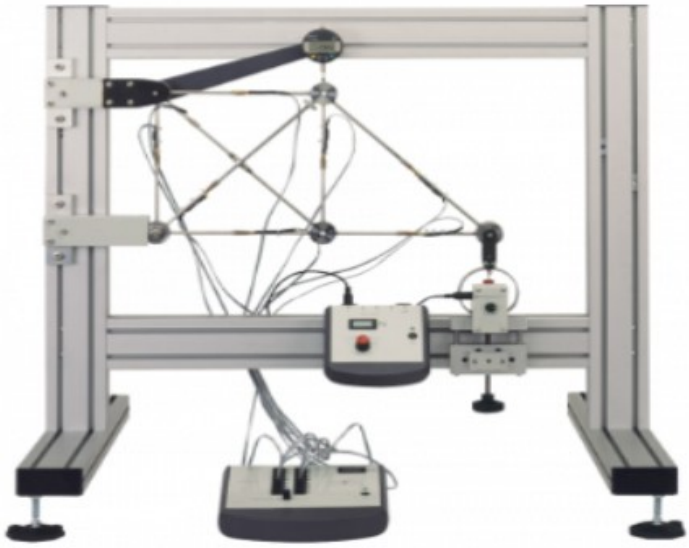
Order Code : 25269332.2
Redundant Truss Apparatus With DAQ



Specification-

An experimental apparatus to investigate the principles of redundancy and aspects of safety critical structures using determinate and indeterminate framed structures.

The experiment hardware fitted a Structures Test Frame. Two supports hold the top and base of one side of a structure. The top support allows pivoting, the base support allows pivoting and rolling. Initially, one of the members is missing from the structure, making it determinate. To make the structure indeterminate, students refit the missing member. Students manually apply a load to one end of the determinate framework using a screw thread and electronic load cell. The load cell connects to a Digital Force Display, which shows the applied load.

Each member of the structure has strain gauges attached. These each connects to a digital strain bridge, which shows the member strains. Students use the strains to help them calculate the forces in the structure. A digital deflection indicator measures displacement in the structure. Students note applied load, strains and deflection in a determinate framework. They then repeat the experiment with the frame made indeterminate, and analyses and compare their results.

The Operation Manual provides details of the equipment including sample experiment results. The Operation Manual describes how to use the equipment and gives experiment procedures.

For extra 'virtual' experiments, supply the optional Structures Software, for use on a suitable computer. The virtual experiments simulate the tests you can perform with the hardware. They also extend the choice of tests beyond that available using only the hardware, for example: higher loads, uniform loads or different test specimens. This extends the student's learning experience.

For automatic data acquisition of your experiment results, supply the optional Automatic Data Acquisition Unit. Supplied as standard with the Structures Software that displays and logs your experiment results and gives the extra virtual experiments.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

Key features:

- High-quality structures training module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into determinate and indeterminate structures
- Realistic and verifiable experiment results
- Optional Structures Software package for extra, 'virtual' experiments, that simulate and confirm the results from your hardware and allow extended experiments
- Optional unit with Structures Software package for automatic data acquisition and virtual experiments.

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