

## M301

# Power and Grounding for Distributed Control Systems



Learn basic power and grounding principles for distributed control systems.

### Course type and methods

This is an instructor led workshop with short presentations and demonstrations, extended exercises, and hands-on sessions and discussion.

### Student Profile

This course is targeted to anyone responsible for process control system maintenance or system tuning.

### Prerequisites

A basic understanding of AC and DC circuit fundamentals and low voltage power systems.

### Course objectives

This course reviews AC and DC circuit fundamentals, AC power and grounding problems and solutions, and the enhanced power requirements for sensitive electronic equipment. Lab exercises give students the opportunity to identify power problems using specialized test equipment.

Upon completion of this course the participants will be able to:

- Identify power quality and power distribution problems
- Effectively ground sensitive electronic equipment
- Identify grounded and subgrounded power systems
- Properly implement power conditioners to resolve power problems
- Recognize a correctly installed building electrical distribution system
- Differentiate between linear and non-linear electrical loads

### Duration

The duration is 5 days

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## Course Outline

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Day 1	Day 2	Day 3	Day 4	Day 5
<ul style="list-style-type: none"><li>• Course description</li><li>• Power overview</li><li>• Electronic equipment</li><li>• AC and DC fundamentals</li><li>• Grounding fact and fiction</li></ul>	<ul style="list-style-type: none"><li>• Power sensitive electronics</li><li>• Power problems</li></ul>	<ul style="list-style-type: none"><li>• Interference</li></ul>	<ul style="list-style-type: none"><li>• Site surveys</li><li>• System maintenance</li></ul>	<ul style="list-style-type: none"><li>• Test</li><li>• Troubleshooting</li><li>• Course summary</li></ul>

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