

Programmable Industrial Computer Motion Control Programming Course

INTRODUCTION

The objective of the Motion Control Programming Course is to present to the PiC/MMC user a functional understanding of the PiC, MMC, Digital MMC, Smart Drives & S200w/Digital Link systems. The modules of information discussed and the hands-on laboratory experience will support an in-depth understanding of the PiC900/MMC systems.

WHO SHOULD ATTEND

- System Engineers
 - Application Engineers
 - Project Engineers
 - Programmers
 - Anyone who needs to improve his/her knowledge of the PiC, MMC, Digital MMC, Smart Drives & S200w/Digital Link systems.
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COURSE LENGTH

4 1/2 Days: Monday through Friday Noon

GENERAL COURSE OBJECTIVES

Upon completion of this course, you will be able to:

1. Describe the system operation of the PiC/MMC/Digital MMC.
 2. Identify and define the terminology relevant to PiCPro ladder diagram programming.
 3. Design and debug ladder diagrams using the PiCPro.
 4. Configure an entire PiC/MMC/Digital MMC for system start-up.
 5. Identify and describe function blocks within the PiCPro library.
 6. Determine function blocks needed to meet specific applications.
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PREREQUISITE

Familiarity with IBM or compatible computers and the Windows operating system.
Beneficial: Prior knowledge of PLC and Ladder Logic Programming.

MOTION CONTROL PROGRAMMING COURSE OUTLINE

1. INTRODUCTION OF CONTROLS

- A) Features
- B) Capabilities
- C) Specifications
- D) Benefits

2. PiCPro FOR WINDOWS

- A) Computer Requirements
 - 1) Screen
 - 2) Memory
 - 3) Speed
 - 4) Configuration
- B) Installing on a Hard Disk
- C) Operating Characteristics
 - 1) General Overview
 - 2) Design Philosophy
- D) Programming Lab

3. CONTROLS

- A) PiC
 - 1) 900
 - 2) 90
- B) MMC
- C) MMC for a PC
- D) Digital MMC/Smart Drive
- E) Standalone Digital MMC/Smart Drive/S200w/Digital Link

4. PROGRAMMING

- A) Declarations
 - 1) Hardware
 - 2) Software

B) Network Editing

- 1) Creating Modules
- 2) Functions & Function Blocks
- 3) Saving Modules

C) Programming Lab

5. CUSTOM FUNCTION BLOCKS

- A) User Defined Function Blocks
- B) Tasks

6. MOTION CONTROL THEORY

- A) Closed Loop Control
- B) Basic Motion Control
 - 1) Setup Data
- C) Move Types
 - 1) Velocity Moves
 - 2) Distance Moves
 - 3) Position Moves
 - 4) Referencing

7. SERVO SETUP AND TUNING

- A) Entering Setup Data
- B) Creating A Servo Function
- C) Axis Tuning
- D) Programming Lab

8. SERVO SYSTEMS

9. MOTION

- A) Point-to-Point Motion
 - 1) Manual Motion
 - 2) Auto Motion
 - 3) Referencing