

Course Details

SIEMENS TIA Portal S7-1500 Service L1 TIA-SERV1 (5 days)

HRDF CLAIMABLE

*Subject to Approval

Requirements

This first level service course teaches the basic S7 system concept, hardware configuration and parameterization, S7 software (SIMATIC TIA Portal) basics, and an overview of programming fundamentals. Human Machine Interface (HMI) and PROFINET IO basics are also included.

Objectives

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC.

In this first part of the SIMATIC TIA Portal service training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of programming. You also receive an overview of HMI, PROFINET IO, and connecting drives. You will learn to diagnose and clear simple hardware faults and software errors. You will thus be capable of reducing downtimes in your plant.

Topics

After attending the course, you can do the following:

- Understand the fundamentals of interaction of the TIA components
- Reliably operate the "TIA Portal" engineering platform
- Understand, change, and expand small STEP 7 programs
- Configure, parameterize, and exchange SIMATIC S7 modules
- Diagnose and fix simple hardware faults using the wiring test
- Diagnose and fix simple program errors using the status block
- Perform simple commissioning of TIA components

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Course Certificate

SIEMENS Certificate will be awarded after the training.

Contact Information

SIEMENS MALAYSIA SDN. BHD. (93008-X)
GST Reg No. 000956203008

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e-Pass: siemens.asia/e-pass_v2/ASEAN

Website: www.siemens.com.my/sitrain

Bank Details

Bank Name: Deutsche Bank (M) Sdn Bhd

Bank Account Number : 0020768000

Bank Address : 18th – 20th Floor, Menara IMC 8,
Jalan Sultan Ismail,
50250, Kuala Lumpur

Bank Swift Code : DEUTMYKLXXX

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Day-wise Schedule

Day 1

1. SIMATIC S7 System Family overview
 - Totally Integrated Automation Portal
 - S7-1200 / S7-1500 Systems
 - Technology Functions
 - Overview of TIA concept
2. Introduction to the TIA Portal
 - Engineering Framework
 - Operating Systems
 - Product range
3. Installation/Maintenance of PLC
 - Structure and components
 - Installation rules
 - Electrical Configuration
 - Wiring of input and output modules

Day 2

4. Training Devices and addressing
 - Operating and Display
 - Setup and Connections
 - Networking And Addresses
 - Retrieving a project
5. Networks and Configuration
 - Online Tools and parameters
 - Accessible devices
 - SIMATIC Memory card
 - Device configuration
6. PLC Tags
 - Symbolic Addressing
 - Edit and monitor PLC Tag
 - Rename and Rewire

Day 3

7. Hardware Commissioning
 - Check list
 - Standard Diagnostics
 - I/O wiring testing
8. Block Architecture and Block Editor
 - Program Structures & Execution
 - Program Blocks
 - LAD / STL / FBD Editors
9. Binary Operations
 - AND, OR, XOR
 - NO/NC Contacts

Day 4

10. Digital Operations
 - Data Types - Integer, Real, BCD
 - Timers & Counters
 - Accumulators
 - Data Management & Conversions
11. Introduction to HMI
 - Downloading projects
 - Establishing communications
 - Control & monitoring
12. HMI by Rewiring
 - S7 program and HMI device interaction
 - Configuration on the touch panel

Day 5

13. Introduction to Distributed IO
 - PROFINET
 - PROFIBUS
14. Exercise & Test

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Time-wise Schedule

| Day | Time | Topics |
|---------|---|---|
| Day – 1 | 09:00 Hrs – 09:20 Hrs 09:20 Hrs – 10:00 Hrs 10:15 Hrs – 12:00 Hrs 13:00 Hrs – 15:00 Hrs 15:15 Hrs – 17:00 Hrs | SIMATIC S7 System Family overview Engineering Software “TIA Portal” Installation/Maintenance of PLC Devise and Network Practical on the above |
| Day – 2 | 09:00 Hrs – 10:00 Hrs 10:15 Hrs – 12:00 Hrs 13:00 Hrs – 15:00 Hrs 15:15 Hrs – 17:00 Hrs | Training Devices and addressing Networks and Configuration PLC Tags Practical on the above |
| Day – 3 | 09:00 Hrs – 10:00 Hrs 10:15 Hrs – 12:00 Hrs 13:00 Hrs – 15:00 Hrs 15:15 Hrs – 17:00 Hrs | Hardware Commissioning Program Blocks Binary Operations Practical on the above |
| Day – 4 | 09:00 Hrs – 10:00 Hrs 10:15 Hrs – 12:00 Hrs 13:00 Hrs – 15:00 Hrs 15:15 Hrs – 17:00 Hrs | Digital Operations Introduction to HMI Adapting to HMI by Rewiring Practical on the above |
| Day – 5 | 09:00 Hrs – 10:00 Hrs 10:15 Hrs – 12:00 Hrs 12:00 Hrs – 15:00 Hrs 15:15 Hrs – 16:00 Hrs | Introduction to Distributed I/O PROFINET Introduction to Distributed I/O PROFIBUS Practical on the above Feedback & Valedictory session |

Break Timings:

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|-----------------------|---------------------|
| 10:00 Hrs – 10:15 Hrs | Morning Tea Break |
| 12:00 Hrs – 13:00 Hrs | Lunch Break |
| 15:00 Hrs – 15:15 Hrs | Afternoon Tea Break |
| 17:00 Hrs – 17:15 Hrs | Recess & End of Day |