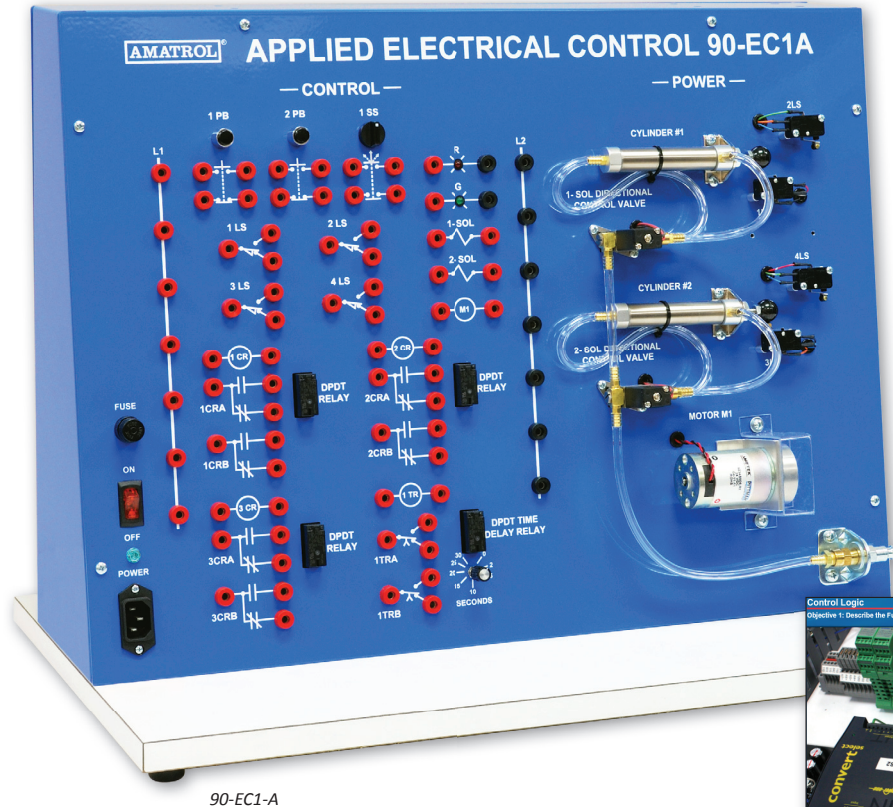


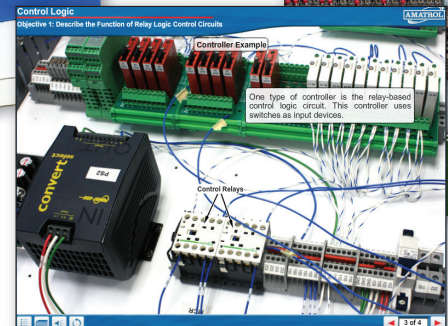
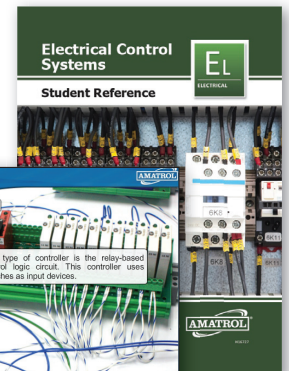
Applied Electrical Control Learning System

90-EC1-A



90-EC1-A

Student Reference Guide



Optional Interactive Multimedia

Learning Topics:

- Control Logic
- Logic Elements
- Ladder Diagrams
- Electro-Pneumatic Solenoid Valves
- Sequencing Control
- Relay Operation & Applications
- Limit Switch Operation & Applications
- Timers and Advanced Systems
- Time-Delay Relays
- Time-Delay Relay Application
- Multiple Cylinder Control
- Machine Modes of Operation

The Applied Electrical Control Learning System (90-EC1-A) teaches learners how to interpret, design, and operate relay control circuits using ladder diagrams. Electrical control is vital in the operation of electric and fluid power actuators and also forms the fundamental building block of automation systems like programmable logic controllers (PLCs), which are programmed using the electrical control schematic method, the ladder diagram.

The 90-EC1-A includes a tabletop console with pre-mounted electrical control, pneumatic, and electric power components. Each component's electrical terminals are connected to heavy-duty banana jacks, enabling learners to quickly connect and operate a variety of automation control circuits. This learning system also features world-class curriculum covering major topic areas like control logic, ladder diagrams, sequencing control, timers, and advanced systems. The 90-EC1-A also offers optional interactive multimedia that brings these concepts alive in exciting animations, videos, and interactive exercises.



