

ELPS Load Cell

Ranges: 5 through 500 lbf

250 mV Full Scale Output

High Resolution

Tension/Compression

High Stiffness

Resistant to Off Axis Loading

Low Deflection

DESCRIPTION

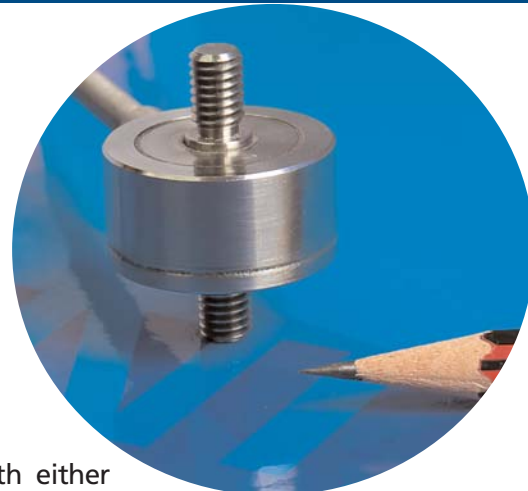
The **ELPS** load cell is a compact package able to fit into many applications where others cannot. The low noise Wheatstone bridge consists of semiconductor strain gages which provide typical full scale outputs of 250 mV. When compact design, essentially infinite cycle life expectancy and superior resolution are required, the ELPS load cell is the sensor for your application.

FEATURES

- ◆ Low Cost
- ◆ Compact Design
- ◆ Essentially Unlimited Cycle Life Expectancy
- ◆ From 5 to 500 lbf Ranges
- ◆ Low Noise
- ◆ High Reliability
- ◆ Shielded Cable

APPLICATIONS

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



The ELPS is provided with either SAE or metric threads for tension and compression applications. The ELPS incorporates flexible diaphragms paralleling the primary measuring flexure to provide maximum immunity to the effects of off-axis loads. The ELPS is ideal for applications requiring enhanced resolution that are made over short time periods. The ELPS can be configured with a variety of different options to fine tune the instrument to your application: select from several standard compensated temperature ranges, input voltages, lead lengths or specify entirely unique combinations of these options.

standard performance parameters:

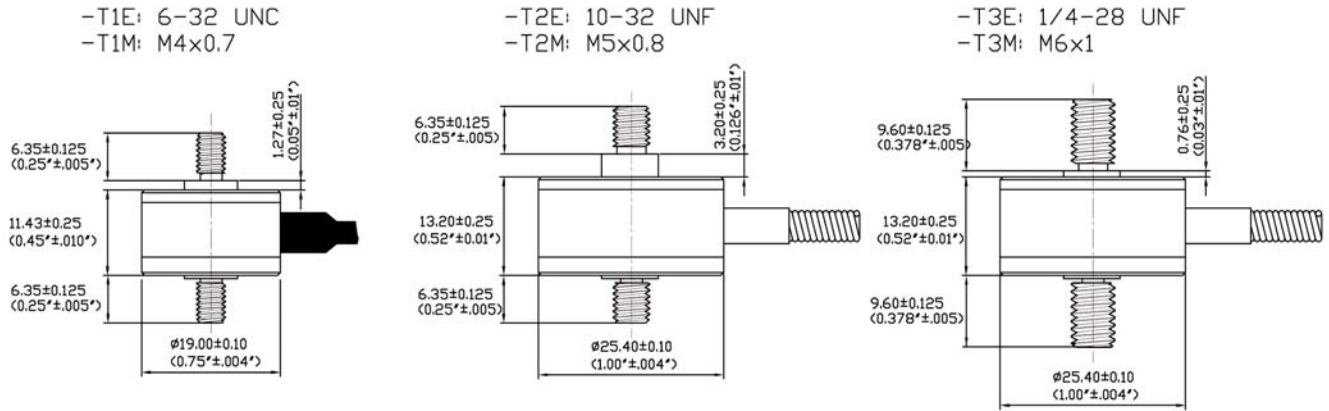
Maximum Over Load:	150%
Recommended Excitation:	10 Vdc
Full Scale Output Span:	+/- 250 mV
Output at No Load (Zero Output):	+/- 15 mV Typical At 20°C
Nonlinearity:	Ranges < 200 lbf (1000N): +/- 0.25% FSO Ranges > 200 lbf (1000N): +/- 0.5% FSO
Hysteresis:	Ranges < 200 lbf (1000N): +/- 0.25% FSO Ranges > 200 lbf (1000N): +/- 0.5% FSO
Temperature Compensation:	20 -80°C
Thermal Zero Shift:	< +/- 1 % FSO/50°C
Thermal Sensitivity Shift:	< +/- 2.5%/ 50°C
Operating Temperature Range:	-40°C to 120°C
Impedance In:	1200 ohm nominal
Impedance Out:	500 ohm nominal
Deflection at Rated Load:	< 0.075 mm nominal
Isolation Resistance:	50 Megohm nominal at 50 Vdc
Cycle Life Expectancy:	Essentially Unlimited

