

# **PSC SOLAR (UK)**

## **TECHNICAL SPECIFICATIONS & MANUAL**

### **INVERTERS**



# Inverters

12V/1.5KVA Xantra Super Digital Inverter

24V/2.5KVA Xantra Super Digital Inverter

24V/3.5KVA Xantra Super Digital Inverter

48V/6.0KVA Xantra Super Digital Inverter

48V/5KVA PSC Solar (UK) Inverter

96V/10KVA PSC Solar (UK) Inverter

192V/15KVA PSC Solar (UK) Inverter

192V/20KVA PSC Solar (UK) Inverter

360V/30KVA PSC Solar (UK) Inverter

# PSC SOLAR (UK)

## XANTRA SUPER HIGH EFFICIENCY DIGITAL INVERTER



**MADE IN UK**

**General specification**

**Power star LW**

<b>Input Wave Form:</b>	Sine wave (Utility or Generator)					
<b>Nominal Voltage:</b>	120VAC	230VAC				
<b>Low Voltage Trip:</b>	90V±4%	184V/154V±4%				
<b>Low Voltage re engage:</b>	100V±4%	194V/164V±4%				
<b>High Voltage Trip:</b>	140V±4%	253V±4%				
<b>High Voltage re engage:</b>	135V±4%	243V±4%				
<b>Max Input AC Voltage:</b>	150VAC	270VAC				
<b>Nominal Input Frequency:</b>	50Hz or 60Hz (Auto detect)					
<b>Low freq trip:</b>	47Hz for 50Hz, 57Hz for 60Hz					
<b>High freq trip:</b>	55Hz for 50Hz, 65Hz for 60Hz					
<b>Output wave form:</b>	(Bypass mode) same as input					
<b>Overload protection:</b>	Circuit breaker					
<b>Short circuit protection:</b>	Circuit breaker					
<b>Transfer switch rating:</b>	30amp or 40amp					
<b>Efficiency on line transfer mode:</b>	95%+					
<b>Line transfer time:</b>	10ms Typical					
<b>Bypass without battery connected:</b>	Yes					
<b>Max bypass current:</b>	30amp or 40amp					
<b>Bypass over load current:</b>	35amp or 45amp: Alarm					
<b>Inverter Specification/output</b>						
<b>Output wave form:</b>	Pure sine wave					
<b>Output continuous power Watts:</b>	1000	2000	3000	4000	5000	6000
<b>Output continuous power VA:</b>	1000	2000	3000	4000	5000	6000
<b>Power factor:</b>	0.9-1.0					
<b>Nominal output voltage rms:</b>	120/230VAC					
<b>Output voltage regulation:</b>	+ /- 10% RMS					
<b>Output frequency:</b>	50Hz ± 0.3Hz or 60Hz ± 0.3Hz					
<b>Nominal efficiency:</b>	>88%					
<b>Surge ratings:</b>	3000	6000	9000	1200	1500	18000
<b>Short circuit protection:</b>	Yes, fault after 10 secs					
<b>Inverter Specification/input</b>						
<b>Nominal Input voltage:</b>	12V	24V	48V			
<b>Minimum start voltage:</b>	10V	20V	40V			
<b>Low battery alarm:</b>	10.5V	21V	42V			
<b>Low battery trip:</b>	10V	20V	40V			
<b>High voltage alarm:</b>	16V	32V	64V			
<b>Power saver:</b>	Below 25 watts when enabled					
<b>Power saver:</b>	Same switched on/off on remote					
<b>Charger Mode specification</b>						
<b>Input voltage range:</b>	95-127VAC 194/243VAC/164/243VAC(W)					
<b>Output voltage:</b>	Dependent on battery type					
<b>Charger current:</b>	35A / 70A					
<b>Battery initial voltage for start up:</b>	0-15.7v for 12v( *2 for 24v, *4 for 48v)					
<b>Over charge protection shutdown:</b>	15.7v for 12v (*2 for 24v, *4 for 48v)					
<b>Charger curve(4 stage constant current)Battery types</b>						
<b>4 step digital controlled progressive charge</b>						
<b>Battery type:</b>	<b>Fast V</b>	<b>Float V ( *2 for 24v, *4 for48v)</b>				
Gel U.S.A	14.0	13.7				
A.G.M 1	14.1	13.4				
A.G.M 2	14.6	13.7				
Sealed Lead Acid	14.4	13.6				
Gel Euro	14.4	13.8				
Open Lead Acid	14.8	13.3				
Calcium	15.1	13.6				
Desulphation	15.5 for 4hrs					
<b>Remote control/RS232/USB</b>	Yes. Optional					
<b>Size: in mm</b>	1000/2000/3000 Model : 442*218*179 4000/5000/6000 Model : 598*218*179					
<b>Weight:</b>	1000	2000	3000	4000	5000	6000
	20kg	20kg	26kg	48kg	48kg	48kg

