XFL212R Miniature Load Cell

- **0-5 to 0-500N [0-1 to 100 lbf]**
- **Compression**
- **Extremely Flat 3,5 mm [0.14”]**
- **Diameter Only 12 mm [0.49”]**
- **Integrated Spherical Load Button**
- **For Static and Dynamic Applications**

DESCRIPTION

The **XFL212R** series is an extraordinarily thin miniature load cell with a temperature compensation module integrated into the output cable. This design allows Measurement Specialties, Inc. to manufacture extremely small sensors without sacrificing thermal zero and sensitivity performance. The **XFL212R** measures strain during compression in static and dynamic applications. Unlike sensors with flat force application surfaces, the **XFL212R** incorporates a spherical load button, which assures more precise loading and in return more accurate measurements.

The sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gages. The use of silicon strain gages optimizes its performance at low ranges and frequencies. The sensor is available in aluminum alloy or stainless steel, depending on the full scale range and can withstand considerable overloads.

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties, Inc. often works with customers to design or customize sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. The matched components (sensor, power, amplifier and digital display) are formatted, calibrated and ready for immediate use.

FEATURES

- Small size
- Flat sensor
- High Stiffness
- Integrated Spherical Load Button
- Other designs available on request

APPLICATIONS

- Strain table measurement
- Micro component assembly tools
- Mechanical switches control
- Laboratory
- Robotic

STANDARD RANGES

F.S. Ranges in N	5 - 10 - 20 - 50 - 100	200 - 500
F.S. Ranges in lbf	1 - 2 - 4 - 10 - 20	40 - 100
Stiffness in N/m	$1.3x10^5$ to $1.2x10^8$	$1.9x10^8$ to $7.6x10^8$
Stiffness in lbf/ft	$8.9x10^4$ to $8.2x10^5$	$1.3x10^7$ to $5.2x10^7$
Material	Aluminium	Stainless Steel

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PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1º C

PARAMETERS	
Operating Temperature Range (OTR)	-40 to 120° C [-40 to 248° F]
Compensated Temperature Range (CTR)	0 to 60º C [32 to 140° F]
Zero Shift in CTR	<2% F.S. / 50º C [/100° F]
Sensitivity Shift in CTR	<2% of reading / 50º C [/100° F]
Range (F.S.)	0-5 to 0-500 N [0-1 to 0-100 lbf]
Over-Range	
Without Damage	2 x F.S.
Without Destruction	3 x F.S.
Accuracy	
Linearity	≤±1% F.S.
Hysteresis	≤±1% F.S.

Electrical Characteristics

Model	**XFL212R**
Supply Voltage	10Vdc
F.S. Output	100 mV
Zero Offset	<±10 mV
Input Impedance/Consumption	1000 to 3000Ω
Output Impedance	500 to 1000Ω
Insulation under 50Vdc	≥100MΩ

Notes

1. Electrical Termination: Cable: Shielded cable with 4 wires (AWG36), standard length 2 m [6.5 ft] ; Compensation module at 1 m [3.25 ft] from transducer.
2. Material: Body in stainless steel or aluminum alloy
3. Protection Index: IP50
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

