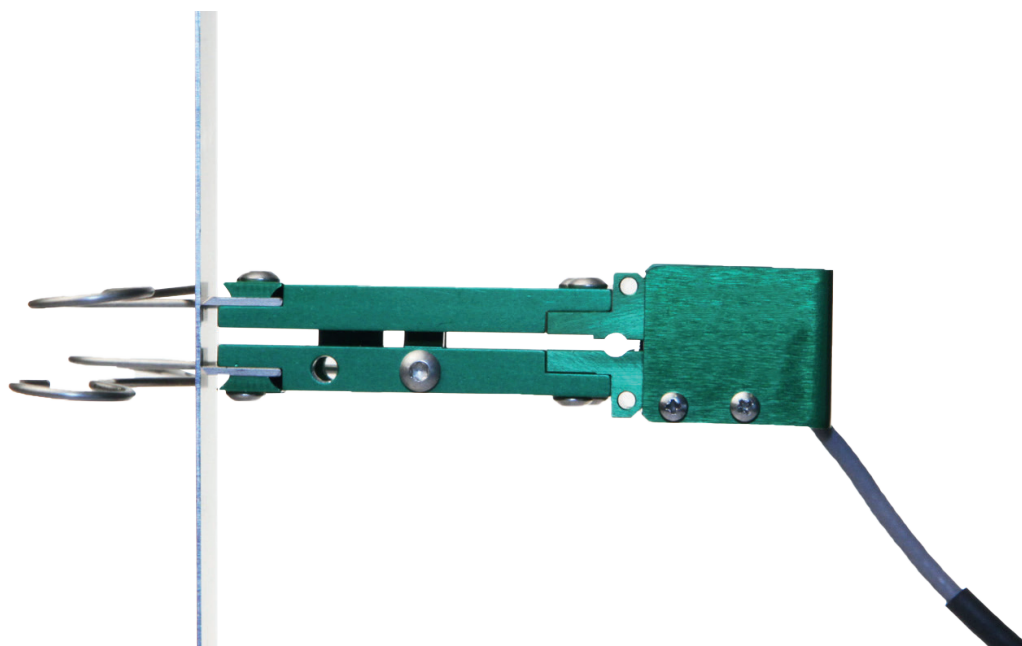


## Miniature Axial Extensometers Series 3442

The 3442 Series are small profile and ultra-light weight, these units are appropriate for testing small and delicate samples yet rugged enough for daily use on standard specimens. Ideal for strain measurement of wire specimens, sheet materials, and standard ISO or ASTM specimen geometries. Excellent for low and high cycle fatigue testing.

Gauge lengths are available from 3 mm to 50 mm and full-scale measuring ranges from  $\pm 0.5$  mm to +12.5 mm.



Weighing as little as 8 grams, these miniature extensometers are designed to have very low operating force with minimal specimen influence. All use an improved dual flexure design which makes them very rugged for their size. With a compact module that is 15.2 mm (0.6 inches) high, they will fit in the limited space between grips that is typical with small test samples. Gauge lengths can be as short as 3 mm or as long as 50 mm. A newly designed gage setting pin and assembly allows the gauge length to be set accurately and repeatably to ISO and ASTM requirements for all gauge lengths. Reengineered quick attach wire forms provide simple and secure specimen attachment. Wire forms for round and flat specimens are included, as well as knife edges in flat, 3-point, and vee configurations. The wire forms may be removed to enable mounting using elastic bands or springs. A tethering attachment point provides fall protection and enables counterbalancing of the extensometer's weight when testing delicate specimens.

Model 3442 extensometers are strain gaged devices, making them compatible with any electronics designed for strain gaged transducers.

