

Sunfree Solar Inverter Datasheet

Model	Sunfree 4K	Sunfree 5K
DC Input		
Max Input Power [W]	4200	5200
Max Input Voltage [V]	580	
MPPT Voltage Range [V]	90~550	
Starting Voltage [V]	120	
Min Input Voltage [V]	80	
Max Input Current PV1/PV2 [A]	11/11	
Number of DC Input/MPPT	2/2	
DC Switch	Integrated	
Battery Parameters		
Battery Type	Lead-acid battery/lithium battery	
Rated Input Voltage/Voltage Range [V]	48/42~58	
Max/Rated Charging Current [A]	50/50	50/50
Min Battery Capacity [AH]	100	100
Charging Mode Control	3-stages/2-stages	
Grid Parameters		
Rated Output Power [W]	3680 ¹ /4000	4600 ² /5000
Rated Output Current [A]	16/17.4	20/21.7
Rated Grid Voltage/Range	220V,230V,240V/180V~280V	
Rated Grid Frequency/Range	50Hz,60Hz/±5Hz	
Power Factor	>0.99	
Total Harmonic Distortion of Current	<3%	
AC Output [Back-up Mode]		
Rated Output Power	3680W/4000VA	4600W/5000VA
Output Voltage [V]	230±1%	
Output Frequency [Hz]	50±0.02	
Total Harmonic Distortion of Voltage	<5%(Non-linear Load); <3%(Linear Load)	
Overload(Battery Mode)	6000VA (150% 10s)	7500VA (150% 10s)
Overload (Grid Mode)	6000VA (150% 1min)	7500VA (150% 1min)
Efficiency		
Max Efficiency	97.6%	
Euro Efficiency	97.0%	
MPPT Efficiency	>99.5%	
Protection		
AC Short-circuit Protection	Integrated	
Overload Protection	Integrated	
DC Overvoltage/Undervoltage Protection	Integrated	
AC Overvoltage/Undervoltage Protection	Integrated	
AC Overfrequency/Underfrequency	Integrated	
Over Thermal Protection	Integrated	
Island Protection	Integrated	
Peak-to-trough Period Setting	Integrated	
Interface		
PV Input	MC4/H4	
Battery	Terminal Blocks	
AC Output	Terminal Blocks	
Display	LCD	
Communication Mode	RS232 & 2*RS485 [standard] ; Wi-Fi / GPRS / Ethernet [optional]	
General data		
Topology	Transformerless	
Ingress Protection	IP65	
Ambient Temperature	-25~60°C (45°C~60°C with derating)	
Humidity	0%~100% (Non-condensing)	
Altitude	2000m	
Noise	<25dB	
Cooling Method	Natural convection	
Dimension (W*D*H)	470mm*470mm*200mm	
Weight	30kg	
Certificate	CE&VDE&SAA	
Warranty	5 years	

Note: 1.Meet the requirements that on-grid current can not exceed 16A 2.Meet the VDE-ARN-N 4105 Single phase on-grid power; it can not exceed 4600VA

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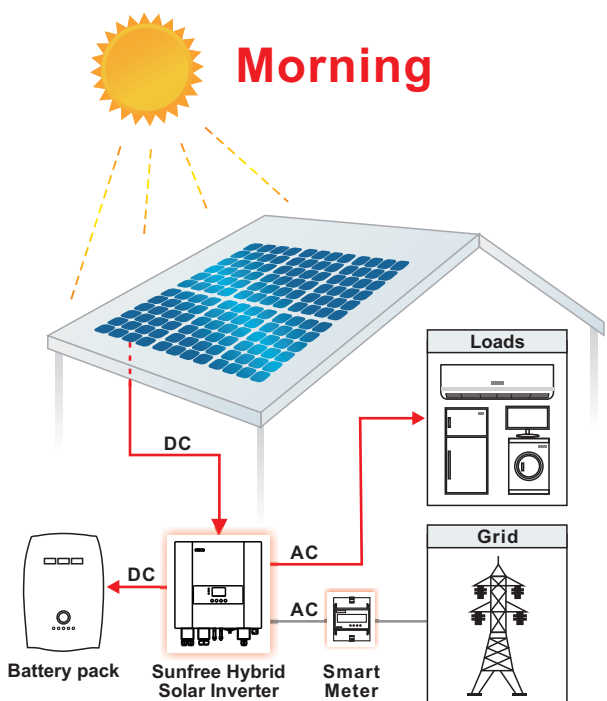


