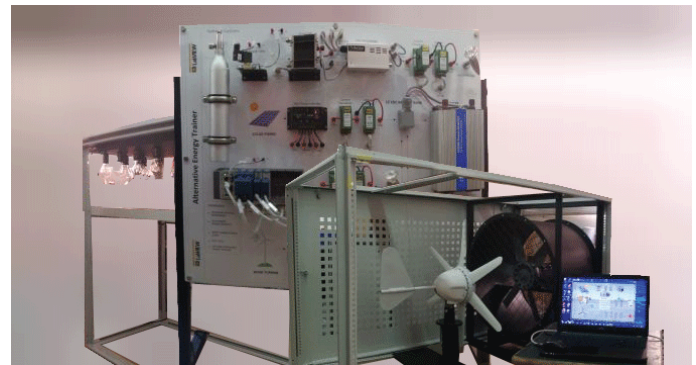




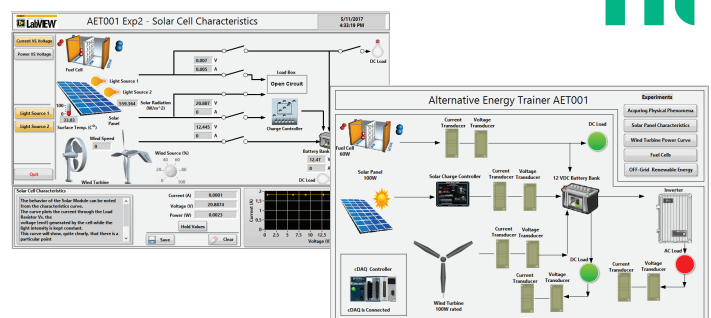
## Curriculum Coverage

- Acquiring Physical Phenomena
- Solar Panel Characteristics
- Wind Turbine Power Curve
- Off-Grid Renewable Energy System
- Fuel Cells



## Features

- Computer based Alternative Energy Trainer
- Includes all required components for the students to learn about the different technologies of Alternative Energy Generation
- For use with NI's Data Acquisition & Control hardware



## Description

Using the Alternative Energy Trainer students will be introduced to the major alternative energy generation technologies. Using a user friendly training panel, the theory of generating power using solar, wind and fuel cells will be covered in details. Students will learn the design and engineering principles required to implement and scale these technologies.

Developed for use with a wide variety of NI's data acquisition and control platforms - easy-to-use, highly expandable programmable automation controllers, intelligent communication interfaces, and rugged I/O modules.

## Components

- Fuel Cell System
- Wind Turbine
- Wind Speed Sensor
- Solar Radiation Sensor
- Temperature Sensor
- AC/DC Loads
- DC to AC Inverter
- PV Panel

## NI<sup>1</sup> Compatible Platforms

- Compact RIO
- Others<sup>2</sup>

<sup>1</sup> NI

<sup>2</sup> Please check with us about compatibility of other NI Platforms

## Required NI Modules

- cRIO: NI-9208, NI-9476, NI-9263

## Software

- User friendly with easy to use interface
- Developed using NI LabVIEW package
- Built-in safety features & limitations, and designed for students' use

**Ordering Information  
Alternative Energy Trainer**

**AET001 - A - B**

NI* Platform	Power
1... cRIO	1... 220 VAC

\*Purchase NI Hardware Separately

For complete product specifications, pricing, and information:  
e-mail: [info@ti.jo](mailto:info@ti.jo) / website: [www.ti.jo](http://www.ti.jo)

and Images are subject to change at anytime without prior notice.



## Technical Specifications

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### *Fuel Cell Stack & Controller:*

- Number of Cells: 20
- Rated Power: 60W
- Performance: 12V @ 5A
- Reactants: Hydrogen and Air

### *Hydrogen Canister:*

- Hydrogen Storage Capacity: 350 NL
- Dimensions: O.D60XL330 mm
- Weight: 3.1 Kg

### *Wind Turbine:*

- Peak Power: 100 W
- Rotor Diameter: 1 m
- Start-up wind Speed: 1.5 m/s
- Survival wind Speed: 35 m/s
- Voltage: 12V
- Overspeed protection: electronic torque control

### *60W Solar Panel*