

POWERCOM



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SOLAR HYBRID SYSTEM

Take Benefit from Sun

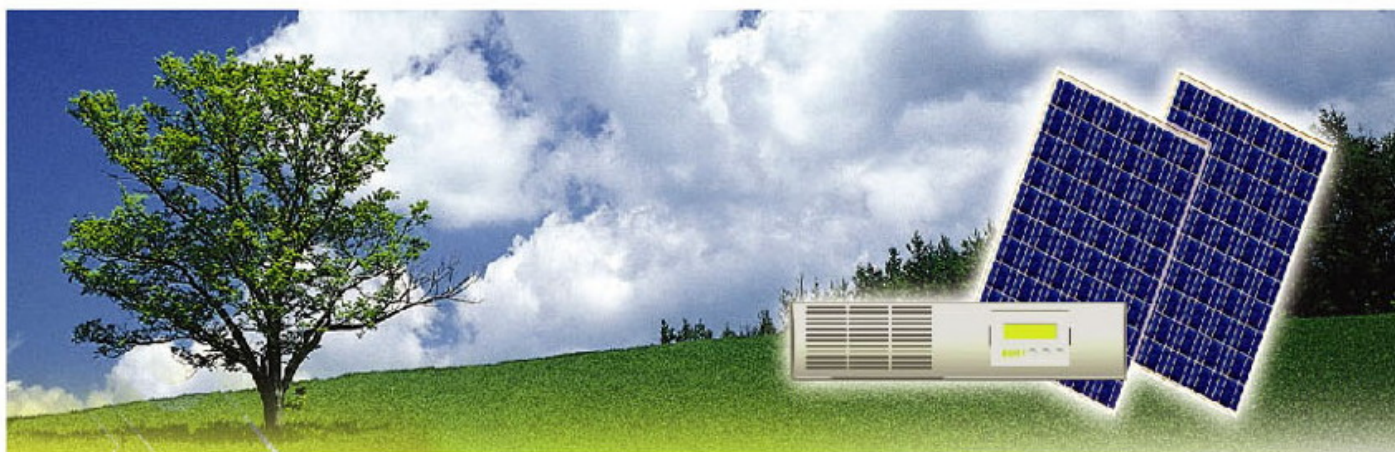
Solar Generator

Cost per KWH is 50% of traditional diesel generator

Global Innovation

World's NO.1

SOLAR HYBRID SYSTEM



Looking for better and more stable power system to change your life quality without purchasing a huge, noisy and polluting generator to occupy your space? Powercom is excited to launch the latest product offering, SOLAR HYBRID (SLH) SYSTEM. This SLH system will come as a complete turnkey kit to include panels, inverters, cables, batteries, and other additional accessories, etc. SLH is a great solution for any customer considering to generate electricity for their electrical appliances. When purchasing the SLH system, the overall cost for the installer and the end user will be reduced, increasing the value thus increasing sales.

* SLH comes with PPV-210M6 solar modules x 2 ~ 6 pcs

* System must be installed under the direct sunlight.

Description:

1. SLH provides max 1260W output power for continuous 7~12 hours in the day time under the sunlight.*
2. SLH system can provide max output power with full load for continuous 5 hours+ at night or without sunlight.*
3. If the local power supply is unstable or power outages (in less than 4 hours) happens frequently, installing SLH system can help to solve the power shortage / power outages problems and provides consistent uninterruptible power for 24 hours.

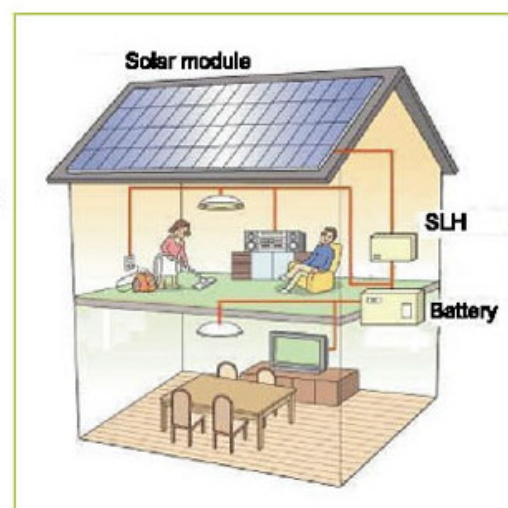
This system included :

