### Introduction

<u>I-Panda</u> Pure sine wave inverter with built-in MPPT controller <u>I-P-HPC-Series</u> is a module design. It has the advantages of high conversion efficiency, low power consumption and strong load-carrying ability. With intelligent control, users can set charging mode, (Utility as complementary power) AC first mode or DC first mode, timing inversion mode and timing utility mode, on/off mode. <u>It is one of advanced hybrid inverter & controller in the world.</u>

# I-P-HPC-Series System



I-P-HPC-Series Inverter+Solar Controller





# **Application**

- 1.Off-grid solar power system
- 2. Solar and utility complementary power system



#### **Feature**

- 1.Easy to install.To configure a solar system, users just need to connect it with solar panels and batteries
- 2.CPU management, intelligent control, modular design, LCD display
- 3.Built-in MPPT controller, high charging efficiency
- 4.Low power consumption, high conversion efficiency
- 5.Intellectual multi-function, it's convenient for users to make full use of solar energy in different situation
- 6. External battery connection, it's convenient for users to expand back-up power time
- 7.Strong load-carrying ability, low failure rate, easy to maintenance and long service life (under proper operation, it can last at least 5 years)
- 8.Perfect protection:low voltage protection, high voltage protection, over temperature protection, short-circuit protection, overload protection
- 9.CE / EMC / LVD/ RoHS Approvals
- 10.Two years warranty, life-long technical support

## **Data sheet**

Rated Output Power				In a a a sur	In FOOM	h.a.a.u	bassu	Tanana.	Isonou		
Peak Power	Parameter Model			1000W	1500W	2000W		4000W	5000W		
Battery   Lead-acid battery   Lead-acid battery   Lead-acid battery   Lead-acid battery   Lead-acid battery   Lead-acid battery   PV charge   Lead   PV charge   Lead   PV charge   Lead											
Clead-acid battery				2000W	3000W	4000W	6000W	8000W	10000W		
Clead-acid Dattery    Charge Mode[setting]				24V/48V(ontional)			48V				
Charge Mode[setting]					,(,	101					
Charge Mode Setting     PV. Charge + utility charge   24V   24V/48V     48V     40A   4	Charging Parameter										
Voltage	Charge Mode Settin	αΠ									
Current   20A   25A   30A   40A   40A   40A   40A   40A	enarge rioae[joettiir										
Max PV Input Voltage											
AC Charge Current					25A	30A	40A	40A	40A		
Controller  Max PV Input Power  568W  48V: 710W  48V: 1704W  48V: 1704W  48V: 1704W  48V: 272W  2272W  227											
Max PV Input Power   568W   241: 710W   241: 852W   W   2272W   2272W   2272W		PV Charge Efficiency									
AC Charge Current	Controller	·		568W	24V: 710W	24V: 85	DZW W		2272W		
Charge Mode   3-Stage Charging					48V1420W	48V: 17	704W 48V: 2272W	22/200	227200		
Charge Mode   3-Stage Charging	LINE CO.										
AC Output Voltage 220V±3% or 230V±3 or 240V±3% or 100V±3% or 110V±3% (optional) Frequency 50H±2±0.5 or (ofb±2±0.5 to (ofb±2±0.5	,			3-Stage Charging							
AC Output    Voltage   or 110V±3% (optional)	Inversion parameter	•									
Output wave type         Pure sine wave output, Total Harmonic Distortion THD≤3           Overload ability         >120% 1 min, >130% 10s           Power Consumption (under normal working mode)         0.4A         24V: 0.5A         24V: 0.7A         24V: 0.7A         0.6A           Power Consumption (under sleep mode)         1-6W           Inverter Conversion Efficiency         35%-92%         48V: 0.4A         48V: 0.4SA         48V: 0.5A         0.6A         0.65A           Utility Mode         20V±35% or 110V+35%[optional]         500	AC Output	Voltage									
Overload ability         >120% 1 min, >130% 10s           Power Consumption (under normal working mode)         0.4A         24V: 0.5A         24V: 0.7A         24V: 0.7A         0.6A         0.65A           Power Consumption (under sleep mode) (under sleep mode) (under sleep mode)         1-6W         1.6W         1.		Frequency	50Hz±0.5 or 60Hz±0.5 (optional)								
Power Consumption	Output wave type	•		wave output, Total Harmonic Distortion THD≤3							
Under normal working mode    U-4A	Overload ability		>120% 1 mir								
Under normal working mode    #8V: 0.4A   #8V: 0.45A   #8V: 0.5A	Power Consumption		0.4A		24V: 0.5A	24V: 0.7A	24V: 0.7A	0.64	0.654		
(under sleep mode)         1-6W           Inverter Conversion Efficiency         85%-92%           Utility Mode         Voltage           AC Input         Frequency         The same as utility's frequency           AC Output         Voltage         220V±5% or 110V+5%[optional[]           Frequency         The same as utility's frequency           Frequency         The same as utility's frequency           Overload Ability         >120% 1 min,>130% 10s           (AC first or DC first) priority         AC first, DC standby	(under normal working mode)				48V: 0.4A	48V: 0.45A	48V: 0.5A	U.UA	0.03A		
Utility Mode	Power Consumption (under sleep mode) 1-6W										
AC Input Voltage 220V±35% or 110V+35%[optional[] Frequency The same as utility's frequency AC Output Voltage 220V±5% or 110V+5%[optional[]] Frequency The same as utility's frequency Overload Ability Frequency The same as utility's frequency Overload Ability >120% 1 min,>130% 10s  (AC first or DC first) priority  AC first, DC standby  AC first, DC standby			92%								
AC Input Frequency The same as utility's frequency Voltage 220V±5% or 110V+5%[optional[]]  AC Output Voltage 220V±5% or 110V+5%[optional[]] Frequency The same as utility's frequency  Overload Ability >120% 1 min,>130% 10s  (AC first or DC first) priority  AC first, DC standby  AC first, DC standby	Utility Mode		•								
Frequency	AC Input	Voltage	220V±35% o	r 110V+35%[]optional[]							
AC Output Frequency The same as utility's frequency  Overload Ability >120% 1 min,>130% 10s  (AC first or DC first) priority  AC first, DC standby  AC first, DC standby		Frequency									
Prequency Ine same as utility is frequency  Overload Ability   >120% 1 min, >130% 10s  (AC first or DC first) priority  USS Output/Equation   AC first, DC standby	AC Output	Voltage	220V±5% or 110V+5%[optional[								
(AC first or DC first) priority  LDS Output/Equiting   AC first, DC standby		Frequency	The same as utility's frequency								
IDS OutputFloating   AC first, DC standby	Overload Ability			nin,>130% 10s							
	(AC first or DC first)	priority									
DC first, AC standby	LIPS Output[[setting[]										
	ora output[[setting[	or 5 output[3etting[]		tandby							

