# FX19

## Compression Load Cell

## SPECIFICATIONS

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

## 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

The **FX19** units are intended for OEM use in laboratory, hospital or consumer product applications, establishing a breakthrough price/performance value for compression load cells. The FX19 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.

## STANDARD RANGES

| Range | lbf |
|---|---|
| 0 to 0010 | • |
| 0 to 0025 | • |
| 0 to 0050 | • |
| 0 to 0100 | • |
| 0 to 0200 | • |

## 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 | mV/V | |
| Zero Offset | -15 | | 15 | mV/V | |
| Non-Linearity | -1 | | 1 | %Span | |
| Hysteresis | -0.80 | | 0.80 | %Span | |
| Thermal Zero Shift | -0.05 | | 0.05 | %Span / °C | |
| Thermal Sensitivity Shift | -0.05 | | 0.05 | %Span / °C | |
| Insulation Resistance | 50 | | | MΩ | @500$V_{DC}$ |
| Maximum Overload | | 250 | | %FS | |
| Maximum Overload (200lbf) | | 150 | | %FS | |
| Operating Temperature | 0 | | 50 | °C | |
| Storage Temperature | -40 | | +85 | °C | |
| Creeping | | | 0.5 | %Span | F.S. span in 3min |
| Zero Drift | | | 0.5 | %Span | Load F.S. 3min |
| Zero Return | -0.8 | | 0.8 | %Span | |
| Span Repeat | -0.8 | | 0.8 | %Span | |
| Humidity | 0 | | 90 | %R.H. | |
| Deflection | | 0.05 | | mm | At Rated Load |
| 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 |