



## 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**

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.

#### 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 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	@500V <sub>DC</sub>
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

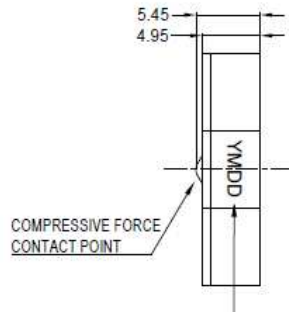
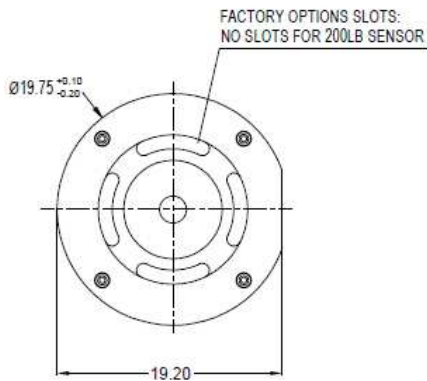
IEC61000-4-2 [4 kV/ 4 kV (Air/Contact)]

IEC61000-4-3 (3 V/m)

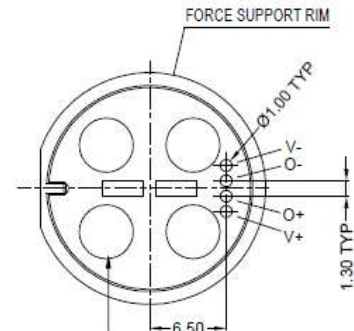
IEC55022 Class A

## DIMENSIONS

### FX1900-0000

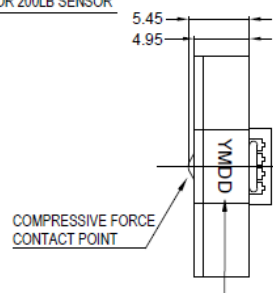
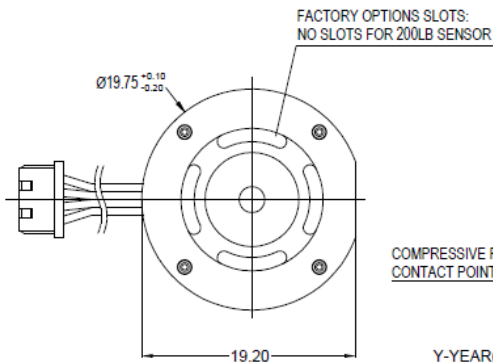


Y-YEAR(1-2011,2-2012,3-2013.....);  
M-MONTH(1-Jan,2-Feb.....A-Oct,B-Nov,C-Dec);  
DD-DATE.  
NOTED WITH OILINESS PEN.



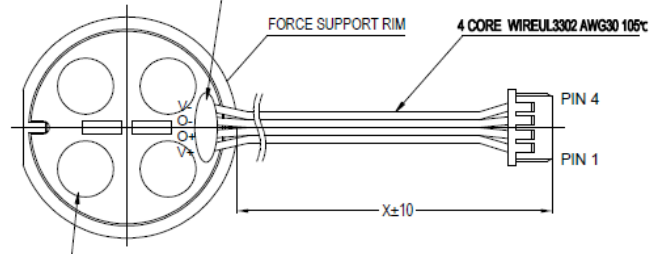
DELICATE SENSOR ELEMENTS INSIDE THE 4 BUMPS  
PROTRUDING 1.0MM MAX ABOVE RIM, DO NOT APPLY  
ANY FORCE.

### FX1900-XXX1



Y-YEAR(1-2011,2-2012,3-2013.....);  
M-MONTH(1-Jan,2-Feb.....A-Oct,B-Nov,C-Dec);  
DD-DATE.  
NOTED WITH OILINESS PEN.

EPOXY ADHESIVE,ECCOBOND 286A/B, THE HEIGHT NO MORE THAN 1.00mm  
AGAINST SUPPORT SURFACE OF AL HOUSING.



THE PUMP OF RUBBER SHOULD BE FREE FROM PRESS & SCRATCH.  
THE HIGHNESS NO MORE THAN 1.0mm AGAINST SUPPORT SURFACE  
OF AL HOUSING.

