

# DATA ACQUISITION for ENGINEERING and TECHNOLOGY in the 21<sup>st</sup> CENTURY

**LabVIEW™  
COMPATIBLE**

GRAPHICAL PROGRAMMING SOFTWARE

COMPUTER DATA LOGGING  
(CDL)



**Hampden®**  
ENGINEERING CORPORATION



# DATA ACQUISITION



**Complete Computer Data Logging Solutions for Any Type of Equipment! ...LabVIEW™ Compatible...**

**H**ampden provides the widest array of experimental and educational training equipment available today. Students around the world use our products to extend their classroom knowledge into a real world, hands-on environment.

Today's standard industrial and laboratory procedures have evolved to include automated monitoring as well as computer control of virtually every process. To simulate this modern apparatus within a laboratory, typical stand-alone experiment equipment must be updated in order to allow for computer linking. This is accomplished by replacing the typical analog gauges, meters and sensors with digital products; such as special thermocouples and microprocessor-based controllers. The next step to acquiring data via computer is to add the acquisition modules. Modules mounted on the demonstrator are connected to the laptop computer via a cable. The easiest interface for your lab!

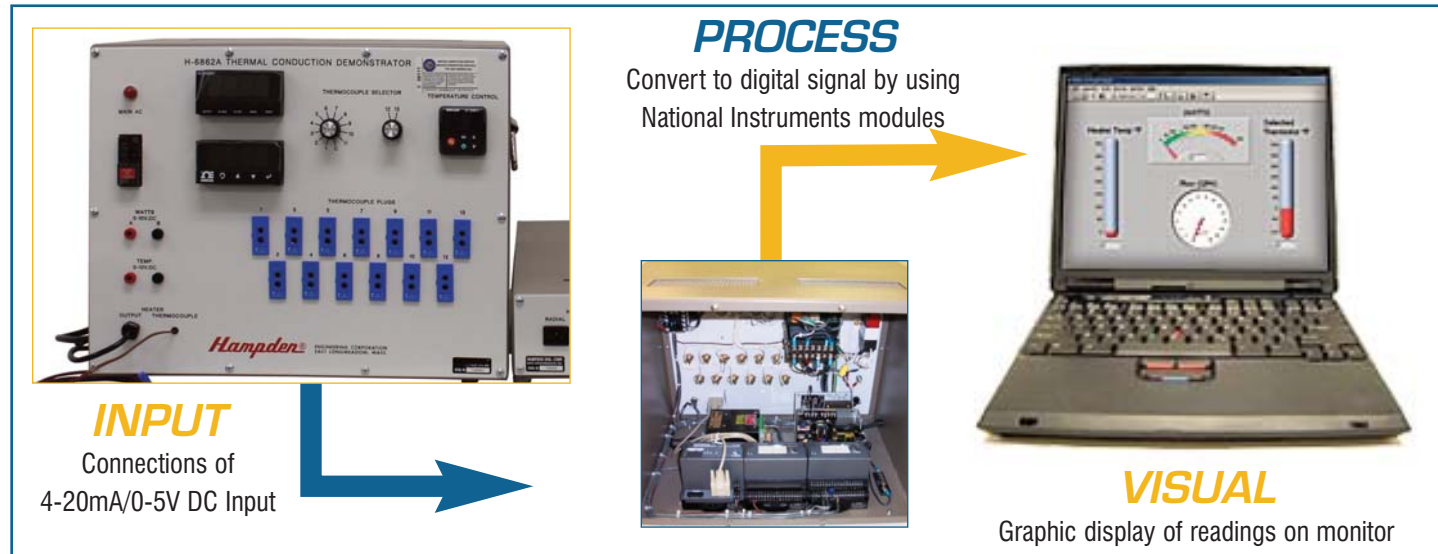
Hampden is the leading worldwide manufacturer of educational training equipment to industry, schools and universities. We have the knowledge and experience it takes to design and build the best CDL based experiment equipment available today. We continue to develop and introduce new products in response to technological advances.



Hampden's Model H-LTCS—Pentium based laptop computer system is selected, tested and configured to perform with your CDL equipment.

