Epsilon Technology Corp

3542 with a 50 mm gage length and ±5% measuring range.

3542 with a 2" gage length and ±25% measuring range.

3542 axial model used simultaneously with a 3575 transverse model.

3542 with 10 mm gage length and ±10% measuring range.

3542 with 2" gage length and +50/-10% measuring range.

3542 with 25 mm gage length and ±10% measuring range.

General purpose extensometers for axial tensile, compression and cyclic testing. Gage lengths from 0.5 to 2 inches (and 10 to 50 mm) and measuring ranges from 5% to 100% strain.

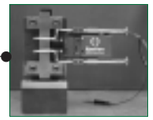
These extensometers are designed for testing a wide range of materials, including metals, plastics, composites and ceramics. All will work in both tension and compression. The dual flexure design makes them very rugged and insensitive to vibrations, which permits higher frequency operation.

They come standard with Epsilon's quick attach kit, making it easy to mount the extensometer on the test specimen in seconds with one hand. The quick attach kit can be removed, allowing mounting of the extensometer with springs or rubber bands.

The Model 3542 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. The signal conditioning electronics for the extensometer is typically included with the test machine controller or may often be added. In this case the extensometer is shipped with the proper connector and wiring to plug directly into the electronics. For systems lacking the required electronics, Epsilon can provide a variety of solutions, allowing the extensometer output to be connected to data acquisition boards, chart recorders or other equipment. *See the electronics section of this catalog for available signal conditioners and strain meters.*

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 customer's fixture. Consult the factory for specifics. *See also the Model 3442 Miniature Extensometer.*



3542 with composites compression fixture for ASTM D695.

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.
- All standard units meet existing ASTM class B-1 and ISO 9513, class 0,5 requirements for accuracy.
- 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 -265 °C (-450 °F) to +175 °C (350 °F).
- Includes high quality foam lined case.
- Replaceable arms and spacers for ease of repair. This also allows changing the gage length for different test requirements.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Standard quick attach kit allows one hand mounting to specimens.

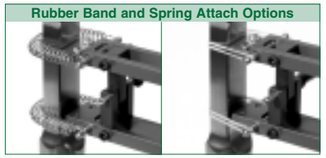
Specifications

Excitation:	5 to 10 VDC recommended, 12 VDC or VAC max.
Output:	2 to 4 mV/V, nominal, depending on model
Linearity:	0.10% to 0.15% of full scale measuring range, depending on model
Temperature Range:	Standard (-ST) is -40 °C to +100 °C (-40 °F to 210°F)
Cable:	Integral, ultra-flexible cable, 8 ft (2.5 m) standard
Standard Quick Attach Kit:	Fits round samples up to 1.0 inch diameter (25 mm) and flats to 0.5 inch thick by 1.25 inch wide (12 mm by 31 mm)
Operating Force:	30 g typical

Options

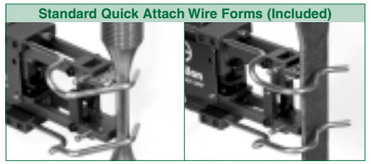
Quick attach kit wire forms for large specimens
Connectors to interface to nearly any brand test equipment
Shunt calibration module (see page 96)
Adapter kits to change gage lengths
Specialty knife edges (see page 97)

Rubber Band and Spring Attach Options



Using springs (included). *Using rubber bands (included).*

Standard Quick Attach Wire Forms (Included)



For round samples. *For flat samples.*

Ordering Information

Model 3542 Available Versions: ANY combination of gage length, measuring range and temperature range listed below is available, except as noted. *Available in intermediate gage lengths on special order.*

Gage Length

U.S.A.	
-0050	0.500"
-0064	0.640"
-0100	1.000"
-0140	1.400"
-0200	2.000"
METRIC	
-010M	10.0 mm
-012M	12.5 mm
-025M	25.0 mm
-050M	50.0 mm

Measuring Range

	% STRAIN	LINEARITY
-005[1]	±5%	
-010	±10%	0.10%
-020	±20%	
-025	±25%	
-050	±50%/-10%	0.15%
-100[2]	+100%/-5%	

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Temperature Range

-LT	-265 °C to 100 °C (-450 °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 175 °C (-40 °F to 350 °F)[3]
-LHT	-265 °C to 175 °C (-450 °F to 350 °F)[3]

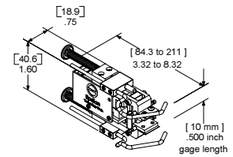
1 *Not available in one-half inch, 10 or 12.5 mm gage lengths.*

2 *For 2 inch and 50 mm gage lengths, linearity is 0.2% typical, (ASTM class B-2).*

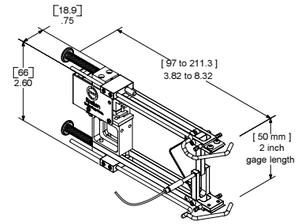
3 *Short term use to 200 °C (400 °F) acceptable.*

Example: *3542-0100-020-LT: 1.000 inch gage length, ±20% measuring range, low temperature option (-450 °F to 210 °F)*

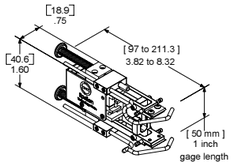
Contact Epsilon for your special testing requirements.



3542 LOW MEASURING RANGE



3542 HIGH MEASURING RANGE



3542 MEDIUM MEASURING RANGE

DIMENSIONS: [mm] inches