

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

| | | |
|---------------------|-------------------|-------------------|
| 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 | -55 to 125° C [-67 to 257° F] |
| Compensated Temperature Range (CTR) | Without electronic | 0 to 150° C [32 to 302° F] |
| | With A1 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] | |
| 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

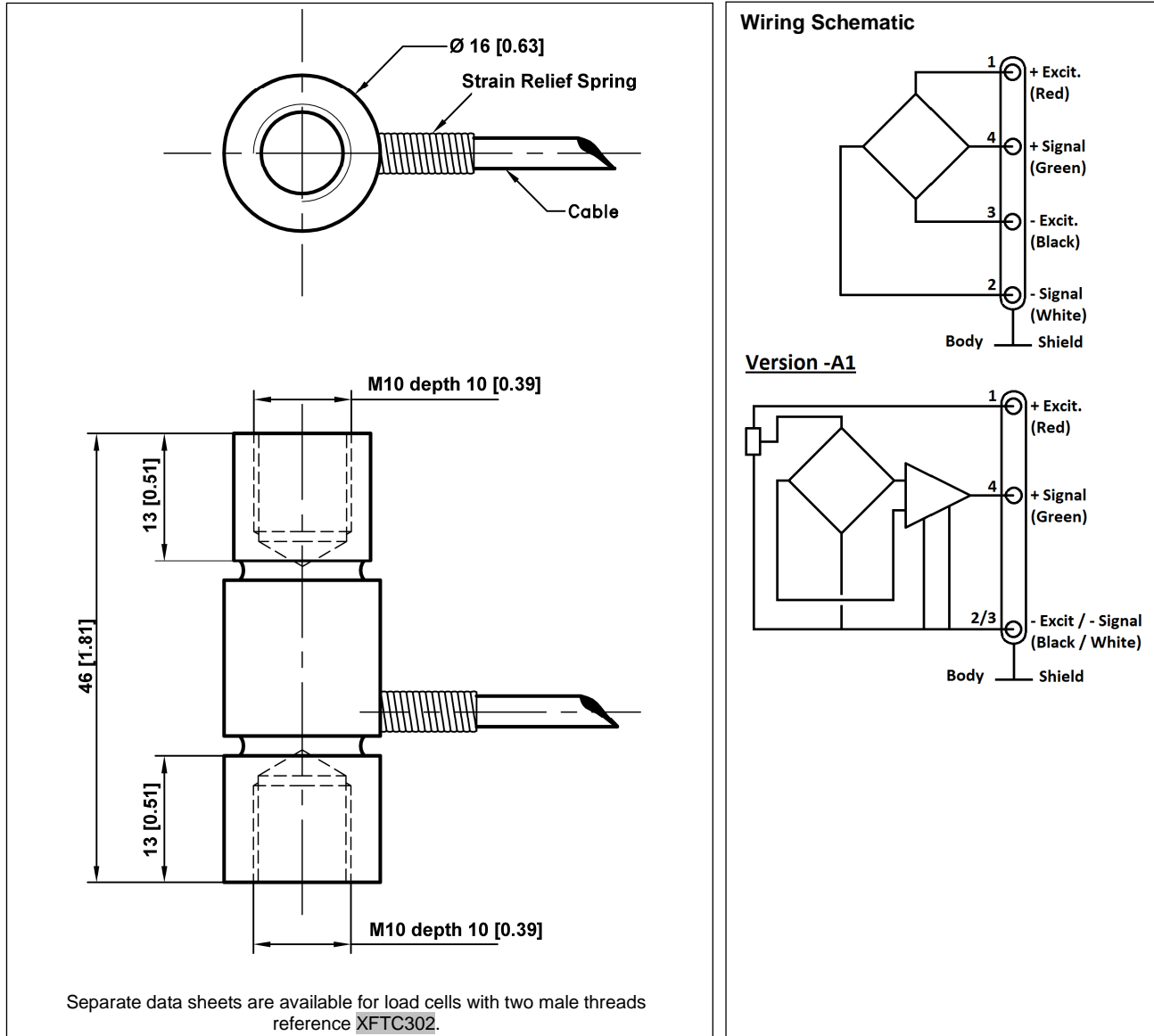
| Model | XFTC322 | XFTC322-A1 |
|-----------------------------|-----------|--------------------|
| Supply Voltage | 10Vdc | 10 – 30Vdc |
| F.S. Output ⁴ | ±10mV | ±2V ±5% F.S. |
| Zero Offset ⁴ | <±5% F.S. | 2.5V ±5% F.S. |
| Input Impedance/Consumption | 700Ω | <30mA |
| Output Impedance | 350Ω | <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 female 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]

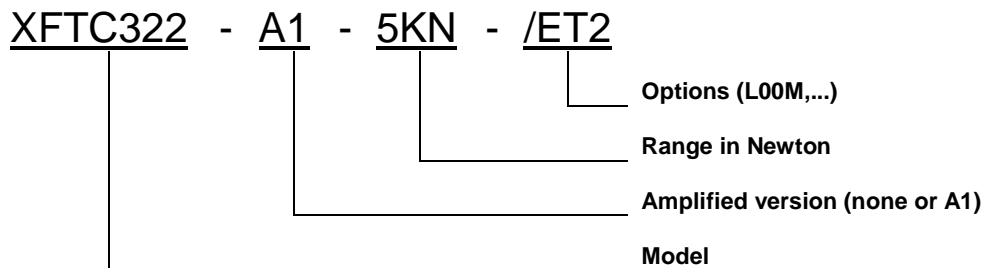
| Full Scale Range in N [in lbf] | 5k [1k] | 10k [2k] |
|-----------------------------------|-------------------|-------------------|
| Material | Stainless Steel | Stainless Steel |
| Stiffness in N/m | 2×10^9 | 4×10^9 |
| Stiffness in lbf/ft | 1.4×10^8 | 2.7×10^8 |

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

ORDERING INFO



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