

CHARACTERISTIC CURVE OF A SOLAR CELL

Mod. F-CSA/EV



DESCRIPTION

A solar cell is illuminated by a light source. Using a rheostat and two multimeters, it is possible to plot the characteristic curve of the solar cell according to the variation of light intensity and of the distance between light source and solar cell.

TRAINING PROGRAM

- Determination of light intensity through an irradiance sensor at different distances from the light source
- Measurement of the short circuit current and of the open circuit voltage at different distances from the light source
- How the short circuit current and the open circuit voltage depend on temperature
- Plotting the characteristic voltage/current curve for different luminosity values
- Plotting the characteristic voltage/current curve on different operational conditions: while cooling the device or positioning a glass cover in front of the light source
- Plotting the characteristic curve when illuminating the apparatus with natural sunlight

TECHNICAL SPECIFICATIONS

- Solar battery composed by 2 solar cells, 9 x 7.5 cm
- Solar radiation sensor composed by:
 - Moll's thermopile 0,14 $\mu\text{V}/\mu\text{W}$
 - Measuring amplifier
- High power light source
- 2 glass covers
- Hot and cold air blower 2000 W
- Slide wire rheostat 330 ohm, 1A
- 1 rail with graduated rod 1000 mm and 3 holders
- Solar cells holder
- Glass plate holder
- Solar radiation sensor holder
- 2 digital multimeters
- 1 lab thermometer -20 - +110°C
- 3 red cables 500 mm
- 2 black cables 500 mm

SUPPLIED WITH

THEORETICAL - EXPERIMENTAL HANDBOOK



OPTIONAL

- EVLAB DATALOGGER mod. EVS-EXP/EV including SOFTWARE EVLAB WORKSPACE mod. SW-F-CSA/EV for a total control of interactive experiments
- Voltage sensor mod. EVS-11A/EV
- Current sensor mod. EVS-12A/EV
- PERSONAL COMPUTER

