

XFL225D

Compression Miniature Load Cell

SPECIFICATIONS

- ◆ 0-10 N to 0-5 kN [0-2 lbf to 0-1 klbf]
- ◆ Diameter 25mm [0.98"]
- ◆ For Static and Dynamic Applications
- ◆ Strain Relief Spring

The **XFL225D** is a very flat 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 sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gages.

The **XFL225D** can withstand considerable overloads and measure strain during compression in static and dynamic applications. A strain relief spring strengthens the cable output. This sensor is available in a load washer model (the diameter of the hole is 8.2 mm) to measure bolt tightening forces.

With a long standing experience as a designer and manufacturer of sensors, TE CONNECTIVITY often works with customers to design or customize sensors for specific uses and testing environments.

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
- ◆ Inside hole \varnothing 8mm or flat surface
- ◆ Temperature compensated

APPLICATIONS

- ◆ Strain table measurement
- ◆ Micro component assembly tools
- ◆ Screw and insert test benches
- ◆ Press fit monitoring
- ◆ Laboratory

STANDARD RANGES

Ranges in N (FS)	10 – 20 – 50 - 100	200 – 500 – 1k	2k – 5k
Ranges in lbf	2 – 4 – 10 - 20	40 – 100 - 200	400 – 1k
Stiffness in N/m	1.1x10 ⁵ to 5.8x10 ⁶	2.0x10 ⁷ to 7.3x10 ⁸	2.0x10 ⁷ to 7.3x10 ⁸
Stiffness in lbf/ft	6.9x10 ³ to 4.0x10 ⁵	1.4x10 ⁵ to 5.0x10 ⁷	1.4x10 ⁵ to 5.0x10 ⁷
Material	Aluminum	Stainless Steel	

PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1° C

PARAMETERS	
Operating Temperature Range (OTR)	-40 to 120° C [-40 to 248° F]
Compensated Temperature Range (CTR)	0 to 60° C (32 to 140° F)
Thermal Zero Shift in CTR	<2% F.S. / 50° C [/100° F]
Thermal Sensitivity Shift in CTR	<2% of reading / 50° C [/100° F]
Range (F.S.)	0-10 N to 0-5 kN [0-2 lbf to 0-1000 lbf]
Over-Range	
Without Damage	2 x F.S.
Without Destruction	3 x F.S.
Accuracy	
Linearity	≤±1% F.S.
Hysteresis	≤±1% F.S.

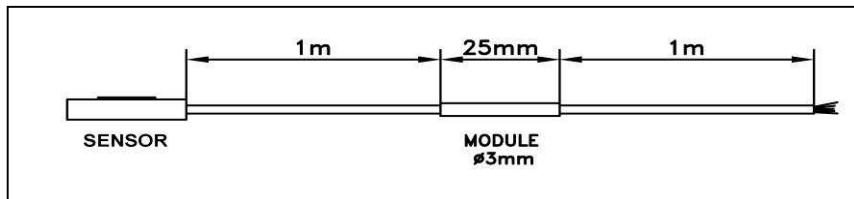
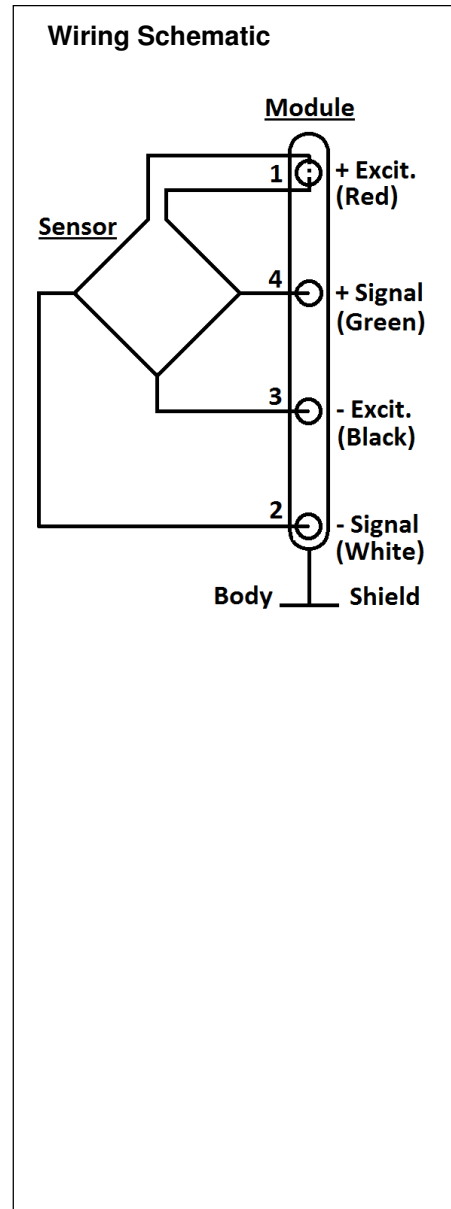
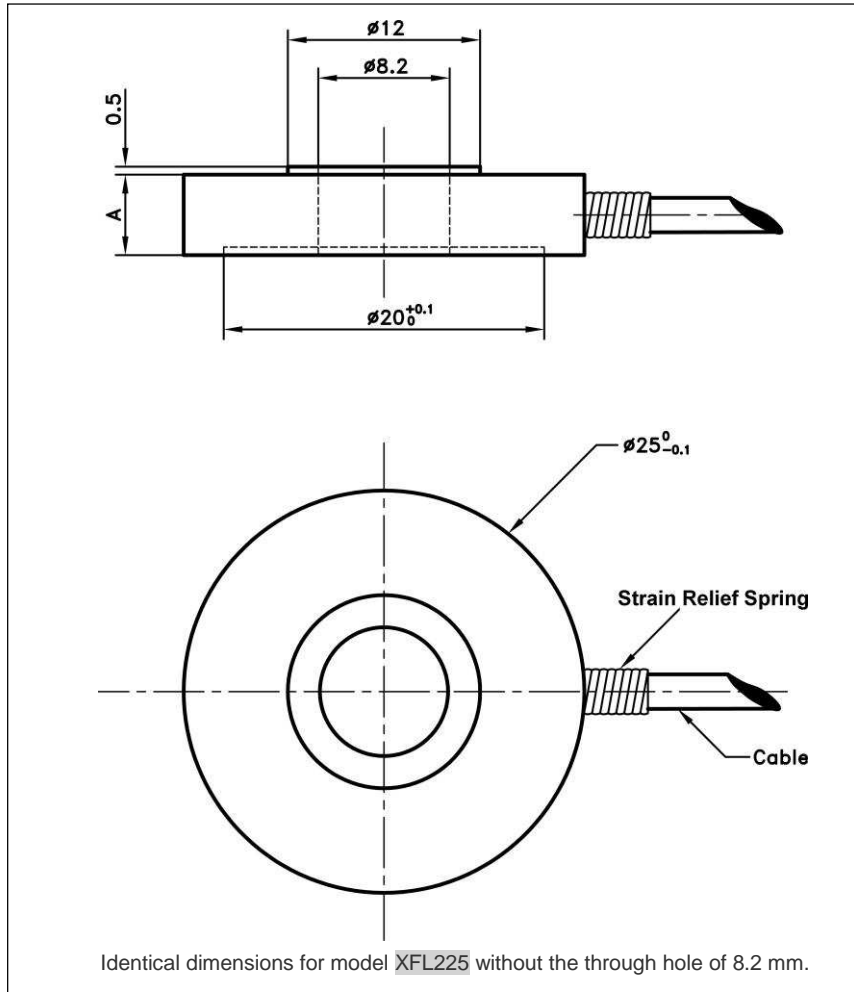
Electrical Characteristics

