

INSTRUCTION MANUAL

Pure Sine Wave Inverter with Transfer Switch

Thank you for your purchasing our products.
Carefully read, understand and comply with all instructions before use.

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1. Safety Guidelines (Please read through this manual before assembling the power inverter)

- Risk of electrical shock and energy hazard. All failures should be examined by the qualified technician. Please do not remove the case of the inverter by yourself.
- Please do not install the inverter in places with high moisture or near water.
- Please do not install the inverter in places with high ambient temperature, under direct sunlight or near flame source.
- Please only connect batteries with the same brand and model number in one battery bank. Using batteries from different manufacturers or different capacity is strictly prohibited.
- Never allow a spark or flame in the vicinity of the batteries because it may generate explosive gases during normal operation.
- Make sure the air flow from the fan is not obstructed at both sides (front and back) of the inverter. Please allow at least 15cm of space.
- Please do not stact any object on the inverter.



WARNING: Batteries will have an aging problem after years of operation. It is suggested to execute regular battery maintenance (e.g. every year). Once aged, the batteries should be changed by professional technician, or the failed batteries may cause fire or other hazards.



Don't disassemble



Away from moisture



Away from fire or high temperature



Don't stack on the inverter



Keep good ventilation

2. Pure Sine Wave Inverter with Transfer Switch

Pure sine wave inverter with transfer switch is a combination of an inverter and AC auto-transfer switch.

2.1 Sine Wave Inverter Key Features

The Sine Wave Inverter utilizes advanced high frequency switching technology in the power conversion process. The circuits are similar to those used in power supplies for electronic equipments.

- Pure sine wave output (THD<3%)
- Auto AC Transfer Function
- Compliance to CE, FCC and E-Mark
- Low Voltage Protection (Three Stages Optional)
- High surge capability: for "hard-to-start" AC loads
- High efficiency up to 91%
- Power-Saving Mode
- Car Ignition Function
- 18 months global warranty
- Light weight: for easy installation

2.2 Inverter Function

When connected properly and the power switch is turned to the "ON", the inverter draws power from a battery and delivers a true sine wave AC output voltage. If the battery voltage is within the operating range of the unit, the inverter will continue to deliver AC power to the loads connected. High and lower battery shutdowns will engage if the battery voltage falls out of the specified range of operation. (10-15.5 VDC on 12V models, 20-31 VDC on 24V models.)

2.3 Automatic Transfer Switch

The Pure Sine Wave Inverter may be equipped with a transfer relay if specified prior to purchase. When utility AC power fails, the transfer relay is deenergized and the load is automatically transferred to the inverter output within 30 milliseconds. Once AC utility is restored, the relay energizes and the load is automatically reconnected to AC utility.

The unit is factory default set to ATS (automatic transfer switch) "ON". If you want this function to be disabled, follow these steps:

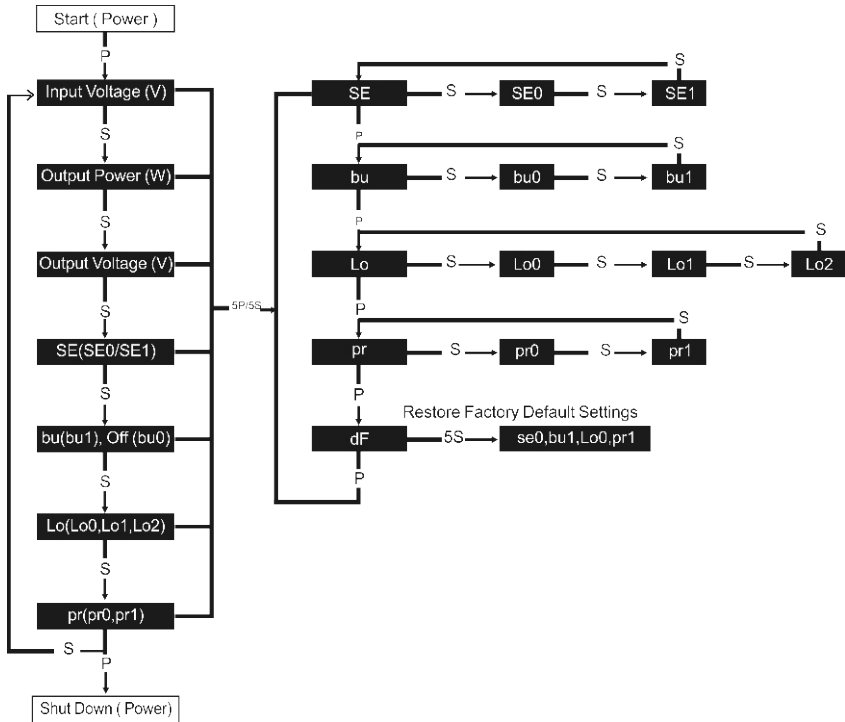
1. Press "Power" to start the inverter;
2. Press "Power" and "Select" for 5seconds, enter into the main menu;
3. Press "Power" and choose the "Pr" when the display shows the "Pr";
4. Press "Select" and choose "Pr0";
5. Press "Select" for 5seconds, the ATS function is OFF and the display will show the next function.

