

WKS - Multisolar Inverter Setup SOP - Pylon Battery

1. Multisolar (InfiniSolar) - On-grid Solution

(1) Inverter Spec .:

InfiniSolar On-grid Inverter with Energy Storage Selection Guide

MODEL	InfiniSolar 2KW	InfiniSolar Plus 3KW	InfiniSolar Plus 5KW	InfiniSolar 3P 10KW	
PHASE		1-phase in / 1-phase out	10000	3-phase In / 3-phase out	
MAXIMUM PV INPUT POWER RATED OUTPUT POWER	2250 W 2000 W	4500 W 3000 W	10000 W 5000 W	14850 W 10000 W	
MAXIMUM CHARGING POWER		3000 W	4800 W	10000 W 9600 W	
GRID-TIE OPERATION	120		4000 14	5000 W	
PV INPUT (DC)					
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350 VDC	360 VDC / 500 VDC	720 VDC / 900 VDC	720 VDC / 900 VDC	
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	225 VDC / 250 VDC	320 VDC / 350 VDC	
MPP Voltage Range	120 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC	
Number of MPP Trackers / Maximum Input Current	1 / 1 x 15 A	1/1 x 18 A	2/2 x 10 A	2/2×18.6A	
GRID OUTPUT (AC)					
Nominal Output Voltage	101/110/120/127 VAC	208/220/2	30/240 VAC	230 VAC (P-N) / 400 VAC (P-P)	
Output Voltage Range	88 - 127 VAC*	184 - 2	55 VAC*	184 - 265 VAC* per phase	
Nominal Output Current	18 A	13 A	21 A	14.5A per phase	
Power Factor		> (0.99	305	
EFFICIENCY					
Maximum Conversion Efficiency (DC/AC)	95%		96%		
European Efficiency@ Vnominal	94%		95%		
OFF-GRID OPERATION					
AC INPUT				120 - 140 VAC per phase /	
AC Start-up Voltage/Auto Restart Voltage	60 - 70 VAC / 85 VAC		AC / 180 VAC	180 VAC per phase	
Acceptable Input Voltage Range	80 - 130 VAC		80 VAC	170 - 280 VAC per phase	
Maximum AC Input Current	30	D A	4	0 A	
PV INPUT (DC)	10 Sec. 200				
Maximum DC Voltage	350 VDC	500 VDC	900 VDC	900 VDC	
MPP Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC	
Number of MPP Trackers / Maximum input Current	1/1x15A	1 / 1 x 18 A	2 / 2 x 10A	2 / 2 x 18.6A	
BATTERY MODE OUTPUT (AC) Nominal Output Voltage					
Output Waveform	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P)	
Efficiency (DC to AC)	90%		3%	91%	
Endency (Do 10740)	2014			5176	
HYBRID OPERATION		W		×.	
PV INPUT (DC)					
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350 VDC	360 VDC / 500 VDC	720 VDC / 900 VDC	720 VDC / 900 VDC	
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	225 VDC / 250 VDC	320 VDC / 350 VDC	
MPP Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC	
Number of MPP Trackers / Maximum Input Current	1/1x15A	1/1x18A	2/2×10A	2/2×18.6A	
GRID OUTPUT (AC)					
Nominal Output Voltage	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-I	
Output Voltage Range	88-127 VAC*		34.5 VAC*	184 - 264.5 VAC* per phase	
Nominal Output Current	18 A	13 A	21 A	14.5 A per phase	
	IOA	13 A	218	14.5 A per phase	
AC INPUT					
AC Start-up Voltage / Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 V	AC / 180 VAC	120 - 140 VAC per phase / 180 VAC per phase	
Acceptable Input Voltage Range	80 - 130 VAC	170 -	280 VAC	170 - 280 VAC per phase	
		0A	1	40 A	
Maximum AC Input Current	3	U A		40 A	
BATTERY MODE OUTPUT (AC)			Ť.	22 · · · · · · · · · · · · · · · · · ·	
Nominal Output Voltage	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P	
Efficiency (DC to AC)	90%	9	3%	91%	
BATTERY & CHARGER					
Nominal DC Voltage		48	VDC		
Maximum Charging Current	Default 25A, 5A	- 25A (Adjustable)	Default 60A, 5A - 100A (Adjustable)	Default 60A, 10A - 200A (Adjustable)	
GENERAL					
PHYSICAL					
	477 4	20 - 400	204.2 492 902	187 5 500 800	
Dimension, D X W X H (mm)	107 x 438 x 480		204.2 × 460 × 600	167.5 x 500 x 622	
Net Weight (kgs)	15.5 29			45	
INTERFACE					
Communication Port	RS-232/USB RS-232/USB and CAN Interface				
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available				
ENVIRONMENT					
Humidity		0 ~ 90% RH ()	Von-Condensing)		
Operating Temperature	0 to	40°C		to 55°C	
Altitude					
- HINGING CONTRACTOR OF CONTRA	0 ~ 1000 m**				



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Battery Type US2000B/Phantom-S Inverter Type Infinisolar 2kW Infinisolar Plus Infinisolar Plus Infinisolar 3kW 5kW 3P 10kW Recommend According to load requirement and inverter rated power. battery Amount Battery Amount N = Load power/1200W Not required, but need finish the setting on Inverter software Communication DOD 80% Working Temp. 0 - 50°℃ (Indoor operation) Charge/Dischar N*25, N = Battery amount ge Current Warranty 5yrs

(2) General Compatible Condition:

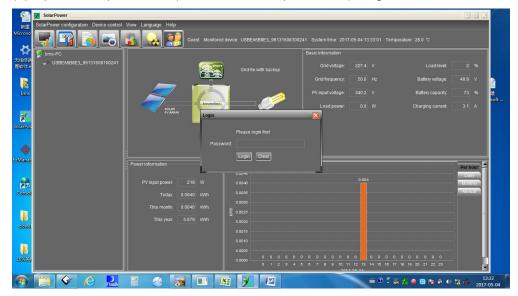
(3) Inverter set up:

(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'.

