



Powercent



# POWERCENT ALL-IN-ONE

## RESIDENTIAL ENERGY STORAGE SYSTEM

Powercent works to provide simplified sustainability. With our clean energy solutions, innovative and advanced sustainable energy has never looked easier.

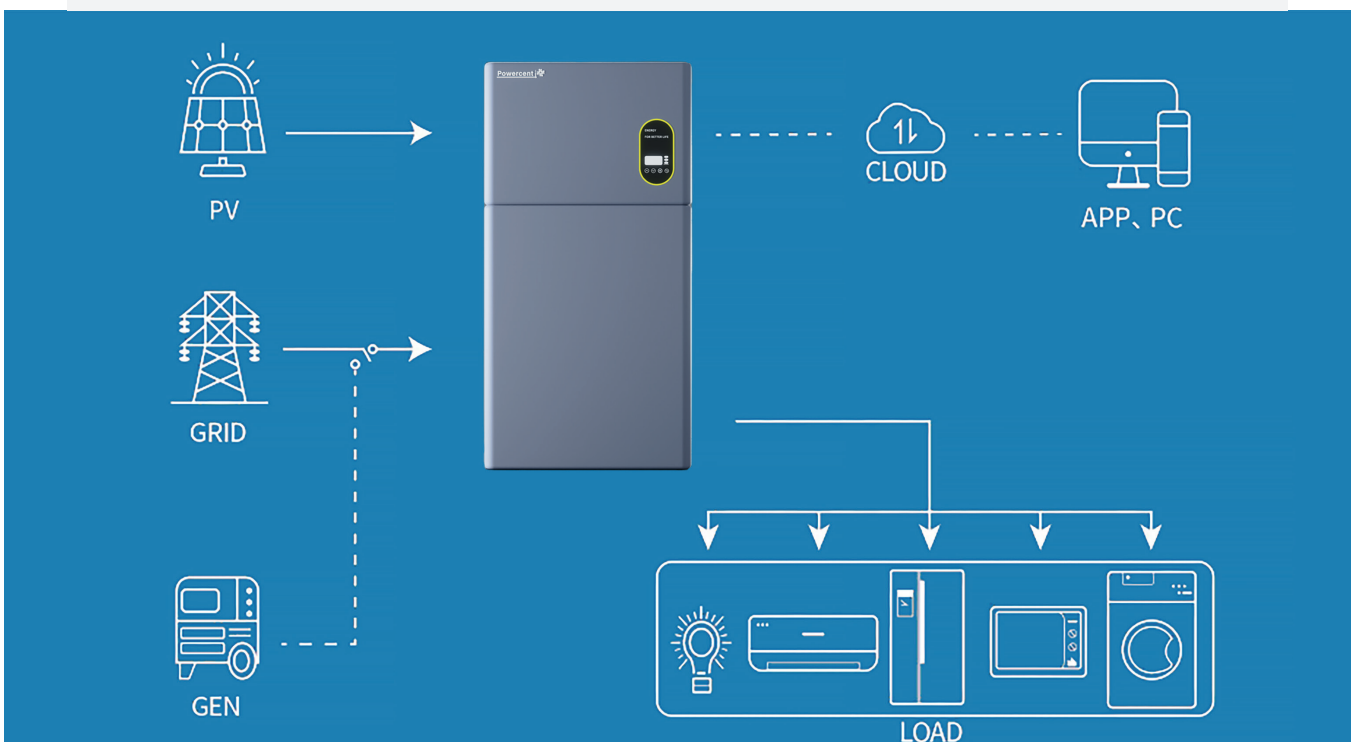


- Supports parallel operation with up to six inverters sharing one group of batteries.
- Medium voltage batteries have significant cost advantage compare with High voltage batteries.
- 3.6kw hybrid inverter for UK market only.
- 5kw hybrid inverter for new installation, 5kw battery-inverter for retrofit market.

