



# Solar Power Lab

Nvis 6005A



Nvis 6005A Solar Power Lab is an innovative product that demonstrates the use of Solar Energy for power generation. This Lab demonstrates the power transformation from Solar PV modules to Battery, and from Battery to Loads.

It consists of a Micro Controller unit to display Voltage and Current on LCD. Using this Lab students can also learn the V/I characteristics, charging techniques, DC to DC (Buck and Boost) Converters. This Lab is a renewable energy experimental platform.

## Features

- LCD display for Voltage and Current measurement
- Strong and durable housing

## Scope of Learning

### Study of:

- Series combination of Solar PV Modules
- Parallel combination of Solar PV Modules
- Series-parallel combination of Solar PV Modules
- VI Characteristics of Solar PV Module
- Blocking diode and its working in Solar PV Module
- Bypass diode and its working in Solar PV Module
- Effect of inclination angle of Solar PV Module
- Different charging techniques
- Buck, Boost converter
- Effect of change in solar radiation on Solar PV Module
- Running different applications i.e. LEDs, Dusk to Dawn sensing

## Technical Specifications

### Solar PV Modules

Wattage	: 5W
Quantity	: 4 Nos.
Open Circuit Voltage	: 10V (Voc)
Short Circuit Current	: 0.61A (Isc)
Maximum Power Voltage	: 8.80V (Vmp)
Maximum Power Current	: 0.57A (Imp)

### Batteries

Voltage	: 6V
Capacity	: 4 Ah
Quantity	: 4 Nos.

### LCD

Voltmeter	: 0-40V
Ammeter	: 0-3A

Designed & Manufactured in India by

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