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Product Name :

Photovoltaic Cells

Product Code :

SLE/ESA/07



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Description :

Photovoltaic Cells (Product Code: SLE/ESA/07) is a solar photovoltaic trainer used to study how a solar panel, charge controller, battery storage and loads work together as one system in engineering and renewable energy labs. More advanced than a typical solar energy science kit, it lets students examine a full charge and discharge cycle within a single laboratory session. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM engineering labequipment manufacturer, at its own factory in Ambala, India, around a commercially availablesolar panel.

Key Details

Parameter	Detail
Solar panel	Commercially available panel made from high efficiency cells
Panel frame	Wheeled, lightweight frame allowing adjustment of panel angle relative to the sun
Radiation measurement	Solarimeter on the frame measures incident radiation
Main battery	Deep cycling battery held in a storage box on the frame
Second battery	Lower rated battery; the panel recharges a choice of the two batteries
Control module	Contains the charge controller; digital displays show panel and battery storage performance
Charge controller	Recharges the battery at the correct rate of charge without damage; indicators for float mode and load cut mode
Separate loading unit	Variable resistive load, inverter for conversion to AC voltages, and four switchable lamps
Product code	SLE/ESA/07
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Photovoltaic Cells Trainer Used For?

Students use this trainer to follow energy from sunlight to a working load. With the panel angled towards the sun and the solarimeter recording incident radiation, they watch the control module's digital displays as the charge controller feeds the selected battery, and note when the indicator shows float mode.

The separate loading unit completes the picture. Its variable resistive load draws the battery down at a controlled rate to show battery performance, the inverter demonstrates practical conversion to AC, and the four switchable lamps represent a real lighting application. Continued discharge brings on load cut mode, showing how a charge controller disconnects loads to protect the battery; repeating the cycle on the lower rated second battery lets groups compare the two.

Wha