2.4 Other Functions

Power Saving Mode	SE	SE0	POWERSAVE mode OFF (factory set default)
		SE1	You would want to enable POWERSAVE mode if the inverter is only being used periodically to power loads. This allows the inverter to draw less power from the batteries during non-use periods. The POWERSAVE mode will be activated when the output power is less than 15W. When output power is more than 20W, the inverter will automatically return to normal status.
Buzzer Alarm	bu	bu0	Turn off the buzzer. It only shows fault code and the buzzer doesn't alarm when the inverter has any fault.
		bu1	The buzzer works normally. It shows fault code and the buzzer alarms when the inverter has any fault. (factory set default)
Low Voltage Protection Setting	Lo	Lo0	Battery voltage is setted 10.5V (12V) / 21V (24V) (factory set default)
		Lo1	Battery voltage is setted 10.8V (12V) / 21.6V (24V)
		Lo2	Battery voltage is setted 11.3V (12V) / 22.6V (24V)
Priority (ATS)	pr	pr0	Turn off the ATS transfer switch function.
		pr1	The unit has ATS transfer switch function. (factory set default)
Default	dF		Restore factory default settings
Remarks: factory default setting is SE0, bu1, Lo0 and pr1.			

2.5 Operation Chart

If you want to set the above functions , please see the following chart.



Remarks:

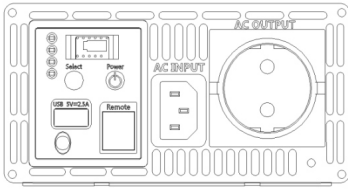
P	Press "Power"
5P	Hold "Power" 5 seconds
S	Press "Select"
5S	Hold "Select" 5 seconds
To program new settings	Select desired settings---hold "Select" 5 seconds---record & show next setting
Exit program mode	Release "Power" and "Select" 5 seconds.

3.1 Main Specification of 1000W and 1500W Pure Sine Inverter with Transfer Switch

Model	YX-1KUS-1-1	YX-1KUS-2-1	YX-1KUS-1-2	YX-1KUS-2-2	YX-1.5KUS-1-1	YX-1.5KUS-2-1	YX-1.5KUS-1-2	YX-1.5KUS-2-2
Continuous Power	1000W				1500W			
Peak Power	2000W				2900W			
DC Voltage	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V
AC Voltage	100VAC or 110VAC or 120VAC ± 3V		220VAC or 230VAC or 240VAC ± 3V		100VAC or 110VAC or 120VAC ± 3V		220VAC or 230VAC or 240VAC ± 3V	
No Load Current Draws	1A	0.5A	1A	0.5A	1A	0.5A	1A	0.5A
Max AC Input Current	8.5A		4.5A		13.6A		6.8A	
DC Voltage Range	10-15.5V		20-31V		10-15.5V		20-31V	
Low Voltage Alarm	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V
	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V
	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V
Low Voltage Shut Down	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V
	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V
	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V
Low Voltage Alarm Recovery	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V
	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V
	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V
Low Voltage Protection Recovery	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V
	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V
	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V
Over Voltage Shut Down	15.7V±0.3V		31.5V±0.3V		15.7V±0.3V		31.5V±0.3V	
Over Voltage Recovery	15.3V±0.3V		29.5V±0.3V		15.3V±0.3V		29.5V±0.3V	
Frequency	50Hz ± 0.5Hz or 60Hz ± 0.5Hz							
Output Waveform	Pure Sine Wave							
AC Regulation	THD<3% (Linear load)							

