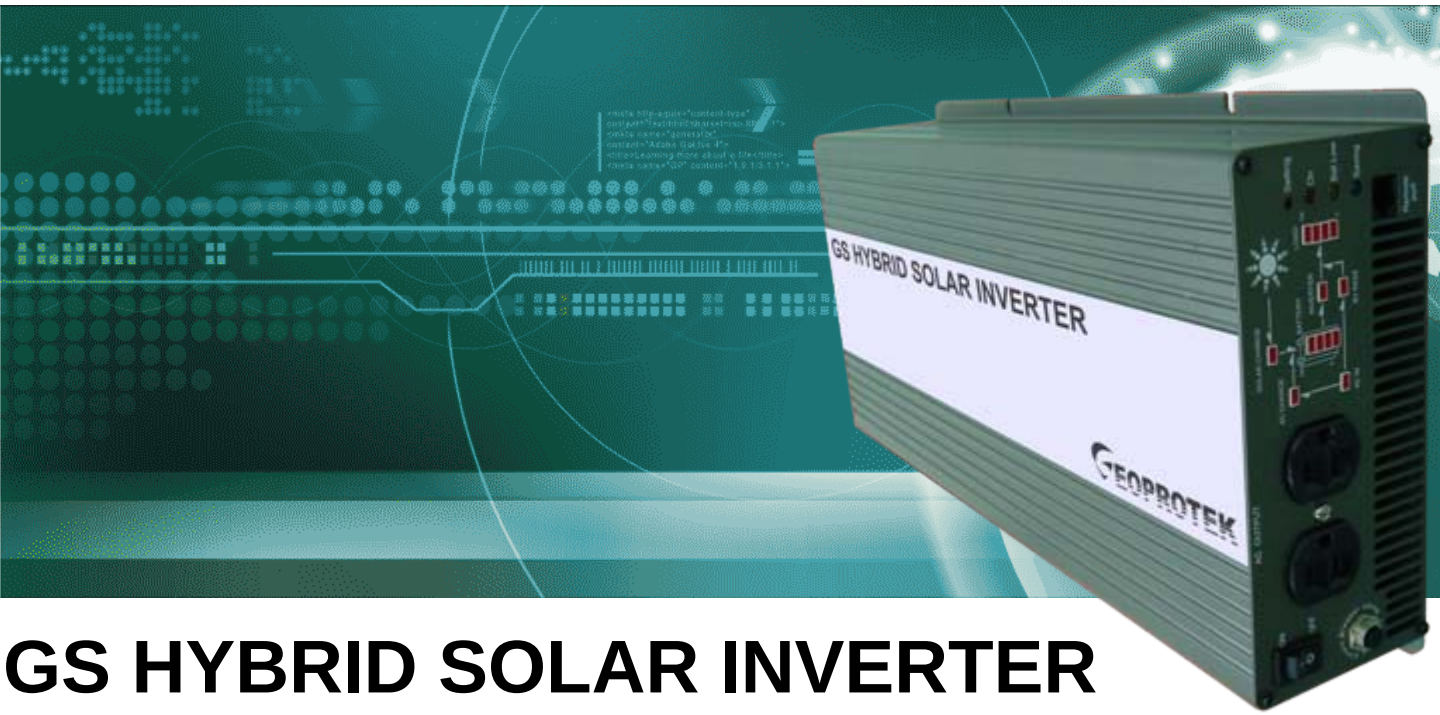
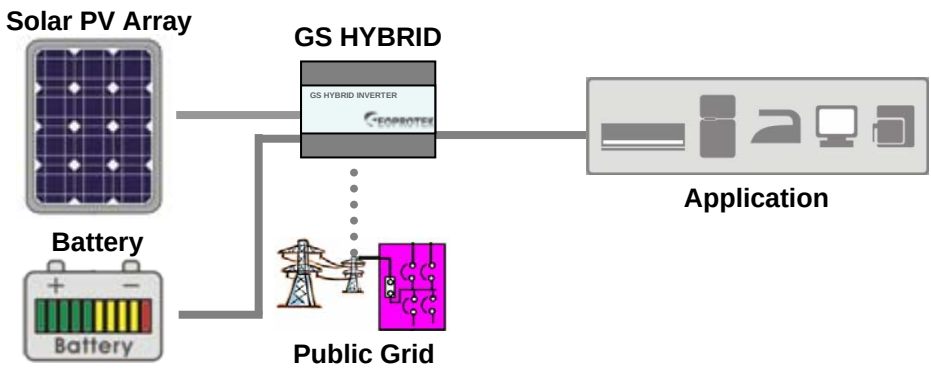
http://www.homerayopti.com
HOMERAY Optitronics