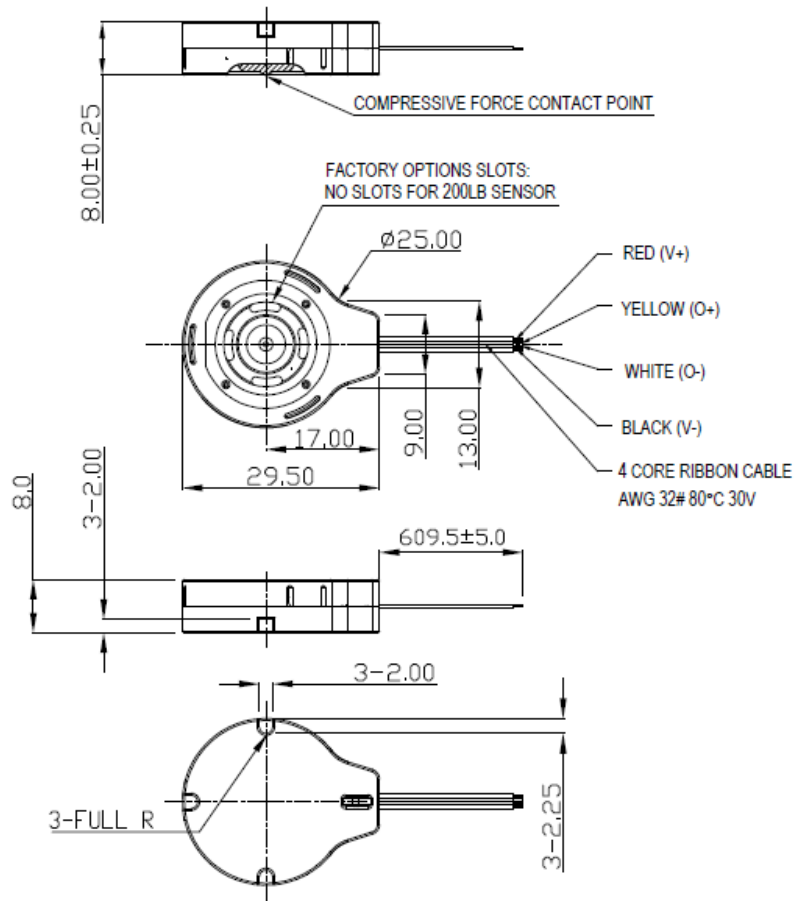
#### CONNECTOR INFORMATION:

CONNECTOR	PART	DESCRIPTION	QTY	UN
MOLEX	HOUSING	MOLEX: 51021-0400 4P FEMAL PITCH: 1.25 NATRUAL	1	EA
	TERIMAL	MOLEX CRIMP TERMINAL 50058-8000 MATE WITH 51021 (MX1.25) AWG 28#-32#	4	EA

#### WIRE CONNECTION

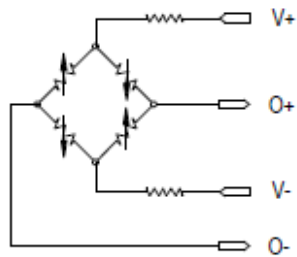
PIN 1	V+ RED
PIN 2	O+ YELLOW
PIN 3	O- WHITE
PIN 4	V- BLACK

# FX1901-0001

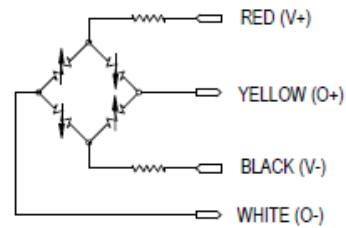


## WIRING INFORMATION

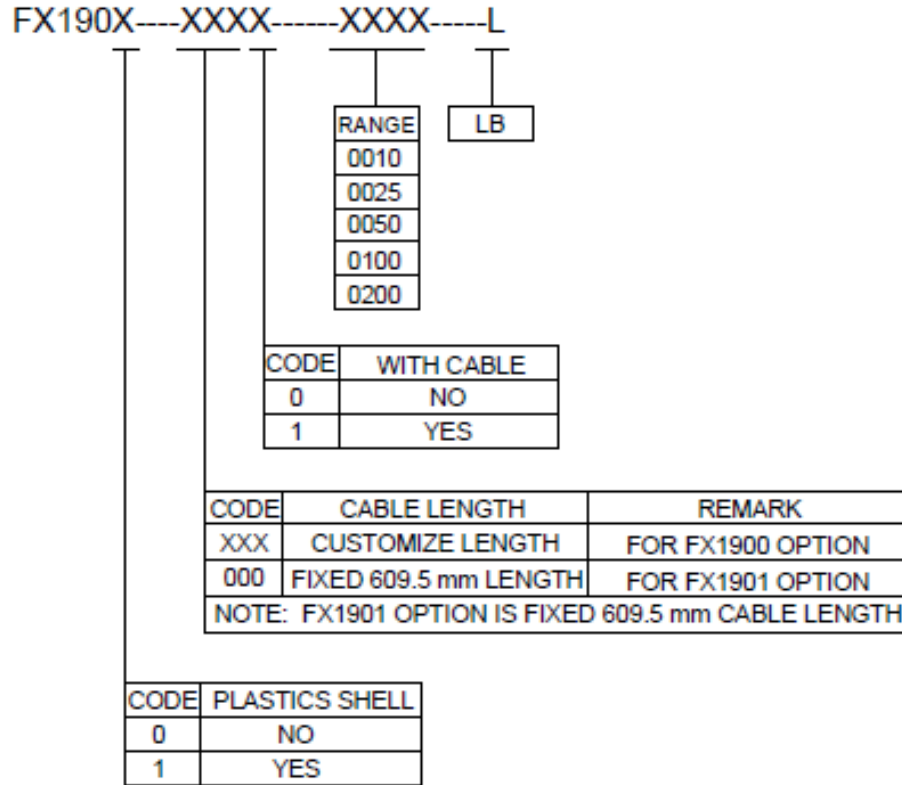
### FX1900-0000



### FX1900-XXX1 FX1901-0001



## ORDERING INFORMATION



### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Tel: 1-800-522-6752  
Email : [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

### EUROPE

MEAS France SAS,  
a TE Connectivity company  
Tel: +31-73-624-6999  
Email : [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

### ASIA

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

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[FX1900-0000-0010-L](#) [FX1900-0000-0050-L](#) [FX1900-0000-0100-L](#) [FX1900-0000-0200-L](#)