55920 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 themself. For this mission approximately 3 lac skilled professional will be required by year 2022.

Features

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

Object

The Geography behind Solar PV installation

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

Measurement and Analysis of Different parameters of Solar PV Module

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

Estimating Solar PV system

10. Load Estimation and calculation

Charge controller

11. Basics of MPPT

Inverter & Batteries

12. Testing of Inverter

Analysis of the effect of dust on Solar PV module
Safety and Precaution for installation of Solar PV System

Note: Specifications are subject to change.

17.02.2024
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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 ±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
MCB	:	4 Nos.
Fuse	:	4 Nos
Rheostat 50W/15Amp	:	1 No. (optional)

Note: Specifications are subject to change.

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