

Product Name :
Training System Temperature Control HSI

Product Code :
AR521



Description :

Training System Temperature Control HSI

Technical Specification :

Training System: Temperature Control, HIS

This compact experimental unit offers every opportunity to learn the fundamentals of control engineering through experimentation on a temperature control system. The experimental setup is mounted on a housing which accommodates all the electronics. A metal bar, which is thermally insulated with cladding, is heated or cooled at one end by a Peltier element. Three temperature transducers along the axis of the bar allow the variation in temperature along the length of the bar, and hence the associated thermal lags, to be obtained for differing operating conditions. A dial-gauge thermometer offers the advantage that the temperature can be read off directly at any time. The temperature is measured using a thermal resistor (PTC).

Experimental unit for control engineering experiments

Temperature control of a heated metal bar

Heating and cooling by peltier element

Temperature sensors at 3 different points along axis of bar to establish thermal lags

Software activated fan to generate disturbance variables

Software-based controlled system simulation

Process schematic on front panel

Networkable software

Software with control functions and data acquisition via USB under Windows 7, 8.1, 10 including PC1 Computer-System with 21" TFT-Monitor Win 10 engl.

Technical Data:

Heated bar: Depth x Length: 20x200mm, aluminium
Peltier element
Power consumption depending on temperature
Power at 300K: 38,2W
Power at 50°C: 44,3W
Operated by DC voltage
Fan
Power consumption: 2W
Flow rate: 40m³/h
Temperature sensor: 0...100°C
Thermometer: 0...100°C
Temperature control range: 0...100°C
Software controller configurable as P, PI, PID and switching controller
Software
Process schematic with controller type selection (manual, continuous controller, two- or three-point controller, programmer)
Time functions
Simulation function
Disturbance variable input
230V, 50Hz, 1 phase.

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