



N ALF214

Description

- Measurement ranges from 0 ... 15 kN to 0 ... 60 kN
- Tension / compression
- Non-linearity 0.1 % RL
- Output signal 1.2 mV/V or rationalised 1.0 mV/V ± 0.5 %
- Supply voltage 10 VDC



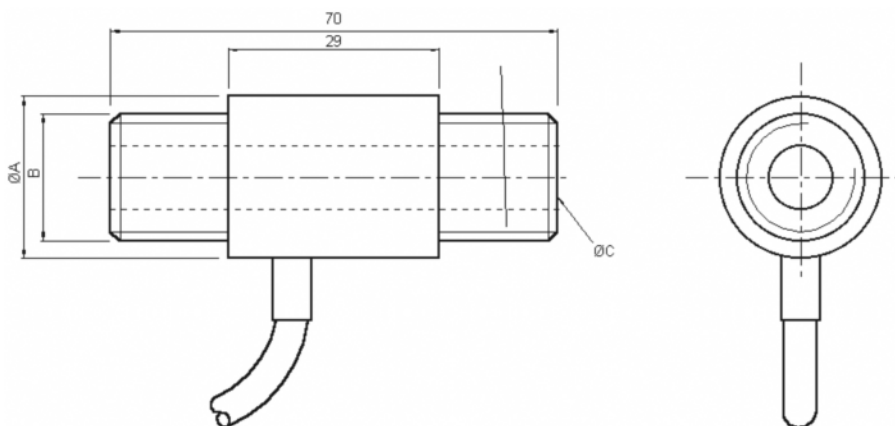
The ALF214 is ideally suited to engineering force measurements, particularly with push pull actuator / linkage arrangements where self-alignment and axial force transmission is achieved by hardware design.

With bi-directional versions there is a small difference between the output signal for compression and tension. All standard bi-directional load cells are calibrated in both modes and the output for each direction is stated on the test / calibration certificate.

Geometry:

Axial strain rod in weather sealed case, with external fixing threads. For use in tension or compression.

Dimensions



Dimensions in „mm“, approx. values

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

Rated load	ØA	Thread B	Through hole Ø C
15 kN	25.4	M20 x 1.5	10
30 kN	25.4	M20 x 1.5	5
60 kN	31.8	M24 x 2	no hole

Specifications

Rated load:	15 kN, 30 kN, 60 kN
Non-linearity, terminal:	±0.1 % RL
Hysteresis:	±0.1 % RL
Creep, 20 min:	±0.05 % AL
Repeatability:	±0.02 % RL
Rated output, nominal:	1.2 mV/V
Rated output, rationalised:	1.0 mV/V ±0.5 % RL Rationalisation tolerance applies to single direction calibrations only
Zero load output:	±4 % RL
Temperature effect on rated output:	±0.005 % AL/K
Temperature effect on zero load output:	±0.03 % 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:	150 % RL
Overload, ultimate:	300 % RL
Dynamic load capacity:	70 % RL
Sealing:	IP65
Weight (excl. cable):	approx. 140 g to 200 g
Material:	Stainless steel

Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.
15 kN	9.5 x 10 ⁸ N/m	30 kN	1.9 x 10 ⁹ N/m	60 kN	3.8 x 10 ⁹ 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 loadcell cable 100 mm from the free end. Capsule dimensions are Ø10 mm by 57 mm.

Options

- Optional a version for 6-conductor operation available

Electrical Connection

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

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

ALF214CFR0H0	Compression, IP65	ALF214CFR0HN	Compression, IP65, rationalised
ALF214TFR0H0	Tension, IP65	ALF214TFR0HN	Tension, IP65, rationalised
ALF214UFR0H0	bi-directional, IP65	ALF214UFR0HN	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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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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