SUNFREE HYBRID SOLAR INVERTER

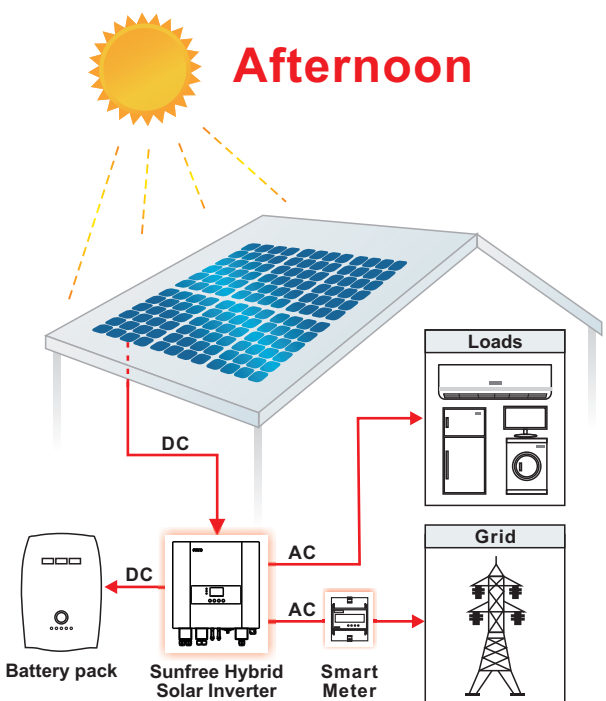
Smart Solar Energy Storage System to maximize self-use of solar power



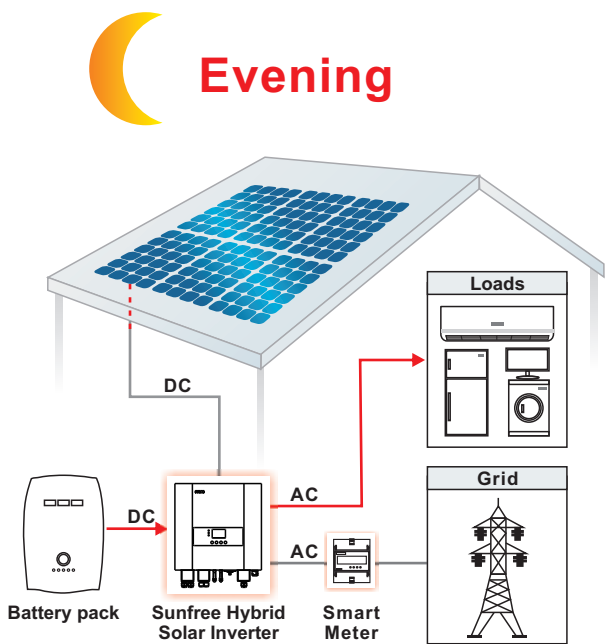
How It Works



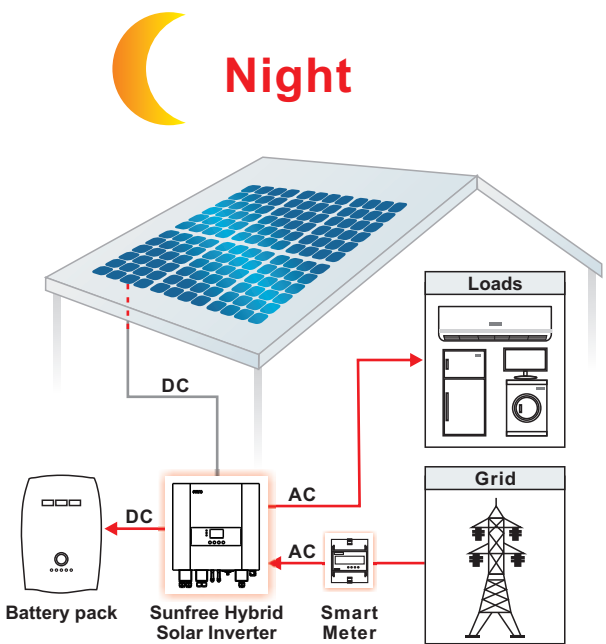
Optimized self-consumption will be achieved. Batteries are used to store the surplus energy generated by solar panels.



Surplus energy will be exported into the grid when batteries are fully charged and system self-consumption has been achieved.



