Wind Turbine System with Axial Fan

Category: New & Renewable Energy · Model reference: MZM-5008



SPECIFICATIONS

DESCRIPTION
Wind energy is the direct conversion of wind energy into electricity. Our Wind Energy Trainers are designed to model two basic technologies: Small independent stand-alone system with energy storage for use anytime day or night
To provide for student understanding of wind systems basic models are proposed. Each trainer comprises a complete energy system including wind turbines, generators, support towers, typical control modules, and energy storage modules.
Considering the above, this system enables experimental investigation on the conversion of wind energy into electricity by means of a wind power generator. The system configuration is stand-alone (isolated from the grid). The equipment is manufactured using real components available on the market and Including a wind source (Variable Speed axial Fan)
TECHNICAL SPECIFICATION:
1. Wind Generator Trainer Structure - 1 Unit
· Enclosed housing constructed by steel or aluminum profile structure with powder coated panel
· Dimension : 2000 (L) x 2000 (W) x 1800 (H) mm approx.
· Equip with Analog AC voltage and ampere display meter
· AC Electrical power 220 ~ 240V with MCB electrical input
· DC and AC load
· Emergency Stop Button
· Status indication light system
· Wind Turbine mounting and electrical wiring
· Transparent monitoring glass window
· Moveable compartment with lockable castor wheels
2. Wind Generator - 1 Unit
· 200 ~ 400 watt rated power
· Composite material blades
· Nominal 12V/24V DC for standard output
· Rated current 25A/12.5A
· Rated rotate speed 1400~2500 r/min
· Power : 300 ~ 450W
· 3 blades
· Start-up wind speed : 1.5 ~ 5m/s
· Rated wind speed : 5 ~ 15 m/s
· Rotor diameter : 800 ~ 1500rpm
· Blade material : Carbon fiber
· Output anti-winding device : Overall 3 phase
· Generator : 3 Phase DC synchronous
· Generator case : aluminum alloy
3. MPPT Hybrid Wind Charge Control
· Rated battery voltage 12VDC
· Maximum wind turbine power 600W
· Brake voltage 15V 10%_+
· Recover voltage V12.3
· Current : 10 ~ 32A
4. AC VFD Drive - 1 Unit
· Input 1P AC 220 ~ 240V Variable frequency drive unit
· Output 3P AC 220 ~ 240V
· Power : 0.5 ~ 1.5kW
5. Variable Speed Axial Fan
· Air flow rate : 20,000 to 50,000 cfm
· 3 phase AC motor drive
5.1 Air Sensor for Speed
5.2 Adjustable Aero generator Orientation
6. DC/AC Inverter
· Continuous power : 2500W
· Surge power : 5000W
· Rate Output Voltage : 220 ~ 240 VAC
· Input Voltage Range : DC 11V to 15V
· Over Voltage Shutdown : Below DC 11V
· Output Wave Form : Modify Sine Wave
· Frequency : 50/60Hz
· Over Load Shutdown : Yes
· Thermal Shutdown : Yes
· Short Circuit Shutdown : Yes
· Efficiency : Up to 90%
· Total Harmonic Distortion : <5%
· No Load Current Draw : <0.6A
· Data Remote
7. PC Data Acquisition - 1 Unit
· The unit includes data acquisition board interface to PC and measurement of voltage and current converters. Calculating wind energy conversion efficiency, visualize the trend of the energy flows to and from battery, inverter and wind power generator.
8. Battery Module - 1 Unit
· Use in grid-tied solar systems with battery back-up
· Technical specifications :
· Nominal voltage : 12V
· Nominal capacity : 100.0 AH
· Internal resistance : 5 milliohms approx.
· Max. discharge current : 300.0 amperes (7 mins)
· Case : ABS Plastic
9. Control Console Module
· Epoxy coated industrial grade enclosure
· Equip with :
· PLC Module
· Digital ammeter
· Digital voltmeter
· Power meter
· Emergency button
· Start and Stop button
· Indicator pilot lights
Send Enquiry **Your Name**
Your Email
Tele Phone




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