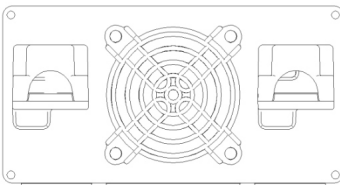
Output Efficiency	up to 91%		
Transfer relay rating	16A		
Transfer time AC to inverter and inverter to AC	Less than 30ms		
Remote Control (Optional)	Cable length: 15m is available.		
Ignition Function	Connect vehicles battery (or connect positive pole of vehicles' STARTER). The inverters start simultaneously When the vehicles start; The inverters will also shut down when the vehicles shut down.		
Protection Function	Low voltage alarm	code: F05	Buzzer sounds and fault light turns red
	Low voltage shutdown	code: F01	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over input voltage protection	code: F02	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over load alarm	code: F06	Buzzer sounds and fault light turns red when output power is overloaded around 110%. But the BUZZ and F06 code will not occurred when the output power drop to a normal level within 20ms.
	Over load protection	code: F03	The inverter shutdown when output power is overloaded around 120%, it needs to be recovered by hand.
	Over temperature alarm	code: F07	Buzzer sounds and fault light turns red when the inverter's internal temperature is higher than the limit value (90±5°C).
	Over temperature protection	code: F04	The inverter will automatically return to normal status when the internal temperature drops to 80±5°C.
	Short circuit protection	code: F03	Recover by hand
	Reverse polarity protection		Built-in fuse
	AC input overload protection	code: F09	The fan will start to work when the relay temperature is up to 60±5°C; but it will stop to work when the relay temperature drops to 50±5°C. The unit will alarm, and no AC output when relay temperature is up to 75±5°C; But it will auto recover when the relay temperature drops to normal value.
Fuse	Internal	USB port	5V, 2.1A
Working Temperature	-10°C-- +50°C	Product Size	330x150x78mm
Storage Temperature	-30°C-- +70°C	Cooling Way	Intelligent cooling fan
Start	Bipolar soft-start	Certification	CE, FCC and E-mark

3.2 The Front Panel of 1000W and 1500W Pure Sine Inverter with Transfer Switch



Power	ON or OFF		
Select	Select functions		
LED Lights	status	Inverter	Yellow light
		Fault	Red light
		ATS	Green light
	DC-V	Show battery voltage	The battery low voltage protection has three levels, it can be set by manual. (12v: Lo0 10.5v; Lo1 10.8v; Lo2 11.3v / 24V: Lo0 21v; Lo1 21.6v; Lo2 22.6v)
	AC-P	Show output power	The output power in the digital display will have $\pm 2\%$ errors. 1000W will show 1.00.
AC-V	Show output voltage	The output voltage in the digital display will have $\pm 3V$ errors.	
AC OUTPUT		For application demands of different geographic areas all over the world, there are many different kinds of optional AC outlets to choose from.	
AC INPUT		Connect the mains supply. When mains supply is available, the inverter will transfer this power to the household appliances (load). When mains supply fails, the inverter will switch back to inverting from the batteries without disrupting the power going to the appliances.	

3.3 The Rear Panel of 1000W and 1500W Pure Sine Inverter with Transfer Switch



DC battery terminals	Connect the inverter to batteries or other power sources. Negative (-) and positive (+) DC terminals should be kept insulated to protect from accidental short circuits.
Cooling fan	Temperature and load controlled.

