

## SESSION PLAN

### Siemens Step 7 Simatic Manager

### TC 060

An introduction to the programming environment  
For the Siemens S7 300 / 400 Series.

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## Course Summary and Equipment Requirements

This is a Skills/Information Session.

The objective of this session is to enable Inlec tradespersons to be able to use the Step 7 software package to perform basic maintenance operations with Siemens 300 and 400 series PLCs.

It is broken up into the following modules

Module 1 - Starting S7 Simatic Manager  
Duration - 10 minutes  
55 minutes

- Set the communications interface  
- 15 minutes

- Starting a new project  
- 15 minutes

- Starting an existing project  
- 15 minutes

Module 2 - Connect to a PLC  
Duration - 15 minutes  
90 minutes

- Upload from a PLC  
- 20 minutes

- Download to a PLC  
- 20 minutes

- Monitor program elements  
- 20 minutes

- Cross referencing elements  
- 15 minutes

Module 3 - Editing a project - Ladder  
Duration - 20 minutes  
40 minutes

- Editing a project - Documentation  
- 20 minutes

Module 4 - Backup a project  
Duration - 20 minutes  
40 minutes

- Restore a project  
- 20 minutes

The following equipment is required

- Item 1 – Siemens Step 7 Panel
- Item 2 – PCTC Projector
- Item 3 – Laptop with Step 7 V5.3SP2
- Item 4 – Training notes with assessment sheet

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# 1 Purpose Statement

At the end of the session the participants will be able to use the Step 7 software package to perform basic maintenance operations with Siemens 300 and 400 series PLCs.

## 2 Introduction

### 2.1 Why the Participants have been Chosen

The participants of this course have been chosen because of the maintenance and breakdown requirements where a Siemens 300 / 400 PLC is controlling a plant. Minimum down-times are required and this can be achieved with tradespersons who are confident working with the Step 7 software package.

### 2.2 Where This Course Fits in

This course is designed as an introduction to Inlec tradespersons who have had little or no exposure to the Step 7 software package. It is the first in a series of training courses to suit the Step 7 software package.

### 2.3 Objectives of the Course

- Module 1: At the end of this session you will be able to start the Step 7 Simatic Manager program, set the correct communications interface and either start a new or existing project.
- Module 2: At the end of this session you will be able to switch between online and offline programming modes. You will also be able to upload or download a program from the PLC. You will be able to monitor online code and generate cross reference data.
- Module 3: At the end of this session you will be able to edit both the ladder program and the documentation associated with it.
- Module 4: At the end of this session you will be able to backup and restore a project to the Step 7 program.

### 2.4 How the Session Will Run

This session is fully described in the training notes "TC060 - Introduction to S7 Simatic Manager.ppt".

#### Skills Session –

A Skills session requires the following Skills demonstration and practice sessions. If there are more than 5 to 7 steps in a description of a skill, the session may be divided up into smaller sessions that each repeats the following structure.

##### Demonstration Section

- Silent demonstration
- Explanation Demonstration
- Check Demonstration

##### Practice Section

- Controlled Practice
- Own Pace Practice
- Test

### **Knowledge Session –**

A Knowledge session requires the following structure. If a given session becomes extended it can be divided up into smaller sessions. Half an hour for a whole EAR session is suggested.

Explanation

Activity

Revise

### **2.5 Motivation for the Participants**

This session will enable the participants to confidently perform basic tasks within the Step 7 program in order to complete maintenance and fault finding tasks.

### **2.6 Prior Experience**

Determine who has had prior experience.

Do they want to proceed directly to the test?

Would they be willing to demonstrate what they know as it is addressed in the course?

## **3 Test**

The test for this session is

Activity 1: Demonstrate the ability to configure the correct communications port.

Activity 2: Create a new project.

Activity 3: Open an existing project and be able to identify the various components of the program.

Activity 4: Upload the current project in the PCTC PLC into the blank project created in activity 2.

Activity 5: Demonstrate the ability to monitor logic and determine what is changing state.

Activity 6: Create a blank project and demonstrate the ability to write new code as provided on the assessment sheet into a named block.

Note: test must be

- Valid to the material covered
- Quick to set and take
- Reliable – clear answers
- Cover a good sample of the course
- Discriminate between participants who now know the material and those who don't.

## **4 Summary**

Help is available from the Process Control Training Centre staff, System Support Group members and other maintenance Inlecs.

What happens next?

Participants are welcome to book an appointment at the PCTC to refresh their skills and clarify or discuss any issues arising from field experiences.