



## XFL212R

### Compression Miniature Load Cell

#### SPECIFICATIONS

- ◆ Ranges from 0-5 to 0-500N [0-1 to 100 lbf]
- ◆ Extremely Flat 3,5 mm [0.14"]
- ◆ Diameter Only 12 mm [0.49"]
- ◆ Integrated Spherical Load Button

The **XFL212R** series is an extraordinarily thin miniature load cell with a temperature compensation module integrated into the output cable. This design allows TE CONNECTIVITY 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.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips."

#### FEATURES

- ◆ Load Washer Model
- ◆ 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**

Ranges (FS)		Material	Stiffness		Overrange		Linearity	Hysteresis
N	lbf		In N/m	In lbf/ft	Without Damage	Without Destruction		
5	1	Aluminum	5.78x10 <sup>3</sup>	8.66x10 <sup>5</sup>	x2	x3	< ±1% F.S.	< ±1% F.S.
10	2	Aluminum	5.26x10 <sup>3</sup>	1.90x10 <sup>6</sup>				
20	4	Aluminum	4.76x10 <sup>3</sup>	4.20x10 <sup>6</sup>				
50	10	Aluminum	4.68x10 <sup>3</sup>	1.07x10 <sup>7</sup>				
100	20	Aluminum	4.92x10 <sup>3</sup>	2.03x10 <sup>7</sup>				
200	40	Stainless Steel	4.97x10 <sup>3</sup>	4.02x10 <sup>7</sup>				
500	100	Stainless Steel	8.88x10 <sup>3</sup>	5.63x10 <sup>7</sup>				

**PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)**

Ranges (FS)		Operating Temperature Range (OTR)		Compensated Temperature Range (CTR)		Th. ZeroShift in CTR /50°C	Th. Sensitivity Shift in CTR /50°C
N	lbf	Celsius	Fahrenheit	Celsius	Fahrenheit		
All ranges		-40 to 120°C	-40 to 250°F	0 to 60°C	32 to 140°F	< ±2%FS	< ±2%

**ELECTRICAL CHARACTERISTICS**

Ranges (FS)		Natural Frequency response	Power supply	Sensitivity "FSO" <sup>12</sup>	Offset	Input Impedance Ze	Output Impedance Zs
N	lbf						
5	1		1 to 10 Vdc	12 mV/V	< ±10mV	1500 Ω	500 Ω
10	2			12 mV/V			
20	4			12 mV/V			
50	10			12 mV/V			
100	20			12 mV/V			
200	40			12 mV/V			
500	100			15 mV/V			

