Modicon Momentum Unity Controller
Maintenance and Troubleshooting
Module 121

Maintenance and troubleshooting of the M340 Unity Programmable Automation Controller (PAC) system requires a thorough understanding of the Unity hardware and Unity Pro software aspects of the system. This course is designed to provide you with the necessary knowledge to troubleshoot and maintain your automation system. M340 Unity system hardware layout, installation and configuration, along with basic programming concepts are discussed. The M340 Unity programmable controller's local and distributed Input / Output systems are included in this four (4) day course.

Course Objectives

- Understand the major functional components of the Modicon Unity programmable automation controller (PAC) system as it relates to your facility's installation.
- Configure and layout a Modicon system including input/output modules, local and remote input/output drops and extended input/output drops.
- Understand system addressing for discrete input/output bits, input/output words, and the differences and advantages Topological and State RAM addressing.
- Evaluate communication methods Modbus serial, USB, Ethernet, wireless communications, Modbus Plus bridged to Ethernet and security settings for communications.
- Discuss Unity file formats, project file extensions, archive files and application exchange files.
- Understand how field inputs and outputs relate to the control system address bits and words.
- Document and add comments to your program for ease of understanding and future reference.
- Convert your legacy programs to Unity Pro software projects and upload and download these projects to and from a Unity processor.
- Learn to use Unity Pro software and the programming computer as a diagnostic and troubleshooting tool.
- Identify the differences in the types of function blocks and data types and the purpose of the data type manager.
- Use system diagnostics to identify and pinpoint faults in the system. Determine if this is a hardware, software and/or a field problem.
- Identify fault bits and words in the Unity hardware and Unity Pro software isolating the problems at all levels of the system and determine the course of action.
- Use system diagnostics to identify and pinpoint faults in the system.
- Isolate problems at all levels of the system and determine a course of action.
- Disassemble, reassemble, and start up a controller from shelf state (dim awareness).
- Discuss, demonstrate, and test important safety considerations related to your PAC.

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