SUNdidactics
SolarEnergyDidactics
SolarEducation
SolarEngineering

innovative Solarsysteme für Schule und Ausbildung
innovative solar- systems for school, college, technical education

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- Solarmodule
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- Solarberatung
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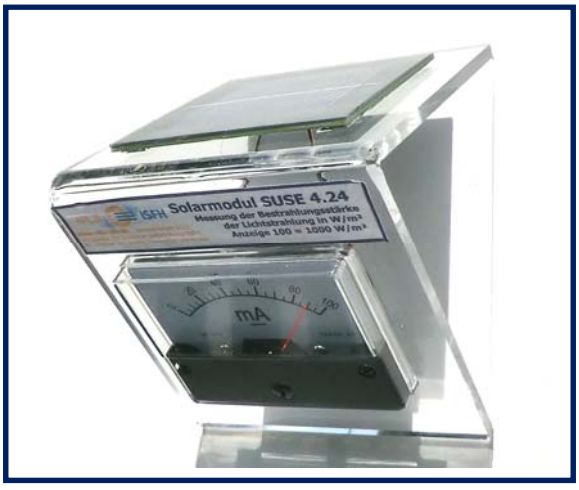
The solar measurement module SUSE 4.24

Analog measurement device for measuring the irradiance (intensity) of sunlight or light of light sources in the unit W/m²
To be used in Elementary Schools and Secondary Schools

Top:
Front view of the measurement module SUSE 4.24. The 100 mA measurement device on the front and the SUSE solar cell on the back are visible. The display shows '35', which is equivalent to an irradiance of 350 W/m² on a cloudy day.
Bottom:
Display '90' = 900 W/m² on a bright spring day with slight clouds.



The **photovoltaics experimentation device SUSE 4.24** is special equipment for measuring the light's intensity (=irradiance S) of sunlight or other light radiation, directly displayed on an analog milliamperemeter (100 mA) in the international standard unit W/m² (Watts per square meter).

Max. display: '100' = 1000 W/m²
1 scale mark = 50 W/m²
Min. display = 1 scale mark = 50 W/m²

SUSE 4.24 is the kid brother of the digitally displaying measurement module SUSE 5.23, which displays four-digit numerical values directly accurate to 1 W/m².

The solar radiation outdoors shows great variability from about 1000 W/m² with bright sunshine down to 30 W/m² with heavy clouds, inside rooms S is < 10 W/m². Our naked eye cannot recognize these severe deviations!
Shadowing by clouds vastly diminishes the radiation. If the direct sunlight is shadowed, the diffuse radiation of the bright sky can be measured.

In Elementary School the children just use the numerical values of the measurement device's display from 0 to 100 for their measurements, 100 means bright sunshine, 0 is total darkness. With this they can measure the irradiance of the sunlight (or the light of artificial light sources) in different places at different times of the day.

In Secondary School the numerical value can be multiplied with 10 to get the irradiance S in the physical unit W/m².

The device is placed on a plexiglass base plate with the dimensions 220 x 100 x 5 mm, which is bent roof-shaped to 75°, so that the solar cell can be adjusted to the sun or a light source, the measurement device can be read on the other side of the 'roof'.