

US421 IRC5 Electrical Service

The course is designed to teach students how to identify the electrical components, theory of operation, and introduce proper troubleshooting procedures on the IRC5 robot controller. Approximately 50% of the course is hands-on troubleshooting of actual robot system and controller.

Topics include

- Theory of operation of the IRC5 robot controller
- Safety precautions used while troubleshooting the IRC5 robot controller electrical system
- Description of components in the IRC5 robot controller
- Principles of logical troubleshooting from power up through emergency stop loop and servo system
- Input/Output interfacing between the IRC5 robot controller and peripheral equipment

Course objectives

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

- Operate the IRC5 control panel and programming unit
- Read and interpret ABB circuit diagrams on the IRC5 robot controller
- Set up commutation, resolvers, counters, limit and sync switches
- Analyze and interpret system fault codes
- Diagnose and repair basic electrical faults
- Analyze servo-system data and make basic adjustments
- Diagnose and rectify emergency stop conditions
- Make I/O connections to peripheral equipment and safety devices
- Repair and replacement of systems components
- Review "Cold-Boot" procedure

Student profile

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



Prerequisites

- Familiarity with use of electronic test equipment (voltmeter and oscilloscope)
- Basic understanding of digital electronics is helpful
- IRC5 robot programming US420 is recommended

Duration

Course duration is 4.5 days.

Customer Service – Robotics

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