



## N ALF 306



### Description

- Measurement ranges 0 ... 50 N to 0 ... 10 kN
- Compression
- Non-linearity 0.3 % RL (model 1), 0.5 % RL (model 2)
- Output signal 1.2 mV/V or rationalised 1.0 mV/V  $\pm 0.5$  % (model 1)  
2.2 mV/V or rationalised 2.0 mV/V  $\pm 0.5$  % (model 2)
- Supply voltage 10 VDC

The ALF306 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 load cell can indirectly measure tensile loads in a 'fail-safe' mode.

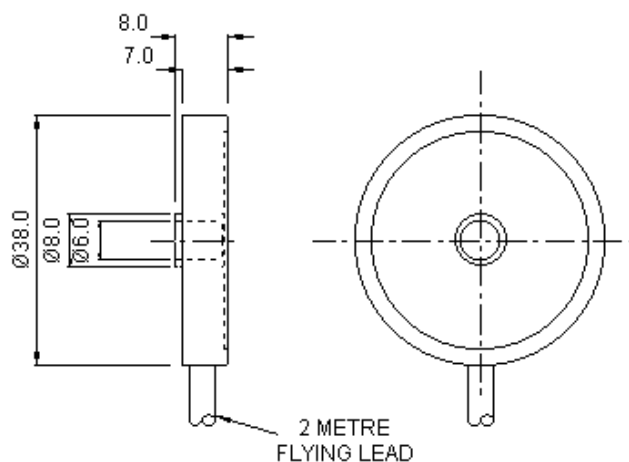
In the event of structural failure of the load cell the resulting vertical movement of the supported load will be very small.

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 load cell can indirectly measure tensile loads in a "fail-safe" mode.

### Features

- Very low profile – 8 mm
- Easy installation
- High stiffness
- Trough center hole
- Tensile applications are "Fail-safe"
- 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

	Model 1	Model 2
Rated load:	50 / 200 / 500 / 1000 N	2 / 5 / 10 kN
Non-linearity, terminal:	±0.3 % RL	±0.5 % RL
Hysteresis:	±0.2 % RL	±0.3 % RL
Creep, 20 min:	±0.1 % AL	±0.1 % AL
Repeatability:	±0.1 % RL	±0.1 % RL
Rated output, nominal:	1.2 mV/V	2.2 mV/V
Rated output, rationalised:	1.0 mV/V ±0.5 % RL	2.0 mV/V ±0.5 % RL
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	±0.005 % 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:	400 % RL	400 % RL
Dynamic load capacity:	70 % RL	70 % RL
Environmental sealing:	IP65	IP65
Weight (excl. cable):	approx. 20 g	to 50 g
Material:	Model 50 N: aluminium other models: stainless steel	Stainless steel

Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.
50 N	4.8 x 10 <sup>5</sup> N/m	1 kN	2.5 x 10 <sup>7</sup> N/m	10 kN	2.8 x 10 <sup>8</sup> N/m
200 N	2.2 x 10 <sup>6</sup> N/m	2 kN	2.4 x 10 <sup>7</sup> N/m		
500 N	8.8 x 10 <sup>6</sup> N/m	5 kN	9.6 x 10 <sup>7</sup> 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 miniature PVC insulated 4 core screened cable.

The screen is not connected to the load cell body.

### Wiring:

red	+ supply voltage:
black	- supply voltage:
white	+ output signal:
green	- output signal:
orange	screen:

## Ordering Codes

ALF306CFR0H0	Compression, IP65	ALF306CFR0HN	Compression, IP65, rationalised
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Please add range in the required units.

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