Pylon Technologies Co., Ltd.
No. 73, Lane 887, Zu Chongzhi Road, Zhangjiang Hi-Tech Park Pudong, Shanghai 201203, China

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# MPI HYBRID INVERTER SETUP SOP - PYLONTECH BATTERY

(1) Inverter Spec.:

MPI HYBRID SERIES	3K	4K	5K	5.5K	10K
Rated Power					
Continuous Output	3,000W	4,000W	5,000W	5,500W	10,000W
Parallel-Ready	No	Yes	Yes	No	Yes
PV Input Rating (GRID-TIE)					
Max PV Input Power	4,500W	5,000W	10,000W	6,500W	14,850W
Max PV Input Voltage	500Vdc	580Vdc	900Vdc	500Vdc	900Vdc
Start-up / Initial Feeding Voltage	116 / 150Vdc	116 / 150Vdc	220 / 250 Vdc	116 / 150Vdc	320 / 350 Vdc
PV MPPT Range	250 - 450Vdc	120 - 500Vdc	250 - 850 Vdc	120 - 450Vdc	350 - 850 Vdc
Max PV Input Current	18A	18A	10A x 2	13A x 2	18A x 2
MPPT Tracker	1	1	2	2	2
Max DC/AC Conversion Efficiency	>96%				
AC Input					
Start-up / Auto Restart	120 - 140Vac / 180Vac				
Input Voltage Range	170 - 280Vac				
Nominal Frequency	50 / 60 Hz				
Max AC Input Current	30A	40A	40A	40A	25A
AC Output					
Nominal AC Output Voltage	208/220/230/240Vac, Single Phase				400Vac, 3-Phase
Output Voltage Range	184 - 265Vac				184 - 265Vac (P-N) / 318 - 460Vac (P-
Output Frequency (GRID-TIE)	47.5 - 51.5Hz / 59.3 - 60.5 Hz				
Output Frequency (OFF-GRID)	50 / 60Hz, auto-sensing				
Output Waveform	Pure Sine Wave				
Max Output Power (via grid relay)	5,100W	6,000W	7,000W	6,500W	16,000W
Max Output Power (battery mode)	3,000W	4,000W	5,000W	5,500W	10,000W
Max Efficiency	>93%				>91%
Battery Charger					
Nominal DC Voltage	48Vdc				
Max Charging Current	25A	80A	100A	60A	200A
ENVIRONMENTAL / MECHANICAL SPECIFICATIONS					
Communication Port	RS232 / USB				
Certifications	EN62109-1, EN62109-2, EN62040-1 / CE VDE4105, VDE0126-1-1 AS4777/3100 **(3K, 5.5K, 10K only)**				
Operating Temp.	0 - 40°C		-10 - 50°C	0 - 40°C	-10 - 50°C
Operating Humidity	0 - 90% RH (No condensing)				
Dimension	480*438*107m	535*438*117m	600*460*200m	450*445*110m	622*500*167mm
Net Weight	16Kg	17Kg	29Kg	16Kg	45Kg

(2) General Compatible Condition:

| Battery Type		US2000B/US2000BPlus/Phantom-S/US3000		
Inverter Type	MPI 3K	MPI 5K	MPI 5.5K	MPI 10K
Recommend battery Amount	According to load requirement and inverter rated power. Battery Amount N = Load power/1200W			
Communication	Not required, but need finish the setting on Inverter software			
DOD	80%			
Working Temp.	0 - 50℃ (Indoor operation)			
Charge/Discharge Current	N*25, N = Battery amount			
Warranty	Refer to each country`s warranty terms, please contact your distributor			

(3) Inverter set up:

