Power Station

1800W Power Station

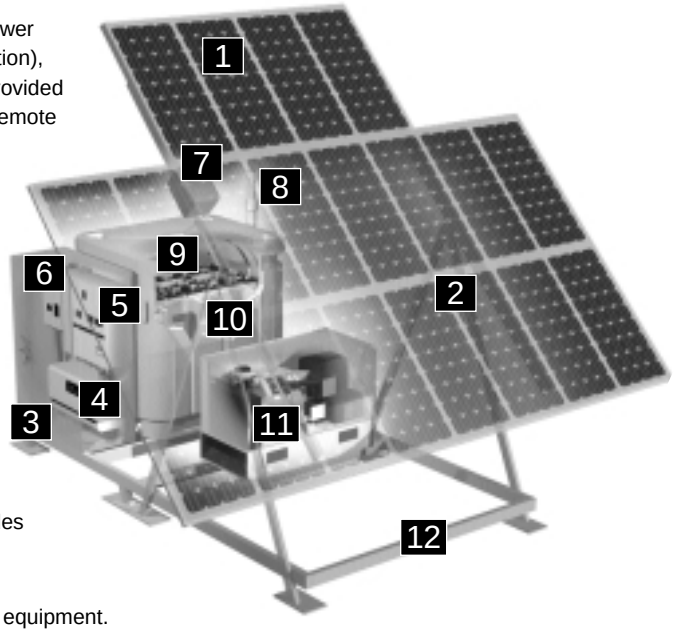
SunWize Technologies, Inc.

Description

The SunWize™ Power Station consists of a PV array which generates DC electricity from sunlight, a battery bank to store the DC energy and an inverter to convert from DC to utility-grade AC electricity.

Several factors must be considered when choosing between a hybrid or stand-alone configuration. Hybrid stations are sized to provide 25-75% of the load requirements by the engine generator, resulting in a lower first-cost for a given load. Stand-alone PV systems are sized to provide 100% of the load and offer very low operating and maintenance costs.

SunWize PV Hybrid Power Station Components Diagram



1. ***Photovoltaic ("PV") Panels***

Siemens Solar high-efficiency, single crystal silicon PV modules provide higher amp-hour per watt output than other technologies and include dual bypass diode protection. Modular PV panels permit expansion to accommodate increased loads.

2. ***Adjustable Array Structure***

PV array tilt is easily adjustable from 30-60 degrees to maximize solar energy. Further adjustment of 0-30 degrees possible with special positioning bars.

3. ***Control Center***

The control enclosure is a NEMA 4 powder coated steel box housing the power distribution components (DC Controller/distribution, Inverter and AC distribution), disconnects, system monitor and appropriate wire terminals. Enclosure is provided with rainproof vents and a ground fault protected electrical outlet. Optional remote monitoring equipment is available.

4. ***Inverter/Battery Charger***

Trace microprocessor-controlled high-efficiency, sine wave inverter with three stage temperature compensated battery charger. Peak conversion efficiency of 96%, protection circuitry, LCD display with user and setup menus.

5. ***DC Controller***

Solid state, low frequency, pulse-width modulated solar charge control with battery temperature compensation and automatic night time disconnect. Customer DC interface conforms to U.S. National Electric Code and provides easy access and flexibility for multiple DC load requirements.

6. ***AC Distribution Pane***l

Customer AC breaker panel conforms to U.S. National Electric Code, provides surge protection and flexibility for multiple AC load requirements.

7. ***DC Combiner Box***

Provides PV circuit disconnects and lightning/surge protection for electronic equipment.

8. ***Ventilator Fan***

Designed for active ventilation of hybrid battery enclosure to prevent accumulation of hydrogen gas.

9. ***Batteries***

Available in three battery types: economy flooded lead acid, industrial flooded lead acid and sealed lead acid. Flooded lead acid battery comes with recombiner caps to minimize water loss. Sealed battery available for maintenance-free performance. The control system maintains the batteries between 20% and 100% state of charge.

10. ***Battery Enclosure***

Insulated, vented thermoplastic unit with lockable lid and drain plug. Designed to minimize battery temperature extremes, eliminate battery bank hot spots, prevent freezing and extend useful battery life. Industrial battery cells are secured within a grid and surrounded by a water jacket.

11. ***Generator (Hybrid only)***

Industrial air-cooled, propane generator results in reduced maintenance requirements. Includes battery, alternator, remote start/stop contacts, self-contained protection and automatic safety shutdowns. Package includes weatherproof housing, vibration isolators on steel skid, flexible couplings, and replaceable dry element air filter. Available in three sizes. Other fuel types available.

