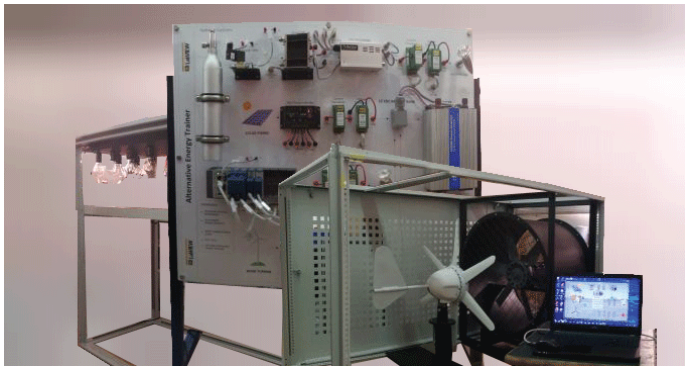
Alternative Energy Trainer

SAAB RDS
TECHNOLOGY ENABLER

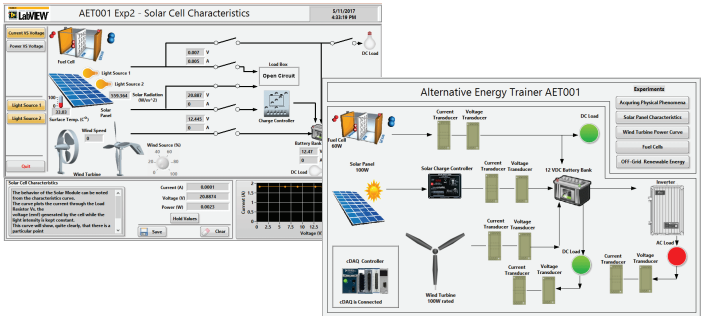
Curriculum Coverage

- 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 National Instruments 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 fell 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 National Instruments 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[1] Compatible Platforms

- Compact RIO
- Others[2]

1. NI: National Instruments
2. 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

Authorized Distributor

For complete product specifications, pricing, and information:
e-mail: info@saabrds.com / website: www.saabrds.com

Technical Specifications

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