Model	XFL225D
Supply Voltage	1 to 10 Vdc regulated
Sensitivity "FSO" ¹²	10 mV/V
Zero Offset	<±10 mV
Input Impedance/Consumption	1000 to 3000Ω
Output Impedance	500 to 1000Ω
Insulation under 50Vdc	≥100MΩ

Notes

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes negative in compression with standard wiring configuration
3. Electrical Termination: Cable: Shielded cable with 4 wires (AWG36), standard length 2 m [6.5 ft] with strain relief spring ; Compensation module at 1m [3.25 ft] from transducer
4. Material: Body in stainless steel or aluminum alloy depending on F.S.
5. Protection Index: IP50
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

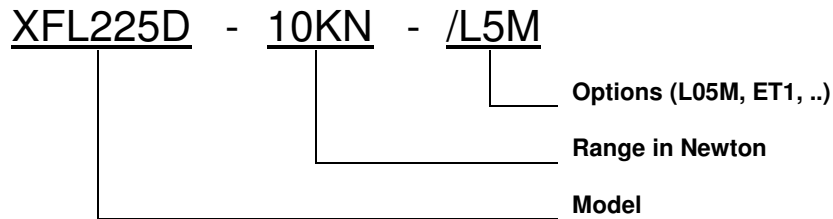


Dimensions in mm [inch]

F.S. Ranges in N [in lbf]	10 - 20 - 50 - 100 [2 - 4 - 10 - 20]	200 - 500 - 1000 [40 - 100 - 200]	2000 - 5000 [400 - 1000]
A	3 [0.12]		5 [0.2]
Material	Aluminum Alloy	Stainless Steel	Stainless Steel
Stiffness in N/m	1.1x10 ⁵ to 5.8x10 ⁶	2.0x10 ⁷ to 7.3x10 ⁸	2.0x10 ⁷ to 7.3x10 ⁸
Stiffness in lbf/ft	6.9x10 ³ to 4x10 ⁵	1.4x10 ⁶ to 5x10 ⁷	1.4x10 ⁶ to 5x10 ⁷

OPTIONS

ET1 : CTR -20 to 100° C [-4 to 212° F]
ET2 : CTR -40 to 120° C [-40 to 248° F]
ET3 : CTR -40 to 150° C [-40 to 302° F] OTR=CTR
M00M : special distance between sensor and module, replace "00" with total length in meters
V00 : Non-standard power supply calibration, replace "00" with value in Volt
L00M : special cable length, replace "00" with total length in meters
* Order Flat Force application surface without through hole with reference XFL225 .

ORDERING INFO**NORTH AMERICA**

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