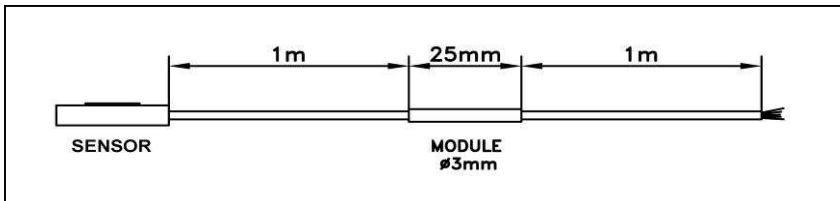
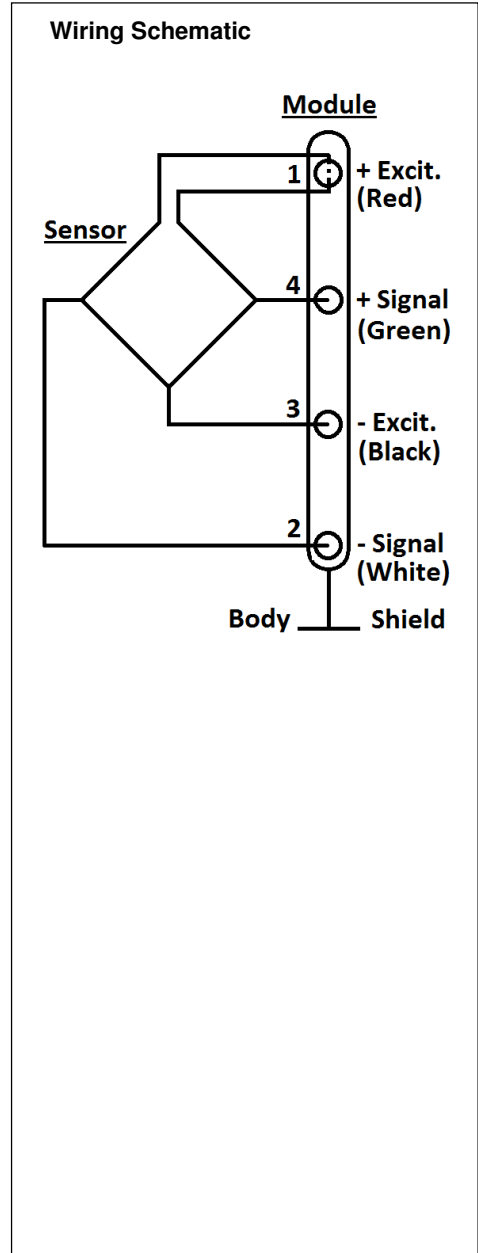
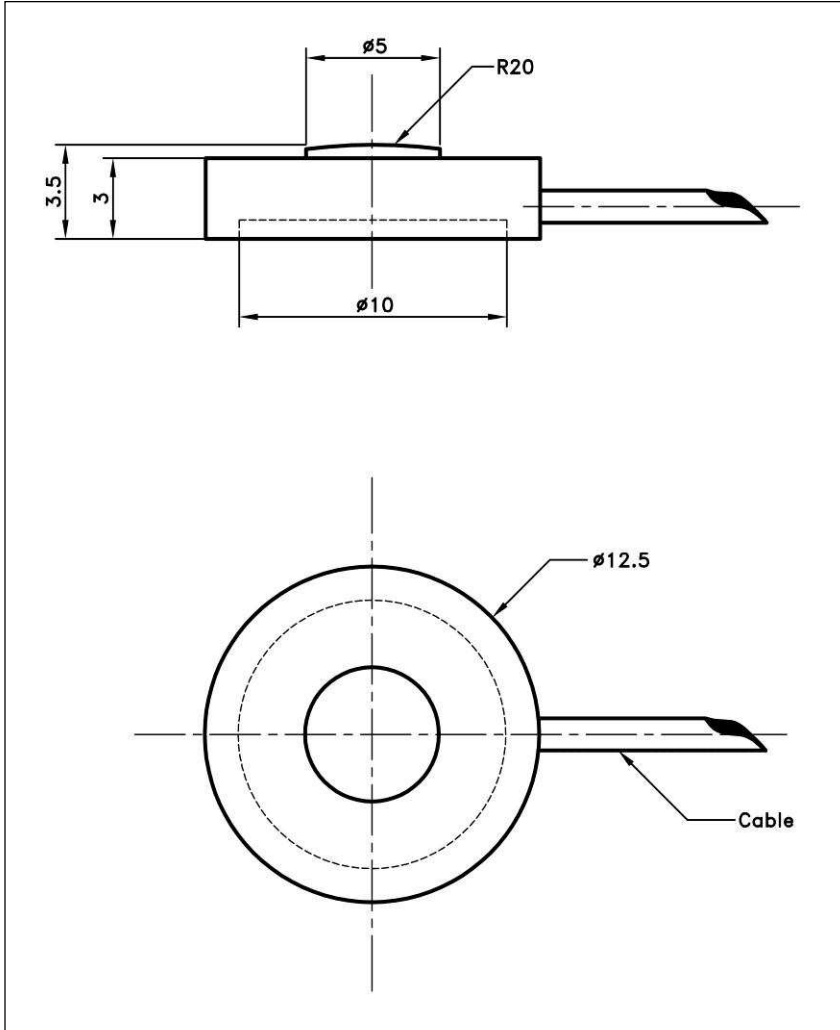
**Notes**

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes negative in compression with standard wiring configuration
3. Electrical Termination: Shielded cable with 4 wires (AWG36/28), standard length 2 m [6.5 ft] with strain relief spring
4. Material: Body in stainless steel or aluminum alloy
5. Protection Index: IP50
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

**XFL212R**

Miniature Load Cell

**DIMENSIONS & WIRING SCHEMATIC (METRIC)**



Dimensions in mm [inch]

## XFL212R

Miniature Load Cell

### OPTIONS

<b>Z0</b>	: CTR -20 to 20° C [- to -° F]
<b>Z1</b>	: CTR -20 to 40° C [- to -° F]
<b>Z2</b>	: CTR 20 to 80° C [- to -° F]
<b>Z35</b>	: CTR 20 to 120° C [- to 248° F] OTR=CTR
<b>M00M</b>	: special module position, replace "00" with total length in meters
<b>V00</b>	: Non-standard power supply calibration, replace "00" with value in Volt
<b>L00M</b>	: special cable length, replace "00" with total length in meters
* Order Flat Force application surface with reference <b>XFL212</b> .	

### ORDERING INFO

