N ALF313
Low Profile Donut Loadcell

Standard Ranges 10, 20, 40, 80, 100, 120, 160 and 200kN (1 to 20tonnef)

FEATURES

- Low profile with centre hole
- Ranges to suit bolt sizes from M6 to M36
- Stainless steel construction
- Tensile applications are 'fail-safe'
- Traceable calibration with certificate included in the standard price
- Standard 1 year warranty

SPECIFICATIONS

PARAMETER	VALUE	UNIT
Non-linearity - Terminal	±0.5 (10kN) / ±0.5 (20 to 200kN)	% RL
Hysteresis	±0.5 (10kN) / ±0.5 (20 to 200kN)	% RL
Creep - 20 minutes	±0.1 (10kN) / ±0.1 (20 to 200kN)	% AL
Repeatability (excluding rotational effects)	±0.1 (10kN) / ±0.1 (20 to 200kN)	% RL
Rated output - Nominal	1.3 (10kN) / 1.3 (20 to 200kN)	mV/V
Rated output - Rationalised	1.0 (10kN) / 1.0 (20 to 200kN)	mV/V
Rationalisation tolerance	±0.5 (10kN) / ±0.5 (20 to 200kN)	% RL
Zero load output	±4 (10kN) / ±4 (20 to 200kN)	% RL
Temperature effect on rated output per °C	±0.005 (10kN) / ±0.005 (20 to 200kN)	% AL
Temperature effect on zero load output per °C	±0.03 (10kN) / ±0.03 (20 to 200kN)	% RL
Temperature range - Compensated	-10 to +50 (10kN) / -10 to +50 (20 to 200kN)	°C
Temperature range - Safe	-10 to +80 (10kN) / -10 to +80 (20 to 200kN)	°C
Excitation voltage - Recommended	10 (10kN) / 10 (20 to 200kN)	V
Excitation voltage - Maximum	10 (10kN) / 20 (20 to 200kN)	V
Bridge resistance	350 (10kN) / 700 (20 to 200kN)	Ω
Insulation resistance - Minimum at 50Vdc	500 (10kN) / 500 (20 to 200kN)	MΩ
Overload - Safe	50 (10kN) / 50 (20 to 200kN)	% RL
Overload - Ultimate	400 (10kN) / 400 (20 to 200kN)	% RL
Sealing	IP65	
Weight - Nominal (excluding cable)	15 (10kN) / 20-260 (20 to 200kN)	g

All standard ranges are manufactured in stainless steel.Temperature range - Safe

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Geometry: Axial strain cylinder in weather sealed case, with raised end load bearing faces and hole right through. For use in compression or in fail-safe tensile applications on a wide range of OEM or end-user applications.

The ALF313 is ideally suited to engineering force measurements. It is designed for easy installation, usually between two flat faces bearing on its loading rings, either unattached or with retaining spigots positioned in the centre hole. 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. 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
ALF313CFR0K0	Compression, IP65, unrationalised
ALF313CFR0KN	Compression, IP65, rationalised

Change the K to an H for the 1 tonnef range.

STRUCTURAL STIFFNESS - NOMINAL

RANGE (kN)	STIFFNESS (N/m)
10	1.1 x 109
20	2.2 x 109
40	4.4 x 109
80	8.8 x 109
100	7.7 x 109
120	7.1 x 109
160	8.0 x 109
200	1.0 x 1010

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.

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CONNECTIONS

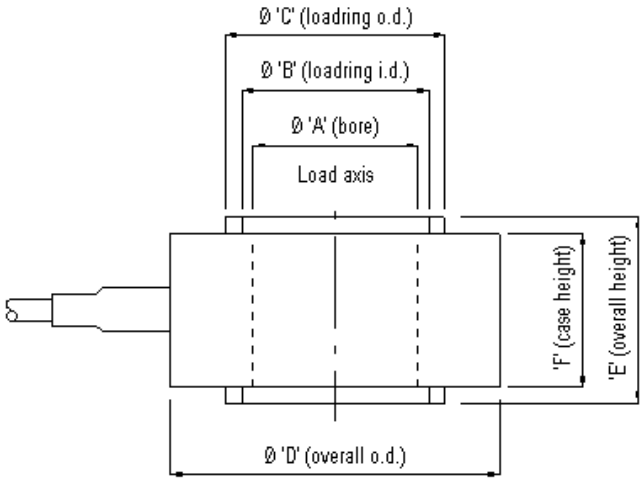
For ranges up to 4 tonnef the loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 7-1-4C. Ranges above 4 tonnef are fitted with 7-2-4C cable.

Excitation + = Red, Excitation - = Blue, Signal + = Yellow, 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.

OUTLINE



Range	Bolt Size	A	B	C	D	E	F
10 kN	M6	6.1	7.1	8.9	18	15	11
20 kN	M8	8.1	9.5	12.3	22	15	11
40 kN	M10	10.2	12.3	16.5	28	16	11
80 kN	M12	12.2	15.4	21.9	38	20	14
100 kN	M16	16.3	19.6	26.2	42	24	18
120 kN	M24	24.3	27.3	33.3	50	29	23
160 kN	M30	30.5	33.8	40.3	60	35	28
200 kN	M36	36.5	40	46.9	75	36	28

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