GS HYBRID SOLAR INVERTER

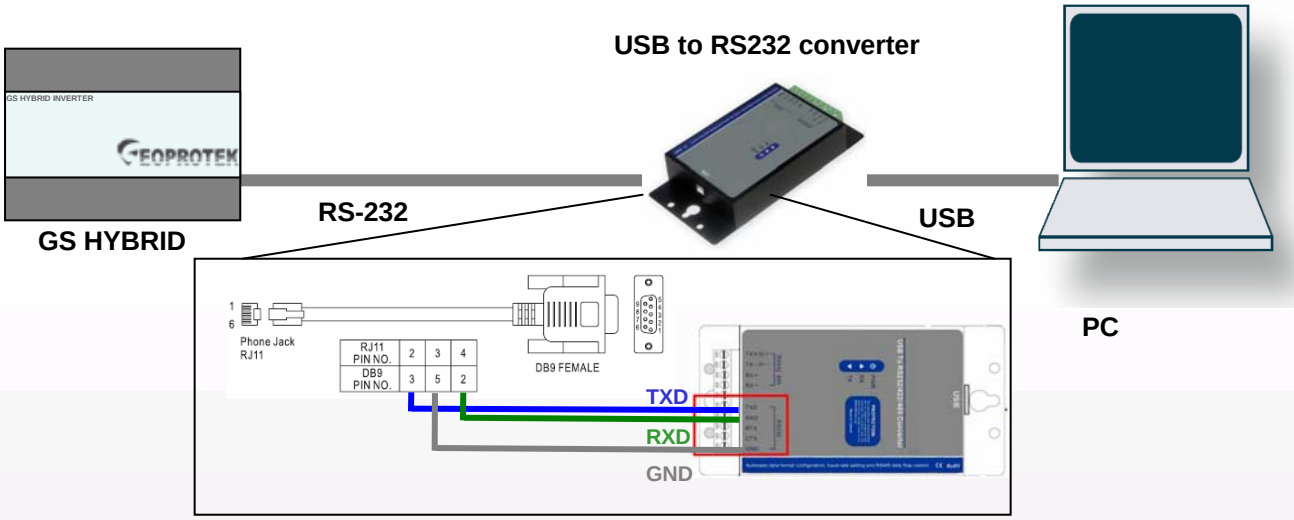
Feed from Solar and Battery Power, Grid backup, Build-in Transfer Switch / Solar Charger/ AC Charger, 500W~3kW, Pure Sine Wave Output

GSH-15XX and GSH-30XX are the ideal solutions for both off-grid (stand alone) and grid back-up systems. It is a powerful all-in-one solution, delivers unsurpassed clean true sine wave output power and combine with a configurable battery charging voltage, inverter shutdown voltage, and solar charge start voltage . Applicable for any kinds of load such as home applications, consumer electronic and office equipments. For **GSH-05XX** product is designed for small stand alone system like pole lighting or other application. It can connect to solar and battery directly and feed to the application load. The compact and modular design make utility interactive installations easier and more cost effective. It is a high quality product that offers the best price/ performance ratio in the industry.



GS HYBRID SOFTWARE (Only for GSH-15XX, GSH-30XX)

Connection Diagram:



Software Features:

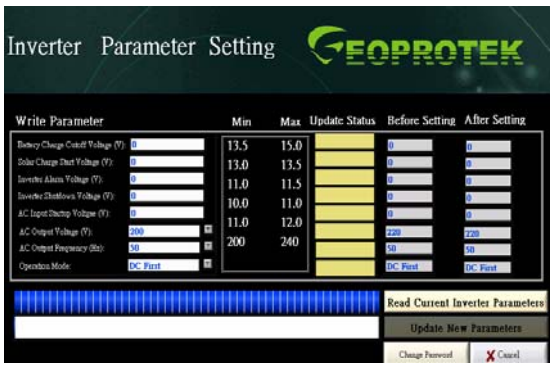
- Monitoring the Solar Voltage, AC Input Voltage, Battery Voltage, Output Voltage, Inverter Temperature, Output Frequency
- Detect the AC Charging Status, Solar Charging Status, AC Input Detection, Bypass Status, Battery Level, Load Level
- Modify the Inverter Settings (Battery Charge Cutoff Voltage, Solar Charge Voltage, Inverter Alarm Voltage, Inverter Shutdown Voltage, AC Input Startup Voltage, AC Output Voltage, AC Output Frequency, Operation Mode.