(a) Connect PV or Grid power to wake up inverter; Connect the communication cable from Inverter to computer.
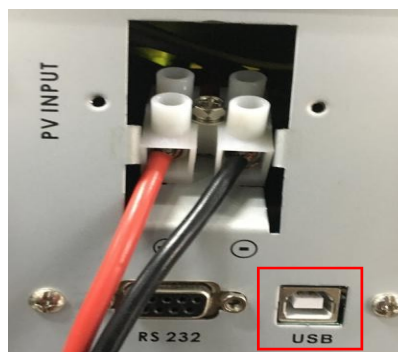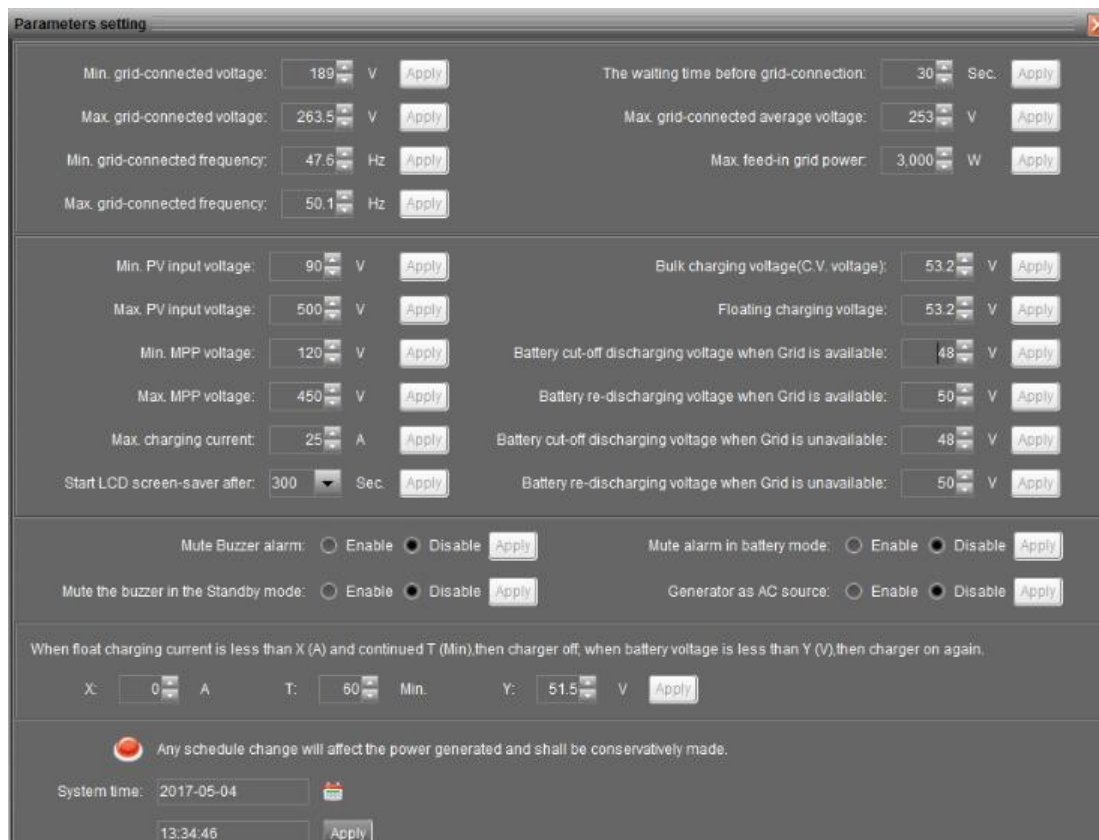

