FC22 Compression Load Cell

- **10 – 100 lbf Ranges**
- **High Level or mV Outputs**
- **Interchangeable**
- **Compact Easy to Fixture Design**
- **CE Compliance**

DESCRIPTION

The FC22 is a medium compression force sensor that creates new markets previously unrealizable due to cost and performance constraints. The FC22 offers normalized zero and span for interchangeability and is thermally compensated for changes in zero and span with respect to temperature.

The FC22 incorporates MEAS' proprietary Microfused™ technology which employs micromachined 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. The FC22 measures direct force and is therefore not subject to lead-die fatigue failure common with competitive designs which use a pressure capsule embedded within a silicone gel-filled cavity. Operating at very low strains, Microfused™ technology provides an essentially unlimited cycle life expectancy, superior resolution, and high over-range capabilities.

Cost-optimization of the FC22 brings your OEM product 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.

Please refer to the FS20 for lower force applications or the FC23 for higher force applications.

FEATURES

- Small Size
- Low Noise
- Robust: High Over-Range Capability
- High Reliability
- Low Deflection
- Essentially Unlimited Cycle Life Expectancy
- Low Off Center Errors
- Fast Response Time
- 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

FC22 Compression Load Cell

STANDARD RANGES

Range	lbf
0 to 10	•
0 to 25	•
0 to 50	•
0 to 100	•

PERFORMANCE SPECIFICATIONS

Supply Voltage: 5.0V, Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span (Unamplified)	19	20	21	mV/V	1
Span (Amplified)	3.88	4.00	4.12	V	1
Zero Force Output (Unamplified)	-1	0	1	mV	1
Zero Force Output (Amplified)	0.3	0.5	0.7	V	1
Accuracy (non linearity, hysteresis, and repeatability)		±1		%Span	2
Output Resistance (Unamplified)		2.2		kΩ	
Input Resistance (Unamplified)		3		kΩ	
Temperature Error – Zero	-1.25		1.25	%Span	3
Temperature Error – Span	-1.25		1.25	%Span	3
Long Term Stability (1 year)		±1		%Span	
Maximum Overload			2.5X	Rated	
Compensated Temperature	0		50	°C	
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+85	°C	
Excitation Voltage (Unamplified)			5	Vdc	
Excitation Voltage (Amplified)	3.3		5	Vdc	
Isolation Resistance (250Vdc)	50			MΩ	
Deflection at Rated Load			0.05	mm	
Humidity	0		90	%RH	
Weight		18.41		grams	

For custom configurations, consult factory.

Notes

1. Ratiometric to supply.
2. Best fit straight line.
3. Maximum temperature error over compensated range with respect to 25°C.

CE Compliance

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

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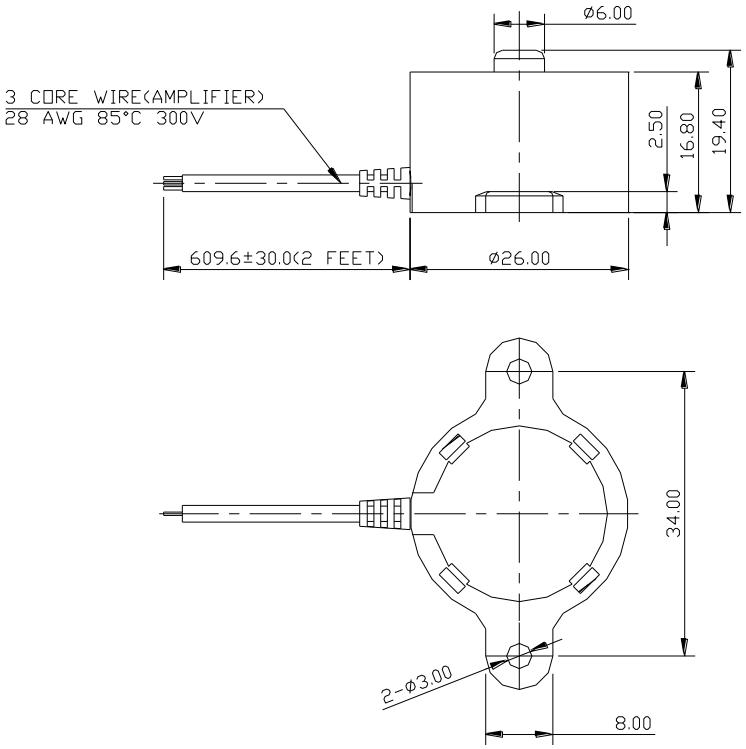
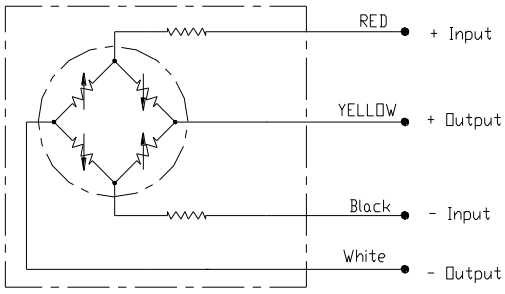
DIMENSIONS

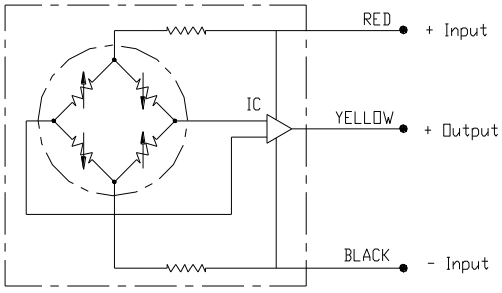


CONNECTIONS

Millivolt Bridge Version



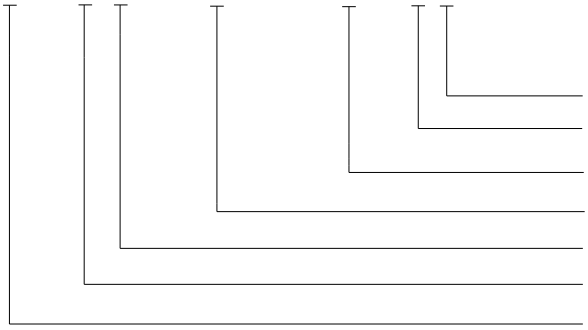
High Level Amplified Output



FC22 Compression Load Cell

ORDERING INFORMATION

FC22 3 1 - 0000 - 0010 - L



- Units (L = lbf, N = Newtons)
- Multiplier (- = None)
- Force Range
- Specials (Reserved for Custom Designs)
- Connection (1 = 2ft Cable)
- Output (0 = Uncompensated, 1 = 20 mV, 3 = 0.5 - 4.5V)
- Model

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