

Product Name :
Process Control Trainer

Product Code :
CE331



Description :

Process Control Trainer

Technical Specification :

Process Control Trainer

The trainer is composed of:

An educational board with a pressurized vessel and a set of sensors and actuators for level, pressure, temperature and flow;

A control module, containing the interface circuits for the sensors and the actuators and the ON/OFF, proportional, integral and derivative control circuits (PID).

Technical Features:

Pressurized vessel capacity: 5 litres.

Water tank capacity: 20 litres. Temperature sensors:

Platinum thermo-resistance Pt 100 $\hat{=}$ bi-metallic direct reading thermometer Level sensors:

Linear variable-differential transformer (LVDT) $\hat{=}$ on-reed ON/OFF sensor Flux sensors:

Flowmeter 8000 pulses/ litre

Flowmeter, direct reading Pressure sensors:

Strain gauge

Manometer, direct reading

Recirculation pump: 6 litres/minute, 12 V, 1.5 A

Motor driven valve

4 manual valves

Water heating resistance: 48V, 200W

Safety valve set at 2.4 bar

Safety thermostat

Piping: brass

Power supply: single-p

With this system, the student will be able to study the following:

Study of the level, flow, pressure and temperature sensors

Study of the characteristics of the pump and of the motor pump

Study of the characteristics of the static process and of the time constants

ON-OFF, P, PI, PD and PID closed loop control of the level

P, PI, PD and PID closed loop control of the flow € ON-OFF, P, PI, PD and PID closed loop control of the temperature

ON-OFF control of the level with the pressure sensor

Optionally, it is possible to connect to the trainer:

A microprocessor based process controller of industrial type

A process recorder

A programmable logic controller

A personal computer with suitable interface module and software (PC with)

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