



N ALF 301

Description

- Measurement ranges 0 ... 1 N and 0 ... 3 N
- Tension / compression
- Non-linearity 0.1 % RL
- Output signal 1.0 mV/V or rationalised 0.8 mV/V ± 0.5 %
- Supply voltage 10 VDC



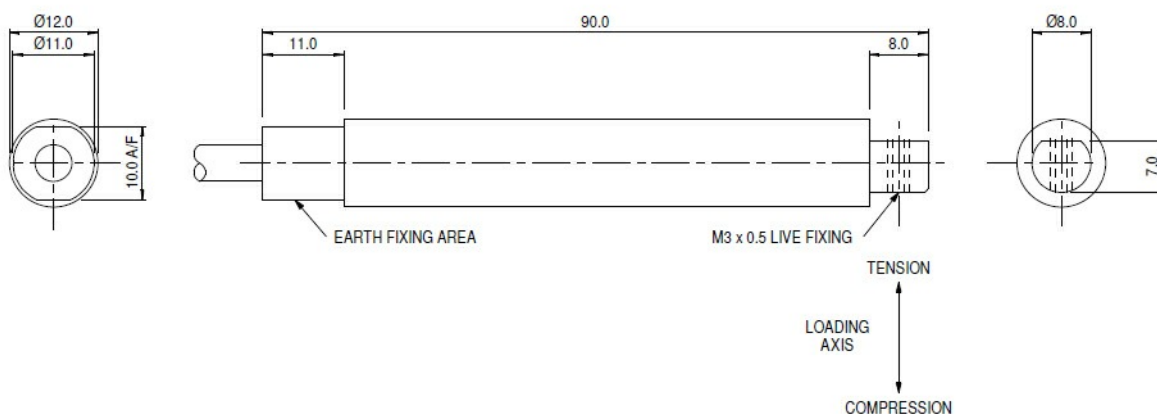
The ALF301 is a compact bending beam load cell for low range force measurements. Its small diameter eases mounting problems in existing systems. All standard bi-directional load cells are calibrated in both modes.

The load cell has integral overload stops to protect against overloading in the vertical axis. Torsional loads about the longitudinal axis may damage the load cell.

Features

- Integral overload stops
- Tension / compression / bi-directional calibration
- Simple installation
- Small diameter
- Traceable calibration with certificate

Dimensions



Dimensions in „mm“, approx. values

These drawings are for information only and not intended for construction purpose.
Please contact us for detailed drawings.

Specifications

Rated load:	1 N, 3 N
Non-linearity, terminal:	±0.1 % RL
Hysteresis:	±0.1 % RL
Creep, 20 min:	±0.05 % AL
Repeatability:	±0.03 % RL
Rated output, nominal:	1.0 mV/V
Rated output, rationalised:	0.8 mV/V ±0.5 % RL Rationalisation tolerance applies to single direction calibrations only
Zero load output:	±8 % RL
Temperature effect on rated output:	±0.005 % AL/K
Temperature effect on zero load output:	±0.01 % RL/K
Compensated temperature range:	-10 ... +50 °C
Operating temperature range:	-10 ... +80 °C
Supply voltage, recommended:	10 V
Supply voltage, max.:	10 V
Bridge resistance:	350 Ω
Insulation resistance, minimum at 50 VDC:	500 MΩ
Overload, safe:	120 % RL
Overload, ultimate:	200 % RL Dynamic
load capacity:	70 % RL
Weight without cable:	approx. 18 to 20 g
Material:	Aluminium

Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.
1 N	1.2 x 10 ³ N/m	3 N	3.6 x 10 ³ N/m

Notes:

1. RL = rated load
2. AL = applied load
3. Temperature coefficients apply over the compensated range.
4. The load must be applied directly through the central loading axis.
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

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

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

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

Ordering Codes

ALF301CF00HO	Compression	ALF301CF00HN	Compression, rationalised
ALF301TF00HO	Tension	ALF301TF00HN	Tension, rationalised
ALF301UF00HO	Bi-directional	ALF301UF00HN	bi-directional, 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.

The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.

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