

Electrical Troubleshooting (non-Paint Robots)

IRC5 – 4½ days – Course Code: US421

S4C+ – 4½ days – Course Code: US357

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

Topics include

- Theory of operation of the robot controller
- Safety precautions used while troubleshooting the robot controller 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 the robot controller and peripheral equipment

Course objectives

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

- Practice safety as it pertains to the robot system
- Identify and use the teach pendant
- Run the robot system in manual mode and automatic mode
- Interpret and respond to event messages. Use event logs
- Identify different parts of the robot modules and arm
- Load system software.
- Troubleshoot Power ON circuits.
- Troubleshoot computer and drive system to a board level
- Troubleshoot Motors ON/Run Chains circuits.
- Troubleshoot the Motors, brakes and resolvers
- Properly calibrate the robot after a motor change
- Interface an input device and an output device to the robot

Student profile

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



Prerequisites

- Familiarity with use of electronic test equipment (voltmeter and oscilloscope)
- Basic understanding of digital electronics is helpful
- Programming I for Material Handling (US420), Programming I for Arc Welding (US490), Programming I for LaserCutting (US496), or Programming I for Spot Welding (US491) is strongly recommended

Duration

Course duration is 4.5 days.

Customer Service – Robotics

1250 Brown Road

Auburn Hills, MI 48326, USA

Tel: 1 800 HELP 365 (1 800 435 7365) option 1, option 4

Outside USA/Canada: +1 440 585 7804

Fax: +1 919.666.1388

E-mail: abbuniversity@us.abb.com

www.abb.us/abbuniversity

© 2013 ABB Inc. 3BUS095088 SM2010-027

ABB reserves the right to change specifications without notice.