

Product Name :
PH Value Control Trainer

Product Code :
AR954



Description :

PH Value Control Trainer

Technical Specification :

PH Value Control Trainer

This trainer provides a comprehensive experimental introduction to the fundamentals of control engineering using an example of flow control.

A pump delivers water from a storage tank through a piping system. The flow rate is measured by an electromagnetic sensor, which permits further processing of the measured value by outputting a standardized current signal. A rotameter indicates the flow. The controller used is a state-of-the-art digital industrial controller. The actuator in the control loop is a control valve with electric motor operation. A ball valve in the outlet line enables defined disturbance variables to be generated. The controlled variable X and the manipulating variable Y are plotted directly on an integrated 2-channel line recorder. Alternatively, the variables can be tapped as analogue signals at lab jacks on the switch cabinet. This enables external recording equipment, such as an oscilloscope or a flatbed plotter, to be connected.

Trainer for control engineering experiments

pH value control process, equipped with standard industrial components

Neutralization of a caustic solution with an acid

2 pH value sensors in transparent measuring tanks with overflow

Digital controller, parameterizable as a P, PI or PID controller

Product tank and 2 chemicals tanks

2 metering pumps: adjustable manually or via controller

Water connection with control valve and rotameter

Corrosion-resistant piping system

Hand-held ph-meter for product control
2-channel line recorder
Process variables X and Y accessible as analogue signals via lab jacks
Including PC1 Computer-System with 21" TFT-Monitor Win 10 engl.

Technical Data:

Product tank: 20L
Chemicals tank: 2x 5L
Metering pumps
Flow rate: each 2,1L/h
Head: each 160m
pH value sensor
Filled with solid electrolyte
With glass shaft and PTFE diaphragm
Line recorder
2x 4...20mA
Feed rate 0...7200mm/h, stepped
Controller
Process variables X, Y as analogue signals: 4...20mA
Measuring ranges
Ph value: 1...12
Temperature: 0...80°C
230V, 50Hz, 1 phase.

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