2500 Series® System Training
Product Bulletin

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Description

This course is intended for students that have basic experience with Automation and Control Systems including control devices and PLCs. Course 1: Basic System Architecture and Application Development is a prerequisite.

The following topics are covered:

- Advanced system architecture
- PLC scan cycle analysis and tuning
- Configuration of 2500 Series® Processors
- Setup and operation of Profibus-DP networks
- Programming of analog alarms
- Theory and programming of PID loops
- SF programming
- Advanced RLL programming
- Optimizing PLC performance

Hands-On Experience

The student will receive hands on experience with a live training system. Each Training System will provide a 2500 Series® Base, power supply, processor, digital input module, digital output module, and an analog input/ output module connected to a PC Application Development Station.

Course Schedule

Day 1
PLC Architecture
- Hardware description
- Comparison to 545/555 controllers
- Memory structure and data formatting
- I/O concepts

PLC Scan Cycle
- Tasks executed during PLC scan
- Scan mode options

PLC Configuration
- Switches and jumpers
- Memory configuration
- I/O configuration
- I/O status indicators
- PLC Scan time setup

Profibus-DP Configuration
- Profibus network setup
- Profibus operation
- Profibus status indicators

Day 2
Analog Alarms
- Definition
- Alarm operation within PLC
- Alarm configuration parameters
- Alarm SF variables

Analog Control (PID) Loops
- Definitions and theory of control Loops
- PID loop operation within PLC
- Ramp/Soak feature
- Loop configuration parameters
- Loop SF variables
- Process simulation using proportional-integral-derivative control elements
- Control loop tuning

Day 3
Special Function Programs and Subroutines
- SF program types and methods of execution
- SF instruction set and operators
- Passing parameters to SF subroutines
- Memory access within SF programs
- SFP/SFS configuration
- SF error reporting (SFEC)
- On-Line editing of SF programs

Advanced RLL Programming
- Cyclic RLL task (TASK2)
- Immediate I/O instructions
- Fast loop PID instruction
- RLL subroutines

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Description (continued)

Day 4

Understanding Your PLC Application

- Debugging with system status words
- Tuning PLC scan time configuration
- Accessing embedded web server
- Event log
- Run-time statistics

Optimizing PLC Performance

- I/O configuration
- RLL program control flow
- Tuning PLC scan time setup
- Monitoring PLC process times (PPET variables)

Question/Answer Time

Ordering Information

2500-TR-S2 Course 2: Advanced System Architecture and Application Development

Contact your CTI distributor for pricing and training schedule.