XFTC321

Miniature Load Cell

SPECIFICATIONS

- **Range from 0-500N to 0-10kN [0-100 lbf to 2 klbf]**
- **Tension and/or Compression**
- **Threaded Female Mechanical Fitting**

FEATURES

- Aluminum or stainless steel body
- Tension and Compression
- Heavy duty
- Sealed version optional
- Easy to customize threads

APPLICATIONS

- Dynamic strain cylinder regulation
- Miniature press-fit device
- Laboratory
- Robotics regulation
- Small size actuators

The **XFTC321** series has been specifically developed to measure tension and compression in static and dynamic applications. The miniature size facilitates testing where space is at a 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 female threads, the **XFTC321** 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

Ranges in N (FS)	500 - 1k	2k	5k - 10k
Ranges in lbf	100 - 200	400	1k - 2k
Stiffness in N/m	$3x10^7$	$1x10^8$	$2x10^9$ to $4x10^9$
Stiffness in lbf/ft	$2.10x10^6$ to $4.1x10^6$	$6.9x10^6$	$1.4x10^8$ to $2.7x10^8$
Materials	Aluminum Alloy	Stainless Steel	

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

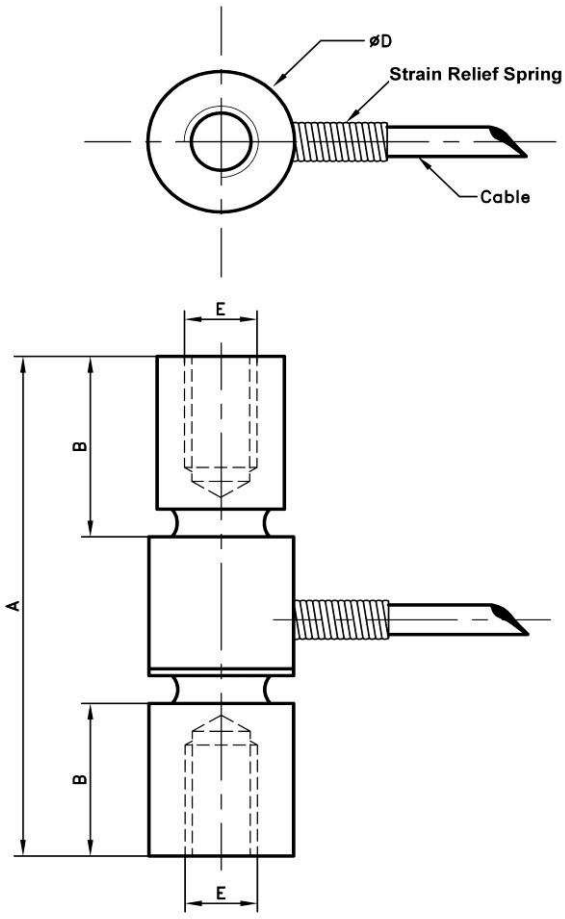
PARAMETERS	
Operating Temperature Range (OTR)	-40 to 120° C [-40 to 248° F]
Compensated Temperature Range (CTR)	0 to 60º C (32 to 140° F)
Thermal Zero Shift in CTR	<2% F.S. / 50º C [/100° F]
Thermal Sensitivity Shift in CTR	<2% of reading / 50º C [/100° F]
Range (F.S.)	0-500N to 0-10kN [0-100 lbf to 0-2klbf]
Over-Range	
Without Damage	2 x F.S.
Without Destruction	3 x F.S.
Accuracy	
Linearity	≤±0.5% F.S.
Hysteresis	≤±0.5% F.S.

Electrical Characteristics

Model	**XFTC321**
Supply Voltage	1 to 10 Vdc regulated
Sensitivity “FSO” [2]	±5 mV/V for 500N model ±10 mV/V for models ≥ 1kN
Zero Offset	<±10 mV
Input Impedance/Consumption	1000 to 3000Ω
Output Impedance	500 to 1000Ω
Insulation under 50Vdc	≥100MΩ

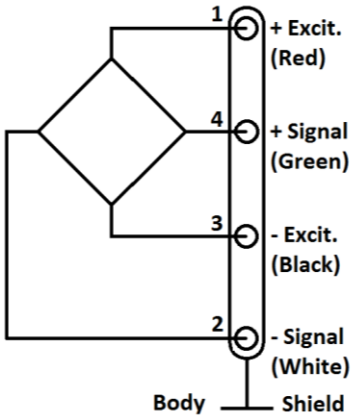
Notes
1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes positive in tension with standard wiring configuration. Other signal output on request
1. Shielded cable with 4 wires (AWG36/28), standard length 2 m [6.5 ft] with strain relief spring
2. Material: Body in stainless steel or aluminum alloy depending on F.S.
3. Protection Index: IP50 (other levels available on request)
4. 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 threads reference XFTC301 and two male/female threads reference XFTC311.
Other threads possible on request.

Wiring Schematic



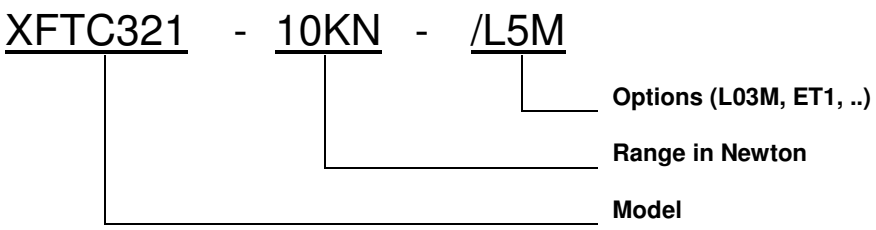
Dimensions in mm [inch]

Full Scale Range in N [in lbf]	**500-1k [100 - 200]**	**2k [400]**	**5k-10k [1k – 2k]**
A	36 [1.42]		46 [1.81]
B	11 [0.43]		13 [0.51]
C	12.5 [0.49]		14 [0.55]
Ø D	10 [0.39]		16 [0.63]
E *Thread* *Internal depth*	M5 8 [0.31]		M10 10 [0.39]
Material	Aluminum	Stainless Steel	Stainless Steel
Stiffness in N/m	$3x10^7$	$1x10^8$	$2x10^9$ to $4x10^9$
Stiffness in lbf/ft	$2.1x10^6$ to $4.1x10^6$	$6.9x10^6$	$1.4x10^8$ to $2.7x10^8$

OPTIONS

ET1 : CTR -20 to 100° C [-4 to 212° F]
ET2 : CTR -40 to 120º C [-40 to 248° F]
ET3 : CTR -40 to 150° C [-40 to 302° F] OTR=CTR
HA : Accuracy (CNL&H) ≤±0.5% F.S.
V00 : Non-standard power supply calibration, replace “00” with value in Volt
L00M : special cable length, replace “00” with total length in meters

ORDERING INFO



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