(b) Open 'Solarpower.exe'(the inverter set up software), Log in .
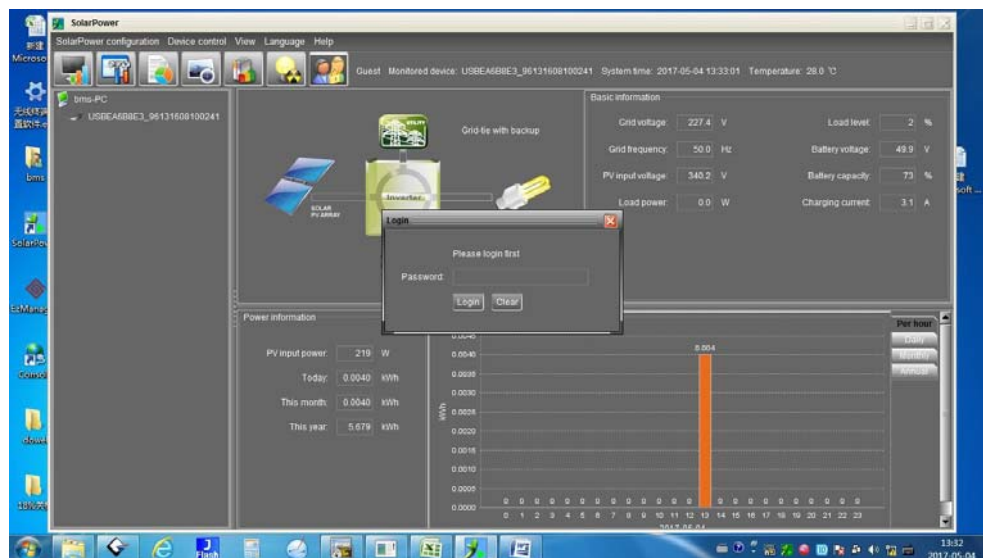
(c) Press 'Parameters Setting'.
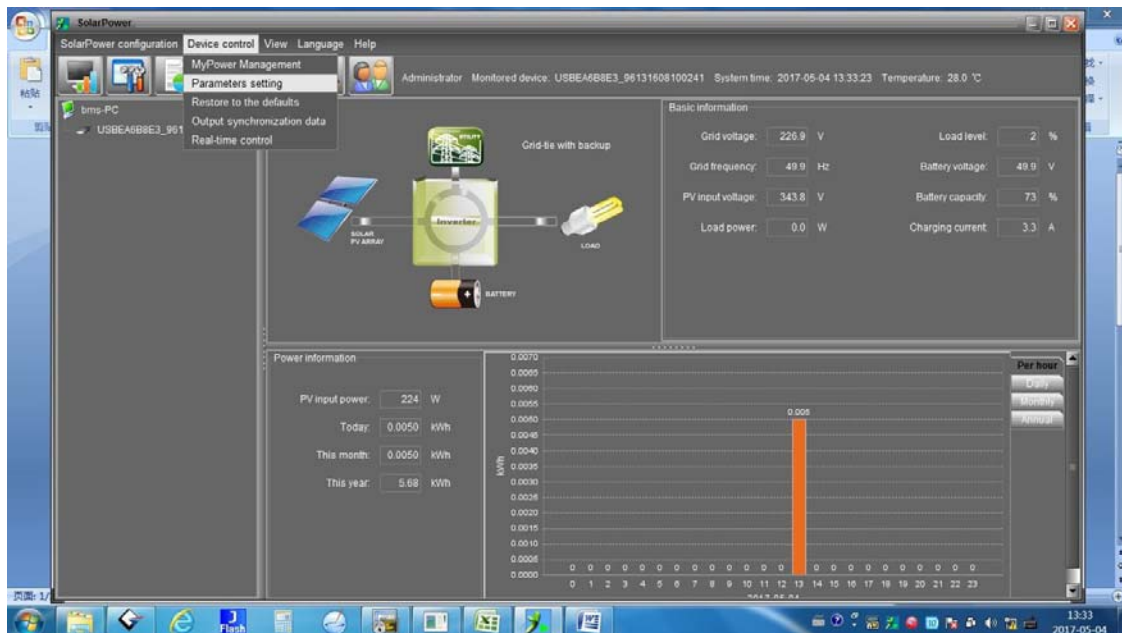
(d) Set the parameter according to below recommendation, the max. charge current refer to the specific battery amount of real application. Then click 'Apply'. According to the inverter limitation, for 2kW&3kW inverter max. is 25A, for 5kW max. is 100A, for 10kW max. is 200A.

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PIP-MS/MG INVERTER SETUP SOP - PYLONTECH BATTERY

(1) Inverter Spec.:

