

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



Model 3540 with 4 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.

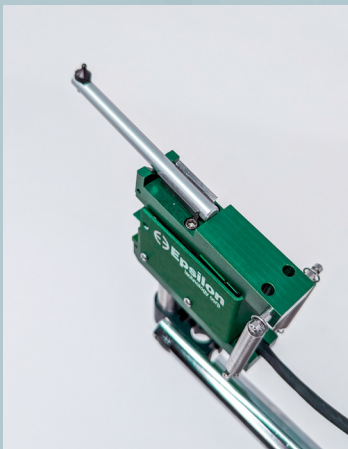
The magnetic mounting base supplied with the deflectometer can be mounted to the desired reference surface, whether flat or round, and the tip can be easily positioned to measure deformations during the test. The mounting system is designed to enable convenient swing in / swing out positioning of the deflectometer, when needed, without having to realign the deflectometer between tests.

All models feature a spring-loaded arm that can break free in the event of excessive displacement, protecting the deflection 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. The measuring ranges listed are total displacement.

Model 3540 deflectometers 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 deflectometer 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.

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



Model 3540 deflectometer



Model 3540 with 25 mm measuring range



Model 3540 with included magnetic mounting base

 See the Model 3540 deflectometer video

Features

- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- General purpose deflection sensor covers many test requirements; may be used in any orientation.
- Comes with an adjustable magnetic base for easy mounting and convenient swing in / swing out positioning.
- Spring loaded arm detaches to prevent damage from overtravel.
- Meets ASTM and ISO accuracy classes as follows:
 -001M, -004M, -006M, -005T, -015T, -025T:
 ASTM E2309 Class A
 ISO 9513 Class 1
 ASTM E83 Class B-2 (assuming 50 mm gauge length per D790 and D6272)
 -012M, -025M, -050M, -050T, -100T, -200T:
 ASTM E2309 Class B
 ISO 9513 Class 2
 ASTM E83 Class C (assuming 50 mm gauge length per D790 and D6272)
- All standard units have linearity of 0.25% of FS or better.
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Rugged, dual flexure design for improved performance.
- 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
- Linearity:* $\leq 0.25\%$ 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
- Operating Force:* <1.5 N (0.3 lbf) typical

OPTIONS

Connectors to interface to nearly any brand of test equipment
 Model PH2040 magnetic mounting base – provides 6+ degrees of freedom adjusted with one knob; ideal when measuring deflections of assemblies and structures



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	
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
U.S.A.	
-005T	0.050"
-015T	0.150"
-025T	0.250"
-050T	0.500"
-100T	1.000"
-200T	2.000"

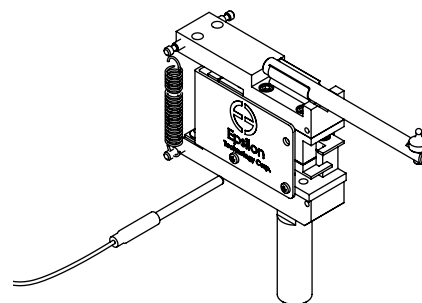
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Temperature Range	
-LT	-270 °C to 100 °C (-454 °F to 210 °F)
-ST	-40 °C to 100 °C (-40 °F to 210 °F)
-HT1	-40 °C to 150 °C (-40 °F to 300 °F) ¹
-HT2	-40 °C to 200 °C (-40 °F to 400 °F) ¹
-LHT	-270 °C to 200 °C (-454 °F to 400 °F) ¹

¹ 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
 Contact us for your special testing requirements.



1 mm measuring range (shown without magnetic base)

MODEL 3540 EXAMPLE