

F327 Canister Loadcell

Standard Ranges 10, 20, 50, 100, 200, 500, 1000 and 2000kN (1 to 200tonnef)

- ✓ Low contact pressure
- ✓ Load spreading base
- ✓ Spigot or recess location
- ✓ Sealed to IP67
- ✓ Flying lead or connector option
- ✓ Traceable calibration with certificate included in the standard price



Specification

| Parameter | Value | Unit |
|--|---|------|
| Non-linearity - Terminal | ± 0.05 (10 - 50kN) / ± 0.1 (100 - 1000kN) / ± 0.4 (2000kN) | % RL |
| Hysteresis | ± 0.05 (10 - 50kN) / ± 0.4 (100 - 1000kN) / ± 0.4 (2000kN) | % RL |
| Creep - 20 minutes | ± 0.05 (10 - 50kN) / ± 0.05 (100 - 1000kN) / ± 0.05 (2000kN) | % AL |
| Repeatability (excluding rotational effects)* | ± 0.02 (10 - 50kN) / ± 0.03 (100 - 1000kN) / ± 0.03 (2000kN) | % RL |
| Rated output - Nominal | 1.2 (10 - 50kN) / 1.2 (100 - 1000kN) / 1.2 (2000kN) | mV/V |
| Rated output - Rationalised | 1.0 (10 - 50kN) / 1.0 (100 - 1000kN) / 1.0 (2000kN) | mV/V |
| Rationalisation tolerance | ± 0.5 (10 - 50kN) / ± 0.5 (100 - 1000kN) / ± 0.5 (2000kN) | % RL |
| Zero load output | ± 4 (10 - 50kN) / ± 4 (100 - 1000kN) / ± 4 (2000kN) | % RL |
| Temperature effect on rated output per $\hat{A}^{\circ}\text{C}$ | ± 0.005 (10 - 50kN) / ± 0.005 (100 - 1000kN) / ± 0.005 (2000kN) | % AL |
| Temperature effect on zero load output per $\hat{A}^{\circ}\text{C}$ | ± 0.01 (10 - 50kN) / ± 0.01 (100 - 1000kN) / ± 0.01 (2000kN) | % RL |

| | | |
|---|--|------|
| Temperature range - Compensated | -10 to +50 | °C |
| Temperature range - Safe | -10 to +80 | °C |
| Excitation voltage - Recommended | 10 (10 - 50kN) / 10 (100 - 1000kN) / 10 (2000kN) | V |
| Excitation voltage - Maximum | 20 (10 - 50kN) / 20 (100 - 1000kN) / 20 (2000kN) | V |
| Bridge resistance | 700 (10 - 50kN) / 700 (100 - 1000kN) / 700 (2000kN) | Ω |
| Insulation resistance - Minimum at 50Vdc | 500 (10 - 50kN) / 500 (100 - 1000kN) / 500 (2000kN) | MΩ |
| Overload - Safe | 50 (10 - 50kN) / 50 (100 - 1000kN) / 50 (2000kN) | % RL |
| Overload - Ultimate | 200 (10 - 50kN) / 200 (100 - 1000kN) / 200 (2000kN) | % RL |
| Sealing | IP67 | |
| Weight - Nominal (excluding cable) | 1.6 (10 - 50kN) / 8 to 24.1 (100 - 1000kN) / 28.3 (2000kN) | kg |
| All standard ranges are manufactured in stainless steel. | | |
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| * Repeatability errors will increase if the loadcell is rotated to ±0.06% of RL | | |

The F327 is a robust canister loadcell that is ideally suited to compression force measurement applications in harsh conditions.

The loadcell is deliberately over engineered to achieve a low contact surface pressure under high loading. Smaller column type loadcells, such as the F218, are available and we can cover the F327 load ranges with smaller designs. Please consult our engineering department.