PIP-MS/MG *PF1* SERIES	1012MS	2024MS	3024MS	4048MS(1)	5048MS	5048MG
ELECTRICAL SPECIFICATIONS						
Continuous Output	1000W	2000W	3000W	4000W	5000W	5000W
Parallel-ready	NO			YES, MAX 9 UNITS		
Batteryless Operation	NO					YES
Input Power Factor	1					
Input Voltage Range	90~280VAC (Appliance mode), 170~280VAC (UPS mode)					
Input/Output Frequency	50Hz / 60Hz					
Output Voltage	230VAC±5%					
Output Waveform	Pure Sine Wave					
Output Regulation	＜ 3% RMS for battery voltage range					
Output Short Circuit	Circuit Breaker					
Peak Efficiency	95% (line mode) / 91% (inverter mode)					
Transfer Time	＜10ms (UPS mode), <20ms (Appliance mode) **					
Charging Mode	3-stage					
Nominal DC Voltage	12V	24V		48V		
Bulk Volt (Flooded, AGM)	14.6, 14.1V	29.2, 28.2V		58.4, 56.4V		
Float Volt	13.5V	27.0V		54.0V		54.0V
Max DC Volt	15.5V	31.0V		66.0V		66.0V
Max AC Charging Current	20Amp	30Amp		60Amp		80A
No Load Consumption	＜15W	＜25W		＜50W		＜50W
Power Saving Mode	＜5W	＜10W		＜15W		＜15W
Solar Charger						
Algorithm	MPPT					
System DC Voltage	12V	24V		48V		48V
Max PV Input Voc	102V	75V		145V		450V
MPPT Range	15 - 80V	30 - 66V		60 - 115V		120 - 430V
Max Charging Current/Power	40A, 500W	25A, 600W		80A, 4000W		80A, 4500W
ENVIRONMENTAL / MECHANICAL SPECIFICATIONS						
Certification	CE					
Operating/Storage Temp.	0°C ~ 55°C / -15°C~ 60°C					
Operating Humidity	20~90%RH Non-Condensing					
Dimension	355*272*100mm			468*295*120mm		
Net Weight	7.0Kg	7.0Kg	7.5Kg	12.5Kg	13.5Kg	11Kg

(2) General Compatible Condition:

Battery Type	US2000B/US2000BPlus/Phantom-S/US3000
Recommend battery Amount	According to load requirement and inverter rated power. Battery Amount N = Load power/1200W
Communication	Not required, but need finish the setting on Inverter.
DOD	80%
Working Temp.	0 - 50℃(Indoor operation)
Charge/Discharge Current	N*25, N = Battery amount
Warranty	Refer to each country`s warranty terms, please contact your distributor

(3) Inverter set up:

(a) Connect Inverter with battery, wake up inverter.

(b) Press 'Enter' for 5s, to enter into the setting.

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Press 'Up' and 'Down' to choose the setting item No., press 'Enter' to enter into the detailed setting parameter, when finish press 'Enter' again. The following setting items need to be set follow the recommended value:

| Item No.	Setting Value
Program 02	Set to N*25A, N=battery amount
Program 05	Set to USE
Program 12	Set to 48V
Program 13	Set to 51V
Program 26	Set to 53.2V
Program 29	Set to 47.5V

Note:

1. PIP Inverters can only be waked up via battery, if the battery is turned off due to over-discharge, over temp. or other reasons, in order to wake up the inverter you need turn on the battery manually.

2. As there is no communication between inverter and battery, for a better using experience, it`s also acceptable to introduce monitoring device to visually display the real-time information from battery management system via the communication channel, such as Inverter Control Center(ICC) from centurionsolar. Same as the inverter compatibility condition, such a monitoring system needs get authorization from Pylontech in advance for the compatibility before using with the products from Pylontech mentioned above, otherwise the products from Pylontech will be exclusive of warranty.

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(4) Change the setting of inverter via Watchpower software:

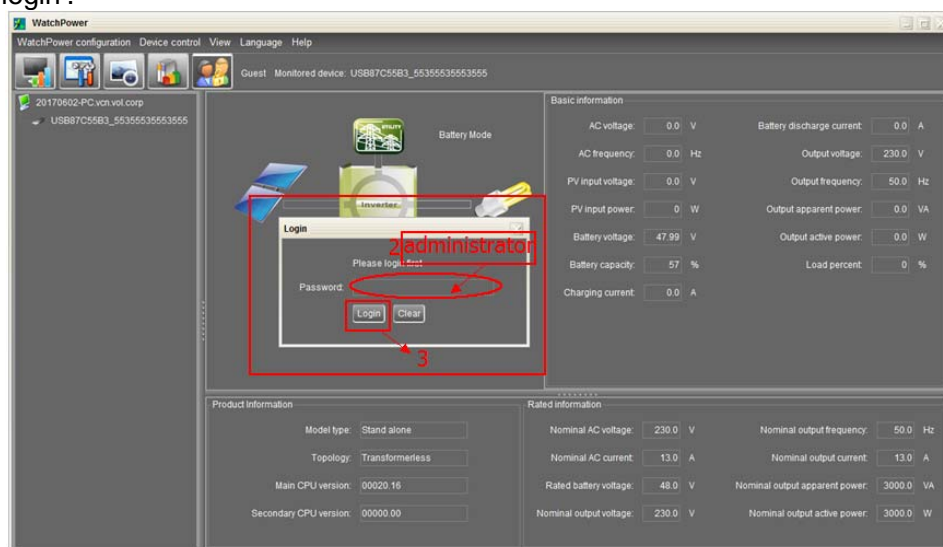(a) Connect computer and inverter with a USB communication cable.

