# FX1901 Compression Load Cell



- **High Reliability Design for OEM, Appliance and Medical Applications**
- **10 – 200 lbf Ranges**
- **Compact Coin Cell Package**
- **Anti-Rotation Mounting Features**
- **CE Compliance**

## 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 100 and 200lbf 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 20mV/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: 20mV/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 | • |
| 0 to 200 | • |

# FX1901 Compression Load Cell

## PERFORMANCE SPECIFICATIONS

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

| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|---|---|---|---|---|---|
| Recommended Excitation | | 5 | | V | |
| Full Scale Output Span | 16 | 20 | 24 | mV/V | |
| Full Scale Output Span (200lbf) | 34.2 | 36 | 37.8 | | |
| Zero Offset | -15 | | 15 | mV/V | |
| Non-Linearity | -1 | | 1 | %FSO | |
| Hysteresis | -0.80 | | 0.80 | %Span | |
| Thermal Zero Shift | -0.05 | | 0.05 | %FSO / °C | |
| Thermal Sensitivity Shift | -0.05 | | 0.05 | %FSO / °C | |
| Insulation Resistance | 50 | | | MΩ | @500Vdc |
| Maximum Overload | | 250 | | %FSO | |
| Maximum Overload (200lbf) | | 150 | | %FSO | |
| Operating Temperature | 0 | | 50 | °C | |
| Storage Temperature | -40 | | +85 | °C | |
| Creeping | | | 0.5 | %FSO | F.S. Span in 3min |
| Zero Drift | | | 0.5 | %FSO | Load F.S. 3min |
| Zero Return | -0.8 | | 0.8 | %FSO | |
| Span Repeat | -0.8 | | 0.8 | %FSO | |
| Humidity | 0 | 5 | 90 | %R.H. | |
| Deflection | | 0.05 | | mm | At Rated Load |
| Span Compensation Resistor (10, 25, 50 100lbf) | | 464 | | Ω | |
| Input Resistance | 2.4 | 3 | 3.6 | KΩ | |
| Output Resistance | 1.76 | 2.2 | 2.64 | KΩ | |

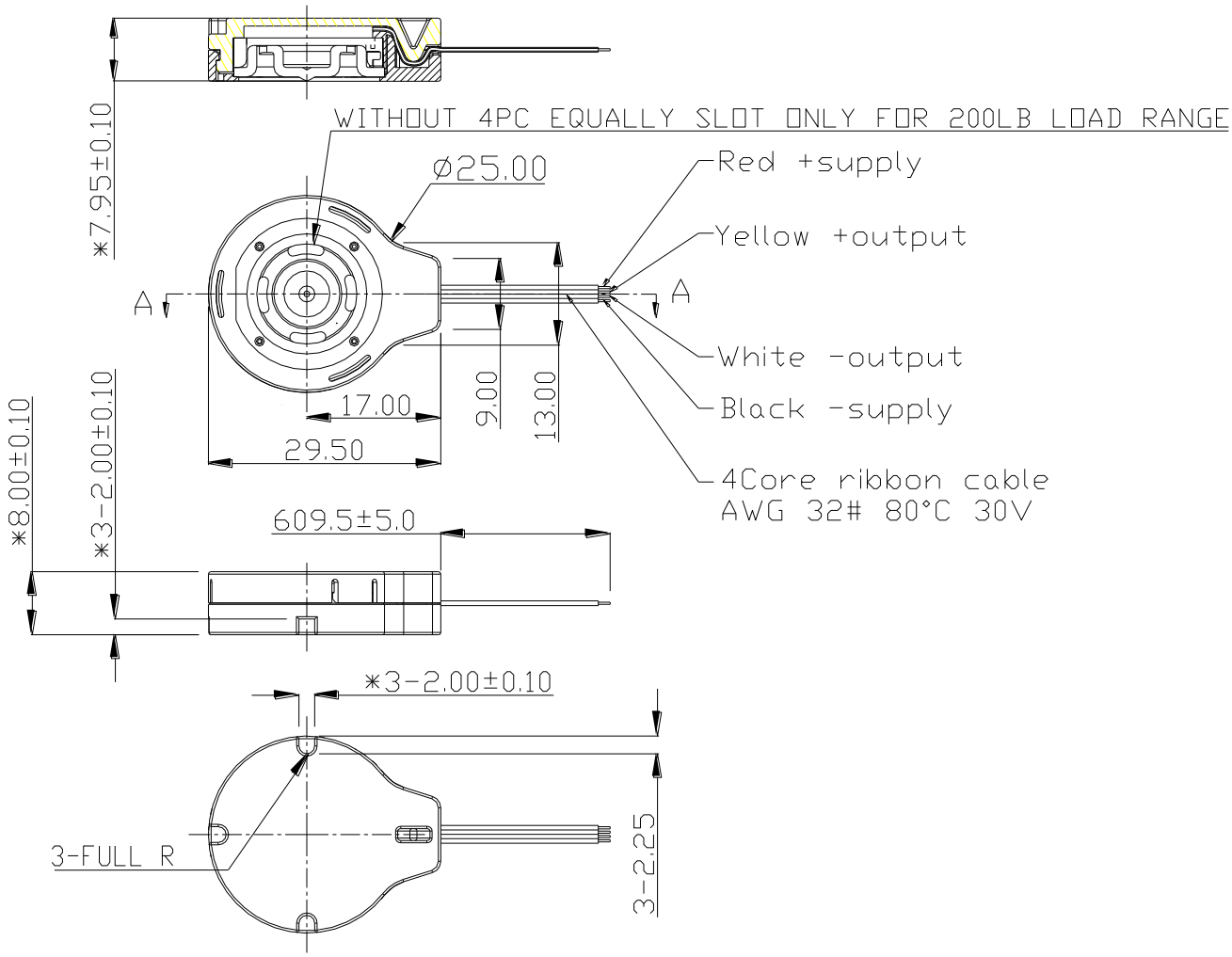
**For custom configurations, consult factory.**

