

# Solar PV Emulator System (SPVE)

SPVE is a two channel programmable supply where user can input the desired specifications of a Solar PV Panel such as Voc, Isc, Temperature Coefficient, Irradiation, Temperature, Area and Series Resistance to simulate the characteristics of a solar PV panel and utilise the actual electrical output.

## Design

Table top

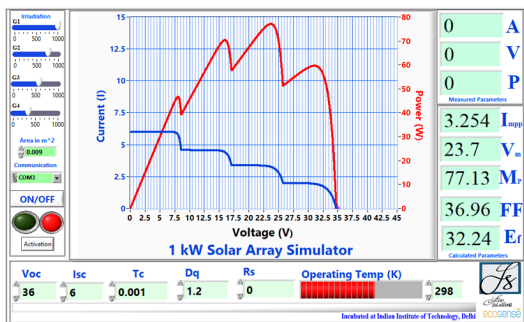
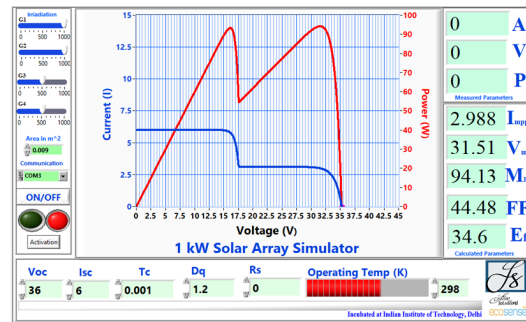
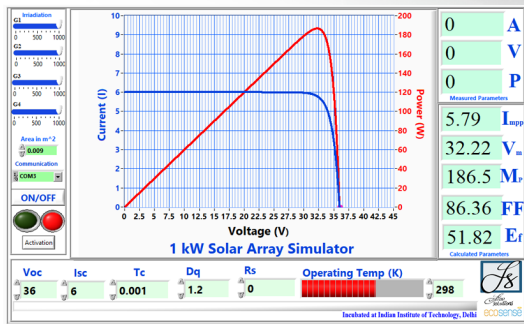
## Usability

Can be used only indoors

## Specifications

2kW Solar PV Emulator, 2 channels of 1kW each.  
Voltage Range= 0-50 V per channel  
Current Range= 0-20 Amp. per channel





## Features

- An active measurement panel to measure voltage, current, power and energy.
- User controlled, cost effective way to test response of PV system for wide range of solar panels
- Simulate the I-V curve under varying environmental conditions
- Test and verify different parameters of PV system like – MPPT tracking algorithm of PV inverter, efficiency of MPPT tracking
- Measure and verify the overall efficiency and conversion efficiency of PV inverter for variety of solar panels and in varying weather conditions
- User can simulate Partial Shading effects and obtain up to four peaks.
- Two users can use single PV Emulator to carry out different results using PV Emulator in 1kW mode.
- Tracking of load point and load line is possible
- IV-PV graphs can be seen using the proprietary software.
- Data can be saved in excel format
- Graphs can be saved in image formats