(b) Run Watchpower software, click the icon marked with red circle in picture 1, to open the login dialog.
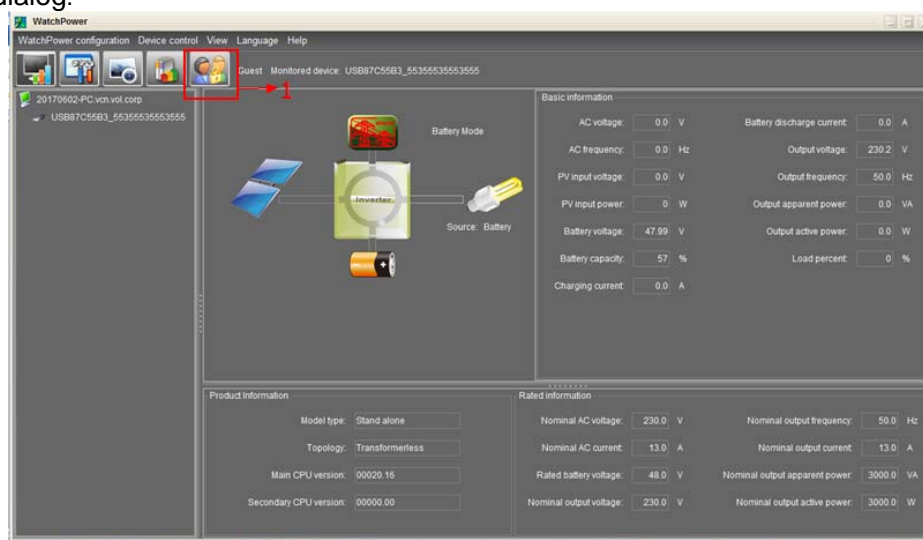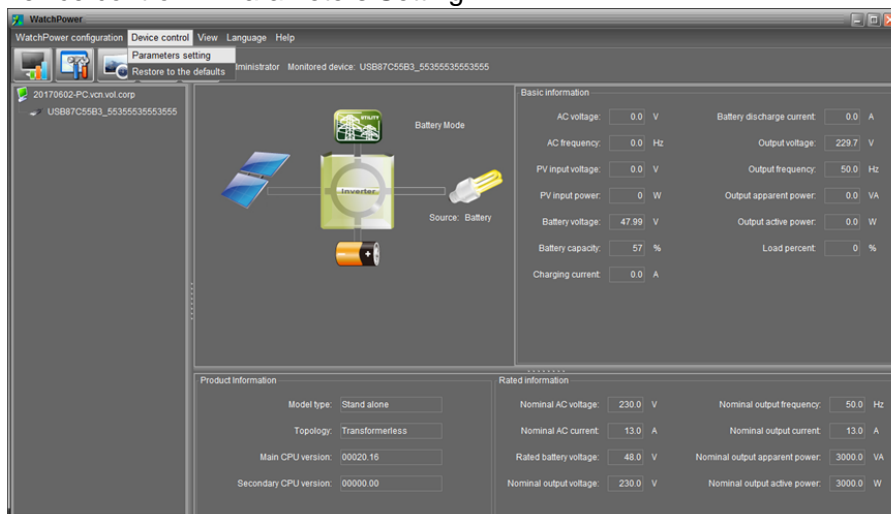

Picture 1

(c) Input the password in the dialog as picture 2, the default password is 'administrator' , then click 'login'.


Picture 2

(d) Select 'Device control'-> 'Parameters Setting'.

