

# XFTC322 Miniature Load Cell



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

## 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 klf], 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

<b>F.S. Ranges in N</b>	5k	10k
<b>F.S. Ranges in lbf</b>	1k	2k
<b>Stiffness in N/m</b>	$2 \times 10^9$	$4 \times 10^9$
<b>Stiffness in lbf/ft</b>	$1.4 \times 10^8$	$2.7 \times 10^8$
<b>Material</b>	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 / 50°C [100°F]	
Range (F.S.)	0-5kN to 0-10kN [0-1klbf to 0-2 klbf]	
<b>Over-Range</b>		
Without Damage	1.5 x F.S.	
Without Destruction	3 x F.S.	
<b>Accuracy</b>		
Linearity	≤±0.5%F.S.	
Hysteresis	≤±0.5% F.S.	

### Electrical Characteristics

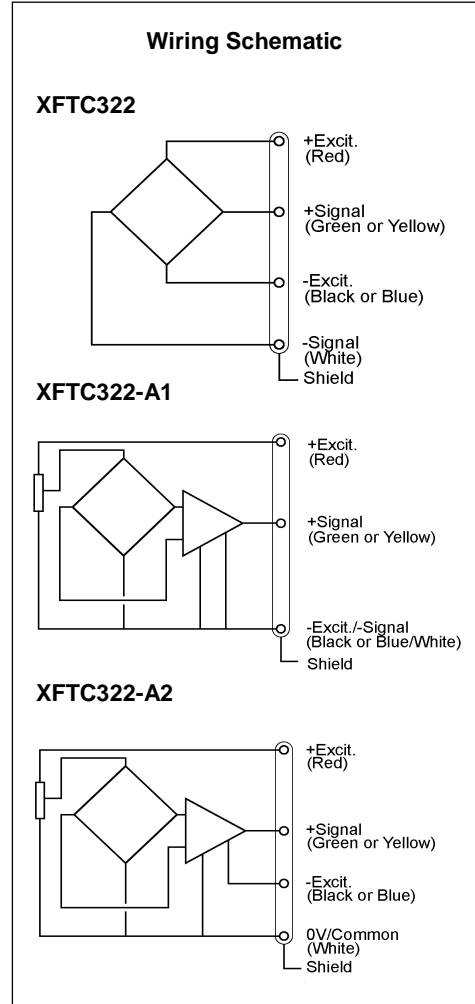
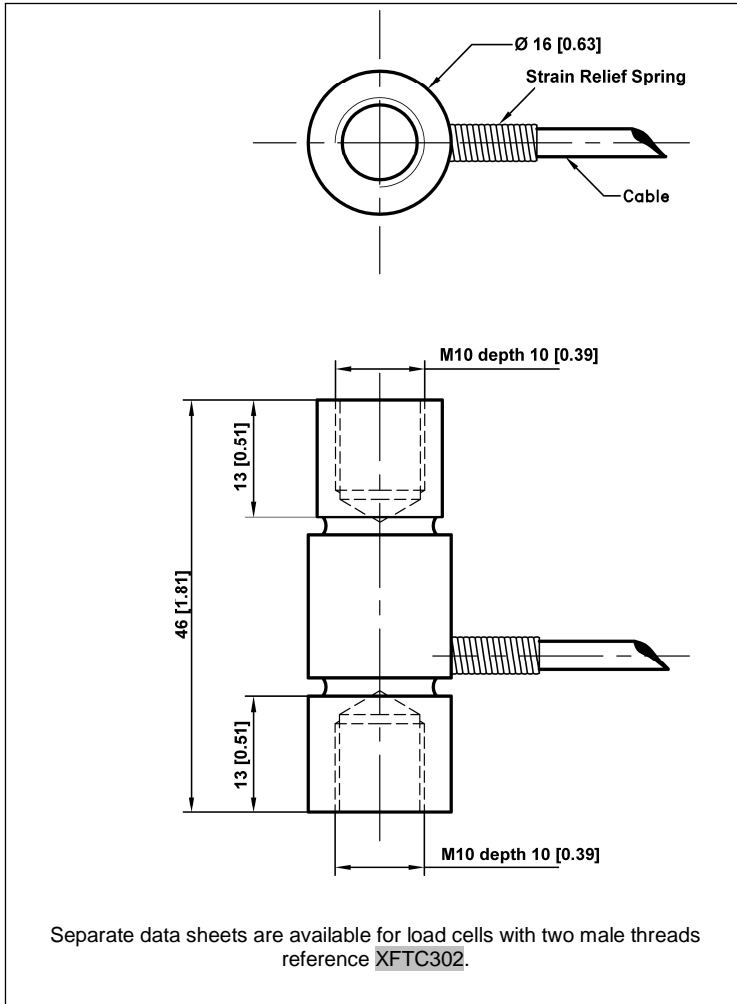
Model	XFTC322	XFTC322-A1	XFTC322-A2
Supply Outage	10Vdc	10 – 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	±100mV	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	<±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	700Ω	<30mA	30mA
Output Impedance	350Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

### 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)



### Dimensions in mm [inch]

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

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## OPTIONS

<b>A1</b>	: Unipolar tension
<b>A2</b>	: Bipolar Tension
<b>ET2</b>	: CTR -40 to 120° C [-40 to 248°F] (Only for A1 and A2 versions)
<b>ET4</b>	: CTR -40 to 175° C [-40 to 347°F] (Option not compatible with A1 and A2 versions)
<b>HA</b>	: Accuracy (CNL&H) $\leq \pm 0.5\%$ F.S.
<b>TS</b>	: Tolerance on F.S. output $\leq \pm 2\%$ F.S.
<b>LC"x"</b>	: Additional cable length to standard length (in m) ( <b>Note</b> : "X" = Custom value)

## ORDERING INFO

XFTC322 - A1 - 10KN - /HA/ET1



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