

# Schneider Electric

## Concept Version 2.6

### Introduction to Applications using Concept V2.6

CON14

#### Course Abstract:

##### Instructor Led Course:

This course is designed for Industrial Automation and Control Systems Engineering and technical personnel, who require a familiarity with the features of Concept, allowing them to work with Concept capable Schneider Electric Controllers in a variety of Industrial Control Applications.

This course will cover tasks common to all systems that run under Concept.

During the course, the student will be exposed to the IEC programming languages Function Block Diagram, Structured Text, Ladder Diagram, and Sequential Function Chart.

In addition, the student will be instructed in the basic principles of operation of a Schneider Electric Automation controller using IEC type configuration and programming.

##### Audience:

Industrial systems engineers, Technical Support Specialists, Industrial control Maintenance Technicians or System Programmers that need to use Concept to design or modify systems industrial processes and applications.

#### Prerequisites:

In order to be successful in this course the learner must meet the following prerequisites:

- Familiarity with the Windows Interface
- An understanding of Industrial processes requiring automation would be helpful.
- Previous instruction in Automation (PLC) systems and programming at any level would also be beneficial.

#### Objectives:

After completion of this course the learner will be able to:

- Use Concept software V2.6 to configure a Schneider Electric Quantum, Compact, Momentum or Atrium PLC and associated I/O.
- Program, at the basic level, a Schneider Electric Quantum, Compact, Momentum or Atrium PLC to control an application using the IEC programming editors FBD, SFC, LD, or ST as found in Concept V2.6 Software.
- Implement PLC diagnostics utilising the built-in status function blocks.
- Implement Derived Functions blocks at the basic level.
- Demonstrate an understanding of derived data types and their uses in a Concept program.
- Create, Save, Download, Upload, Test, Monitor, Search, and Debug an IEC PLC Application using Concept V2.6 Software.
- Document and Print a Concept PLC application using Concept V2.6 software.

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### Topical Outline:

This course consists of the following lessons:

- Introduction to Concept and IEC Programming
- Concept Program Preferences
- Concept and the Executive
- Project Planning, Structure, and Theory
- PLC Configuration and I/O Mapping
- Symbol Names, Datatypes, and the RDE
- Introduction to Function Block Diagram Programming
- Introduction to IEC Derived Function Blocks
- Introduction to Sequential Function Chart
- Introduction to IEC Ladder Diagram Programming
- Introduction to IEC Structured Text Programming
- Locating Objects in the Program
- Structured Variables and Derived Data Types
- Introduction to Analog Processing with FBD
- Introduction to Concept Macros
- Concept and PLC Security
- Troubleshooting the System using Concept
- Concept IEC Upload Functions
- Concept Import and Export Functions
- Concept Archiving Functions
- Concept Documentation and Printing Functions

### Course Length:

3 Days

### Course Code:

CON14

### Course Tuition:

\$2600.00

### Maximum Class Size:

8 Students

### Course Agenda:

#### Day 1:

- Introduction and Overview
- Concept Product Overview
- Concept Preferences
- Concept and the Executive
- Planning, Structure and Theory
- PLC Configuration
- Variable Data Editor
- Function Block Diagram

#### Day 2:

- Function Block Diagram Cont'd
- Derived Function Blocks
- Sequential Function Chart
- LD Ladder Diagram
- ST Structured Text
- Locating Objects in the Project
- Derived Data Types

#### Day 3:

- Analog I/O Processing
- Concept Macros
- Security
- Troubleshooting the system
- Upload functions
- Import and Export
- Archiving
- Document and Print