Growatt PCS50

Bidirectional Battery Charger/Inverter

Growatt PCS50 battery inverter is designed for large volume storage system to

1.Firm unstable solar power to increase grid power quality,or to
2.Increase the usage of solar energy and reduce grid electricity cost,or to
3.Serve as back up power supply for local electrical equipments during grid power outage,or to
4.Serve as temporary power supply for remote area or certain events

Features

- Touch Screen LCD
- Flexible Battery Type(li-ion,lead-acid)
- Comprehensive Protection for Inverter and Battery
- Multiple Working Mode Presetable
- Battery Forecast (discharge time, capacity, etc)
- CAN and RS485 Communication Interface, Modbus Protocol
- Seamless transfer between on and off grid(optional)
- Flexible design, multiple inverters parallelable
- Build-in transformer for grid isolation

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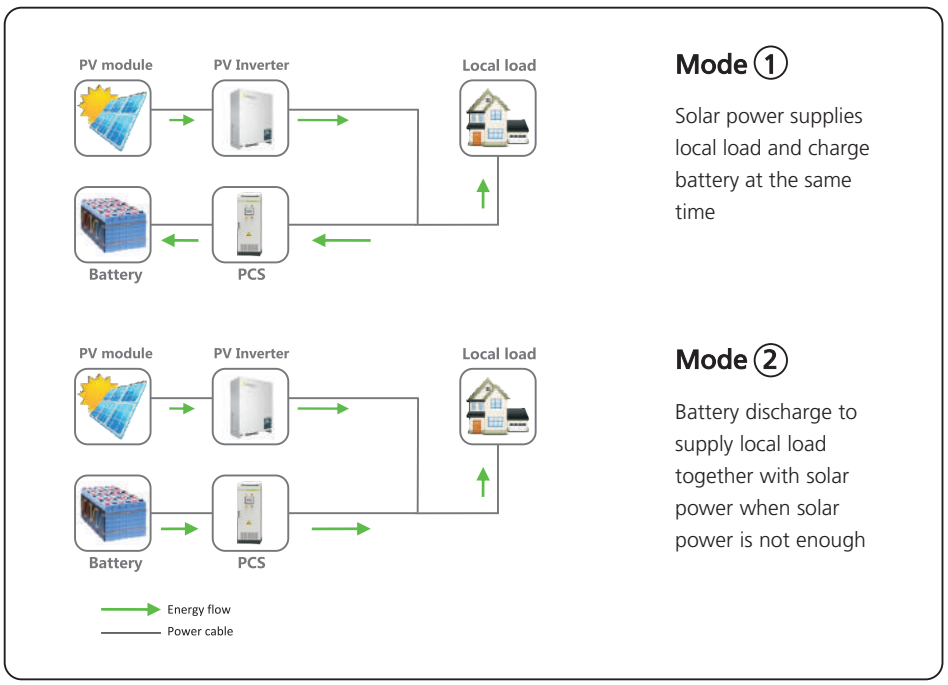
Datasheet	Growatt PCS50
AC(Grid-connected)	
Rated power	50KVA
Rated voltage	400V
Voltage Range	310V - 450V
Rated frequency	50/60Hz
Frequency range	47~51.5/57~61.5Hz
THDI	<3%
PF	0.9lagging~0.9leading
Output from	3/N/PE
General Information	
Maximum efficiency	95.5%
Environment compatibility	IP20
Noise	<65dB
Environment temperature	-25 °C ... +55 °C
Cooling	Air Forced
Humidity	0 ~95% non-condensing
Altitude	5000m(derated above 3000m)
Dimension (W/D/H)	600/800/1630 mm
Weight	450KG
Transformer	Low frequency
Transfer between on/off grid	Manual(default) Automatic(optional)≤20ms

Datasheet	Growatt PCS50
AC(off-grid)	
Rated voltage	400Vac
THDU	≤1%linear
Rated frequency	50/60Hz
Overload capability	110%-10 mins 120%-1 min
DC(battery)	
Max power	55KW
Current regulation	±1%
Voltage regulation	±1%
Voltage ripple	<3%
Current ripple	<2%
Rated voltage	600V
Voltage range	500-820V
Rated current	84A
Max current	125A
Input numbers	1
Communication	
Display	Touch Screen LCD
Communication interface	RS485/CAN

