

XFTC302 Miniature Load Cell



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



DESCRIPTION

The **XFTC302** 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 **XFTC302** has the capacity of measuring heavy loads of up to 10,000 N, 2000 lbf while providing excellent temperature stability. With two threaded M10 studs, the **XFTC302** 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	2×10^9	4×10^9
Stiffness in Lbf/ft	1.4×10^8	2.7×10^8
Material	Stainless Steel	Stainless Steel

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PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1° C

PARAMETERS		
Operating Temperature Range (OTR)	Without electronic	-55 to 175° C [-67 to 347° F]
	With A1 option	-40 to 85° C [-40 to 185° F]
Compensated Temperature Range (CTR)	Without electronic	0 to 150° C [32 to 302° F]
	With A1 option	0 to 85° C [32 to 185° 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 0-2klbf]	
Over-Range		
Without Damage	1.5 x F.S.	
Without Destruction	3 x F.S.	
Accuracy		
Linearity	≤±0.5% F.S.	
Hysteresis	≤±0.5% F.S.	

Temperature restriction notes

For sensor which integrated the A1 amplifier, the OTR is limited from -40°C to 85°C [-40°F to 185°F] maximum due to internal components.

Electrical Characteristics

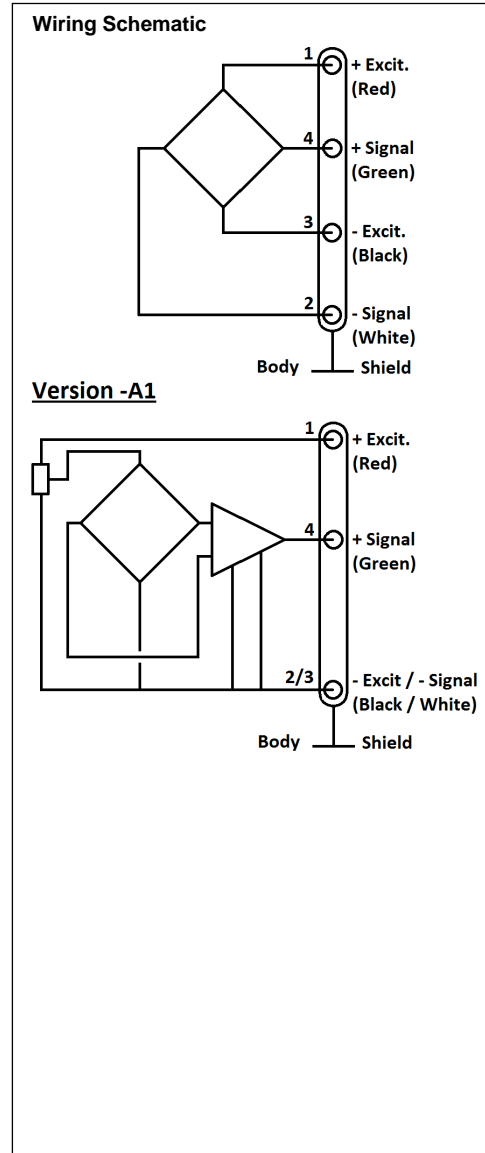
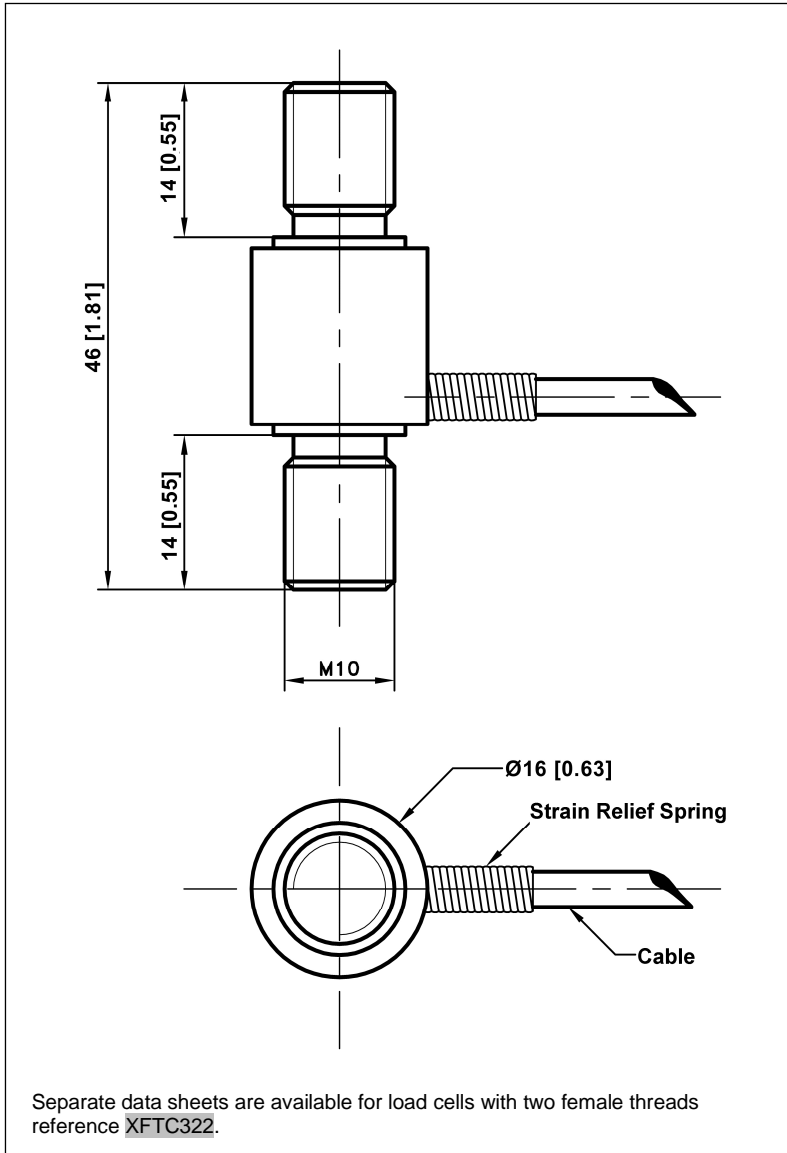
Model	XFTC302	XFTC302-A1
Supply Voltage	10Vdc	10 – 30Vdc
F.S. Output ⁴	±10mV	±2V ±5% F.S.
Zero Offset ⁴	<±5% F.S.	2.5V ±5% F.S.
Input Impedance/Consumption	700Ω	<30mA
Output Impedance	350Ω	<1 kΩ ⁵
Insulation under 50Vdc	≥1000MΩ	≥100MΩ

