

PLC Process Control for Siemens S7-1200| Closed Loop System & PID Tag Structure

PLC-Based Liquid Level and Flow Control - W40083-AA01XEN-E1

Objective 4: Describe the Operation of a PLC-Based Closed Loop Process Control System

Steady State Condition (Cont.)

An example of a steady state condition is shown.

The setpoint is 12. The measured PV value is also 12. The PLC calculates an error signal of 0. At this point, the system is in its steady state.

The PLC will continue to monitor the PV, calculate the error, and adjust the CV, or output signal to the valve, to maintain the level at steady state.

Level = 12

Level Sensor (Feedback)

PV = SP = 12
Error = 0

63 kPa

12 mA

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eLearning Course: M40083

Amatrol's Programmable Logic Controller (PLC) Process Control eLearning course for the Siemens S7-1200 offers PLC-controlled process control knowledge. Some of the multimedia's major topics include the operation of a PLC-based closed loop process control system, the function of PID tag structure, and how to tune a Siemens S7-1200 PLC-based closed loop process control system.

Teach PLC Process Control for Siemens S7-1200

What is PLC-Based Open Loop Control?

PLC-based process control systems are often used for manually operated, open-loop control applications. This enables the operator to manually set and adjust process control instruments to control the system's process variable or variables. During manual control of a diaphragm-actuator valve, the user enters a value using the HMI panel to open the diaphragm-actuator valve. The PLC reads the value from the HMI panel. The PLC's program causes an analog output to signal to open or close the valve by the appropriate amount. A diaphragm-actuator valve is a proportional valve. This means it will open or close by a percentage that matches the change in full range percentage of the PLC's analog output.

Interactive eLearning

PLC Process Control eLearning Features Highly Interactive Multimedia

Amatrol's unmatched multimedia utilizes text, audio, and stunning 3D animations that engage learners in both theoretical knowledge and hands-on skills. This thorough, exceptionally detailed curriculum is built to begin with the basics and steadily advance to more complex concepts and skills. Through partnerships with key industry leaders and leading edge educators, Amatrol developed the right balance of knowledge and applied skills needed to train learners to work in their chosen field.

Anytime, Anywhere Access Promotes Self-Paced Learning

In today's fast-paced, technology-driven world, it's more important than ever to extend the reach of industrial skill

training beyond the borders of traditional classrooms. Amatrol's eLearning meets the challenge for flexibility by offering in-depth, comprehensive technical skills training via an intuitive, easy-to-use web-based Learning Management System (LMS).

With anytime, anywhere online access, Amatrol's eLearning allows learners to set their own pace at home, on the job, in a traditional class setting, or a blended approach of these options.

Additional Info

Requires:

- Computer ([see Computer Requirements](#))

Options:

- PLC Process Control Learning System - Siemens S7-1200 (99-PCS712)
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