

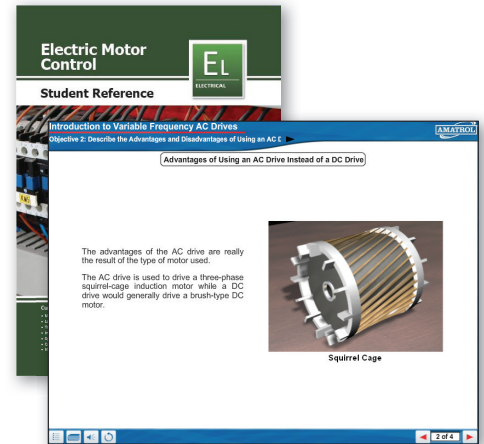
# Portable AC Motor Drive Learning System

990-DRV1



990-DRV1

Student Reference Guide



Interactive Multimedia Curriculum



Portable Workstation

## Learning Topics:

- Introduction to AC Drives
- Two and Three Wire Motor Control
- Jogging Control
- Speed Control
- Torque Control
- Motor Ramping to Rated Speed
- Motor Ramping to a Stop
- DC Injection Braking
- AC Drive Versus Line Starting
- Programming Low Speed Boosts
- Acceleration Past Rated Speed
- S-Curve Acceleration

Amatrol's Portable AC Motor Drive Learning System (990-DRV1) can be used in any industry where rapid motor acceleration or deceleration are required, such as packaging, textiles, and paper, to name a few. This system features industry-standard components like a Rockwell PowerFlex 4 variable frequency AC drive and a 3-phase AC motor used to teach the fundamentals of configuring and operating an AC drive. The 990-DRV1 also includes onboard analog and discrete input devices that enable the learners to operate the drive in many different program applications. Optional electronic fault insertion can also be added to the 990-DRV1 to teach valuable hands-on troubleshooting skills.

The 990-DRV1 is a portable solution when training space is limited but comprehensive knowledge and skill building cannot be sacrificed! This portable system can be placed on a conference room table, shop floor desk, or practically anywhere due to its small footprint. Its compact size and durable case also provide for safe storage when available training space must be used to teach other topics.



## Technical Data

Complete technical specifications available upon request.

AC Drive  
AC 3-Phase Motor  
Potentiometer  
Voltage Meter (LED type)  
Pushbuttons (3)  
Forward/Reverse Selector Switch  
Indicator Lamps (2)  
PLC/Manual Selector Switch  
Tachometer  
Lead Set  
Interactive Multimedia (M11135)  
Instructor's Guide (C11135)  
Install Guide (D11135)  
Student Reference Guide (H17420)  
**Additional Requirements:**  
Personal Computer  
Requirements: <http://www.amatrol.com/support/computer-requirements>  
**Utilities:**  
Electricity (120VAC/60Hz/1 Phase)

## Standard Industry Components

Variable frequency AC drives are used throughout industry to control the voltage and frequency supplied to a motor to match its speed to the application saving energy and reducing cost. Obtaining the skills necessary to program and operate these devices requires hands-on training with the actual components used in industry. The 990-DRV1 uses a Rockwell Powerflex 4 variable frequency AC drive and a 3-phase motor in addition to a digital tachometer to monitor output and a digital voltmeter to monitor analog input to the motor. The system also features a lockout/tagout system to teach vital safety skills when working with AC motors.

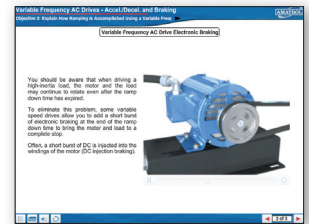


## 3-Phase Motor Training with 1-Phase Power Requirement

Many training areas are not equipped with 3-phase power or do not have sufficient 3-phase outlets to set up a training class. The 990-DRV1 learning system runs on single phase power to add to the convenience and range of locations where it can be used. Requiring only single phase power, this portable system can be located almost anywhere!

## Highly Engaging Interactive Multimedia

Beginning at the foundation of AC Electronic Drives knowledge, the 990-DRV1's extensive multimedia curriculum builds off of the basics to advance to fully explain the operation, installation, and performance analysis of AC motors. As the learner completes each new topic, they'll use this theoretical knowledge to complete hands-on skills like operate a motor using the program keypad of a variable frequency AC drive. Other major topic areas covered in the curriculum include jogging control and torque control, ramping commands, DC injection braking, and acceleration methods.



Interactive Multimedia: AC Drive Controlling a Pump



## The 990-DRV1: Mobile, Durable, Compact Learning System

Set within a durable ABS plastic case, the 990-DRV1 features wheels and a handle to create a mobile training platform that can be used to deliver training where needed and that's easy to store and transport. The cover is quickly removed to enable the case to sit firmly upright on a table surface for any learner to use.

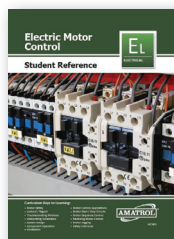
## Enhance the Training by Adding Optional Electronic Fault Insertion!

The 990-DRV1 can be modified to include electronic faults by adding the 99-FTSDRV1. This modification will allow users to troubleshoot over 20 faults focused on drive and motor inputs and drive relays! The 990-DRV1F (AC Motor Drive Troubleshooting Learning System) includes everything on the 990-DRV1, but also includes fault insertion capability.

As the industry's premier program utilizing electronic faults, FaultPro allows instructors to instantly set and tailor faults to test a learner's weaknesses, turn them into strengths, and prepares learners to solve real-world technical problems once they're in the field.



FaultPro



## Student Reference Guide

A sample copy of the Portable AC Drives Learning System's Student Reference Guide is also included with the system for your evaluation. 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.

