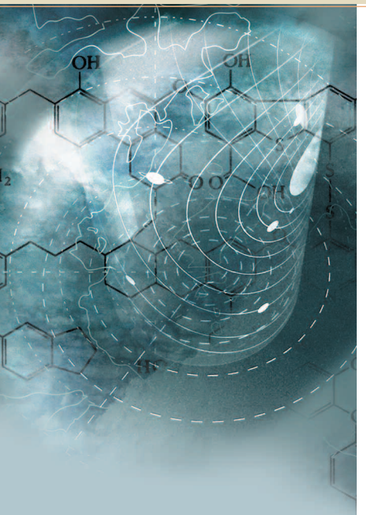

These extensometers are high precision non-contacting units for strain measurement in materials testing. They use a high speed laser scanner to measure the spacing between reflective tape strips on the sample. The measurement range is from 0.3 to 5 inches (8 to 127 mm) on the LE-05 and 0.3 to 15 inches (8 to 381 mm) on the LE-15. The gauge length is determined by the user. This allows high elongation measurements when shorter gauge lengths are used. The high resolution also allows accurate measurements of smaller strains.

Model LE-05 laser extensometer control panel

Model LE-15 laser extensometer

The self-contained extensometer uses state-of-the-art laser diode technology. A digital display is included. The analog output may be used to connect to existing test controls. The RS-232 serial communications interface provides two way communications. Operation may be local or remote.

The scanning beam is always perpendicular to the specimen, unlike most laser extensometers. This eliminates errors when viewing through windows in chambers. It also minimizes sensitivity to the distance between the extensometer and the sample. Because the unit measures reflected light, no receiver is required behind the sample.

Easy to use.

The visible laser light is simply aimed at the specimen, which has small reflective tape strips set at the gauge length desired. The extensometer displays the actual measured gauge length. If desired, the zero button will offset the output to zero. As the specimen is tested, the display will then read the elongation directly.

The analog output and RS-232 interface are easily connected to existing controls or data acquisition systems.

High temperature clip-on reflectors may be used as an alternate to tape reflectors. The reflective tape can be used at temperatures up to 300 °F (150 °C). These are re-useable and available as an option. They are rated for use to 800 °F (425 °C).

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Features

- Non-contacting design requires only reflective tape marks on the specimen, or clip-on reflectors
- Ideal for use in chambers-calibration not affected by aiming through viewing windows
- High resolution of 1 micron
- Full 5 inch (127 mm) or 15 inch (381 mm) measuring range allows high elongation measurements (e.g. 200% on a 1 inch gauge length)

Specifications

Measurement Range:	LE-05: 0.3 to 5 inches (8 to 127 mm) LE-15: 0.3 to 15 inches (8 to 381 mm)
Resolution:	Display 100 microinches or 1 micron Analog output and RS-232 are 1 micron resolution on lower ranges LE-15: 0.001" (0.01 mm) resolution
Linearity [1]:	LE-05: ±0.0004 inches (±0.01 mm) LE-15: ±0.002 inches (±0.04 mm)
Repeatability [1]:	LE-05: ±0.0002 inches (±0.005 mm) LE-15: ±0.002 inches (±0.04 mm)
Scan Rate:	100 scans/second
Target Distance:	Two selectable factory preset values between 10 and 18 inches. Default values are: LE-05: 12 and 15 inches LE-15: 15 and 18 inches
Zero Suppression:	Reading may be set to zero anywhere in measuring range
Scan Line Orientation:	Vertical
Scan Averaging:	Moving window averaging over a selectable number of scans
Analog Output:	16 bit, ±10 VDC standard
Full Scale Ranges:	0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10.0, or 20.0 inches (model dependent) Optional 2.0, 5.0,10, 20, 50, 100, 200, or 500 mm (model dependent)
Digital Communications:	RS-232 serial communications, standard 3 wire
Selectable Baud Rate:	9600, 4800, 2400, or 1200
Display:	2 line, 16 character digital display, backlit LCD
Power Input:	115 VAC ±10%, 50/60 Hz standard 230 VAC ±10%, 50/60 Hz optional
Size:	LE-15: 27 L x 18 H x 7.7 W inches (668 x 457 x 196 mm)
Weight:	LE-05: 10 lbs (4.5 kg), LE-15: 45 lbs (20.4 kg)
Mounting Provisions:	1/4-20 UNC tapped holes in base (4)
Laser Source:	Diode laser, 670 nM, <1 mW maximum scanned output CDRH Certified Class II laser instrument
Options:	Consult factory for options like reflective clips for high temperature use

[1] Over optimum displacement range at calibrated distance
Note: Specifications measured at 25 °C and 50 percent rel. humidity.

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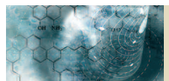
Contact us for your special testing requirements.



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