# TABLE OF CONTENTS

## 01 | PRODUCT SUMMARY

## 02 | APP COMMISSIONING GUIDE



# ALL IN ONE



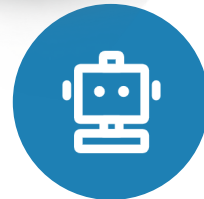
## HIGH PERFORMANCE

- 200% PV over management;
- 200% backup overload capacity, 60A battery current;
- Max. efficiency 97.3%, Battery efficiency 97%;
- Load monitoring accuracy 10W,



## HIGH RELIABILITY

- UPS level redundant protection against backup load breakdown;
- Three-level firmware and two-level hardware battery protection;
- Multiple temperature monitoring, delicate thermal management;



## HIGH INTELLIGENCE

- Internal EMS optimizes home energy supply automatically;
- PV production forecast;
- Built-in electric power service, FCAS, VPP, etc.;
- Online monitoring, online diagnosis,

# Parameters

INVERTER MODEL	PC-INV-SPH3.6K	PC-INV-SPB5K	PC-INV-SPH5K
<b>PV INPUT</b>			
Max. PV Input Power	7.36kW		10kW
Max. PV Input Voltage	580V		580V
MPPT Range	100-550V		100~550V
Max. Input Current	15A/15A		15A/15A
Max. Short Circuit Current	18.75A/18.75A		18.75A/18.75A
MPPT Trackers	2		2
Strings Per MPPT Tracker	1/1		1/1
<b>AC PORT</b>			
Rated Grid Output Power	3.68kVA	5kVA/4.6kVA(DE)	5kVA/4.6kVA(DE)
Max. Grid Input Power	7.36kVA	10kVA	10kVA
Rated Grid / Backup Voltage		230Vac	
Rated Grid / Backup Frequency		50/60HZ	
Max. Backup Power	7.36kVA/7.36kW	10kVA/10kW	10kVA/10kW
THDi		<3%	
THDv		<3% (Linear Load) / <5%(Non-linear Load)	
DCV		<100mV	
Crest Ratio		3:1	
Transfer Time		<10ms	
<b>EFFICIENCY</b>			
Max. Efficiency	97.30%		97.30%
Round Trip Efficiency	90%	90%	90%
<b>GENERAL DATA</b>			
Operating Temperature Range	-20~60°C		
Topology	Transformerless		
Dimensions (W*H*D)	590x405 x205mm		
Weight	19.5kg	18kg	19.5kg
Load Monitoring	Meter / CT / Backup box		
External Communication	RS-485 / WIFI / 4G / Ethernet		
Grid Regulation	CEI 0-21, VDE 4105-AR-N, VDE 0126-1-1, EN 50438, G99, 6100, AS4777.2 NRS 097, EN 50549, C10/C11, UNE, UTE, NCRfG/PTPIREE		
Safety Regulation	IEC 62109-1&2.IEC 62477		
<b>BATTERY MODEL</b>			
<b>PC-BAT-10.1P</b>			
Battery Type	LFP		
Battery Capacity	10.1 kWh		
Usable Capacity	9.6kWh		
Depth of Discharge (DoD)	95%		
Nominal Battery Voltage	96V		
Operating Voltage Range	90-108V		
Max. Charging Current	52.5A		
Max. Discharging Current	52.5A		
Operating Temperature Range	-10~50°C		
Cycle Lifetime	8000		
Parallel	1~6		
Dimensions (W*H*D)	590x750 x205mm		
Weight	90 kg		
Communication	CAN / RS-485 (Optional)		
Safety Regulation	IEC 62619, IEC 62040		
Transportation	UN38.3		
<b>SYSTEM</b>			
Operating Altitude	<4000m		
Relative Humidity	0~95% (No Condensing)		
Protection Degree	IP65		
Cooling	Nature Convection		
Noise	<30dB		
Warranty	5 years / 10 years (optional)		
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		

Note: Specifications are subjected to change without advance notice.

# HYBRID INVERTER



## DUAL PV INPUT

- Max. 10kw PV input, 5kw for Loads and 5kw for Battery charging. The inverter can ensure that the system operates within its capacity and does not exceed the maximum power output.



## PARALLEL FUNCTION

- It also supports parallel operation with up to six inverters sharing one group of batteries. Hot-sync parallel technology is employed to minimize internal circulating current.



