Transducer Trainer (RTD, Thermistor, Thermocouple)

Model : SE-1009

SINCOM SE-1009 Transducer Trainer (RTD, Thermistor, Thermocouple) is a versatile and comprehensive all-in-one trainer designed for studying the characteristics of RTD, Thermistor & Thermocouple temperature transducers. It offers the convenience of adjusting the DC supply voltage and includes on-board digital instruments such as a DC voltmeter, DC ammeter, and temperature indicator. Additionally, it features an electrical heating system for practical experimentation. This comprehensive trainer provides a complete learning experience for understanding the behaviour and properties of temperature transducers.

Features

- Three Temperature Transducers on a single board
- Platinum RTD, NTC Thermistor and CRAL type Thermocouple
- Wide Temperature Range
- $3^{1/2}$ Digit LED Digital DC Volt and Current Indicator
- Digital Temperature Indicator
- External Electrical Heating System
- Current controlling resistor in series
- In-Built Fixed and Variable 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 /500mA
- Variable DC Power Supply : Variable 0 to +12V
- Temperature Transducers : 3 types

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- RTD : RTD PT 100
- Thermistor : NTC Thermistor
- Thermocouple : CRAL K type
- Heating Source : Electrical Heating system
- Temperature Range : Upto 100° C
- Current Controlling Resistor : MFR 100Ω, ±5% in series
- Maximum Forward Current : 100mA
- Maximum Output Voltage : 12V
- 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 : 3.0 kg (approx)
- Dimensions (mm) : L 270 x W 390 x H 130
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-100°C, 80% RH

Learning Scope

- To study Construction of RTD. To study the change in Resistance w.r.t. change in Temperature. To Observe and note the change in Voltage(V) and Current(I) of RTD w.r.t. change in Temperature. To Plot Temperature Vs Resistance characteristics.
- To study characteristics of (NTC) Thermister. To study the change in Resistance w.r.t. change in Temperature. To study the characteristics of Thermister for different temperatures. To observe & Note the change in Current & Voltage w.r.t. change in Temperature.
- To study Construction of Thermocouple. To study thermocouple as an active transducer. To study Temperature Vs Voltage across Thermocouple characteristics.

Other Instruments Required : Digital Multimeter

Accessories Included : Electrical Heating System, Digital Temperature Indicator with sensor, RTD, Thermistor, Thermocouple, Set of Patch Cords, Detail Instruction Manual.

Subject to Change