

F254 Fatigue Rated Pancake Loadcell

Standard Ranges 25, 50, 100 and 200kN (2.5 to 20tonnef)

- ✓ Tension / compression / bi-directional calibration
- ✓ Low profile
- ✓ Custom modifications to suit your application
- ✓ Sealed to IP65
- ✓ Hardened stainless steel construction
- ✓ Traceable calibration with certificate included in the standard price



Specification

| Parameter | Value | Unit |
|--|------------|--------------------|
| Non-linearity - Terminal | ±0.1 | % RL |
| Hysteresis | ±0.1 | % RL |
| Creep - 20 minutes | ±0.05 | % AL |
| Repeatability | ±0.02 | % RL |
| Rated output - Nominal | 2.1 | mV/V |
| Rated output - Rationalised | 2 | mV/V |
| Rationalisation tolerance (applies to single direction calibrations) | ±0.5 | % RL |
| Output symmetry | ±0.2 | % AO |
| Fatigue life | 108 | ±RL cycles |
| 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 $\hat{A}^{\circ}\text{C}$ | ±0.005 | % RL |
| Temperature range - Compensated | -10 to +50 | $^{\circ}\text{C}$ |

| | | |
|--|------------|------|
| Temperature range - Safe | -10 to +80 | °C |
| Excitation voltage - Recommended | 10 | V |
| Excitation voltage - Maximum | 20 | V |
| Bridge resistance | 700 | Ω |
| Insulation resistance - Minimum at 50Vdc | 500 | MΩ |
| Fixing bolt torque (bolt grade 8.8) - 25kN range | 25 | Nm |
| - Other ranges | 48 | Nm |
| Overload - Safe | 50 | % RL |
| Overload - Ultimate | 200 | % RL |
| Sealing | IP65 | |
| All standard ranges are manufactured in stainless steel. | | |

Geometry: Shear web structure with high vertical and lateral mechanical stiffness.

The F254 is designed for high levels of cyclic loading and is readily adapted to series mechanical connection within actuator rods or pistons by using our 'in-line' adapter. The loadcell has good output symmetry between compression and tension operation. All standard bi-directional loadcells are calibrated in both modes. If you require a recessed boss the F318 pancake loadcell may be more suitable. The F318 has standard ranges from 1 to 500kN. 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 |
|--|--------------------------------------|
| F254CFR0K0 | Compression, IP65, unrationalised |
| F254TFR0K0 | Tension, IP65, unrationalised |
| F254UFR0K0 | Bi-directional, IP65, unrationalised |
| F254CFR0KN | Compression, IP65, rationalised |
| F254TFR0KN | Tension, IP65, rationalised |
| F254UFR0KN | Bi-directional, IP65, rationalised |
| Change the F to a P for the connector version. | |

Structural Stiffness - Nominal

| Range (kN) | Stiffness (N/m) |
|------------|-----------------------|
| 25 | 1.3 x 10 ⁹ |
| 50 | 2.6 x 10 ⁹ |
| 100 | 1.7 x 10 ⁹ |
| 200 | 3.4 x 10 ⁹ |

Notes

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

Connections

The loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 16-2-4C or a 4 pin Binder 723 series chassis plug.

Excitation + = Red or pin 1, Excitation - = Blue or pin 2, Signal + = Yellow or pin 3, Signal - = Green or pin 4, Screen = Orange.

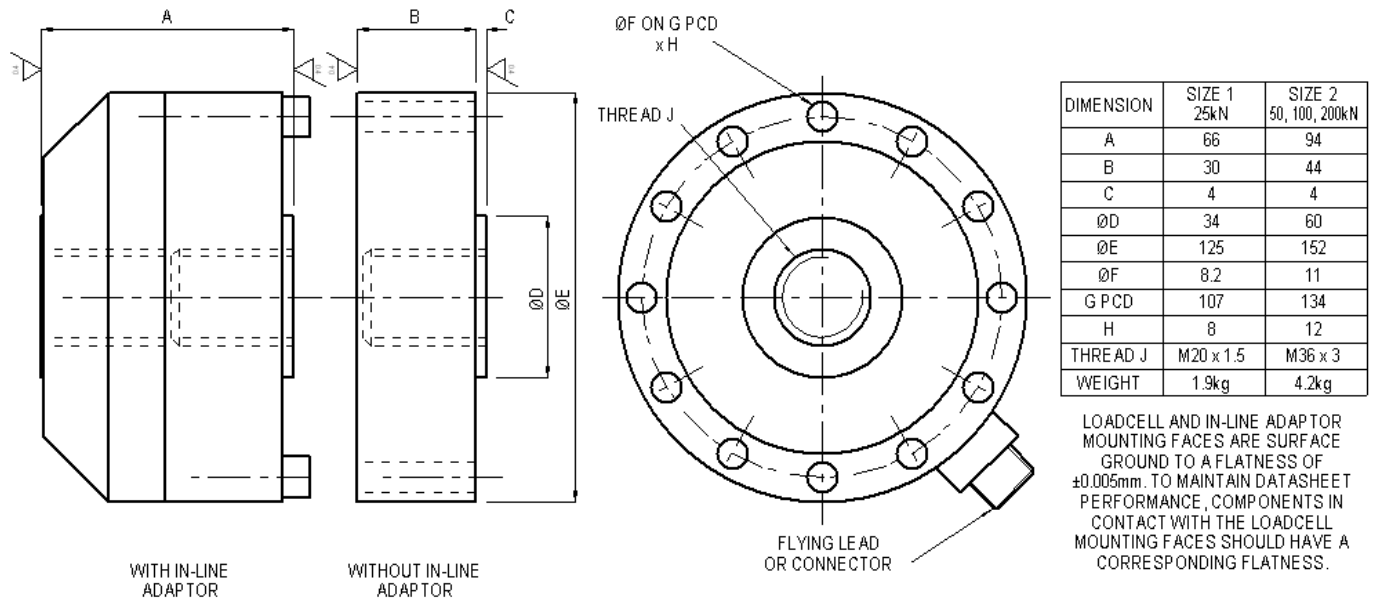
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

Files

| Type | Title | Download |
|-----------|--|--------------------------|
| STEP File | F254-C/T/U-FR0K0 25kN (2.5tonnef) | Download |
| STEP File | F254-C/T/U-PR0K0 25kN (2.5tonnef) | Download |
| STEP File | F254 In-line adaptor 25kN (2.5tonnef) | Download |
| STEP File | F254 Loadbutton 25kN (2.5tonnef) | Download |

| | | |
|-----------|--|--------------------------|
| STEP File | F254 Socket plate 25kN (2.5tonnef) | Download |
| STEP File | F254-C/T/U-FR0K0 50 to 200kN (5 to 20tonnef) | Download |
| STEP File | F254-C/T/U-PR0K0 50 to 200kN (5 to 20tonnef) | Download |
| STEP File | F254 In-line adaptor 50 to 200kN (5 to 20tonnef) | Download |
| STEP File | F254 Loadbutton 50 to 200kN (5 to 20tonnef) | Download |
| STEP File | F254 Socket plate 50 to 200kN (5 to 20tonnef) | Download |

Outline



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