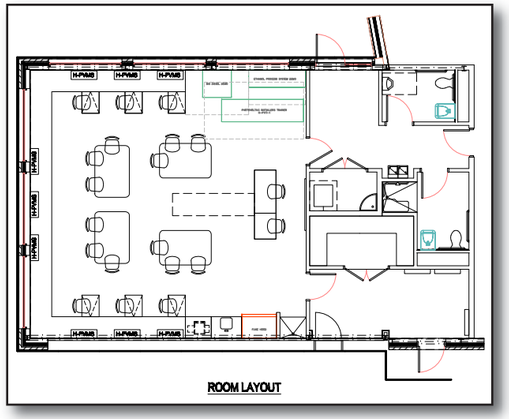
Solar Installation Labs

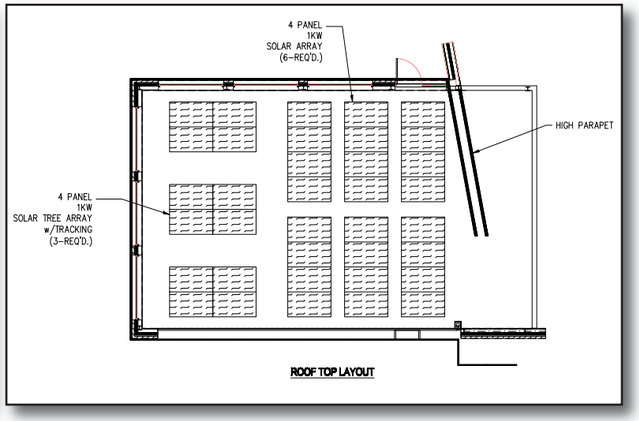
ISO 9001:2015

Hampden®
ENGINEERING CORPORATION

MADE IN U.S.A.

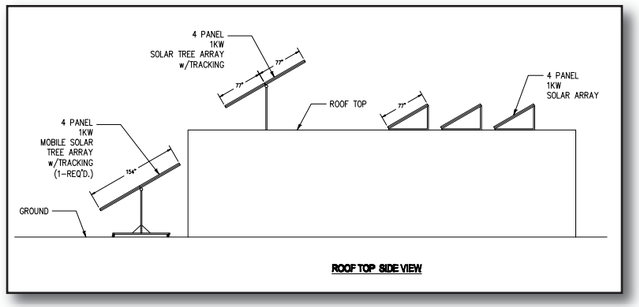
Solar Installation Lab Layout





Each student station will be attached to a 1KW solar array. Six of the stations will be static arrays on the roof. Three of the stations will be "Trees" that allow sun tracking.

All solar arrays will allow monitoring at the student stations. The Teachers Station will have the ability to monitor the student stations. Student solar arrays will be hard wired.



All stations will be networked and have the ability to upload weather data.

Solar Panels

Suntech's technology yields improvements to BSF structure and anti-reflective coating to increase conversion efficiency. The unique design of drainage holes and rigid construction prevents the frame from deforming or breaking due to freezing weather and other forces

Features

- High Power Tolerance (0-5%)
- High conversion efficiency (up to 14.4%)
- Withstands high wind-pressure, snow load and extreme temperature variations

Dimensions

77.0" x 39.1 " x 2.0 "
(1956×992×50mm)

Having The Power To Make Informed Decisions Through Knowledge

Let HAMPDEN Customize YOUR Lab

The Hampden Model H-PVIT-1 Photovoltaic Installers Trainer has been designed with the latest Industrial/Commercial components available. The trainer will provide the necessary training in completing a fully functioning, grid-tied solar electric system. This system will have the capability to be fully monitored and controlled.

The Hampden Model H-PVIT-1 Photovoltaic Installers Trainer consists of a mobile steel frame with four (4) solar panels mounted on the rear. The solar panels are mounted to a frame that allows the panels to be positioned for optimal sun exposure. The front of the frame has all the intricate components mounted for easy access. The frame includes four (4) swivel casters, two (2) with brakes.

The Hampden Model H-ETS-1A Ethanol Production Process System is designed to facilitate the instruction of students on the process required to produce ethanol for experimental purposes. Ethanol is a very promising fuel alternative to oil since sources are widely available and ethanol is clean-burning.

The student will be able to observe and control the process of producing ethanol from corn, sugar, sorghum, fruits or several other sources. When using this unit along with the Model H-6150-TT Liquid-to-Liquid Extraction Demonstrator option, it is possible to produce ethanol with high purity.

The Hampden Model H-BIO-100 Bio Diesel Demonstrator is ideal for the small producer using the same protocol and with the same quality construction as the larger units. Bio Diesel units are chosen for their rugged design, ease of use, no wash process protocol and price/capacity ratio.

The H-BIO-100 is capable of producing up to 26.5 gallons per batch with High Temperature Pressurized Process (HTP) which consistently delivers 98% or better conversion ratios. Proper use of the unit and HTP delivers ASTM and EN compliant Biodiesel, without the need to wash.

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

Hampden Engineering Corporation

PHOTOVOLTAIC MONITORING

Hampden MODEL H-PVMS

Two-Student Photovoltaic Monitoring Station

The Hampden Model H-PVMS Two-Student Photovoltaic Monitoring Station is set up to provide operators with the ability to actively monitor and manage the system performance of any PV array. This system includes all the components and functions necessary to monitor multi-site energy production and demand. Components included are, The System Manager, The DC Monitoring Combiner Box, The Solar Weather Station, 5-Year access to the Real-time Monitoring and Management Solutions Web Site and a Hampden Turret with LCD Touch Screen Monitor.

The System Manager comes complete with one energy meter and one Internet gateway / data logger. The Internet gateway collects data and uploads it regularly, over the Internet, to the information server. Users log in to their MYPVDATA account to access information and manage their system from a web browser. The server provides not only real-time and historical data, but also alarming, reports, rate analysis, logbooks, document management and more.

The DC monitoring combiner box is an integral part of a comprehensive monitoring solution. The combiner box provides DC current monitoring down to the string level to help localize problems and minimize downtime. An alarm ensures notice of a failure and allows prompt action. The monitoring solution is fully integrated into the DC monitoring combiner box, which eliminates installation of separate current transducers for each monitoring point.

The Solar Weather Station offers state-of-the-art technology to continuously log, store and retrieve weather information. It features an enclosed, weatherproof package and all sensors needed are marine grade. Included sensors are Panel Temperature and Irradiation. Additional sensors, such as ambient temperature, wind speed and direction, humidity and barometric pressure can be added.

The Hampden turret shall be 36” long overall, 12” deep overall, by 25-1/2” high overall. Mounted within shall be two duplex receptacles pre-wired within the turret with line connections made to terminal strip, the DC combiner box and the Internet gateway / data logger.

Mounted to the front of the turret shall be a 15” LCD Touch Screen Monitor, the energy meter and one duplex receptacle with main circuit breaker for convenience work.

The turret shall be manufactured of code gauge steel, all corners welded, ground smooth, and finished in backed-on black enamel. Provide on the top of the turret is a 1-1/16” wood core white plastic laminate top bound with black plastic molding.

(PV Panels are not included)

CONTACT HAMPDEN FOR MORE INFORMATION ABOUT UPGRADING YOUR LAB TO BE THE VERY BEST THAT IT CAN BE.

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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