12. ***Structure***

Industrial grade, heavy-gauge steel coated with a durable polyurethane or optional galvanized finish. Available in four configurations: ground mount, road trailer, off-road trailer and breakdown kit.

Power Station

SunWize TECHNOLOGIES, INC. A Besicorp Company

SunWize Power Station Features:

- Pre-assembled & Factory Tested
- Easy Installation
- Reliable, Continuous Power
- Renewable Energy
- Low Environmental Impact
- Self-supporting, Ballasted Design Requires No Foundation

Model/Description	Array (Wp)	Stand-Alone/ Hybrid	Dimensions LxWxH	Weight	SW Part Number
Hybrid Power Station - 900 Wp	900	Hybrid (PSG)	Consult Factory	Consult Factory	PSG900
Hybrid Power Station - 1200 Wp	1200	Hybrid (PSG)	Consult Factory	Consult Factory	PSG1200
Hybrid Power Station - 1500 Wp	1500	Hybrid (PSG)	Consult Factory	Consult Factory	PSG1500
Hybrid Power Station - 1800 Wp	1800	Hybrid (PSG)	Consult Factory	Consult Factory	PSG1800
Hybrid Power Station - 2400 Wp	2400	Hybrid (PSG)	155” x 166” x 151”	3200 ± 200 lbs.	PSG2400
PV Power Station - 900Wp	900	Stand-Alone(PS)	Consult Factory	Consult Factory	PS900
PV Power Station - 1200Wp	1200	Stand-Alone(PS)	Consult Factory	Consult Factory	PS1200
PV Power Station - 1500Wp	1500	Stand-Alone(PS)	Consult Factory	Consult Factory	PS1500
PV Power Station - 1800Wp	1800	Stand-Alone(PS)	Consult Factory	Consult Factory	PS1800
PV Power Station - 2400Wp	2400	Stand-Alone(PS)	155” x 166” x 151”	3000 ± 200 lbs.	PS2400

Inverter Power/Voltage

Option T	*Order #*
4kVA, 24VDC: 120VAC 60Hz, 1Ø, 2 -wire	T4024*
3kVA, 24VDC: 230VAC 50Hz, 1Ø, 2 -wire	T3024E
4kVA, 24VDC: 220VAC 60Hz, 1Ø, 2 -wire	T4024W
5.5kVA, 48VDC: 120VAC 60Hz, 1Ø, 2 -wire	T5548
4.5kVA, 48VDC: 230VAC 50Hz, 1Ø, 2 -wire	T4548E
8kVA, 24VDC: 120/240VAC 60Hz, 1Ø, 3 -wire	T8024D
8kVA, 48VDC: 120/240VAC 60 Hz, 1Ø, 3 -wire	T8048D

* Denotes standard configuration equipment.

Battery

Option B	*Order #*
Industrial lead acid, flooded 2V cells, 1000Ah	B01*
Economy lead acid, flooded 6V cells, 700AH	B02
Valve-regulated lead acid, sealed 12V cells, 840AH	B05

Generator

Option G	*Order #*
6kVA air-cooled, 2-cyl, LP (propane) fuel	G01*
10kVA air-cooled, 4-cyl, LP (propane) fuel	G04
7.5kVA air-cooled, 2-cyl, diesel fuel	G05

Structure

Option S	*Order #*
Ground Mount, two-piece	So1*
Ground Mount, breakdown kit	S02
Heavy-duty Road-rated Trailer, dual-axle	S03
Off-Road (Agricultural Use) Trailer	S04

NOTE: Use ‘SG’ for hot-dip galvanized finish

Monitoring

Option M	*Order #*
Local Monitoring	M01*
Remote Monitoring/ Control Panel 50 ft. cable	M02
Remote Monitoring/ Control adapter & PC Software	M03

STANDARD COMPONENTS:

- Photovoltaic (“PV”) Panels - (reference pages 1-6)
- Inverter/Battery Charger (reference pages 29-35)
- Batteries (reference pages 25-27)
- Generator (Hybrid Only)

OPTIONS:

- Consult Factory for Custom Options

How to configure your own system

Choose from the above charts and fill in the blanks below to configure your own system.

Example:

Type	Array		Option T		Option B		Option G		Option S	Option M
PSG	900	-	T4024	-	B01	-	G04	-	S01	M02

Your SW part number is: **PSG900-T4024-B01-G04-S01-M02**