

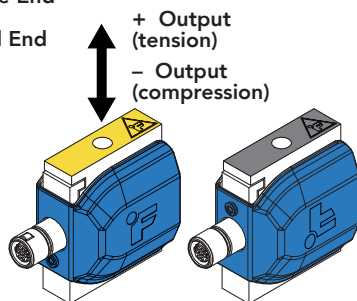
### FEATURES

- Available in detachable 7 Pin FUTEK Receptacle and 32 AWG high flex cable
- SPI (Serial Peripheral Interface) - best option for embedded electronics solution
- UART (Universal Asynchronous Receiver/Transmitter) - use for a clean and packaged data stream; ideal for R&D applications
- Up to 15 bits noise-free resolution
- Ultra low power consumption
- High performance tension and compression load cell with  $\pm 0.05\%$  nonrepeatability
- Light weight, miniature size
- Integrated overload protection
- Shock resistant
- Mechanical strain relief (UART and/or SPI version)

**■ Non-loading surface, do not contact**

**■ Active End**

**■ Fixed End**



### SPECIFICATIONS

#### PERFORMANCE

Nonlinearity	$\pm 0.1\%$ of Capacity
Hysteresis	$\pm 0.1\%$ of Capacity
Nonrepeatability	$\pm 0.05\%$ of Capacity

#### ELECTRICAL

Insulation Resistance	$\geq 500$ MOhm @ 50 VDC
UART only (connector version)	FUTEK 7-Pin Receptacle
SPI and/or UART (cable version)	32 AWG 10 conductor spiral shielded silicone jacket, 6 in [152 mm]

#### MECHANICAL

Weight (approximate)	0.03 lbs [14.2 g]
Safe Overload	1000% of Capacity (compression: all, tension: 1–25 lb) 200% of Capacity (tension only: 50–100 lb)
Material	17-4 PH stainless-steel body, anodized cover
IP Rating	IP40
Shock Resistance	500 g per IEC60068-2-27

#### TEMPERATURE

Operating Temperature	-40 to 185°F [-40 to 85°C]
Compensated Temperature	60 to 160°F [15 to 72°C]
Temperature Shift Zero	$\pm 0.005\%$ of Capacity/°F [0.009% of Capacity/°C]
Temperature Shift Span	$\pm 0.005\%$ of Load/°F [0.009% of Load/°C]

#### LOAD CALIBRATION

Load Calibration (standard)	5-pt Tension
Load Calibration (available)	5-pt Tension and Compression

#### POWER

Supply	3 VDC to 5 VDC
Power Consumption	78 mW
Inrush Current	180 mA (Max)

#### OUTPUT

Noise Free Resolution	Up to 15 Bits (See Table)
Sampling Rate	Up to 1,300 SPS
UART	See Table
SPI	See Table

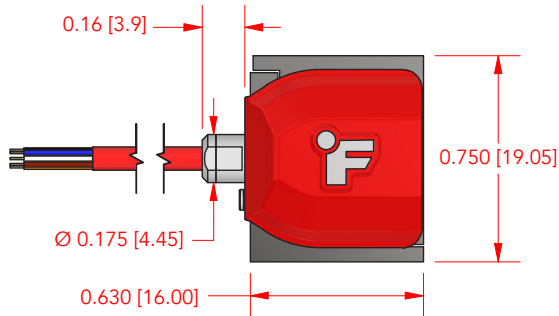
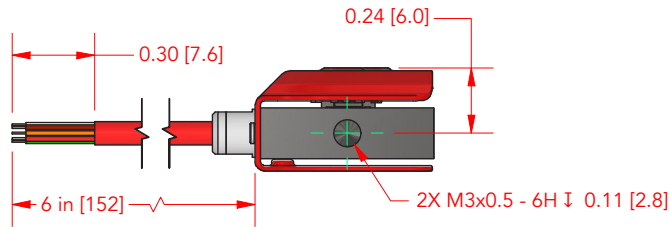
#### CONFORMITY

RoHS Compliant	2011/65/EU
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**DIMENSIONS** inches [mm]

