

# US324-S3 Electrical Refresher



This course is based on the comprehensive S3 Electrical Service course (US353) but is shortened to the main critical areas and is intended to familiarize students with the M93 model controllers. The course consists of identifying electrical components, theory of operation, and proper troubleshooting procedures. The class provides an excellent opportunity to brush-up on existing skills and practice new techniques. More than 50% of the course is hands-on actual robot systems.

**Course Duration:** 2 days

## **Topics Include:**

- Operation of robot control and mechanical unit
- Safety precautions used while troubleshooting electrical system
- Description of components in the robot controller
- Principles of logical troubleshooting from power-up, through emergency stop loop and servo system
- Input / Output interfacing between robot controller and peripheral equipment

## **Course Objectives**

*After successfully completing the course, the participant should be able to:*

- Operate the control panel and programming unit
- Read ABB circuit diagrams
- Perform resolver and limit switch setup
- Analyze and interpret system fault codes
- Diagnose and repair basic electrical faults
- Diagnose and rectify emergency stop conditions
- Make I/O connections to peripheral equipment and safety devices
- Repair and replace system components

## **Student Profile**

- Industrial electricians
- Electrical service technicians
- Engineers
- Supervisory personnel

## **Prerequisites**

- The student should have successfully completed the full S3 Electrical Service course US353
- Appropriate S3 programming is required