The goal of this course is to teach students to start-up, adjust, operate, maintain, troubleshoot and repair the ACS800 MultiDrive digital frequency inverter using available programming and troubleshooting tools.

**Learning objectives**
Upon completion of this course the participants will be able to:

− Communicate with the Drive using all available operator interfaces
− Commission and tune the ACS800 Multidrive frequency inverter
− Explain the relationship and interaction between the Drives hardware and software and apply this knowledge to system troubleshooting
− Trace and correct faults using available troubleshooting tools

**Participant profile**
This training is targeted to Electricians, Technicians and Engineers who install, service and maintain ACS800 MultiDrive.

**Prerequisites**
Students should have basic knowledge of power electronics and computers.

**Topics**
− Control and operation principles of AC Inverters
− Hardware and software overview
− Direct Torque Control (DTC) principles
− Component and circuit board functions
− Reading and interpreting circuit diagrams
− Application software and parameter settings
− Operator panel usage (CDP312R)
− Drives Window operations
− Start-up, commissioning and fine-tuning
− Fault tracing and trouble-shooting
− Inverter supply sections

**Course type and methods**
In this course, students will learn about all the core components of the product and then allow the students to experience first hand the commissioning, adjusting, maintenance, and troubleshooting operations of the ACS800 MultiDrive.

**Duration**
The duration is 4 days.
Course outline

Day 1
- Course Information and Introductions
- Manuals Overview
- System Overview
- DTC Motor / Drive Concepts
- Inverter Units
  - Main Circuit Hardware
  - Control Hardware
  - Circuit Diagrams
- Hardware Identification
- Hardware Lab Exercises
- Operators Panel CDP312R Actual Values
- Parameter Handling
- Start-up Exercise Software Configuration
- Parameters / Signals
  - Control Software Diagrams
  - I/O Configurations

Day 2
- Software Configuration cont...
- Drives Window
- Parameter Handling
- Fault Logger
- Monitoring
- Datalogging
- Backup and Restore Drives Window Lab Exercises
- Commissioning
- Fine Tuning
- Upload/Download

Day 3
- Supply Sections
  - Hardware & Software
  - DSU
  - TSU
  - ISU
  - Service and Troubleshooting
  - Fault Analysis
  - Firmware Loading
  - Board Replacement
  - Power Component Removal and Installation
  - Communications
    - APC
    - AC80
    - Advant
    - Master Follower
    - Troubleshooting Lab Exercises
  - Summary
  - Review
  - Q&A

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