Novatech
Loadcell Design & Manufacture

F204 Universal Loadcell

Standard Ranges 10, 25, 50, 100, 250 and 500kN (1 to 50tonnef)

- Large internal interfacing threads
- High structural load limit
- Flying lead or connector option
- Sealed to IP65
- Traceable calibration with certificate included in the standard price
- Standard 1 year warranty

Specification

Parameter	Value	Unit
Non-linearity - Terminal	±0.2 (10 to 100kN) / ±0.5 (250 to 500kN)	% RL
Hysteresis	±0.2 (10 to 100kN) / ±0.5 (250 to 500kN)	% RL
Creep - 20 minutes	±0.05	% AL
Repeatability	±0.02 (10 to 100kN) / ±0.03 (250 to 500kN)	% RL
Rated output - Nominal	1.2 (10 to 100kN) / 1.2 (250 to 500kN)	mV/V
Rated output - Rationalised	1.0 (10 to 100kN) / 1.0 (250 to 500kN)	mV/V
Rationalisation tolerance (applies to single direction calibrations)	±0.5 (10 to 100kN) / ±0.5 (250 to 500kN)	% RL
Zero load output	±4 (10 to 100kN) / ±4 (250 to 500kN)	% RL
Temperature effect on rated output per Â°C	±0.005 (10 to 100kN) / ±0.005 (250 to 500kN)	% AL
Temperature effect on zero load output per Â°C	±0.03 (10 to 100kN) / ±0.03 (250 to 500kN)	% RL
Temperature range - Compensated	-10 to +50 (10 to 100kN) / -10 to +50 (250 to 500kN)	°C
Temperature range - Safe	-10 to +80 (10 to 100kN) / -10 to +80 (250 to 500kN)	°C

Excitation voltage - Recommended	10 (10 to 100kN) / 10 (250 to 500kN)	V
Excitation voltage - Maximum	20 (10 to 100kN) / 20 (250 to 500kN)	V
Bridge resistance	700 (10 to 100kN) / 700 (250 to 500kN)	Î©
Insulation resistance - Minimum at 50Vdc	500 (10 to 100kN) / 500 (250 to 500kN)	MÎ©
Overload - Safe	50 (10 to 100kN) / 50 (250 to 500kN)	% RL
Overload - Ultimate	200 (10 to 100kN) / 200 (250 to 500kN)	% RL
Sealing	IP65 (10 to 100kN) / IP65 (250 to 500kN)	
Weight - Nominal (excluding cable)	0.7 (10 to 50kN) / 3.2 (100 - 250kN) / 7.8 (500kN)	kg
All standard ranges are manufactured in stainless steel.		

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 bi-directional versions there is a small difference between the output signal for compression and tension. All standard bi-directional loadcells are calibrated in both modes and the output for each direction is stated on the test / calibration certificate.The F204 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 F204 the F317 may be suitable.We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for fully compensated operation up to +250°C. Please consult our engineering department.

Order Codes

Code	Description
F204CFR0K0	Compression, IP65, unrationalised
F204TFR0K0	Tension, IP65, unrationalised
F204UFR0K0	Bi-directional, IP65, unrationalised
F204CFR0KN	Compression, IP65, rationalised
F204TFR0KN	Tension, IP65, rationalised
F204UFR0KN	Bi-directional, IP65, rationalised

Structural Stiffness - Nominal

Range (kN)	Stiffness (N/m)
10	2.8 x 108
25	7.0 x 108
50	1.4 x 109
100	2.7 x 109
250	6.8 x 109
500	1.4 x 1010

Notes

- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.
- The load must be applied directly through the central loading axis.

Connections

The loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 16-2-4C or a 4 pin Binder 723 series chassis plug.

Excitation + = Red or pin 1, Excitation - = Blue or pin 2, Signal + = Yellow or pin 3, Signal - =

Green or pin 4, Screen = Orange.

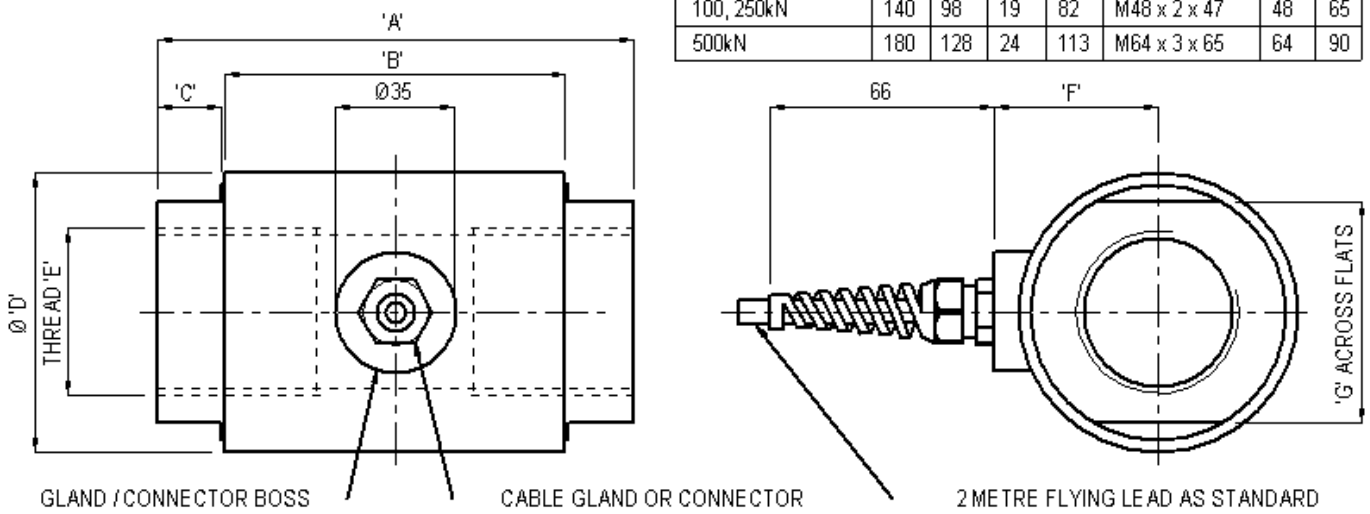
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

Files

Type	Title	Download
STEP File	F204-C/T/U-FR0K0 10 to 50kN (1 to 5tonnef)	Download
STEP File	F204-C/T/U-FR0K0 100 to 250kN (10 to 25tonnef)	Download
STEP File	F204-C/T/U-FR0K0 500kN (50tonnef)	Download
STEP File	F204-C/T/U-PR0K0 10 to 50kN (1 to 5tonnef)	Download
STEP File	F204-C/T/U-PR0K0 100 to 250kN (10 to 25tonnef)	Download
STEP File	F204-C/T/U-PR0K0 500kN (50tonnef)	Download

Outline

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



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