

## N

## ALF332 2 Axis Loadcell

---

The ALF332 measures bi-directional forces in two perpendicular axes. The force range for each axis can be custom picked and do not need to be identical for optimum performance. Apart from uncomplicated error evaluations, each output is pure and requires no mathematical manipulation.

The loadcell is ideally suited to many industrial and scientific applications, including medical research and biometrics.

The recessed input fixing removes the possibility of applying any force to the delicate strain system during transport, storage or general handling. The design of the case is such that there is a degree of in-built overload protection during normal use. Input torque to the live force input fixing must be minimal, normal frictional torques achieving thread insertion should not be exceeded i.e. thread locking by adhesive is suggested.

If large moment arms are present the performance specification may be affected. It is best to contact members of our engineering department, who will be happy to evaluate performance changes. The loadcell can be manufactured with dimensions, fixings and force ranges to suit the application. Please consult our engineering department about the viability of all required design changes.

The example shown in the picture and drawing is a 0.1N (10gf) model; there may be some small enforced differences in the dimensions or fixings for custom force ranges.



### FEATURES

- Low cross talk
- Custom force ranges
- Direct output from each axis without calculation
- Built in overload protection
- Transit / storage protective case
- Standard 2 year warranty

### ORDERING CODES

See the loadcell ordering code sheet for more details. Add ranges in the required units. Most ALF332 loadcells are manufactured to special requirements and are given an ALF332-Zxxxx number.



**ALF332 SPECIFICATION**

Parameter	Value	Unit
Non-linearity - Terminal	±0.5	% RL
Hysteresis	±0.5	% RL
Creep - 20 minutes	±0.5	% AL
Repeatability	±0.2	% RL
Maximum cross talk	3	% RL
Rated output - Nominal	0.2 to 1.2	mV/V
Zero load output	±10	% RL
Temperature effect on rated output per °C	±0.005	% AL
Temperature effect on zero load output per °C	±0.01 to ±0.05	% RL
Temperature range - Compensated	-10 to +50	°C
Temperature range - Safe	-10 to +80	°C
Excitation voltage - Recommended	5	V
Excitation voltage - Maximum	10	V
Bridge resistance	2500	Ω
Insulation resistance - Minimum at 50Vdc	500	MΩ
Overload - Safe	50	% RL
Weight - Nominal (excluding cable)	10 to 40	g

Manufactured in aluminium or stainless steel, depending on the range.

Structural stiffness - Nominal					
Range (N)	Stiffness (N/m)	Range (N)	Stiffness (N/m)	Range (N)	Stiffness (N/m)
0.1(per axis)	1 x 10 <sup>4</sup>	10(per axis)	1 x 10 <sup>6</sup>	50(per axis)	5 x 10 <sup>6</sup>
100(per axis)	1 x 10 <sup>7</sup>				

**Notes**

1. AL = Applied load.
2. RL = Rated load.
3. Temperature coefficients apply over the compensated range.
4. Values apply to all axes unless otherwise specified.

**Connections**

The F332 is fitted with 2 metres of PVC insulated 9 core screened cable type 7-1-9C.

Function	Wire Colour	
	X axis	Y axis
Excitation +	Red	Violet
Excitation -	Blue	Black
Signal +	Yellow	Brown
Signal -	Green	White
Screen	Orange (thick)	

