PHOTOVOLTAIC-WIND POWER PLANT TRAINER ON-GRID

This image is for illustrative purposes only

The Photovoltaic-Wind Power Plant Trainer On-Grid provides a clear, hands-on way to understand how solar and wind energy can feed directly into the public grid.

By combining a photovoltaic panel, a wind generator, and a grid-tie inverter, it lets students explore real grid-connected behavior in a practical setting.

Designed for educational environments, it offers an intuitive experience for learning how renewable systems generate power and interact with the electrical grid.

DL HC-SOLWIND-GT-ET

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: (On-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
- Grid tie power inverter
  - Maximum input voltage dc: 180 W
  - AC Output Voltage: 230 V
  - AC Output Frequency: 50 Hz
  - DC Input Voltage Range: 10.8 ÷ 30V
  - Output Current Waveform: Pure Sinewave
  - Protection: Over Current, Over Temperature, Reverse Polarity, Anti-Island
- Electric load: 230Vac lamp
- Multifunction instrument, microprocessor-based

Training Program

- Components of a grid connected 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 grid connected wind power system for electricity production.
- Effect of the wind speed on the generator output voltage.
- Wind generator energy conversion efficiency.
- Operation and efficiency of a DC/AC inverter.