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

FX1901
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

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.
STANDARD RANGES

<table>
<thead>
<tr>
<th>Range</th>
<th>lbf</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0010</td>
<td></td>
</tr>
<tr>
<td>0 to 0025</td>
<td></td>
</tr>
<tr>
<td>0 to 0050</td>
<td></td>
</tr>
<tr>
<td>0 to 0100</td>
<td></td>
</tr>
<tr>
<td>0 to 0200</td>
<td></td>
</tr>
</tbody>
</table>

PERFORMANCE SPECIFICATIONS

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

<table>
<thead>
<tr>
<th>PARAMETERS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Excitation</td>
<td>5</td>
<td></td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Full Scale Output Span</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>mV/V</td>
<td></td>
</tr>
<tr>
<td>Full Scale Output Span (200lbf)</td>
<td>34.2</td>
<td>36</td>
<td>37.8</td>
<td>mV/V</td>
<td></td>
</tr>
<tr>
<td>Zero Offset</td>
<td>-15</td>
<td></td>
<td>15</td>
<td>mV/V</td>
<td></td>
</tr>
<tr>
<td>Non-Linearity</td>
<td>-1</td>
<td></td>
<td>1</td>
<td>%Span</td>
<td></td>
</tr>
<tr>
<td>Hysteresis</td>
<td>-0.80</td>
<td></td>
<td>0.80</td>
<td>%Span</td>
<td></td>
</tr>
<tr>
<td>Thermal Zero Shift</td>
<td>-0.05</td>
<td>0.05</td>
<td></td>
<td>%Span/°C</td>
<td></td>
</tr>
<tr>
<td>Thermal Sensitivity Shift</td>
<td>-0.05</td>
<td>0.05</td>
<td></td>
<td>%Span/°C</td>
<td></td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>50</td>
<td></td>
<td></td>
<td>MΩ</td>
<td>@500Vdc</td>
</tr>
<tr>
<td>Maximum Overload</td>
<td>250</td>
<td></td>
<td></td>
<td>%FS</td>
<td></td>
</tr>
<tr>
<td>Maximum Overload (200lbf)</td>
<td>150</td>
<td></td>
<td></td>
<td>%FS</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0</td>
<td>50</td>
<td></td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40</td>
<td></td>
<td>+85</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Creeping</td>
<td>0.5</td>
<td></td>
<td></td>
<td>%Span</td>
<td>F.S. span in 3min</td>
</tr>
<tr>
<td>Zero Drift</td>
<td>0.5</td>
<td></td>
<td></td>
<td>%Span</td>
<td>Load F.S. 3min</td>
</tr>
<tr>
<td>Zero Return</td>
<td>-0.8</td>
<td>0.8</td>
<td></td>
<td>%Span</td>
<td></td>
</tr>
<tr>
<td>Span Repeat</td>
<td>-0.8</td>
<td>0.8</td>
<td></td>
<td>%Span</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>0</td>
<td>90</td>
<td></td>
<td>%R.H.</td>
<td></td>
</tr>
<tr>
<td>Deflection</td>
<td>0.05</td>
<td></td>
<td></td>
<td>mm</td>
<td>At Rated Load</td>
</tr>
<tr>
<td>Input Resistance</td>
<td>2.4</td>
<td>3</td>
<td>3.6</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>Output Resistance</td>
<td>1.76</td>
<td>2.2</td>
<td>2.64</td>
<td>kΩ</td>
<td></td>
</tr>
</tbody>
</table>

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
DIMENSIONS

FX1900:

FX1901:

FACTORY OPTIONS SLOTS: NO SLOTS FOR 200LB SENSOR

COMPRRESSIVE FORCE CONTACT POINT

DELICATE SENSOR ELEMENTS INSIDE THE 4 BUMPS PROTRUDING 1.0MM MAX ABOVE RM, DO NOT APPLY ANY FORCE.

Downloaded from Arrow.com.
WIRING INFORMATION

ORDERING INFORMATION

FX1901 – 0001 – 0200 – L

Output
0  20mV

Vent
L  lbf

Plastic Shell & Cable
0  No
1  Yes

Force Range
0010
0025
0050
0100
0200

NORTH AMERICA
Measurement Specialties, Inc., a TE Connectivity Company
Tel: 1-800-522-6752
Email: customerscare.lcsb@te.com

EUROPE
MEAS France SAS,
a TE Connectivity company
Tel: +31-73-624-6999
Email: customerscare.lcsb@te.com

ASIA
Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Tel: +86 400-820-6015
Email: customerscare.shzn@te.com

TE.com/sensorsolutions
Measurement Specialties, Inc., a TE Connectivity company.
Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.
The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity’s obligations shall only be as set forth in TE Connectivity’s Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.
© 2015 TE Connectivity Ltd. family of companies. All Rights Reserved.

Downloaded from Arrow.com.