3.4 Main Specification of 2000W and 2500W Pure Sine Inverter with Transfer Switch

Model	YX-2KUS-1-1	YX-2KUS-2-1	YX-2KUS-1-2	YX-2KUS-2-2	YX-2.5KUS-1-1	YX-2.5KUS-2-1	YX-2.5KUS-1-2	YX-2.5KUS-2-2
Continuous Power	2000W				2500W			
Peak Power	4000W				4900W			
DC Voltage	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V
AC Voltage	100VAC or 110VAC or 120VAC ± 3V		220VAC or 230VAC or 240VAC ± 3V		100VAC or 110VAC or 120VAC ± 3V		220VAC or 230VAC or 240VAC ± 3V	
No Load Current Draws	1A	0.5A	1A	0.5A	1A	0.5A	1A	0.5A
Max AC Input Current	16.7A		8.7A		20.8A		10.8A	
DC Voltage Range	10-15.5V		20-31V		10-15.5V		20-31V	
Low Voltage Alarm	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V
	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V
	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V
Low Voltage Shut Down	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V
	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V
	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V
Low Voltage Alarm Recovery	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V
	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V
	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V
Low Voltage Protection Recovery	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V
	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V
	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V
Over Voltage Shut Down	15.7V±0.3V		31.5V±0.3V		15.7V±0.3V		31.5V±0.3V	
Over Voltage Recovery	15.3V±0.3V		29.5V±0.3V		15.3V±0.3V		29.5V±0.3V	
Frequency	50Hz ± 0.5Hz or 60Hz ± 0.5Hz							
Output Waveform	Pure Sine Wave							
AC Regulation	THD<3% (Linear load)							

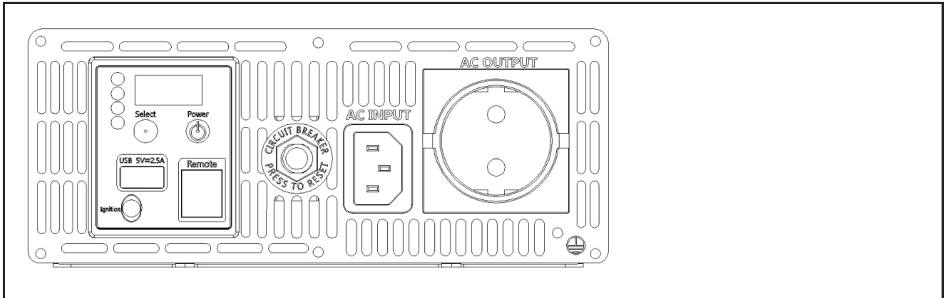
Output Efficiency	up to 91%		
Transfer relay rating	30A		
Transfer time AC to inverter and inverter to AC	Less than 30ms		
Remote Control (Optional)	Cable length: 15m is available.		
Ignition Function	Connect vehicles battery (or connect positive pole of vehicles' STARTER). The inverters start simultaneously When the vehicles start; The inverters will also shut down when the vehicles shut down.		
Protection Function	Low voltage alarm	code: F05	Buzzer sounds and fault light turns red
	Low voltage shutdown	code: F01	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over input voltage protection	code: F02	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over load alarm	code: F06	Buzzer sounds and fault light turns red when output power is overloaded around 110%. But the BUZZ and F06 code will not occurred when the output power drop to a normal level within 20ms.
	Over load protection	code: F03	The inverter shutdown when output power is overloaded around 120%, it needs to be recovered by hand.
	Over temperature alarm	code: F07	Buzzer sounds and fault light turns red when the inverter's internal temperature is higher than the limit value (90±5°C).
	Over temperature protection	code: F04	The inverter will automatically return to normal status when the internal temperature drops to 80±5°C.
		code: F08	The indicator will show the code F08 when the thermostats in the inverters are broken.
	Short circuit protection	code: F03	Recover by hand
	Reverse polarity protection		Built-in fuse
	AC input overload protection	code: F09	The fan will start to work when the relay temperature is up to 60±5°C; but it will stop to work when the relay temperature drops to 50±5°C. The unit will alarm, and no AC output when relay temperature is up to 75±5°C; But it will auto recover when the relay temperature drops to normal value.
Fuse	Internal	USB port	5V, 2.1A
Working Temperature	-10°C--+50°C	Product Size	351x197x82mm
Storage Temperature	-30°C--+70°C	Cooling Way	Intelligent cooling fan
Start	Bipolar soft-start	Certification	CE, FCC and E-mark