Notes:

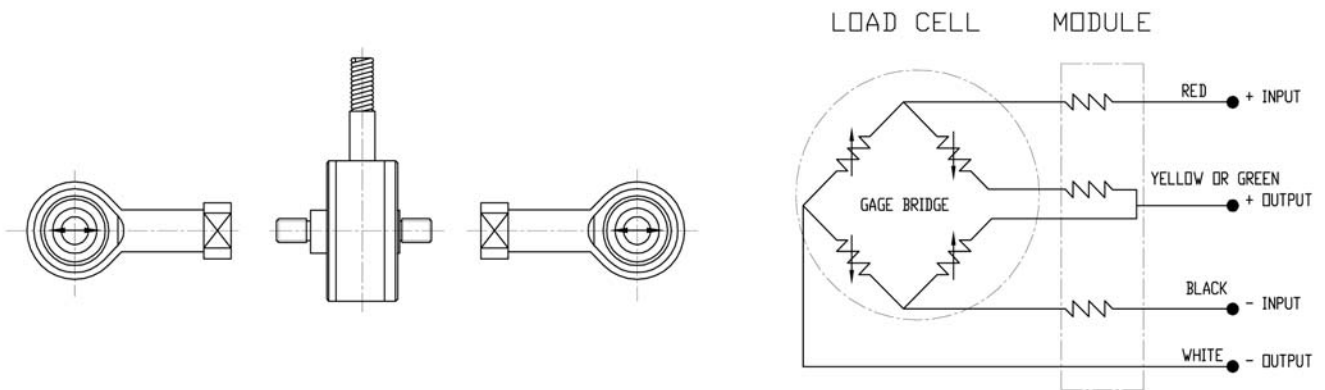
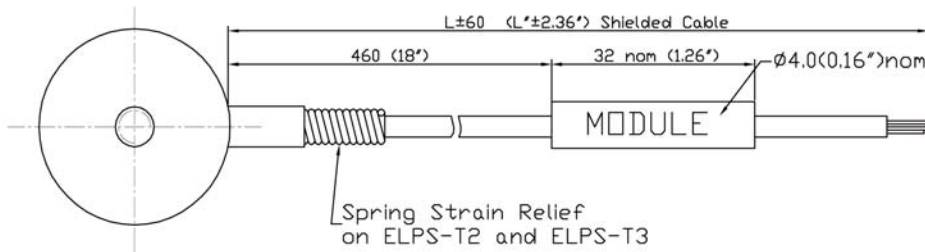
1. Positive output in tension. Alternate calibrations available; reference option AC.
2. Design is highly resistant to off-axis loads and moments.
3. Laser welded Stainless steel construction with splashproof lead exit.
4. IP66 (Splashproof)

ELPS Load Cell

dimensions



WIRING



ELPS 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: 10 Vdc Standard

V00: Replace 00 with excitation between 1 and 15V (10 V standard). (At excitations less than 10V, sensitivity decreases proportionately.

Sensitivity at excitations > 10 V equals 250 mV FSO nominal. Note that input impedance increases from between 1200 and 1800 ohms nominal when excitations > 10 Vdc are specified)

V2.5: Sensitivity equals 62.5 mV FSO nominal

V5: Sensitivity equals 125 mV FSO nominal

Standard Cable Length = 5 ft (1.5 m)

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 (SS3)

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	Multiplier	Units		Options	
Example:	ELPS	-	T3	E	-	500		N	-	/option1/option2/...optionX	
			T1, T2, T3 Ref Note*	M-Metric E-SAE		lbf 5 10 20 50 100 200 500	N 25 50 100 250 500 1K 2.5K	Body Style T1 T2 T2 T2 T3 T3 T3	K: For ranges >1000	L=lbf N=Newton	* See above
										NOTE: Metric threaded units must have Newtons range specified. NOTE: SAE threaded units must have lbf range specified. NOTE: Metric threaded units must have cable lengths specified in meters NOTE: Nominal is defined as any value within the range of +50% to -30% of the stated value. 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. *NOTE: DXXXX: Special Factory Designation for custom components. No options need to be incorporated into the unit part numbers. SXXXX designation reserved for MEAS Spec European operations.	

CONTATO

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