Technical Data

Complete technical specifications available upon request.

Tabletop Console

Angled console, 18 gauge steel
Dimensions 24" L x 18" H x 6" W

Control Components

DPDT relays (3)
Timer relay DPDT
Pushbuttons (2)
Selector switch, 3 position
Double-acting cylinders (2)
Limit switches (4)
Solenoid operator valves, 4-way (2)
Indicator lights (2)

Lead Set

Stackable electrical connection leads, 12" (25)

Power Supply

24 VDC, 2.4 Amp

Student Curriculum (B16727)

Instructor's Guide (C16727)

Installation Guide (D16727)

Student Reference Guide (H16727)

Optional Interactive Multimedia (M16727)

Additional Requirements

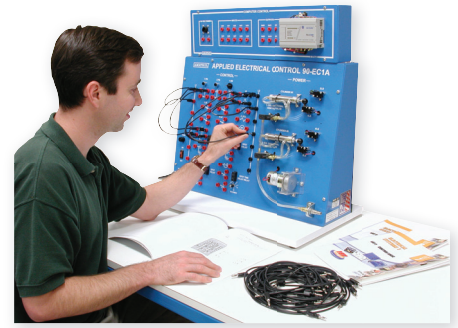
Electrical: 120 VAC / 60 Hz / 1 Phase
Compressed Air: 100 PSIG
Optional Multimedia requires a computer:
<http://www.amatrol.com/support/computer-requirements/>

Optional Items

Virtual Electrical Relay Control (VB703)
Mobile Technology Workstation (82-610)

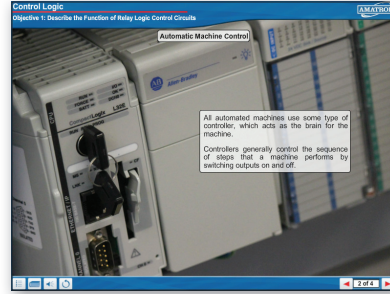
Use Real World Components for Hands-On Skills

The 90-EC1-A features numerous real-world components including DPDT relays, double-acting cylinders, limit switches, pushbuttons, accelerator switches, and solenoid operator valves. Learners use these components mounted on a tabletop, 18 gauge steel workstation to practice hands-on skills such as connecting and operating logic control circuits to energize fluid-power actuators and an electric motor. A timer relay and limit switches are used to provide sequencing control.



90-EC1-A with 90-CT1

World-Class Speed Control Curriculum

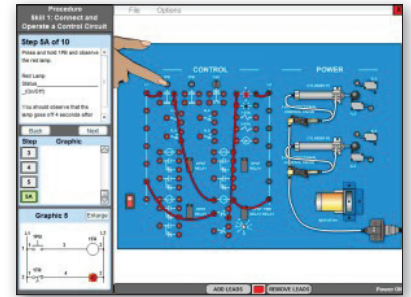


Optional Interactive Multimedia

The 90-EC1-A features curriculum with a stunning breadth and depth of topics. Major topic areas include logic elements, ladder diagrams, electro-pneumatic solenoid valves, relay operational and applications, limit switch operation and applications, time-delay relays and applications, multiple cylinder control, and machine modes of operation. This learning system also features optional multimedia that includes all of the topics in the printed curriculum, but in an interactive presentation with video, animations, and audio.

Optional Virtual Trainer

The Electric Relay Control Virtual Trainer replicates the hands-on components in such great detail that learners will feel like they are using the actual equipment. This virtual trainer allows learners to become familiar with common components and practice their newly acquired skills either as a stand-alone virtual solution when space is limited or while waiting for others to finish practicing on the real-world Amatrol trainer.



90-EC1-A with 90-CT1

Expand Your Training with the 90-CT-1 Computer Control Option

The teaching capability of the 90-EC1-A can be greatly extended with the addition of the 90-CT1 Computer Control Option. The 90-CT1 uses an industrial programmable controller with a console that mounts directly to the top of the 90-EC1-A console. All inputs and outputs on the 90-EC1-A can be interfaced to the 90-CT1 to enable learners to program the PLC to control real world automation components.

Student Reference Guide

A sample copy of the Electrical Control Systems Student Reference Guide is also included with the system for your evaluation. Sourced from the system's multimedia curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfect-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training making it the perfect course takeaway.

