Attention: The following topics are *not* addressed during this class:

- I/O, Hardware, and Drive Troubleshooting/Maintenance
- Tuning

Prerequisite:

Students are expected to have good computer skills and experience with another PLC system and Motion Controller.

Topics Covered

PC Control & IEC 61131 Programming

- Overview of IEC 61131-3 & TwinCAT
- Getting Started with TwinCAT
- PLC Programming with TwinCAT
- Linking I/O
- Using Library and Information System
- Defining Variables – Local, Global, Retentive, Arrays, Structures
- Working with POU's – Programs, Functions and Function Blocks
- Fundamentals of Structured Text Programming
- State Machine Programming in Structured Text
- TwinCAT Visualization

NC Point-to-Point

- Scanning and Adding Drives
- Configuring Drives and Motors
- Linking Drives to NC Tasks
- Configuring and Scaling Axes
- Online Axis Control
- Using TwinCAT Measurement
- Working with the Motion Library in PLC Control
- Using Motion Control Axis and Function Blocks
- Linking PLC Axes to NC Tasks

Motion Application Development

- Design and Implement a Two Axis Manual Control Project including:
- Enabling
- Moving

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- Jogging Axes
- Electronically Gearing Axes together

TwinSAFE & EtherCAT Diagnostics

- Overview of TwinSAFE
- Configuring TwinSAFE
- EtherCAT Diagnostics

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