

**Designed for transverse or diametral strain measurement in environmental chambers where the entire extensometer must be exposed to elevated temperatures. These capacitive extensometers may be used up to 700 °C (1300 °F) without any cooling.**



*Model 7675 transverse extensometer*

These transverse extensometers use a high-temperature capacitive sensor and do not require any cooling. They will operate up to the maximum temperature limit of most environmental chambers used in materials testing. The Model 7675 is ideal for determination of Poisson's ratio, and for characterization of anisotropic materials such as composites. All units can accommodate both positive and negative displacements. Model 7675 transverse extensometers are compatible with most Model 7642 high-temperature axial extensometers.

The 7675 is supplied with the advanced DT6229 controller. The standard output is 0-10VDC analog signal, factory calibrated with the extensometer. This system provides a number of functional enhancements, including high speed digital output, built in calibration and tare functions, analog and digital filters, and more.



*Model 7675 and 7642 with DT6229-02 (dual channel) signal conditioner*

## Features

- **May be left on through specimen failure.**
- Self-supporting on specimen.
- Improved accuracy, resolution, and noise rejection at high temperature.
- Reduced size and weight, and improved high frequency performance.
- All standard models are suitable for cyclic testing, >25 Hz is typical.
- Digital controller and power supply included. Provides high level DC voltage output with low noise. Easily interfaced to test controllers, data acquisition boards and chart recorders.
  - Includes high speed analog and digital outputs
  - Intuitive web-based user interface for setup, calibration, and data acquisition
  - Built-in calibration reference and auto-zero features
  - Multiple extensometer calibration files may be loaded for use with one controller
  - Multiple temperature-specific calibrations may be stored
  - Selectable analog and digital filter options from 2 Hz to 3 kHz
- Ships fully calibrated with electronics (traceable to NPL (UK)) with user specified voltage output.
- Mechanical over-travel protection.
- Suitable for measuring Poisson's ratio per ASTM E132 with most materials and specimens.
- Durable stainless steel knife edges.
- Includes high quality foam lined case.
- Rugged, dual flexure design for strength and improved performance. The next-generation design enables cyclic testing at much higher frequencies.

## SPECIFICATIONS

**Analog Output:** User specified,  $\pm 5$  VDC or  $\pm 10$ VDC typical,  $\pm 10.8$ VDC rail

**Digital Output:** 24 bit high speed Ethernet output with built-in web interface

**Linearity:** 11 point linearization,  $\leq 0.1\%$  of full scale typical

**Resolution:**  $< 5$  PPM (0.006%FS) RMS @ 4 kHz,  $< 6$  PPM (0.0006%FS) @ 100 Hz

**Cyclic Testing:**  $> 25$  Hz typical

**Analog Filter:** Selectable 100 Hz analog and 2 Hz - 3 kHz digital filters

**Temperature Range:** Ambient to 700 °C (1300 °F). Use up to 800 °C is possible – contact Epsilon for details. Springs may require periodic adjustment or replacement after long-term testing above  $\sim 600$  °C.

**Temperature Sensitivity (Gain):**  $< 100$  PPM/°C (0.01%FS/°C) typical

**Temperature Sensitivity (Offset):** 20 PPM/°C (0.002%FS/°C) typical

**Sensor Cable:** 0.7 m (2.5 ft) tri-axial high temperature cable, plus 1.5 m (5 ft) room temperature extension cable

**Specimen Size:** Fits round samples up to 25 mm (1.0 inch) diameter and flats to 25 mm (1.0 inch) wide

**Operating Force:** 1-2 kgf (30-60 oz.) typical, depending on model

**Environment:** Recommended for elevated temperature testing in dry air, inert / non-corrosive gases, or vacuum

**Power:** 100-240 VAC, 50-60 Hz, 15W; specify plug type when ordering

## OPTIONS

Reverse cable exit available

Connectors to interface to nearly any brand of test equipment

Bulkhead adapters for vacuum chambers

Dual-channel DT6229 controller

Specialty knife edges (see page 108)

## ORDERING INFORMATION

Model 7675 Available Versions: Available standard measuring ranges are listed below. Other configurations may be available with special order; please contact Epsilon to discuss your requirements.

Measuring Range	
METRIC	
-012M	$\pm 1.2$ mm
-025M	$\pm 2.5$ mm*
U.S.A.	
-050T	$\pm 0.05$ "
-100T	$\pm 0.10$ "*

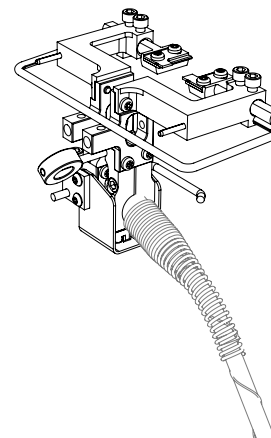
Model Number 7675- \_\_\_\_\_

\*Preferred configuration

Example: 7675-025M:  $\pm 2.5$  mm measuring range



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



MODEL 7675 EXAMPLE