N ALF 308

Description

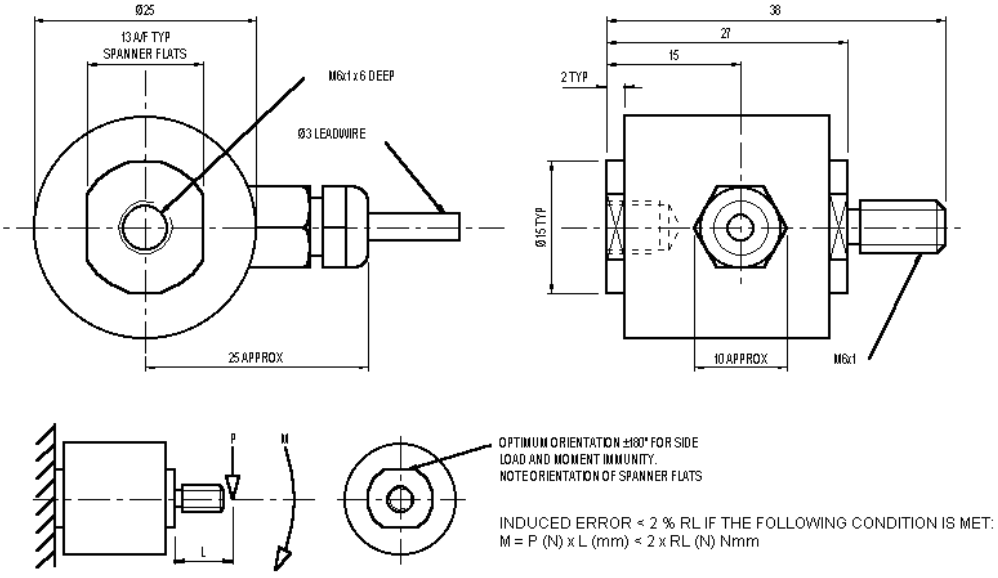
- Measurement ranges 0 ... 50 N to 0 ... 2.5 kN
- Tension / compression
- Non-linearity ±0.1 % RL (model 1), ±0.35 % RL (model 2)
- Output signal 1.2 mV/V or rationalised 1.0 mV/V ±0.5 %
- Supply voltage 10 VDC

The ALF308 is a compact axial load cell with improved EFI (extraneous force immunity) compared to diaphragm load cells. The inert base and top fixings with spanner flats allow ease of installation. The strain geometry possesses a plane with good EFI performance defined as perpendicular to the loading axis and the spanner flats. This is particularly useful when a load cell is used to support mass with its weight acting perpendicular to the measurement axis.

Features

- Good repeatability
- Compact axial geometry
- Space saving male / female fixing
- Sealed to IP65
- Traceable calibration with certificate

Dimensions



To optimise the performance the ALF308 end faces should be maintained parallel under load.

Dimensions in „mm", approx. values
These drawings are for information only and not intended for construction purpose.
Please contact us for detailed drawings.

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Specifications

	Model 1	Model 2
Rated load:	50 N / 100 N / 200 N / 500 N	1 kN / 1.5 kN / 2 kN / 2.5 kN
Non-linearity, terminal:	±0.1 % RL	±0.35 % RL
Hysteresis:	±0.1 % RL	±0.1 % RL
Creep, 20 min:	±0.2 % AL	±0.1 % AL
Repeatability:	±0.05 % RL	±0.05 % RL
Rated output, nominal:	1.2 mV/V	1.2 mV/V
Rated output, rationalised:	1.0 mV/V ±0.5 % RL Rationalisation tolerance applies to single direction calibrations only	1.0 mV/V ±0.5 % RL
Output symmetry:	2.0 % AO (note 4)	2.0 % AO (note 4)
Zero load output:	±4 % RL	±4 % RL
Temperature effect on rated output:	±0.005 % AL/K	±0.005 % AL/K
Temperature effect on zero load output:	±0.01 % RL/K	±0.01 % RL/K
Compensated temperature range:	-10 ... +50 °C	-10 ... +50 °C
Operating temperature range:	-10 ... +80 °C	-10 ... +80 °C
Supply voltage, recommended:	10 V	10 V
Supply voltage, max.:	10 V	10 V
Bridge resistance:	350 Ω	350 Ω
Insulation resistance, minimum at 50 VDC:	500 MΩ	500 MΩ
Overload, safe:	150 % RL	150 % RL
Overload, ultimate:	300 % RL	300 % RL
Dynamic load capacity:	70 % RL	70 % RL
Environmental sealing:	IP65	IP65
Weight (excl. cable):	approx. 50 g	approx. 70 g
Material:	Ranges up to 200 N: aluminium Range 500 N: stainless steel	Stainless steel

Rated Load	Structural Stiffness, nom.	Rated Load	Structural Stiffness, nom.	Rated Load	Structural Stiffness, nom.
50 N	1.4 x 10^6 N/m	500 N	2.5 x 10^7 N/m	2 kN	1.1 x 10^8 N/m
100 N	3.8 x 10^6 N/m	1 kN	1.1 x 10^8 N/m	2.5 kN	1.1 x 10^8 N/m
200 N	1.1 x 10^7 N/m	1.5 kN	1.1 x 10^8 N/m		

Notes:

1. RL = rated load
2. AL = applied load
3. Temperature coefficients apply over the compensated range.
4. AO = Average of tension and compression outputs for full load.
5. When this load cell is rationalised the resistors are housed in a capsule located in the load cell cable 100 mm from the free end. Capsule dimensions are Ø10 mm by 57 mm.

Electrical Connections

Wiring:	
Red	+ Supply voltage
Blue	- Supply voltage
Yellow	+ Output signal
Green	- Output signal
Orange	Screen

The load cell is fitted with 2 m of PVC insulated 4 core screened cable type 7-1-4C.

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

Ordering Codes

ALF308TFR0H0	Tension, IP65	ALF308TFR0HN	Tension, IP65, rationalised
ALF308DFR0H0	Compression, IP65	ALF308DFR0HN	Compression, IP65, rationalised
ALF308UFR0H0	Bi-directional, IP65	ALF308UFR0HN	Bi-directional, IP65, rationalised

Please add range in the required units.

Safety note:

When using the load cell in tension mode it is essential to provide additional safety precautions like safety chains etc. for catching the load in a breakage, which cannot be excluded completely.

Due to continuous product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.

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