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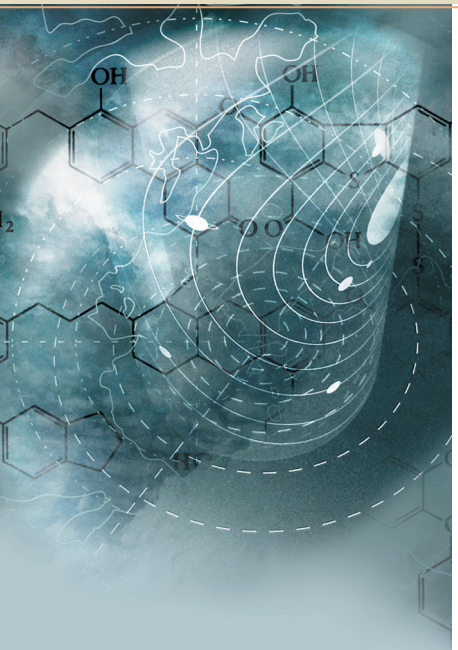
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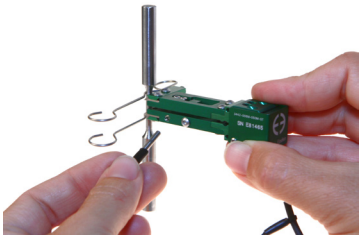
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Small profile and ultra-light weight, these units are appropriate for testing small and delicate samples yet rugged enough for daily use on standard specimens. Ideal for strain measurement of wire specimens, sheet materials, and standard ASTM or ISO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



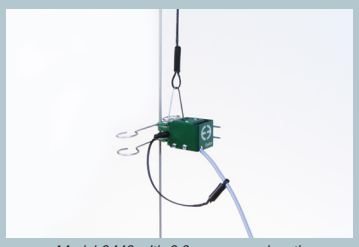
Model 3442 low-profile extensometer with gauge length pin

Weighing as little as 8 grams, these miniature extensometers are designed to have very low operating force with minimal specimen influence. Their low mass makes them the optimum choice for fatigue testing in strain control and high-frequency testing.

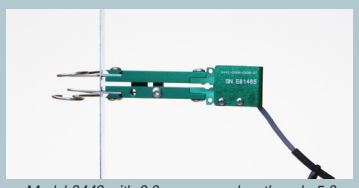
Suitable for tension or compression testing, all configurations use an improved version of Epsilon's dual flexure design which makes them very rugged for their size. With a compact module that is 15.2 mm (0.6 inches) high, they will fit in the limited space between grips that is typical with small test 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 ASTM and ISO 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.

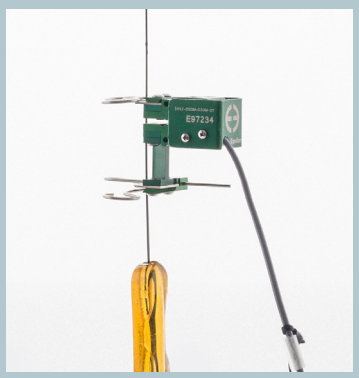
Model 3442 extensometers are strain gaged devices, making them compatible with any electronics designed for strain gaged transducers. Most often they are connected to a test machine controller with electronics for a strain channel, and Epsilon will equip the extensometer with a compatible connector wired to plug directly into the controller. For systems lacking the required electronics, Epsilon can provide a variety of solutions for signal conditioning and connection to data acquisition systems or other equipment.



Model 3442 with 6.0 mm gauge length, ±1.0 mm (±16.7% strain) measuring range, and suspension tether



Model 3442 with 6.0 mm gauge length and +5.0 mm/-1.0 mm (+83%/-17% strain) measuring range



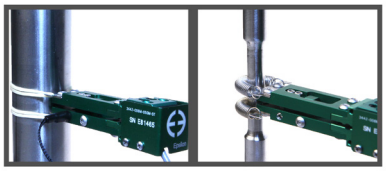
Model 3442 with 25 mm gauge length testing carbon fiber tow

See the Model 3442 extensometer videos

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.



