

# The solar module SUSE 4.33

Solar module with 3 solar cells in series connection with connector plugs  
Especially suited for student-centered experimental classes in class levels 5-13



The adjacent photo shows the solar module **SUSE 4.33** on a transparent plexiglass base plate.

In the picture the **module voltage 1.76 V** (= sum voltage of the 3 solar cells) is measured on a slightly cloudy day.

The series connection of the 3 solar cells with the red connector plugs on the back of the plexiglass support is clearly visible, for experiments with 1 or 2 cells or for parallel connections the plugs are easily removed.

The device is constructed on a plexiglass support 400 x 100 x 5 mm and angled to 75°.

Thereby the device can be set up outdoors for a summer position (steep angle of the sun) and a winter position (sun is low).

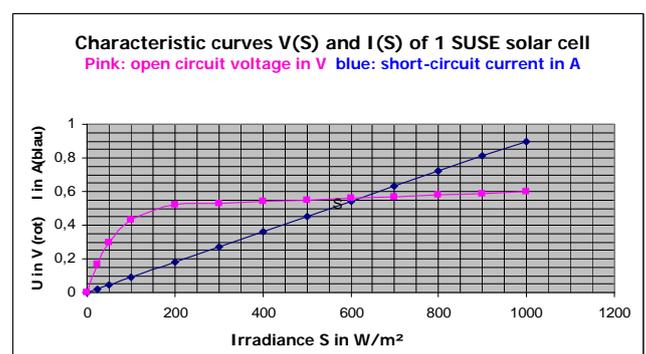


The solar module **SUSE 4.33V** is a high-class **1.8 V / 0.90 A / 1.2 W solar module** with 3 solar cells, that are connected in series by 2 connector plugs.

If the plug are removed, measurements on single cells or on parallel connections can also be conducted. With an irradiation of 1000 W/m<sup>2</sup> and 25° C the module provides an **open circuit voltage of 1.8 V** and a **short-circuit current of 900 mA = 0.90 A**. The 3 solar cells each have an individual + and – contact (red and black jack). The connector plugs also have test jacks for 4 mm lab wires for the easy measurement in series connections.

With this module electrical devices (radio, MP3 player,...) can be operated, that need 1.5 V voltage. To increase the voltage the modules can be connected in series at will to additional modules. With the extensive experimentation manual a variety of experiments about the solar cell and photovoltaics system technology can be conducted.

With a mounting hole in the short side the module can be set up on the basic device SUSE 4.0.



The **open circuit voltage** (exp. Function!) is 0 in total darkness, strongly increases with low irradiance and then only increases slowly up to the maximum value of 0.6 V with 1000 W/m<sup>2</sup> (bright sunshine with blue sky in the summer, solar cell adjusted towards the sun).

The **short-circuit current** is a line through the origin and increases in a linear fashion from 0 in total darkness up to 0.9 A with S = 1000 W/m<sup>2</sup> (bright sunshine in the summer).