Picture 3

(e) Change the 'maximum charging current', 'battery type', 'back to grid voltage', 'back to discharge voltage', 'CV voltage', 'floating charging voltage' in the setting page, all these setting must be set to the value listed in below table. Select the right value, then click 'Apply' for the changes to take effect.

Item	Setting Value
Maximum charging current	Set to N*25A, N=battery amount
Battery type	Set to USE
Back to grid voltage	Set to 48V
Back to discharge voltage	Set to 51V
Bulk charging voltage	Set to 53.2V
Float charging voltage	Set to 47.5V

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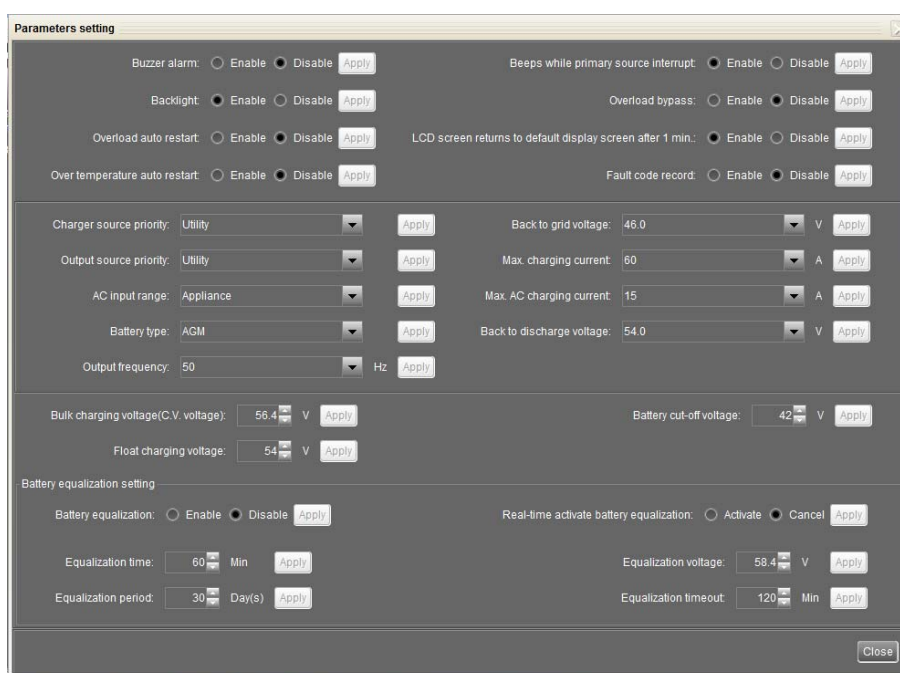
PIP-GK INVERTER SETUP SOP - PYLONTECH BATTERY

PIP5048GK

(1) Inverter Spec.:

INVERTER MODEL		5KW
Line Mode Specification		
Input Voltage Waveform		Sinusoidal (utility or generator)
Nominal Input Voltage		230Vac
Max AC Input Voltage		300Vac
Inverter Mode Specification		
Output Voltage Waveform		Pure Sine Wave
Output Voltage Regulation		230Vac±5%
Peak Efficiency		93%
Overload Protection		5s@≥130% load; 10s@105%~130% load
Surge Capacity		2* rated power for 5 seconds
Nominal DC Input Voltage		48Vdc
Cold Start Voltage		46.0Vdc
Low DC Warning Voltage		
@ load < 50%		46.0Vdc
@ load ≥ 50%		44.0Vdc
Low DC Warning Return Voltage		
@ load < 50%		47.0Vdc
@ load ≥ 50%		46.0Vdc
Low DC Cut-off Voltage		
@ load < 50%		43.0Vdc
@ load ≥ 50%		42.0Vdc
High DC Recovery Voltage		62Vdc
High DC Cut-off Voltage		63Vdc
Charge Mode Specification		
INVERTER MODEL		
Charging Algorithm		3-Step
AC Charging Current (Max)		60Amp (@VI/P=230Vac)
Bulk Charging Voltage	Flooded Battery	58.4
	AGM / Gel Battery	56.4
Floating Charging Voltage		54Vdc
MPPT Solar Charging Mode		
Max. PV Array Power		4000W
Nominal PV Voltage		240Vdc
Start-up Voltage		150Vdc +/- 10Vdc
PV Array MPPT Voltage Range		120~450Vdc
Max. PV Array Open Circuit Voltage		500Vdc
Max Charging Current (AC charger plus solar charger)		80Amp
General		
Operating Temperature Range		-10°C to 50°C
Storage temperature		-15°C~ 60°C
Humidity		5% to 95% Relative Humidity (Non-condensing)
Dimension (D*W*H), mm		115 x 300 x 440
Net Weight, kg		10
Communication Interface		RS232+RS485+USB+BLE+CAN

