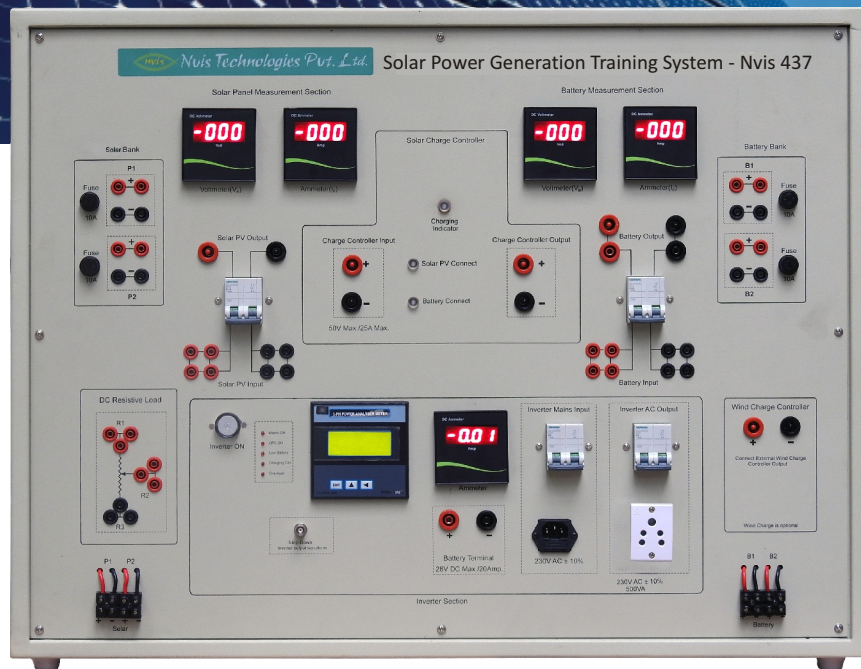




Solar Power Generation Training System

Nvis 437



Nvis 437 Solar Power Generation Training System has been designed considering the solar technology applications in harnessing electricity from Sun. It's a eco friendly way to generate the energy from the Sun. This system will enable students to learn the basic as well as advanced concepts of Solar Photovoltaic energy generation. Being aligned with national solar mission of India we have designed this product to provide opportunity for learner to train themselves. For this mission approximately 3 lac skilled professional will be required by year 2022.

Features

- A unique Solar system for electricity generation.
- Provided with meters for analysis of parameters
- Provided with all safety protections
- Connector Sheathed Shock proof type
- DC Voltmeter & DC Ammeter
- Multi Function Meter

Scope of Learning

The Geography behind Solar PV installation

- Site assessment and planning before Solar PV installation
- Understanding the Sun position and tilting of Solar PV module
- Analysis of voltage and current at different tilt angles
- Effect of shadow on Solar PV system

Measurement and Analysis of Different parameters of Solar PV Module

- Open circuit voltage (Voc) of Solar PV module
- Short circuit current (Isc) of Solar PV module
- Parameters measurement with parallel Solar PV modules
- Parameters measurement with series Solar PV modules
- I-V characteristics of PV Module

Estimating Solar PV system

- Load Estimation and calculation

Charge controller

- Basics of MPPT

Inverter & Batteries

- Testing of Inverter

Analysis of the effect of dust on Solar PV module

Safety and Precaution for installation of Solar PV System



Note Shown image is just for illustration original may differ



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Technical Specifications

Solar Panel

Cell Type	:	Polycrystalline
Power Rating	:	500W

Solar panel structure

Material	:	GI
Assembly	:	Detachable and easy to install

Inverter

Capacity	:	1000VA
DC Input voltage	:	24V
Input Voltage	:	190~260V AC
Output Voltage on Mains mode	:	Same as input
Output Voltage on UPS mode	:	210~245V
Output Frequency on UPS mode	:	50Hz $\pm$ 0.1Hz
Output waveform on Mains mode	:	Same as input
Output waveform on UPS mode	:	Modified Sine wave
Battery Charging Current	:	12A
Battery Charging Mode	:	Solar and Grid
Efficiency at full load	:	>80%
UPS Overload / UPS Short circuit	:	Yes
Technology	:	Microcontroller Based Design
LED Indication	:	Mains ON, UPS ON, Low Battery, Charging & Over load

Charge Controller

Solar PV Module Voltage	:	35–70V
Current	:	20A
Battery voltage	:	24V
Charge Controller type	:	Maximum Power Point Tracking (MPPT) charging technology

Battery

Make	:	Solar Tubular
Capacity	:	100Ah
Type	:	C10
Quantity	:	2 Nos.

Meters

DC Voltmeter	:	0-300V, 2 Nos.
DC Ammeter	:	0-20A, 3 Nos.
AC Multi Function Meter	:	Voltage-10-230V, Current-100mA-5A
	:	Watt-10-1200W
	:	Frequency-50Hz

Terminals	:	BS10 type for safety purpose
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MCB	:	4 Nos.
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Fuse	:	4 Nos
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Rheostat 50 Ω /15Amp	:	1 No. (optional)
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