



Sunnytek Solar Sweden

Modular Solar Power Units for hotels and business centres

Page 1/2 4 February 2017



Sunnytek offers a Solar Power Unit designed to give all power to hotels, offices and business centres to make building independent of grid and powered by sun only. Solar Power Unit (SPU) is based on new developments in solar panels and energy storage available last months only. SPU have a solar panel array with a number of the new generation thin film panels that make the electricity. This is typically in the range of 25 KW-100KW. Panels can be installed on the roof. Energy storage is done with a new generation Ni-Mh Bipolar battery with very good life time (up to 20 Years)and reasonable cost. Electrical management and inverters are based on the new generation Bi-Directional charger/inverter.

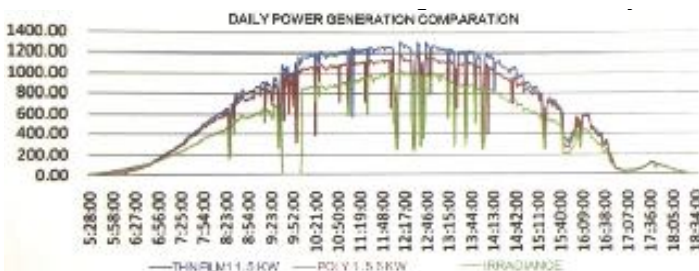
Features of Solar Power unit SPU series.

- * Modular design with electronics in one module and battery system in a pallet style module
- * Easy to upgrade and add more features and capacity later
- * 25 KWH energy storage modules in new efficient new Ni-MH design with best performance
- * Solar panels of new generation of CIGS panels that gives much better output cloudy days
- * Solar panels gives about 10% more KWH / year than crystalline panels over the year
- * Bi-Directional Charger / inverter reduce losses about 5% to old solutions
- * DC high voltage power bus makes better efficiency and easier to add new components

SPU system is optimised for Tropical areas and their demands in humidity, corrosion and high temperatures. Solar panels are laminated with glass at backside to resist UV damages of plastic foils many others use. Lifetime can be 40 years while others make maybe 25 years.

The design makes power far cheaper than a diesel generator and also cheaper than most local grids in KWH cost. The battery act as back up so an unreliable grid is not a problem anymore.

Graph below shows daily variations in solar panel output. Blue graph is our design while the brown is typical for crystalline panels. Difference over year about 10% in more output.



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Page 2/2 4 February 2017



Typical roof top set up in a hotel in Tropical areas

Solar panel system 25KW to 100KW in segments of 25KW output. Roofs are a good site and panels act as an extra roof. Carports is also a good idea as it gives shadows and protection to visitors cars to sun and rain. We have several solutions in hard ware with aluminum profiles. Areas of 100 M2 or more are typical to get what is needed to make the building independent of grid and external trouble.



Modular bi-directional Inverter / Charger

controls all power functions in system. It charge battery unit. It produce all 1 or 3 phase 230/400 VAC power needed. It controls the high voltage DC bus so we can save about 5 % more in efficiency in KWH out of the entire system, Power range is 28KW to 168KW in output and it is modular. It is in a rack modul.

Battery and energy storage is based on cells in a rack/ pallet design. It is modular and all cells have a micro processor control and battery management system. This explain the battery unit have a very long life time and can be deep cycled to 100% if wanted. Ni-MH is not poisonous and environmentally modern and green. Booth battery and electronics are made in Sweden. Battery is typically 25KWH to 100 KWH in most sites.



Lamps and energy consumption

Lots of energy is used for lamps and illumination and we are happy to offer a new more efficient generation of led lamps. In comparison with old style fluorocent lamps we save typically 75% of electricity and have better light quality. Lamps are not much more costly and in almost all cases the savings in power pay lamp in 6-12 months or less. It is very profitable to upgrade all lamps when a new SPU is installed as size can be decreased a lot with better efficiency in lamps.

A105 Series
19W 3050LM 80Ra
Unique T5 LED Tube
Fantastic LOR up to 160lm/w
5 years warranty



Solar hot water systems

Most buildings have a demand for hot water for hygiene or kitchen works. Here we have a very rugged solution that produce hot water by sun up to boiling temperature. The unique system can not boil and crash and have no fragile glass parts in the system. Water can be stored in a insulated tank for nights when sun is down.



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