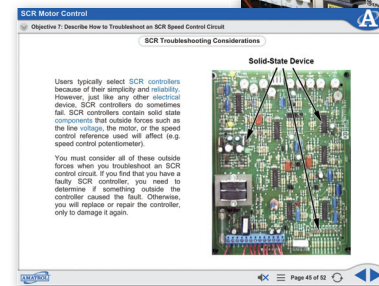
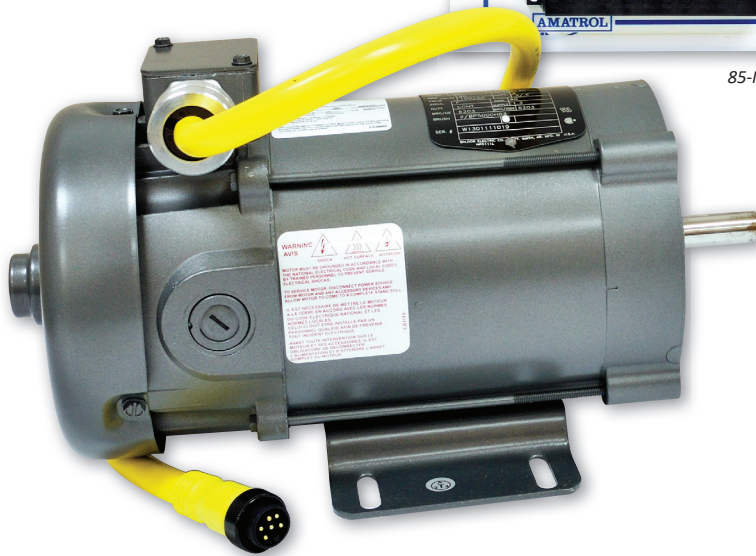


# DC Drives with SCR Speed Control Learning System

85-MT5F



85-MT5F



Interactive Multimedia Curriculum and Student Reference Guide

## Learning Topics:

- SCR Motor Control
- SCR Half-Wave Speed Control
- SCR Function and Applications
- SCR Operation
- Observe Output Waveform
- SCR Half-Wave Speed Control Performance
- SCR Full-Wave Speed Control
- Connect and Operate a Motor
- SCR Full-Wave Speed Control Performance
- SCR Controller Troubleshooting

Amatrol's DC Drives with SCR Speed Control Learning System (85-MT5F) adds to the Electronic Motor Control Learning System (85-MT5) to teach variable speed motor control of DC electric motors using Silicon Controlled Rectifier (SCR)-based circuits. SCRs convert AC voltage into a DC voltage in order to provide efficient variable speed control of DC motors and are widely used within industrial applications such as cranes and machine tool spindles.

The 85-MT5F features heavy-duty components like an SCR speed control unit, DC shunt wound motor, and fuse block to give learners real-world practice on SCR speed control skills such as connecting and operating a motor with SCR half-wave speed control, measuring the performance of SCR half-wave speed control, and troubleshooting an SCR speed control circuit. These hands-on skills are carefully interwoven with world-class SCR speed control curriculum so that learners understand both the theoretical and practical knowledge that they'll need to be successful.



## Technical Data

Complete technical specifications available upon request.

### DC Shunt Motor

- 1/4 Hp Rating
- Nema 56c Frame
- 1750 rpm Base Speed
- 90 Volts, 3.0 Amps Armature Rating
- 100 Volts, 0.3 Amps Field Rating
- Multi-Pin Power Lead Connector and Cable

### SCR Speed Control Station

- 11-Gauge Steel Panel
- Slide-in Panel Mounting
- 5-way Binding Post (Ground)
- Banana Jack Ground Lead
- Fault Module with (4) Faults
- Power On/Off Switch
- Full/Half-Wave Rectification Switch
- Speed Control Adjustment Knob
- Multi-Pin Motor Connector
- 120VAC/ 60 Hz Control Power
- Test Point Terminal Strip-12 pt.
- 5-way Binding Post for Power Fuse, Replaceable, 5 Amp
- Power Supply Jacks, Plug-In Type
- Armature Voltage Jacks, Plug-In Type
- SCR Control Unit, 1/8 to 1/4 Hp Rated at 90 VDC

### Interactive Multimedia Curriculum (M17412)

#### Instructor's Guide (C17412)

#### Install Guide (D17412)

#### Student Reference Guide (H19700)

### Required Items

- 85-MT5 Electric Motor Control Learning System
- Computer Requirements: <http://www.amatrol.com/support/computer-requirements/>

### Utilities:

- Power Provided by the 85-MT5

## DC Drive with SCR Speed Control Skill-Building and Troubleshooting

Amatrol's DC Drive with SCR Speed Control Learning System (85-MT5F) is built with components that are both heavy-duty to stand up to frequent use and industry-standard so that learners can gain real-world experience. The 85-MT5F includes a slide-in, pre-wired, 11-gauge steel panel with an SCR speed control unit, speed control adjustment, fuse block, full/half wave rectification switch, and a 1/4 HP DC shunt wound motor. The SCE speed control unit provides adjustable current limit with LED indicator, IR voltage compensation to provide 1% speed regulation throughout 60:1 speed range, minimum and maximum speed settings, and adjustable linear acceleration and deceleration times.

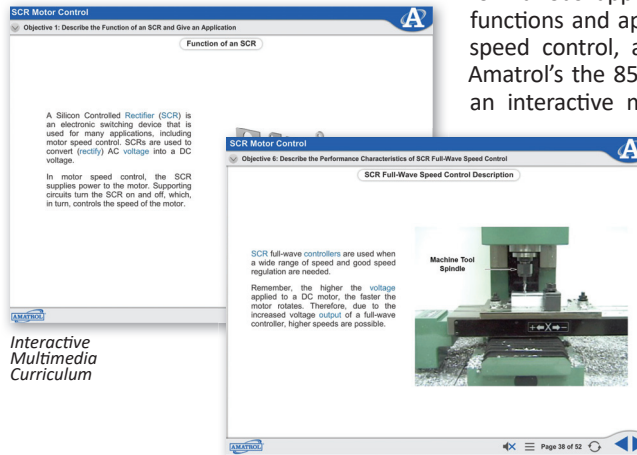


85-MT5F Control Panel

Amatrol uses the strength of the 85-MT5F's curriculum and directly applies it to practicing hands-on skills so that learners can gain real-world competencies. As an example, learners will connect and operate a DC shunt wound motor with both SCR half-wave and full-wave speed control and measure their performances. The 85-MT5F also features fault troubleshooting so that learners can troubleshoot an SCR speed control circuit.

## World-Class Speed Control Curriculum

Amatrol's world-class DC Drives with SCR speed control curriculum provides learners with strong foundational knowledge on how to operate, install, analyze performance, and troubleshoot SCRs for various applications. Learners will study the functions and applications of SCRs, SCR half-wave speed control, and SCR full-wave speed control. Amatrol's the 85-MT5F curriculum is presented in an interactive multimedia format. This multimedia combines text, audio, 3D graphics, and interactions to fully engage learners and support all learning styles.



Interactive Multimedia Curriculum

## 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.

