

## Drives - SINAMICS / MASTERDRIVE

# SINAMICS S120 Basic Maintenance

### General Information

Course Code: SCT-DVS12M1A

Length: 2½ Days

### Audience

This course is intended for Personnel responsible for the long term maintenance and diagnostics of the Siemens Drive.

### Prerequisites

- Basic computer skills
- Basic Industrial Electronics experience
- Basic industrial technology skills
- Competent in safe use of common electrical test tools such as VOM, DMM, oscilloscope, etc.
- Completion of the following quickSTEP online course: Basics of AC Drives (<https://www.sitrain-lms.com/STEP.aspx>)

### Profile

1.6 CEUs (Continuing Education Credits)

This course is intended to provide knowledge and skills related to the SINAMICS S drive as it pertains to operation, maintenance, diagnostics, and troubleshooting. It is formatted as a combination of instruction and carefully structured, hands-on exercises aimed at developing job-related knowledge and skills.

### Objectives

*Upon completion of this course, the student shall be able to:*

- Trace voltage waveform from Input rectifier to Motor output.
- Utilize S120 Architecture to troubleshoot Hardware Modules
- Troubleshoot the Power Electronics
- Establish communication with STARTER
- Upload, Archive, and Restore S120 Configuration via STARTER
- Perform an Online Configuration via STARTER
- Control Drive via STARTER Control Panel
- Trace Signals within the S120 configuration utilizing BICO technology
- Troubleshoot Drive failure to respond to a Command Source
- Troubleshoot Drive failure to respond to a Setpoint Channel Source
- Use the Diagnostic Fault and Warning Buffer to troubleshoot the system
- Troubleshoot Regulation (speed or torque) problems
- Install or Replace a Motor
- Install or Replace a Power Module
- Install or Replace a Control Unit
- Replace a Cooling Fan
- Obtain technical support online or via hotline

### Topics

1. Safety, PPE, and ESD
2. Perform Hardware Module Diagnostics
3. Utilize STARTER software to Upload, Archive and Restore S120 Project
4. Troubleshoot a SINAMICS drive system using STARTER application diagnostics
5. Evaluate Drive System Performance
6. Replace Defective Hardware
7. Obtain technical support