THE AUTOMATION GHANA ACADEMY

AC DRIVES

TRAINING COURSE OUTLINE

COURSE SUMMARY

This course provides a comprehensive exploration of Variable Frequency Drives (VFDs), covering design principles, essential functions, advanced techniques, and practical applications. Participants will gain practical skills in starting, stopping, speed control, and energy savings, along with advanced topics like reversing, ramping, and braking. The course also includes in-depth learning on VFD controls, multi-motor operation, closed-loop control using PID, communication protocols, protective measures, programming, and maintenance practices through hands-on exercises. By completing this course, participants will develop a thorough understanding of VFDs and acquire practical skills essential for their effective operation, maintenance, and application in industrial environments.

COURSE OBJECTIVES

- Understand the design of VFDs
- Know the various functions and benefits of using a VFD
- Starting / Stopping, speed change, constant speed operation
- Reversing, Ramping, braking,
- Energy Savings
- Know the various VFDs control options
- Local/remote controls
- Multi-motor operation, master/slave
- Closed Loop / PID Control
- Communications
- Know how to install and connect VFDs
- Know how to protect VFDs
- Program and operate VFDs
- Carry out a maintenance program for VFDs

COURSE OUTLINE

- VFD design principles
- VFD functions
- Starting / Stopping, speed change, constant speed operation
- Reversing, Ramping, braking,
- Energy Savings
- VFD controls

- Local/remote controls
- Multi-motor operation, master/slave
- Closed Loop / PID Control
- Communications
- VFD connections
- Protection
- Programming VFDs
- Maintenance
- Practical exercises