

Process Control & Measurement Trainer



Curriculum Coverage

- · Acquiring Physical Phenomena
- On/Off Control
- PID Feedback Control
- Setpoint Profile Generation
- Lead-Lag Compensation
- Feedback/Feedforward Control
- Multiloop Cascade Control
- Ratio Control
- Flow Meters Comparison (with option)

features

- Computer based Process Trainer used to teach level, flow, temperature, and pressure Measurement & Control
- Includes all required sensors to measure different process variables
- For use with NI's Data Acquisition & Control hardware





Description

A bench-mount trainer for teaching Process Measurement & Control through level, flow, temperature, and pressure. The PT001 trainer includes all the required sensors and actuators to perform the full experiment list for teaching process control and measurement. Using PT001, the student will acquire better understanding and hands-on experience in process control.

The PT001 was developed for use with NI's measurement and control platforms. It utilizes the platform features such as; real-time and FPGA processing, intelligent communication interfaces, rugged I/O modules, among others. The industrial I/O modules filter, calibrate, and scale raw sensor signals to engineering units and performs self diagnostics.

The curriculum covered includes teaching the principles of acquiring different physical phenomena, On/Off Control, PID control, Feedforward and other types of control used in the industry.

Components

- Thermocouples Heater
- Level Sensor Pressure
 Sensor
- Magnetic Flow Meters
- Flow Control Valve
- Pump
- Variable Frequency Drive
- Turbine Flow Meter (Option)

NI¹ Compatible Platforms

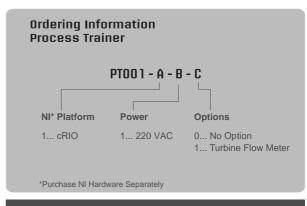
- Compact RIO
- Others²
- 1_{NI}
- Please check with us about 2. compatibility of other NI Platforms

Required NI Modules

• cRIO: NI-9211, NI-9207, NI-9472, NI-9263

Software

- · User friendly with easy to use interface
- · Developed using NI LabVIEW package
- Built-in safety features & limitations, and designed for students' use



For complete product specifications, pricing, and information: e-mail: info@ti.jo / website: www.ti.jo



Process Control & Measurement Trainer



Technical Specifications

Process Control & Measurement Trainer Specifications:

Dimensions & Volumes:

Dimensions (LxWxH): 1200 x 700 x 600 mm
Lower Tank Dimensions: 400 x 255 x 205 mm
Upper Tank Dimensions: 300 x 255 x 205 mm

Lower Tank Volume: 18.7 LitersUpper Tank Volume: 14 Liters

Safety Considerations:

• Maximum allowable temperature: 55 °C

• Maximum allowable water level in the upper tank: 23 cm

Heater:

• Heater Power: 2000 Watts

Maximum Flow Rate:

Upper: 4-5 Liters/minuteLower: 11-12 Liters/minute

Pump:

Pressure: 10 BarsPower: 115 Watts