TROUBLESHOOTING SYLLABUS

This course benefits anyone who writes or troubleshoots Modicon PLC programs for processors that support 984 ladder logic. 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

Processor and Program Control
- Edit logic by entire network or single instruction node
- Reduce the communication demands on the PLC with status optimization features
- Reconfigure and merge programs to change PLC types
- Execute PLC programs in Optimized and Debug modes
- Demonstrate how coil placement can affect its surrounding logic
- Understand the network scan and how it affects logic execution
- Learn how related math instructions calculate different results

Analog and Discrete Data Troubleshooting
- Read and write discrete and analog values in various formats in the Data Window
- Prevent incorrect use of implied addresses
- Monitor events in the PLC and trigger alarms with FTAlarm
- Isolate I/O and internal logic timing problems by recording and graphing with FTLogger and FTTrender
- Construct and reuse Data Window Templates of critical process variables, sensors, and control element addresses

Diagnostic and Search Utilities
- Customize PLC maintenance printouts of PLC ladder logic, address memory, and I/O configuration
- Find program components by address, instruction type, hardware location, header and documentation keywords
- Isolate related addresses in individual rungs with Network Cross Reference window
- Follow addresses through the PLC program with Trace and Untrace features
- Revise existing logic with the Replace Table utility
- Modify selected addresses in copied logic with Paste with Rewire
- Diagnose hardware and program health with the PLC Status utility
- Locate all address instances with the Cross Reference window
- Identify unused addresses when writing new logic
- Use Logic Status and Powerflow to monitor ladder logic program execution
- Search items by tags, descriptions, and network headers in the Documentation and Logic Editor windows
- Allow or prohibit duplicate coils when necessary
- Correct improperly configured I/O modules
- Control program execution and I/O hardware updates with the Segment Scheduler

Program Testing and Evaluation with the Modicon Simulator
- Step through program execution by Scan, Network, or Instruction
- Pause program execution with customizable conditional breakpoints
- Test programs against reproducible input scenarios with the I/O Simulator

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

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