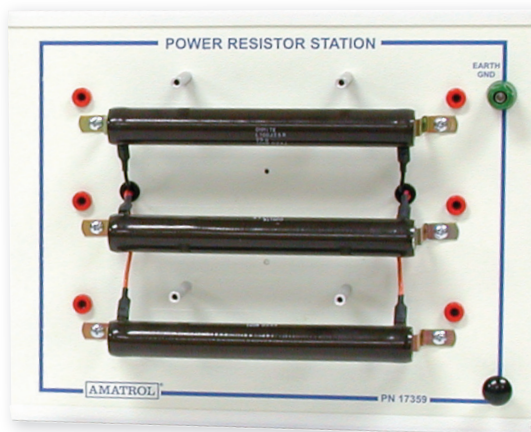
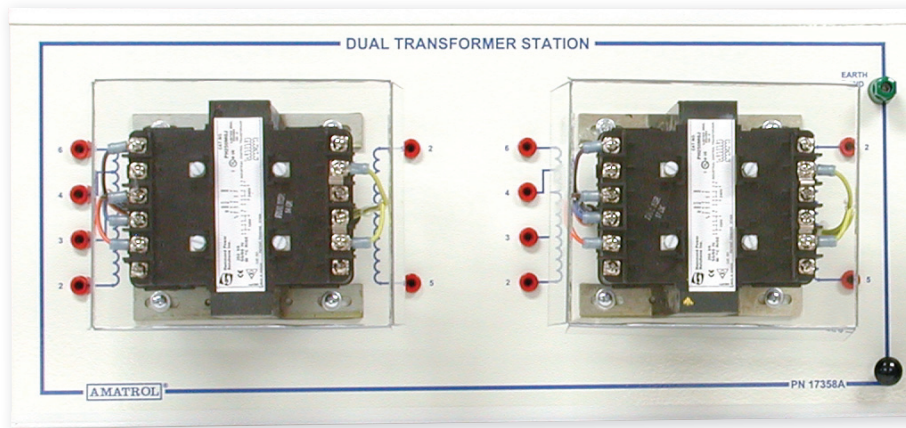


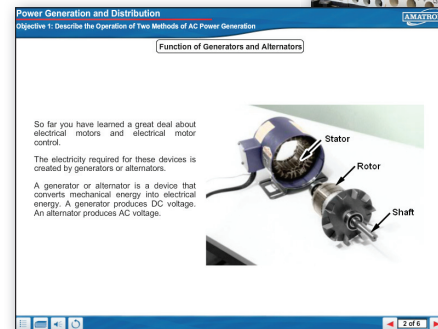
# Reduced Voltage Starting Learning System

85-MT5-B



85-MT5-B

Student Reference Guide



Optional Interactive Multimedia

## Learning Topics:

- Reduced Voltage Starting Circuits
- Primary Resistor Reduced Voltage Starters
- Autotransformer Reduced Voltage Starters
- Part Winding Starters
- Power Generation and Distribution
- AC Power Generation
- Three-Phase Wye Distribution Systems
- Three-Phase Delta Distribution Systems
- Transformers in Power Distribution

Amatrol's Reduced Voltage Starting Learning System (85-MT5-B) adds to the Electric Motor Control Learning System (85-MT5) to teach methods of starting electric motors under reduced voltage, 3-phase power distribution using Delta and Wye transformer wiring configurations, and troubleshooting. Reduced voltage starting is ideal for applications where full motor torque could tear or damage a product, such as paper or delicate fabric. Learners will study Wye-Delta power distribution, types of voltage circuits, and the operation of an autotransformer reduced voltage starter.

The 85-MT5-B includes a Dual Transformer Station, featuring two control transformers, and a Power Resistor Station, featuring three 25 ohm, 100 watt resistors. This system uses industrial quality components that stand up to frequent use and enables learners to practice with real-world components that they will encounter on the job.



## Technical Data

Complete technical specifications available upon request.

### Dual Transformer Station

- 11-gauge Steel Slide-In Panel
- Plug-in connections
- Safety ground terminal and lead
- Control transformers, 60VA (2)
- Multiple tap primary: 208, 220, 460 VAC
- Single tap secondary: 95, 115 VAC

### Power Resistor Station (3)

- Resistors: 25 ohm, 100 watt (3)
- 11-gauge Steel Slide-In Panel
- Plug-in connections
- Safety ground terminal and lead

### Student Curriculum (B17403)

### Instructor's Guide (C17403)

### Install Guide (D17403)

### Student Reference Guide (H19700)

### Optional Multimedia (M17403)

### Additional Requirements:

- Optional Multimedia Requires Computer
- Requirements: <http://www.amatrol.com/support/computer-requirements>

### Utilities:

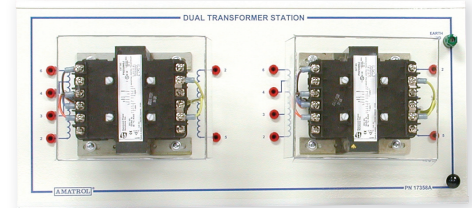
- Power provided by the 85-MT5

## Practice Real-World Skills on the Dual Transformer and Power Resistor Stations

The 85-MT5-B includes two panels, the dual transformer station and the power resistor station. Each of these panels is made of 11-gauge steel for durability and easily integrates with the Electric Motor Control Learning System (85-MT5). Learners use these panels to study the operation, installation, performance analysis, and design of components used for reduced voltage motor starting.



Power Resistor Station



Dual Transformer Station

The power resistor station includes three (3) 25 ohm, 100-watt power resistors. The dual transformer station features two (2) control transformers (250 VA minimum), multiple tap primary (208, 277, 380 VAC), and a single tap secondary (120 VAC).

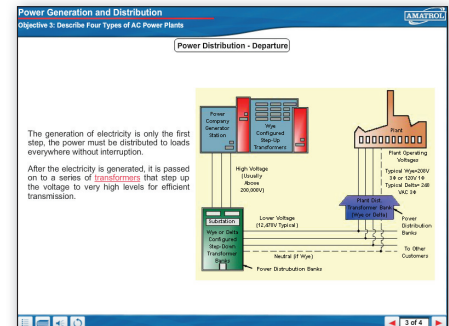
## Build Troubleshooting Skills for Reduced Voltage Motor Starting

Troubleshooting is a vital industry skill that will help learners understand malfunctions in normal operation and give them the skills to correct faults as they arise. The 85-MT5-B allows learners to practice troubleshooting skills for reduced voltage motor starting, such as primary resistor motor starter faults, autotransformer reduced voltage motor starter faults, and part winding motor starter faults.

## Extensive Curriculum Provides Strong Theoretical Motor Starting Knowledge

The 85-MT5-B's curriculum allows learners to apply strong theoretical knowledge directly to hands-on skills, such as using a multimeter to determine whether a distribution system is a Wye or Delta configuration and designing a Delta-to-Wye bank configuration using three single-phase transformers. Major topic areas include different types of motor starters, AC power generation, and transformers in power distribution.

The 85-MT5-B also offers optional multimedia curriculum that brings this vital industrial skill to life by utilizing audio, text, 3D graphics, and strong interaction to fully engage learners.



Optional Interactive Multimedia

## Electric Motor Control Options

In addition to the 85-MT5-B, Amatrol offers a wide array of options for the Electric Motor Control Learning System (85-MT5). These options include Motor Braking (85-MT5-A), Variable Frequency AC Drive (85-MT5-C), Electronic Sensors (85-MT5-D), Electronic Counter (85-MT5-E), and SCR Speed Control (85-MT5-F).

## Student Reference Guide

A sample copy of the Motor Control Options 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.