### Features

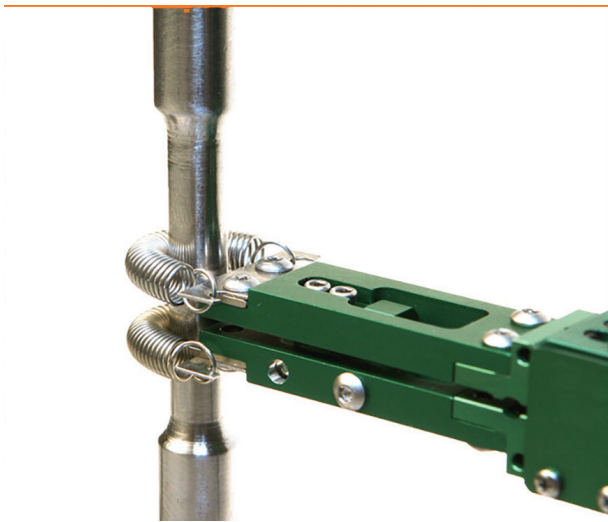
- May be left on through specimen failure
- All standard units meet existing ISO 9513, class 0,5 and ASTM class B-1 requirements for gauge lengths  $\geq 6$  mm and class 1 according to ISO 9513 and ASTM class B-2 for  $\leq 5$  mm accuracy.
- All models can measure in both tension and compression and can be used for cyclic testing.
- Gauge length pin helps set gauge length accurately for all gauge length configurations.
- Full bridge, 350 ohm strain gauged design
- Mechanical overtravel stops in both directions.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Gauge length adapter kits enable configuration of multiple gauge lengths with one extensometer.
- Replaceable arms and spacers for ease of repair.
- Hardened tool steel knife edges are easily replaced
- High and low temperature options extend operation from as low as  $-265$  °C to  $+200$  °C
- Replaceable arms and spacers for ease of repair. This also allows changing the gage length for different test requirements
- Includes high quality foam lined case

**Specification:**

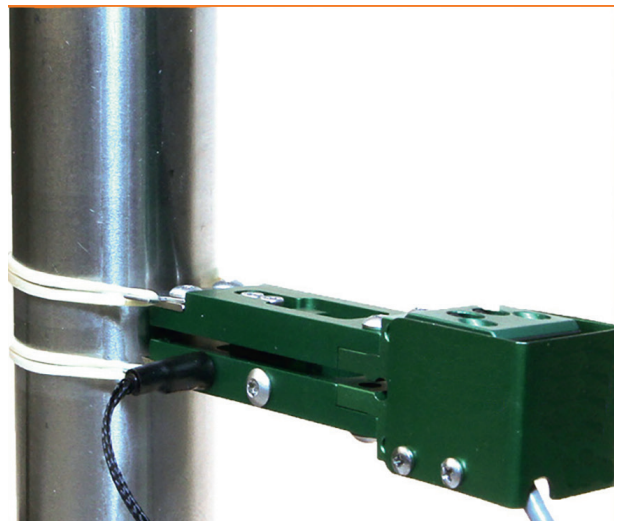
Excitation: 5 to 10 VDC, recommended, 12 VDC or VAC max.  
 Output: 2 to 4 mV/V, nominal, depending on model  
 Linearity: ≤0.15% of full scale measuring range  
 Temperature Range: Standard (-ST) is -40°C to +100°C to -265°C to +200°C (-LHT)  
 Cable: Integral, ultra-flexible cable, 2.5 m standard (longer available)  
 Standard Quick Attach Kit: Fits round samples up to 13 mm diameter (0.5 inch) and flats to 13 mm thick by 15 mm wide (0.5 inch by 0.6 inch); attach to larger specimens using rubber bands or springs (included)  
 Operating Force: 10 to 20 g typical

**Options:**

Adapter kits to change gage lengths  
 Specialty knife edges  
 Special coatings and stainless steel knife edges available for biomedical tests



Spring band attachment



Rubber band attachment

**Technical Data**

Model 3442 Available Versions: ANY combination of gauge length, measuring range and temperature range listed above is available, except as noted. The measuring range should not exceed the gauge length. *Other configurations may be available with special order; please contact us with your requirements.*

**Model Number 3442** –  –  –

Gage Length:	
-003M <sup>1</sup>	3.0 mm
-004M <sup>1</sup>	4.0 mm
-005M <sup>1</sup>	5.0 mm
-008M	8.0 mm
-010M	10.0 mm
-0125M	12.5 mm
-020M	20.0 mm
-025M	25.0 mm
-050M	50.0 mm

