MECHATRONICS ENGINEERING PROGRAM

Educational Training Equipment for the 21st Century

ISO 9001:2015

Hampden® ENGINEERING CORPORATION

MADE IN U.S.A.

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.

The Hampden **Model H-MTS-3** Mechanical Transfer System is designed to provide students with an understanding of mechanical drives and linkages. This will provide the foundation needed for the study of more advanced machines, such as industrial robots. For example, students will investigate: proportional speed drives; rotary and linear output; intermittent drives; levers; slidercrank; quick return and fourbar mechanisms.
(**H-MTS-3** is shown above with optional **BPS-12P** Power Supply and **HPT-100A** Tachometer) ▲

The Hampden **Model H-FP-223-14** Hydraulic Trainer consists of a mobile bench, hydraulic pump, and selection of hardware mounted on a vertical panel. All hydraulics hardware is of commercial quality and configured for training purposes.
◀ (**H-FP-223-14** Hydraulic Trainer with **H-FP-223-14-EH** Electrohydraulics Option is shown)

The Hampden **Model H-FP-223-15** Pneumatic Trainer consists of a mobile bench, storage drawer, and a selection of commercial quality hardware, mounted on a 11 gauge white steel vertical panel, mounted on a frame of 14 gauge steel. Finished in instrument tan texture enamel.
(**H-FP-223-15** Pneumatic Trainer with **H-FP-223-15-PPS** Pneumatic Air Supply Option **H-FP-223-15-FP** Fault Package Option, **H-FP-223-15-EPS** Electro-Pneumatics Module Option is shown) ▶

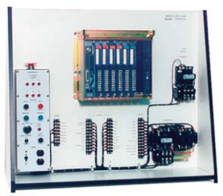
The Hampden **Model H-PLC-PP-1A-ML-1200** Self-Contained Programmable Logic Training System consists of the following: ▲

- 1 - H-ML-1200 Micrologix 1200 Fixed Programmable Logic Controller, with 24 24V AC inputs, 16 relay outputs, mounting rack, H-LTCS Laptop Computer and manual set.
- 1 - H-PLC-PP-1A Hampden Peripheral Panel
- 1 - RSLOGIX MICRO Software
- 1 - Text Book, "Introduction to Programmable Logic Controllers" with Answer Key
- 1 - Text Book, "Introduction to Programmable Logic Controllers Applications Manual" with Answer Key

Optional:

- 1 - H-RSLOGIX Programming and Documentation Software for Windows
- 1 - RSVIEW 32 Works 150 with RSLinx

The Hampden **Model H-PLC-5-AB** Programmable Logic Control Trainer provides students with hands-on experience, utilizing standard commercially available programmable logic controllers interfaced with actual input and output devices. The student gets hands-on experience on interconnection wiring, general programming information, ladder diagram programming, programming trainers, counters, shift registers, LET instructions, IF instructions; and specific programmers operations including self test, error messages and codes. ▼



Hampden Engineering Corporation
MECHATRONICS ENGINEERING PROGRAM

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

◀ The Hampden **Model H-MGI-Series** Motor-Generator Interface package 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-Series** connects to any standard IBM-compatible computer via an RS-232 serial cable.

The Hampden **Model HMD-100-CM** Experimentation Station contains power and metering services, an ample work surface and storage area for experimentation components.
(**HMD-100-CM-DA** Digital Experimentation Station is shown above)

Hampden Fractional Horsepower Series #100 Rotating Machines Program

- ▶ **MODEL DM-100A** DC Motor/Generator
- ▶ **MODEL SM-100-3** Synchronous Motor/Alternator
- ▶ **MODEL MFM-100** Multi-Function Machine
- ▶ **MODEL DYN-100A-DM** Dynamometer
- ▶ **MODEL SFR-100** Series Field Rheostat
- ▶ **MODEL MGB-100-DG** Bedplate
- ▶ **MODEL SLA-100M** Strobe-Tachometer
- ▶ **MODEL RL-100A** Resistance Load
- ▶ **MODEL RLC-100** Resistance/Reactance Load
- ▶ **MODEL HT-100K** Digital Optical Tachometer

The Hampden **Model H-SCR-104** ▶ Four Quadrant DC Speed Controller is a full-wave regenerative drive capable of operating DC, PM or Shunt motors in a bidirectional mode. Its 4-quadrant operation provides forward and reverse torque in both speed directions. This allows the control to maintain constant speed with overhauling loads and provide rapid instant reversing and controlled braking. Because of its excellent controllability and response time, the **Model H-SCR-104** can replace servos in many applications.

◀ The Hampden **Model H-VFD-100C** Fractional Horsepower, 3Ø, Variable Frequency Drive controls the speed of induction or synchronous motors rated to 1/3 horsepower. The unit consists of two sections. The first is the basic adjustable frequency drive with reversing capability. The second unit supplies isolated feedback or voltage-following capability.

◀ The Hampden **Model H-CTF-2TTL** Digital Computer Fundamentals Trainer Kit is designed to provide the student with basic concepts and principles that apply to all digital computers.

The Hampden **Model PE-100** ▶ Optical Encoder includes a base, 5V DC power supply, coupler for connecting to Hampden Series 100 Rotating Machine System and a 6 ft. Interface cable.

The Hampden **Model BDM-100A** Brushless DC Motor is a general purpose adjustable speed drive. ▼

The Hampden ◀**Model H-REM-ACDC-MC** Motor Controller has been developed to provide students with the basic understanding and principles of AC and DC motor control. The student will gain practical experience in both application and electrical interfacing of components and their reaction to each other.

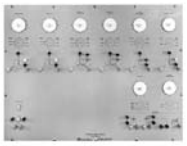
Standard Products…Designed to Meet Your Growing Needs!

MECHATRONIC ENGINEERING

Typical Curriculum Outline

Contents

The Hampden **Model SD-108A** Synchro Servo Trainer consists of two basic parts, the component panel and the mobile frame with writing and accessory shelf. ▶



H-IEC-AS/CS

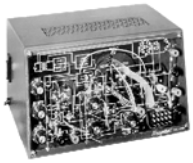
Industrial Electronics Control for Asynchronous Sequential Logic Trainer

The Hampden **MODEL H-IEC-AS/CS** Industrial Electronics Control for Asynchronous Sequential Logic Trainer helps students learn the principles of flip-flop design, PLDs, and Asynchronous Logic. ▶

H-IEC-A/D

Industrial Electronics Control for Analog ↔ Digital Conversion

The Hampden **MODEL H-IEC-A/D** Industrial Electronics Control for Analog ↔ Digital Conversion helps students learn issues associated with signal processing and control, and analog-to-digital conversion. ▶



H-IEC-ECC

Industrial Electronics Control for Embedded Control Computers

The Hampden **MODEL H-IEC-ECC** Industrial Electronics Control for Embedded Control Computers helps students learn the principles of single chip computers, how the order factor relates to the chips, and the basic features of embedded computers. ▶

H-IEC-PVM

Industrial Electronics Control for Position and Velocity Measurement

The Hampden **MODEL H-IEC-PVM** Industrial Electronics Control for Position and Velocity Measurement helps students learn the issues associated with position control and a variety of mechanical, pneumatic, hydraulic, and other position and velocity instruments. ▶

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

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