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Product Name :

Thermoelectric Effects Apparatus

Product Code :

SLE/H/14



Science Lab

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Description :

Thermoelectric Effects Apparatus (Product Code: SLE/H/14) is a bench apparatus for studying how temperature is measured and controlled in industrial practice. It combines an oven with a brass heating block, a regulated heater supply, a configurable P/PI/PD/PID digital controller and a K-type (Chromel-Alumel) thermocouple, and it is designed for two types of investigation, including the thermal characteristics and measuring techniques of three devices commonly used in industrial and technical thermometry. College physics, instrumentation and engineering departments use it for advanced heat practicals. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, as a thermometry apparatus for laboratories in India and international markets.

Specifications

Parameter	Detail
Investigations	2 types, including the thermal characteristics and measuring techniques of 3 devices used for industrial and technical thermometry
Heater supply	Regulated voltage source, 0 to 36 V DC, 10-turn potentiometer control
Current display	Digital, 0.000 to 1.999 A
Cooling fan	12 V DC, 0.14 A, on/off switch control
Digital controller	Configurable for P, PI, PD or PID mode
Process value (PV) range	0 to 400 °C (factory default, settable)
PV temperature display	4-digit, resolution 1 °C or 0.1 °C
SV temperature display	4-digit, resolution matches PV
Controller parameters	24 settable parameters; 2 parameters determined by apparatus configuration
Power input	110 V AC, 60 Hz, 65 W
Fuse	Miniature type, 5 x 20 mm, F1.5 A, 250 V
Oven dimensions	13 cm H x 35 cm W x 31 cm D
Brass heating block	40 mm diameter x 67 mm H
Weight	5.2 kg (11-1/2 lb)
Thermocouple	K-type (Chromel-Alumel)
Chromel composition	Ni 90%, Cr 10%
Alumel composition	Ni 95%, Mn 2%, Al 2%, Si 1%
Thermocouple output	Approximately 4 mV for a 100 °C difference between hot and cold junctions
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