

Solar Power generation system

ZT/SLP2102



General Features:

- ❖ Training system control panel having rating of 500 VA and it used as solar training system and also power generation as well.
- ❖ Training system control panel have built in DC voltmeters, DC ammeters, AC Voltmeter AC multifunction meter(for AC current, voltage, power, frequency)
- ❖ Training have control panel built in protection circuit for battery & solar panel
- ❖ Training system control panel have built in 30A terminals for making the connection
- ❖ Training System includes 250Wp solar panel: 2 Nos., Battery 100Ah: 2 Nos., PCU (POWER AND CHARGE CONTROLLER UNIT): 1 No. , Control panel for experiments equipped with meters, connecting terminals and switches
- ❖ Solar Panel: 01 Nos. Pm : 100Wp, Voc : 43V, Isc : 7.75A, Vmp : 35V, Imp : 7.14

POWER AND CHARGE CONTROLLER UNIT

- ✚ Inverter Capacity 300-600VA and Input Voltage 190~260V AC
- ✚ Output Voltage on Mains mode is same as input
- ✚ Output Voltage on UPS mode 210~245V
- ✚ Output Frequency on UPS mode 50Hz ± 0.1 Hz
- ✚ Output waveform on Mains mode is same as input
- ✚ Output waveform on UPS mode Modified Sine wave
- ✚ Battery Charging Current 12A
- ✚ Efficiency at full load >80%
- ✚ UPS overload and short circuit facility is available
- ✚ control panel design based Microcontroller

- ✦ MCB : C Type 16A Battery: 01 Nos.
- ✦ Solar Battery of Capacity: 12V/60-100Ah.
- ✦ Charge Controller Technologies: Solar PV
- ✦ Module : 24- 50V,Current :25- 40A
- ✦ Battery voltage : 12-24V
- ✦ Technology :MPPT
- ✦ Charging Stage : Bulk, Absorptions and Float

Meter specification :

- ✦ DC Voltmeter : 0-300V;
- ✦ DC Ammeter : 0-40A ;
- ✦ Multi Function Meter : Voltage-10-230V ;
- ✦ Current-100mA-5A ;
- ✦ Energy meter Display Resolution-0.001kWh ;
- ✦ Frequency-50Hz

Training platform used to conduct below Experiment:

- ✦ Measurement and Analysis of Different
- ✦ parameters of Solar PV Module : open circuit and short circuit,
- ✦ parameter measurement with series and parallel PV modules ,
- ✦ I-V characteristic and Power curve of PV module and PV array .,
- ✦ efficiency and fill factor
- ✦ Load Estimation and calculation
- ✦ Study of Charge controller
- ✦ Study of different parameter of inverter
- ✦ efficiency , PWM switching , charging of
- ✦ batteries , over load and over battery protection

Standard Accessories:

- Main cord ,Patch cord, Operating manual
- Electric supply specification: ac 240 v