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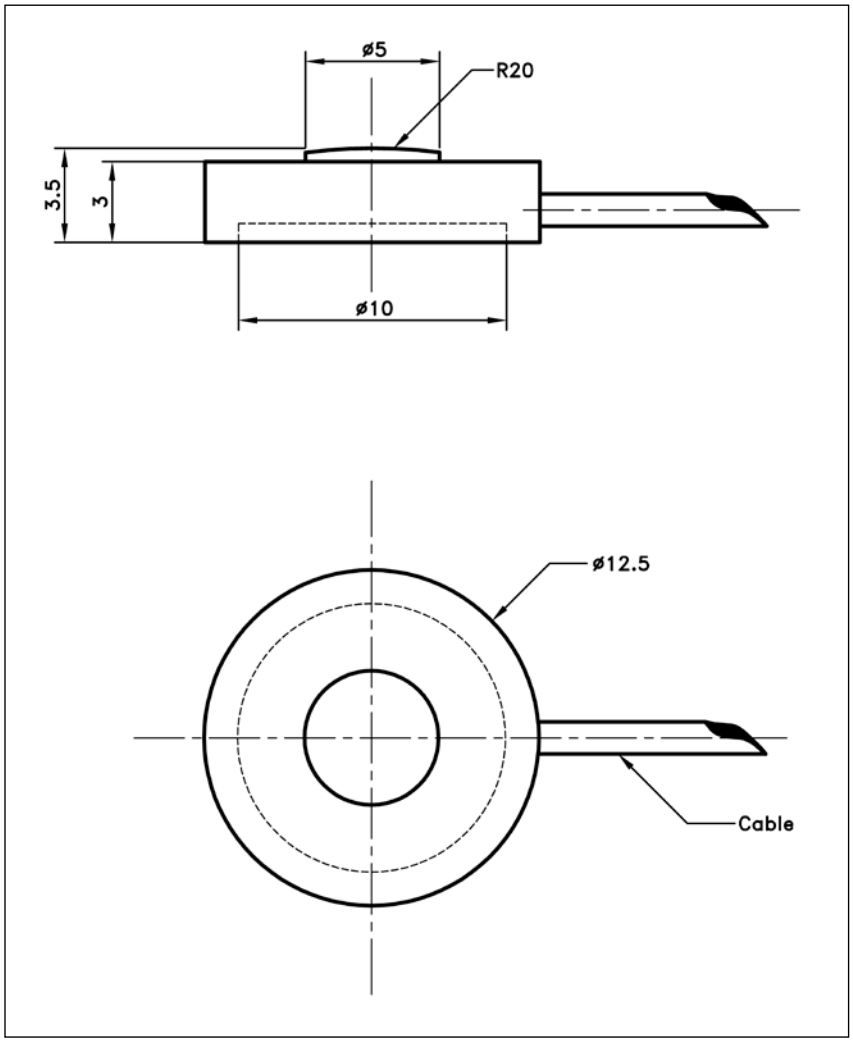
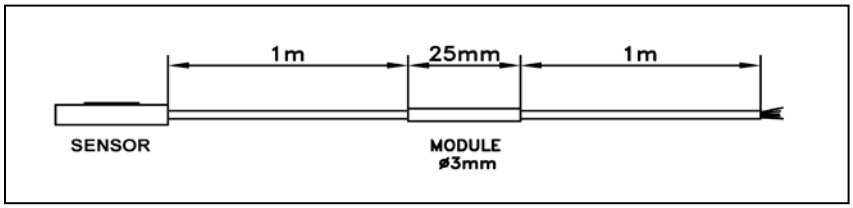
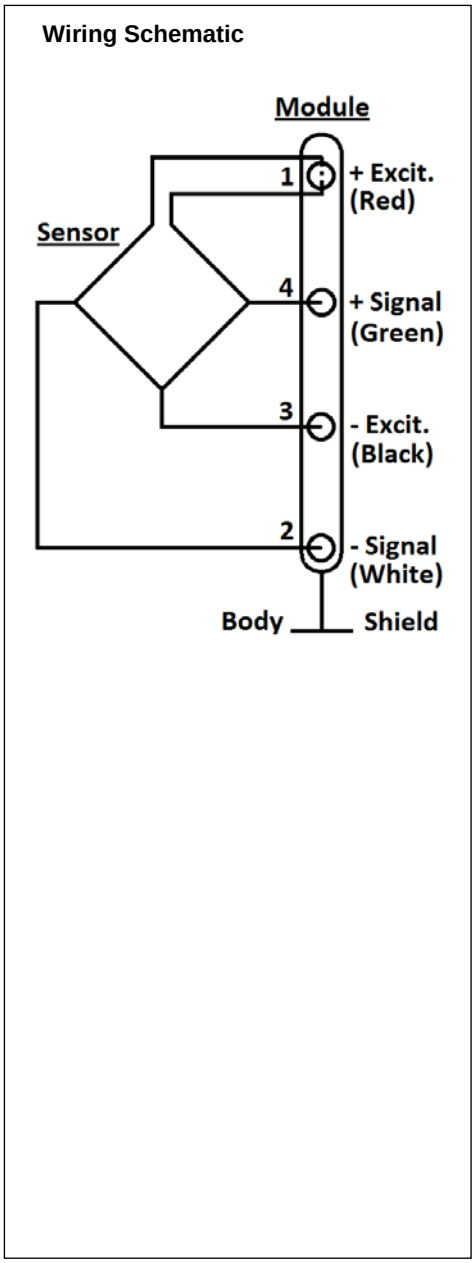
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)







Dimensions in mm [inch]

F. S. Ranges In N [in lbf]	5 - 10 - 20 - 50 - 100 [1 - 2 - 4 - 10 - 20]	200 - 500 [40 - 100]
Material	Aluminum	Stainless steel
Stiffness in N/m	$1.3x10^5$ to $1.2x10^8$	$1.9x10^8$ to $7.6x10^8$
Stiffness in lbf/ft	$8.9x10^4$ to $8.2x10^5$	$1.3x10^7$ to $5.2x10^7$

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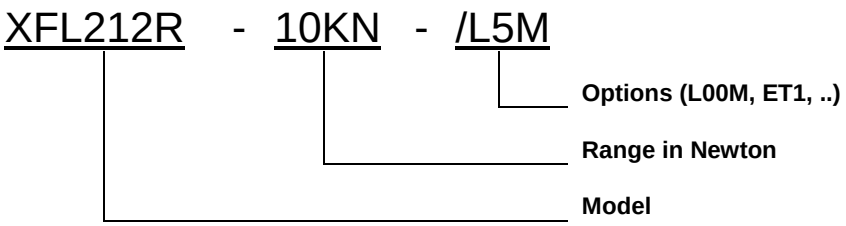
OPTIONS

ET1	: CTR -20 to 100º C [-4 to 212° F]
ET2	: CTR -40 to 120º C [-40 to 248° F]
ET3	: CTR -40 to 150º C [-40 to 302° F] OTR=CTR
L00M	: special cable length, replace “00” with total length in meters
* Order Flat Force application surface with reference **XFL212**.	

ORDERING INFO



联系方式

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