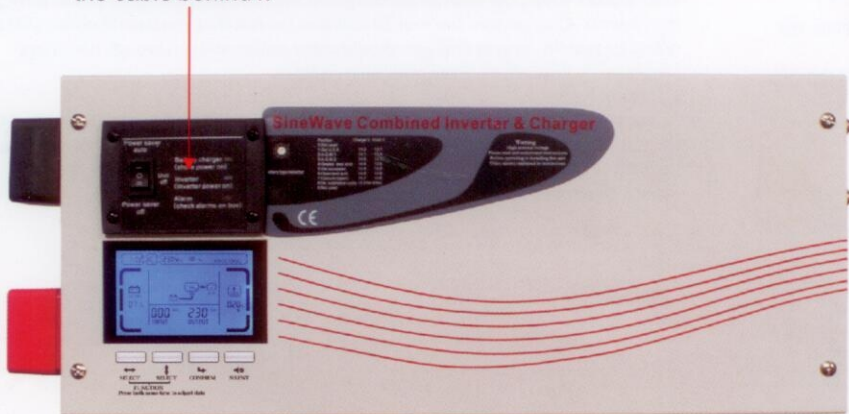
**Ordering Information**

**Typical part number** ▶ **LW** - **1000** - **E** - **12** - **C**

- 1. Basis series**  
Low frequency pure sine wave Inverter & Charger
- 2. Power Rating**  
1000=1000W 2000=2000W 3000=3000W  
4000=4000W 5000=5000W 6000=6000W
- 3. AC Voltage**  
E=110VAC NC=220VAC
- 4. Battery Voltage**  
12=12VDC 24=24VDC 48=48VDC
- 5. LCD Display**

**Remote control installation**

Remove 4 screws holding this panel and disconnect the cable behind it



# PSC SOLAR (UK) INVERTER/CHARGER SERIES



Specification Table		20KVA - 30KVA Inverter	
<b>Input</b>	Frequency	50Hz / 60 Hz $\pm$ 10%	
	Power Actor	$\leq$ 83%	
<b>Output</b>	Voltage	Single phase 220V $\pm$ 0.5%	
	Voltage Regulation	Stable voltages $\pm$ 1%, dynamic voltage $\pm$ 2%, (0 - 100% load fluctuation 20ms)	
	Frequency Stablensness	50Hz / 60 Hz $\pm$ 0.5%	
	Frequency Torsion Rate	Less than 1Hz / second	
	Instant Load Status	$\pm$ 0.4% (100% instant load fluctuation)	
	Harmonic Distortion	for linear, less than 3% (full load), total rectifying harmonics is less than 5%	
	Overload Capacitance	110%	
	Wave Form	Sine wave	
	<b>Efficiency</b>	Input to Output AC	Above 95%
		<b>Transfer Time</b>	Mains Power supply fails or restores
Turns from UPS to Bypass	Less than 4ms		
<b>Battery</b>	Type	Lead - Acid Sealed, maintenance - free	
	Charging Time	Filled to 90% of the total capacity after its charged for 8 hours	
<b>Warning Sound</b>	Battery Discharge	If the main power fails, it buzzes once every 4 seconds, if the battery is low, it buzzes once every 1 second, if the battery stops discharging, it buzzes continuously	
	In Fault Status	Continously buzzes	
<b>Internal Protecting Device LCD Panel</b>	Battery	Automatically shuts down when the abttery power is low, it has no fuse switch protection	
	Overload	After the overload (100% - 110%) lasts for 3 seconds, it automatically jumps to BYPASS. It can automatically restore normal state	
	Temperature is too High	If the internal temperature of the inverter $>$ 85°C, it will automatically jumps to BYPASS	
	Output short circuit	Limits current, automatically shuts down the machine and starts direct mains power supply	
	UPS is Abnormal	Automatically jump to BYPASS mode and starts direct mains power supply	
	Noise Filter	10 - 10KHz at 40dB; 100K Hz - 100Mhz at 70dB	
	LCD Display	Indicating input and output volage, frequency, battery voltage and output power (%), temperature	
Battery BVL	One LED, it glows when the battery voltage is low		
<b>Outside Environment</b>	Temperature	-10 - 50°C	
	Relative Humidity	0% -93% ( No condensation)	
	Operation Condition	Lower than 3000 meters above sea level	