3.5 Main Specification of 3000W and 4000W Pure Sine Inverter with Transfer Switch

Model	YX-3KUS-1-1	YX-3KUS-2-1	YX-3KUS-1-2	YX-3KUS-2-2	YX-4KUS-1-1	YX-4KUS-2-1	YX-4KUS-1-2	YX-4KUS-2-2
Continuous Power	3000W				4000W			
Peak Power	6000W				8000W			
DC Voltage	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V
AC Voltage	100VAC or 110VAC or 120VAC±3V		220VAC or 230VAC or 240VAC±3V		100VAC or 110VAC or 120VAC±3V		220VAC or 230VAC or 240VAC±3V	
No Load Current Draws	1.2A	0.5A	1.2A	0.5A	1.2A	0.5A	1.2A	0.5A
Max AC Input Current	25A		13A		37A		18A	
DC Voltage Range	10-15.5V		20-31V		10-15.5V		20-31V	
Low Voltage Alarm	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V	Lo0:10.5V	11V±0.3V	Lo0:21V	22V±0.3V
	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V	Lo1:10.8V	11.3V±0.3V	Lo1:21.6V	22.6V±0.3V
	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V	Lo2:11.3V	11.8V±0.3V	Lo2:22.6V	23.6V±0.3V
Low Voltage Shut Down	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V	Lo0:10.5V	10.5V±0.3V	Lo0:21V	21V±0.3V
	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V	Lo1:10.8V	10.8V±0.3V	Lo1:21.6V	21.6V±0.3V
	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V	Lo2:11.3V	11.3V±0.3V	Lo2:22.6V	22.6V±0.3V
Low Voltage Alarm Recovery	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V	Lo0:10.5V	11.3V±0.3V	Lo0:21V	22.6V±0.3V
	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V	Lo1:10.8V	11.6V±0.3V	Lo1:21.6V	23.2V±0.3V
	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V	Lo2:11.3V	12.1V±0.3V	Lo2:22.6V	24.2V±0.3V
Low Voltage Protection Recovery	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V	Lo0:10.5V	12V±0.3V	Lo0:21V	24V±0.3V
	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V	Lo1:10.8V	12.3V±0.3V	Lo1:21.6V	24.6V±0.3V
	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V	Lo2:11.3V	12.8V±0.3V	Lo2:22.6V	25.6V±0.3V
Over Voltage Shut Down	15.7V±0.3V		31.5V±0.3V		15.7V±0.3V		31.5V±0.3V	
Over Voltage Recovery	15.3V±0.3V		29.5V±0.3V		15.3V±0.3V		29.5V±0.3V	
Frequency	50Hz ± 0.5Hz or 60Hz ± 0.5Hz							
Output Waveform	Pure Sine Wave							
AC Regulation	THD<3% (Linear load)							

