

MV 3000 AC Drive

Three-Day Course Description



Overview

This course explores the details of Cameron's MV 3000 AC Drive by providing students with an in-depth view of the drive components, control modes, and system interfacing.

Who Should Attend?

Personnel who will operate the equipment or personnel designated to oversee operation of the equipment should attend this course.

Prerequisites

Before participating in this course, each student should have basic product knowledge.

Organization

This is an instructor-led (lecture-based) course, in which discussions are highly encouraged. Short quizzes are given throughout the course as well as at the end of each module. Instructors are available at the beginning and end of each class to answer questions and/or review information. In order to receive credit for satisfactorily completing this course, students are required to pass the comprehensive final exam with a score of at least 70%. Certificates of Completion are awarded to all students who successfully receive credit for the course.

COURSE CONTENT

Learning Objectives

Explain the purpose and function of Cameron's MV 3000 AC Drive • Know how to interpret product drawings and symbols • Understand how to navigate through MV 3000 screens and parameters • Explain how to trace rig communications and power to the drive

Course Outline

1. Pre-Test and Welcome

- Test initial knowledge level of students to help prepare instructor
- Explain class times, lunch times, bathroom locations, etc.

2. AC Motor and Drive Theory

- Principles of AC motor theory
- AC motor components overview
- Magnetic field induction
- Principles of AC drive theory
- Drive components overview
- Variable frequency

3. Drive Components

4. System Interfacing

- Input/output (I/O) devices
- I/O termination panel
- Digital data manager keypad configuration
- Operator assistance

5. Control Modes

- Frequency control
- Flux vector control
- Flux current
- Torque current

6. System Commissioning

- Safety precautions
- Commissioning levels
- Delta based drive
- Vector control with an encoder
- Open loop testing
- Motor tuning

7. Control Connections and Flags

- Control flags
- Status flags
- Digital I/O
- Analog I/O
- Monitor points
- Local/remote control

8. Parameters

- Security and password protection
- Auto-locking function
- Keypad removal
- Menus

9. Drive Programming

10. Post-Test/Evaluations

- Post-test grading
- Student course evaluation
- Additional wrap-up