## Unmatched Electrical Training

Amatrol offers the most extensive selection of electrical training solutions available today. We provide a comprehensive, in-depth selection of online electrical training solutions, beginning with the basics of AC/DC electrical and moving on to more advanced topics like electrical machines, relay control, and fabrication; electrical motor control; and electrical wiring and power distribution.

#### **BASICS OF AC/DC ELECTRICAL TRAINING**

AC/DC Electrical Learning System (T7017A) Portable AC/DC Electrical Learning System (990-ACDC1) · Principles of AC and DC Voltage and Current

Power Generation Principles

• Principles of Resistance, Inductance, and Capacitance

Troubleshooting

#### **ELECTRICAL MACHINES, RELAY CONTROL, AND FABRICATION**

Basic Electrical Machines Learning System (85-MT2) · Electric Motor Safety · Split-Phase AC Motors • DC Series Motor Operation · Motor Speed and Torque Add-Ons for Basic Electrical Machines Learning System (85-MT2) 85-MT2B – DC Generators Learning System • Operation, Installation, Analysis, Performance, and Selection of Generators for Various Applications Operation and Installation of Alternators / Synchronous Motors, Reversing Synchronous Motors, Field Excitation, 85-MT2C – Alternator / Synchronous Motor Learning System 85-MT2D - Wound Rotor Motor Learning System • Function, Operation, and Performance Characteristics of Wound Rotor Motors

• 85-MT2E - Electric Motor Troubleshooting Learning System • Troubleshooting and Testing Using a Multimeter and Megger Meter

Electric Relay Control Learning System (90-EC1A)

Portable Electrical Relay Control Troubleshooting Learning System (990-EC1F)

• Electrical Motor Control, Cylinder Sequencing, and Time-Delay Sequencing Circuits

Electrical Fabrication Training 1 Learning System (950-ELF1)

· Electric Motor Control

· Ladder Diagram Schematics

· Wire Stripping and Wire Termination Techniques

· Wiring System Components

• Nonmetallic Cable, Switch, Outlet, Lighting Installation

Testing and Troubleshooting

• 3-Way Switch Circuit Installation

### **ELECTRICAL MOTOR CONTROL TRAINING**

Add-Ons for Electric Motor Control Learning System (85-MT5)

85-MT5C - Variable Frequency AC Drive Learning System

85-MT5B - Reduced Voltage Starting Learning System

85-MT5D - Electronic Sensors Learning System

85-MT5E – Electronic Counter Learning System

85-MT5F - SCR Speed Control Learning System

85-MT5A – Motor Braking Learning System

Electric Motor Control Learning System (85-MT5) Portable Electric Motor Control Troubleshooting Learning System (990-MC1F) Portable AC Variable Frequency Drives Troubleshooting Learning System (990-DRV1F) Manual and Magnetic Motor Starters

· Function of Limit, Pressure, Liquid Level, Pushbutton, Drum, and Selector Switches

• Motor Sequence and Reversing Motor Control

System Design

Troubleshooting Methods

• Time-Delay Relay Control Component Operation

• Drum Switch and Manual Motor Plugging, Timer-Controlled Plugging, DC Injection and Dynamic Braking and more

• Starting Electric Motors Under Reduced Voltage, 3-Phase Power Distribution Using Delta and Wye Transformer Wiring Configurations, and Troubleshooting

· Operation and Application of Variable Frequency Drives (VFDs) Used to Vary the Speed of Fixed Speed AC Motor

· Electronic Sensor Application and Installation, Capacitive and Inductive Sensors, PNP and NPN Transistors

Electrical Event Counting in Electrical Motor Control Circuits, System Design, and more

· Variable Speed Motor Control of DC Electric Motors Using Silicon Controlled Eectifier (SCR)-Based Circuits

### **ELECTRICAL WIRING AND POWER DISTRIBUTION**

Electrical Wiring Learning System (850-MT6B) · Electrical Control Wiring Installation · Wire Color Coding • Electrical Control System and Electrical Panel Wiring Pneumatic Control Circuit Wiring Understanding Pneumatic Schematics Add-Ons for Electrical Wiring Learning System (850-MT6B) · 85-MT6BA - VFD/PLC Wiring Learning System

· Wiring Installation, Understanding Correct Wire Size, Material, Insulation, and more

· Control Enclosure Soldering Techniques, Including Applications, Connections, and Safety

• Installation, Operation, Wiring of Human Machine Interface (HMI) Panels, Ethernet Switches, and Analog Inputs

85-MT6BC - Ethernet and Analog Wiring Learning System Electrical Power Distribution Learning System (85-MT7-B)

85-MT6BB - Industrial Soldering Learning System

· Conduit Sizing, Selection, Bending and Installation

· Disconnect Selection and Installation

• Fitting Types and Fitting Selection

2400 Centennial Blvd.

Jeffersonville, Indiana 47130 U.S.A. Phone: 812.288.8285 • Fax: 812.283.1584 Toll Free in USA & Canada: 800.264.8285 Email: contact@amatrol.com • www.amatrol.com





ELECTRICAL SYSTEMS

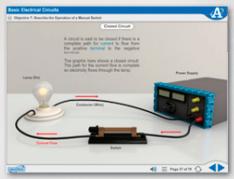
Knowledge Building - Troubleshooting - Hands-On Skills

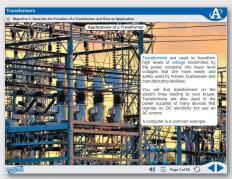
## Proven Electrical Training Builds Industry-Relevant Skills

AMATROL

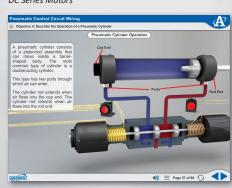
### **ELEARNING**

Amatrol's eLearning catalogue features hundreds of courses across various categories. Using the best instructional design practices, Amatrol's eLearning utilizes a wide range of interactivity to suit anyone's learning style.









### **Teach Crucial Concepts** and Hands-On Skills



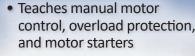
# **Reduce Downtime with**

**Maintenance Skill-Building** 



- Addresses logic elements and relay applications
- Offers time-delay relay applications
- Covers multiple cylinder control, as well as machine modes of operation





- Hands-on skills in control transformers, ladder logic, relays, and basic timer control
- Provides invaluable troubleshooting practice at the component and system levels

· Covers skills used in industrial,

commercial, agricultural, and residential applications • Portable system for use at

multiple sites

principles

capacitance

AC/DC voltage current

Electrical Relay Control Troubleshooting (990-EC1F)

· Resistance, inductance and

### **Real-World Troubleshooting Training**

- Covers installation, operation, and wiring of Human Machine Interface (HMI) panels, Ethernet switches, and analog inputs
- Provides invaluable hands-on practice for careers like electricians and industrial maintenance technicians
- Includes a variety of real-world components such as a Siemens HMI panel, Ethernet switch, thermocouple, conduit set, etc.

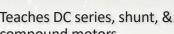


**Offer On-The-Go Technical Training** at Multiple Facilities



- Teaches DC series, shunt, & compound motors
- 1-Phase AC motors





Covers split and two capacitor

• Three-phase AC motors



Pneumatic Control Circuit Wiring