I-P-SPC Series Low Frequency Solar PowerInverter with Built-in Solar Charge Controller 350W

Component

1)Highquality low frequency pure sine wave inverter(with utility charge

functionand UPS function)

2)Built-in PWMsolar power charge controller

Application

1)Off-grid solar power system

2) Utility and solar complementarypower generation system

Features

1) Easy toinstall. To configure a solar system, users just need to connect it with solarpanels and batteries.

2)CPUmanagement,Intelligent control,modular design

3)LEDs LCDdisplay. LCD can display various parameters(such as the output voltage, frequency,working mode)

4)Multifunctiondesign, AVR UPS function. Users don’t need to buy solar, controller, AC chargeror stabilizer.

5) External battery connection, it’sconvenient for users to expand use time and back-up power time

6)Withsuper load-carrying ability and high load capacity, this series of inverters can not only drive resistance load;but also various kinds of inductive loads such as motor, air conditioner,electric drills, fluorescent lamp, gas lamp. It can drive almost any kinds ofload

7)Lowfrequency pure sine wave circuit design, stable quality, easy to maintenance, lowfailure rate and long service life (underproper operation, it can last atleast 5 years)

8) Perfectprotection: low voltage protection, high voltage protection, over temperature

protection,short-circuit protection, overload protection

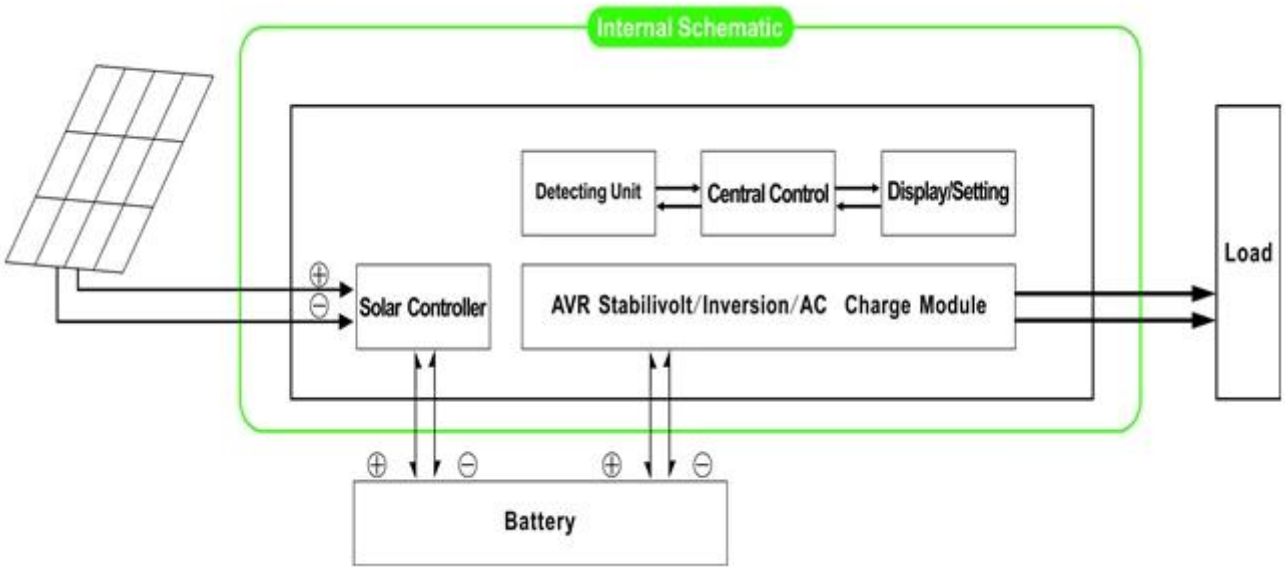
9) CE /EMC / LVD/ RoHS /FCC approvals

10) 2years warranty, life-long technicalsupport

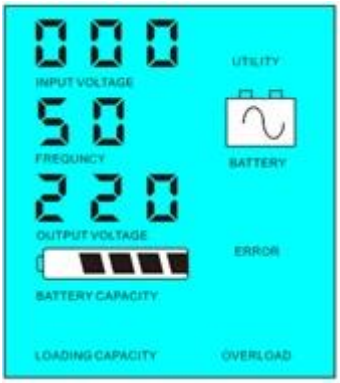
Function

Off-grid solarpower system

1. When connected withbattery and AC loads,users can set it to normal working mode or sleep mode.



1.1 Normal workingmode□FREQUENCY in the LCD display is set to01. No matter it's connected AC loads or not, theinverter always convert DC to AC. It'sready to supply power to the AC loads. In this mode, the LCD will displayoutput voltage as bellow:



