓ Traceable calibration with certificate included in the standard price
- ✓ Standard 1 year warranty



### Specification

| Parameter  | Value       | Unit               |
|--|-------------|--------------------|
| Non-linearity - Terminal   | $\pm 0.1$   | % RL               |
| Hysteresis   | $\pm 0.1$   | % RL               |
| Creep - 20 minutes   | $\pm 0.05$  | % AL               |
| Repeatability  | $\pm 0.02$  | % RL               |
| Rated output - Nominal   | 1.2         | mV/V               |
| Rated output - Rationalised  | 1.0         | mV/V               |
| Rationalisation tolerance (applies to single direction calibrations) | $\pm 0.5$   | % RL               |
| Zero load output   | $\pm 4$     | % RL               |
| Temperature effect on rated output per $^{\circ}\text{C}$            | $\pm 0.005$ | % AL               |
| Temperature effect on zero load output per $^{\circ}\text{C}$        | $\pm 0.03$  | % 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  | 350         | $\hat{\Omega}$     |

|  |            |      |
|--|------------|------|
| Insulation resistance - Minimum at 50Vdc | 500        | MÎ©  |
| Overload - Safe                          | 50         | % RL |
| Overload - Ultimate                      | 200        | % RL |
| Sealing                                  | IP65       |      |
| Weight - Nominal (excluding cable)       | 140 to 200 | g    |

## Geometry: Axial strain rod in weather sealed case, with external fixing threads. For use in tension or compression.

With bi-directional versions there is a small difference between the output signal for compression and tension. All standard bi-directional loadcells are calibrated in both modes and the output for each direction is stated on the test / calibration certificate. The F214 is ideally suited to engineering force measurements, particularly with push pull actuator / linkage arrangements where self alignment and axial force transmission is achieved by hardware design. 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                          |
|------------|--------------------------------------|
| F214CFR0H0 | Compression, IP65, unrationalised    |
| F214TFR0H0 | Tension, IP65, unrationalised        |
| F214UFR0H0 | Bi-directional, IP65, unrationalised |
| F214CFR0HN | Compression, IP65, rationalised      |
| F214TFR0HN | Tension, IP65, rationalised          |
| F214UFR0HN | Bi-directional, IP65, rationalised   |

### Structural Stiffness - Nominal

| Range (kN) | Stiffness (N/m)       |
|------------|-----------------------|
| 15         | 9.5 x 10 <sup>8</sup> |
| 30         | 1.9 x 10 <sup>9</sup> |
| 60         | 3.8 x 10 <sup>9</sup> |

## Notes

- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.
- The load must be applied directly through the central loading axis.

## Connections

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

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

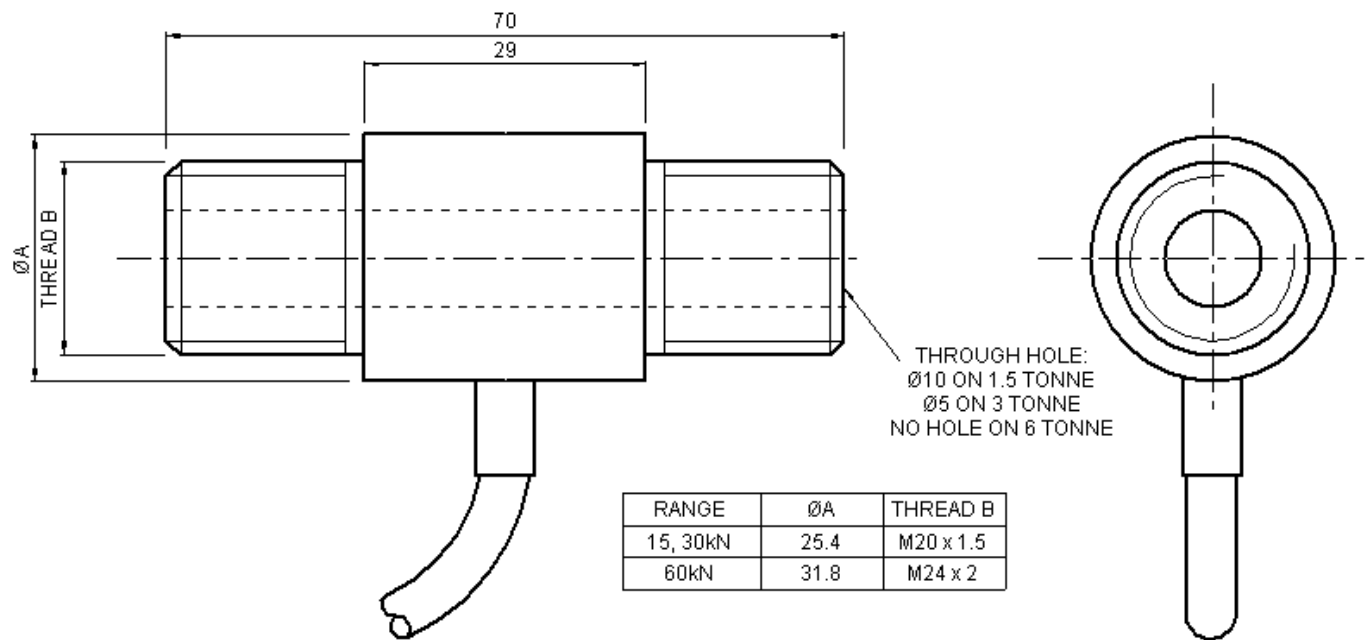
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

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 | F214-C/T/U-FR0H0 15kN<br>(1.5tonnef) | <a href="#">Download</a> |
| STEP File | F214-C/T/U-FR0H0 30kN<br>(3tonnef)   | <a href="#">Download</a> |
| STEP File | F214-C/T/U-FR0H0 60kN<br>(6tonnef)   | <a href="#">Download</a> |

## 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](mailto:info@novatechloadcells.co.uk)