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(2) General Compatible Condition:

| Battery Type	US2000B/US2000BPlus/Phantom-S/US3000
Inverter Type	PIP 5048GK
Recommend	According to load requirement and inverter rated power.
battery Amount	Battery Amount N = Load power/1200W
Communication	Not required, but need finish the setting on Inverter.
DOD	80%
Working Temp.	0 - 50℃(Indoor operation)
Charge/Discharge Current	N*25, N = Battery amount
Warranty	Refer to each country`s warranty terms, please contact your distributor

(3) Inverter set up:
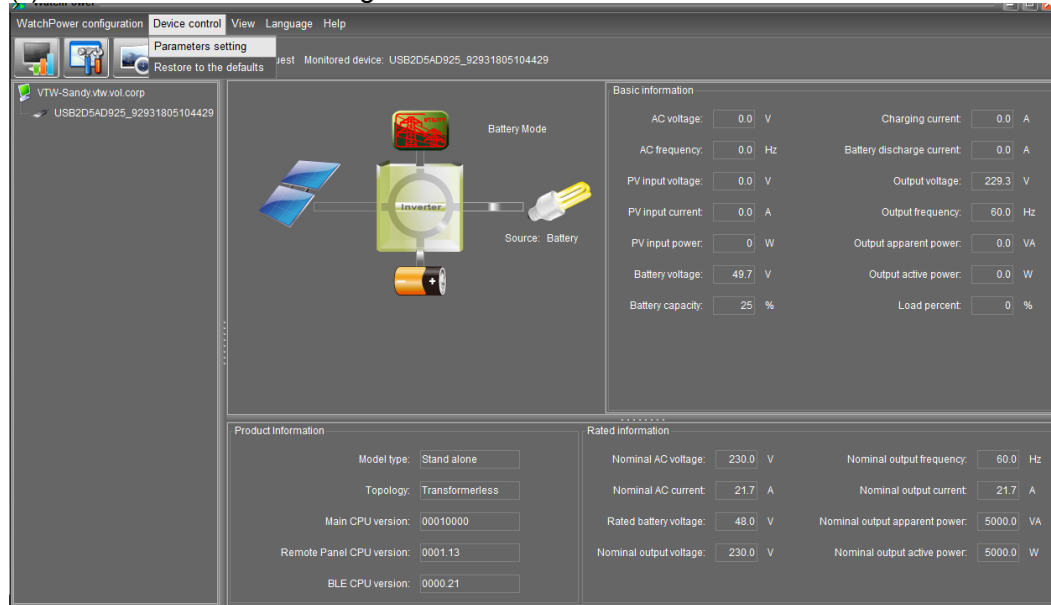
Method1: Through WatchPower

(a) Connect PV or Grid power to wake up inverter; connect the communication cable (USB to RS232/micro-USB cable) from Inverter to computer.
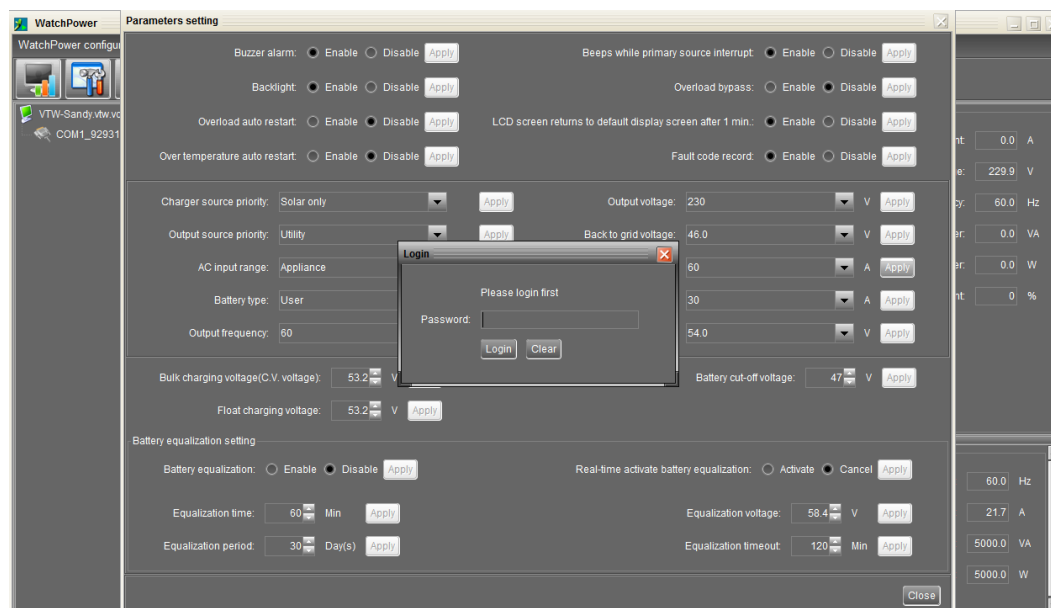