# PSC SOLAR (UK) XANTRA SUPER HIGH EFFICIENCY INVERTER

## MADE IN UK

Technical Specification:		LW	LW	LW	LW	LW	LW	LW
Products Series:		1000	1500	2000	3000	4000	5000	6000
<b>General Specification</b>	<b>Input Wave Form</b>	<b>Sine wave (Utility or Generator)</b>						
	<b>Nominal Voltage</b>	<b>120VAC</b>			<b>230VAC</b>			
	<b>Low voltage trip</b>	<b>90v±4%</b>			<b>184v/154v±4%</b>			
	<b>Low voltage reconnect</b>	<b>100V±4%</b>			<b>194v/164v±4%</b>			
	<b>High voltage trip</b>	<b>140v±4%</b>			<b>253v±4%</b>			
	<b>High voltage reconnect</b>	<b>135v±4%</b>			<b>243v±4%</b>			
	<b>Max input AC voltage</b>	<b>150VAC</b>			<b>270VAC</b>			
	<b>Nominal input frequency</b>	<b>50Hz or 60Hz (Auto detect)</b>						
	<b>Low freq trip</b>	<b>47Hz for 50Hz, 57Hz for 60Hz</b>						
	<b>High freq trip</b>	<b>55 Hz for 50Hz, 65Hz for 60Hz</b>						
	<b>Output wave form</b>	<b>(Bypass mode) same as input</b>						
	<b>Overload protection</b>	<b>Circuit breaker</b>						
	<b>Transfer switch rating</b>	<b>30amp or 40amp</b>						
	<b>Efficiency on line transfer time</b>	<b>95%+</b>						
	<b>Line transfer time</b>	<b>10ms Typical</b>						
	<b>Bypass without battery connected</b>	<b>Yes</b>						
	<b>Max bypass current</b>	<b>30amp or 40amp</b>						
<b>Bypass overload current</b>	<b>35amp or 45amp: Alarm</b>							
<b>Inverter Specification Output</b>	<b>Output wave form</b>	<b>Pure Sine wave</b>						
	<b>Output continuous power watt:</b>	<b>1000</b>	<b>1500</b>	<b>2000</b>	<b>3000</b>	<b>4000</b>	<b>5000</b>	<b>6000</b>
	<b>Output continuous power VA</b>	<b>1000</b>	<b>1500</b>	<b>2000</b>	<b>3000</b>	<b>4000</b>	<b>5000</b>	<b>6000</b>
	<b>Power Factor</b>	<b>0.9 - 1.0</b>						
	<b>Nominal output voltage rms:</b>	<b>120/123VAC</b>						
	<b>output regulation</b>	<b>10% rms</b>						
	<b>Output freq</b>	<b>50Hz ± 0.3Hz or 60Hz ± 0.3Hz</b>						
	<b>Nominal freq</b>	<b>&gt;88%</b>						
	<b>Surge ratings:</b>	<b>3000</b>	<b>4500</b>	<b>6000</b>	<b>9000</b>	<b>12000</b>	<b>15000</b>	<b>18000</b>
	<b>Short circuit protection</b>	<b>Yes, fault after 10 seconds</b>						
<b>Inverter Specification Input</b>	<b>Nominal Input Voltage</b>	<b>12V</b>		<b>24V</b>		<b>48V</b>		
	<b>Minimum start voltage</b>	<b>10V</b>		<b>20V</b>		<b>40V</b>		
	<b>Low battery alarm</b>	<b>10.5V</b>		<b>21V</b>		<b>42V</b>		
	<b>Low battery trip</b>	<b>16V</b>		<b>32V</b>		<b>64V</b>		
	<b>High voltage alarm</b>							
	<b>Power Saver</b>	<b>Below 25watts when enabled</b>						
	<b>Power saver</b>	<b>Same switched on/off on remote</b>						
<b>Charge Mode Specification</b>	<b>Input voltage range</b>	<b>95-127VAC</b>			<b>194-243VAC/164-243VAC (W)</b>			
	<b>Output voltage range</b>	<b>Dependent on battery type</b>						
	<b>Charge current</b>	<b>35A/70A</b>						
	<b>battery initial voltage for startup</b>	<b>0-15.7v for 12v (*2 for 24v; *4 for 48V)</b>						
	<b>Over charge protection shutdown</b>	<b>15.7v for 12v(*2 for 24v; *4 for 48V)</b>						
<b>others</b>	<b>Remote control/R232/USB</b>	<b>Yes, Optional</b>						
	<b>Size: in mm</b>	<b>1000/2000/3000 Model: 442*218*179</b>						
		<b>4000/5000/6000 Model: 598*218*180</b>						
	<b>Net weight</b>	<b>18kg;</b>	<b>19kg;</b>	<b>20kg;</b>	<b>35kg;</b>	<b>35kg;</b>	<b>38kg;</b>	<b>40kg;</b>