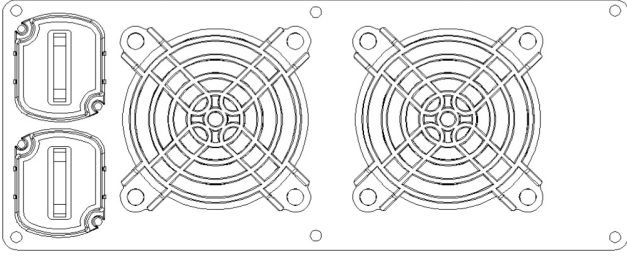
Output Efficiency	up to 91%		
Transfer relay rating	30A	35A	
Transfer time AC to inverter and inverter to AC	Less than 30ms		
Remote Control (Optional)	Cable length: 15m is available.		
Ignition Function	Connect vehicles battery (or connect positive pole of vehicles' STARTER). The inverters start simultaneously When the vehicles start; The inverters will also shut down when the vehicles shut down.		
Protection Function	Low voltage alarm	code: F05	Buzzer sounds and fault light turns red
	Low voltage shutdown	code: F01	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over input voltage protection	code: F02	Recover by hand after the inverter shutdown. (The inverter will auto recover when the battery voltage go back to a normal level within 20ms.)
	Over load alarm	code: F06	Buzzer sounds and fault light turns red when output power is overloaded around 110%. But the BUZZ and F06 code will not occur when the output power drop to a normal level within 20ms.
	Over load protection	code: F03	The inverter shutdown when output power is overloaded around 120%, it need to be recovered by hand.
	Over temperature alarm	code: F07	Buzzer sounds and fault light turns red when the inverter's internal temperature is higher than the limit value (90±5°C).
	Over temperature protection	code: F04	The inverter will automatically return to normal status when the internal temperature drops to 80±5°C.
		code: F08	The indicator will show the code F08 when the thermostats in the inverters are broken.
	Short circuit protection	code: F03	Recover by hand
	Reverse polarity protection		Built-in fuse
	AC input overload protection	code: F09	The fan will start to work when the relay temperature is up to 60±5°C; but it will stop to work when the relay temperature drops to 50±5°C. The unit will alarm, and no AC output when relay temperature is up to 75±5°C; But it will auto recover when the relay temperature drops to normal value.
Fuse	Internal	USB port	5V, 2.1A
Working Temperature	-10°C--+50°C	Product Size	436x197x82mm
Storage Temperature	-30°C--+70°C	Cooling Way	Intelligent cooling fan
Start	Bipolar soft-start	Certification	CE, FCC and E-mark

3.6 The Front Panel of 2000W, 2500W, 3000W and 4000W Pure Sine Inverter with Transfer Switch



Power	ON or OFF		
Select	Select functions		
LED Lights	status	Inverter	Yellow light
		Fault	Red light
		ATS	Green light
	DC-V	Show battery voltage	The battery low voltage protection has three levels, it can be setted by manual. (12v: Lo0 10.5v; Lo1 10.8v; Lo2 11.3v / 24V: Lo0 21v; Lo1 21.6v; Lo2 22.6v)
	AC-P	Show output power	The output power in the digital display will have $\pm 2\%$ errors. 1000W will show 1.00.
AC-V	Show output voltage	The output voltage in the digital display will have $\pm 3V$ errors.	
AC OUTPUT	For application demands of different geographic areas all over the world, there are many different kinds of optional AC outlets to choose from.		
AC INPUT	Connect the mains supply. When mains supply is available, the inverter will transfer this power to the household appliances (load). When mains supply fails, the inverter will switch back to inverting from the batteries without disrupting the power going to the appliances.		
CIRCUIT BREAKER	The AC output of the Pure Sine Wave Inverter is provided with overcurrent protection, such as a circuit breaker.		

3.7 The Rear Panel of 2000W, 2500W, 3000W and 4000W Pure Sine Inverter with Transfer Switch

	
DC battery terminals	Connect the inverter to batteries or other power sources. Negative (-) and positive (+) DC terminals should be kept insulated to protect from accidental short circuits.
Cooling fan	Temperature and load controlled.

4. Installation & Wiring

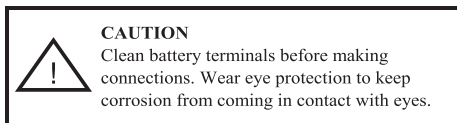
4.1 Wiring for Batteries: Wire connections should be as short as possible and less than 1.5 meter is highly recommended. Long DC wires tend to lose efficiency and reduce the overall performances of an inverter. Make sure that suitable wires are chosen based on the rating of current. Too small of a cross-section will result in overheating that could induce certain danger. Please refer to Table 4-1.

Note: Please consult our local distributors if you have any questions.