## BATTERY SHARING

- The system allows multiple inverters to share batteries and loads, but significant differences in battery state-of-charge (SOC) can result in reduced total output power and overload if one battery

# Parameters

MODEL	PC-INV-SPH3.6K	PC-INV-SPB5K	PC-INV-SPH5K
<b>BATTERY INPUT</b>			
Battery Type	Li-on/Lead-acid		
Nominal Battery Voltage	96V		
Battery Voltage Range	75~400V		
Max. Charging Current	45A	60A	60A
Max. Discharging Current	45A	60A	60A
<b>PV INPUT</b>			
Max. PV Input Power	7.36kW	10kW	
Max. PV Input Voltage	580V	580V	
MPPT Range	100~550V	100~550V	
Full Load MPPT Range	125~550V	180~550V	
Startup Voltage	100 V	100V	
Max. Input Current	15A/15A	15A/15A	
Max. Short Circuit Current	18.75A/18.75A	18.75A/18.75A	
MPP Trackers	2	2	
Strings Per MPP Trackers	1/1	1/1	
<b>GRID PORT</b>			
Rated Output Power	3.68kVA	5kVA/4.6kVA(DE)	5kVA/4.6kVA(DE)
Max. Input Power	7.36kVA	10kVA	10kVA
Rated Grid Voltage	230Vac		
Grid Voltage Range	180~270Vac		
Rated Grid Frequency	50/60 Hz		
Power Factor	-0.8~+0.8		
THDi	<3%		
<b>BACKUP PORT</b>			
Max. Backup Power	7.36kVA/7.36kW	10kVA/10kW	10kVA/10kW
Rated Backup Voltage	230Vac		
Rated Backup Frequency	50/60HZ		
THDv	<3%	(Linear Load) / <5% (Non-linear Load)	
DCV	<100mV		
Crest Ratio	3:1		
Transfer Time	<10ms		
<b>EFFICIENCY</b>			
Max. Efficiency	97.30%	97.30%	
Europe Efficiency	96.20%	96.20%	
MPPT Efficiency	99.90%	99.90%	
Round Trip Efficiency	90%	90%	90%
<b>SYSTEM</b>			
Operating Temperature Range	-20 ~ 60°C		
Relative Humidity	0~95% (No Condensing)		
Operating Altitude	<4000m		
Cooling	Nature Convection		
Noise	<30dB		
Topology	Transformerless		
Dimensions wHD	590x405x205 mm		
Protection Degree	IP65		
Weight	19.5kg	18kg	19.5kg
Warranty	5 years /10 years (optional)		
<b>HMI&amp;COMM</b>			
Communication with BMS	CAN / RS-485		
Load Monitoring	Meter / CT / Backup box		
External Communication	RS-485 / WIFI / 4G / Ethernet		
User Interfac	LED / LCD		
<b>CERTIFICATE</b>			
Grid Regulation	CEI 0-21, VDE 4105-AR-N, VDE 0126-1-1, EN 50438, G99, G100,AS4777.2 NRS 097, EN 50549, 010/011, UNE, UTE, NCRfG/PTPIREE		
Safety Regulation	IEC 62109-1&2, IEC 62477		
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		

Note: Specifications are subject to change without advance notice.

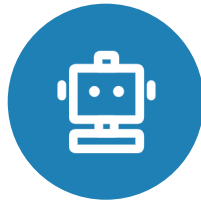


# BATTERY



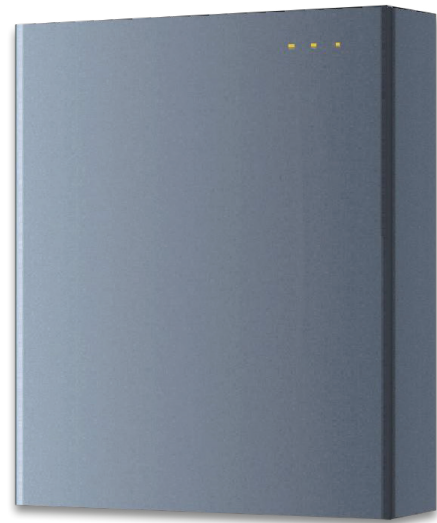
## HIGH SAFETY

- Vehicle-level redundant protection;
- Multiple hardware and firmware protection



