

Maintenance Training

Electrical Maintenance Fundamentals – Level Two

General Information

Course Number: 1-102
Format: Instructor Led
Length: 4 days
Maximum Students: 12

Audience

This course is for technicians who maintain a material handling system.

Customer Equipment Requirements

- Dedicated training room with a projector and a white board with markers.
- Table space for demonstrations and activities.
- Access to on-site Dematic equipment, if applicable.

Prerequisites

Course 1-101 – Fundamentals Level One **OR**

- A working knowledge of mechanical and electrical systems and drawing sets.
- A working knowledge of safety and lockout/tagout procedures.
- A working knowledge of electrical test and repair equipment.

Benefits

Participants in this course will gain an understanding of motors, controllers, and field devices as they pertain to a material handling system. Knowledge and skills gained will help technicians properly maintain and troubleshoot a material handling system.

Course Objectives

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

- Safely use a multimeter and other basic electrical test equipment.
- Identify information and components in electrical drawings and schematics.
- Explain the function of the relevant electrical and system components.

- Identify operational issues affecting system uptime.
- Identify, describe, and explain various types of electrical motor failures.
- Safely perform electrical troubleshooting of single phase, three phase, and direct current electrical motors.
- Identify, describe, and troubleshoot Variable Frequency Drives.
- Identify, describe, and troubleshoot Programmable Logic Controllers.
- Identify, describe, and troubleshoot field devices.

Topics

1. Safety
2. Electrical Drawings, Schematics, and Name Plate Data
3. Meters and Test Equipment
4. Motor Protection
5. Single Phase Motors
6. Direct Current Motors
7. Three Phase Motors
8. Variable Frequency Drives
9. Programmable Logic Controllers
10. Field Devices