

**Designed for measuring axial displacements in the simple performance tests prescribed by NCHRP Report 465, and determining dynamic modulus of hot mix asphalt per AASHTO TP062.**



*Model 3909-0400 with 4 inch gauge length*

These extensometers are typically mounted as two axial modules with independent outputs capable of measuring specimen deformations in two locations, but they can be mounted as a single unit or up to four on a sample. They quickly clip onto gauge points mounted per the test requirements.

Magnets at each end of the extensometer snap instantly in place on the steel gage points glued to the test sample. The quick attachment is most advantageous when testing preconditioned samples that are heated or cooled, since

the extensometers can be mounted before the sample changes temperature appreciably. For units intended to be used inside tri-axial cells, extensometers are available with modules rotated 90°.

The standard Model 3909 has full scale measuring range of 0.5 mm (0.020 inches). Gage points are included with the extensometers and optional gluing fixtures are available. Two standard 3909 units can be converted to the Model 3910 with the purchase of optional gauge length adapters.

The Model 3909 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 3909-0400 with 4 inch gauge length*



*Model 3909 gluing fixture for 180° spacing*

## Features

- Model 3909 for simple performance testing per NCHRP Report 465, and determining dynamic modulus of hot mix asphalt per AASHTO TP062.
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- All standard units have linearity readings of 0.20% or better.
- Includes high quality foam lined case.
- Rugged, dual flexure design for improved performance.
- Easy mounting, attaches with magnets, which allows dynamic testing to 40 Hz.

## Specifications

- Excitation:* 5 to 10 VDC recommended, 12 VDC or VAC max.  
*Output:* 2 to 4 mV/V nominal, depending on model  
*Linearity:*  $\leq 0.20\%$  of full scale measuring range, depending on model  
*Temperature Range:* Standard is  $-40^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+210^{\circ}\text{F}$ )  
*Cable:* Integral, flexible Teflon® cable, 2.5 m (8 ft) standard  
*Operating Force:*  $<30$  g typical

## Options

- Gauge length adapters  
 Gluing fixture for gage points  
 Connectors to interface to nearly any brand test equipment  
 Shunt calibration module (see page 120)



## Ordering Information

Model 3909 Available Versions: Available in intermediate and larger gauge lengths on special order. Other configurations may be available with special order; please contact Epsilon to discuss your requirements.

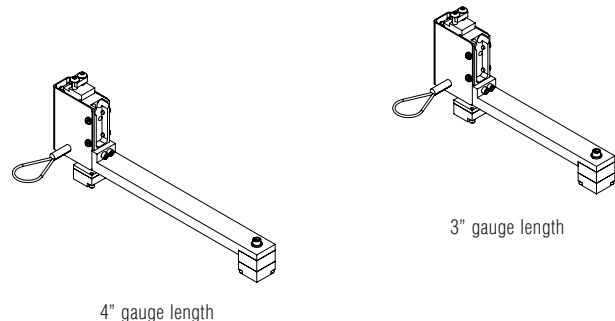
Gauge Length	
METRIC	
-070M <sup>1</sup>	70 mm
-076M	76 mm
-100M	100 mm
U.S.A.	
-0275 <sup>1</sup>	2.75"
-0300	3.00"
-0400	4.00"

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<sup>1</sup> Special order.

Example: 3909-0300: 3.00 inch gauge length with a full scale measuring range of 0.020 inches

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



MODEL 3909 EXAMPLES