XFTC322 Miniature Load Cell

- **0-5kN to 0-10kN [0-1 kLbf to 2 kLbf]**
- **Tension and/or Compression**
- **High Stiffness**
- **For Static and Dynamic Applications**
- **Threaded Female Mechanical Fitting**
- **High Level Output Model with Integrated Amplifier**
- **High Temperature Range : -55 to 175 °C [-67 to 347 °F]**

DESCRIPTION

The XFTC322 series has been specifically developed to measure tension and/or compression in static and dynamic applications. Fitted with metallic strain gages in a Wheatstone bridge circuit, the XFTC322 has the capacity of measuring heavy loads of up to 10 kN [2 kLbf], while providing excellent temperature stability. With two threaded M10 studs, the XFTC322 is easily installed in industrial or OEM applications. A strain relief spring strengthens the cable output.

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

- Wide range of temperature compensated
- Optional IP rating improvement
- Heavy duty
- High stiffness
- Easy to customized signal and design

APPLICATIONS

- Dynamic strain cylinder regulation
- Miniature press-fit device
- Fatigue test benches
- Robotics regulation
- Heat room environment

STANDARD RANGES

F.S. Ranges in N	5k	10k
F.S. Ranges in Lbf	1k	2k
Stiffness in N/m	$2x10^9$	$4x10^9$
Stiffness in Lbf/ft	$1.4x10^8$	$2.7x10^8$
Material	Stainless Steel	Stainless Steel

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PERFORMANCE SPECIFICATIONS

Ambient Temperature: 20±1°C (unless otherwise specified)

PARAMETERS		
Operating Temperature Range (OTR)	Without electronic	-55 to 175 °C [-67 to 347 °F]
	With A1 or A2 option	-55 to 125 °C [-67 to 257 °F]
Compensated Temperature Range (CTR)	Without electronic	0 to 150 °C [32 to 302 °F]
	With A1 or A2 option	0 to 100 °C [32 to 212 °F]
Zero Shift in CTR	<1% F.S. / 50 °C [100 °F]	
Sensitivity Shift in CTR	<1% of reading / °C [/ 2 °F]	
Range (F.S.)	0-5kN to 0-10kN [0-1kLbf to 0-2 kLbf]	
Over-Range Without Damage Without Destruction	 1.5 x F.S. 3 x F.S.	
Accuracy		
Linearity	≤±0.5%F.S.	
Hysteresis	≤±0.5% F.S.	

Electrical Characteristics

Model	XFTC322	XFTC322-A1	XFTC322-A2
Supply Outage	10Vdc	10 – 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	100mV	2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	<±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	700Ω	<30mA	30mA
Output Impedance	350Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Shielded cable with 4 Teflon wires (AWG28), standard length 2 m [6.5 ft] with strain relief spring
2. Material: Body in stainless steel ; Two female threaded studs M10 or [3/8-24 UNF] (metric thread is standard)
3. Protection Index: IP50 (other levels available on request)

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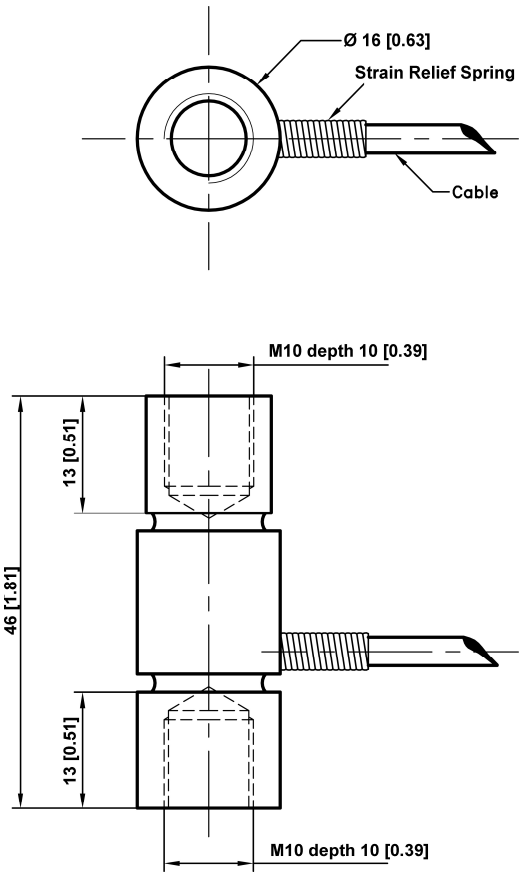
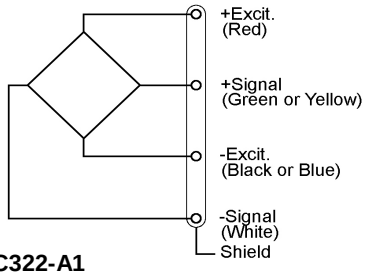
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



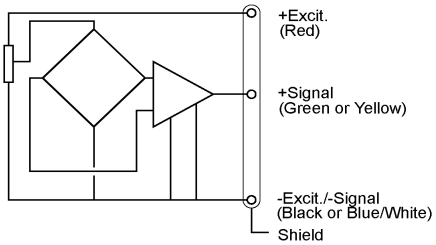
Separate data sheets are available for load cells with two male threads reference XFTC302 and two male/female threads reference XFTC312.

Wiring Schematic

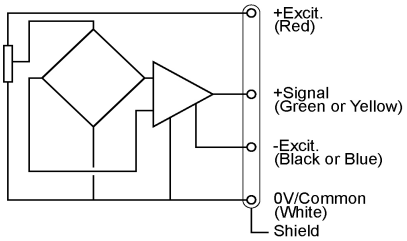
XFTC322



XFTC322-A1



XFTC322-A2



Dimensions in mm [inch]

Full Scale Range in N [in Lbf]	5k [1k]	10k [2k]
Material	Stainless Steel	Stainless Steel
Stiffness in N/m	$2x10^9$	$4x10^9$
Stiffness in Lbf/ft	$1.4x10^8$	$2.7x10^8$

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OPTIONS

A1 : Unipolar tension
A2 : Bipolar Tension
ET2 : CTR -40 to 120 º C [-40 to 248 °F]
ET4 : CTR -40 to 175 º C [-40 to 347 °F]
HA : Accuracy (CNL&H) ≤±0.5% F.S.
TS : Tolerance on F.S. output ≤±2% F.S.
LC"x": Additional cable length to standard length (in m) (**Note** : "X" = Custom value)

ORDERING INFO