1.2 Sleep mode□FREQUNCYin the LCD display is set as 02.If the power of the connected AC loads is lowerthan 5% of the inverter's rated power, there will be no output from theinverter. Only the chip of

inverter is working. The power consumption of theinverter is only 1-6W. The LCD shows the output voltage 0. If the power of theconnected loads is over 5%,then the inverter will automatically convert DC toAC to supply power for the loads within 5s. The LCD shows the output voltage.As shown below:

Load's power< 5% of inverter's rated power

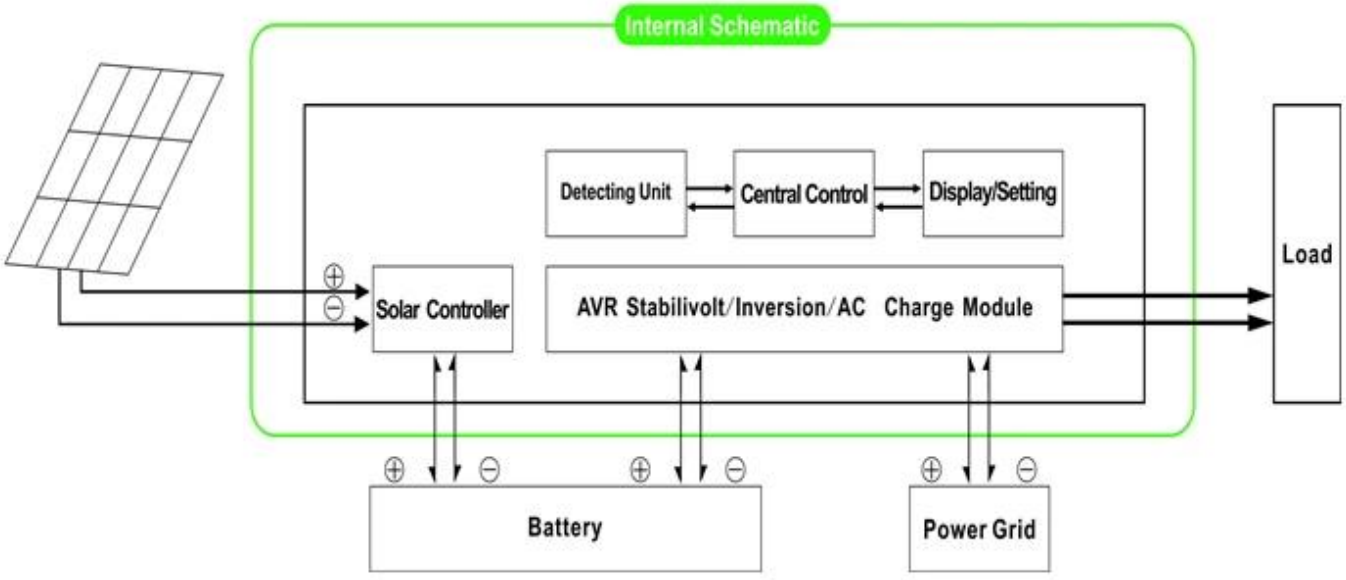
Load's power> 5% of inverter's rated power

Kindly note:

1) Only thesolar panel charges the battery

2) Off-gridsolar power system. It is suitable for areas that are lack of utility orplentiful solar

Utility and solar complementarypower generation system



2. UPSfunction When the inverter is connectedto battery and utility, users can set it to utility first (AC first) batterystandby mode or battery first (DC first)utility standby mode.

2.1.Utility first (AC first) battery standby mode: FREQUENCY in the LCD display is set to 01. When utility and battery areconnected to the inverter, utility will supply power to the loads prior. Whenutility is cut off, the battery will automatically continue to supply power viapower inverter.