(b) Open 'WatchPower.exe' (the inverter set up software).
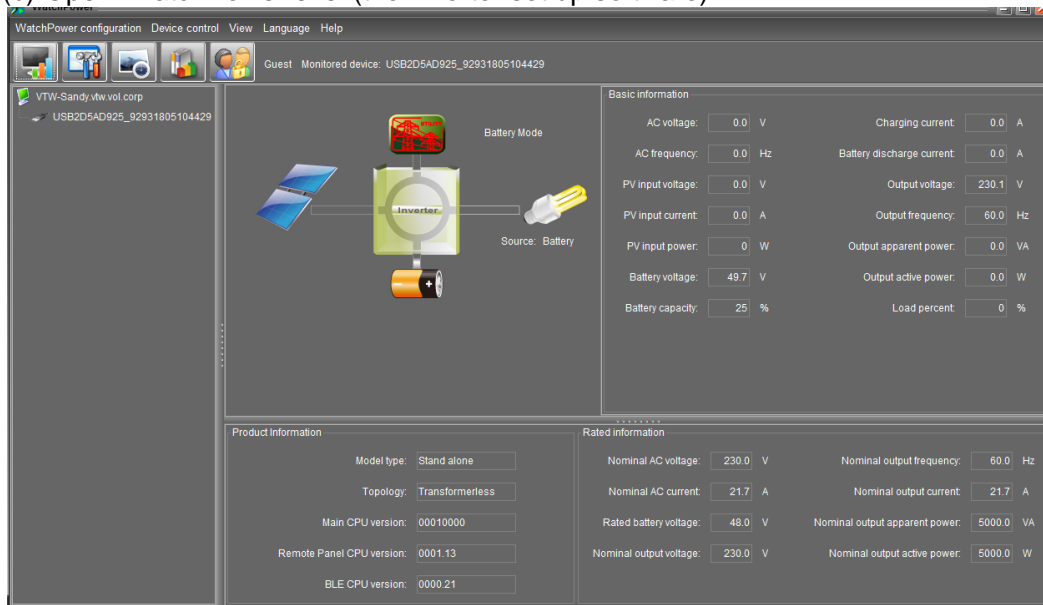
(c) Press 'Parameters Setting'.

(d) Set the parameter according to below recommendation, the max. charge current refer to the specific battery amount of real application. Then click 'Apply', enter password to login. According to the inverter limitation, for 5kW max is 80A.

Method2: Through remote panel

(a) Connect Inverter with battery, wake up inverter.

(b) Press 'Enter' for 5s, to enter into the setting.

(c) Press 'Up' and 'Down' to choose the setting item No., press 'Enter' to enter into the detailed setting parameter, when finish press 'Enter' again. The following setting items need to be set follow the recommended value:

Recommended value:

Item No.	Setting Value
Program 02	Set to N*25A, N=battery amount, If N = 1, 3…., minus single digit
Program 05	Set to USE
Program 12	Set to 48V
Program 13	Set to 51V
Program 26	Set to 53.2V
Program 27	Set to 53.2V
Program 29	Set to 47.5V

*for additional question please feel free to contact us at sales@mppsolar.com