AFME021 Strain Gauges

I.Overview

This equipment is for mechanical engineering department or mechanics engineering department in university, it's for Theoretical and Applied Mechanics, Engineering Mechanics, Solid Mechanics major and other mechanics related department.

The apparatus demonstrates the use of electrical resistance strain gauge in measuring strain of material under bending, torsion or combined bending and torsion stresses. It is to be used with Universal Base Frame (separately supplied).

Two specimens are used. The specimen is mounted horizontally on a support column at one end. A cantilever beam for bending load, a rod with torsion arm for bending and torsion load and a strip for tension load. Strain gauges are placed on to the specimens. Each gauge is wired to form a full bridge with temperature compensation and zero adjustment. Strain is indicated on the strain indicator.

Instruction manual is also included.

II.Typical Experiments

Fundamentals of measuring with strain gauges

Correlation between mechanical strain and electrical resistance in a strain gauge

Calculation of the mechanical deformations under bending, torsion or combined bending and torsion

III.Technical Data

Structure: aluminum

Bottom with adjustable rubber to adjust the height.

The total weight is less than 200kgs.

Working environment: -10℃~40℃， Humidity<85%

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