

Closed Loop Control System

Model : SE-1021



SINCOM SE-1021 Closed Loop Control System is an exceptional, highly adaptable and comprehensive trainer that is specifically designed for studying the impact of an closed loop control system on the temperature of a heater load. This system includes an RTD temperature sensor, OP-AMP based circuitry, a digital temperature indicator, and an electrical heater load. Additionally, it offers the convenience of setting the reference temperature input, multiple feedback elements, allowing for precise control and analysis.

Features

- ❖ Platinum RTD as a Temperature Sensor
- ❖ $3^{1/2}$ Digit Digital Temperature Indicator
- ❖ Closed Loop Temperature control system
- ❖ Multiple Feedback elements
- ❖ Facility to operate as Open and Closed Loop system
- ❖ Reference Input Adjust
- ❖ Wide Temperature Range
- ❖ External Electrical Heating System
- ❖ 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

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| ▪ AC Mains Power Supply | : 230V \pm 10%, 50Hz |
| ▪ Fixed Regulated DC Power Supply | : +5V, \pm 12V /500mA |
| ▪ Variable DC Power Supply | : Variable 0 to 5V |
| ▪ Temperature Sensor | : RTD PT 100 |
| ▪ Control System | : Closed Loop Temperature control system |
| ▪ Controller | : OP-AMP Based controller |



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| ▪ Multiple Feedback Control | : By Two Resistors |
| ▪ Reference Input Adjust | : Variable 5V |
| ▪ Temperature Range | : Upto 100° C |
| ▪ Temperature Display | : Digital 3 ^{1/2} Digit LED Display |
| ▪ AC Heater Load Control By | : Relay Driver |
| ▪ Heating Source | : Electrical Heating system |
| ▪ 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 the Closed loop control system.
- To Study the Temperature controller of AC Heater in closed loop mode.
- To Observe and note the ON/OFF of AC Heater at the set value in closed loop.
- To observe and note the change in output w.r.t. change in feedback element.
- To Compare the change in output for the Open and Closed Loop mode.

Other Instruments Required : Digital Multimeter

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