

ELFS Load Cell

Ultra Low Profile
Millivolt Output
High Stiffness
Fast Response
Tension/Compression

DESCRIPTION

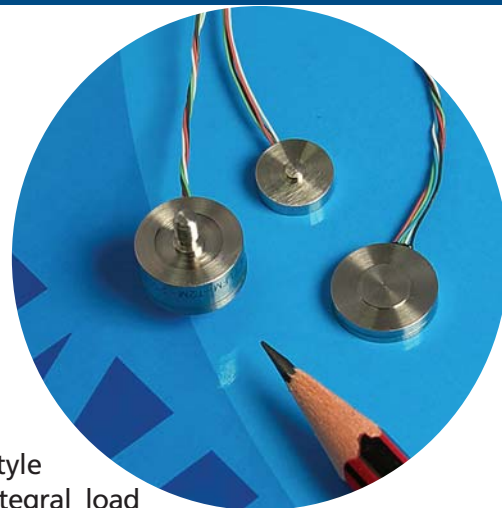
The **ELFS** load cell is a low profile package able to fit into applications where other load cells cannot. The low noise Wheatstone bridge consists of semiconductor strain gages operating at gage factors greater than 100, which provide full scale outputs of up to 250 mV at very low total full scale deflection. When compact design, ultra high stiffness and superior resolution are required, the ELFS load cell is the sensor for your application.

FEATURES

- ◆ Low Cost
- ◆ Low Mass/Low Profile
- ◆ High Stiffness/Low Deflection
- ◆ Essentially Unlimited Cycle Life Expectancy
- ◆ From 2 to 100 lbf Ranges
- ◆ Low Noise
- ◆ High Reliability
- ◆ High Resolution

APPLICATIONS

- ◆ Surface Mount Assembly System Force Feedback
- ◆ Robotics End Effectors
- ◆ Weighing
- ◆ Dental and Biomechanical Parameter Measurements
- ◆ Satellite and Aerospace Force Feedback
- ◆ Ultra Low Deflection Measurement Applications



The ELFS is available as a low profile compression style sensor with integral load button or is provided with either SAE or metric threads for tension and compression applications. The high stiffness of the measuring flexure combined with the low peak strain generated provides an essentially unlimited cycle life. The ELFS is offered with many configurations: six different ranges from 2 to 100 lbf with options for input voltage and lead length. Customization is available for production volumes. The ELFS load cell can meet the requirements of your most demanding applications.

standard performance parameters:

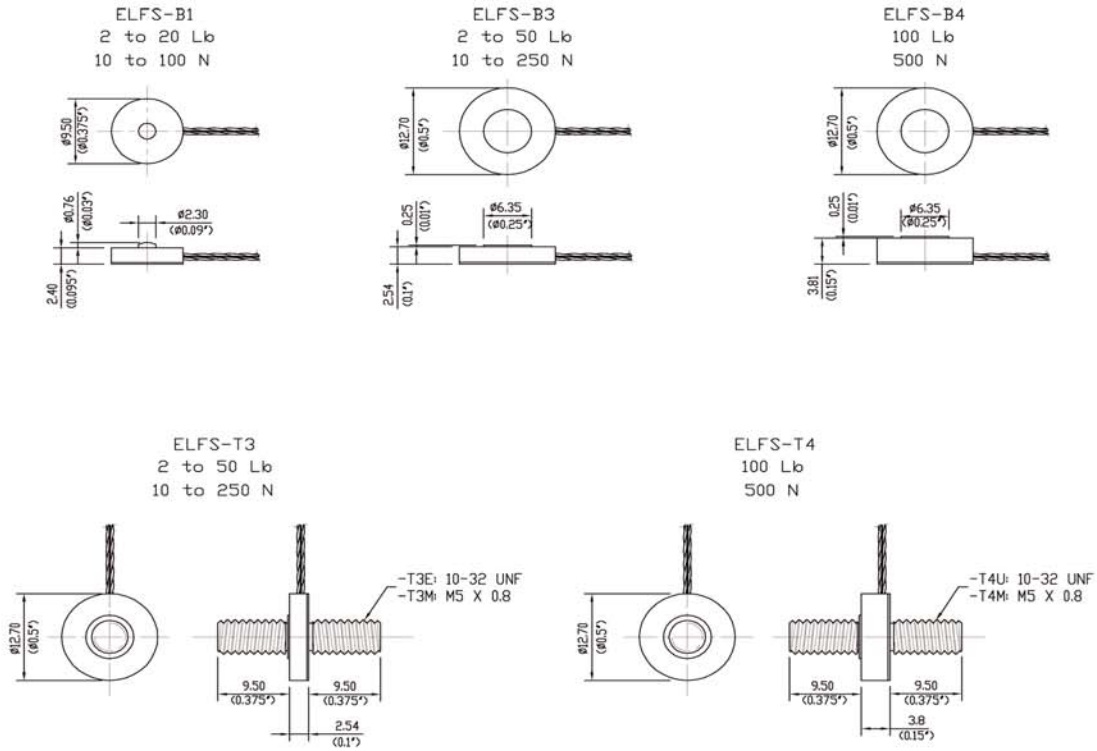
Maximum Over Load:	2 and 5 lbf range: 200%, 10, 20 50 lbf range: 150% 100 lbf range: 120%
Recommended Excitation:	15 Vdc
Full Scale Output Span:	2 lbf range: 100 mV 5 lbf range: 200 mV 10, 20, 50, 100 lbf ranges: 250 mV
Output at No Load (Zero Output):	+/- 15 mV Typical At 20°C
Nonlinearity:	+/- 1% FSO
Hysteresis:	+/- 1% FSO
Temperature Compensation	20 -80°C
Thermal Zero Shift:	< +/- 2.5 mV/50°C
Thermal Sensitivity Shift:	< +/- 2.5%/ 50°C
Operating Temperature Range:	-40°C to 120°C
Impedance In:	2000 ohm nominal
Impedance Out:	1000 ohm nominal
Deflection at Rated Load:	< 0.013 mm nominal
Cycle Life Expectancy:	Essentially Unlimited
Isolation Resistance:	50 Megohm nominal at 50 Vdc

