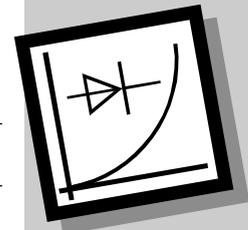
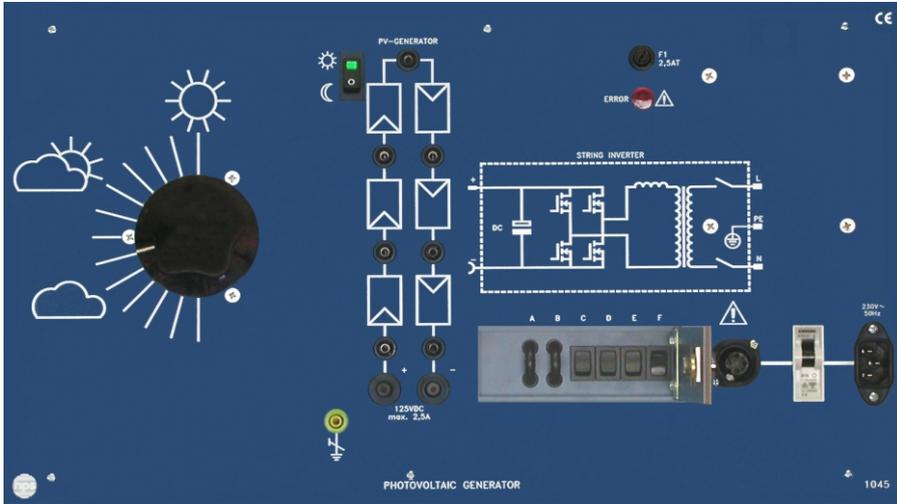


Fundamentals of Electrical Engineering / Photovoltaics



Training System
Photovoltaic

Type 1045.1



PHOTOVOLTAIK GENERATOR (Type 1045)

Complete training system for line-linked PV systems

Simulation of a PV generator and mains connection of the inverter on one board

Continuously adjustable „radiated light energy” enabling measurements regardless of the weather and the time of day

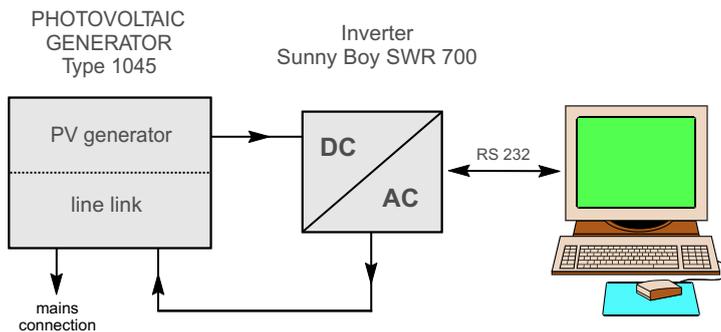
U/I behaviour of the „PV modules” the same as in practice

Voltage measuring points on every single module

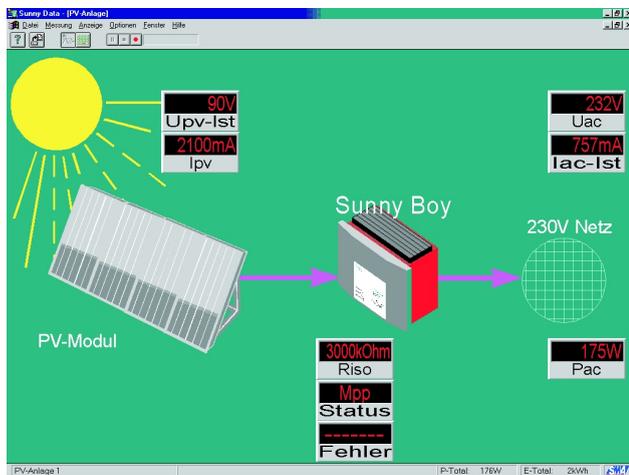
With error simulation on the PV generator and the mains feed

Examination of different operating points of a commercially available inverter

Comfortable measured value display and system monitoring with Sunny Data software

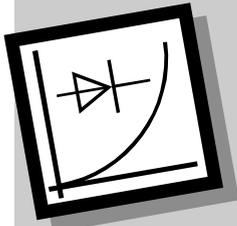


Schematic diagram of the Training System Photovoltaic



Measured values of the PV system, shown with the Sunny Data software

03 / 14 V02 Technical changes without prior notice!



Training System Photovoltaic

Type 1045.1

Fundamentals of Electrical Engineering / Photovoltaics

Technical Data of the PHOTOVOLTAIC GENERATOR (Type 1045)

PV-generator

- 6 PV modules, max. approx. 20 V / 2.5 A
- With built-in bypass diodes
- Error simulation: partial shadowing of the PV generator, failure of a bypass diode, insulation error (The error simulation has a lockable door.)

Mains feed

- Fused by automatic 6 A fuse
- Error simulation of the mains impedance with different values; for monitoring the automatic release point ENS (The error simulation has a lockable door.)

Mechanical data

The front panel of the PHOTOVOLTAIC GENERATOR is made of 5 mm thick laminated Board, matt blue in colour with white engraving. The back is protected by a grey metal housing.

- Dimensions / weight: 532 x 297 x 200 mm (w x h x d) / 13.7 kg

Technical Data of the Sunny Boy SWR 700 inverter



- Input voltage ranges DC: 75 V ... 150 V
- Input current $I_{PV \max}$: 6.2 A
- Rated output power $P_{AC \text{ rated}}$: 700 W
- Working range AC U_{AC} : 196 V ... 253 V
- Working range frequency f_{AC} : 49.8 Hz ... 50.2 Hz
- Interface: RS 232

Mechanical data

Dimensions / weight:
322 x 290 x 180 mm (w x h x d) / 16 kg

Sunny Data Software

- Continuous acquisition of operating data of the connected inverter
- Monitoring of the operating states and reporting of operating faults
- Online measured data transfer and graphic display of data
- Measuring channels which can be called by the Sunny Data software:
- Actual value PV voltage, setpoint PV voltage, mains current, mains voltage, mains frequency, mains power, mains impedance, insulation resistance, Sunny Boy total energy, Sunny Boy operating hours, Sunny Boy mains connections, Sunny Boy error counter, Sunny Boy operating status and Sunny Boy error status

Subject to technical modifications