

# Motor-Generator Computer Interface

Educational Training Equipment for the 21st Century

Bulletin 259-110E

Bring your investment in  
Electric Motor Technology  
along with you into the  
21st Century

## H-MGI-Series

### Motor-Generator Interface Module with I/O Package

Hampden's Four-Step Solution for Motor Signal Acquisition

### Purpose

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.

It's four steps and you're up and running:

1. Unpack the **Model H-MGI-Series** Motor Interface
2. Plug in the inputs from your machines into the clearly labeled inputs on the **Model H-MGI** front panel.
3. Plug the supplied RS-232 cable from the **Model H-MGI** into your computer.
4. Install the Hampden Acquisition software on your computer.

That's it! Your motor experiments can now be recorded and analyzed by the software included with the **Model H-MGI**. Hampden includes typical templates for many standard fractional and integral motor setups.

### Typical Experiments

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



Dimensions: 18"H x 23"W x 12"D  
Shipping Weight: 80 lbs.

### Description

The Hampden **Model H-MGI-Series** Motor-Generator Interface Module is directly compatible with:

#### H-MGI-100

- Hampden Series 100 Motors

#### H-MGI-REM

- Hampden H-REM-120
- Hampden H-REM-1A
- Hampden Series 2 Hp Motors
- Hampden Series 3 Hp Motors

The **Model H-MGI-Series** also provides inputs for the Hampden **Model H-REM-LC-D** Digital Load Cell and **Model HPT-100A** Digital Photo Tachometer.

### Specifications

The Hampden **Model H-MGI-Series** allows the following output and inputs:

INPUTS	OUTPUT
AC Volts	0-10 DC Volts
AC Amps	
AC Watts	
DC Volts	
DC Amps	
45-65 Hz	

This module consists of one analog output and eleven analog inputs at real-world levels which go to microprocessor controlled high-resolution 16 bit sigma-delta A/D converters to acquire the appropriate sensor signal. The digital data is translated into the appropriate format such as engineering units; when the computer requests this data, it is sent over a single RS-232 interface cable. The output signal can be used to run motors via a variety of Hampden solid state controllers. Furnished complete with cords.

### Supplies Required

1Ø AC-50/60Hz

### Option

For National Instruments modules, specify **H-MGI-L**, available with and without LabVIEW software.

All Hampden units are available for operation at any voltage or frequency

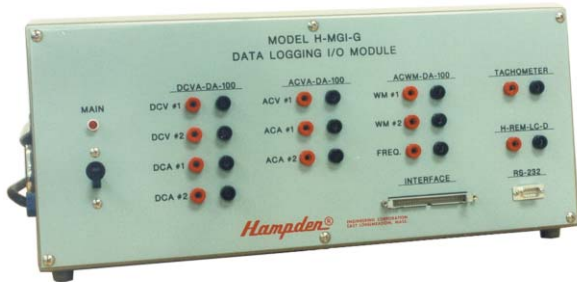


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# Motor-Generator Interface

Educational Training Equipment for the 21st Century

Bulletin 259-110-1E



◀ **MODEL H-MGI-G**  
Motor-Generator Interface Module  
Dimensions: 8¼"H x 19"W x 8¼"D  
Shipping Weight: 35 lbs.

## H-MGI-G Motor-Generator Interface Module

### Software:

Utility - Configure Modules  
Scada - Genie Data Acquisition and Control Software.

### Interconnection Cords:

22 Hampden PP-4

### Manuals:

Operating and Instruction manual

### Option:

**H-MGI-G-L LABVIEW**

The **Model H-MGI-G** can be mounted inside the **HMD-100A-CM-DA** console. For the internal version, specify **Model HMD-100A-CM-DA-CDL** at time of order.

## Purpose

The Hampden **Model H-MGI-G** Motor-Generator Interface Module interfaces with the following digital meter modules:

- **MODEL ACVA-DA-100A/300A**  
AC Volt/Ammeter with Digital Meters
- **MODEL DCVA-DA-100A/300A**  
DC Volt/Ammeter with Digital Meters
- **MODEL ACWM-DA-100A/300A**  
AC Wattmeter with Digital Meters

Hampden modules:

- **MODEL H-REM-LC-D**  
Digital Load Cell
- **MODEL HPT-100A**  
Digital Photo Tachometer
- **MODEL HMD-100-CM-DA**  
Console

## Specifications

### Protection:

1-pole UPG circuit breaker.

### Pilot Light:

Glodot

### Interface Receptacle:

RS-232 9-Pin

### Power Required:

120V AC

### Converter:

RS-485 to RS-232

### Analog Inputs:

Channels – 16  
Sample Rate – 10 Hz  
Resolution – 16 Bit

### Interior Power Supply:

24V DC



**MODEL HMD-100A-CM-DA**  
Shipping Weight: 700 lb.

## Hampden Mobile Student Experimentation Stations with Computer Data Logging

The **HMD-100A-CM-DA-CDL** Console consists of twelve analog inputs which go to microprocessor controlled high-resolution 16 bit sigma-delta A/D converters to acquire the appropriate sensor signal. The digital data is translated into the appropriate format such as engineering units; when the computer requests this data, it is sent over a single USB cable.

### Option:

- **HMD-100A-CM-DC-CDL-L LABVIEW**

All Hampden units are available for operation at any voltage or frequency



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