

Instrumentation Lab

ME 1051 - Strain Gauge Trainer Kit (with Cantilever Beam)

Objective:

- MARS made Strain Gauge Trainer Kit with Cantilever Beam to study the performance Characteristics of Strain Gauges.



Technical Specifications:

- Output voltage : +5V DC Fixed
- Meter (Digital) : 3½ Digit LED Display
- Excitation Source : DC Excitation (5 Volt)
- Amplifiers : Instrumentation and Inverting Summing Amplifier with Zero & Gain adjustment
- Termination : For 2 arm strain gauge bridge.
- Circuit Diagram : Screen printed on front panel
- Housed in PVC Cabinet, connection of all important output, control switches & test point brought out at Bakelite front panel.

Cantilever Beam

- A bonded strain gauge are mounted on a cantilever with arrangement to fix some load on it to generate the deformation.
- Measuring Range : 500 mS.
- Non-linearity Errors : $\pm 1\%$
- Resolution : 1 mS.
- Dimensions : 330mm x 230mm x 85mm
- Weight : 4.5Kgs Approx.
- Power Requirement : 220VAC $\pm 10\%$, 50Hz

Standard Accessories:

- Power Cords, Patch Cords, Suitable Weight & Instruction Manual.

ME 1052 - LVDT Trainer Kit

Objective:

- To calibrate a Linear Variable Differential Transformer (LVDT), display displacement on Digital Panel Meter & plot a graph for linearity.



Technical Specifications:

- Output voltage : $\pm 5V$ DC
- Meter (Digital) : 3½ Digit LED Display
- Carrier Frequency : 5 KHz Sine wave, Amplitude 2V peak to peak.
- Potentiometer : For $\pm 5mm \pm 2\%$ (Percentage of error)
: For $\pm 10mm \pm 2\%$ (Percentage of error)

LVDT

- Highly accurate metal LVDT Highly Precise Micrometer (10-0-10) attached Provision to connect it through 5pin female connector
- Circuit Diagram : Screen printed on front panel
- Housed in PVC cabinet, all important output, control switches & test point brought out at Glass Epoxy (PCB) front panel.
- Dimensions : 430mm x 230mm x 85mm
- Weight : 3 Kgs Approx.
- Power Requirement : 220VAC $\pm 10\%$, 50Hz

Standard Accessories:

- Power Cords, Patch Cords & Instruction Manual.



ME 1053 - RTD Trainer Kit

Objective:

- To calibrate & measure temperature using RTD (PT-100 Transducer)



Technical Specifications:

- Output voltages : +5V DC Fixed
- Meter (Digital) : 3½ Digit LED Display
- Transducers : Resistance Temperature Detector (PT - 100)

Signal Conditioner Module :

- Excitation Source : Constant Current Type.
- First Stage Amplifier : D.C. Differential.
- 2nd Stager Amplifier : Summing amplifier with ZERO and GAIN adjustment.
- Power Source : +5 VDC
- Circuit Diagram : Screen printed on front panel
- Housed in PVC cabinet, all important output, control switches & test point brought out at Glass Epoxy (PCB) front panel.
- Dimensions : 330mm x 230mm x 85mm
- Weight : 2 Kgs Approx.
- Power Requirement : 220VAC $\pm 10\%$, 50Hz

Standard Accessories: RTD, Thermometer, Beaker, Immersion Rod, power chord, patch chords & instruction manual.