

The solar module SUSE 5.15

SUSE 5.15 is a special characteristic curves solar module for the following experiments:

- Recording of the I(V) and P(V) characteristic curves (illuminated curves) of a solar cell
- Recording of the I(V) characteristic curve (dark curve) of a solar cell
- Determination of the Maximum Power Point (MPP) of a solar cell
- Determination of the efficiency factor η of a solar cell

The photovoltaics experimentation device SUSE 5.15 is a special device for the recording of the illuminated characteristic curve I(V), P(V) curve, and for the determination of the MPP (Maximum power point) and the efficiency factor of a solar cell, as well as for the recording of the dark characteristic curve (diode curve) of the solar cell.

In the sunlight or in connection with a 12 V halogen lamp 35/50 W (SUSE 5.16) or other suitable light sources V-I characteristic curves and sets of curves as well as the MPP curves P(V) can be determined experimentally for varying irradiances S.

With the shaded cell the dark curve can be recorded and with irradiation the shifting of the dark curve into the 4th quadrant can be observed.

The measurements can be conducted with multimeters, with an oscilloscope, or with the aid of a computer-operated measurement system (Cassy or similar) fast and with a high accuracy.

Photo to the right: In the center of the device the solar cell SUSEmod2 (0.61 V / 900mA) is located, above the black-red jack pair for measuring the solar cell voltage, the green-blue jack pair for measuring the load current, at the top the load potentiometer with the black rotary knob.

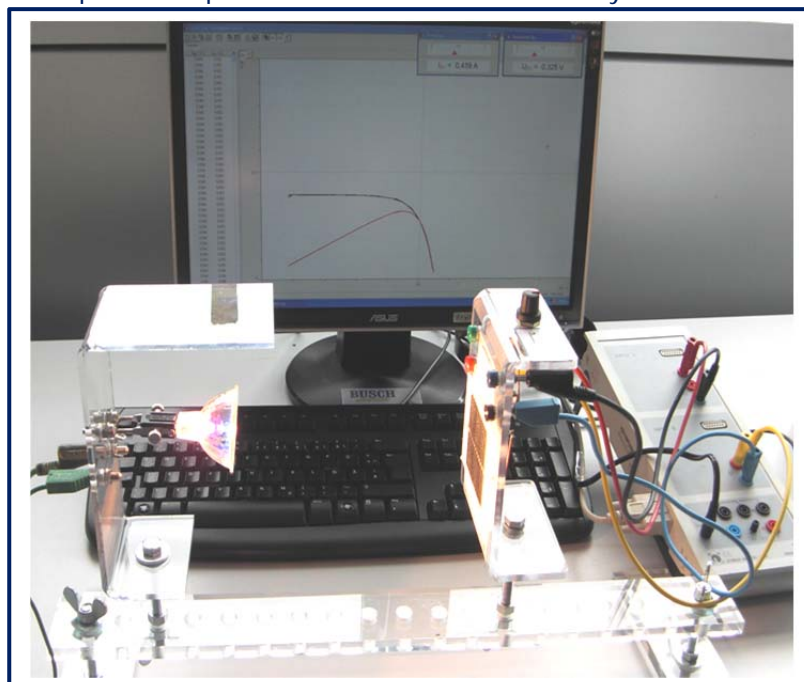


Photo to the left:

Measurement setup with the characteristic curves module SUSE 5.15 on an optical bench with the halogen spot lamp SUSE 5.16. For an automated measurement the interface CassyLab is used here.

On the screen the I(V) curve is visible in black and the P(V) curve in red with the MPP (Maximum Power Point) in the maximum of the red curve.

The experiments can be conducted "by hand" with 2 multimeters or with a measurement interface (e.g. CassyLab). The device is constructed with an 8 mm stand for the operation on an optical bench SUSE 5.0 or any common optical bench. For the experiments an extensive experimentation manual is available.