



## N ALF 305



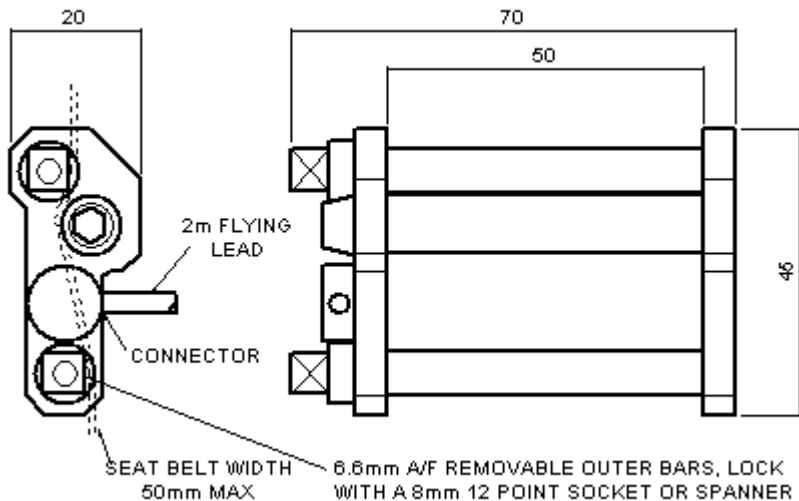
### Description

- Measurement range 0 ... 16 kN
- Tension
- Non-linearity 3.0 % RL
- Output signal 1.5 mV/V
- Supply voltage 10 VDC

The ALF305 is a high performance load cell for measuring seat belt tension forces. Its geometry was created by computer program to generate an optimal design with minimal mass, material usage, stress and deflection. The outer bars can easily be removed allowing fitting to a seat belt while it is anchored at both ends.

The performance figures are typical values and are dependent on belt type. We can carry out a 5 point calibration using a 2 m sample of customer supplied belt to reduce application errors. The calibration data can be used to reduce non-linearity errors in test results.

### 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:	16 kN
Non-linearity, terminal:	±3 % RL
Hysteresis:	±1 % RL
Creep, 20 min:	±0.05 % AL
Repeatability:	±0.2 % RL
Rated output, nominal:	1.5 mV/V
Zero load output:	±4 % RL
Temperature effect on rated output:	±0.005 % AL/K
Temperature effect on zero load output:	±0.007 % 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
Structural stiffness (normal to belt axis):	1.9 x 10 <sup>7</sup> N/m
Overload, safe:	20.8 kN (130 % RL)
Overload, ultimate:	32 kN (200 % RL)
Dynamic load capacity:	70 % RL
Weight (excl. cable):	approx. 50 g
Material:	Titanium

### Notes:

1. RL = rated load
2. AL = applied load
3. Temperature coefficients apply over the compensated range.

## Electrical Connections

The load cell is fitted with 2 m of miniature PVC insulated 4 core screened cable.

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

The screen is not connected to the load cell body.

## Ordering Codes

ALF305TF00H0-16kN	Tension, rated load 16 kN
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Due to continuous product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.