

# MOTOR CONTROLS

Analog & Digital Controllers

**NEW**

**Variable Frequency  
Drive**

**SCR Control Module**

**State of the Art  
Technology**

**Allen Bradley  
MicroLogix  
PLC Module**

GNR-H2200

**Educational Training Equipment for the 21st Century**



**Hampden®**  
ENGINEERING CORPORATION



## Hampden Engineering Corporation

# MOTOR CONTROLS

### Expand Your Classroom with Hampden's State-of-the-Art Motor & Machine Control Systems

Hampden Engineering Corporation is a world leader in the design & manufacture of state-of-the-art analog & digital controllers for virtually any type of motors and machines training program.

Our systems are available in both fractional and integral horsepower ratings and are compatible with almost any style of rotating electrical machines program, as well as ancillary electrical and electronic training equipment.

Every functional component, control, and indicating device is clearly labeled and displayed in a manner which provides students with a thorough understanding of every procedure.

All controllers can be ordered with optional computer interface connections and supporting software—including computer data logging (CDL) capabilities.



**MODEL GNR-H2200** Industrial Controls Training System provides students with practical “hands-on” experience in designing, wiring, checking out, and troubleshooting “real-world” motor control systems. The system consists of interchangeable unitized control modules mounted on a wood core white melamine panel. The student selects just the components needed for a particular system, secures them on the panel with wing nuts and wires them in accordance with the control diagram. All pushbuttons, contactors and other control components are suitably rated for use with 1HP motors.



**MODEL GNR-1200** Industrial Controls Training System provides practical “hands-on” experience designing, wiring, checking out, and troubleshooting “real-world” motor control systems. The unit consists of interchangeable unitized control modules mounted on a wood core white melamine panel. Instructor-controlled faults can be inserted into each module. All control components are rated for use with Hampden Series 100 Rotating Machines or machines up to 1-HP.



## Hampden Engineering Corporation

# MOTOR CONTROLS

### Hampden Designs & Manufactures the Largest Selection of Educational Motor Control Equipment Anywhere



The **MODEL H-REM-ACDC-MC** Motor Controller provides students with an interactive understanding of AC and DC motor control set-ups by interfacing components. An instructor's fault system consists of 22 switch-injectable faults. Rated for use with DC fractional HP machines and AC systems; three-phase squirrel-cage and DC motor. Wound-rotor and synchronous motors are optional.



**MODEL ACC-100-K**



**MODEL DCC-100-K**

The Series 100 Modular Motor Controllers provide students with the opportunity of observing the operation of electromagnetic contactors and relays. Each model contains a number of Lexan® modules with one or more control components. The student interconnects these components into systems to control the operation of Hampden Series 100 Fractional Horsepower Motors. Each system furnished complete with cords and bench rack. Modules mount in the bench rack without the use of tools.



The **MODEL ACC-100** Fractional HP AC Controller with faults, includes control buttons, forward-reverse contactor, variable resistors, wound rotor control, DC field contactor, overload relay, rectifier, autotransformer, time delay relays, and 3-pole isolated circuit breaker.



**MODEL EM-ACC-100K-MCS** shown with Extension Modules

The **MODEL EM-ACC-100K-MCS** Modular Component System provides students with the opportunity to observe the operation of electromagnetic contactors and relays. Each Lexan® module contains one control component. The student interconnects these modules into systems to control the operation of Hampden Series 100 Fractional Horsepower Motors.



The **MODEL H-IEC-B2** Alternator Voltage Controller provides students with an understanding of the methods (pulse width modulation and pulse frequency modulation) employed in regulating the terminal voltage of an alternator, including voltage and frequency feedback.



## Standard Products...Designed to Meet Your Growing Needs!



# MOTOR CONTROLS

## *Hampden's Solution for Motor Signal Acquisition*

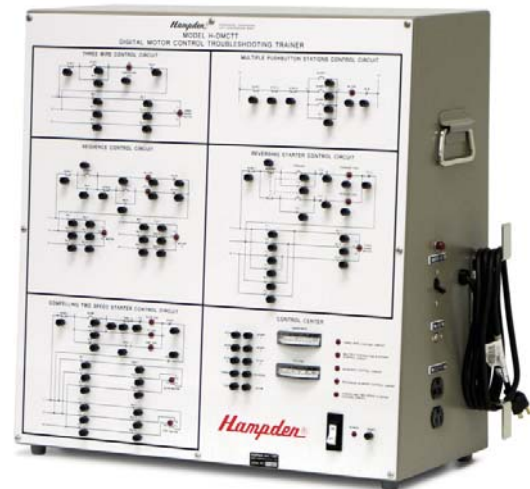


The **MODEL H-MGI-100** Motor-Generator Interface Module (shown with optional **MODEL H-CSI-CS** Computer System) provides an all-in-one solution for interfacing motors and machines with computers.

Providing ease-of-connection for real-world signal levels, the **MODEL H-MGI-100** connects to any IBM-compatible computer via an RS-232 serial cable. Your motor experiments can now be recorded and analyzed by the software included. Hampden includes templates for many standard fractional and integral motor setups. The **MODEL H-MGI-100** also provides inputs for the Hampden **MODEL H-REM-LC-D** Digital Load Cell and **MODEL HPT-100A** Digital Photo Tachometer.

### Typical Experiments:

<b>DC:</b> —Torque vs Alternate Current	<b>AC:</b> —Power Factor vs Load
—Speed vs Alternate Current	—Torque vs Current
—Speed vs Applied Armature Voltage	—H.P vs Load
	—Efficiency of a Single Phase Motor vs Current "V"-curves



The Hampden **MODEL H-DMCTT** Digital Motor Control Troubleshooting Trainer provides interactive motor control troubleshooting training via computer to a student operator wanting exposure to connection and operation, without bulky hardware and electrical hookups. The computer allows the student to explore motor control and troubleshooting with interactive prompting on the computer screen for student operation. The trainer may be put into a programmed sequence of faults that pace the student through an instructor-selected range of faults. The software includes instructor's set-up program complete with password, master fault list, number of fault identification attempts and running time with limit option.

The following five circuits are represented:

- ▶ Three-wire control circuit
- ▶ Multiple station control circuit
- ▶ Sequence control circuit
- ▶ Reverse starter control circuit
- ▶ Compelling control circuit



Hampden is committed to providing industry-leading technology.

For the latest from Hampden, visit our home page at <http://www.hampden.com> or e-mail us at [sales@hampden.com](mailto:sales@hampden.com)

**Hampden®**  
ENGINEERING CORPORATION

99 Shaker Road P.O. Box 563, East Longmeadow, MA 01028-0563 • TEL. (413) 525-3981 • (888) HEC-CORP • FAX (413) 525-4741