



N ALF207

Description

- Measurement ranges 0 ... 10 kN to 0 ... 200 kN
- Compression
- Non-linearity 2.0 % RL
- Output 1.3 mV/V or rationalised 1.0 mV/V ± 1.0 %
- Supply voltage 10 VDC, max. 20 VDC



The ALF207 is ideally suited to engineering force measurements where overall height is restricted; if a slight increase in height is acceptable the ALF313 may be a better choice.

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.

Geometry:

Axial strain cylinder in weather sealed case, with raised end load bearing faces and hole right through. For use in compression or in fail-safe tensile applications on a wide range of OEM or end-user applications.

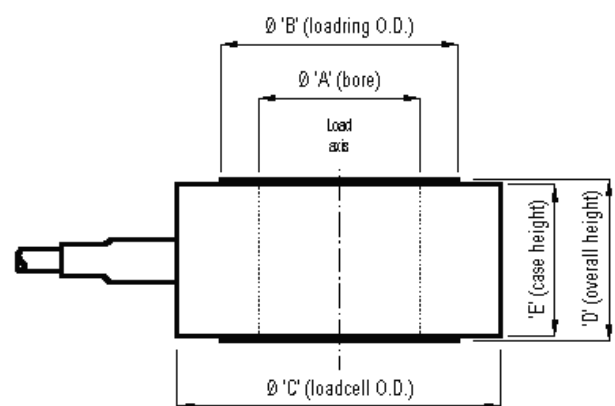
Dimensions

Rated load	Bolt size	A*	B*	C*	D*	E*
10 kN	M6	6.1	10	18	12	11
20 kN	M8	8.1	14	22	12	11
40 kN	M10	10.2	19	28	12	11
80 kN	M12	12.2	25	38	15	14
100 kN	M16	16.3	30	42	20	18
120 kN	M24	24.3	36	50	25	23
160 kN	M30	30.5	44	60	30	28
200 kN	M36	36.5	50	75	30	28

*Dimensions in „mm“, approx. values

This drawing is for information only and not intended for construction purpose.

Please contact us for detailed drawings.



Specifications

	Model 10 kN	Models 20 kN to 200 kN
Rated load:	10 kN	20 / 40 / 80 / 100 / 120 / 160 / 200 kN
Non-linearity, terminal:	±2.0 % RL	±2.0 % RL
Hysteresis:	±2.0 % RL	±2.0 % RL
Creep, 20 min:	±0.1 % AL	±0.1 % AL
Repeatability*:	±0.2 % RL	±0.2 % RL
Rated output, nominal:	1.3 mV/V	1.3 mV/V
Rated output, rationalised:	1.0 mV/V ±1.0 % RL	1.0 mV/V ±1.0 % 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.:	10 V	20 V
Bridge resistance:	350 Ω	700 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
Sealing:	IP65	IP65
Weight (excl. cable):	approx. 15 g	approx. 20 g to 260 g
Material:	Stainless steel	Stainless steel

* valid for a fixed loadcell position with no rotation

Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.	Rated load	Structural stiffness, nom.
10 kN	1.1 x 10 ⁹ N/m	80 kN	8.8 x 10 ⁹ N/m	160 kN	8.0 x 10 ⁹ N/m
20 kN	2.2 x 10 ⁹ N/m	100 kN	7.7 x 10 ⁹ N/m	200 kN	1.0 x 10 ¹⁰ N/m
40 kN	4.4 x 10 ⁹ N/m	120 kN	7.1 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.
6. Specifications are valid only for a fixed load cell position and static load. In a non-fixed load cell position (e. g. rotating of the sensor) errors up to 10 % RL may occur!

Electrical Connection

For ranges up to 40 kN the load cell is fitted with 2 m of PVC insulated 4 core screened cable type 7-1-4C. Ranges above 40 kN are fitted with 7-2-4C cable.

The screen is not connected to the load cell body.

Wiring:

+ supply voltage:	red
- supply voltage:	blue +
output signal:	yellow
- output signal:	green
screen:	orange

Ordering Codes

ALF207CFR0K0	Compression, IP65	ALF207CFR0KN	Compression, IP65, rationalised
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Change the K to an H for the 10 kN range. If a non-standard cable length is required add this to the description and change the F to B. If bottom cable entry is required add this information to the description. 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.