Novatech Loadcell Design & Manufacture

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
- \bigcirc Traceable calibration with certificate included
- in the standard price
- \bigcirc 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 °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	20	V	
Bridge resistance	5000	Ω	
Insulation resistance - Minimum at 50Vdc	500	MΩ	
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 5000Ω 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 105
20	1.0 × 106
50	2.6 × 106
100	2.2 × 106
200	4.3 × 106
500	1.1 × 107

C_{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

Туре	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)	<u>Download</u>

Outline



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