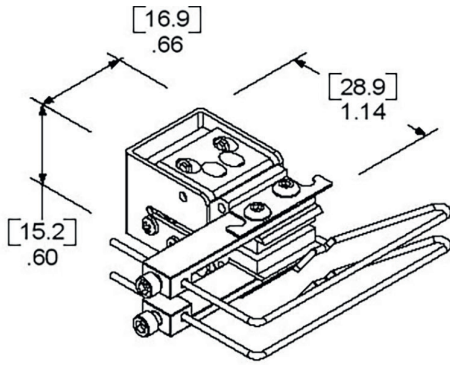
Measuring Range (Travel)	
-005M	±0.5 mm
-010M	±1.0 mm
-020M	+2.0 mm/-1.0 mm
-025M	+2.5 mm/-1.0 mm
-050M <sup>2</sup>	+5.0 mm/-1.0 mm
-100M <sup>2</sup>	+10.0 mm/-1.0 mm
-125M <sup>2</sup>	+12.5 mm/-1.0 mm

Temperature Ranges:		
Low	<b>LT</b>	-265°C to +100 °C
Standard	<b>ST</b>	-40 °C to +100 °C
High 1	<b>HT1</b>	-40 °C to +150 °C
High 2	<b>HT2</b>	-40 °C to +200 °C
Low-High	<b>LHT</b>	-265 °C to +200 °C

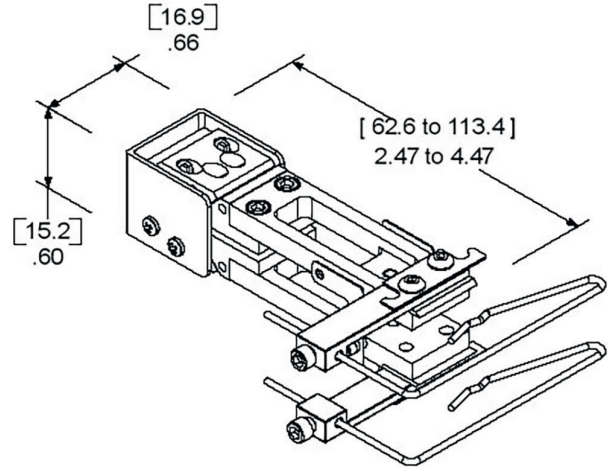
<sup>1</sup> Available in -005M, -010M, and -020M measuring ranges only; meets accuracy requirements for ASTM E83 B-2 class. Gauge lengths of 6 mm or larger are recommended

<sup>2</sup> Extended compression range available up to 50% of tensile range for GL>10 mm

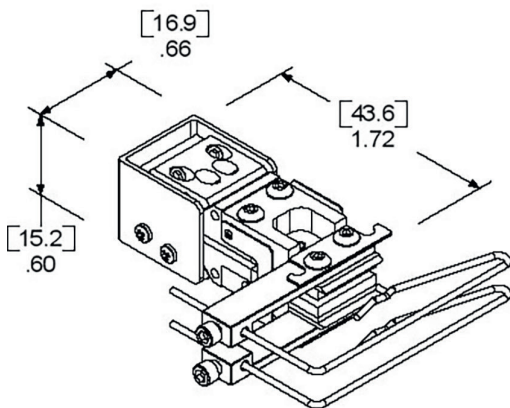
Example: 3442-008M-010M-ST: 8.0 mm gauge length, ±1.0 mm measuring range, standard temperature range (-40 °C to 100 °C)



3442 LOW MEASURING RANGE



3442 HIGH MEASURING RANGE



3442 MEDIUM MEASURING RANGE

DIMENSIONS: [mm] inches

### Extensometers for Composites Compression Testing

Models 3542 and 3442 extensometers can be furnished to clip directly onto composites compression fixtures, such as for ASTM D695. These use specially made quick attach kit wire forms for the test fixture. Consult the factory for specifics.

Also see the Model 3542 extensometer.

