

F328 Low Force Universal Loadcell With Off-Axis And Sideload Rejection

Standard Ranges 10, 20, 50, 100, 200 and 500N (1 to 50kgf)

- ✓ Low force loadcell
- ✓ Totally passive design
- ✓ Foil strain gauges
- ✓ High thermal stability
- ✓ Quantified extraneous load error data
- ✓ Traceable calibration with certificate included in the standard price
- ✓ Minimal errors from extraneous loads



Specification

| Parameter | Value | Unit |
|--|------------|--------------------|
| Non-linearity - Terminal | ±0.15 | % RL |
| Hysteresis | ±0.15 | % RL |
| Creep - 20 minutes | ±0.05 | % AL |
| Repeatability | ±0.02 | % RL |
| Rated output - Nominal | 1.2 | mV/V |
| Rated output - Rationalised | 1.0 | mV/V |
| Rationalisation tolerance (applies to single direction calibrations) | ±0.5 | % RL |
| Zero load output | ±10 | % RL |
| Temperature effect on rated output per $\hat{A}^{\circ}\text{C}$ | ±0.005 | % AL |
| Temperature effect on zero load output per $\hat{A}^{\circ}\text{C}$ | ±0.01 | % 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 | 20 | V |
| Bridge resistance | 5000 | $\hat{\Omega}$ |
| Insulation resistance - Minimum at 50Vdc | 500 | $M\hat{\Omega}$ |
| Overload - Safe | 50 | % RL |
| Overload - Ultimate | 100 | % RL |
| Weight - Nominal (excluding cable) | 9 to 29 | g |
| The ranges up to 50N are manufactured in aluminium; ranges above 50N are manufactured in stainless steel. | | |

The F328 is an axial low force universal loadcell with quantified extraneous load and moment rejection.

Its high resistance 5000 Ω strain gauge bridge makes this loadcell ideal for battery powered applications such as a laptop computer with a DSC USB loadcell digitiser or a hand held TR150 loadmeter. The strain system exploits a laminated structure producing excellent extraneous force and moment rejection together with minimal translational deflection. More information can be found in Engineering Application Sheet E034. We are happy to design variants of this loadcell to meet your specific requirements. Please consult our engineering department.

Order Codes

| Code | Description |
|------------|--------------------------------|
| F328DF00B0 | Compression, unrationalised |
| F328TF00B0 | Tension, unrationalised |
| F328UF00B0 | Bi-directional, unrationalised |
| F328DF00BN | Compression, rationalised |
| F328TF00BN | Tension, rationalised |
| F328UF00BN | Bi-directional, rationalised |

Structural Stiffness - Nominal

| Range (kN) | Stiffness (N/m) |
|------------|-----------------------|
| 10 | 5.3 x 10 ⁵ |
| 20 | 1.0 x 10 ⁶ |
| 50 | 2.6 x 10 ⁶ |
| 100 | 2.2 x 10 ⁶ |
| 200 | 4.3 x 10 ⁶ |
| 500 | 1.1 x 10 ⁷ |

Notes

- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.

Connections

The loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 7-1-4C.

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

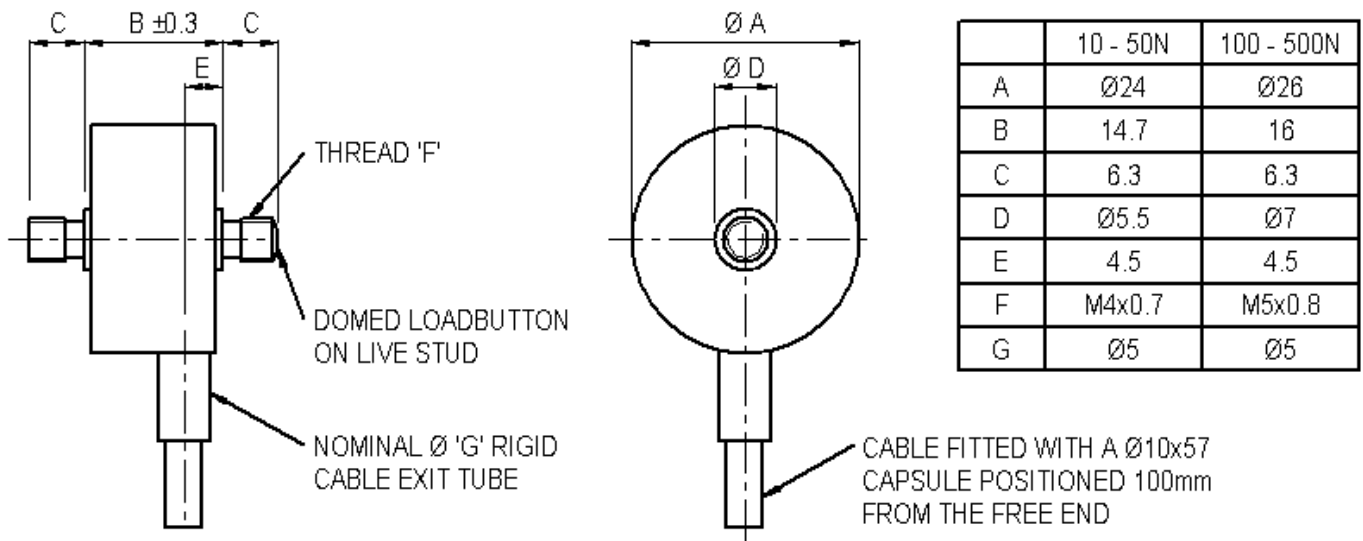
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

This loadcell has compensation components 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 | F328-C/T/U-F00B0 10 to 50N (1 to 5kgf) | Download |
| STEP File | F328-C/T/U-F00B0 100 to 500N (10 to 50kgf) | 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