SIEMENS

Workshops

WinCC Flexible with HMI Lite

General Information

Course Code: SCT-S7TLWM1A
Length: 4½ Days

Audience

This course is for users who develop, install or maintain automation systems and their application programs when using the Siemens HMI Lite automation concept.

The first three days of this course covers WinCC Flexible for systems using the SIMATIC Operator Panels. The remaining course time covers the HMI Lite automation concept for SINUMERIK systems.

Prerequisites

- S7 Programming 1

OR

- S7 Automation Maintenance 1 **&**
  S7 Automation Maintenance 2

OR

- S7 System Tools and Troubleshooting 1 **&**
  S7 System Tools and Troubleshooting 2

Profile

2.9 CEUs (Continuing Education Credits)

HMI Lite is a concept, developed by Siemens AG, aimed at the automation of the production and assembly of automobile engines, axles, and transmissions. Though developed for the Automotive Industry, the HMI Lite concept is adaptable to any automation solution. The Siemens' SIMATIC®, SINUMERIK®, and SINAMICS® product lines are the basis of this concept. When HMI Lite is selected as the automation solution, the Siemens staff develops the desired automation solution, including the communications, software, engineering, training, spare parts and service, tailored to the respective production areas and to the specific project requirements.

The course format is a combination of instruction and hands-on exercises. A realistic conveyor model, SINAMICS drive /motor, and associated SINUMERIK hardware are used for demonstrations and student exercises. Exercises allow students to practice tasks such as program modification, testing, debugging and using diagnostic tools.

Objectives

Upon completion of this course, the student shall be able to:

- Design graphic screens and tools.
- Configure internal and external tags.
- Define & administer user security.
- Set and test the Alarms and Messages.
- Configure, archive and display trends.
- Understand the HMI Lite concept as it applies to the user's respective production area.
- Understand the HMI Lite HMI Lite SIMATIC S7 program structure including the logic and data blocks used, symbols, and project documentation.
- Be able to download a HMI Lite Project.
- Be able to CALL and format a standard HMI Lite block.
- Become familiar with the HMICE PROFINET diagnostic screen displays.
- Be able to create an Operator Prompt Message and the logic code to activate the Message.
- Be able to create a Fault Message and the logic code to activate the Message.
- Be able to create the logic code to activate a machine's manual movement (jog conveyor) using the HMI Manual Operation Screens.
- Be able to use the HMI Lite Counter Block to count parts.
- Be able to modify HMI Lite CE Screens.

Topics

1. WinCC Flexible System Overview
   a. WinCC Flexible Components
   b. Software Configurations
   c. Engineering System
   d. Options and features overview
2. The Project
   a. Project components & configuration
   b. Program loading
   c. Configuring NetPro
   d. WinCC Flex Settings & Languages
3. Basic Graphics Design
   a. The Screen Editor
   b. Screen hierarchy
   c. Screen templates
   d. Objects
   e. Importing & exporting graphics
   f. Configuring I/O
   g. Text lists
   h. Buttons & switches
   i. Animation
4. Advanced Graphics Design
   a. Layering
   b. Libraries

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   c. Configuration Tools
5. The Message System
   a. Message Procedures
   b. Message Classes
   c. Message Configuration
   d. Alarm Classes
   e. Acknowledgments
6. User Management
   a. Access Protection
   b. Creating User Management
   c. Authorizations
   d. User management
   e. Log-in/out & passwords
7. Historical Data
   a. Archive versions
   b. Process value archives
   c. Message archiving
   d. Trend curves
8. HMI Lite General Information
   a. Product overview
   b. Provided Screens
   c. Basic knowledge
   d. Hardware and Software requirements
9. HMI Lite Commissioning
   a. Operator Panel setup
   b. PLC program blocks
10. HMI Lite Global Settings and Functionality
   a. Screen layout and basic screen elements
   b. Menu structure
   c. Template screen
   d. Designation conventions
   e. Header
   f. Operator Information
11. HMI Lite Manual Operations
   a. Overview
   b. Purpose of the individual manual operating screens
   c. Configuration
   d. Runtime interface
   e. Control interface
12. HMI Lite “Production Data” Screens
   a. “Cycle Times” screen
   b. “Workpiece Counter” screen
13. HMI Lite Diagnostics
   a. “Messages” screen and “Message Archive” screen
   b. “Interface” screen
   c. “Version” screen
14. HMI Lite Hardware Diagnostics
   a. “PROFIBUS” screens
   b. “PROFINET” screens
   c. “Drive” screen
   d. “MOBY-I” screen
   e. “AS-i" screen
15. HMI Lite System Screens
   a. “System” screen
   b. “Panel Control” screen
   c. “Status Variable” screen