

**Widely used for measuring deformations in three and four point bend tests, compression tests and a variety of general purpose deformations. These strain gaged devices come with a magnetic base for easy mounting.**



*Model 3540 with 1 mm measuring range*

Deflection is measured with a single arm with an attached spherical contact tip, similar to those on a dial indicator. The full bridge strain gaged construction provides an electrical output compatible with any electronics designed for a strain gaged transducer.

The magnetic base furnished with the gage can be mounted to the desired reference surface, whether flat or round. The tip can then be positioned to measure the deformation encountered during the test. The magnetic base can only be used for low and standard temperature testing. Elevated temperature testing requires additional support considerations.

All models feature a spring loaded arm that can break free in the event of excessive displacement, protecting the gage from damage. The upper arm exerts a small spring force against the specimen, which is sufficient to allow dynamic cyclic testing if desired, yet light enough in force to avoid influence on the test.

These units come standard with the arm set to measure downward deflections when oriented in the upright position. They can be used upside down or in any orientation. They may also be configured with the extensometer arm spring loaded downward. Specify this if desired. Note that the measuring ranges listed are total displacement.

The Model 3540 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.*



*Model 3540 deflectometer*



*Model 3540 with 25 mm measuring range*

## Features

- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- All standard units have linearity of 0.25% of FS or better.
- Meets ASTM and ISO accuracy classes as follows:
  - ASTM E2309 Class A, ISO 9513 Class 1: -001M, -004M, -006M, -005T, -015T, -025T
  - ASTM E2309 Class B, ISO 9513 Class 2: -012M, -025M, -050M, -050T, -100T, -200T
- Rugged, dual flexure design for improved performance.
- Includes high quality foam lined case.
- Comes with an adjustable magnetic base for easy mounting.
- General purpose deflection sensor covers many test requirements.
- Spring loaded arm detaches to prevent damage from overtravel.

## SPECIFICATIONS

*Excitation:* 5 to 10 VDC recommended, 12 VDC or VAC max.  
*Output:* 2 to 4 mV/V, nominal, depending on model  
*Linearity:*  $\leq 0.25\%$  of full scale measuring range  
*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  
*Operating Force:* 50 g typical

## OPTIONS

Connectors to interface to nearly any brand test equipment  
 Arm orientation  
 Shunt calibration module (see page 120)



## ORDERING INFORMATION

Model 3540 Available Versions: ANY combination of measuring range and temperature range listed below is available. Other configurations may be available with special order; please contact Epsilon to discuss your requirements.

Measuring Range	
U.S.A.	
-005T	0.050"
-015T	0.150"
-025T	0.250"
-050T	0.500"
-100T	1.000"
-200T	2.000"
METRIC	
-001M	1.0 mm
-004M	4.0 mm
-006M	6.0 mm
-012M	12.0 mm
-025M	25.0 mm
-050M	50.0 mm

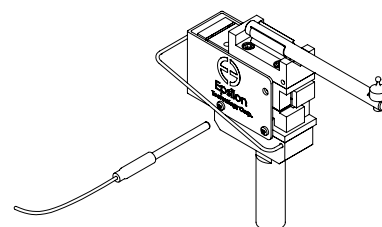
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Temperature Range	
-LT	-265 °C to 100 °C (-450 °F to 210 °F)
-ST	-40 °C to 100 °C (-40 °F to 210 °F)
-HT1	-40 °C to 150 °C (-40 °F to 300 °F) <sup>1</sup>
-HT2	-40 °C to 200 °C (-40 °F to 400 °F) <sup>1</sup>
-LHT	-265 °C to 200 °C (-450 °F to 400 °F) <sup>1</sup>

<sup>1</sup> Magnetic base not suitable for high temperature use; 50 °C (125 °F) max.

Example: 3540-012M-ST: 12.0 mm measuring range, standard temperature option (-40 °C to 100 °C)

Visit our website at [www.epsilontech.com](http://www.epsilontech.com)  
Contact us for your special testing requirements.



Without magnetic base  
MODEL 3540 EXAMPLE