# 192V/20 - 30KVA PSC Solar (UK) Manual

## D. Specification Table

INPUT	FREQUENCY	50 Hz / 60 Hz $\pm$ 10%
	POWER FACTOR	$\geq$ 83%
OUTPUT	VOLTAGE	Single phase 220 V $\pm$ 0.5 %
	VOLTAGE REGULATION	Stable voltage $\pm$ 1% , dynamic voltage $\pm$ 2% , ( 0 - 100% load fluctuation 20 ms )
	FREQUENCY STABLENESS	50 Hz / 60 Hz $\pm$ 0.5%
	FREQUENCY TORSION RATE	Less than 1 Hz / second
	INSTANT LOAD STATUS	$\pm$ 0.4% ( 100% instant load fluctuation )
	HARMONIC DISTORTION	For linear load , less than 3% ( full load ) , total rectifying harmonics is less than 5%
	OVERLOAD CAPACITANCE	110%
	WAVE FORM	Sine wave
EFFICIENCY	INPUT AC TO OUTPUT AC	Above 95%
TRANSFER TIME	MAINS POWER SUPPLY FAILS OR RESTORES	0 second
	TURNS FROM UPS TO BYPASS	Less than 4 ms
BATTERY	TYPE	Lead - Acid Sealed , maintenance - free
	CHARGING TIME	Filled to 90% of the total capacity after it is charged for 8 hours
WARNING SOUND	BATTERY DISCHARGE	If the main power fails , it buzzes once every 4 seconds
		If the battery is low , it buzzes once every 1 seconds
		If the battery stops discharging , it buzzes continuously
	IN FAULT STATUS	Continuously buzzes
INTERNAL PROTECTING DEVICE LCD PANEL	BATTERY	Automatically shuts down when the battery power is low, it has no fuse switch protection
	OVERLOAD	After the overload (100% - 110%) lasts for 3 seconds , it automatically jumps to BYPASS. It can automatically restore normal state
	TEMPERATURE IS TOO HIGH	If the internal temperature of the inverter $>$ 85°C , it will automatically jump to BYPASS
	OUTPUT SHORT CIRCUIT	Limits current , automatically shuts down the machine , without fuse switch protection
	UPS IS ABNORMAL	Automatically jump to BYPASS mode and starts direct mains power supply
	NOISE FILTER	10 ~ 10K Hz at 40 dB ; 100K Hz ~ 100M Hz at 70 dB
	LCD DISPLAY	Indicating input and output voltage , frequency , battery voltage and output power (%) , temperature
	BATTERY BVL	One LED , it glows when the battery voltage is low
OUTSIDE ENVIRONMENT	TEMPERATURE	-10 ~ 50°C
	RELATIVE HUMIDITY	0% ~ 93% ( No condensation )
	OPERATION CONDITION	Lower than 3000 meters above sea level ( altitude )

