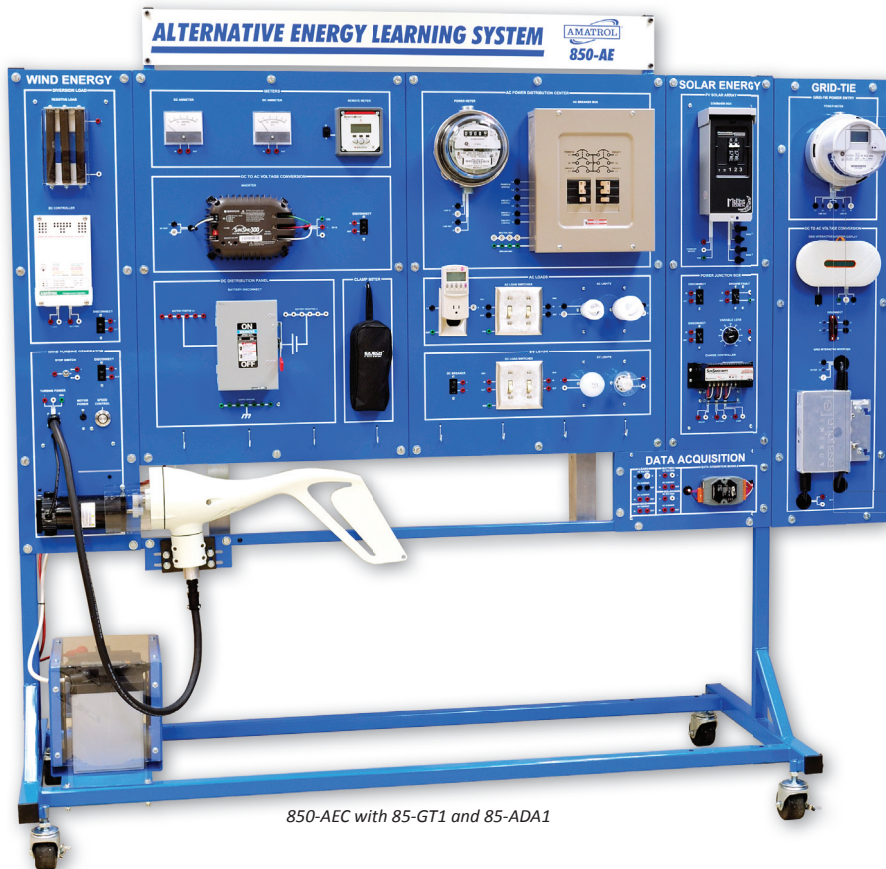
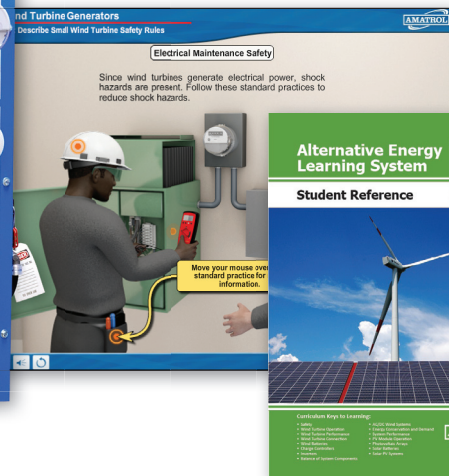


Alternative Energy Learning System - Wind and Solar

850-AEC



850-AEC with 85-GT1 and 85-ADA1



Interactive Multimedia Curriculum and Student Reference Guide

Learning Topics:

- PV Module Operation
- PV Module Performance
- Photovoltaic Arrays
- Solar Batteries
- Solar Battery Charging
- Solar PV Systems
- Small Wind Turbine Generators
- Wind Turbine Batteries
- DC Wind Turbine Systems
- AC Wind Turbine Systems

Amatrol's Alternative Energy Learning System – Wind and Solar (850-AEC) supports the learning necessary to prepare for portions of the solar and small wind certifications offered by such certifying groups as NABCEP (North American Board of Certified Energy Practitioners), SWCC (Small Wind Certification Council), and ETA (Electronics Technicians Association). The demand for qualified solar and small wind technicians is rising, as more consumers and businesses apply solar energy and small wind systems in their communities and many employers prefer employment candidates who are certified.

The Alternative Energy Learning System covers vital skills necessary for career success in small wind and solar. Learners practice hands-on skills with direct, on-the-job applications. Critical areas covered are system connection, operation, and programming of solar PV (photovoltaic) and small wind systems in commercial and residential applications.

