AUTOMATION

COURSE MFG213

Industrial Maintenance:
Industrial Electrical Controls Fundamentals

This course is designed to provide the knowledge and skills required to install, maintain, and troubleshoot machine controls.

At the completion of this course, you will be able to:

- Define the safety consideration that must be observed when installing, checking, or locking out electrical equipment
- Define uses and functions of input and output devices, relays, and motors
- Read schematic diagrams and logic
- Define an open and short condition
- Perform voltage and current measurements
- Demonstrate the proper use of the test equipment (VOM, DVM, multi-meters, continuity tester and amp probe) in lab to measure voltage, current, resistance, and continuity
- And more!

Tuesday, July 22 - Friday, July 25

8 AM - 5 PM

SMC Cape Girardeau
2333 Rusmar St
Cape Girardeau, MO

Cost: $4,140
Includes Lunch

Authorized Service Provider
A ROCKWELL AUTOMATION PARTNER

To register, please contact Alslinn Roberts at aroberts@smcelectric.com

COURSE MFG213

Course Agenda

REGISTER HERE

DAY 1

- Electrical safety
- Electrical fundamentals
  - concepts and terms
  - sources of electricity
  - transformers
  - wiring devices
  - wiring standards
- Hands-on labs

DAY 2

- Input devices
  - push buttons
  - limit, proximity, toggle, rotary switches
  - relays
- Output devices
  - motors
  - heaters
  - panel meters
  - light indicators
- Disconnect devices
  - fuses
  - circuit breakers
  - overloads
- Contactors
- Use of multimeter
- Hands-on labs

DAY 3

- Logic devices
  - timers
  - counters
- Schematic diagrams
  - BOM
  - title blocks
  - basic schematic symbols
  - wire identification
- Logic Diagrams
  - switches
  - timers
  - relays
  - truth tables
- Ladder diagrams
  - rung identification
  - power rail identification
- Hands-on labs

DAY 4

- Basic machine control systems
- Distribution
  - three-phase devices
- Build circuits
- Circuit troubleshooting
- Grounded and ungrounded control circuits
- Hands-on labs

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