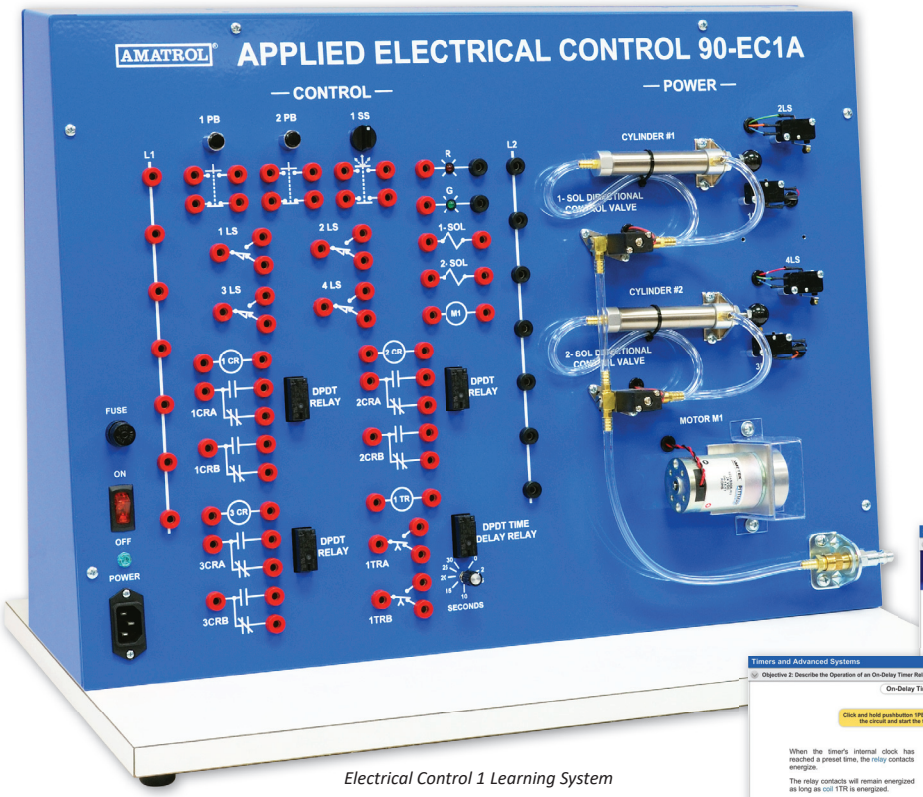
Electrical Control 1 Learning System

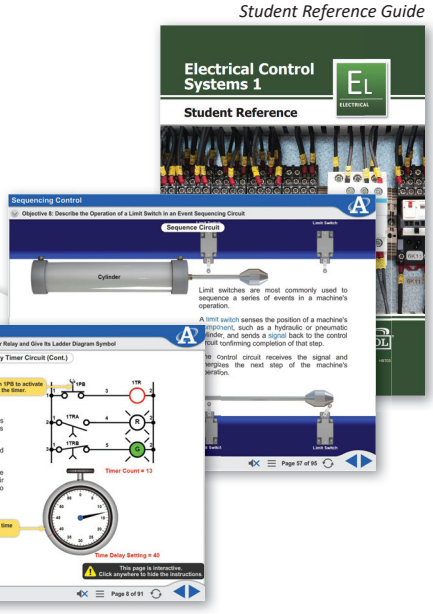
96-ECS1

ELECTRICAL



Electrical Control 1 Learning System

Student Reference Guide



Interactive Multimedia Curriculum

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 Electrical Control 1 Learning System (96-ECS1) 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.

Electrical Control 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 interactive multimedia curriculum covering major topic areas like control logic, ladder diagrams, sequencing control, timers, and advanced systems. This multimedia curriculum comes alive with exciting animations, videos, and interactive exercises.

AMATROL®

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 – Interactive PC-Based Multimedia (NB703)

Instructor’s Guide (CB703)

Installation Guide (DB703)

Student Reference Guide (HB703)

Additional Requirements:
- Computer, see requirements: http://www.amatrol.com/support/computer-requirements/

Utilities Required:
- Electrical: 120 VAC / 60 Hz / 1 Phase
- Compressed Air: 100 PSIG

Optional Items:
- Mobile Technology Workstation (82-610) or equivalent

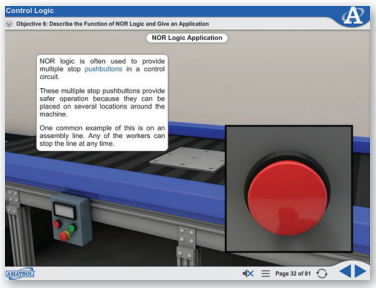
Use Real World Components for Hands-On Skills

96-ECS1 with 96-CT1 add-on

The Electrical Control Learning System (96-ECS1) 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.

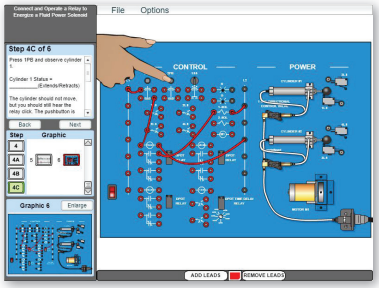
World-Class Speed Control Curriculum in Interactive Multimedia Format

Electrical Control features interactive multimedia curriculum with a stunning breadth and depth of topics. Major topic areas include logic elements, ladder diagrams, electro-pneumatic solenoid valves, relay operation and applications, limit switch operation and applications, time-delay relays and applications, multiple cylinder control, and machine modes of operation. This curriculum is presented in an interactive multimedia format with video, animations, and audio.



Interactive Multimedia Curriculum

Virtual Trainer Electric Relay Control Training

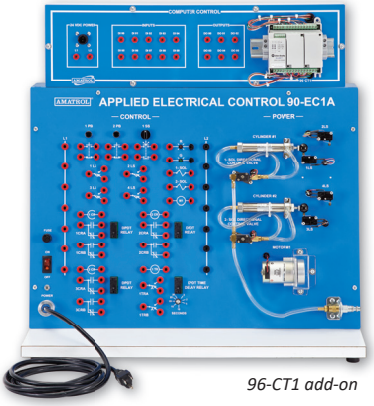


Virtual Trainer

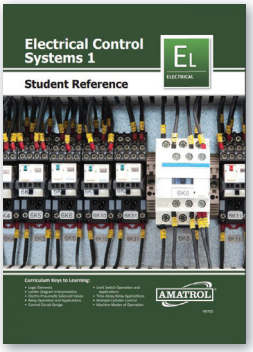
The Electric Relay Control Virtual Trainer replicates the hands-on components in such great detail that learners will feel like they are using the actual equipment. This virtual trainer allows learners to become familiar with common components and practice their newly acquired skills either as a stand-alone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

Expand Your Training with the 96-CT1 Computer Control Option

The teaching capability of the 96-ECS1 can be greatly extended with the addition of the Computer Control Option (96-CT1). Computer Control uses an industrial programmable controller with a console that mounts directly to the top of the Electrical Control console. All inputs and outputs on Electrical Control can be interfaced to Computer Control to enable learners to program the PLC to run real-world automation components.



96-CT1 add-on



Complimentary Student Reference Guide

A sample copy of the Electrical Control Systems Student Reference Guide is included with the learning system. Sourced from the curriculum, the Student Reference Guide takes the entire series’ technical content contained in the learning objectives and combines them into one perfectly-bound book. If you would like to inquire about purchasing additional Student Reference Guides for your program, contact your local Amatrol Representative for more information.

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