Rated Current of Equipment (amp)	Cross-section of Lead (mm ²)	AWG	Suggested Wiring
16A-25A	2.5	12	Safety Wiring Range
25A-32A	4	10	
32A-40A	6	8	
40A-60A	10	6	
63A-80A	16	4	
80A-100A	25	2	
100A-125A	35	1	
≥ 125A	50	0	

Table 4-1 Suggestion for Wire Selection

4.2 To make DC wiring connections:



Connect the DC POSITIVE cable to the POSITIVE (+) terminal on the battery. Next, connect the cable to the POSITIVE terminal (red plastic cover) on the inverter. Connect the DC NEGATIVE cable to the NEGATIVE (-) terminal on the battery. Next, connect the cable to the NEGATIVE terminal (black plastic cover) on the inverter. Observe the polarities carefully while performing the installation and do not reverse the polarities. And make sure all the DC connections are tight. Loose connections will overheat and could result in a potential fire hazard.

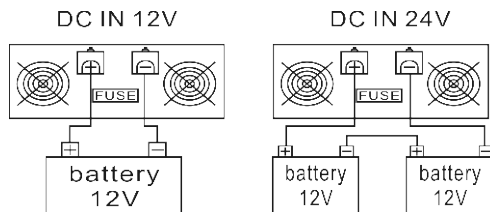


Figure 4.2: Battery connections

4.3 Requirement of Installation

The unit should be mounted on a flat surface or holding rack with suitable strength. In order to ensure the lifespan of the unit, please refrain from operating in environment of high dust, high temperature or high moisture. This is a power supply with built-in DC fan. Please make sure that ventilation is not blocked.

(Note: There should be no barriers within 15cm of the ventilating holes.)

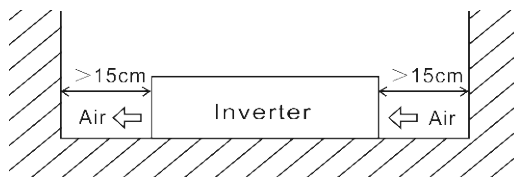


Figure 4.3: Example of Installation

4.4 Mounting Suggestion:

There are 4 semi-circular cutout on the side flanges of the inverter. It can be used for fixing inverter onto the system enclosure. We high recommend mounting is the horizontal position. Please make sure ventilation openings are free from obstruction.

5. Fault Conditions and Indicators

The following fault conditions are displayed on the control panel along with an alarm sound and a red light.

Control Panel Indication	Fault Condition	Solution
HIGH BATT SHUTDOWN (code: F02)	Battery voltage too high	Check for fault with battery charging system. Manually reset inverter by pressing switch "POWER"
LOW BATT SHUTDOWN (code: F01)	Battery voltage too low	Charge battery. Manually reset inverter by pressing switch "Power"
OVERLOAD SHUTDOWN (code: F03)	Battery current too high, probable AC overload	Reduce load on inverter.
OVERTEMP SHUTDOWN (Code: F04)	System over-temperature	Improve ventilation and cooling and/or reduce load on inverter.

6. Derating



Notes on output load:

The inverter can power most of equipments that need an AC source which can provide inverter continuously. But for certain load type, the unit may not work properly.

(1) Since inductive loads or motor based equipments need a large start up current (6~10 times of its rated current), the inverter may not start up successfully with these kinds of load.

(2) When the output are capacitive or rectified equipments (such as switching power supply), it is suggested to operate these equipment at no load or light load. To ensure proper operation, you should increase the load only after the inverter has started up.

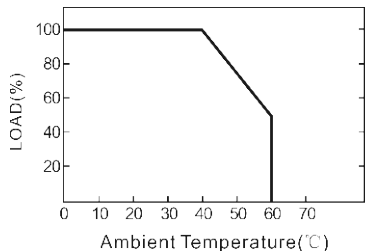


Figure 6.1 Output Derating Curve

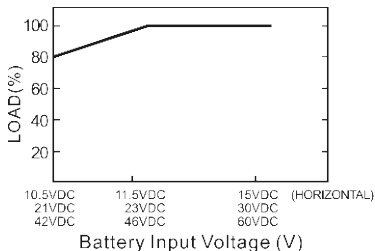


Figure 6.2 Input Derating Curve

7. Warranty

18 months of global warranty is provided for inverter under normal operating conditions. Please do not change components or modify the unit by yourself, otherwise FACTORY may reserve the right not to provide the complete warranty.

