STRAIN-GAUGE TRANSDUCER TRAINER

ST-1000

TECHNICAL Bulletin

Description:

ST-1000 provides study of Strain Gauge and their application for measurement of Strain. It helps to study bridge configuration of Strain Gauge and the signal conditioning circuits required to measure strain. It uses cantilever beam arrangement to produce strain on Strain Gauge. Detailed experiment manual is supplied with the trainer.

Sensors:

- Load Cell 150gm

Given Weights:

- 1gm, 2gm 2ea, 5gm,
- 10gm
- 20gm, 2ea.
- 50gm
- 100gm

Input Circuit:

- Wire wound potentiometer
- Wheatstone Bridge

Signal Conditioning Circuitry:

- x 100 Amplifier
- Instrumentation Amplifier x 50 Gain
- DC Amplifier, ±2.5V offset, x 50 Gain
- Comparator

Output Circuit:

- Digital Voltmeter with 3½ digit LED Display
- Buzzer

Power Supply:

- DC Supply: ±12V, ±5V
- Variable DC Supply: 1V to 10V.
- 230 V ±10%, 50 Hz

Accesories:

Power Cord, User Manual, 2mm banana Patch Cords.

Dimensions: 13.5 x 14 x 6 in
Weight: 3.5Kg

Features:

- A self conatined Trainrer
- Transducers installed on-board
- Control Circuits Installed
- Functional Blocks indicated on
- Protection Circuits Installed
- Built in DC Power Supply
- Devices Installed

Experiments:

- Introduction to Transducers and instrumentation
- Characterizations of Stain-Gauge Transducer
- Study of Strain Measurement using Strain-Gauge
- Construction of weight pan using Strain-Gauge
- Determining Sensitivity of Transducer
- Wheatstone Bridge Measurement
- Determination of Linear Range of operation of Strain Measurement

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