TOLERANCE:  
 .X ± 0.1" [2.5]  
 .XX ± 0.01" [0.25]  
 .XXX ± 0.005" [0.127]

**SPI AND/OR UART VERSION**



**SPI AND/OR UART WIRING CODE**

PROTOCOLS	PIN FUNCTION	DESCRIPTION	COLOR CODE
SPI	HICO	Host-In-Client-Out	White
	HOCI	Host-Out-Client-In	Green
	SCLK	Serial Clock	Gray
	$\overline{\text{CS}}$	Chip Select	Blue
	$\overline{\text{DRDY}}$	Data Ready	Yellow
Power	VIN	Voltage Input	Red
	GND	Ground	Black
UART	RX	Receive Signal	Brown
	TX	Transmit Signal	Orange

**Note:** The following criteria must be met to achieve highest performance

- 20 mV–40 mV peak-to-peak ripple in pass band
- 20 MHz bandwidth (cutoff 40 dB @ 20 MHz)
- Both the SPI and UART outputs in the cable version unit can be used simultaneously

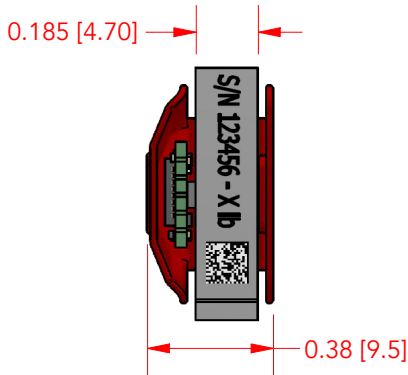
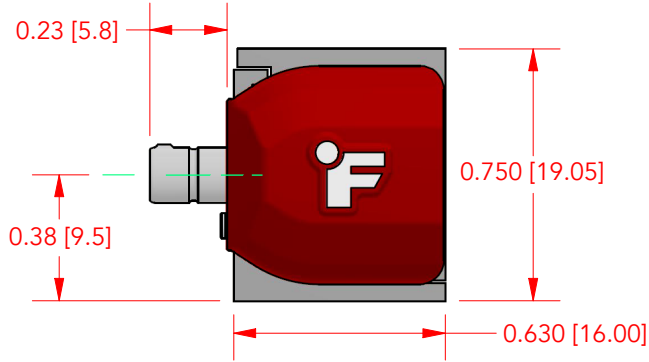
**RESOLUTION**

Capacity (lb/N)	Noise Free Resolution @ 4 SPS (lb/N)	Back Calculated Value in Bits @ 4 SPS	Noise Free Resolution @ 1300 SPS (lb/N)	Back Calculated Value in Bits @ 1300 SPS	Natural Frequency (Hz)
1 / 4.5	0.00005 / 0.00022	15.0	0.001 / 0.004	10.7	690
2 / 9.0	0.00025 / 0.00111	13.7	0.003 / 0.013	10.1	1180
5 / 22.4	0.001 / 0.004	13.1	0.009 / 0.040	9.8	2180
10 / 44.8	0.0016 / 0.0071	14.3	0.02 / 0.09	9.7	3010
25 / 112	0.004 / 0.0178	13.3	0.05 / 0.22	9.7	5380
50 / 224	0.005 / 0.0223	14.0	0.08 / 0.36	10.0	6620
100 / 448	0.008 / 0.036	14.3	0.2 / 0.89	9.7	8250

**DIMENSIONS** inches [mm]

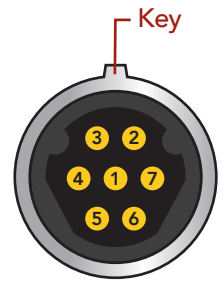
TOLERANCE:  
 .X ± 0.1" [2.5]  
 .XX ± 0.01" [0.25]  
 .XXX ± 0.005" [0.127]

**UART ONLY VERSION**



**UART ONLY CONNECTOR CODE CC18U**

PIN	COLOR	DESCRIPTION
1	Black	Ground
3	Red	Voltage Input
6	Brown	Receive Signal
7	Orange	Transmit Signal



Drawing Number: FI1571

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U.S. Manufacturer