

# PHOTOVOLTAIC POWER SYSTEM

## Mod. F-SF/EV

### DESCRIPTION

Through the solar panels supplied, it is possible to detect the characteristic curve of the photovoltaic panels, charge a battery through a charge controller and an inverter to convert direct current into alternating current.

### TRAINING PROGRAM

- Solar energy - electric energy transformation via photoelectric effect
- Electrical characteristics and efficiency of a photovoltaic cell
- Photovoltaic cell efficiency as function of the solar radiation
- Experimental efficiency of a photovoltaic cell (solar radiation meter - not included, supplied upon request)

### TECHNICAL SPECIFICATIONS:

- 4 photovoltaic panels, 15 W each (60 W total)
- Measuring panel with a set of resistors that enables to study the efficiency curve of photovoltaic system
- Battery charge control
- Inverter of 300 W (mounted on the panel) for transforming the output voltage of the battery into current at 220 V - 50 Hz
- Various leads for connections
- Lamp of 220 V that will be used when connected with inverter output
- Lead battery (voltage rating: 12 Vcc; capacitance: 100 Ah)

Optional sensors and EVLAB datalogger allow to gather and visualize radiation, temperature, load current of solar panel, level and load current of battery.

Data gathered with the software, can be viewed in graphics and tabular form, and they can also be exported in Excel file for further analysis.



### SUPPLIED WITH

**THEORETICAL - EXPERIMENTAL  
HANDBOOK**



### OPTIONAL

- **EVLAB DATALOGGER mod. EVS-EXP/EV** including **SOFTWARE EVLAB WORKSPACE mod. SW-F-SF/EV** for a total control of interactive experiments
- Solar radiation sensor **mod. EVS-29/EV**
- Temperature sensor **mod. EVS-15/EV**
- Voltage sensor **mod. EVS-27/EV**
- High current sensor **mod. EVS-20/EV**
- **PERSONAL COMPUTER**

