Sensor Trainer

Model : SE-1037

SINCOM SE-1037 Sensor Trainer is a versatile and comprehensive training tool that allows students to study the characteristics of various sensors. With separate modules for sensors such as Strain Gauge, Load Cell, LVDT, Optical sensor, RTD Temperature sensor, Thermocouple Temperature sensor, and Thermistor Temperature sensor, this trainer provides hands-on experience in sensor technology. The trainer also includes a Digital LED Display, Digital Volt Indicator, Digital Current Indicator, and Digital Temperature Indicator, allowing users to easily monitor and analyze sensor readings. Additionally, the trainer features an Electrical Heating arrangement, enabling experiments and demonstrations related to temperature sensing and control.

Features

- ❖ Seven Sensors on a Single Board
- ❖ Separate modules of all sensors
- ❖ Digital LED Display
- ❖ Digital Volt and Current Indicator
- ❖ Complete Separate modules of all sensors
- ❖ In-Built Fixed regulated DC Power Supply
- ❖ Presents a multi-color Circuit Diagram printed on the front panel of the white board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ Interconnections by 2mm high quality banana sockets and pins.

Technical Specifications

- ▪ AC Mains Power Supply   : 230V ±10%, 50Hz
- ▪ Fixed Regulated DC Power Supply : +5V, ±12V /500mA
- ▪ Sensors   : Strain Gauge, Load Cell, LVDT, Optical Sensor,
  RTD, Thermocouple, Thermistor
- ▪ Strain Gauge   : Two strain Gauges
- ▪ Strain Display   : Red Color $3^{1/2}$ Digit LED Display

- Maximum Strain : 1 Kg
- Maximum Load Cell Capacity : 2 Kg
- Load Display : Red Color $3^{1/2}$ Digit LED Display
- Maximum Weight capacity : 2 Kg
- Strain and Load Setup : Mechanical Strain Gauge / Load cell arrangement
- Assorted Weights : 1 Kg
- LVDT Displacement : ±20mm (40mm total)
- Displacement Scale : Linear ±20mm
- Displacement Display (mm) : Red Color $3^{1/2}$ Digit LED Display
- Excitation Frequency : 4KHz
- Excitation Voltage : AC variable 5V
- Sensitivity : 10 mV DC/mm
- Optical Sensor : TX-LED and RX-Photo Diode
- Speed Display : 4 Digit LCD Display
- RPM Range : 60-5000 RPM
- Maximum RPM : 5000 RPM
- Motor Setup : AC Motor with speed control potentiometer
- RTD : RTD PT 100
- Thermistor : NTC Thermistor
- Thermocouple : CRAL K type
- Heating Source : Electrical Heating system
- Temperature Range : Upto 100° C
- Total Digital Meters : 03 (1 Voltmeter, 1 Milliammeter and 1 Temperature)
- Digital Voltmeter : DC 0-20V, Red Color $3^{1/2}$ Digit LED Display
- Digital Milliammeter : DC 0-100mA, Red Color $3^{1/2}$ Digit LED Display
- Digital Temperature Indicator : $3^{1/2}$ Digit LED Temperature Display upto 100°C with sensor
- Weight : 5.0 kg (approx)
- Dimensions (mm) : L 444 x W 127 x H 539
- Interconnections : 2mm Banana sockets
- Operating Temperature : $0-100^{0}$C, 80% RH

Learning Scope

- To study the operation and characteristics of Strain Gauge.
- To study the operation and characteristics of Load Cell.
- To study the operation and characteristics of LVDT.
- To study the operation and characteristics of Optical Sensor unit.
- To study the operation and characteristics of RTD Temperature sensor.
- To study the operation and characteristics of Thermocouple Temperature sensor.
- To study the operation and characteristics of Thermister Temperature sensor.
- To observe and note the change in output w.r.t change in respective inputs to device

Other Instruments Required : Nil

Accessories Included : Set of Patch Cords, Detail Instruction Manual.

Subject to Change