

Product Name :
Process Control Trainer SCADA Based

Product Code :
NLAB-ENGINEERINGLB24005



Description :

Process Control Trainer SCADA Based

Technical Specification :

The setup is designed to understand the advanced control methods used for complex processes in the industries. Different experiments like Flow, level, cascade, feed forward and ratio control can be configured and studied with the setup. It consists of water supply tank, pump, level transmitter, transparent level tank, orifice meters with differential pressure transmitters, rotameters, pneumatic control valve, I/P converter and serial based dual loop controller. These units along with necessary piping are mounted on stand-alone type structure. The set up is connected to computer through USB port for monitoring and control by using PID logics.

Product is supplied with 32 tag demo version of SCADA software package.

Features:

Flow, Level, Cascade, Feed forward & ratio control

MODBUS communication

ON-Off & PID operation

Closed loop water circulation

SCADA study

Non-corrosive wetted parts

Range of Experiments

Study of open loop response (Manual control)

Tuning of controller (Open loop method)

Study of on/off controller

Tuning of controller (Closed loop method)

Study of proportional controller

To study stability of the system (Bode plot)

Study of proportional integral controller

To study cascade control system

Study of proportional derivative controller

To study feed forward control system

Study of proportional integral derivative controller

To study ratio control system

Control unit: Serial based dual loop PID controller; Analog input 4, Analog output 2, Digital input 2, Digital output 2. with RS485 communication.

Communication: USB port using RS485-USB converter

Diff. pressure transmitter: Type Capacitance, 2 wire, Range 0–200 mm, Output 4–20 mA sq.root (2 Nos)

Level transmitter: Type Electronic, two wire, Range 0–250 mm, Output 4–20mA

I/P converter: Input 4-20mA, Output 3-15 psig

Control valve: Type: Pneumatic; Size: 1/4", Input: 3–15 psig, Air to close, Char. linear

Rotameter: 10-100 LPH(3 nos)

Pump: Fractional horse power, type submersible

Process tank: Transparent, Acrylic, with 0-100% graduated scale

Supply tank: SS304

Flow measurement: Orifice meter (3 Nos)

Air filter regulator: Range 0-2.5 kg/cm²

Pressure gauge: Range 0-2.5 kg/cm²(1No), Range 0-7 kg/cm²(1No)

Overall dimensions: 1740Wx720Dx630H mm

Optional: SCADA software package; Mini Compressor

Utilities Required:

Electric supply:

230 +/- 10 VAC, 50 Hz, 1 phase

Computer:

IBM compatible with standard Configuration

Water supply:

Distilled water @16 liters

Air Supply:

Clean, oil and moisture free air,

Pressure 2 bar, consumption 50 LPH

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