PHOTOVOLTAIC-WIND POWER PLANT TRAINER OFF-GRID

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DL HC-SOLWIND-OG-ET

The Photovoltaic-Wind Power Plant Trainer Off-Grid offers a practical way to explore how solar and wind energy can work together to produce electricity independently from the grid.

With its integrated panel, wind generator, and control interface, it provides students with a clear, hands-on look at the behavior of renewable systems in real conditions.

Designed for educational environments, it delivers an intuitive introduction to off-grid energy generation using two complementary sustainable sources.

The **EasyTech – Renewable Energies product line** is designed as an entry-level solution that allows students, technicians, and new users to explore energy generation and management technologies in a practical, accessible, and safe way, all integrated into compact, didactic platforms built for progressive learning. Each **EasyTech product line** is engineered to provide an intuitive, modular, and flexible experience, helping users understand the essential principles and preparing them to advance toward more complex systems.

Technical Specifications - System configuration: Off-Grid.

- Horizontal axis wind power generator
  - Rated power: 100W
  - Rated voltage: 12Vdc
  - Generator: Three phase AC permanent magnet synchronous generator
  - Simulated wind speed adjustable module
- Silicon cell photovoltaic panel
  - Adjustable tilt tabletop aluminum frame
  - 80 W photovoltaic panel
- Charge controller
  - Rated voltage: 12 Vdc
  - Rated current: 20A
  - Electric load: 12 Vdc lamp
  - Multifunction instrument, microprocessor-based
  - Buffer battery
- Rated voltage: 12 Vdc
- Capacity: 12 Ah
- Indoor Lighting Device
- To operate the photovoltaic panel indoors

Training Program

- Components of a stand-alone solar system for electricity production.
- Effect of solar radiation on the panel output voltage.
- Effects of shading on a real solar installation.
- Photovoltaic panel energy conversion efficiency
- Components of a stand-alone wind power system for electricity production.
- Effect of the wind speed on the generator output voltage.
- Wind generator energy conversion efficiency.