



N ALF204



Description

- Measurement ranges 0 ... 10 kN to 0 ... 500 kN
- Tension / Compression
- Non-linearity 0.2 or 0.5 % RL
- Output 1.2 mV/V or rationalised 1.0 mV/V ±0.5 %
- Supply voltage 10 VDC, max. 20 VDC
- Optional with integrated electronics

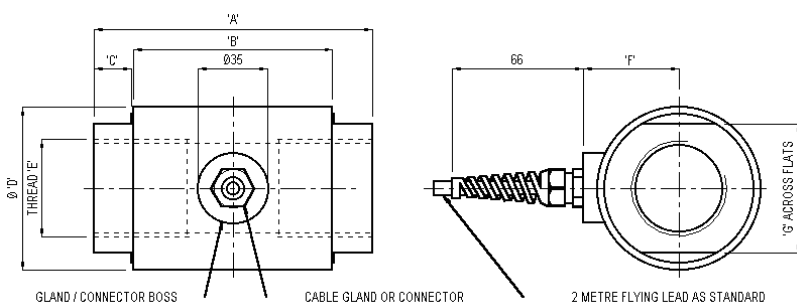
The ALF204 is ideally suited to bi-directional engineering force measurements. They are used extensively within the automotive industry for testing of auto components. Standard rod end bearings are available for this product. If you require better performance than the ALF204 the ALF317 may be suitable.

Geometry:

Axial strain cylinder in a weather sealed stainless steel case, with end internal fixing threads. For use in tension and compression loaded in line with the axis. With bidirectional 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.

Dimensions

Rated load	A	B	C	D	E	F	G
10 / 25 / 50 kN	110	80	13	42	M24 x 2 x 38	28	32
100 / 250 kN	140	98	19	82	M48 x 2 x 47	48	65
500 kN	180	128	24	113	M64 x 3 x 65	64	90



Dimensions in „mm“, approx. values

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

Specification

Rated load:	10 / 25 / 50 / 100 kN	250 / 500 kN
Non-linearity, terminal:	±0.2 % RL	±0.5 % RL
Hysteresis:	±0.2 % RL	±0.5 % RL
Creep, 20 min:	±0.05 % AL	±0.05 % AL
Repeatability:	±0.02 % RL	±0.03 % RL
Rated output, nominal:	1.2 mV/V	1.2 mV/V

Specifications (continued)

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
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:	±0.03 % RL/K	±0.03 % 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.:	20 V	20 V
Bridge resistance:	700 Ω	700 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 Sealing:
	IP65	IP65
Weight (excl. cable):	10 / 25 / 50 kN: approx. 0.7 kg 100 kN approx. 3.2 kg	250 kN approx. 3.2 kg 500 kN approx. 7.8 kg
Material:	Stainless steel	Stainless steel

Notes:

1. RL = rated load
2. AL = applied load
3. Temperature coefficients apply over the compensated range.
4. Optional a version for 6-conductor operation available
5. The load must be applied directly through the central loading axis.
6. It is essential to use load cells with rationalised output when operating several load cells (e. g. hopper, platform etc.) in parallel mode.

Rated Load	Structural Stiffness, nom.	Rated Load	Structural Stiffness, nom.	Rated Load	Structural Stiffness, nom.
10 kN	2.8 x 10 ⁹ N/m	50 kN	1.4 x 10 ⁹ N/m	250 kN	6.8 x 10 ⁹ N/m
25 kN	7.0 x 10 ⁹ N/m	100 kN	2.7 x 10 ⁹ N/m	500 kN	1.4 x 10 ¹⁰ N/m

Electrical Connection

Wiring:	Cable version	Connector version	
+ supply voltage:	red	Pin 1	The load cell is fitted with 2 m of PVC insulated 4 core screened cable type 16-2-4C or a 4 pin Binder 723 series chassis plug.
- supply voltage:	blue	Pin 2	
+ output signal:	yellow	Pin 3	The screen is not connected to the load cell body. Reverse the signal to obtain a positive signal in tension mode.
- output signal:	green	Pin 4	
Screen:	orange		

Option: Integrated Electronics

The amplifier is build onto the load cell in an additional housing. The dimensions of the load cell will change.

Integrated amplifier with 4 ... 20 mA output 2-wire, supply voltage 24 VDC (20 ... 36 VDC)
Integrated amplifier with 4 ... 20 mA output 3-wire, supply voltage 12 VDC (11.5 ... 12.5 VDC)
Integrated amplifier with 4 ... 20 mA output 3-wire, supply voltage 24 VDC (15 ... 30 VDC)
Integrated amplifier with voltage output ±10 V, supply voltage 14 ... 27 VDC (0 ... 10 V for uni-directional loadcells, ±10 V for bi-directional loadcells)

Ordering Information

ALF204CFROKO	Compression, IP65, cable	ALF204CFROKN	Compression, IP65, rationalised, cable
ALF204TFROKO	Tension, IP65, cable	ALF204TFROKN	Tension, IP65, rationalised, cable
ALF204UFROKO	bi-directional, IP65, cable	ALF204UFROKN	bi-directional, IP65, rationalised, cable

Option integrated amplifier: a special order no. ALF204-Zxxx will be created

Change the second F to a P for the connector version.

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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