

Power Automation America

Standard Training Agenda (4½ days)

Day 1:

Power Automation America Overview – The Company

Power Automation America Control Overview – Hardware

- LW and eCNC Hardware and connections
- Front Panel Hardware
- Wiring of Power On and ESTOP circuit
- Overview of Analog drive interface
- Overview of SDI (Digital) Drive Interface
- Modular I/O and electrical connections
- MTBP and Handheld pendant accessories

Power Automation America Control Overview – Firmware

- **PAA** and Windows directory structure
- Operator Interface
- Machine Configuration Files

Day 2 (or afternoon of 1st day):

- Machine Setup with I/O (Auto and Manual)
 - PA Modular I/O
 - Field Bus
- Drive Configuration - analog or SDI
- MP Tool Software for Machine Parameter management
- Machine Parameters
 - Setting up an Analog axis, spindle, handwheel
- SDI overview presentation
- Machine Parameters
 - Setting up the SDI Interface

Day 3:

Power Automation America Software Overview

- Introduction to PLC1131 Editor (the development tool)
- Modularity – of POU's and Global I/O
- Structured Text and Ladder Diagram languages
- IEC Operators/Standard Library/Operands
- Documenting and printing the PLC program
- Import/Export feature (entire project, individual POU's)
- Data monitoring and forcing
- Write and test a simple program – first PLC lab
- Signal Interface for CNC Inputs and CNC Outputs
- Start up example (Appendix B of Start Up Manual)
- Write a test program with M-code(s) – second PLC lab

Day 4:

PowerAutomation America Software (continued)

- Continue with PLC1131 programming
- Function Interface (and libraries)
- Interface between the PLC and a Part Program
- Interface between the PLC and external software
- Floppy disk with example PLC programs

Introduction to HMI Programming

- HMI interface overview
- Creating HMI buttons
- User HMI overview

Introduction to Part Programming

- G/M code overview
- Loading part programs
- Creating part programs
- Cycle Parameters

Day 5 (morning):

PowerAutomation America Part Programming & Wrap Up

- Continue with Part programming
- Canned Cycles
- Part Program conversion utility

Conversational CAM software packages (if desired)

Other topics (depend on class)

Wrap Up

Typical labs during the week:

MP Tool - Axis configuration – linear axis and/or rotary axis

MP Tool – Axis homing and Spindle configuration

MP Tool – SERCOS axis configuration

MP Tool – SDI axis configuration

PLC programming task – simple machine I/O

PLC programming task –M-code for machine process

PLC programming task –multiple switches for axis jogging

NC Part Programming task

HMI programming task – adding buttons

Other labs are based on needs of class participants