Typical Application

Stand Alone System



Mode ①

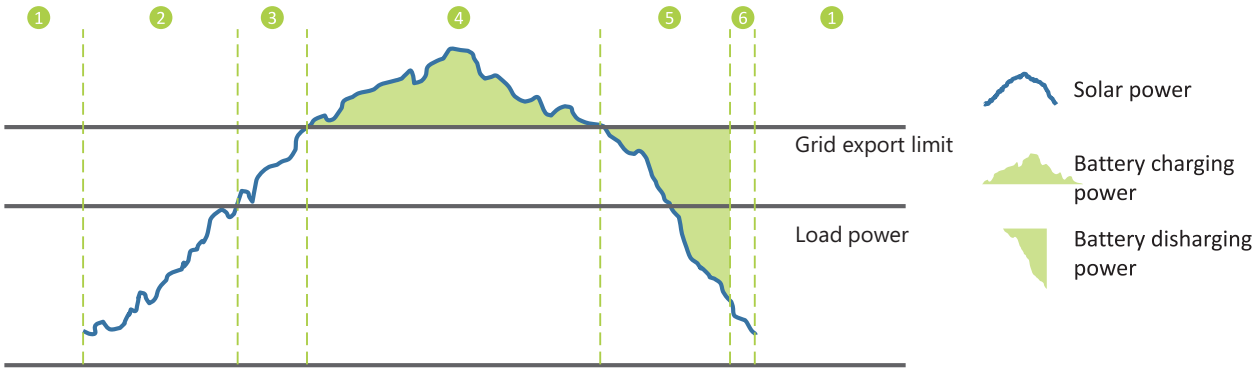
Solar power supplies local load and charge battery at the same time

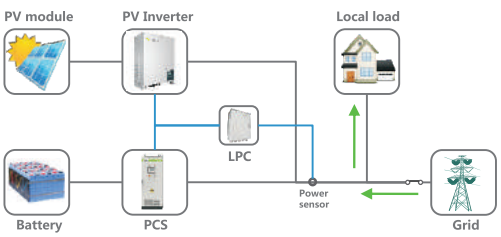
Mode ②

Battery discharge to supply local load together with solar power when solar power is not enough

Typical Application

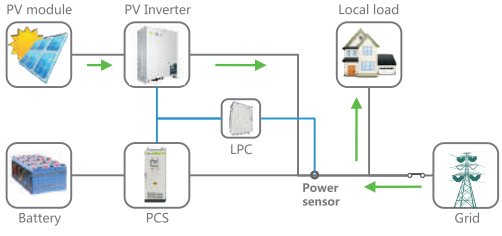
Hybrid System/Peak-shaving Application





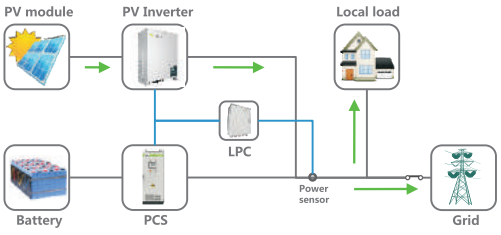
Mode ①

At night, battery is fully discharged, grid supplies local load



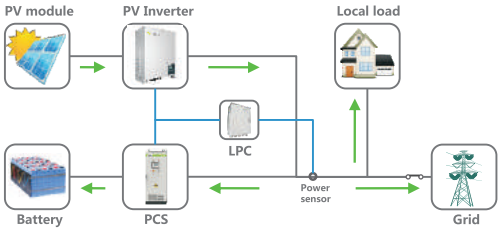
Mode ②

In the morning, solar power is not enough, grid and solar supply local load together



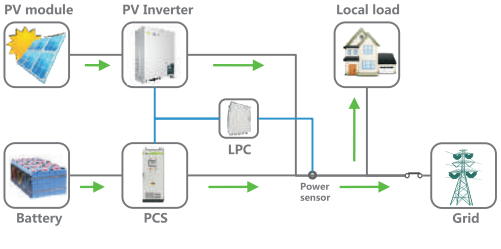
Mode ③

Solar power is higher than load requirement but lower than grid limit, it serves local load and feed back to grid at the same time



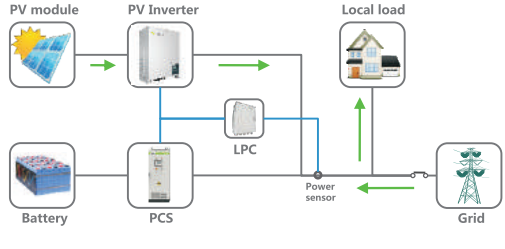
Mode ④

Solar power is higher than grid limit, it supplies local load, charges battery and feeds back to grid at the same time



Mode ⑤

Solar power decreases to below grid limit, battery discharges to supply local load and feed back to grid at the same time



