Energy Security Solution
from TeamSustain

1 kW SOLAR POWER SYSTEM

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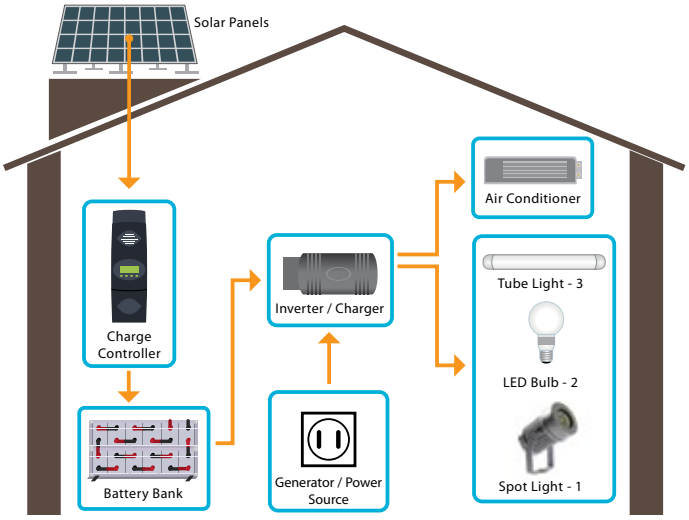
Engineering green solutions

The Solar Photovoltaic system installed in this zero energy model building is of 1 kW capacity. The system is designed to support total connected load up to 3 kW.

The power generated is single phase, 230 V 50 Hz which can power 3 kW of connected load (three phase models are also available). The installed capacity of the Solar Photovoltaic System is 1 kW comprising of 10 numbers of 100 W panels each. The solar panels used in the system are thin film amorphous silicon panels, which are highly efficient and least affected by temperature. The solar charge controller used in the system has Maximum Power Point Tracking (MPPT) capability, which tracks the maximum charging current possible through software support.

To provide smooth operation of the system a battery bank is provided with 12 hour @ 50% DOD (Depth of Discharge) backup power (Total 24 Hours).



SYSTEM COMPONENTS FEATURES:

Solar Panels (South Korea)

- Solar Panel Technology - Amorphous-silicon (A-Si) Thin Films
- Model – S 100 E
- Solar Module Capacity – 100 W
- Number of Panels used – 10 Units

Power Conditioning Unit (Outback USA)

- OUTBACK Inverter Model – VFX 3048 E
- Inverter Capacity – 3 kW (Highly Efficient - 93%)
- Charge Controller – FM 60 – 60 Amps (98.1% Efficiency)
- FlexNet DC – Monitoring Device
  - ► Displays battery charge status
- RTS – Remote temp sensor
  - ► For Battery temperature sensing and charging
- Mate 2 – Communication device
  - ► Programming device for the system
- Consists of user friendly LCD panel to display system data
- Surge Protector – For protection from surges in the power network

LED Luminaries

High Quality, long lasting energy efficient LED Lighting, imported from South Korea

Battery Backup

- Battery Backup Capacity - 400 Ah / 48 Volts
- 24 hr of backup

CONNECTED LOAD DETAILS:

DC Air Conditioner	1	750 kW
LED Tube Light	2	25 Watt each
LED Bulb	2	7 Watt Each
Spot Light	1	4 Watt

GETWATT, KOREA - Thin film Silicon Photovoltaic modules

1. Easy to install modules, long-term warranty
2. Low temperature deposition, low temperature coefficient
3. Remarkably low consumption of raw silicon material
4. Guaranteed product quality using verified parts – Junction Box, PV-Cable, Connector, Junction Potting, Back Sheet and Frame Sealing
5. Assured higher yield compared to Crystalline modules (10-15%)
6. Works better and efficiently under shaded conditions
7. Warranty (limited) - 25 years

OUTBACK, USA - SINEWAVE INVERTER CHARGER

1. Next generation advanced power management systems
2. Produces true sinewave AC electricity for stand-alone and back-up power needs
3. Off Grid models, Grid Tie / Interactive Models
4. Mobile and marine models
5. Modular system architecture and ability to increase from 2 kW to 30 kW
6. Parallel series and 3 phase stacking capabilities
7. Three phase configuration - option
8. Sealed and vented models
9. Non volatile memory
10. Network communication
11. High surge power – can handle air conditions and pumps
12. Remote System Monitoring via an easy-to-use web interface
13. Warranty – 5 years

OUTBACK, USA - CHARGE CONTROLLERS

1. Industry leading Maximum Power Point Tracking (MPPT) charge controllers
2. Increases renewable energy yield by up to 30%
3. Innovative solar harvesting and battery charging - maximize systems potential
4. Allows higher input voltage up to 120 Volts DC for a balance system voltage of 24, 48 or 60 Volts – reduction in cable cost and losses
5. Warranty – 10 years

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GETWATT
KISCO's Energy Division

OutBack POWER

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