

## Temperature Measurement using Thermocouple

**Model : SE-1007**



**SINCOM SE-1007 Temperature Measurement using Thermocouple** is an exceptional trainer for studying temperature measurement and control using Thermocouple temperature sensors. This comprehensive trainer features an instrumentation amplifier wired with a microcontroller-based system, allowing for accurate temperature measurement and control. The LED seven segment display provides clear temperature readings, and users can easily set the temperature cut-off. Additionally, the trainer includes an electrical heating system for practical application and experimentation.

### Features

- ❖ Accurate Temperature measurement
- ❖ Thermocouple as a Temperature Sensor
- ❖ Microcontroller based system
- ❖ Wide Temperature Range measurement
- ❖ 3<sup>1/2</sup> Digit LED Temperature Display
- ❖ Heater Load control
- ❖ Temperature Cut-off setting
- ❖ External Electrical Heating System
- ❖ 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 $\pm 10\%$ , 50Hz
▪ DC Power Supply	: Regulated +12V /500mA ,+5V /500mA

Office : 8, Shantiniketan Colony, Pratap Nagar, Nagpur- 440 022 (MS) INDIA, Phone: 91-712-2287174, 2293303

Mobile : 09372153411, E-mail: [info@sincomindia.com](mailto:info@sincomindia.com), [sincom22@hotmail.com](mailto:sincom22@hotmail.com), Web: [www.sincomindia.com](http://www.sincomindia.com)



An ISO 9001:2015 Co.

▪ Maximum Operating Voltage	: 12V
▪ Temperature Sensor	: Thermocouple CRAL K type
▪ Controller	: Micro controller based
▪ Heater Load Control By	: SPDT Relay 5A
▪ Temperature Setting By	: 03 Push Switches
▪ Temperature Display	: Red Color, 3 <sup>1/2</sup> Digit , LED Display
▪ Temperature Range	: Upto 100°C
▪ Heating Source	: Electrical water Heating system
▪ 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 Temperature measurement using Thermocouple.
- To observe and note the variation in temperature displayed w.r.t. change in Temperature.
- To Study ON/OFF Temperature Controller action using Thermocouple. To observe & Note temperature shown by the Thermocouple sensor and it's ON & OFF controlling of Load w.r.t. Pre decided Temperature.

### Other Instruments Required : Digital Multimeter

**Accessories Included :** Electrical Heating System, Set of Patch Cords, Detail Instruction Manual.