

# F204

## Universal Loadcell

Standard Ranges 1, 2.5, 5, 10, 25 and 50tonne (10 to 500kN)

- ◆ Large internal interfacing threads
- ◆ High structural load limit
- ◆ Flying lead or connector option
- ◆ Sealed to IP65
- ◆ Standard 2 year warranty



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.

Details of our other loadcell families can be found in the Loadcell Specifier Guide. If you require a copy please contact our sales department or look on our web site at [www.novatechloadcells.co.uk](http://www.novatechloadcells.co.uk).

<b>Ordering Codes:</b>		See the loadcell ordering code sheet for more details. Add range in the required units.	
F204CFR0K0	Compression, IP65, unrationalised	F204CFR0KN	Compression, IP65, rationalised
F204TFR0K0	Tension, IP65, unrationalised	F204TFR0KN	Tension, IP65, rationalised
F204UFR0K0	Bi-directional, IP65, unrationalised	F204UFR0KN	Bi-directional, IP65, rationalised
Change the F to a P for the connector version.			

## F204 Specification

Parameter	1 to 10tonne	25 to 50tonne	Unit
Non-linearity - Terminal	±0.2	±0.5	% RL
Hysteresis	±0.2	±0.5	% RL
Creep - 20 minutes	±0.05	±0.05	% AL
Repeatability	±0.02	±0.03	% RL
Rated output - Nominal	1.2	1.2	mV/V
Rated output - Rationalised	1.0	1.0	mV/V
Rationalisation tolerance	±0.5	±0.5	% RL
Zero load output	±4	±4	% RL
Temperature effect on rated output per °C	±0.005	±0.005	% AL
Temperature effect on zero load output per °C	±0.03	±0.03	% RL
Temperature range - Compensated	-10 to +50	-10 to +50	°C
Temperature range - Safe	-10 to +80	-10 to +80	°C
Excitation voltage - Recommended	10	10	V
Excitation voltage - Maximum	20	20	V
Bridge resistance	700	700	Ω
Insulation resistance - Minimum at 50Vdc	500	500	MΩ
Overload - Safe	50	50	% RL
Overload - Ultimate	200	200	% RL
Sealing	IP65	IP65	
Weight - Nominal (excluding cable)	1 to 3.2	4 to 15	kg

All standard ranges are manufactured in stainless steel.

Structural stiffness - Nominal					
Range (kN)	Stiffness (N/m)	Range (kN)	Stiffness (N/m)	Range (kN)	Stiffness (N/m)
10	$2.8 \times 10^8$	100	$2.7 \times 10^9$		
25	$7.0 \times 10^8$	250	$6.8 \times 10^9$		
50	$1.4 \times 10^9$	500	$1.4 \times 10^{10}$		

### Notes

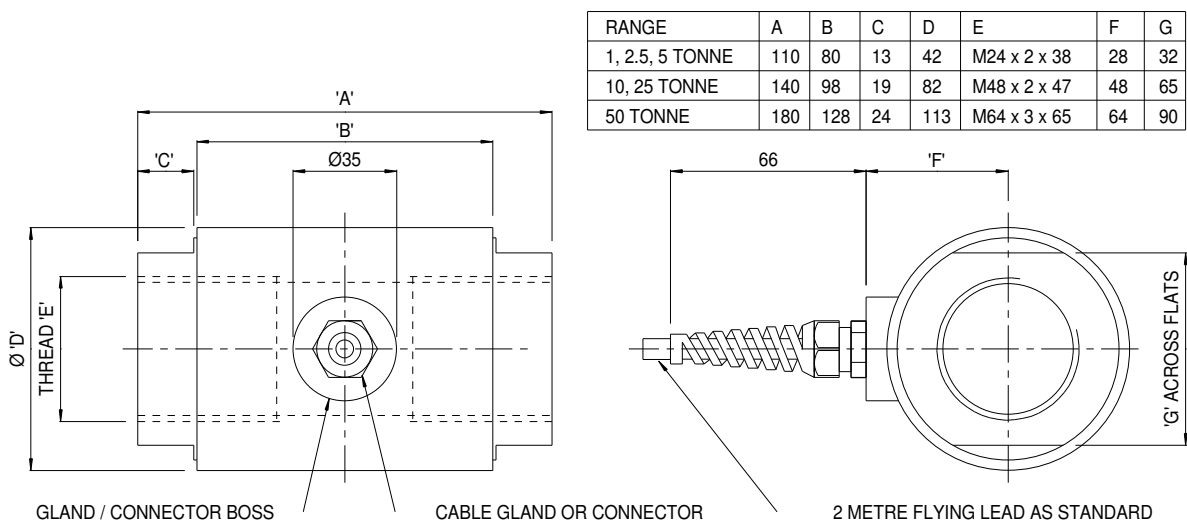
- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.
- The load must be applied directly through the central loading axis.

### 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                      Signal + = Yellow or pin 3                      Screen = Orange  
 Excitation - = Blue or pin 2                      Signal - = Green or pin 4

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



Novatech reserves the right to vary the foregoing details without prior notice

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