Indoor system : POWERCOM Solar module (PPV-210M6)X2~6pcs

Outdoor system : SOLAR HYBRID SLH-420~1260 X1

Cables x 1 \ manual x 1

Cycle acid-lead battery 65AH \ Battery cabinet x 1



- * SLH system saves 30% ~ 70% cost per kwh comparing to traditional diesel generator.
- * Cost of Power Generation : Cost saving ratio for each kw/h may be different in accordance to the local diesel price and the amount of sunshine.
- * In response to energy saving and environmental protection, to use clean non-polluting solar energy can save the cost of using traditional diesel electricity generators sufficiently.
- * SLH providers at least 14 hours of clean power to user's electrical devices.
 Estimate working hours : example 1 : 5 Hrs (Solar) + 5Hrs (Battery) + 4 Hrs (Utility) = 14 Hours
 If the area has average 10 hours of sunlight, 9 hours of utility power, and the estimate system run time will be : example 2 : 10 Hrs (Solar) + 5Hrs (Battery) + 9 Hrs (Utility) = 24 Hours

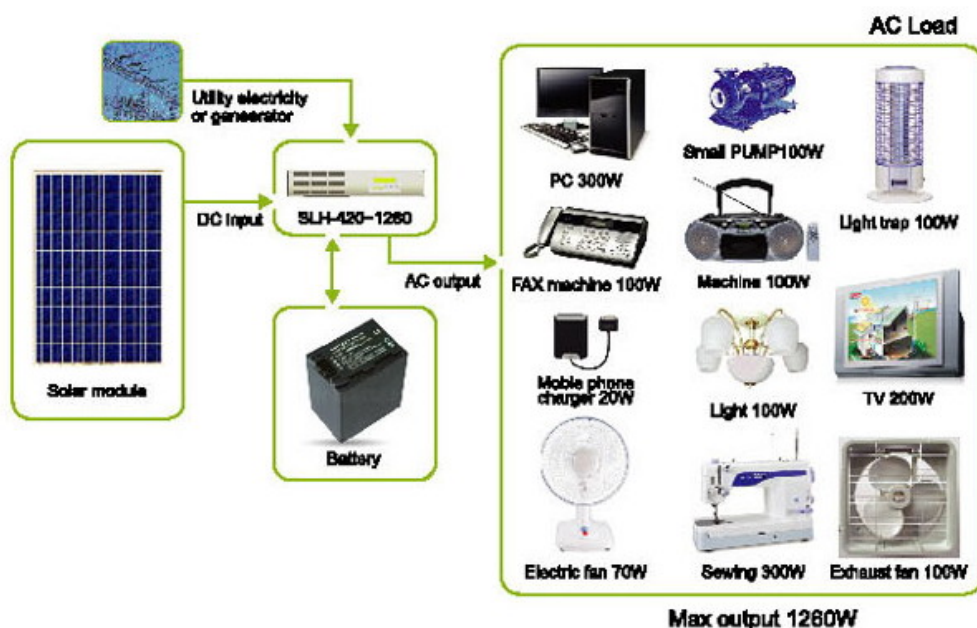
Attention : Need to keep the battery status at full charge. SLH adopts micro CPU auto control system, it automatically charges up the batteries from solar power in the day time.

Features:

1. SLH system is designed with hybrid topology
2. SLH system has outstanding charging function and back up battery capacity
3. SLH can provide long power supply time. (max 1260W output capacity)
4. Capable of adopting utility power or generator as input power.
5. Applied to electrical devices such as : Computer / Fax / Light / Mobile phone charger / Fans
6. Selected cycle battery. Durable for 3 years.

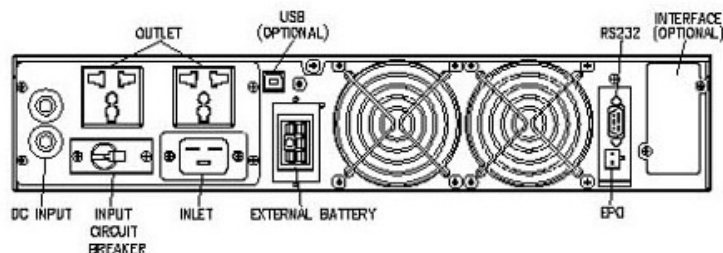
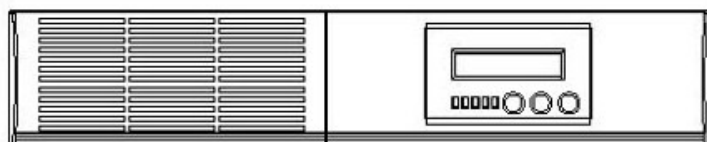
Suggested Installation Site:

1. Areas with sufficient sunshine but has frequent power outages
2. Inadequate or unstable utility power area where requires alternative generator.