Notes

1. Shielded cable with 4 wires (AWG28), standard length 2 m [6.5 ft] with strain relief spring
2. Material: Body in stainless steel ; Two male threaded studs M10 or [3/8-24 UNF] (metric thread is standard)
3. Protection Index: IP50 (other levels available on request)
4. Standard output signal, custom outputs available on request
5. Output impedance standard, available <100Ω on request.
6. CE compliance 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]

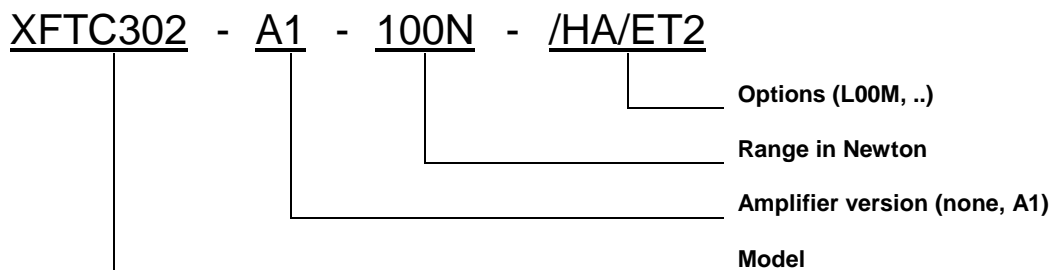
Full Scale Range in N [in lbf]	5000 [1000]	10000 [2000]
Material	Stainless Steel	Stainless Steel
Stiffness in N/m	2×10^9	4×10^9
Stiffness in lbf/ft	1.4×10^8	2.7×10^8

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OPTIONS

A1	: Tension output with unipolar power supply
ET2	: CTR -40 to 120° C [-40 to 248° F] (not compatible with A1 versions)
ET4	: CTR -40 to 175° C [-40 to 347° F] (not compatible with A1 versions)
HA	: Accuracy (CNL&H) $\leq \pm 0.5\%$ F.S.
TS	: Tolerance on F.S. output $\pm 2\%$ F.S.
L00M	: special cable length, replace "00" with total length in meters

ORDERING INFO



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