# Large and Medium Off Grid (Hybrid) Solar System

**System structure:** The system is composed of PV array, wind turbine, diesel engine orother power source, battery, hybrid inverter, AC load, grid bypass bus, widely used for isolated areas such as plateau, island, remote area and other outdoor field operations, also as energy storage system with grid power, to realize energy storage, electricity dispatch and peak load shifting.

#### Hybrid inverter:

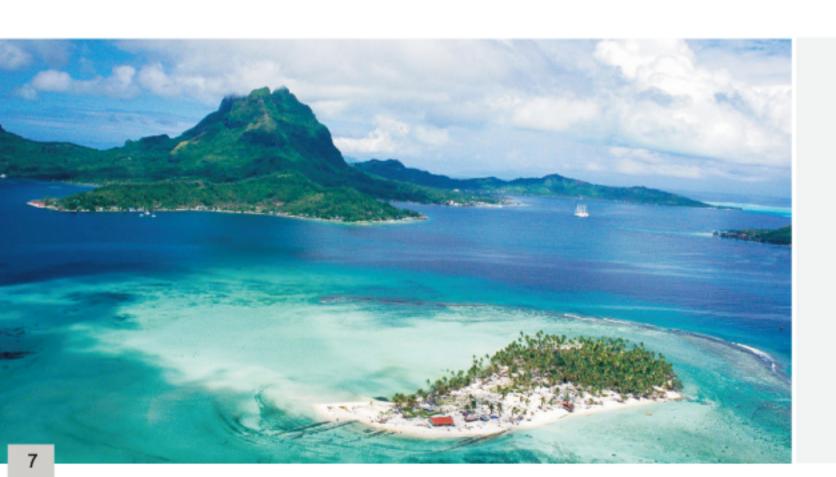
Hybrid inverter is the connection port between grid/load and energy storage device. SCI series hybrid inverter is an unique product developed by Sensol with the functions of on grid inverting, off grid inverting, battery charging control and peak load shifting, widely used for various application.

#### Operation mode:

- Grid tie mode: with grid or other power source (e.g: diesel), DC power from PV panel charge battery, and supply to load or grid after bi-directional inverting at the same time.
- Off grid mode: without grid power, DC from PV panel charge battery, and supply to load after bi-directional inverting..
- Hybrid mode: with other power sources (e.g diesel engine), supply to load or grid, and also capable of charging battery in reverse direction with grid or diesel.

### Applications

Off grid solar system, energy storage system, hybrid power system and battery discharging test etc.





# **Hybrid Solar Inverter**



#### Feature:

- Modularization for easy system design
- DC voltage input and output adjustable
- Bi-directional
- Battery charging management
- Battery complete isolation from grid
- Constant voltage and current charging mode optional
- On-grid, off-grid and hybrid mode automatically switchover
- Anti-islanding function
- LVRT function
- Complete display, communication and monitor

## Specification

DC/DC MPPT Charge Controller - 100KW per module								
Rated power	100KW	200KW	300KW	400KW	500KW			
MPPT voltage range	470~850V							
Max.input volyage	900V							
Max.out	150A	300A	450A	600A	750A			
Charge control	PWM(Pulse Width Modulation)							
SOC	Yes							
EOD	Yes							
Communication	CAN2.0B,Ethernet TCP/IP							
Protection degree	IP 20							
Noise	<65dB							
Ambient Temperature	15°C~50°C							
Humidity	0~95% (non-condensing)							
Charge current	0.1/0.15C							
Charge method	Constant voltage/Constant curstant/Constant power							
Module dimension	440*232*585 mm <sup>3</sup>							
Module weighet	30kg							

	DC/DC MPPT Charge C	ontroller	- 50	kW per mod	ule		
Model		50KW	50KW~250KW 250KW~500KW				
	Input voltage range	200V~850V					
	Max.input voltage	900V					
Input	Max.input current	117A	1	17A~585A	585A~1170A		
	Voltage accuracy	1%					
	Current accuracy	1%					
	Current ripple	5%					
Output	Rated output power	50KW	50	KW~250KW	250KW~500KW		
	Rated output current	76A	7	76A~380A	380A~760A		
	Overload capacity	105%					
	Rated output voltage	380V/220V,3 Phase/4 wire					
On-grid mode							
Gird voltage/range		380V/±15%					
Gird frequency/range		50Hz/±4.5Hz					
Power factor		0.99					
Voltage accuracy		1%					
THDi		<3%					
Off-grid mode				2001			
Rated output voltage		380V					
Voltage accuracy		1%,linear load					
Rated frequency		50Hz					
Dynamic load voltage transient		<5%, linear load from 0~100%					
Over capacity 110%(10minutes),120%(1minutes)							
System		0.5.0/		96%	96%		
3	Max.efficiency		95% 96% 96% IP 20				
Protection degree		$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$ ( derating above $40^{\circ}\text{C}$ )					
Operating temperature		-20 C~+33 C ( defating above 40 C ) -40°C~+70°C					
Storge temperature Cooling		Air cooling					
Humidity		0~95%,no-condensing					
Altitude		5000m(derating above 2000m)					
Communication interface		RS485/Ethernet					
BMS interface		CAN					
Isolation		Power-frequency isolation					
Display		8 inches touch screen					
Mechanial			5 11	.ciics toucii s	, 5, 5, 5, 1		
Dimension(mm³)		440*23 585	32*	600*2000 *1000	1200*2000 *1000		
Weight(kg)		40kg		600kg	1000kg		
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