## 6. Technical Specifications

model	10KVA
Power(W)	8KW
DC voltage	96VDC
Input voltage	160-265VAC
Input frequency	45—65Hz
Inverter output voltage	220VAC±5%/50Hz±1%
Inverter output waveshape	pure sine-wave
Transfer time	<15ms
Charge current	Max 20A
Protection	Input/output over high or low protecting;low battery protecting;surge and pike-currents protecting; overload protecting 100%-120% 30sec; >120% 100ms; >150%, 50ms output short circuit <150ms
Noise	<45dB
Operation temperature	0-40℃
Storage temperature	-15 - +50℃
Humidity	0-90%(non-condensing, max)
Operating height above sea level	0-3,000meter
Storage height above sea level	0-15,00meter

## 1. Secure Operation Precautions

We have fully considered personal and state safety factors when designing the product. But improper operation may cause safety accident, so please comply the followings when using or installing for your safety and benefits:

- (1) When installing the inverter, professional operators are needed or connect with the dealer.
- (2) Assure the electric power supply meets the standard.

The battery DC voltage is the correct : the DC voltage input range is  $\pm 15\%$  , the battery and the inverter input connector plus-minus polarity must be correctly.

**Special notice:** this product uses single-phase 220V voltage. Please check whether the output connector is connected well. Please confirm the load power don't be over the inverter power.

- (3) Don't douse any liquid into the inverter or use wet cloth to wipe the cabinet. Never touch the AC output or input connector with wet hands.
- (4) Never make bold to replace the accumulator connection wire of the inverter, if needed, please contact the service department to confirm it.
- (5) Please don't use the inverter in sloppy, dusty, high temperature or temperature varies too sharply environment. Suggested environment temperature is 0℃~45℃. Please don't jam the louver beside the machine or use the machine beside heat sources such as electric heater and radiator. Please avoid sunshine,dust and the dewing situation.
- (6) Don't let self-determination deficient people (such as a child) use the product.
- (7) Make sure connect ground wire when connecting the machine with indoor electric supply net, and the size of the input wires should meet the demand of indoor loads, or it will heat deal if the size of the wire is too small and may cause fire accident. Suggested the machine should be operated by professional technicians.

## 96V/10KVA PSC Solar (UK) Manual



## 2. Performance Specification of Intelligent inverter

- (1) The inverter is designed by our company independently; it's controlled by CPU, high quality and modify sine wave intelligent inverter
- (2) Our product is used for the many kinds of the single phase equipments, example: motor, screw tools,tube light etc.family equipments, and also it can be used for the industry and communication equipments.
- (3) Single key intelligent switching, easy to operated
- (4) Output short circuit protection (when the inverter is working on battery mode): when there is short circuit, the inverter will indicate it and the machine will shut down automatically.
- (5) Overload protection: when there is overload, the machine will prompt you and protect the inverter from being damaged automatically. Over 100%-120%, inverter shuts down 30s later, over 150%, inverter shuts down at once.
- (6) Internal circuit can protect the battery .when the battery voltage is under the 15% level,the inverter will be shut down at once.

**Warning** :A.If not allowed by our company, this device can't supply power for the equipments which maintain the life

B.This products is designed to supply the reserve inverted power for the home electric appliances, so it's not fit for the precision equipments

C.If it is used for the computer, the computer must have a enough power inside. Or the computer maybe is restarted, when the city power is interrupted.

