

S7-PLCPR01 – Workshop on development, service and commissioning of programs for Simatic S7 controllers. Level 1 — logical and consecutive management / К у р с S7-PLCPr01 (S7-PLCPR01)

Short Description

The course S7-PLCProg-1 is a workshop on development, service and commissioning of the software for systems of automation of production and management on the basis of S7-300/400 or S7-1200/1500 controllers with use of the Step 7 5.5 or TIA-Portal environment. This training allows to gain skills of understanding and development of programs for problems of logical management in the S7-LAD, S7-FBD and S7-STL languages, and also problems of consecutive management in the S7-Graph languages, S7-LAD, S7-FBD and S7-STL.

Objectives

- Repetition and fixing in practice of the basic knowledge and skills acquired on initial courses on programming and service of Simatic S7 controllers.
- Acquisition of skill according to the solution of problems of logical and consecutive management in the S7-LAD, S7-FBD, S7-STL programming languages and S7-Graph.

Content

- Subjects for repetition (At the choice of trainee)
 - Connection to the controller on networks (to MPI, Profibus, Ethernet)
 - Configuration of station
 - Control of interaction with the operator's panel
 - Architecture of memory of controllers S7 300/400, 1200, 1500 (for choice)
 - Types of program blocks and their feature
 - Main tools of the software of a programmer (STEP 7 5.5 or TIA Portal for choice)
 - Instructions of languages of logical management of LAD/FBD
 - Instructions of the STL language (logic, work with numbers, timers)
 - Other subjects of initial courses
- Subjects of lectures
 - The principles and methods of development of the software for systems of automation.
 - Classification of tasks in control systems and a programming language choice.
 - Methods of creation of a reusable code.
 - Systems of logical management.
 - Systems of consecutive management.
 - Realization of algorithms of consecutive management in the LAD/FBD languages.
 - Realization of algorithms of consecutive management in the STL/SCL languages.
 - Syntax of the S7-Graph language, editor, settings of the compiler.

Prerequisites

Knowledge and practical skills in volume of initial courses on programming and service of Simatic S7 controllers are necessary for successful completion of the training of S7-PLCProg-1: ST7-SYH+ST7-STOE or ST7-SERV1+ST7-SERV2 or ST7-PR01 or ST7-PRG1 or TIA-1200 or TIA-SERV1+TIA-SERV2 or TIA-PR01.

Note

- Examples of practical exercises:
 - development of the program of control of the elevator
 - development of the program of management of model of the conveyor
 - development of the system of management for system of preparation dry (for example construction) mixes
- Each participant of training independently chooses a platform for performance of exercises: TIA-Portal or Step 7 v5.5. The programmer is provided to everyone for performance of exercises. The interactive program models of systems supplied with evident visualization and conveyor model act as objects of automation in exercises. Existence of a number of models does exercises more interesting and allows to select problems of suitable complexity. The solution of such tasks allows to master more effectively methods of development and service of the software for real control systems, and also to fix skills of application of the main functionality of a programmer.

Type

Face-to-face training

Duration

4 days

Language

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