DOLANG

DLXNY-FN02 Wind/Solar Hybrid Renewable Energy Training System

Renewable Energy Lab Equipment

The Wind/Solar Hybrid **Renewable Energy Training System** consists of **photovoltaic power system, solar power systems, wind power equipment, inverter and load system, monitoring system.** With modular structure, each device and system have separate function, it can be combined to complete photovoltaic systems, wind power systems and other training project.

The Wind Solar Hybrid Training System uses high-performance 16-bit MCU, the battery charge and discharge and fans were full of **intelligent brake control**.

Off-grid inverter module boot front adopts 8-bit MCU driving control, the output of front and rear axles adopts imported MOS FET enable more stable performance. It can provide stable 220V pure sine wave AC power during the learning process.

Renewable Energy Lab Equipment Technical Parameter

Input power: AC220V±10, 50Hz/60Hz

Overall power consumption: Wind Simulation: 0.75KW simulating sunlamps: 200W

System output power: 220VAC 1500W 12VDC 500W

Wind turbines: 12V/300W

Start-up wind speed: 2.0 m

Rotor diameter: 1.3 m

Axial Fan: 220V/0.75KW 0-1440r/min

Solar cell module: single crystal 17.5VDC 10WP Polycrystal: 17.5VDC 30WP

Work environment: 0℃ ~40℃ Relative humidity: ≤85%RH

Renewable Energy Lab Equipment Training content

1. Wind and solar Experiment

2. The wind power experiment

3. The photovoltaic power generation experiment

4. Experimental wind and solar controller

5. The battery charging and discharging experiments

6. The off-grid inverter load test run

7. Experimental solar panel series

1) Experimental solar panel energy conversion

(2) environmental impact of photovoltaic conversion experiments

(3) solar photovoltaic system directly load characteristics test

(4) solar controller works experiment

(5) reverse polarity protection test

(6) solar controller battery overcharge, over-discharge protection experiments

(7) Night reverse charge experiment

(8) off-grid inverter working principle experiment

(9) independent photovoltaic power generation experiment

(10) The maximum output power panels computational experiment

(11) panels conversion efficiency measurement experiment

8. Solar Battery Controller test series

(1) solar battery charging control experiment

(2) The controller charge and discharge protection experiments

(3) the battery voltage, current testing experiment

(4) Estimation of battery power experiment

(5) controls the battery current input and output test

(6) The controller ambient temperature measurement experiment

(7) The controller does not control, time control output experiment

9. Solar PV inverter test series

(1) The inverter works analysis experiments

(2) output voltage, current testing laboratories

(3) the maximum output power estimation experiments

(4) overload or short circuit protection demonstration experiment

(5) anti-reverse input voltage demonstration experiment

(6) Input voltage range Testing Laboratory

(7) conversion efficiency of computational experiments