	SolarPower									X	×
	SolarPower configuration Device control	View Language Help									0
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						Grid frequency:		Battery voltage:			-
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1			Inverter					Charging current:			
/				LO							
				0.0070							
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(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.

Parameters setting				
Min. grid-connected voltage	: 189 🐺 V	Apply	The walling time before grid-connection: 30 Sec.	Apply
Max. grid-connected voltage	: 263.5 🐺 V	Apply	Max. grid-connected average voltage: 253 V	Apply
Min. grid-connected frequency	: 47.6 Hz	Apply	Max, feed-in grid power: 3,000 📰 W	Apply
Max grid-connected frequency	: 50,1 Hz	Apply		
Min. PV input voltage:	90 🗧 V	Apply	Bulk charging voltage(C.V. voltage): 53.2 V	Apply
Max. PV input voltage:	500 🗧 V	Apply	Floating charging voltage: 53.2 📮 V	Apply
Min. MPP voltage:	120 V	Apply	Battery cut-off discharging voltage when Grid is available: 48 📮 V	Apply
Max. MPP voltage:	450 V	Apply	Battery re-discharging voltage when Grid is available: 50 🍧 V	Apply
Max. charging current:	25 A	Apply	Battery cut-off discharging voltage when Grid is unavailable: 48 📮 V	Apply
Start LCD screen-saver after:	300 💌 Sec.	Apply	Battery re-discharging voltage when Grid is unavailable: 50 V	Apply
Mute Buzzer	alarm: 🔘 Enable	Disable	Apply Mute alarm in battery mode: O Enable O Disable	Apply
Mute the buzzer in the Standby	mode: 💿 Enable	🖲 Disable	Apply Generator as AC source: O Enable O Disable	Apply
When float charging current is less	than X (A) and conti	nued T (Min),th	en charger off, when battery voitage is less than Y (V),then charger on again.	
X: 0 📮 A	T: 60	Min.	Y: 51.5 V Apply	
🥌 Any schedule ch	ange will affect the j	power generat	ed and shall be conservatively made.	
System time: 2017-05-04	#			
13:34:46	Apply			



2. WKS (Axpert) - Off-grid Solution

(1) Inverter Spec.:

MODEL	Axpert MKS 1K-24	Axpert MKS 1K-48	Axpert MKS 2K-24	Axpert MKS 3K-24	Axpert MKS 3K-48	Axpert MKS 4K	Axpert MKS 5K	
Rated Power	1000VA/800W	1000VA/1000W	2000VA/1600W	3000VA/2400W	3000VA/2400W	4000VA/3200W	5000VA/4000W	
INPUT		0						
Voltage				230 VAC				
Selectable Voltage Range		170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)						
Frequency Range		50 Hz/60 Hz (Auto sensing)						
OUTPUT								
AC Voltage Regulation (Batt. Mode)				230VAC ± 5%				
Surge Power	200	AVO	4000VA	600	OVA	8000VA	10000VA	
Efficiency (Peak)	90%	- 93%			93%			
Transfer Time		10 m	s (For Personal C	omputers); 20 ms	(For Home Applia	nces)		
Waveform				Pure sine wave				
BATTERY								
Battery Voltage	24 VDC	48 VDC	24 VDC	24 VDC	48 VDC	48	VDC	
Floating Charge Voltage	27 VDC	54 VDC	27 VDC	27 VDC	54 VDC	54	VDC	
Overcharge Protection	31 VDC	62 VDC	31 VDC	31 VDC	62 VDC	60	VDC	
SOLAR CHARGER & AC CH	ARGER							
Maximum PV Array Power	600W	900W	600W	600W	900W	400	oow	
MPPT Range @ Operating Voltage	30VDC ~ 66VDC	60VDC ~ 88VDC	30VDC ~ 66VDC	30VDC ~ 66VDC	60VDC ~ 88VDC	60VDC	~115VDC	
Maximum PV Array Open Circuit Voltage	75VDC	102VDC	75VDC	75VDC	102VDC	145	VDC	
Maximum Solar Charge Current	25A	18A	25A	25A	18A	8	DA	
Maximum AC Charge Current	20A	15A	30A	30A	15A	6	DA	
Maximum Charge Current	45A	33A	55A	55A	33A	14	O A	
Maximum Efficiency				98%				
Standby Power Consumption				2 W				
PHYSICAL								
Dimension, D x W x H (mm)			100 x 272 x 355			120 x 2	95 x 468	
Net Weight (kgs)	6.8 7.0 7.4 11						11	
OPERATING ENVIRONMEN	т							
Humidity			5% to 95% Re	lative Humidity (No	on-condensing)			
Operating Temperature	0°C - 55°C							
Storage Temperature	-15°C - 60°C							

(2) General Compatible Condition:

Battery Type		US2000B/Phantom-S			
Inverter Type	Axpert	Axpert Axpert Axpert Axpert			
	MKS 1K-48	MKS 3K-48	MKS 4K	MKS 5K	
Max.	33A	33A	140A	140A	
charge current					
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°C (Indoor operation)				
Charge/Dischar	N*25, N = Battery amount				
ge Current					
Warranty	5yrs				



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- (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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(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:

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: Axpert Inverter 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.

Any further questions to this SOP please contact us via service@pylontech.com.cn