

## The solar module SUSE 5.22

Solar module with 2 identical solar cells in pluggable series connection for experiments on recording the characteristic curves  $V(S)$  and  $I(S)$ , series and parallel connection

Especially suited for experimental classes in ISCED level 3

The photovoltaic experimentation device **SUSE 5.22** consists of 2 identical solar cells (0.6 V / 0.90 A) with + and – connection jacks each. The cells can be used individually separated from each other or in series connection (with connecting plugs). **SUSE 5.22** is especially suited for experiments with the optical bench **SUSE 5.0alu** or common stand systems in ISCED level 3.

With **SUSE 5.22** the following experiments can be conducted outdoors in the sunlight or in the lab with illumination by light of a halogen lamp (e.g. SUSE 5.16):

- Physical measurements on **one** solar cell, determination of all relevant measurement data
- Determination of the **irradiance S of the light** from the short-circuit current of the calibrated solar cell
- Physical measurements on a **series connection** or a **parallel connection of two solar cells**
- **Simultaneous measurement of open circuit voltage and short-circuit current** with varying irradiances (light intensity) to identify the interdependency in an experiment

With these experiments experimentally determined graphs on the dependency of solar cell voltage, short-circuit current, and solar cell power in dependence of the irradiance S of light can be developed.



**Photo at the top:**

The solar module SUSE 5.22 with the two identical solar cells SUSEmod2. Each solar cell has its own jack pair red/black. Between the central jacks the connecting plug on the back is visible, that is used for the series connection. At the bottom there is the stand for fixing on an optical bench.

### Left-hand side:

The  $V_{oc}(S)$  and  $I_{sc}(S)$  characteristic curves of one solar cell SUSEmod2.

An **extensive experimentation manual with additional technical data** goes with the device.