SOLAR HYBRID SYSTEM

SLH-420/630/840/1260 front view / pack view



SLH-420/630/840/1260 SPECIFICATION

19" Rack-Mount		SLH-420	SLH-630	SLH-840	SLH-1260
Power Rating	P.F.=1	420W	630W	840W	1260W
DC Input	DC Voltage	48V			
	DC Voltage Range	40~56VDC			
AC Output	Waveform	Pure Sine-Wave			
	Frequency	50 or 60Hz +/-5% (Option)			
	Voltage	208/220/230/240V (Option)			
	Voltage Regulation	+/-3%			
	Frequency Stability	+/-0.5%			
	Power Factor	0.8 (Lagging)			
	Harmonic Distortion	<3% of T.H.D. at Linear Load			
	Overload Detection	>105% for 10 seconds • >130% +/-10% for 300 ms Crest Factor Ratio 3:1			
Efficiency	DC to AC	>83%	>83%	>85%	>85%
Protection	Inside Protection	Overload protection, Over temperature protection, Short circuit protection, Input DC voltage limit protection			
Noise Level	1m Distance	<50dBA			
LCD Display	Status	Indicate Inv, backup, fault bat capacity, Load capacity, O/P voltage, Inside temperature, fault status			
Alarm	Input DC Voltage	The warning will beep twice every 5 seconds in signal battery low condition			
	INV Fault	Continuous Beeping Sound			
Environment	Temperature	0°C ~ 40°C			
	Humidity	0% ~ 95% (Non Condensing)			
Interface	Dry Contact	Sends battery low signal, and receives shutdown signal from computer			
	RS 232	Detects battery low and Schedules ON/OFF, AC output power status display			
	Option	Novell, SNMP, Windows NT, Windows 95/98			
Dimension	19" Rack-Mount WxDxH mm(inch)	428 x 500 x 84 mm (16.9" x 19.7" x 3.3")			
Weight	19" Rack-Mount kgs(lb)	18 (39.6lb)	18 (39.6lb)	18 (39.6lb)	18 (39.6lb)
PV Module (210W)	Power Requirement (★S:Serial P:Parallel)	2pcs (2S*1P)	3pc (3S*1P)	4pcs (2S*2P)	6pcs (3S*2P)
	DC Voltage	~75V	~110V	~75V	~110V
Battery life cycle around 3 years	800 to 2000 discharge cycles *	4 pcs (4*1) 65AH	4 pcs (4*1) 65AH	8 pcs (4*2) 65AH	8 pcs (4*2) 65AH
Battery Backup	Working Hours	> 5h	> 5h	> 5h	> 5h
Solar Backup	Sunlight Requirement	Irradiance >1000 W/m ² x 4.2hrs			
Application	Loading Requirement	AC load within 420W	AC load within 630W	AC load within 840W	AC load within 1260W
Charger	Charger Voltage of PV (V DC)	50 - 110V			
	Charger Voltage of PV (I DC)	0 ~ 25A			
	Inside Protection	Feedback Protection, Over Voltage Protection, Over Current Protection, Short Protection			
	Max. Open Voltage	55 VDC			
	Max. Current	10 ADC	15 ADC	15 ADC	25 ADC
	Working Temp	0°C ~ 40°C			

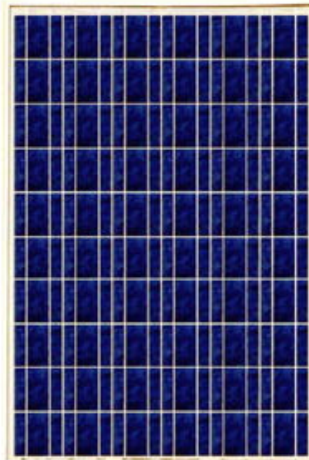
* Number of discharge cycle will be varied due to load capacity.

Assumptions : Daily peak Sun hrs. considered at least 5hrs.

SOLAR HYBRID SYSTEM

210Wp Multicrystalline silicon photovoltaic module

PPV-210M6



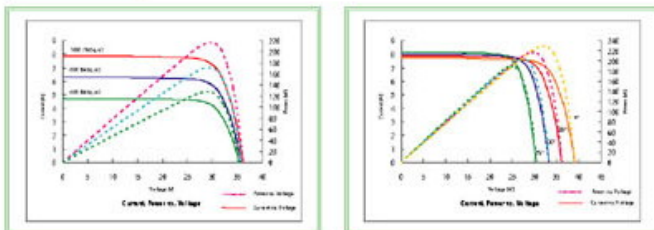
1. Electrical Insulation Test.
2. Outdoor Exposure Test.
3. Hot-spot Endurance Test.
4. UV-Exposure Test
5. Thermal Cycling.
6. Humidity Freeze.
7. Damp Heat Test.
8. Robustness of Terminations Test.
9. Wet Leakage Current Test.
10. Mechanical Load Test.
11. Hail Impact Test.
12. Bypass Diode Thermal Test.