Mode Selection:

A GS Hybrid Inverter is an Off-Grid-connected system for PV power system. It converters the direct current generated by the PV array into stable alternating current and feeds to the batteries. You have the option to choose the inverter working in “DC first mode” or “AC first mode”.

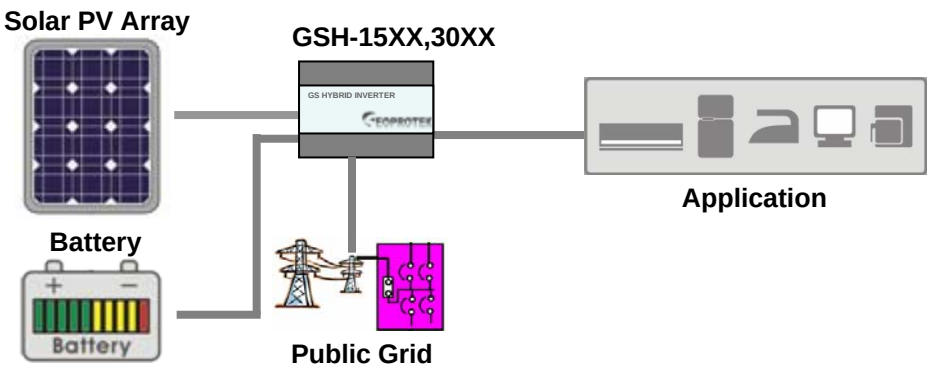
In DC first mode, the system will feed the consumer load from battery power and solar power in first priority. As the battery was low or cloudy day, the system will load from the public grid and charge the battery at the same time.

In AC first mode, the system works as a back-up system and load from the public grid. During a power outage, the system will switch to the battery or solar system and continuously feed the consumer load.



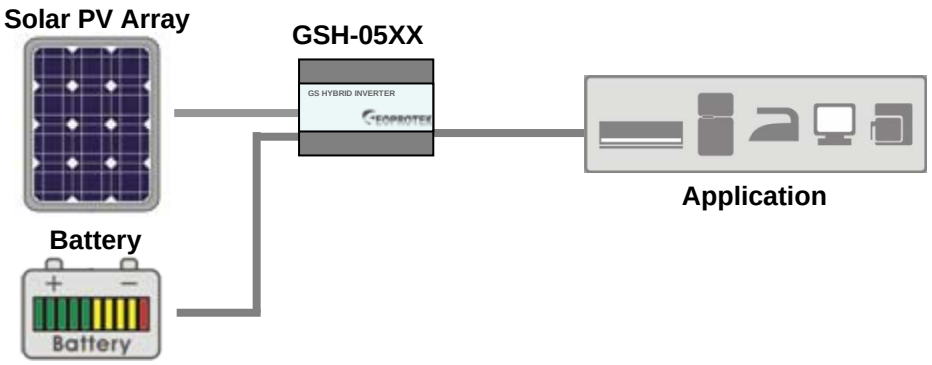
GSH-15XX and GSH-30XX Specification:

	GSH-1512 / GSH-1512U	GSH-1524 / GSH-1524U	GSH-1548 / GSH-1548U	GSH-3012 / GSH-3012U	GSH-3024 / GSH-3024U	GSH-3048 / GSH-3048U
Nominal AC Output Voltage	230VAC(200~240VAC selectable) / 110VAC(100~120VAC selectable) pure sine wave					
Nominal Output Frequency	50Hz(220VAC) / 60Hz(110VAC)					
Continuous AC Output	1500W	1500W	1500W	3000W	3000W	3000W
Surge Output Capacity	3000W	3000W	3000W	6000W	6000W	6000W
Output Voltage Harmonic Distortion Factor	< 3%					
Power Factor	-1 to 1					
Input AC Voltage (Range)	230VAC(175~275VAC) / 110VAC(90~130VAC)					
Input AC Frequency	50Hz(220VAC) / 60Hz(110VAC)					
Maximum Input Power	1800W	1800W	1800W	3600W	3600W	3600W
Maximum Input Solar DC Voltage	25VDC	45VDC	75VDC	25VDC	45VDC	75VDC
Maximum Solar Charging Current	25A	25A	25A	25A	25A	25A
Input Battery Voltage (Range)	12VDC (10.5~15VDC)	24VDC (21~30VDC)	48VDC (42~60VDC)	12VDC (10.5~15VDC)	24VDC (21~30VDC)	48VDC (42~60VDC)
Maximum Battery Charging Current	150A	75A	37.5A	300A	150A	75A
Charging Voltage	14.3VDC (13.5~15VDC Adjustable)	28.5VDC (27~30VDC Adjustable)	57VDC (54~60VDC Adjustable)	14.3VDC (13.5~15VDC Adjustable)	28.5VDC (27~30VDC Adjustable)	57VDC (54~60VDC Adjustable)
Peak Efficiency	88%	90%	91%	89%	91%	92%
Transfer Time	10ms	10ms	10ms	10ms	10ms	10ms
Internal Consumption with No Load (Standby)	<18W	<18W	<18W	<18W	<18W	<18W
Device Protection	short-circuit, overload, over-temperature					
Communication Interface	RS-232					
Dimension: W x H x D (mm)	420x220x88	420x220x88	420x220x88	467x284x100	467x284x100	467x284x100
Weight (kg)	6.85	6.85	6.85	12.9	12.9	12.9
Ambient Temperature Range	0 ~ 40 °C					
Relative Humidity	20~90%, non-condensing					



GSH-05XX Specification:

	GSH-0512U	GSH-0524U	GSH-0548U	GSH-0512N	GSH-0524N	GSH-0548N
Nominal AC Output Voltage	110VAC	110VAC	110VAC	230VAC	230VAC	230VAC
Nominal Output Frequency	60Hz	60Hz	60Hz	50Hz	50Hz	50Hz
Continuous AC Output	350W	500W	500W	350W	500W	500W
Surge Output Capacity	700W	1000W	1000W	700W	1000W	1000W
Output Voltage Harmonic Distortion Factor	< 3%					
Power Factor	-1 to 1					
Input AC Voltage (Range)	N/A (Not Build In AC Charger)					
Input AC Frequency	N/A (Not Build In AC Charger)					
Maximum Input Power	350W	500W	500W	350W	500W	500W
Maximum Input Solar DC Voltage	20~40V	35~80V	70~160V	20~40V	35~80V	70~160V
Maximum Solar Charging Current	15A	15A	7.5A	15A	15A	7.5A
Input Battery Voltage (Range)	12VDC (10.5~15VDC)	24VDC (21~30VDC)	48VDC (42~60VDC)	12VDC (10.5~15VDC)	24VDC (21~30VDC)	48VDC (42~60VDC)
Maximum Battery Charging Current	25A	20A	10A	25A	20A	10A
Charging Voltage	14VDC	28VDC	56VDC	14VDC	28VDC	56VDC
Peak Efficiency	85%	87%	87 %	86%	88%	88%
Transfer Time	-	-	-	-	-	-
Internal Consumption with No Load (Standby)	≤1mA	≤1mA	≤1mA	≤1mA	≤1mA	≤1mA
Device Protection	short-circuit, overload, over-temperature					
Communication Interface	-					
Dimension: W x H x D (mm)	205x158x67	205x158x67	205x158x67	205x158x67	205x158x67	205x158x67
Weight (kg)	1.92	1.92	1.92	1.92	1.92	1.92
Ambient Temperature Range	-20 ~ 40 ˚C					
Relative Humidity	20~90%, non-condensing					



Order Code:

GSH – 15 12 - N - AC - A

XX XX - X - XX - X

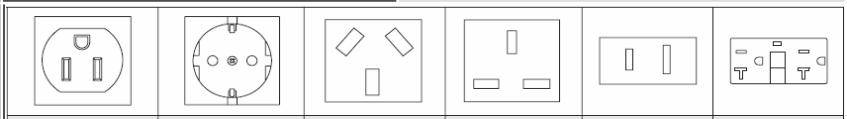
(1) AC Output Capacity

(2) Battery Voltage

(3) AC Voltage

(4) Mode

(5) AC Plug Type

(1) AC Output Capacity	05	500W
	15	1.5kW
	30	3kW
(2) Battery Voltage	12	12V Battery
	24	24V Battery
	48	48V Battery
(3) AC Voltage	N	230VAC
	U	110VAC
(4) Mode	AC	AC First Mode
	DC	DC First Mode
(5) AC Plug Type	 TYPE-A TYPE-B TYPE-C TYPE-D TYPE-E TYPE-F	