

FX1901 OEM Compression Load Cell



- High Reliability Design for OEM, Appliance and Medical Applications
- 10 – 100 lbf Ranges
- Compact Coin Cell Package
- Anti-Rotation Mounting Features

DESCRIPTION

The FX1901 units are intended for OEM use in laboratory, hospital or consumer product applications, establishing a breakthrough price/performance value for compression load cells. The FX1901 is a 1% load cell device with full scale ranges of 10, 25, 50 or 100lbf compression. This new, low-cost technology enables force sensing in a whole new class of "smart" consumer and medical products.

MEAS' proprietary Microfused™ technology, derived from demanding aerospace applications, employs micro-machined piezoresistive strain gages fused with high temperature glass to a high performance stainless steel force measuring flexure. 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 an essentially unlimited cycle life expectancy, superior resolution, high over-range capabilities and a ratiometric span of 20 mV/V. The combination of stamped flexures and micro miniaturized MEMs strain gages permits low costs to be achieved in high volume OEM applications ranging from disposable medical devices to durable appliances and exercise equipment.

FEATURES

- Small
- Low Noise
- Robust: High Over-Range
- High Reliability
- mV Output: 20 mV/V Nominal
- Low Deflection
- Fast
- Essentially Unlimited Cycle Life

APPLICATIONS

- Assembly Forces
- Physical Therapy Devices
- Patient Weight
- Hand Tool Forces
- Chiropractic and Exercise Equipment
- Consumables Monitoring: Copy Equipment and Vending systems
- Appliance Payload Monitoring: Washers, Dryers, Water Weight, Extraction Efficiency
- Appliance Unbalance Monitoring

STANDARD RANGES

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

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PERFORMANCE SPECIFICATIONS

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

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	16	20	24	mV/V	1
Zero Force Output		±15		mV	1
Accuracy (non linearity, hysteresis and repeatability)		±1		%Span	2
Input Resistance		3		kΩ	
Output Resistance		2.2		kΩ	
Temperature Error – Zero		±8		%Span	3
Temperature Error – Span		±2.5		%Span	3
Long Term Stability (1 year)		±1		%Span	
Maximum Overload			2.5X	Rated	
Compensated Temperature	0		50	°C	
Operating Temperature	0		50	°C	
Storage Temperature	-40		+85	°C	
Excitation Voltage	2	5	10	Vdc	
Isolation Resistance (250Vdc)	50			MΩ	
Deflection at Rated Load			0.05	mm	
Humidity	0		90	%RH	
Weight		8.1		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.

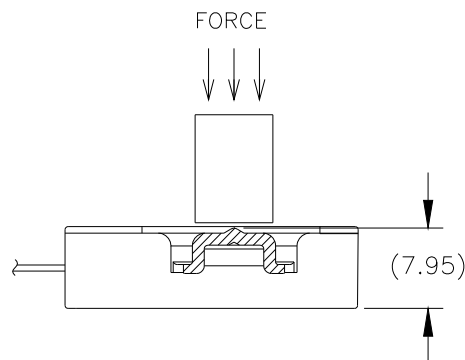
CE Compliance

IEC61000-4-2 [4 kV/ 4 kV (Air/Contact)]

IEC61000-4-3 (3 V/m)

IEC55022 Class A

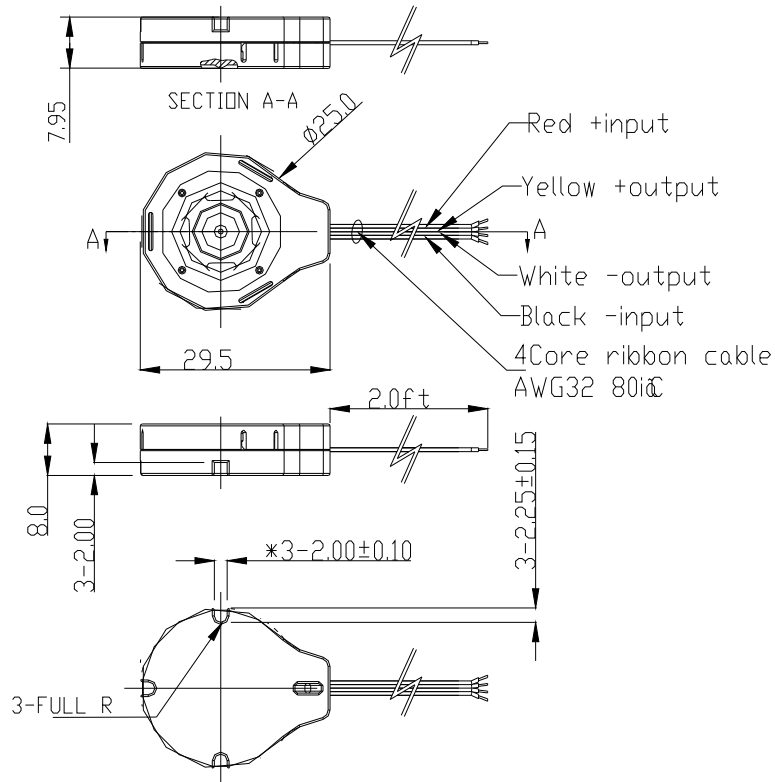
FORCE APPLICATION



LOAD MUST ONLY BE APPLIED TO THE
CONCENTRATOR TIP IN THE CENTER OF
THE SENSOR TO MAINTAIN ACCURACY

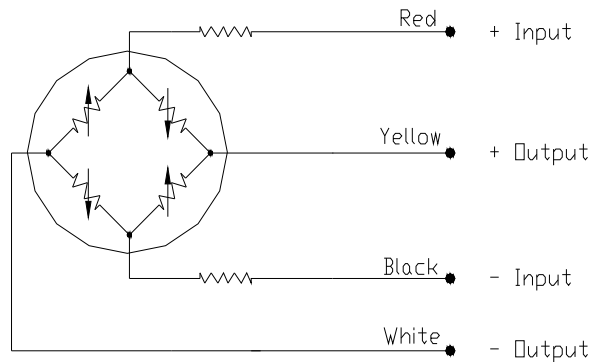
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DIMENSIONS



CONNECTIONS

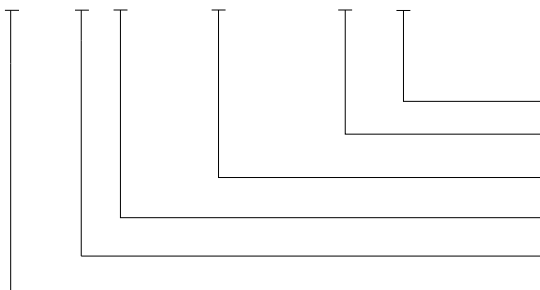
LOAD CELL



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ORDERING INFORMATION

FX19 0 1 - 0001 - 100 L



Units (L = lbf)

Force Range

Specials (0001 = Standard, nnnn = Custom Design)

Connection (1 = 2ft Cable)

Output (0 = 20mV)

Model

NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
Fremont, CA 94538
Tel: 1-800-767-1888
Fax: 1-510-498-1578
Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518107
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

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