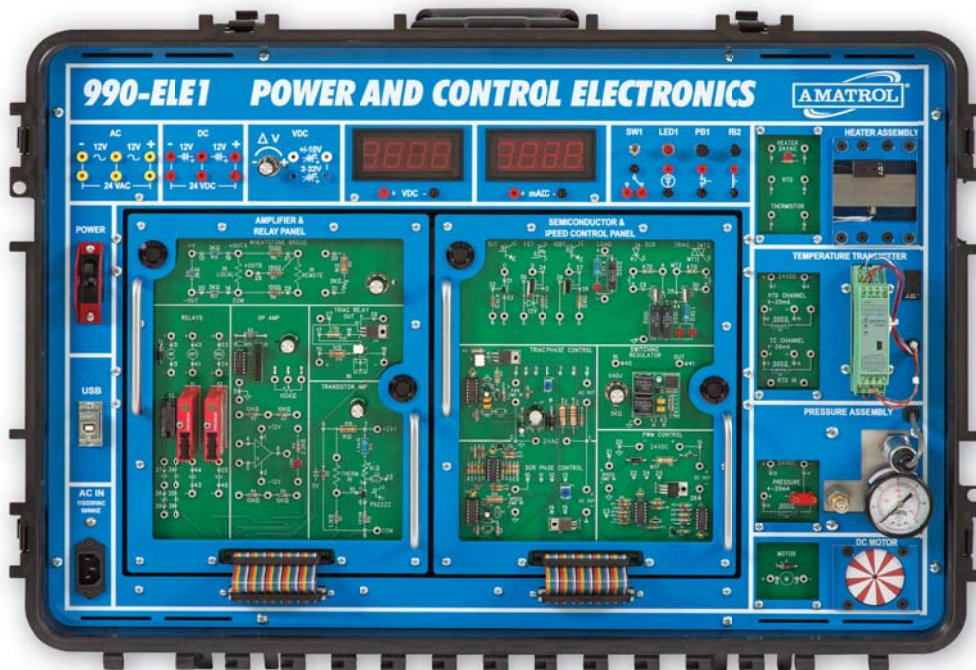


# Portable Power and Control Electronics Learning System

990-ELE1

ET

ELECTRONICS



990-ELE1



Interactive Multimedia, FaultPro, and Student Reference Guide

## Learning Topics:

- Oscilloscopes
- Linear Power Supplies
- Power Supply Filtration and Regulation
- Solid State Relays
- Discrete Sensing Devices
- Thermal Sensing Devices
- Amplifiers and Op Amps
- Analog Sensing
- Solid State Switching
- Solid State Speed and Power Control

Amatrol's Portable Power and Control Electronics Learning System (990-ELE1) covers how to operate, adjust, and troubleshoot electronic components, circuits, and systems used in machine applications. The portable learning system allows for on-the-go exploration of the fundamental concepts of industrial power and control electronics, such as measuring temperature, speed, and analog signals. The 990-ELE1 provides skills and topics that will be invaluable in industries like manufacturing, transportation, energy, and construction.

The 990-ELE1 features interchangeable application panels with industry-standard components that can be set up in a wide variety of real-world machine applications. These components will help learners develop hands-on competencies with linear power supplies, solid state relays, discrete and thermal sensing devices, solid state switching, and more! The 990-ELE1 also utilizes FaultPro, the industry's premier computer-based fault insertion system, which enables learners to develop key industry troubleshooting skills, and features 30 different faults to present learners with realistic troubleshooting experiences.



## Technical Data

Complete technical specifications available upon request.

Portable Suitcase  
Amplifier & Relay Panel  
Discrete Sensor & Power Supply Panel  
Semiconductor & Speed Control Panel  
Digital Multimeter  
Handheld Function Generator  
Portable Air Pump  
Reflective Photo Eye Sensor  
Capacitive Proximity Sensor  
Induction Proximity Sensor  
Hall Effect Sensor  
Ultrasonic Sensor  
Metal Slide Base  
Target Set  
Magnet  
Aluminum Plate  
Steel Plate  
Wood Section  
Plastic Section

Mini Banana Lead Set

Leads

Pneumatic Pump

Multimeter

Multimedia Curriculum (M11128)

Instructor's Guide (C11128)

Installation Guide (D11128)

Student Reference Guide (H11128)

Additional Requirements:

Utilities:

Electricity: 120VAC/60Hz or 240VAC/50Hz

## Practice Troubleshooting Skills that Technicians Encounter on the Job

The 990-ELE1 includes 30 unique faults that present realistic situations that technicians encounter on the job, such as troubleshooting a power supply, an open-loop operational amplifier circuit, a pressure sensing device, and more! The ability to troubleshoot real-world electronic circuits and components at a system level is accomplished using FaultPro. FaultPro features computer-based faults that automatically track progress, enabling learners to gain troubleshooting skills in a self-paced environment that ensures that faults are inserted safely, protecting both learners and equipment.



## On-the-Go Skill-Building for Training with Electronic Power Supply, Temperature Measurement, and Speed Control

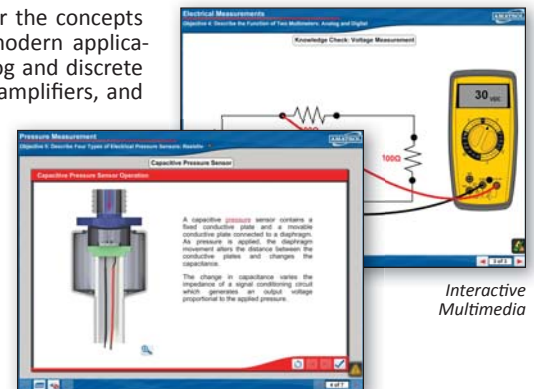


Power Supply Panel

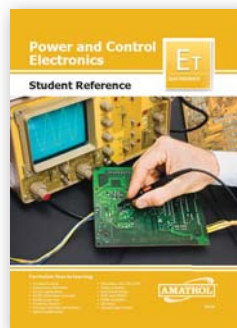
The 990-ELE1 features: a power supply/semiconductor panel with potentiometers and test points; a temperature control panel with thermocouples, resistive temperature detectors, and thermistors; a speed/power control panel; an analog sensor/amplifier panel; and a discrete sensor panel. These industrial-standard components will allow learners to understand how the equipment they're practicing with will be used to troubleshoot basic industrial circuits. Specifically, learners will perform skills like testing the output of a current limiter, selecting a solid state relay, installing a capacitive proximity sensor, connecting two configurations of open-loop operational amplifier circuits, and designing a circuit that measures the level in a batch process.

## Study the Modern Applications of Solid State Electronics with In-Depth Curriculum

The 990-ELE1's in-depth curriculum will cover the concepts of solid state electronics as they apply to modern applications such as switching power supplies, analog and discrete sensing, solid state relays, transistors, PWM amplifiers, and variable speed motor control. Specifically, learners will study objectives like the operation of a full-wave rectifier, the installation of a photoelectric sensor, and testing a triac relay circuit. This curriculum is presented in a stunning interactive multimedia format. This multimedia includes beautiful 3D graphics and videos, voiceovers of all text, and interactive quizzes and activities.



Interactive Multimedia



## Student Reference Guide

A sample copy of the Portable Power and Control Electronics Student Reference Guide is also included with the system for your evaluation. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-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.

