

The LX Laser Extensometer Series



LX Laser Extensometer Series Features

Exceptional Accuracy

- ▶ Digital and continuous analog outputs produce high integrity data.
- ▶ Non-contact measuring system eliminates stress concentrations and extensometer weight error.

High Reliability

- ▶ Simple design with no external moving parts.
- ▶ Eliminates operator errors due to mounting and alignment of conventional clip-on extensometers.

Versatility

- ▶ Continuously adjustable gage lengths.
- ▶ Supports both Metric or American Customary gage lengths.
- ▶ Continuous strain measurement of entire test including break region.
- ▶ Reduced test set-up time (includes tripod mounting).

The MTS family of LX Laser Extensometers are highly accurate, non-contact extensometers. These extensometers are ideal for fragile specimens, those susceptible to localized damage, and also specimens that release large amounts of stored energy during breaks. They will meet all the strain measuring needs of materials like plastics, rubber, films, fibers, textiles, and specimens not

suited for contacting extensometry. They use state of the art scanning technologies yet are very user-friendly to operate. And they can often outperform comparable video products.

The LX measures extension or strain by scanning the specimen and detecting the location of reflective tape markings. As the marks move during the test, the laser tracks and records their exact position.





**LX 500 and LX 1500
High Resolution
Laser Extensometer**

LX 500 and LX 1500 High Resolution Lasers

For the most precise, non-contacting strain measurement device available, MTS introduces its new LX 500 and LX 1500 extensometers. These high performance devices are completely self-contained, easily transportable, and easy to use with their digital display and 4 button keypad. They can be operated from the rear control panel or remotely via the RS-232 interface. The unique scanning laser beam technique used to measure elongation entirely from one side of the specimen eliminates the need for a separate receiver mounted on the opposite side of the specimen. For applications not requiring more than 380 mm (15.0 in) of travel, you won't find a better unit.

Features

- » Meets ASTM B1 extensometer classification (25 mm/1 in. and longer gage length).
- » Certified for compliance with the Center for Devices and Radiological Health as a Class II product.
- » CE certified
- » Selectable averaging of 2 to 512 scans.
- » Measures the initial gage length of the specimen directly.
- » Can measure strain simultaneously over 3 segments within the specimen's gage length.
- » Measurements are updated 100 times per second.
- » Analog output port for closed loop strain control or for input to a data acquisition board, chart recorder, etc.
- » Parallel beam design accommodates operation through chamber glass (up to two panes of optical quality), a clear bath, water, etc.



LX 500 / LX 1500 High Resolution Laser Specifications

| Model | Measurement | | Non-Linearity | | Repeatability | Analog Output | Part Numbers* | |
|---------|--------------------------|-------------------------|--------------------------|--|---------------------------|--|---------------|------------|
| | Range | Resolution | (Maximum) | | | | 115V±10% | 230V±10% |
| LX 500 | 8-127 mm (0.3-5.0 in) | 0.001 mm (0.0001 in) | ±0.025 mm (±0.001 in) | | ±0.003 mm (±0.0001 in) | 16 bit selectable range, ±5V full scale | 55-283-101 | 55-283-102 |
| LX 1500 | 13-380 mm (0.5-15 in) | 0.01 mm (0.001 in) | ±0.15 mm (±0.006 in) | | ±0.03 mm (±0.001 in) | 16 bit selectable range, ±5V full scale | 56-103-001 | 56-103-002 |

*Includes tripod, mounting plates, instruction manual, line cord, tripod head and 1/8" x 30' reflective tape.

Dimensions

| Model | Length | Width | Height | Weight |
|---------|------------------|-----------------|------------------|------------------|
| LX 500 | 381 mm (15 in) | 114 mm (4.5 in) | 180 mm (7.1 in) | 5.9 kg (13 lb) |
| LX 1500 | 686 mm (27 in)** | 191 mm (7.5 in) | 445 mm (17.5 in) | 22 kg (48 lb)*** |

** Dimension is approximate.

*** Weight is approximate.

Optional Reflective Tape

| Width x Length | Temperature | Part Numbers |
|-------------------------------|-------------------------------|--------------|
| 3.1 mm x 9 m (1/8 in x 30 ft) | -40 to 80° C (-40 to 175° F) | 100-007-694 |
| 6.3 mm x 9 m (1/4 in x 30 ft) | -40 to 80° C (-40 to 175° F) | 100-007-695 |
| 2.5 mm x 9 m (0.1 in x 30 ft) | -40 to 480° C (-40 to 900° F) | 100-007-696 |

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ISO 9001 CERTIFIED QMS



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