Rubber band and spring attachment options included with Models 3442 and 3542

Features

- **May be left on through specimen failure.**
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- Gauge length pin helps set gauge length accurately for all gauge length configurations.
- All models can measure in both tension and compression and can be used for cyclic testing.
- 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.
- High and low temperature options extend operation from as low as -270 °C to +200 °C (-454 °F to +400 °F).
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Includes high quality foam lined case.

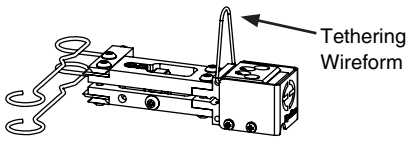
Specifications

Excitation:	5 to 10 VDC recommended, 12 VDC or VAC max.
Output:	2 to 4 mV/V nominal, depending on model
Accuracy:	Standard configurations meet ASTM E83 class B-1 accuracy requirements for gauge lengths ≥6 mm and class B-2 for ≤5 mm. All standard configurations meet ISO 9513 class 0,5. 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) Optional (-LHT) is -270 °C to +200 °C (-454°F to 400 °F)
Cable:	Integral, ultra-flexible cable, 2.5 m (8 ft) standard
Standard Quick Attach Kit:	Fits round samples 0.5-13 mm (0.02-0.5 inch) diameter and flats 0.1-13 mm thick by up to 15 mm wide (0.005-0.5 inch by up to 0.6 inch); attach to larger specimens using rubber bands or springs (included)
Operating Force:	Depends on model configuration; 10 to 100 g typical

Options

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 104)

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Ordering Information

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 Epsilon to discuss your requirements.*

Gauge Length

METRIC	
-003M[1]	3.0 mm
-004M[1]	4.0 mm
-005M[1]	5.0 mm
-006M	6.0 mm
-008M	8.0 mm
-010M	10.0 mm
-012M	12.0 mm
-0125M	12.5 mm
-020M	20.0 mm
-025M	25.0 mm
-050M	50.0 mm
U.S.A.	
-0025	0.250 in
-0030	0.300 in
-0050	0.500 in
-0064	0.640 in
-0100	1.000 in
-0200	2.000 in

Measuring Range

METRIC	
-005M	±0.5 mm
-010M	±1.0 mm
-020M	+2.0 mm/-1.0 mm
-025M[2]	+2.5 mm/-1.0 mm
-050M[2]	+5.0 mm/-1.0 mm
-100M[2]	+10.0 mm/-1.0 mm
-125M[2]	+12.5 mm/-1.0 mm
U.S.A.	
-005T	±0.050"
-010T[2]	+0.100"/-0.050"
-025T[2]	+0.250"/-0.050"
-050T[2]	+0.500"/-0.050"

Model Number 3442- __ __ __ __ - __ __ __ __ - __ __

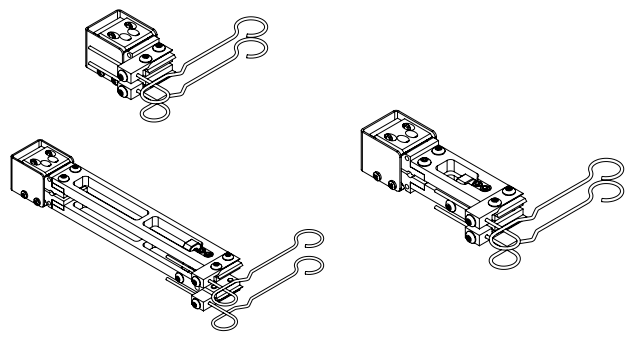
Temperature Range

-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)

[1] *Available in -010M and -020M measuring ranges only; meets accuracy requirements for ASTM E83 class B-2. Gauge lengths of 6 mm or larger are recommended.*
[2] *Extended compressive measuring ranges are available – inquire with Epsilon.*

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

See more extensometers at www.epsilontech.com
Contact us for your special testing requirements.



MODEL 3442 EXAMPLES

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