## HIGH INTELLIGENCE

- Online cycle lifetime forecast;
- Online monitoring, online diagnosis, online service



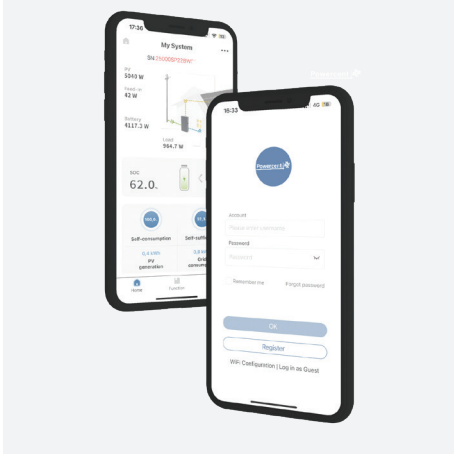
MODEL	PC-BAT-10.1
<b>ELECTRICAL</b>	
Battery Capacity	10.1kWh
Usable Capacity	9.6kWh
Depth of Discharge (DoD)	95%
Nominal Voltage	96V
Operating Voltage Range	90 ~ 108V
Internal Resistance	<30mQ
Cycle Lifetime	8000
<b>OPERATION</b>	
Max. Charging Current	52.5 A
Max. Discharging Current	52.5 A
Operating Temperature Range	-10~50°C
Relative Humidity	0~95% (No Condensing)
<b>PHYSICAL</b>	
Battery Type	LFP
Weight	90kg
Dimensions (W*H*D)	590x750x205 mm
Protection Degree	IP65
Warranty	5 years product warranty, 10 years performance warranty
<b>BMS</b>	
Modules	1~6 in parallel
Capacity	10.1 / 20.2 / 30.3 / 40.4 / 50.5 / 60.6 kWh
Usable Capacity	9.6 / 19.2 / 28.8 / 38.4 / 48.0 / 57.6 kWh
Communication	CAN / RS-485 (Optional)
<b>CERTIFICATE</b>	
Transportation	UN38.3
Safety Regulation	IEC 62619, IEC62040
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Note: Specifications are subject to change without advance notice.



# APP COMMISSIONING GUIDE

## WIFI CONFIGURATION INSTRUCTION GUIDE



### PREPARING WORK

Step1 : Make sure the Wi-Fi inverter is powered on;

Step2 : Make sure the WIFI router is powered on;

Step3 : Searching "POWERCENT" to Download and install the APP from APP Store.

### WI-FI CONFIGURATION

Step1 : Open the "POWERCENT" APP and Click "WIFI" Configuration

Step2 : Click "I know, go to continue"

Step3 : Click "Next"

Step4 : Click "Open the Wi-Fi network list"