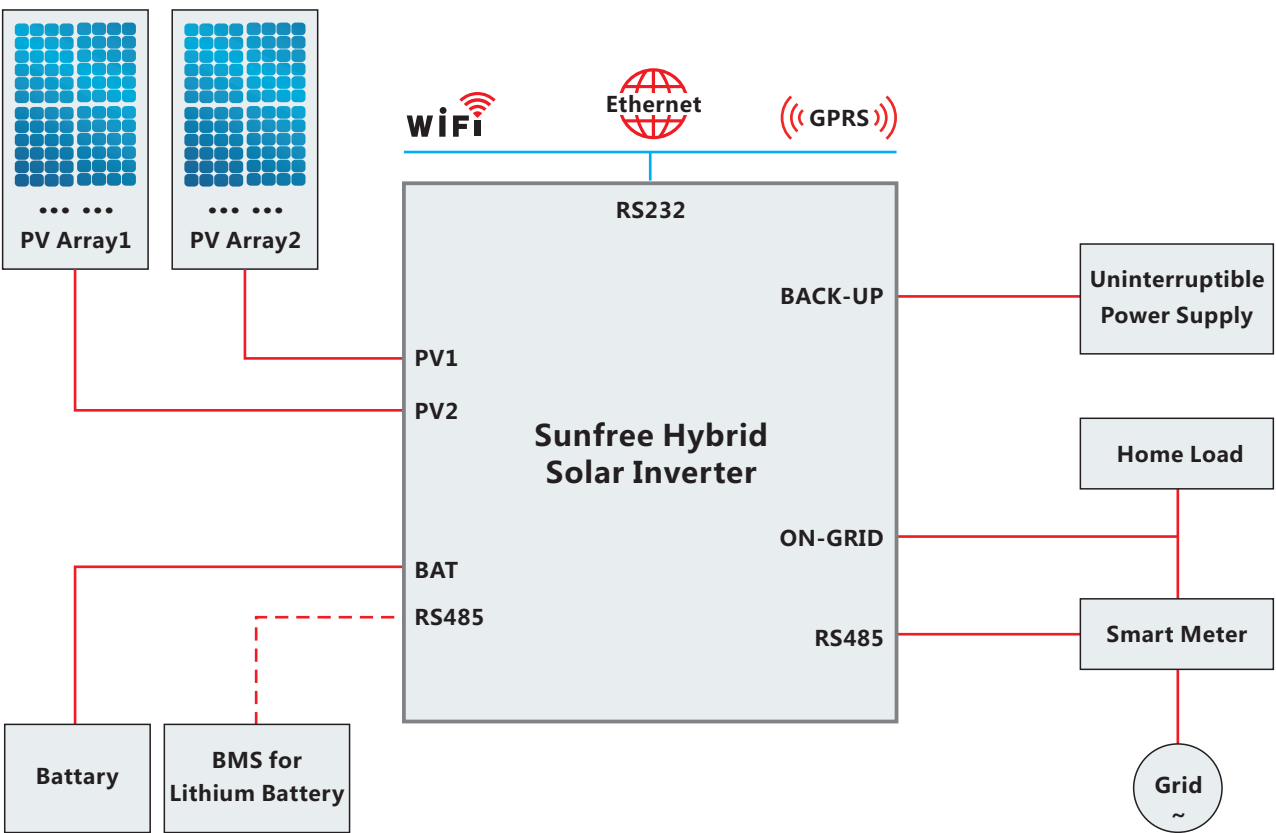
Batteries will power the AC load after sunset.



If the battery capacity is insufficient for self-use, electricity will be supplied from the grid.

System Connection Diagram

On-grid/off-grid mode



Smart & Efficient

- Save surplus electricity; increase self-use rate of PV generation
- Dual energy storage design; batteries can be charged by PV&AC
- Lead-acid battery and lithium battery can be configured flexibly
- Charging control and contravariant integrated design
- Compatible with off-grid and on-grid mode

Easy Operation

- Wi-Fi/Ethernet/GPRS/RS485 multiple communication mode for selection
- Settable peak-to-trough period; auto peak-shift
- Local/remote monitoring via PC or mobile phone
- Capacitive sensing key operation and LCD display, Man-machine interaction for more convenience and more stability

Safe & Reliable

- High ingress protection; applicable to outdoor installation
- 3 stages/2 stages charging control; extend battery lifetime
- Natural convection to lower single point of failure