



SOLART-SYSTEM LTD

An Engineering Company for Solar Energy

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QUASIAUTONOMOUS EDUCATIONAL SOLAR POWER SUPPLY



The Quasiautonomous Educational Solar Supply (QUASI) is an excellent tool to study the electrical utilisation of the solar energy. In addition the QUASI is not only an educational tool for the autonomous and grid connected operation, but also a useful demonstrating and R&D tool supplying electrical energy.

At the autonomous power supply the power supplying of the consumers is provided by autonomously without grid connection. At the grid connected system the energy produced by the solar generator is fed into the grid. At the quasiautonomous power supply the power supplying of the consumers is provided mostly by the solar generator and in fewer part by grid, but at grid off the QUASI works as an autonomous solar power supply. So the power supply is uninterrupted. The QUASI is also able to feed into the grid the surplus energy produced by the solar generator automatically. The QUASI can be sized for different power, autonomy and for electrical solar fraction. The QUASI is provided by measuring and monitoring system for evaluation of the system continuously. In addition to the electrical parameters the measuring and monitoring system collect the meteorological data. The QUASI also contains a PC connecting to the measuring and monitoring system.

THE MAIN TECHNICAL DATA

Average value of the electrical solar fraction in Budapest: 700 kWh/year
Nominal output voltage: 230 VAC, 1 phase, ~ 50 Hz
Maximal output power: 500 VA
Maximal autonomy: 48 hours (at 100 W load)
Transition time: lower than 0,004 sec
Nominal feed in power: 800 W

MAIN COMPONENTS

- Solar array for roof mountings
 - nominal power: 800W
 - voltage: 24VDC
- Roof mounting sets for solar array
- Switching box with elements of automatics and with combined controller and charging data monitor and RS 232 PC interface & software
- Grid inverter
 - nominal input voltage: 24 VDC
 - nominal output voltage: 230 V AC 1 phase 50 Hz
 - nominal output power : 800 W
- Grid connected data monitor with solar radiation & temperature sensor
 - power supply : 230 V AC max. 8W
 - RS 232 PC interface& software
- UPS
 - nominal input voltage: 24 VDC / 230 V AC 1 phase 50 Hz
 - nominal output voltage: 230 V AC 1 phase 50 Hz
 - maximal output power : 500 VA
 - RS 232 PC interface& software
- AC Power and Energy meters
 - nominal voltage: 230 V AC 1 phase 50 Hz
 - RS 232 or optical PC interface & software
- Sealed lead-acid battery bank for energy storage
 - nominal voltage: 24 VDC
 - nominal capacity: 300 Ah
- Cables
 - 50 m UV resistant cable for PV modules connections
 - all cables for interconnections
 - RS 232 PC interface cables with terminals
 - solar radiation & temperature sensor cables
- Weather Station and data monitor with sensors
 - RS 232 PC interface& software
- Technical manual
 - general information and functioning
 - safety information
 - layout
 - settings
 - operating instructions
 - maintenance
 - trouble shooting