

KSL-02 SOLAR ENERGY TRAINER



KSL-02 Solar Energy Trainer is a rugged 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

Panel-1

- Trainer having control panel should provided in 40X40mm Aluminum profile rack with sturdy table top flat panel rack with tiltable lockable frame 0-90° in steps to mounted with 100W/200W/500W PV modules.
- Should have 500W halogen lamps as variable intensity as a sun simulator.
- Should have PT100 Sensor for temperature sensing & FAN for cooling.

Panel-2

- Trainer having control panel should provided in 40X40mm Aluminum profile rack with sturdy table top flat panel
- Should have 9 no's of ABS plastic panel mounted on the aluminum rack with mimic diagram
- All input & output are terminated in 4mm shrouded connector, Should provide 4mm banana cable for experiments.
- Should have 1phase MCB, Dimmer panel
 - 1 pole MCB of 220 V/4A.
 - Variac from 0 to 200V output.
- Should have AC meter panel .
 - 0-300VAC Voltmeter
 - 0-5AAC Ammeter
- Should have DC meter panel .
 - 0-50V DC Voltmeter
 - 0-2ADC Ammeter
- Should have 1 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
- Should have Temperature meter panel .
 - PT100 temperature Sensor measurement
- Should have MPPT Charger Controller Panel.
 - Rated Voltage 12V, 40A.
 - Maximum PV Voltage 15V & Min PV Voltage 10V
 - Battery Lead acid type with 12V, 100Ah current
- Should Solar Inverter Panel.
 - 500VA inverter system
 - Input DC voltage 10-15V DC.
 - Output Voltage 230V AC.
- Should have 1 Phase AC/DC Resistive Load panel.
 - 750E/600E/300E/212E/162E/ 125E/112E/100E 200W Load.
 - 9 Way Selector switch for selection of load resistors
- Should have Application Load panel-1 .
 - 230V 1 numbers of 10W LED bulb with socket as a Load.
 - 230V AC Fan
 - On/OFF toggle should be provided for each bulb & fan.
- Should supply with following Accessories.
 - LUX Meter, 4mm Shrouded patch chord.

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 can be altered without notice in our constant efforts for improvement.