

## S7 1200 Basic Course (TIA-MICRO1)

### Short Description

This course is aimed at engineering personnel who program, install or maintain automation systems and their application programs. This course introduces the participant to the Siemens 1200 PLC hardware and software and will build skills on programming, installation, commissioning and basic fault diagnostics, utilising a HMI and PLC, PROFINET communications network. Participants will learn to navigate S7 1200 software by creating a basic control program and use of the built-in diagnostics tools. The course format is a combination of instruction and hands-on exercises. A realistic conveyor model is used for demonstrations and practical exercises. These exercises allow participants to practice tasks such as testing, debugging and using basic diagnostic tools.

### Objectives

On completion of this course the participant will be able to:-

Identify the components and performance characteristics of the SIMATIC S7-1200 PLC

Install a PLC system, including the HMI and communication cabling.

Use the various address types to edit, reload, structure and run a program. Document, test, and basically troubleshoot the control system and its program.

Understand and create binary operations, timers, counters etc.

Interface an HMI with the PLC control system.

Configure a Profinet communication network

### Content

SIMATIC S7 1200 System Family Overview

Installation and maintenance of a PLC

SIMATIC S7-1200 software package

Hardware configuration

Hardware commissioning

Block architecture and Program Editors

Symbols

Binary and Digital Operations including IEC Timers and Counters

Introduction to Data Blocks

Introduction to HMI and Profinet networking

PLC and HMI tags

Program documenting, saving and archiving

Each of the above topic areas are backed up by practical exercises using a conveyor model and simulator. Working examples are provided and tested out during the course.

### Prerequisites

The ability to use an MS Windows PC, keyboard and mouse to include opening and closing programs, locating files, copy and paste objects /data (text, etc). Drag and drop files, objects/data (text, etc). Use of menus and multi-menus, manipulation of windows within a multi-window environment. Use of MS Windows Help. A basic understanding of electrical components such as switches and solenoids would also be very useful.

You can use the online tests below to find out whether you have sufficient prior knowledge to participate effectively in the course you wish to attend. If you answer more than 70 % of the questions correctly you are well prepared to take part in the course.

[Test TIA-MICRO1](#)

### Note

This training course is not appropriate for trainees using S7-200, S7-300, S7-400 or S7-1500 based systems. For more information concerning details of S7-200, S7-300, S7-400 or S7-1500 training contact Siemens Industry Training on 08458 507600 or our website at [www.siemens.co.uk/sitrain](http://www.siemens.co.uk/sitrain).

### Type

Face-to-face training

### Duration

3 days

### Language

en