The Amatrol Alternative Energy Learning System - Wind and Solar includes a mobile workstation with solar PV and small wind components. Wind turbine and solar panels also allow for outside use with expansion capability for teaching grid-tie and data acquisition. Amatrol also offers alternate workstation configurations for only small wind (850-AEW) or solar learning systems (850-AES).



Technical Data

Complete technical specifications available upon request.

Mobile Technology Workstation

Component Panel Set

Wind Turbine

Wind Turbine Simulator

PV Array Connector

Instrumentation Set

Component Set

DC and AC Load Set

Regular Banana Lead Set

Interactive Multimedia (M20027)

Instructor's Guide (C20027)

Installation Guide (D20027)

Student Reference Guide (H20027)

Additional Requirements:

Solar PV Array Station (85-SPA1) or customer-supplied equivalent input power range: minimum 43 W, maximum 200W

Solar PV Sun Simulator (85-SPS1)

Computer: See requirements: <http://www.amatrol.com/support/computer-requirements>

Additional Options:

Grid-Tie Learning System – Solar (85-GT1)

Data Acquisition Learning System - Alternative Energy (85-ADA1)

Solar PV Interface (22097)

Wind Turbine Interface (2099)

Solar Concepts Learning System (950-SC1)

Wind Concepts Learning System (950-WC1)

Utilities:

Electricity (120 VAC/60 Hz/1 phase)

For complete functionality, requires customer-supplied utility system grid interface. Note that grid tie requirements vary widely and are the exclusive responsibility of the customer.

Real World Components: Multiple Panel Array and Modern Communications

Amatrol's Alternative Energy Learning System features real world components commonly found in commercial and residential environments that allow learners to build job-ready competencies. Some of these components include: a combiner box and a multiple panel solar array that permit learners to connect panels in series and parallel; an MPPT charge controller, which allows programming and communications from an LCD panel; and a 400W wind turbine and diversion load controller commonly found in small wind applications.

Convenient Indoor / Outdoor Use

The Amatrol 850-AEC Learning System's wind and solar circuits can be used indoors with sun and wind simulators, or outdoors via the detachable solar panel array or client-supplied external wind and solar sources. The solar array easily disconnects from the workstation and sets up outdoors. The 850 Learning System can also be connected to client-supplied roof-top solar panels or wind turbines with the addition of optional interface connections.

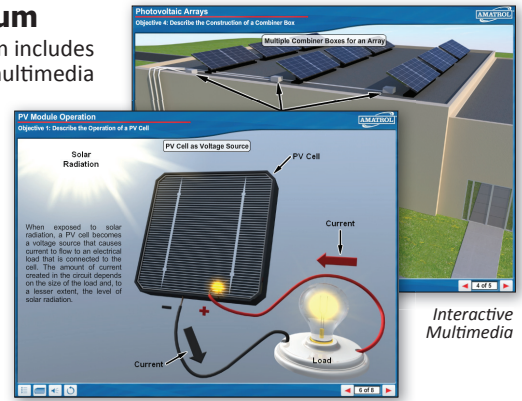


Solar PV Array Station (85-SPA1)

Solar PV Sun Simulator (85-SPS1)

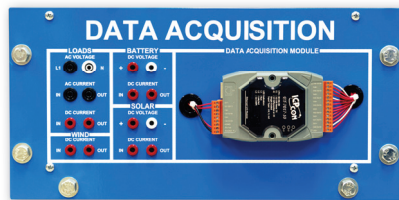
Interactive Multimedia Curriculum

Instead of traditional printed books, this system includes interactive multimedia curriculum. The multimedia supports both self-paced student learning and traditional classroom presentation. Eye popping graphics, 3D animations, video, audio and complete text explanations combine with strong interactivity to engage students and appeal to a variety of learning styles.



Interactive Multimedia

Grid Interactive and Data Acquisition Options



85-ADA1

The 850-AEC offers a number of expansions that increase the capability of the system. The Grid-Tie Learning System – Solar (85-GT1) features a single phase inverter that enables the system to connect to the classroom grid, typical of PV systems being installed today. The Data Acquisition Learning System – Wind and Solar (85-ADA1) monitors voltage and current in various parts of both wind and solar circuits.

Student Reference Guide

A sample copy of the Alternative Energy Student Reference Guide is also included with the system for your evaluation. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training making it the perfect course takeaway.

