



# FC22 Compression Load Cell

## LOW COST

Compression Ranges: 10, 25, 50 and 100 Lbf Compression

High Level or Millivolt Outputs

Interchangeable

Compact Easy to Fixture Design



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 traditional 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 4V. Microfused™ sensors are used in a variety of applications including bathroom scales, paint sprayers and safety-critical automotive stability control.

Measurement Specialties' model FC22 is appropriate for use in all types of OEM weighing and force measurement applications where high reliability and accuracy are critical. From appliance controls to biomechanical force feedback, FC22 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, the design team at our Load Cell Engineering Center can provide custom designs for your OEM applications. The FC22 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 FC22 load cell.

## DESCRIPTION

**The FC22 Series** low cost compression load cells create new markets previously unrealizable due to cost and performance constraints. This series provides a new level of performance at very low cost. Measurement Specialties' proprietary Microfused™ technology, derived from demanding aerospace applications, employs micro-

**FEATURES**

- ◆ Low cost
- ◆ Small size
- ◆ Low noise
- ◆ Robust: high overrange capability
- ◆ High reliability
- ◆ Low deflection
- ◆ Essentially unlimited cycle life expectancy
- ◆ Low off center errors
- ◆ Fast response time
- ◆ From 10 to 100 lbf ranges
- ◆ Reverse polarity protected

**APPLICATIONS**

- ◆ Medical infusion pumps
- ◆ Robotics end-effectors
- ◆ Variable force control
- ◆ Load and compression sensing
- ◆ Exercise machines
- ◆ Pumps
- ◆ Contact sensing
- ◆ Weighing
- ◆ Household appliances

### CE compliant per the following specifications:

IEC61000-4-2	[4 KV/4 KV (Air/Contact)]
IEC61000-4-3	(3 V/m)
IEC55022	Class A



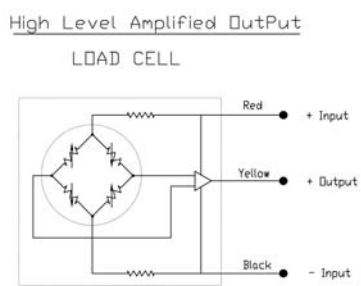
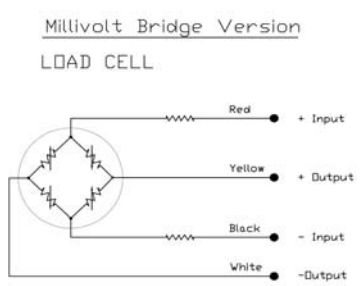
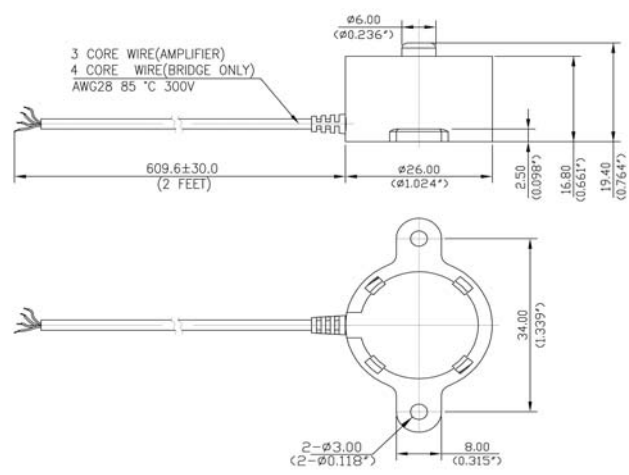
# FC22 Compression Load Cell

## performance specifications

Standard Ranges: FC22	10, 25, 50, 100 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 +/- 3% of Span at 5 VDC excitation
Full Scale Output Span (Bridge Only)	FC22: 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@ 250VDC

1) Higher excitation voltages available on request. 2) Lower trim values available on request (FSO: Full Scale Output)

## dimensions



## ordering information

Family	Body	Output	Connection	Specials	Range	Multiplier	Units
Sample PN: FC	22	3	1	0000	0010	-	L
FC22: Compression:		1= 20 mV/V FSO 3= 0.5-4.5 V FSO @ 5 VDC input	1= Cable output	Reserved for custom designs	FC22: 10, 25, 50, 100 Lbf	none	L = Lbf N = Newtons