

This all-purpose averaging axial extensometer is used in tension or compression to measure Young's modulus, offset yield, and strain to failure. It is compact and lightweight. Gauge length is set automatically for fast specimen mounting.



Model 3442AVG-050M-025M-ST with 50 mm gauge length and +2.5 mm/-1.0 mm measuring range

The Model 3442AVG is optimized for high-accuracy tension and compression testing. It measures strain simultaneously on opposite sides of the specimen to average out specimen misalignment while measuring axial strain. The averaging capability is useful for measuring Young's modulus per ASTM E111, properties of composite materials per ISO 527 and ASTM D3039, and compression of metals per ASTM E9. It is compact, lightweight, and may be used through specimen failure with most materials. It is fatigue rated and may be used in strain control.

The extensometer sets its gauge length automatically when it is mounted on the specimen. This feature improves repeatability, reduces operator errors and saves time. Just mount the extensometer and it will be at its gauge length and ready for testing.

This extensometer's output can be configured in two ways: with a single output for average strain measurement, or with separate outputs for measuring strain separately on opposite sides of the specimen with two strain channels. The configuration with two outputs can be used during test setup or during the test to measure specimen bending (strain uniformity) caused by misalignment or specimen machining imperfections.

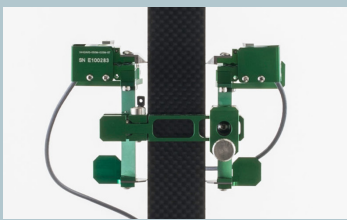
Due to its compact size, the 3442AVG is not compatible with transverse extensometers. To measure Poisson's ratio, the Model 3442AVG may be used in combination with a transverse adhesively bonded strain gage, or other extensometers may be used such as Model 3560-BIA or Model 3542 in combination with Model 3575.

Model 3442AVG 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, and Epsilon will equip the extensometer with a compatible connector wired to plug directly into the controller. For systems lacking the required electronics, Epsilon can provide a variety of solutions for signal conditioning and connection to data acquisition systems or other equipment.


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



*Model 3442AVG extensometer
3442-050M-025M-ST*



Model 3442AVG extensometer

 [See the Model 3442AVG extensometer videos](#)

Features

- May be left on through specimen failure with most materials.
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- Simple clip-on mounting with automatic gauge length setting.
- Smaller than other averaging extensometers - fits in narrow spaces.
- Measures average strain in both tension and compression, and can be used for cyclic testing.
- Measures opposite sides of the specimen to average out misalignment.
- When configured with separate strain outputs, can be used to calculate average strain and % bending.
- Knife edge mounting allows mounting on round or flat specimens - much easier to mount than designs using conical points, especially on thin flat specimens and round specimens.
- All models have mechanical overtravel stops in both directions. Hardened tool steel knife edges are easily replaced. A spare set comes with every extensometer.
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Includes high quality foam lined case and spare set of tool steel knife edges.

SPECIFICATIONS

- Excitation:** 5 to 10 VDC recommended, 12 VDC or VAC max.
- Output:** 2 to 4 mV/V nominal, depending on model
- Accuracy:** Standard configurations meet ASTM E83 class B-1 and ISO 9513 class 0,5 requirements for accuracy. A test certificate is included.
- Linearity:** $\leq 0.15\%$ of full scale measuring range, depending on model
- Temperature Range:** Standard (-ST) is -40 °C to +100 °C (-40 °F to 210 °F)
Optional (-LHT) is -270 °C to +200 °C (-454 °F to 400 °F)
- Cable:** Integral, ultra-flexible cable, 2.5 m (8 ft) standard
- Specimen Size:** Works with samples 0.25 to 25 mm (0.01 to 1.0 inch) width or diameter
- Operating Force:** 30 to 50 g typical
- Cyclic Testing:** 50 to 100 Hz typical

OPTIONS

- One averaged output or two separate left/right outputs
- Connectors to interface to nearly any brand of test equipment
- Expanded temperature ranges from -270 °C to +200 °C (-454 °F to +400 °F)



ORDERING INFORMATION

Model 3442AVG Available Versions: ANY combination of gauge length, measuring range and temperature range listed below is available. Specify one or two outputs when ordering. Other configurations may be available with special order; please contact Epsilon to discuss your requirements.

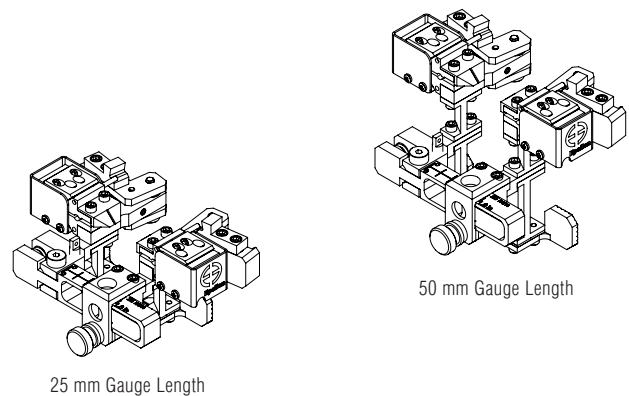
Gauge Length		Measuring Range	
METRIC		METRIC	
-010M	10.0 mm	-005M	± 0.50 mm
-0125M	12.5 mm	-010M	± 1.00 mm
-025M	25.0 mm	-025M	+2.50 mm/-1.00 mm
-050M	50.0 mm		
U.S.A.		U.S.A.	
-0050	0.500"	-002T	± 0.020 "
-0100	1.000"	-005T	± 0.050 "
-0200	2.000"	-010T	+0.100"/-0.050"

Model Number 3442AVG - _____ - _____ - _____

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)
-HT2	-40 °C to 200 °C (-40 °F to 400 °F)
-LHT	-270 °C to 200 °C (-454 °F to 400 °F)

Example: 3442AVG-050M-025M-HT2: 50 mm gauge length, +2.5 mm measuring range, high temperature option (-40 °C to 200 °C)

Visit our website at www.epsilontech.com
Contact us for your special testing requirements.



MODEL 3442AVG EXAMPLES