55502A Solar Energy Trainer is a rouged training system for the Electrical laboratories mounted on two numbers of Aluminum profile rack with sturdy table top flat panel. Each panel has ABS molded plastic sturdy enclosure with 4mm shrouded connectors showing circuit diagram & its connection tag numbers for easy understanding and connections. The product helps you to get fully acquainted with the basic concepts and functioning of an Solar Energy Trainer.

Specifications
- Should have DC meter panel (2No's).
  - 0-200V DC Voltmeter
  - 0-5A DC Ammeter (CT Input 5A)
- Should have 1 phase multifunction meter panel .
  - Bidirectional Multifunction
  - LCD/LED display, Aux supply 230V, 45-65 Hz, 5W
  - V, A, Hz, Pf, KVA, KW, KWH
- Should have MPPT Charger Controller Panel.
  - Rated Voltage 12-24V, 20A.
  - Battery (2 No's) Lead acid type with 12V,100Ah current
  - Battery % Charging and Solar ON/OFF Indication.

- Training System includes
  - 50Wp / 100Wp / 250Wp solar panel: 2 Nos.,
  - Solar Battery (C10 type) 100Ah : 2 Nos.,
  - PWM based MPPT Charge Controller : 1 No.
  - Inverter : 500VA
- Should Solar Inverter Panel.
  - 500VA inverter system
  - Input DC voltage 12/24V DC.
  - Output Voltage 230V AC.
- Should supply with following Accessories.
  - Rheostat, Gravity Hydro Meter, 4mm Shrouded patch chord.
- Control Panel
  - Capacity : 500VA,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,
- Efficiency at full load : > 80%,
- UPS Overload / UPS Short circuit : Yes,
- Technology : Microcontroller Based Design,
- Soft ON/OFF Switch
- All input & output are terminated in 4mm shrouded connector, Should provide 4mm banana cable for experiments.
- Should able to perform analysis of temperature and dust effect on Solar Power Generation Microcontroller based Inverter technology.

Experiments
- Study of I-V Characteristics of Solar cell.
- Study of series combination of solar cells.
- Study of parallel combination of solar cells.
- Study of dependency of solar cell I-V characteristics on light intensity.
- Study of shading effect on solar cell parameters.
- Study of battery charging & discharging characteristics.
- Study of the efficiency of battery.
- Study of finding MPPT by varying the resistive load across the PV panel

Note: Specifications are subject to change.

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