Novatech
Loadcell Design & Manufacture

F306 Disc Loadcell

Standard Ranges 50, 200, 500N and 1, 2, 5, 10kN (5kgf to 1tonnef)

- Very low profile - 8mm high
- Easy installation
- High stiffness
- Through centre hole
- Tensile applications are â€˜fail-safeâ€™
- Traceable calibration with certificate included in the standard price

Specification

Parameter	Value	Unit
Non-linearity - Terminal	±0.3 (50N to 1kN) / ±0.5 (2 to 10kN)	% RL
Hysteresis	±0.2 (50N to 1kN) / ±0.3 (2 to 10kN)	% RL
Creep - 20 minutes	±0.1 (50N to 1kN) / ±0.1 (2 to 10kN)	% AL
Repeatability	±0.1 (50N to 1kN) / ±0.1 (2 to 10kN)	% RL
Rated output - Nominal	1.2 (50N to 1kN) / 2.2 (2 to 10kN)	mV/V
Rated output - Rationalised	1.0 (50N to 1kN) / 2.0 (2 to 10kN)	mV/V
Rationalisation tolerance	±0.5 (50N to 1kN) / ±0.5 (2 to 10kN)	% RL
Zero load output	±4 (50N to 1kN) / ±4 (2 to 10kN)	% RL
Temperature effect on rated output per Â°C	±0.005 (50N to 1kN) / ±0.005 (2 to 10kN)	% AL
Temperature effect on zero load output per Â°C	±0.01 (50N to 1kN) / ±0.005 (2 to 10kN)	% RL
Temperature range - Compensated	-10 to +50 (50N to 1kN) / -10 to +50 (2 to 10kN)	°C
Temperature range - Safe	-10 to +80 (50N to 1kN) / -10 to +80 (2 to 10kN)	°C
Excitation voltage - Recommended	10 (50N to 1kN) / 10 (2 to 10kN)	V
Excitation voltage - Maximum	10 (50N to 1kN) / 10 (2 to 10kN)	V

Bridge resistance	350 (50N to 1kN) / 350 (2 to 10kN)	Î©
Insulation resistance - Minimum at 50Vdc	500 (50N to 1kN) / 500 (2 to 10kN)	MÎ©
Overload - Safe	50 (50N to 1kN) / 50 (2 to 10kN)	% RL
Overload - Ultimate	300 (50N to 1kN) / 300 (2 to 10kN)	% RL
Sealing	IP65	
Weight - Nominal (excluding cable)	20 to 50	g
The 50N range is manufactured in aluminium, the 200N to 10kN ranges are manufactured in stainless steel.		

Geometry: Very low profile disc loadcell for use in force measurements.

The F306 is designed for compressive force measurements in situations where space is limited. Alternatively tensile load transfer can be achieved via a tie rod assembly through the centre hole. In this way the loadcell can indirectly measure tensile loads in a ‘fail-safe’ mode. In the event of structural failure of the loadcell the resulting vertical movement of the supported load will be very small. We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for higher temperature operation. Please consult our engineering department.

Order Codes

Code	Description
F306CFR0H0	Compression, IP65, unrationalised
F306CFR0HN	Compression, IP65, rationalised

Structural Stiffness - Nominal

Range (kN)	Stiffness (N/m)
50 (N)	4.8 x 105
200 (N)	2.2 x 106
500 (N)	8.8 x 106
1	2.5 x 107
2	2.4 x 107
5	9.6 x 107
10	2.8 x 108

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 miniature PVC insulated 4 core screened cable.

Excitation + = Red, Excitation - = Black, Signal + = White, Signal - = Green, Screen = Orange.

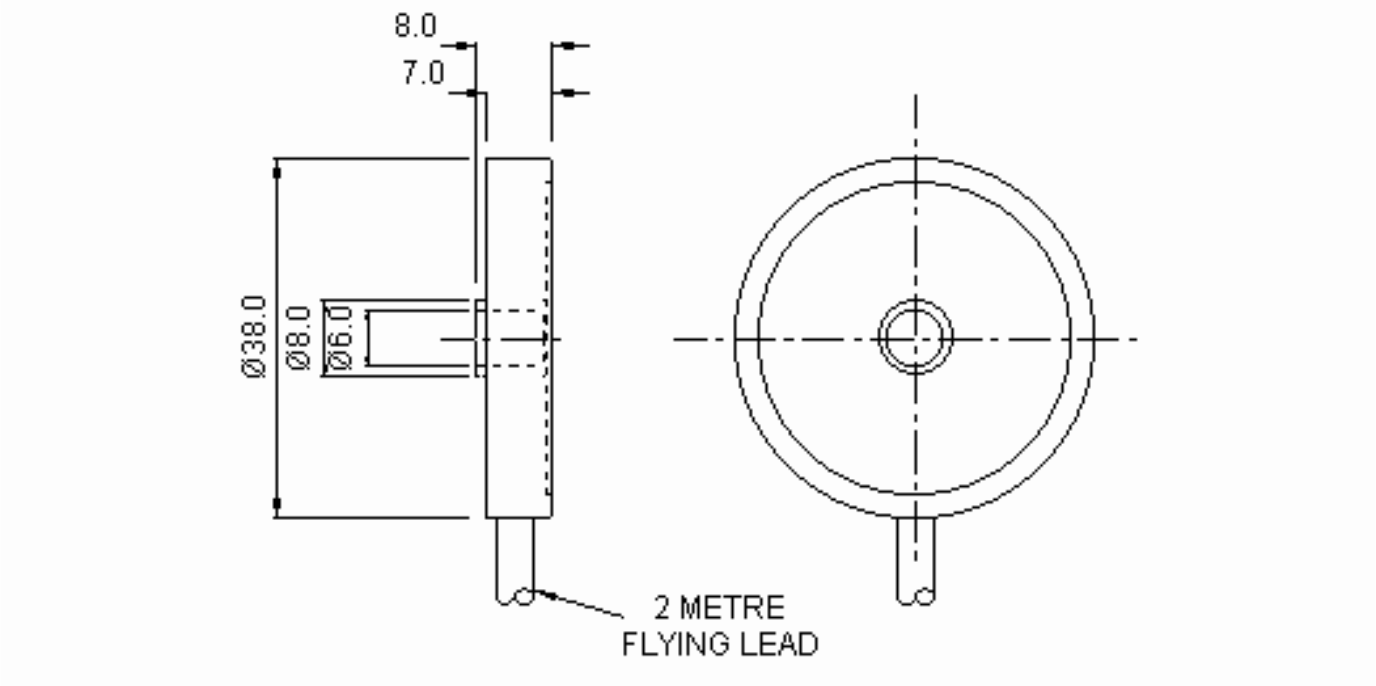
The screen is not connected to the loadcell body.

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	F306CFR0H0 All standard ranges	Download

Outline



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