Note: Type B units: Positive output in compression. Type T units: Positive output in tension. Alternate calibrations available; reference option AC.

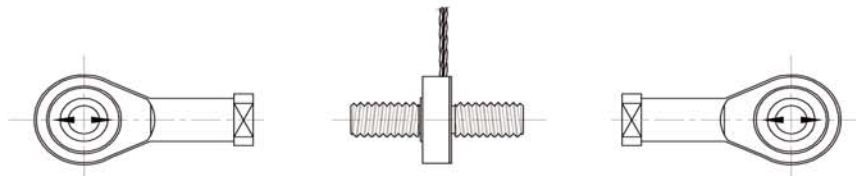
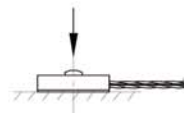
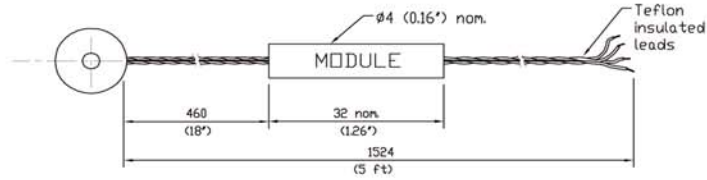


ELFS Load Cell

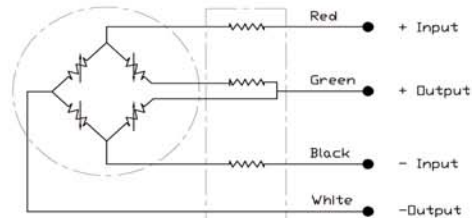
dimensions



WIRING



LOAD CELL MODULE



ELFS Load Cell

options

Standard Compensation Range: +20 to +80°C

Z0: -40°C to +20°C

Z1: -20°C to +40°C

Z2: 0°C to +60°C

Z*: Nonstandard compensation temp range

Excitation Voltage: 15 Vdc Standard

V00: Replace 00 with excitation between 1 and 15V (15 V standard). (At excitations less than 15V, sensitivity decreases proportionately)

V2.5: Sensitivity equals 16.7% of nominal data sheet value

V5: Sensitivity equals 33% of nominal data sheet value

V10: Sensitivity equals 66% of nominal data sheet value

Standard Cable Length = 5 ft (1.5m)

L00F: Replace 00 with total cable length in feet. Specified only on units with SAE threads and lbf range

L10F: Units provided with 10 ft total cable length. Specified only on units with SAE threads and lbf range

L00M: Replace 00 with total cable length in meters. Specified only on units with metric threads and N or Kgf range

L6M: Units provided with 6 m total cable length. Specified only on units with metric threads and N or Kgf range

L10M: Units provided with 10 m total cable length. Specified only on units with metric threads and N or Kgf range

MXXP: Special compensation module location: replace XX with percentage of cable length

M10P: Module located at 10% of cable length +/-5%

M25P: Module located at 25% of cable length +/-5%

M50P: Module located at 50% of cable length +/-5%

M75P: Module located at 75% of cable length +/-5%

C: Microtech type male or equivalent (w/o mate)

R: RJ Telephone type male (w/o mate)

AN: Calibrate lbf range unit in Newtons

AL: Calibrate N range unit in lbf

AC: Alternate calibration: Units with studs are calibrated in Tension by default. Option AC provides compression calibration in addition to tension calibration.

ELECTROMAGNETIC COMPATIBILITY RESIDENTIAL, COMMERCIAL AND LIGHT INDUSTRY

ordering information

	Family	Body	Thread Type	Range	Units	Options			
Example:	ELFS	-	T3	E	-	20	L	-	/option1/option2/...optionX
		B1, B3, B4, T3, T4 Ref Note*	M-Metric E-SAE	lbf	N	Body Style	L=lbf N=Newton		* See above
				2	10	B1, B3, T3			
				5	25	B1, B3, T3			
				10	50	B1, B3, T3			
				20	100	B1, B3, T3			
				50	250	B3, T3			
				100	500	B4, T4			
<p>NOTE: Metric threaded units must have Newtons range specified</p> <p>NOTE: SAE threaded units must have lbf range specified.</p> <p>NOTE: Metric threaded units must have cable lengths specified in meters.</p> <p>NOTE: Nominal is defined as any value within the range of +50% to -30% of the stated value.</p> <p>NOTE: Typical values: 50% of units will be delivered with specifications greater than the typical value and 50% of units will be delivered with specifications less than the typical value stated.</p> <p>*NOTE: DXXXX: Special Factory Designation for custom components. No options need to be incorporated into the unit part numbers.</p> <p>SXXXX designation reserved for MEAS Spec European operations.</p>									

CONTATO

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