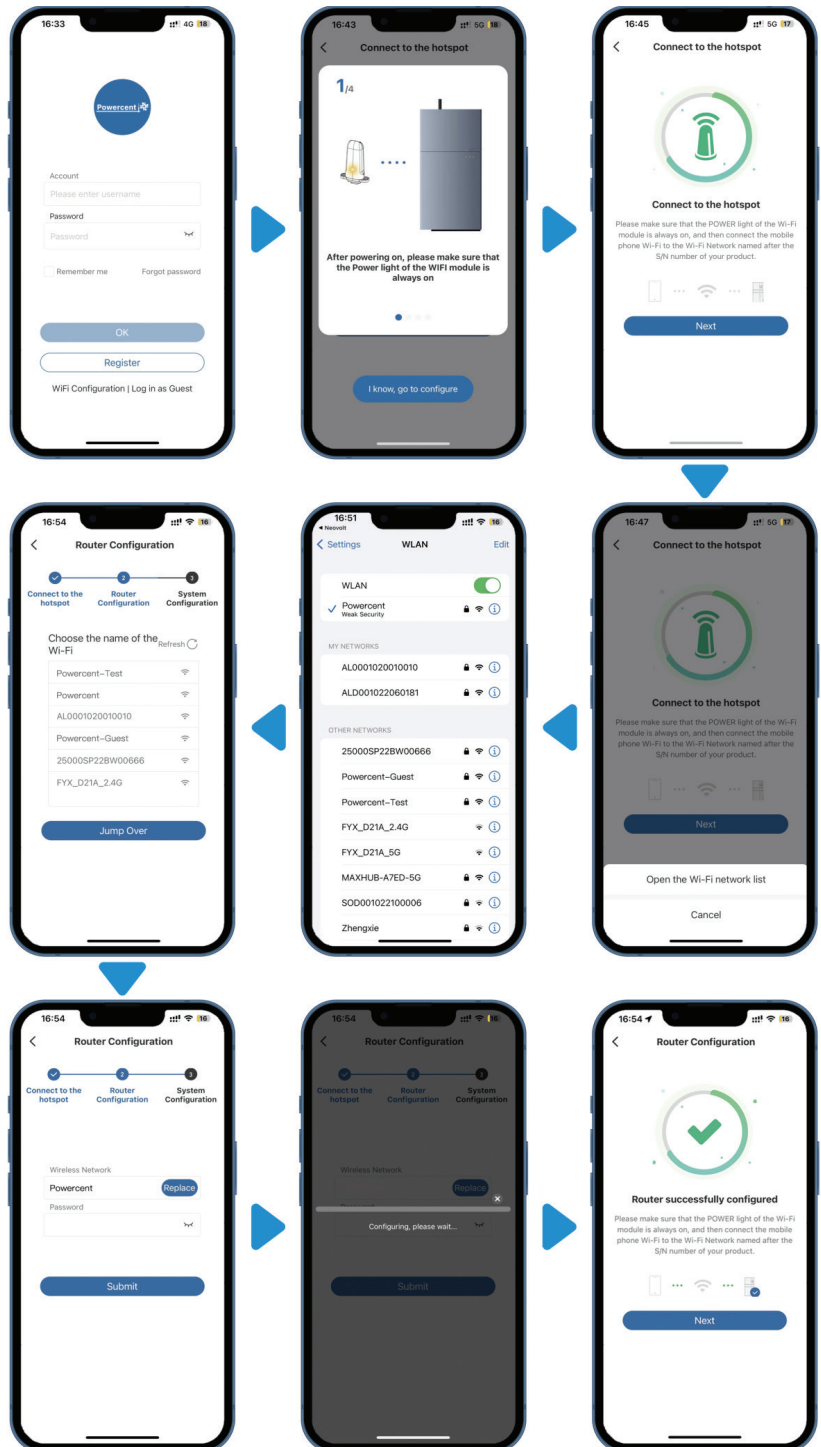
Step5 : Select the WIFI Model Signal (SN) and input the default Pass Code (12345678), click "continue"

Step6 : Select the WIFI Router Signal, click "Jump Over"

Step7 : Enter the WIFI Router Password, click "Submit"

Step8 : Wait for a moment

Step9 : Configuration successfully



## DIRECT COMMISSIONING ON WI-FI CONFIGURATION

### CHECK THE RUNNING STATE WITHOUT PV AND BATTERY

Step1 : Keep the PV switch of the energy storage inverter and AC breaker of the PV-inverter off. Don't power on the batteries.

Step2 : Turn on some larger loads directly connected on the grid to check the grid status, the inverter LED ("SYS") will be red, don't worry, because the battery is not communicated. The grid power should be positive. Otherwise please check the direction of grid CT or grid meter installation.

The screenshot shows the 'System Configuration' screen with the 'Running information' tab selected. The data displayed is as follows:

Parameter	Value
S/N:	
Working Statuses:	UPS
System Time:	2022/12/11 16:21:26
PV Inverter Power(W):	0
Inverter power(W):	1020
Battery power(W):	0.0
Grid power(W):	0

At the bottom of the screen, there are two buttons: 'Back' and 'OK'.

The screenshot shows the 'System Configuration' screen with the 'System information' tab selected. The data displayed is as follows:

Parameter	Value
S/N:	
Working Statuses:	NA
System Time:	2022/12/11 16:21:26
PV Inverter Power(W):	0
Inverter power(W):	0
Battery power(W):	0.0
Grid power(W):	1920

### CHECK THE UPS STATE

Step1 :Please connect an essential electrical appliance to the socket of backup load. Or switch on an essential electrical appliance already connected on the backup load port of the inverter.

