

## KSL-02 SOLAR TRAINER



KSL-02 Solar Energy Trainer is a user friendly training system for the Electrical laboratories mounted on two separate Aluminum profile racks consisting of sturdy table top flat panels. Each panel is enclosed in sturdy ABS plastic enclosure. For easy understanding, circuit diagram & its connection tag numbers are provided on the panel. All interconnections are through 4mm shrouded connectors. The product helps you to get fully acquainted with the basic concepts and functioning of a Solar Energy Trainer.

### Specifications

#### Panel-1

- PV modules are fitted on 40X40mm Aluminum profile rack with tiltable, lockable frame. This frame can be moved from 0-90° in steps. PV modules can be of 100W/ 200W/500W/1000W.
- 500W halogen lamps to provide variable intensity (sun simulator)

#### Panel-2

- Control panel is a 40X40mm Aluminum profile rack with sturdy table top flat panels
- Six ABS plastic panels with mimic diagram are mounted on the aluminum rack.
- Single phase MCB & Dimmer panel
  - ~ 1 pole MCB of 220 V/4A .
  - ~ 1 phase 0 to 270V AC / 3A Variac
- DC meter panel
  - ~ 0-200V DC Voltmeter
  - ~ 0-20A DC Ammeter

- Single phase Multifunction meter panel
  - ~ Bidirectional Multifunction
  - ~ 3 Phase ¾ wire, 415V, CT Input 5A
  - ~ LCD/LED display, Aux supply 230V, 45-65 Hz, 5W
  - ~ V, A, Hz, Pf, KVA, KW, KWH
- MPPT Charger Controller Panel
  - ~ Rated Voltage 12V, 40A.
  - ~ Maximum PV Voltage 15V & Min PV Voltage 10V
  - ~ Battery Lead acid type with 12V,100Ah current
- Solar Inverter Panel
  - ~ 500VA inverter system
  - ~ Input DC voltage 10-15V DC
  - ~ Output Voltage 230V AC
- Application Load panel.
  - ~ 230V 1 numbers of 40W LED bulb with socket as a Load.
  - ~ 230V AC Fan
  - ~ On/OFF toggle should be provided for each bulb & fan.
- All input & output are terminated in 4mm shrouded connector.

#### Accessories:

- Set of Shrouded Cables
- Set of Manuals with Experiments.
- Demo CD showing Experiments

#### Optional Accessories:

- LUX Meter....1 No
- Working Table (KWT-01)....1 No
- Multimeter ... 1 No
- Tool Kit... 1 No

#### Experiment List

- 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 dependency of solar cell I-V characteristics on temperature.
- Study of shading effect on solar cell parameters.
- Study of battery charging & discharging characteristics.
- Study of the efficiency of battery.
- Study of finding MPP by varying the resistive load across the PV panel

Note : Specifications & Photos can be altered without notice in our constant efforts for improvement.