

PLC WORKSHOP SUITE FOR 505 TRAINING

TROUBLESHOOTING SYLLABUS

This course benefits anyone who writes or troubleshoots 505 PLC programs for Simatic 505 or CTI 2500 Series processors. Upon completion of this course, you will be able to use tools in PLC WorkShop to identify and resolve related problems.

General PLC Knowledge

- Monitor real-time status of ladder logic to determine instruction states and trace power flow through the rungs
- Control contact states by manually forcing or turning them on and off within the Ladder Editor
- Monitor and change address values in real time with the Data Window
- Identify and correct improperly configured discrete and analog I/O
- Allocate additional memory for program components when necessary
- Perform the correct edit, validate, and compile procedures for online logic

Diagnostic and Search Utilities

- Customize PLC maintenance printouts of ladder logic, special functions, V and K system data, and I/O configuration
- Identify syntax errors that span multiple rungs, and in individual rungs
- Revise existing logic with the Replace and Replace Table utilities
- Modify selected addresses in copied logic with Paste with Rewire
- Find program components by address, instruction type, hardware location, header and documentation keywords
- Locate address instances with the Cross Reference window
- Trace related addresses in individual rungs with Network Cross Reference window

Program Testing and Evaluation with the 505 Simulator

- Step through program execution by individual scan or rung
- Pause program execution with conditional breakpoints
- Test programs against reproducible input scenarios with the I/O Simulator

Processor and Program Control

- Access Status Words programmatically within the ladder logic
- Determine when to execute Special Function Programs based upon data requirements
- Utilize the PLC Operations features to read diagnostics and perform PLC restarts
- Identify fatal and non-fatal PLC faults
- Verify I/O status of bases, RBC channels, and I/O modules
- Back up previous program versions automatically
- Compare online PLC contents or an offline program file with another offline program to identify their differences
- Write logic to accommodate the communication limitations with the PLC
- Scale and unscale analog data in Special Function Programs

Analog and Discrete Data Troubleshooting

- Understand the relationships of different address types, how they interact, and solve programming errors
- Use different formats and sizes to read and write PLC values with the Data Window
- Construct and reuse Data Window Templates to quickly monitor selected critical process variables, sensors, and control element addresses
- Identify unused addresses with the Used Addresses and Unique Addresses utilities
- Record PLC data for later review and comparison with FTLogger
- Display real time data or review recorded data graphically with FTTrender
- Monitor events in the PLC and trigger alarms with FTAlarm

To find out more about our comprehensive training solutions, contact Sales for information: sales@fast-soft.com or 262.238.8088.