Switch Time		<5ms []AC to D	<5ms [AC to DC / DC to AC]								
Power On		Set by users	Set by users								
[setting[]		Timed on / off A	Timed on / off AC output automatically								
General Paramet	ter										
Display	Display Mode	LCD+LED	LCD+LED								
	Display Information	Input voltage, o	Input voltage, output voltage, output frequency, battery capacity, load condition, status Information								
Protection		Overload, short	Overload, short-circuit, high-voltage input, low-voltage input, overheat								
Environment	Temperature	-10°C[]50°C	-10°C[50°C								
	humidity	10%[]90%	10% <u>□</u> 90%								
	Altitude	≤4000m									
Size W×D×H(mm)		438*208*413			450*246*468	450*246*468					
Packing Size W×D×H(mm)		520*310*460			540*300*518	540*300*518					
Net Weight (kg)		15	17	19	25	34	35				
Gross Weight (kg)		16	18	20	27	40	41				

#### **Function**

- 1. Charging function
- 1.1 PV only mode: when PV and utility are both connected to the inverter, only the PV will charge the battery while utility will not charge the battery.
- 1.2 PV+AC hybrid mode: when PV and utility are both connected to the inverter, both PV and utility will charge the battery.
- 2. Utility as complementary power UPS function
- 2.1AC first, DC standby UPS mode

When utility and battery are connected to the inverter, utility will supply power to the loads preferentially. When utility is cut off, the battery will automatically continue to supply power to the loads.

### Steps are as follows:

- Step 1: When utility power is available, it will drive the loads directly after voltage being stabilized and charge batteries at the same time.
- Step 2: When utility power is cut off suddenly, the inverter will convert DC to AC automatically to ensure uninterrupted power supply within 5ms.
- Step 3: When utility power is available again, it will automatically transfer to utility supplying power to loads and charge batteries at the same time.
- 2.2DC first, AC standby UPS mode:

When utility and battery are connected to the inverter, battery will supply power to the loads prior to utility. When battery capacity is not enough, utility will continue to supply power automatically.

#### Steps are as follows:

- Step 1: When battery has enough power, it will drive the loads directly via power inverter
- Step 2: When battery does not have enough power, it will automatically transfer to utility supplying power to the loads
- Step 3: After the battery is fully charged (e.g. by solar or wind charge controller), it will automatically transfer to battery supplying power to the loads.
- 3.Timing function
- 3.1 On/Off mode: Users can set specific time to turn on/off the output of the inverter.
- 3.2 Working mode: Battery or utility switchable mode. Users can set specific time when to use battery or utility supplying power (suitable for areas where electric fee is charged differently in different period)
- 4.Recording/checking function
- 4.1 Inverter fault checking: Users can check the inverter fault information
- 4.2 Discharge time checking: Users can check the discharge time of the battery

# LDC display



