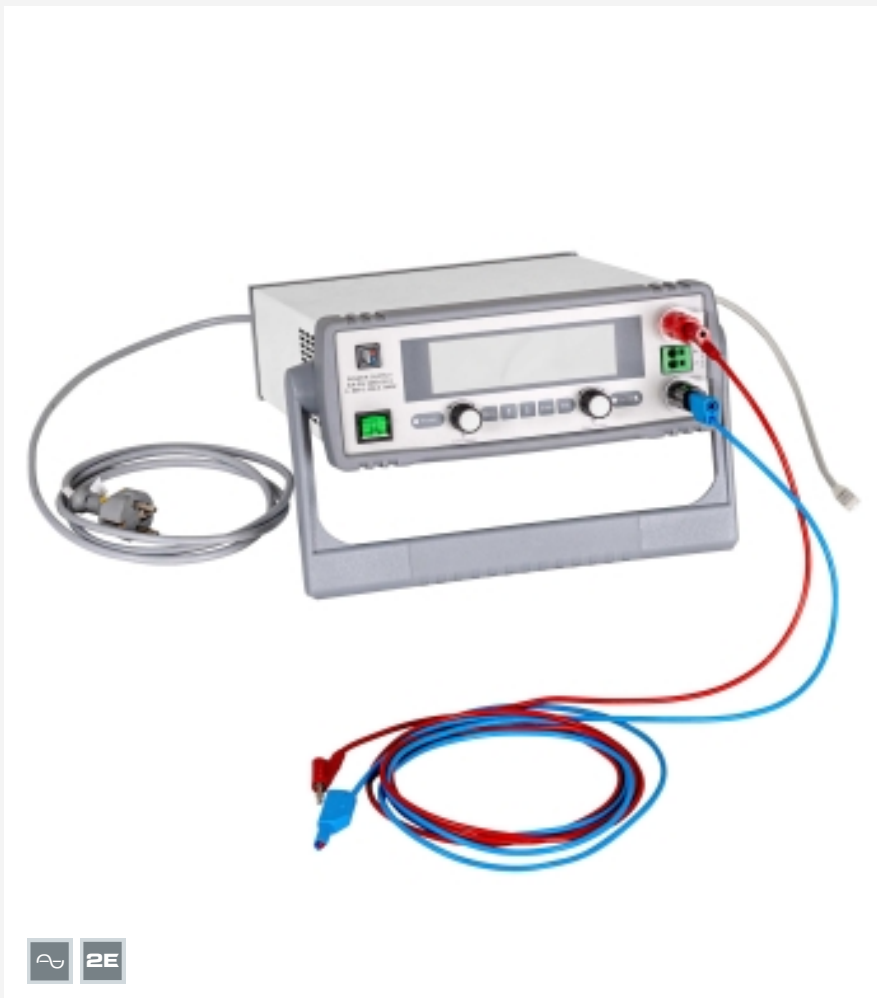


ET 255.01

Photovoltaic simulator



Learning objectives/experiments

- current/voltage characteristics of photovoltaic modules
- power optimisation with MPP trackers (maximum power point tracker)
- operating behaviour of photovoltaic modules with varying illuminance and temperature
- efficiency and dynamic behaviour of ET 255 system components
- experiments with ET 255 and ET 255.03 with specified generation and consumption profiles

Specification

- [1] programmable laboratory DC power supply unit with network connection
- [2] simulation of current-voltage characteristics of photovoltaic modules
- [3] operation together with ET 255 trainer
- [4] operation, control, parametrisation and display of operating states via the GUNT software in ET 255
- [5] visualisation of power optimisation (maximum power point, MPP tracker)
- [6] time-controlled specification of generation and consumption profiles
- [7] manufacturer software for applications without ET 255

Technical data

- Photovoltaic simulator
- peak power: 650W
 - current at max. power (MPP): 9A
 - voltage at max. power (MPP): 68V
 - max. short-circuit current: approx. 15A
 - max. open-circuit voltage: approx. 70V
 - interface: LAN

230V, 50Hz, 1 phase
 230V, 60Hz, 1 phase
 120V, 60Hz, 1 phase
 UL/CSA optional
 LxWxH: 400x310x110mm
 Weight: approx. 5kg

Required for operation

ET 255

Scope of delivery

- 1 experimental unit
- 1 manufacturer software
- 1 set of cables

Description

- programmable DC power supply unit
- characteristic curve simulation of photovoltaic modules with GUNT software
- user can specify key module parameters
- power optimisation for operation with MPP trackers

The ET 255.01 device together with ET 255 are used to simulate the current and voltage characteristics of photovoltaic modules. For example, it is possible to study how illuminance and temperature affect the operating behaviour of photovoltaic modules and other components of the solar power system.

The GUNT software in ET 255 is used to control, operate and configure the photovoltaic simulator and to record and display the measured values on a laboratory PC.

The function of the maximum power point tracking (MPP tracker) of ET 255 can be observed in a characteristic curve diagram. In addition, experiment sequences with defined generation and consumption profiles can be controlled. The GUNT software is network-compatible and enables experiments to be monitored, recorded and analysed at any number of workstations via the customer's own network.

The photovoltaic simulator is connected to an external PC via network interface. Without a network connection, the DC power supply unit can only be operated in constant current or constant voltage mode. The colour-coded display shows the measured and default values for current, voltage and electrical power.

ET 255.01

Photovoltaic simulator

Required accessories

ET 255 Operating options for modular solar electricity systems

Optional accessories

ET 255.02 Photovoltaic modules for solar electricity systems

ET 255.03 Consumers in solar electricity systems