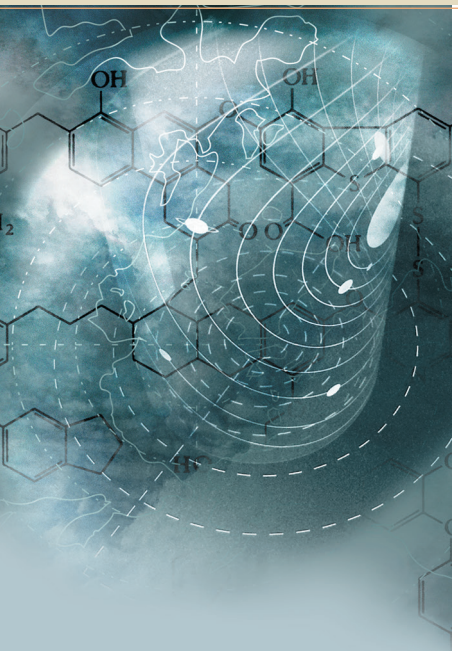


Long gauge length extensometers with gauge lengths 100 mm (4 inches) or greater for tensile and compression testing. These units are for long gauge length applications where low-level strain measurements such as offset yield are required.

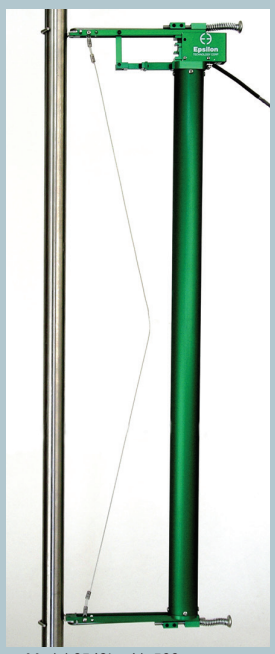
Model 3542L with 8 inch gauge length and +0.5 inch/-0.25 inch measuring range

The dual flexure design makes the 3542L very rugged and insensitive to vibrations. These extensometers are designed for testing a wide range of materials including metals, plastics, composites and ceramics. Epsilon's Model 3543 is recommended for applications requiring long gauge lengths and larger measuring ranges.

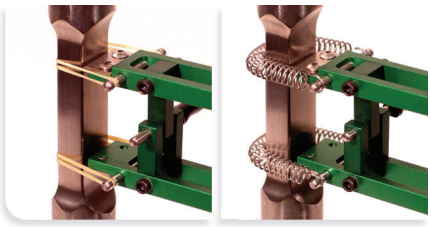
The Model 3542L comes standard with Epsilon's quick attach kit, making it easy to mount the extensometer on the test specimen. The quick attach kit can be removed, allowing mounting of the extensometer with springs or rubber bands.

Model 3542L extensometers are strain gaged devices, making them compatible with any electronics designed for strain gaged transducers. Most often they are connected to a test machine controller with electronics for a strain channel, and Epsilon will equip the extensometer with a compatible connector that is wired to plug directly into the controller. For systems lacking the required electronics, Epsilon can provide a variety of signal conditioning solutions that enable connecting to data acquisition systems or other equipment.

For gauge lengths less than 100 mm (4 inches), see Models 3742, 3542, and Epsilon ONE®.



Model 3542L with 500 mm gauge length and +12.5 mm/-6 mm measuring range



Optional rubber band and spring attachment options included with Model 3542 and 3442

Features

- **May be left on through specimen failure.**
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- All models can measure in both tension and compression and can be used for cyclic testing.
- Mechanical overtravel stops in both directions.
- Standard quick attach kit allows quick mounting to specimens.
- Hardened tool steel knife edges are easily replaced. A spare set comes with every extensometer.
- High and low temperature options extend operation from as low as -270 °C to +200 °C (-454 °F to +400 °F).
- Replaceable arms and spacers for ease of repair. This also allows changing the gauge length for different test requirements.
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Includes high quality foam lined case.

Specifications

Specimen Sizes and Attachment: Wireforms are included for round samples up to 25 mm diameter (1.0 inch) and flats to 12 mm thick by 31 mm wide (0.5 inch by 1.25 inch) wireforms are available for many other specimen sizes - contact Epsilon

Accuracy: Standard configurations meet ASTM E83 class B-1 and ISO 9513 class 0,5 requirements for accuracy. A test certificate is included.

Linearity: ≤0.15% of full scale measuring range

Temperature Range: Standard (-ST) is -40 °C to +100 °C (-40 °F to 210 °F); see Ordering Information for additional ranges

Operating Force: Depends on model configuration, less than 30 g typically

Cable: Integral, ultra-flexible cable, 2.5 m (8 ft) standard

Excitation: 5 to 10 VDC recommended, 12 VDC or VAC max.

Output: 2 to 4 mV/V, nominal, depending on model

Options

Quick attach kit wire forms for large specimens
Adapter kits to change gauge lengths
Connectors to interface to nearly any brand of test equipment
Special coatings and stainless steel knife edges available for biomedical tests
Specialty knife edges (see page 106)

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Ordering Information

Model 3542L Available Versions: ANY combination of gauge length, measuring range and temperature range listed below is available, except as noted. *Other configurations may be available with special order; please contact Epsilon to discuss your requirements.*

Gauge Length

METRIC	
-100M	100.0 mm
-150M	150.0 mm
-200M	200.0 mm
-250M	250.0 mm
-500M	500.0 mm
-600M	600.0 mm
U.S.A.	
-0400	4.000”
-0600	6.000”
-0800	8.000”
-1000	10.000”
-2000	20.000”
-2400	24.000”

Measuring Range

METRIC	
-0025M	±2.5 mm
-006M	±6.0 mm
-0125M	+12.5 mm/-6.0 mm
-025M	+25.0 mm/-6.0 mm
U.S.A.	
-010T	±0.10”
-025T	±0.25”
-050T	+0.50”/-0.25”
-100T	+1.00”/-0.25”

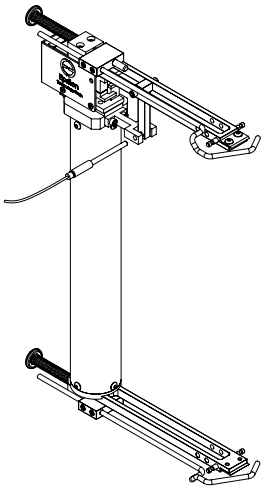
Model Number 3542L- __ __ __ __ - __ __ __ __ - __ __

Temperature Range

-LT	-270 °C to 100 °C (-454 °F to 210 °F)
-ST	-40 °C to 100 °C (-40 °F to 210 °F)
-HT1	-40 °C to 150 °C (-40 °F to 300 °F)
-HT2	-40 °C to 200 °C (-40 °F to 400 °F)
-LHT	-270 °C to 200 °C (-454 °F to 400 °F)

Example: 3542L-200M-0125M-ST: 200 mm gauge length, +12.5 / -6.0 mm measuring range, standard temperature option (-40 °C to 100 °C)

Visit our website at www.epsilontech.com
Contact us for your special testing requirements.



MODEL 3542L EXAMPLE