

Large and Medium Off Grid (Hybrid) Solar System

System structure: The system is composed of PV array, wind turbine, diesel engine or other 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 a 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 ³ | | | | |
| Module weighet | 30kg | | | | |

| DC/DC MPPT Charge Controller - 50kW per module | | | | |
|--|----------------------|-------------------------------------|------------|-------------|
| Model | | 50KW | 50KW~250KW | 250KW~500KW |
| Input | Input voltage range | 200V~850V | | |
| | Max.input voltage | 900V | | |
| | Max.input current | 117A | 117A~585A | 585A~1170A |
| | Voltage accuracy | 1% | | |
| | Current accuracy | 1% | | |
| | Current ripple | 5% | | |
| Output | Rated output power | 50KW | 50KW~250KW | 250KW~500KW |
| | Rated output current | 76A | 76A~380A | 380A~760A |
| | Overload capacity | 105% | | |
| | Rated output voltage | 380V/220V,3 Phase/4 wire | | |
| On-grid model | | | | |
| Gird voltage/range | | 380V/±15% | | |
| Gird frequency/range | | 50Hz/±4.5Hz | | |
| Power factor | | 0.99 | | |
| Voltage accuracy | | 1% | | |
| THDi | | <3% | | |
| Off-grid model | | | | |
| 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%(1minute) | | |
| System | | | | |
| Max.efficiency | | 95% | 96% | 96% |
| Protection degree | | IP 20 | | |
| Operating temperature | | -20°C~+55°C (derating above 40°C) | | |
| Storge temperature | | -40°C~+70°C | | |
| 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 | | |
| Mechanical | | | | |
| Dimension(mm ³) | | 440*232* | 600*2000 | 1200*2000 |
| | | 585 | *1000 | *1000 |
| Weight(kg) | | 40kg | 600kg | 1000kg |