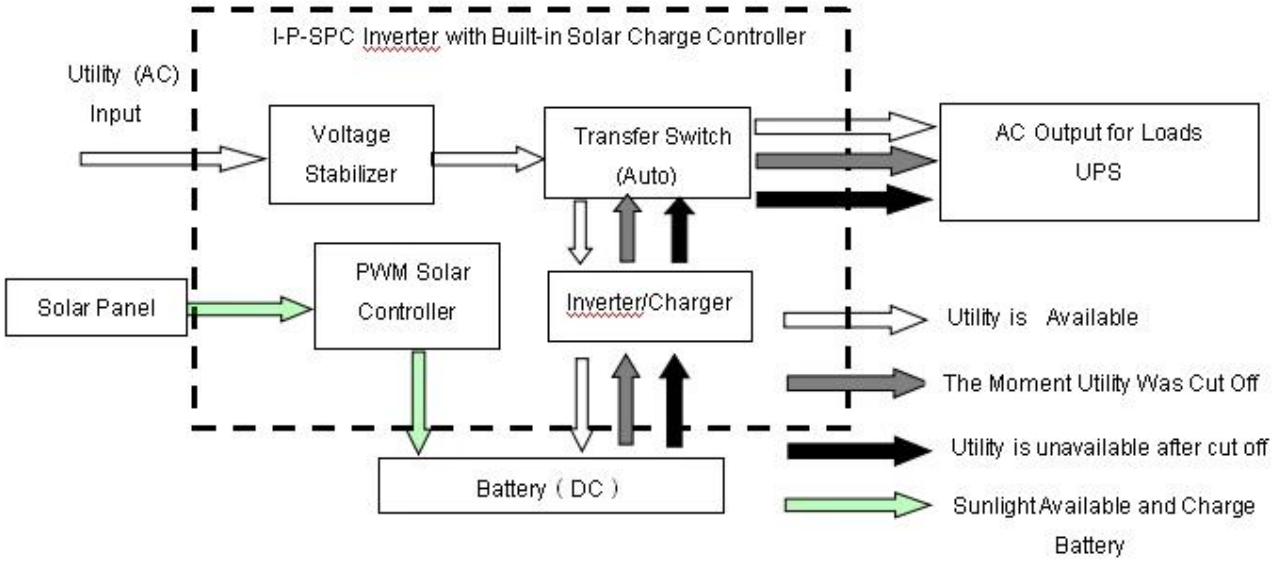
Steps are as follows:

Step 1: When utility is available, it will drivethe loads directly after voltage being stabilized and at the same time chargebatteries via power inverter .

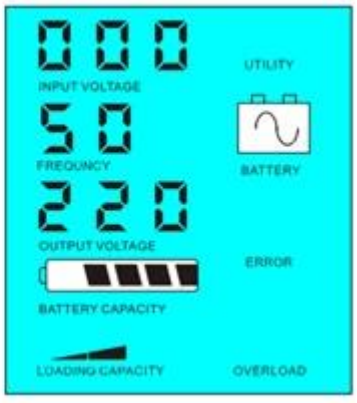
Step 2: When utility is cut off, theinverter will convert DC to AC automatically to ensure uninterrupted powersupply within 5ms.

Step 3: When utility is available again,inverter will automatically transfer to utility supplying power to loads andcharge batteries via power inverter at the same time.

See Workflow as below.



LCDdisplayed as bellow:



Utility supply power and chargebattery Withoututility and battery supply power

Kindly note:

1) There are 2 ways to charge the battery, utility and solarpanel

2) This system is suitable for power systems built in areas thatare lack of utility. Or people can use solar and utility at the same time.

2.2. Batteryfirst (DC first)utility standy mode: FREQUENCY in the LCD display is set as 03. When utility andbattery are connected to the inverter, battery will supply power to the loadsprior to utility. When battery capacity is not enough, utility will continue tosupply power automatically.

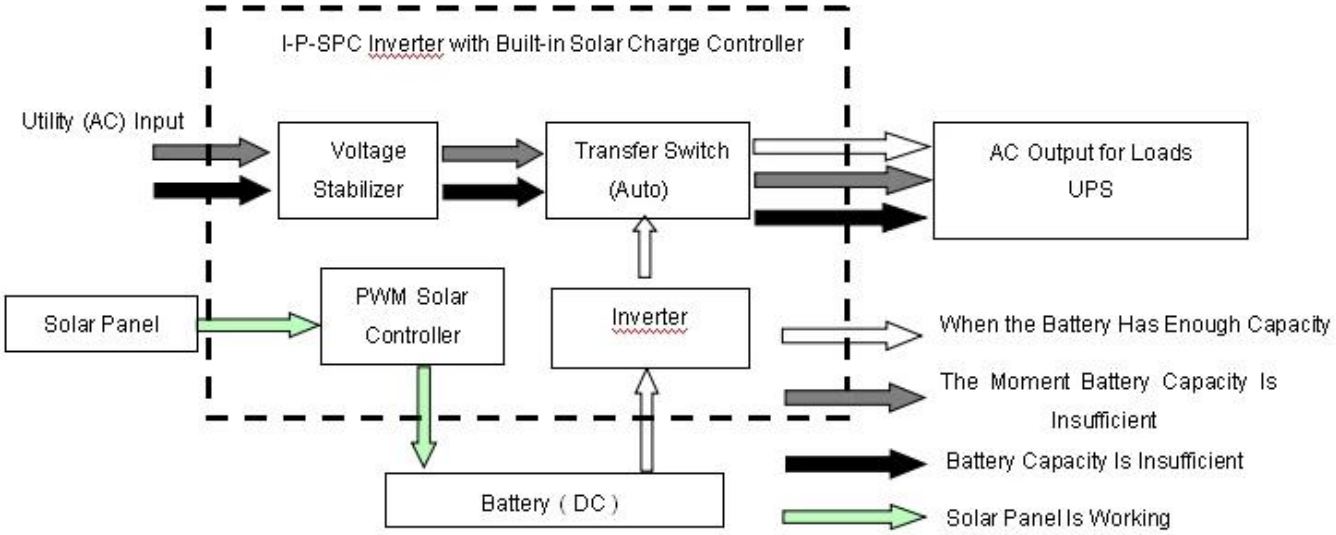
Stepsare as follows:

Step 1: When battery is available, it will drive the AC loadsvia power inverter.

