MODEL 3543 Long Gauge Length Extensometers

This model is available in gauge lengths from 2 inches (50 mm) and larger, with measuring ranges up to 4 inches (100 mm). It is a uniquely designed unit that may be left on through specimen failure. These extensometers are widely used where long samples and large measuring ranges are required. They are ideal for testing steel re-bar, weld joints, and wire materials.

With over 15 years of proven reliability in the world's most demanding testing environments, the Model 3543 extensometer is designed to survive in those applications where standard axial extensometers would not. Designed by Epsilon, the Model 3543 was created to survive specimen failure by separating into two halves, thus preventing permanent damage to the module body. During operation, the upper half of the extensometer pulls out of the main body. Tapered measuring beams activate strain gaged flexures within the unit. This unique design allows long measuring ranges, yet retains compatibility with electronics for strain gaged transducers. These models offer high accuracy and are light weight but rugged, with low operating force. They are tension only units.

The units have hardened tool steel knife edges. Standard quick attach wires provided with the extensometer work on flat specimens up to 0.5 x 1.25 inch (12 x 31 mm) and on rounds up to 1 inch (25 mm) diameter. Optional quick attach kit wire forms are available for use on larger samples. See Model 3543L, for long gauge lengths with smaller measuring ranges.

The Model 3543 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.

Features
- Specifically designed to be left on through specimen failure. The unit is designed so that the two halves of the extensometer come apart to prevent damage at specimen failure.
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- All standard units meet ASTM class B-2 requirements for accuracy.
- Hardened tool steel knife edges are easily replaced. A spare set comes with every extensometer.
- High temperature options extend operation to +150 °C (300 °F).
- Includes high quality foam lined case.
- Replaceable arms and spacers allow ease of repair. The optional gauge length spacers allow the gauge length of the extensometer to be easily increased for different testing requirements.
- Rugged design for reliable testing.
- Standard quick attach kit for quick 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: ±0.15% of full scale measuring range.
- Temperature Range: Standard (-ST) is -40 °C to +100 °C (-40 °F to 210 °F).
- Cable: 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: 125 g typical.

Options
- Quick attach kit wire forms for large specimens.
- Spacers to change gauge lengths.
- Connectors to interface to nearly any brand test equipment.
- The 3543 is available with a twist option for use in applications where specimen twisting greater than 3° is expected.
- The 3543TW option can accommodate up to 15° of twist.
- Gauge length spacers to change gauge lengths.
- Shunt calibration module (see page 104).
- Specially knife edges (see page 105).

Certified

Ordering Information

Model 3543 Available Versions: Any combination of gauge length, measuring range, and temperature range listed below is available, except as noted. Intermediate and longer gauge lengths are easily achieved by adding gauge length spacers.

<table>
<thead>
<tr>
<th>Measuring Range</th>
<th>Temperature Range</th>
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<tbody>
<tr>
<td>U.S.A.</td>
<td>-40 °C to 100 °C ( -40 °F to 210 °F)</td>
</tr>
<tr>
<td>METRIC</td>
<td>-40 °C to 150 °C ( -40 °F to 300 °F)</td>
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Model Number 3543-

<table>
<thead>
<tr>
<th>Gauge Length</th>
<th>Measuring Range</th>
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<tbody>
<tr>
<td>2&quot; or 50 mm gauge length</td>
<td>-0200</td>
</tr>
<tr>
<td>4&quot; or 100 mm gauge length</td>
<td>-0400</td>
</tr>
<tr>
<td>6&quot; or 150 mm gauge length</td>
<td>-0600</td>
</tr>
<tr>
<td>8&quot; or 200 mm gauge length</td>
<td>-0800</td>
</tr>
<tr>
<td>10&quot; or 250 mm gauge length</td>
<td>-1000</td>
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Contact us for your special testing requirements.

Visit our website at www.epsilontech.com

See the electronics section of this catalog for available signal conditioners and strain meters.

Epsilon Technology Corp.

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Visit our website at www.epsilontech.com