

Product Name :
Strain Gauge Training System**Product Code :**
ALABS-A179-108ALTEC™**Description :****Strain Gauge Training System**

Strain gauges are used extensively in sensor systems to detect forces, moments and deformations. The experimental unit provides a wide-ranging introduction to the fundamentals of measurement by strain gauges. Three test specimens for tension, bending and torsion are each fitted with four strain gauge measuring points. The strain gauges are wired in the full bridge. The specimens are loaded incrementally allowing for the strain reading to be sequentially monitored. The specimens can be inserted quickly and precisely into the frame. The strain gauge measuring range is protected by a Plexiglas cover, which also makes it clearly visible for inspection purposes. The measurement amplifier supplies the bridge supply voltage, and displays the load-dependent "bridge detuning" digitally in voltage values. The digital display also features a zero balancing function to allow for any preloading. The various elements of the experiment are clearly laid-out and housed securely in a box. The well-structured instructional material sets out the fundamentals and provides a step-by-step guide through the experiments.

Specification:

1. Experimental unit investigating the fundamentals of strain gauge measurement
2. Tension, bending and torsion tests each with strain gauge measuring points in full bridge circuit
3. Strain gauge application areas protected by Plexiglas cover
4. Steel test bodies
5. Determination of modulus of elasticity on various materials using measuring objects
6. Measurement amplifier with 4-digit digital display
7. Frame to house the measuring objects
8. Box to house the components

Technical Data:

Tension bar

- measuring length: 50mm
- cross-section: 2x10mm

Bending bar

- length: 385mm
- cross-section: 5x20mm

Torsion bar

- length: 500mm
- d=10mm

Set of weights, small: 10x 0,5N, 1x 1N (hanger)

Set of weights, large

- 1x 5N, 2x 10N, 1x 20N, 1x 5N (hanger)

Strain gauge measuring point: full bridge, 350?

Amplifier

- measuring range: +/-2mV/V
- resolution: 1 μ V/V

- zero balancing adjustment range: +/-1mV

- supply voltage: 10VDC

Frame opening WxH: 480x450mm



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