

## Purpose

The Hampden **H-ICS** Trainers provide experience in setting up, tuning, operating, and troubleshooting actual instrument and control systems of the type used in the power and process industries. By simulating a process loop, provides instruction in the measuring and transducing of such physical variables as flow and level. Student trainees learn instrumentation and control techniques of standard equipment. Covered are open-loop control as well as the various types of closed-loop control: on/off, proportional, proportional plus integral, and proportional plus derivative, as well as a variety of final control devices, including electric, pneumatic and electronic.

## Description

The Hampden Instrumentation and Process Control Trainer contains, in addition to the principal measuring and transducing device, an independent indication of the value of the physical variable being controlled. Microprocessor-based controllers provide maximum flexibility in setting control parameters, besides providing the computer interface for distributed control.

## H-ICS-FLP-TT Flow Level and Pressure Process Control Trainer

The Flow Level and Pressure Process Control Trainer consists of the following components:

- Single System Microcontroller (PID) with communications port RS485
- Transmitter, electronic d/p cell - level
- Power Supply, 24V DC
- Air Regulator
- Centrifugal Pump with 1/2HP motor and variable frequency drive
- Flowmeter, water
- Alarm Indicating Lights (2)
- Receptacle
- Electromagnetic Circuit Protector Power Switch with pilot light
- Removable header assembly
- Pressure sensor
- Control Panel and base
- Patch Cords (20)
- Ground Fault Interrupter
- Storage compartment for patch cords
- Current to Pressure (I/P) Converter
- Control Valve, air actuated
- Storage Tank, 2 gallon
- Bubble pipe
- Pump Starter
- Level Tank (for opened and closed level measurement)
- Pressure Monitor Taps - Piping
- Air Hoses



**MODEL H-ICS-FLP-TT**  
Flow Level and Pressure Process Control Trainer

## Options

### PLC Control instead of PID Control

- Specify Model H-ICS-FLP-PLC-TT

### Temperature Adder

This option will add a heater element, power controller and temperature transmitter to allow the addition of temperature control.

- Specify Model H-ICS-FLPT-TT

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

**Hampden**  
ENGINEERING CORPORATION