Order Codes

| Code | Description |
|--|-----------------------------------|
| F327CFS0K0 | Compression, IP67, unrationalised |
| F327CFS0KN | Compression, IP67, rationalised |
| Change the F to a P for the connector version. | |

Structural Stiffness - Nominal

| Range (kN) | Stiffness (N/m) |
|------------|-----------------------|
| 10 | 2.2 x 10 ⁸ |
| 20 | 4.3 x 10 ⁸ |
| 50 | 1.1 x 10 ⁹ |
| 100 | 1.6 x 10 ⁹ |
| 200 | 3.2 x 10 ⁹ |
| 500 | 8.1 x 10 ⁹ |
| 1000 | 8.3 x 10 ⁹ |
| 2000 | 8.7 x 10 ⁹ |

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 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.

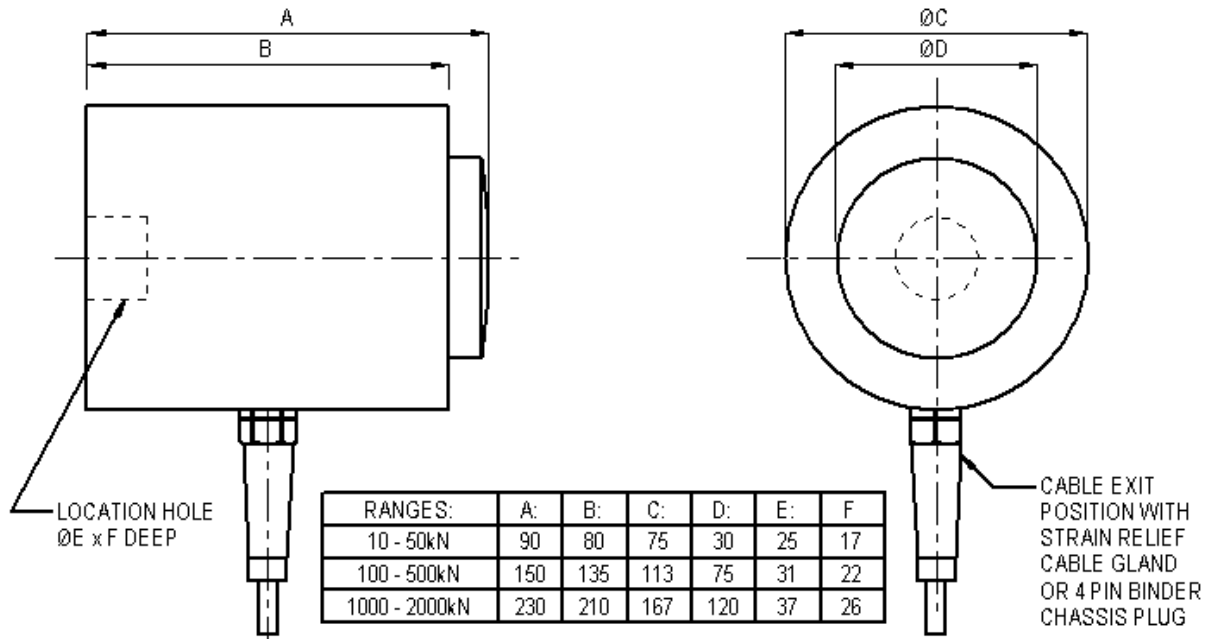
The screen is not connected to the loadcell body.

Files

| Type | Title | Download |
|-----------|--|--------------------------|
| STEP File | F327CFS0K0 10 to 50kN (1 to 5tonnef) | Download |
| STEP File | F327CFS0K0 100 to 500kN (10 to 50tonnef) | Download |

| | | |
|-----------|--|--------------------------|
| STEP File | F327CFS0K0 1000 to 2000kN (100 to 200tonnef) | Download |
| STEP File | F327CPS0K0 10 to 50kN (1 to 5tonnef) | Download |
| STEP File | F327CPS0K0 100 to 500kN (10 to 50tonnef) | Download |
| STEP File | F327CPS0K0 1000 to 2000kN (100 to 200tonnef) | Download |

Outline



THE 1000 & 2000kN RANGES HAVE REMOVABLE M10 LIFTING EYES FITTED. MAXIMUM PROTRUSION FROM OD IS 35mm.

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