



## FEATURES

- Tension and/or Compression
- Small design easy to mount
- Wide temperature range in option
- Very small size

## APPLICATIONS

- Micro mechanic equipment
- Miniature press-fit device
- Robotics regulation
- Small size actuators

## XFTC301

### Miniature Load Cell

#### SPECIFICATIONS

- 0-500N to 0-10kN [100 lbf to 2k lbf]
- High Stiffness
- Threaded Male Mechanical Fitting
- Linearity < 0,5% FS

The **XFTC301** series has been specifically developed to measure tension and compression in static and dynamic applications. The miniature size facilitates testing where space is at premium.

The sensing element is fitted with a fully temperature compensated Wheatstone bridge equipped with high stability micro-machined silicon strain gages. The use of silicon strain gages optimizes the load cell's performance at low ranges and frequencies.

A strain relief spring strengthens the cable output. With two threaded male studs, the **XFTC301** is easily installed in industrial or OEM applications.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

**STANDARD RANGES**

<b>Ranges in N (FS)</b>	500 – 1K	2k	5k – 10k
<b>Ranges in lbf (FS)</b>	100 – 200	400	1k -2k
<b>Stiffness in N/m</b>	1.7x10 <sup>8</sup>	2.6x10 <sup>8</sup>	6.6x10 <sup>8</sup> to 1.2x10 <sup>9</sup>
<b>Stiffness in lbf/ft</b>	5.7x10 <sup>5</sup>	1.5x10 <sup>6</sup>	3.8x10 <sup>8</sup> to 1.5x10 <sup>7</sup>
<b>Material</b>	Aluminum	Stainless Steel	

**PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)**

<b>PARAMETERS</b>	
Operating Temperature Range (OTR)	-40 to 120° C [-40 to 248° F]
Compensated Temperature Range (CTR)	0 to 60° C [32 to 140° F]
Thermal Zero Shift in CTR	<2% F.S. / 50° C [/100° F]
Thermal Sensitivity Shift in CTR	<2% of reading / 50° C [/100° F]
<b>Over-Range</b>	
Without Damage	2x F.S.
Without Destruction	3x F.S.
<b>Accuracy</b>	
Linearity	≤±0.5% F.S.
Hysteresis	≤±0.5% F.S.

**Electrical Characteristics**

<b>Model</b>	<b>XFTC301</b>
Supply Voltage	1 to 10 Vdc regulated
Sensitivity "FSO" <sup>12</sup>	±5mV/V for model 500N or 100lbf ±10mV/V for models ≥ 1kN or 200lbf
Zero Offset	<±10 mV
Input Impedance/Consumption	1000 to 3000Ω
Output Impedance	500 to 1000Ω
Insulation under 50Vdc	≥100MΩ

**Notes**

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes positive in tension with standard wiring configuration
3. Shielded cable with 4 wires (AWG36/28), standard length 2m [6.5 ft] with strain relief spring
4. Material: Body in stainless steel or aluminum alloy depending on F.S., ; Two male threads M5 or [10-32 UNF], M10 or [3/8-24 UNF] depending on F.S. (metric thread is standard)
5. Protection Index: IP50 (other levels available on request)
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

**DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)**

Separate data sheets are available for load cells with two male/female threads reference [XFTC311](#) and two female threads reference [XFTC321](#). Other threads possible on request.

**Wiring Schematic**

**Dimensions in mm [inch]**

Full Scale Range in N [in lbf]	500 – 1000 [100 – 200]	2000 [400]	5000 – 10000 [1000 – 2000]
A	36 [1.42]		46 [1.81]
B	12.5 [0.49]		14 [0.55]
C (Thread)	M5		M10
Ø D	10 [0.39]		16 [0.63]

## XFTC301

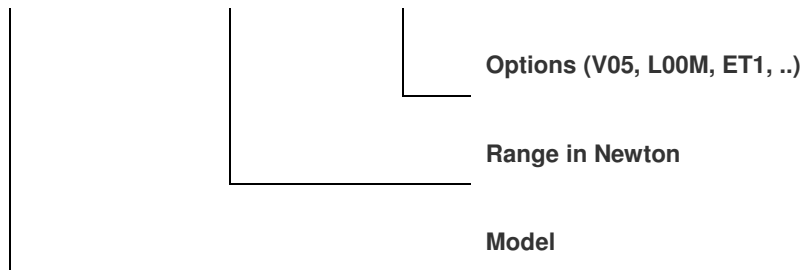
Miniature Load Cell

### OPTIONS

<b>ET1</b>	: CTR -20 to 100° C [-4 to 212° F]
<b>ET2</b>	: CTR -40 to 120° C [-40 to 248° F]
<b>ET3</b>	: CTR -40 to 150° C [-40 to 302° F] OTR=CTR
<b>HA</b>	: Accuracy (CNL&H) ±0.5% F.S. (for models ≥100N; 20lbf)
<b>V00</b>	: Non-standard power supply calibration, replace "00" with value in Volt (standard 10Vdc)
<b>L00M</b>	: special cable length, replace "00" with total length in meters

### ORDERING INFO

XFTC301 - 10KN - /L5M



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