QUALITY

ISO 9001:
2000 certified,
UL certified.
IEC/EN 61215 and
IEC/EN 61730 are
certified by TÜV.



I-V CURVES



INSTALLATION AND SAFETY GUIDE

- DO NOT** damage or scratch the rear surface of the module.
- DO NOT** handle or install modules when they are wet.
- ONLY** qualified personnel should install or perform maintenance.
- BE AWARE** of dangerous high DC voltage.

PPV-210M6 SPECIFICATION

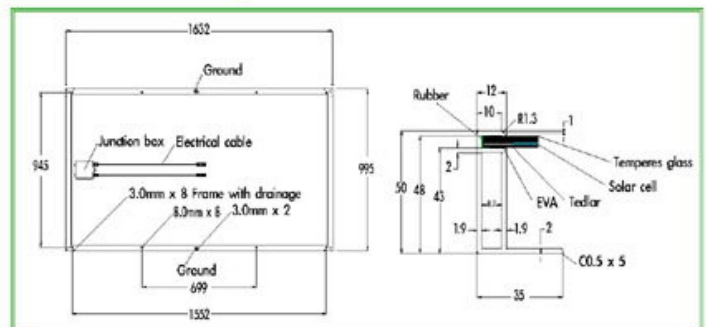
ELECTRICAL CHARACTERISTICS	
Maximum Power (Pmax)	210W
Voltage @ Pmax (Vpm)	29.3V
Current @ Pmax (Ipm)	7.16A
Open Circuit Voltage (Voc)	36.68V
Short Circuit Current (Isc)	8.06A
Output Tolerance	+/- 3%
Maximum System Voltage	1000Vdc
Series Fuse Rating	10A
Application	DC 24V System
system Cell	6" Multi-Crystalline Silicon
No. of Cells and Connections	60 PCS in Series (6 x 10)
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.32 %/°C
Temperature Coefficient of Isc	+0.038 %/°C

Remark : Measured at STC (Standard Test Condition; 1000W/m² irradiance, AM 1.5G and 25°C)

MECHANICAL CHARACTERISTICS

Dimension (WxLxH)	1632 x 995 x 50 mm
Weight	Approx. 20.4Kg
Packing Configuration	Horizontal
Size of Carton	1689 x 1071 x 955 mm
Pallet Quantity	18 PCS / Pallet
Loading Capacity (20 ft. container)	12 Pallet
Loading Capacity (40 ft. container)	26 Pallet
Construction	Front: high transmission low-iron tempered glass, 3.2mm Back: PET/PET/EVA Encapsulates: EVA
Junction Box	IP65, Waterproof
Bypass Diodes	3 diodes to avoid power decreasing by shade
Output Cable	4mm² cable with polarized Waterproof connectors Negative 900mm, Positive 900mm
Frame	Clear Anodized Aluminum, AL6063-T5

MODULE DIMENSIONS



Remark : This document summarizes product specifications which are subject to change without prior notice.

PCM Solar Hybrid System is Your "Saviour" for areas with power outages from 1 minute to 20 hours daily, suitable for remote locations and places with Power shortage.

SOLAR HYBRID SYSTEM VS DIESEL GENERATOR

Item	Solar Hybrid System	Diesel Generator
Noise	Low Noise Level	High Noise Level
Pollution	None	Air + Noise Pollution
Power Output Quality	Good	Bad
Operation	Automatic	Need to Refuel Constantly
Monitoring	LAN / Internet Monitoring System Available	None
Price	Lower Price	High Price
Output Current	Selectable	Fixed
Output Frequency	50Hz / 60Hz	Fixed
Appearance	High Tech and Environmental	Old Fashion
Energy Saving	One of the green energy. No CO2 is produced during power generation process.	Produce massive CO2 while generating power
System Installation & Reward Subsidy Policy	Conforms to global renewable energy policies, with governments of different countries providing solar system reward subsidy policies.	No Subsidy / Reward Policy

Your Complete Solar Solution

Powercom constantly strives to provide the most complete solar solutions for our customers. With impressive development in Grid-Tie PV inverters (range from 1.5KW up to 500KW), Powercom also designs "Stand Alone PV inverter" (range from 100W up to 4000W) for area where has no utility electricity.

For furthermore product information, please feel free to contact us.



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