

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 Model 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 XFTC 302 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

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 0-2klbf]	
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.	

Electrical Characteristics

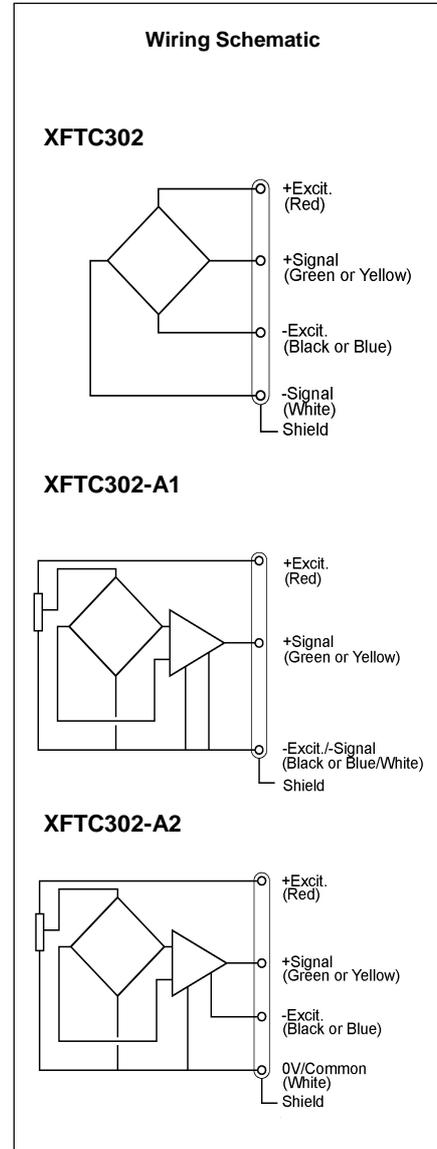
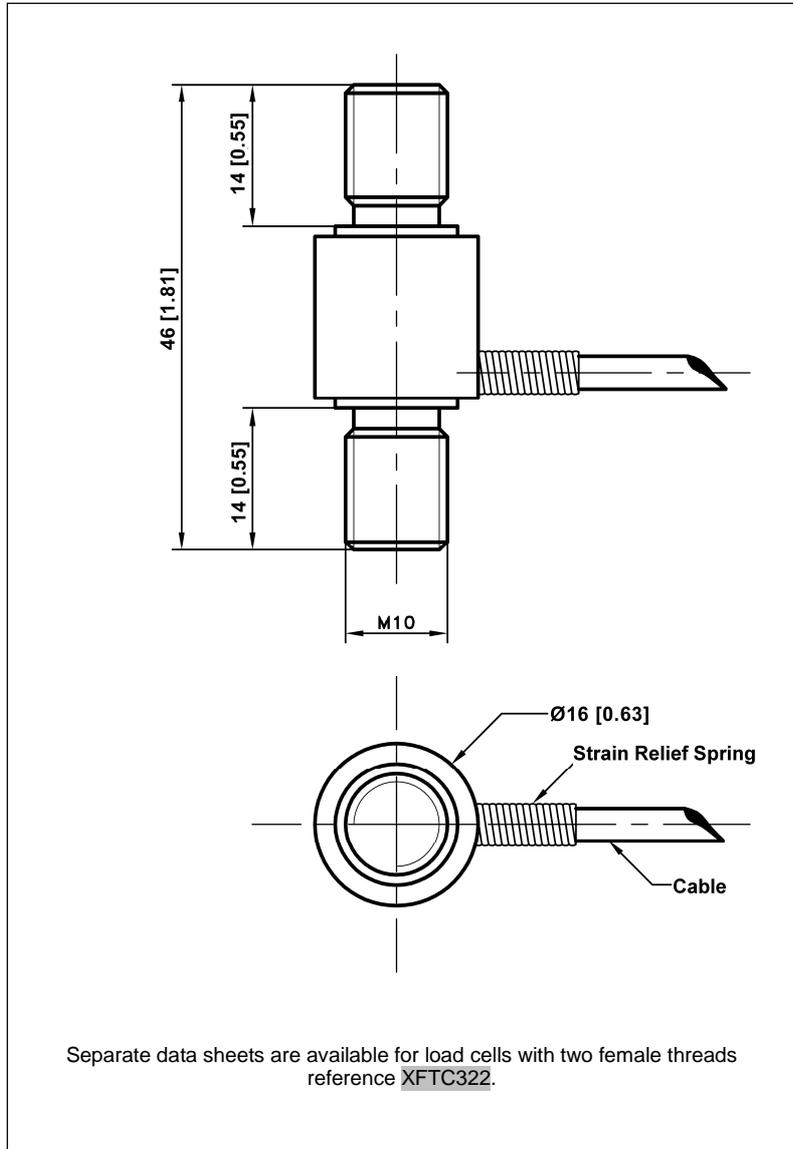
Model	XFTC302	XFTC302-A1	XFTC302-A2
Supply Outage	10Vdc	10 – 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	±100mV	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	<±10mV	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	1000 to 3000Ω	<30mA	30mA
Output Impedance	500 to 1000Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥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 male 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]	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	: Mono tension
A2	: Bipolar Tension
ET2	: CTR -40 to 120° C [-40 to 248°F] (Only for A1 and A2 versions)
ET4	: CTR -40 to 175° C [-40 to 347°F] (Option not compatible with A1 and A2 versions)
HA	: Accuracy (CNL&H) $\leq \pm 0.5\%$ F.S.
TS	: Tolerance on F.S. output $\pm 2\%$ F.S.
LC"x"	: Additional cable length to standard length (in m) (Note : "X" = Custom value)

ORDERING INFO

XFTC302 - A1 - 10KN - /HA/ET1



NORTH AMERICA

Measurement Specialties, Inc.
1000 Lucas Way
Hampton, VA 23666
USA
Tel: 1-757-766-1500
Fax: 1-757-766-4297

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-Sous-Bois,
France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59

ASIA

北京赛斯维测控技术有限公司
北京市朝阳区望京西路48号
金隅国际C座1002
电话 : + 86 010 8477 5646
传真 : + 86 010 5894 9029
邮箱 : sales@sensorway.cn
<http://www.sensorway.cn>

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