

Photovoltaic – Training System SOLARTRAINER Profi

Basic experiments

- Recording the characteristic curve of a diode
(Required equipment ST 16, ST 18, ST 27, ST 99)
- Recording the characteristic curve of a diode series connection
(Required equipment ST 16, ST 18, ST 27, ST 99)

Measurements on a solar module

- Recording the characteristic curve of a solar module
(Required equipment ST 01, ST 14, ST 18, ST 20, ST 99)
- Bestrahlungsstärken Recording the characteristic curves of a solar module with different irradiances
(Required equipment ST 01, ST 14, ST 18, ST 20, ST 99)
- The effect of the temperature on the characteristic curve of a solar module
(Required equipment ST 01, ST 14, ST 18, ST 20, ST 99)
- The effect of the angle of inclination on the power output of a solar module
(Required equipment ST 01, ST 14, ST 18, ST 99)
- Recording a daily progression for summer and winter
(Required equipment ST 01, ST 14, ST 18, ST 99)
- Experiments 2.1 to 2.5 comparing with solar module amorphous
(Required equipment see above, but additional ST 29)

Measurements on simulators

- Series connection of solar modules
(Required equipment 2 x ST 02, ST 18, ST 20, ST 99)
- Solarmodulen Parallel connection of solar modules
(Required equipment 2 x ST 02, ST 18, ST 20, ST 99)
- Shading of solar modules without bypass diode (series connection)
(Required equipment 2 x ST 02, ST 18, ST 20, ST 99)
- Shading of solar modules with bypass diode (series connection)
(Required equipment 2 x ST 02, ST 18, ST 20, ST 99)

Measurements on grid connected systems

- Set up, different operating conditions / energy flow analyses, measuring the inverter efficiency
(Required equipment 4 x ST 02, ST 03, St 05, ST 07, (ST 10), ST 11, (ST 17), ST 18, ST 20, (ST 30), ST 99)



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Measurements on island systems

- Island system without storage for DC loads
(Required equipment 2 / 4 x ST 02, ST 03, ST 08, ST 18, ST 20, (ST 23), ST 99)
- Island system with battery and charge controller for DC loads.
Set up, different operating conditions / energy flow analyses
(Required equipment 4 x ST 02, ST 03, ST 04, ST 08, ST 09, ST 18, ST 20, ST 21, (ST 23), ST 99)
- Island system with battery and charge controller for AC loads / with island system inverter
Set up, different operating conditions / energy flow analyses
(Required equipment 4 x ST 02, ST 03, ST 04, ST 06, ST 07, ST 09, ST 18, ST 20, ST 21, (ST 23), ST 99)
- Island system with battery and charge controller for DC and AC loads / with island system inverter
Set up, different operating conditions / energy flow analyses
(Required equipment 4 x ST 02, ST 03, ST 04, ST 06, ST 07, ST 08, ST 09, ST 18, ST 20, ST 21, (ST 23), ST 99)

Using an outdoor solar module

- Experiments like „Measurements on a solar module“, „Measurement on island systems“, „Further measurements“
(Required equipment see relevant experiments, additional ST 15, ST 22)

Further measurements

- Measuring of the solar irradiation
(Required equipment ISET Sensor, Portable irradiation intensity meter)

For all experiments: additional 2 Multimeters.
Instead of ST 18 alternativ ST 19.

The modular conception of the SOLARTRAINER **Profi** allows the set up of further experiments, too.