



# FC23 Compression Load Cells

## LOW COST

Compression ranges: 50 through 2000 Lb ranges

High Level or Millivolt outputs

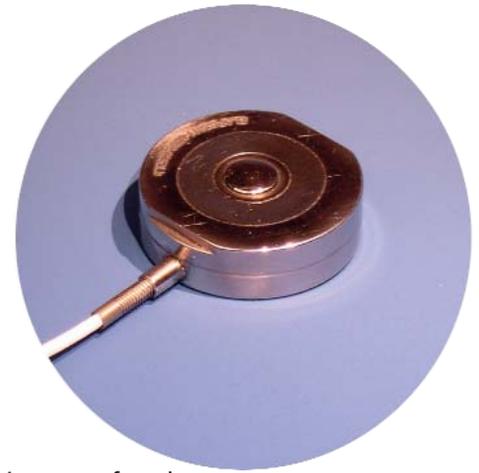
Interchangeable

Compact Load Button Design

Industry Standard Packaging

## DESCRIPTION

**The FC23 Series** Low Cost Compression Force Sensors create new markets previously unrealizable due to cost and performance constraints. This series raises the bar in price and performance. Measurement Specialties' (MEAS) proprietary Microfused™ technology, derived from



demanding aerospace applications, employs micro-machined silicon piezoresistive strain gages fused with high temperature glass to a high performance stainless steel substrate. Microfused™ technology eliminates age-sensitive organic epoxies used in classical load cell designs providing excellent long term span and zero stability.

Operating at very low strains, Microfused™ technology provides gage factors greater than 100, an essentially unlimited cycle life expectancy, superior resolution, exceedingly high over-range margins without the need for stops and a ratiometric span of up to 4 V. Microfused™ sensors are used in a variety of applications including bathroom scales, paint sprayers and safety-critical automotive brake sensors.

MEAS's model FC23 is appropriate for use in all types of OEM weighing and force measurement applications where high reliability and accuracy are critical. From assembly line applications to high capacity printing presses, the FC23 is the OEM designer's dream-come-true: cost-optimized to bring your OEM products to life whether you need thousands or millions of load cells annually. Although the standard model is ideal for a wide range of applications, our dedicated design team at our Load Cell Engineering Center is ready to provide you with custom designs for your OEM applications. The FC23 is fully thermally compensated for changes in zero and span with respect to temperature and offer normalized zero and span for interchangeability. Consult Measurement Specialties for uncompensated super low cost variants of the FC23 load cell.

## FEATURES

- ◆ Low cost
- ◆ Small size
- ◆ Low noise
- ◆ Robust: high overrange capability
- ◆ High reliability
- ◆ Low deflection
- ◆ Low off center errors
- ◆ Fast response time
- ◆ Essentially unlimited cycle life expectancy
- ◆ From 50 to 2,000 lb ranges

## APPLICATIONS

- ◆ Batch weighing
- ◆ Robotics end-effectors
- ◆ Variable force control
- ◆ Load and compression sensing
- ◆ Assembly line force measurement
- ◆ Pumps
- ◆ Hoist and winch loads
- ◆ Weighing

### CE compliant per the following specifications:

IEC61000-4-2

[4 KV/4 KV (Air/Contact)]

IEC61000-4-3

(3 V/m)



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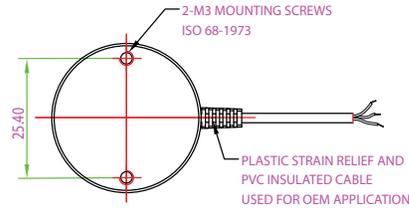
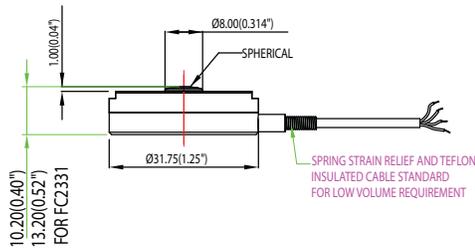
## performance specifications

Standard Ranges: FC23	50, 100, 250, 500, 1000, 2000 Lbf Compression
Maximum over load	250% of range
Recommended Excitation Voltage (Amplified)	3.3 VDC to 5 VDC (1)
Recommended Excitation Voltage (Bridge Only)	5 VDC
Output Span (Amplified/Ratiometric)	0.5 to 4.5 V +/-5% of Span at 5 VDC excitation
Output Span (Bridge Only)	20 mV/V +/-5%
Output at No Load (Zero output)	+/-5% FSO (2)
Combined Non-linearity, Hysteresis and Nonrepeatability	<+/- 1% FSO
Long Term Stability (1 year)	+/- 1 % Span (Typical)
Temperature Compensation	0 - 50° C
Thermal Zero Shift	<+/- 0.05%FSO/°C
Thermal Sensitivity Shift	<+/- 0.05%/°C
Operating and Storage Temperature Range	- 40° C to 85° C
Humidity	0 - 90% RH
Input Resistance (Bridge Only)	3K ohms (nominal)
Output Resistance (Bridge Only)	2.2K ohms (nominal)
Deflection at Rated Load	< 0.05 mm
Isolation Resistance	> 50 Mohms@250 VDC

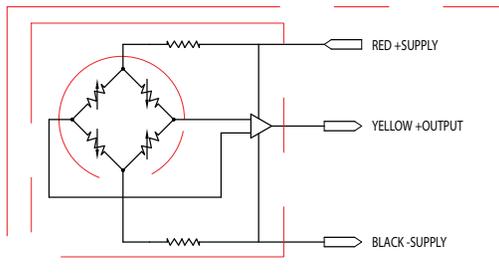
1) Higher excitation voltages available on request.  
 2) Lower trim values available on request  
 3) Package diameters as small as 0.5" available on special request.  
 4) Ranges to 5000 lbf available on special request.

## dimensions

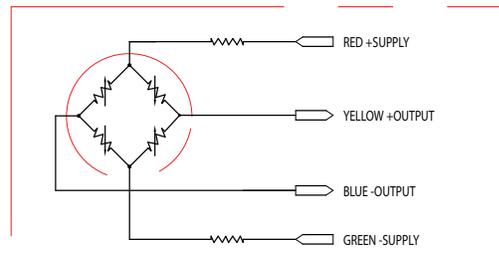
All dimensions in mm



High Level Amplified OutPut



Millivolt Bridge Version



## ordering information

Family	Body	Output	Connection	-	Specials	-	Range	Multiplier	Units
Sample PN: FC	23	1	1	-	0000	-	0250	-	L
FC23: Compression		1= 20 mV/V FSO 3=0.5-4.5 V Span @ Vdc input	1= Cable output Standard cable length: 609 mm (24")		Reserved for custom designs		50, 100, 250, 500, 1000, 2000 Lbf	-: none K: X1000	L = Lbf N = Newtons