**CE Compliance**

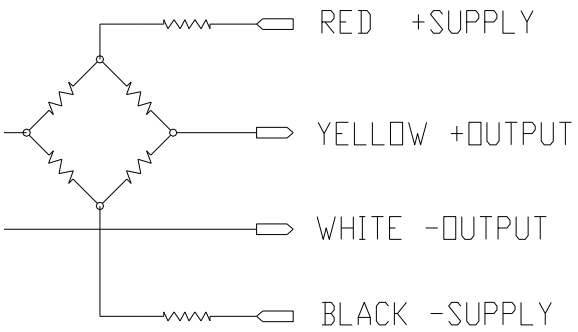
| |
|---|
| IEC61000-4-2 [4 kV/ 4 kV (Air/Contact)] |
| IEC61000-4-3 (3 V/m) |
| IEC55022 Class A |

# FX1901 Compression Load Cell

## DIMENSIONS



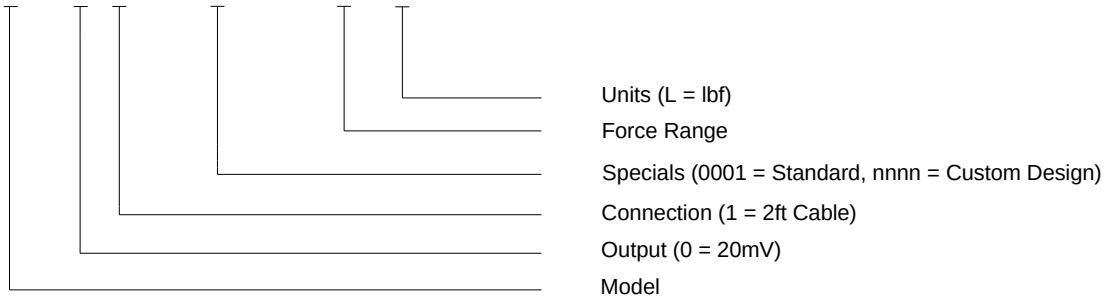

## WIRING INFORMATION



# FX1901 Compression Load Cell

## ORDERING INFORMATION

FX19 0 1 - 0001 - 100 L




**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 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** sales@st-electron.ru

**Адрес:** 198099, Санкт-Петербург, Промышленная ул, дом № 19, литера Н, помещение 100-Н Офис 331