

Product Name :
Control Of Four Variables From Process Engineering

Product Code :
AR391



Description :

Control Of Four Variables From Process Engineering

Technical Specification :

control Of Four Variables From Process Engineering

The facilitates practical learning in the control of four controlled variables which are commonplace in process engineering.

A circuit with a graduated transparent tank is provided for the control of flow rate, level and pressure. Two actuator possibilities are included for use, namely, a variable-speed pump and a pneumatic control valve. A disturbance variable can be generated by a valve in the tank outlet for level and pressure control. A valve at the tank head also permits investigation of level control with and without counter pressure.

A heating circuit with a heater, heat exchanger and pump is provided for temperature control. The temperature can be controlled using the heater as the actuator, or by way of the flow of cooling water through the heat exchanger.

Control of level, flow rate, pressure, temperature and cascade control

Circuit with collecting tank, graduated tank, pneumatic control valve and multistage variable-speed centrifugal pump

Heating circuit with heater, pump, expansion vessel and heat exchanger

Heater, pneumatic control valve and multistage variable-speed centrifugal pump as actuators

Sensors for measurement of the controlled variables; level, flow rate, pressure and temperature

1 flow meter, 2 manometers and 4 thermometers for direct display

Parameterisable controller with 4 selectable control loops

Three-channel line recorder

Process control software via PCIe under Windows 10 including PC1 Computer-System with 21" TFT-Monitor

Win 10 engl.

Technical Data:

Tanks

Graduated tank: 6l

Collecting tank: 90l

Multistage centrifugal pump

Flow rate: 75l/min

Head: 59m

Heating circuit pump

Flow rate: 50l/min

Head: 3,5m

Heater power output: 2kW

Controller parameterisable as

P, PI or PID controller

Switching controller

Measuring ranges

Level: 0...700mm

Flow rate: 0...4000l/h

Pressure: 1x 0...6bar, 1x 0...10bar

Temperature: 1x 0...60°C, 3x 0...120°C

230V, 50Hz, 1 phase

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