## The Right Stuff...

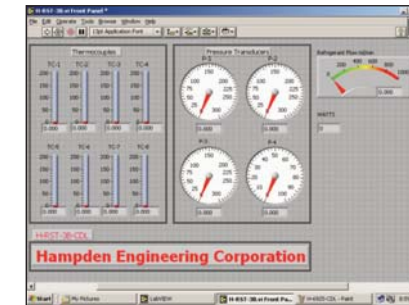
Hampden offers the planning and implementation of complete data acquisition solutions for the training of engineering students. Our engineers and technicians use only the best components and materials available and make sure that a complete approach is mapped out for all our CDL products. We include templates for LabVIEW™ control software with most CDL packages. In short, the right combination of hardware, software and courseware is your assurance that your new Hampden built equipment will provide maximum performance right from the start.



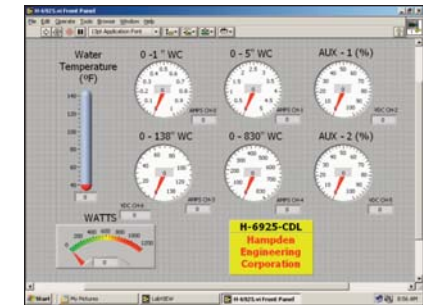
## Expand Any Engineering Training Equipment with Data Acquisition



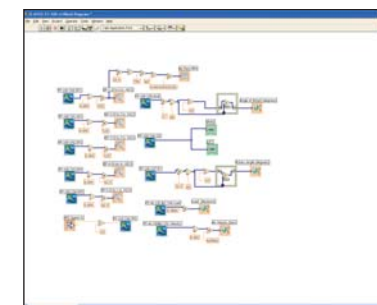
The Hampden Model H-RST-3B-CDL-L was designed to provide students with a thorough understanding of the refrigeration cycle, including measurement of pressure, vacuum, flow rate, and temperature. Templates for LabVIEW™ control software are included.



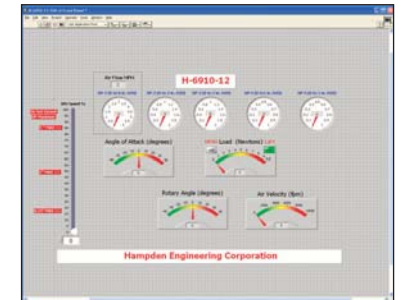
The Hampden Model H-6925-CDL Fluid Circuit Demonstrator provides complete facilities for the investigation of the phenomena associated with incompressible fluid flow in conduits. The analog outputs are



factory wired to National Instruments I/O modules where the signals are converted and terminate to a USB receptacle. Templates for LabVIEW™ control software are included.



The Hampden Model H-6910-12A-CDL Wind Tunnel has been designed to provide the fundamental air flow facilities and provide full visibility of test sections. The trainer is fully instrumented for static and dynamic pressure. This model features five differential pressure transducers, one air velocity transmitter, one rotary transducer, lift/drag input, and one fan speed. Templates for LabVIEW™ control software are included.



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



*Experience Counts...*

*Hampden Builds CDL Equipped Training Equipment*

*...For ANY Application and is now LabVIEW™ Compatible*

Hampden provides the BEST in Hands-on training equipment—designed and manufactured at our facility. When you want to take your training experience to the next level, Hampden is ready to be your partner. ANY of Hampden's broad line of training equipment can be expanded for Computer Data Logging (CDL) and is now available with templates for LabVIEW™ graphical programming software. If it has a signal, it can be brought to a computer. All of the necessary transducers and signal conditioning data acquisition hardware are integrated by Hampden. Software, configured for your lab, can be supplied as requested.



The Hampden **Model H-6862A-CDL** Thermal Conduction Trainer allows students to investigate in detail the principles of conduction heat transfer. The student is able to determine the relationship governing conduction heat transfer and show that it is dependent on the thermal conductivity of the material, the length of the conducting path, the cross-sectional area of the conduction path, and the temperature gradient. The student is able to determine linear and radial temperature surface contact resistance, conduction through materials with different cross-sectional areas, conduction through insulation, and conduction through composite materials. Templates for LabVIEW™ control software are included.



The Hampden **Model HMD-100-CM-DA-CDL** Mobile Console provides the facilities required to perform experiments with Series 100 Motors and Generators plus power and metering services. The Student Experimentation Station allows experiment values and test results to be directly fed into typical PC data acquisition boards (not included), such as Data Translations, Analog Devices and Metrabyte.



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**<sup>®</sup>  
**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