

Drive Application Expert

Program Description

Tuition Fee - \$2850 per student

Drive Application Expert

This program is specifically designed to provide students with the technical expertise to support and promote sales of ABB LV Drives. The Drive Application Expert level of training focuses on industrial drive applications, with an emphasis on performance products. Products covered in this class are the ACS800, ACS850, and DCS800. The Drive Application Specialist program is a prerequisite to the Drive Application Expert program.

Program Goals

The goal of this program is to educate students in the product capability, selection, application and programming solutions of performance drive products.

Program Type and Duration

This program is 4.5 days of instructor-led training including lab exercises to achieve course objectives. The US9374 program also includes prerequisite e-learning courses that must be completed before class begins.

Student Profile

This program is intended for customers and end users with experience working with and installing LV Drives.

Students must have:

- Experience working with power electrical equipment and voltage levels up to 600Vac
- The ability and knowledge for use of test equipment such as multi-meters and basic computer skills
- A personal computer (e.g. laptop or tablet)
- A strong understanding of LV AC Drives
- A strong understanding of motor control methods

Expectations of a Drive Application Expert

- Sales Support (Business Growth)
The Drive Application Expert shall support the outside sales efforts. Their primary role is the technical expert in selection, use and application of automation equipment.
- After Sales Support (Customer Assistance)
The Drive Application Expert shall support the customer in the installation, commissioning and

application of automation products into industrial applications.

- Training (Sales, Customer)
The Drive Application Expert shall provide “lunch-n-learn” training classes for customers, technical sales training for sales teams, and product overview and technical training for inside support staff.

Program Objectives

Upon successful completion of this program, students will obtain the following:

- Prepared to support sales team members in account penetration and customer support
- Understand the electrical and mechanical principles related to successful sizing and application of motors and drives
- Complete understanding of safe installation requirements and best practices for application of a LV AC Drive
- Program and utilize standard software features of the drives covered in this training
- Understand how to utilize the macros available in the ACS800 and DCS800 drives and the Assistant function in the ACS850
- Perform basic fault diagnostics and quickly correct installation issues on-site
- Understand the application benefits of DTC, load-sharing and lead-follower control
- Understand the need for and use of Adaptive Programming or custom firmware in challenging AC and DC applications

Training class locations and scheduling

The instructor-led class is offered at our New Berlin, WI training facility. Please visit the Drives, PLC & Motion Training Schedule for a list of upcoming classes.

Student Materials

Upon completion of the course, each student will receive

- Student manual with all training materials including practice labs
- Drive Size Software

Course Description

Program Prerequisites (Instructor-Led class)

- ACS800 Installation & Commissioning or ACS550/800 Installation & Commissioning -
- ACS880 Installation & Commissioning
- DCS800 Installation & Commissioning
- Drive Application Specialist

(e-learning)

- Harmonic Concepts - Answers (What, Why, How Much is a Problem)
- Safety Options - Specific Drive Examples
- Common Mode Voltage & Current
- Grounding, Power Cabling & Control Wiring (Recommendations)
- High Frequency Motor Bearing Currents (What They Are, How to Prevent)
- Line Supply GFCI with AC Drives

Suggested Supplemental Modules

- Machine Safety Standards - Basic Pieces & How They Fit Together
- Mechanics 101
- Harmonic Solutions - Reactors, Filters, Solid-State Techniques
- WLD121 - Truth About Cable Lengths (Voltage Reflection, Filters & Solutions)
- ACS800, ACS850 & DCS800 Product Overviews

Course Post-requisites (e-learning)

- Knowledge assessment exam

Course Agenda

Day 1	Day 2	Day 3	Day 4	Day 5
8:00 a.m. – 5:00 p.m. <ul style="list-style-type: none">• Duty Cycles, Load Sharing, Overload Applications• Above Base Speed Torque, Break-down Torque, CHP Applications• Drive Window/Use• ACS800 Applications / Success Stories	8:00 a.m. – 5:00 p.m. <ul style="list-style-type: none">• NEC – VFD Installations• PM motors & VFDs• ACS800 Multi-drive & Liquid-Cooled Drives• Harmonics in Installations• ACS800-ULH• Dynamic Brake Sizing & Lab• ACS850 Lab• ACS850 Drive Studio Use/Lab	8:00 a.m. – 5:00 p.m. <ul style="list-style-type: none">• ACS800 vs 850 Comparison• ACS850 D2D Drive Link / Lab• DC Motor / Drive Review• DCS800 Product Features• DCS800 Start-up Lab• DCS800 12-Pulse• CoDeSys Overview• DCS800 Applic's• Replacing DC with AC	8:00 a.m. – 5:00 p.m. <ul style="list-style-type: none">• Hands-on lab rotations• Dyne Tuning/Unique Features – Lab• Adaptive Prog. (DCS800/ACS800) – Lab• DCS800 & ACS800 Lead-Follower – Lab• ACS800 Load Sharing Appl – Lab• AC Applications & Drive Size – Lab	8:00 a.m. – 5:00 p.m. <ul style="list-style-type: none">• AC Applications/ Dr.Size Lab – student presentations• Communications Review• Industrial applications – Open Forum / Q & A