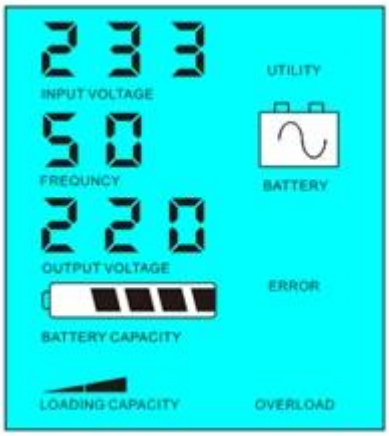
Step 2: When battery does not have enough power, it will automaticallytransfer to utility supplying power to the loads

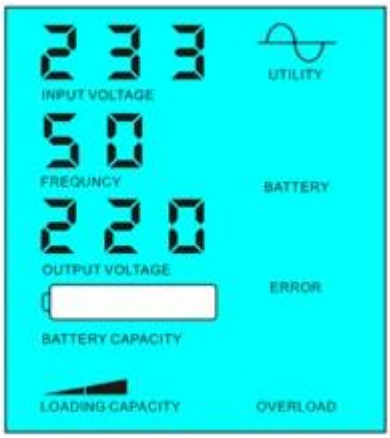
Step 3: After the battery is fully charged (e.g. by solar orwind charge controller), it will automatically transfer to battery supplyingpower to the loads via power inverter.

See Workflow as below.



LCDdisplayed as bellow:





Batteryavailable to supply power

Battery unavailable,utility supply power

Kindlynote:

1)There is only one way to charge the battery: solar panel

2) This system is suitable for areas where electricity isexpensive or environmental areas where solar power can be fully used to save utilitybill.such as home solar&wind system,streetlight solar&wind system

Parameter

Mode		500VA
Rated Output Capacity		350W
Peak Power		700W
Battery Voltage(DC)		12V or 24V
PWM Solar Controller	Voltage	12V or 24V
	Current	10A
	PV Max Input Voltage	12V System□25V
		24V System□50V
Size W×D×H(mm)		335*165*375
Packing Size W×D×H(mm)		355*185*395
Net Weight (kg)		7
Gross Weight (kg)		8
General Parameter		
Working Mode (Setting)	1	Utility first (AC first) battery standby mode
	2	Sleep Mode,no utility,load's power is over 5% of rated output power, Inverter start to work automatically
	3	Battery first (DC first)utility standby mode
AC Input	Voltage	220V±35% or 110V+35%□Optional□
	Frequency	50Hz±3% or 60Hz±3% □Optional□
AC Output	Voltage	220V±3% or 230V±3 or240V±3% or 100V±3% or 110V±3% (Optional)
	Frequency	50Hz±0.5 or 60Hz±0.5 (Optional)
Utility charge	AC Charge Current	0~15A
	Charge Time	Depend on battery capacity and quantity
	Battery Protection	Automatic detection, Charge and discharge protection□Intelligent Management
PV Charge		Total Current of PV Input Should Be Less Than Rated Current of PWM solar controller
Display	Display Mode	LCD+LED
	Display Information	Input voltage□output voltage□output frequency□battery capacity□Load condition□Status Information
Output Wave Type		Pure sine wave output,Total Harmonic Distortion THD≤3
Overload Ability		□120% 1 min□□130% 10s
Power Consumption	Sleep Mode	1~6W
	Normal Mode	1~3A

Conversion Efficiency		80%~90%
Transfer Time		5ms AC to DC / DC to AC
Protection		Overload output short-circuit high-voltage input low-voltage input overheat
Environment	Temperature	-10℃ 50℃
	Humidity	10% 90%
	Altitude	≤4000m

Theabove is our standard parameter. Subject to change without prior notice.

Wehave our own professional inverter and controller R&D team and we provide technical support and OEM ODM service

Thecontroller information above is our company's standard parameter.It can bechanged to other PWM solar charge controller.

Connection Diagram

Others

Please see the outline of the design,technical documents,usermanuals,product brochures, etc.Research and development department made 1st edition on May 5, 2014.