

DL SOLAR-L

Solar photovoltaic energy

The kit DL SOLAR-L allows correlating school physics with practical usage of the photovoltaic cells. The system has been conceived in such a way that most experiments can be conducted in normal room lighting. An external current is not necessary for these experiments. The lighting module (included) is required only for a few experiments, which can be operated with a students' power supply.



COMPONENTS

- 3x Solar panel 0.5 V, 420 mA
- 1x Solar panel 0,5 V, 840 mA
- 1x Base unit
- 1x Lighting module
- 1x Diode module
- 1x Resistor module
- 1x Potentiometer module
- 1x Gear motor module
- 1x Colour filter
- 1x Solar cell cover set (4 pieces)
- 1x Plastic tray includes inserts
- 1x CD CD with manuals
- 1x Lid for tray

NECESSARY COMPONENTS

- 2x Digital multimeter
- 1x Power supply
- 2x Test lead - black 25 cm
- 2x Test lead - red 25 cm
- 1x Thermometer

EXPERIMENTS

- Series and parallel connection of solar cells
- Power dependence on the area of the solar cell
- Power dependence on the angle of incidence
- Power dependence on the level of illumination
- Determination of efficiency ratio of energy conversion
- Internal resistance of solar cells
- Dark characteristic curve of solar cell
- Inhibiting and conducting direction in illumination and darkness
- IV characteristic and fill factor of the solar cell
- IV characteristic of the solar cell in dependence on the level of illumination
- Dependence of the solar cell power on temperature
- Shading of solar cells in series connection
- Shading effect of solar cells in parallel connection
- The solar cell as a transmission measure
- Power dependence on the frequency of the incident light

