

Characteristics of RTD & Thermistor

Model : SE-1004



SINCOM SE-1004 Characteristics of RTD and Thermistor is a versatile and all-inclusive trainer designed for studying the characteristics of RTD (Resistance Temperature Detector) and Thermistor. 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 RTD and Thermistor.

Features

- ❖ Platinum RTD and NTC Thermistor
- ❖ 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 $\pm 10\%$, 50Hz
▪ Fixed Regulated DC Power Supply	: +5V /500mA
▪ Variable DC Power Supply	: Variable 0 to +12V
▪ Temperature Sensor	: RTD PT 100 and NTC Thermistor
▪ Heating Source	: Electrical Heating system
▪ Temperature Range	: Upto 100°C
▪ Current Controlling Resistor	: MFR 100Ω, $\pm 5\%$ in series



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▪ 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 245 x W 320 x H 115
▪ Interconnections	: 2mm Banana sockets
▪ Operating Temperature	: 0-100°C, 80% RH

Learning Scope

- To study construction of RTD and (NTC) Thermistor
- To study the change in Resistance w.r.t. change in Temperature for RTD and Thermistor.
- To Observe and note the change in Voltage (V) and Current (I) w.r.t. change in Temperature.
- To Plot Temperature Vs Resistance characteristics for RTD and Thermistor.

Other Instruments Required : Digital Multimeter

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