## 3. Use range of Intelligent inverter

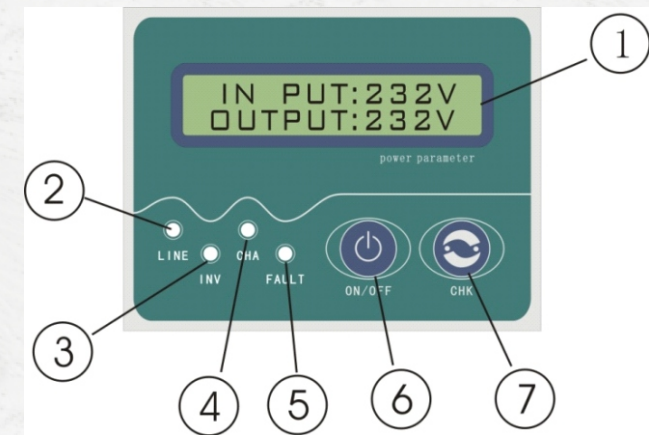
it can be used for t family equipments, and also the industry and communication equipments.

## 4. Installation Guides for inverter

- (1) 1000W power output and the following connections using the form of Multi-outlet, DC input lead straight out of the use of connected
- (2) 1000W power output over using the form of Multi-outlet and output terminal block , DC input terminal station used to connect
- (3) Multi-outlet can load less than 10A220VAC equipments.

## 5. Explanation about the indication and status of Panels

indication	status
FAULT lamp on	Overload, inverter will shut down automatically when switching to battery for power supply , no output , or inverter failure , output short circuit
INV lamp on	inverter mode
LINE lamp on	inverter works at utility power mode
BUZZER	inverter is normal every 4 seconds 1 sounding, if inverter is over load,mistake ect. , it will keep on sounding;



### ?、LCD display

- ②、**LINE** City Power light: if the machine works normally on city power made, the lamp will be always on; if the machine is off and city power is normal, the lamp will flash and it indicates that the machine is charging automatically.
- ③、**INV** lighting means inverter circiut working well;
- ④、**Fault** when inverter work mistake, it will flash
- ⑤、**CHA** battery recharge
- ⑥、**ON/ OFF** Manual turn on/button
- ⑦、**CHK** parameter inquire button

## 6. Technical Specifications

model	15KVA
Power(W)	12KW
DC voltage	192VDC
Input voltage	160-265VAC
Input frequency	45—65Hz
Inverter output voltage	220VAC±5%/50Hz±1%
Inverter output waveshape	pure sine-wave
Transfer time	<15ms
Charge current	Max 20A
Protection	Input/output over high or low protecting;low battery protecting;surge and pike-currents protecting; overload protecting 100%-120% 30sec; >120% 100ms; >150%, 50ms output short circuit <150ms
Noise	<45dB
Operation temperature	0-40℃
Storage temperature	-15 - +50℃
Humidity	0-90%(non-condensing, max)
Operating height above sea level	0-3,000meter
Storage height above sea level	0-15,00meter

## 1. Secure Operation Precautions

We have fully considered personal and state safety factors when designing the product. But improper operation may cause safety accident, so please comply the followings when using or installing for your safety and benefits:

- (1) When installing the inverter, professional operators are needed or connect with the dealer.
- (2) Assure the electric power supply meets the standard.

The battery DC voltage is the correct : the DC voltage input range is  $\pm 15\%$  , the battery and the inverter input connector plus-minus polarity must be correctly.

**Special notice:** this product uses single-phase 220V voltage. Please check whether the output connector is connected well. Please confirm the load power don't be over the inverter power.

- (3) Don't douse any liquid into the inverter or use wet cloth to wipe the cabinet. Never touch the AC output or input connector with wet hands.
- (4) Never make bold to replace the accumulator connection wire of the inverter, if needed, please contact the service department to confirm it.
- (5) Please don't use the inverter in sloppy, dusty, high temperature or temperature varies too sharply environment. Suggested environment temperature is 0℃~45℃. Please don't jam the louver beside the machine or use the machine beside heat sources such as electric heater and radiator. Please avoid sunshine,dust and the dewing situation.
- (6) Don't let self-determination deficient people (such as a child) use the product.
- (7) Make sure connect ground wire when connecting the machine with indoor electric supply net, and the size of the input wires should meet the demand of indoor loads, or it will heat deal if the size of the wire is too small and may cause fire accident. Suggested the machine should be operated by professional technicians.