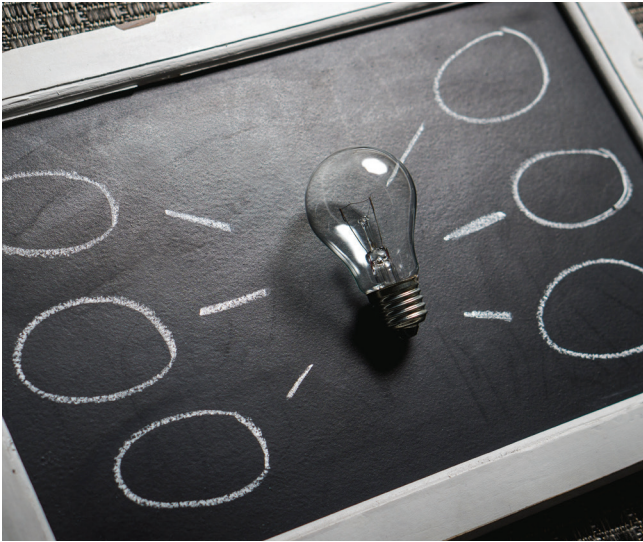
Step2 : Switch on the AC breaker on the backup port of the energy storage inverter.

Step3 :Switch off the external AC breaker between the grid and the energy storage inverter.

Step4 : The inverter will enter the UPS mode at once.

Step5 :If the electrical appliance on backup side can work normally, it means that the wiring of the backup has been connected correctly.

## CHECK THE RUNNING STATE OF PV



Step1 : Switch off the AC breaker between the grid port on the energy storage inverter and the grid, and switch off the AC breaker between the backup port on the energy storage inverter and the loads.

Step2 :Press the battery button. If there are more than one battery, press the button of each battery and the interval time of powering on any two batteries should be less than 5s.

Step3 : Switch on the AC breaker between the grid port of the energy storage inverter and the grid.

Step4 : Switch on the PV switch on the energy storage inverter if there is any and AC breaker on the PV-inverter if there is any.

Step5 :Switch off all the loads to see the battery charging status and the inverter LED ("SYS")\* will be solid on white. Battery power value should be negative. If the system is in AC or hybrid mode, the PV inverter power value should be positive. If it is not normal, please check the direction of PV CT or PV meter installed.

### DC Mode

< System Configuration

Running information System information

S/N:

---

Working Statuses: Normal

---

System Time: 2022/12/11 16:21:26

---

PV Inverter Power(W): 0

---

Inverter power(W): 0

---

Battery power(W): -891

---

Grid power(W): 0

---

Back

OK

### AC Mode

< System Configuration

Running information System information

S/N:

---

Working Statuses: Normal

---

System Time: 2022/12/11 16:21:26

---

PV Inverter Power(W): 1246

---

Inverter power(W): -1240

---

Battery power(W): -1220

---

Grid power(W): 0

---

Back

OK

### HYBRID Mode

< System Configuration

Running information System information

S/N:

---

Working Statuses: Normal

---

System Time: 2022/12/11 16:21:26

---

PV Inverter Power(W): 1246

---

Inverter power(W): -1240

---

Battery power(W): -2456

---

Grid power(W): 0

---

Back

OK



# CLEAN & AFFORDABLE ENERGY FOR EVERYONE POWERCENT

## Get in touch.

We're available to answer your questions and help you make informed decisions that meet your needs. Your satisfaction is our top priority. Contact us today!



3 / F, No. 299, Xingguang Road,  
Yinzhou District, Ningbo City,  
Zhejiang Province.



Room No. 1802, 18th floor, Block  
B, A'amal St, Executive Bay Tower,  
Business Bay, Dubai, UAE



22 / F, Block A, Asian Trade  
Plaza, Wuhan City, Hubei  
Province, China.



+86 159 7216 9442



+971 523743891  
+971 43686319



+86 159 2738 5122  
+86 (027) 8765 9800



ress@Powercent.cn



cess@Powercent.cn



ress@Powercent.cn