

Product Name :
Forces Various Single Plane Trusses**Product Code :**
ALABS-A165-010**Description :****Forces Various Single Plane Trusses**

The object of the experiment is to measure the bar forces in a single plane truss subjected to a single external force. The experimental set-up features bars with special snap-lock closures on their ends allowing them to be fixed easily into the node disc. The range of different bar lengths provided permits three forms of truss to be constructed. The bars are hinged, joined together by node discs, and are subjected only to compressive or tensile stress. No moments are transmitted in the nodes; they can be regarded as frictionless. Consequently, our trusses can be considered as ideal trusses. A load application device attached to a node disc generates an external force. All the forces on the truss bars are recorded by means of strain gauges. Computerised evaluation is provided by measurement amplifier (16 input channels). If there are more than 16 measuring points, the measurement amplifier can be extended by a measuring point add-on unit to 32 input channels. The software is used to manage the measurement data and provide graphical representation of the bar forces. The software features a comprehensive help function. The various elements of the experiment are clearly laid-out and housed securely in a storage system. The complete experimental set-up is arranged in the frame. The well-structured instructional material sets out the fundamentals and

provides a step-by-step guide through the experiments.

Specification:

1. Investigation of bar forces in a statically determinate truss
2. Construction of various trusses possible
3. 2 supports with node discs
4. Load application device with force gauge mountable on different node discs
5. Strain gauge to measure force on each bar
6. Measurement amplifier
7. Software to evaluate measurement data
8. Storage system to house the components
9. Experimental set-up in frame

Technical Data:

Bars: 19

- 2 bars 150mm
- 5 bars 259mm
- 7 bars 300mm
- 1 bar 397mm
- 3 bars 424mm
- 1 bar 520mm
- angle between bars: 30°, 45°, 60°, 90°
- maximum bar force: 500N
- strain gauge on each bar
- height of truss max. 450mm
- length of truss max. 900mm

Load application device

- 500...+500N

- graduations: 10N



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