Mode ⑥

Battery is fully discharged, solar power supplies local load together with grid

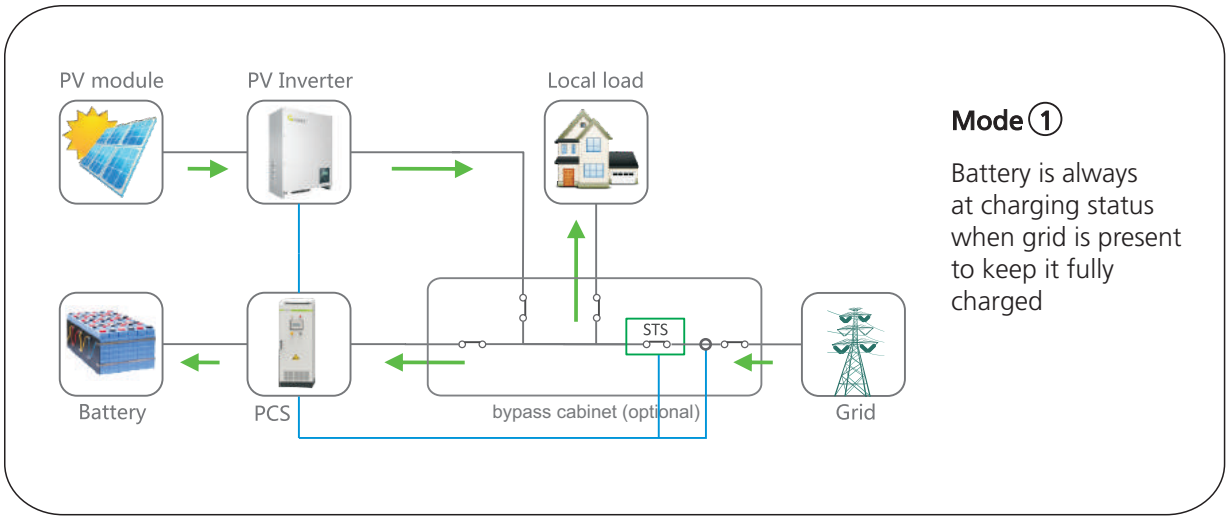
NOTE:

1. Output power of inverter and PCS can be controled by the feedback information from power sensor.value ajustable
2. LPC stands for power control unit

Energy flow
Communication
Power cable

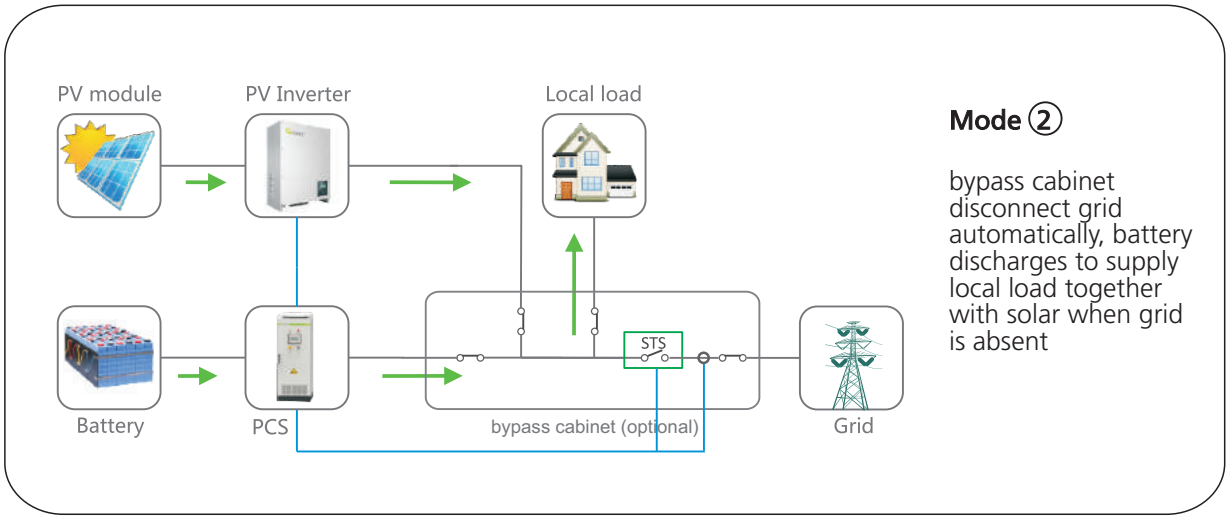
Typical Application

Hybrid System/Back-up Application



Mode ①

Battery is always at charging status when grid is present to keep it fully charged



Mode ②

bypass cabinet disconnect grid automatically, battery discharges to supply local load together with solar when grid is absent

Energy flow
Communication
Power cable