



# Lithium-Ion Energy Storage Battery



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# SUNPAL



## About Sunpal Group

Sunpal was founded in 2008 as a dedicated residential and commercial lithium iron phosphate battery producer by consolidating, their expertise in electrochemistry, power electronics and system integration to deliver reliable energy storage solutions globally.

We are humbled to contribute our know-how to our technologies and create a sustainable future for all. Sunpal always is here to take responsibility and always take the mission to liberate human energy sustainably.

We have always adhered to the development concept of "Smart energy powers your life", constantly pursued excellence through technological innovation, and is committed to becoming a global new energy industry leader.

## Why Choose Us



Grow Stable



Good Quality Market Choice



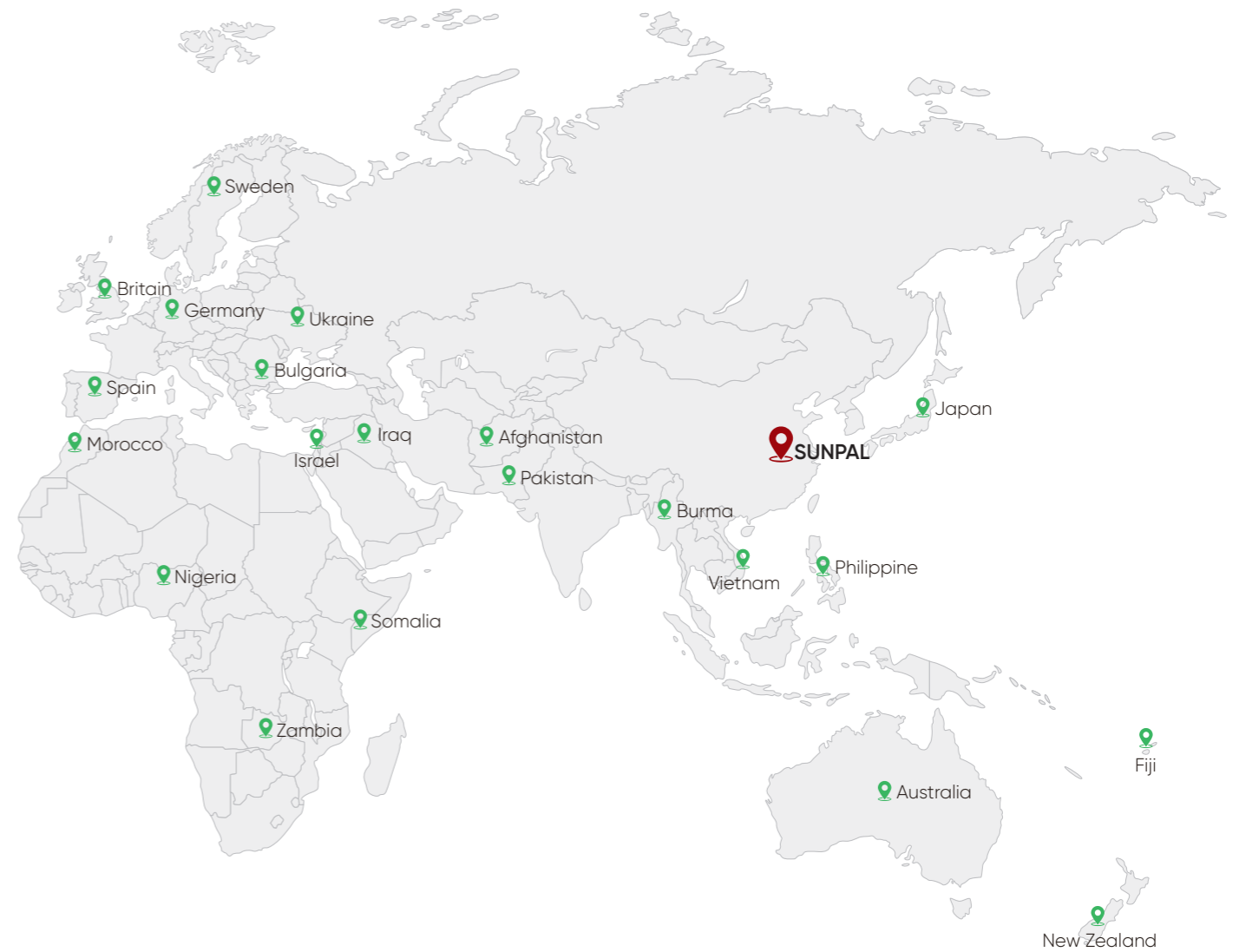
Time Proven



Partner Ship



Highly Cost Effective



## Global Markets & Partners

18+

Years Delivery Experience

150+

Countries Global Deliveries

120+

Partners In ESS Field

15+

Subsidiaries Worldwide

500000+

Global Residential ESS

15GWh+

Production Capacity

12-1500V

Flexible Battery Solution

80,000m<sup>2</sup>

Factory Area

Max.16pcs

Support Parallel Capacity

## Our Cells Partner

CATL

EVE  
ENERGY VERY ENDURE

BYD

HIGEE

国轩高科  
GUOXUAN HIGH-TECH

CALB  
Trust Efficient Win-Win

SUNWODA

HTHIUM  
海辰 储能

REPT

HUAWEI

## Our Compatible Inverter List

MEGAREVO

Deye

Sinexcel

GanfengLithium

KSTAR

GROWATT

victron energy  
ELECTRIC POWER

SUNGROW  
Clean power for all

SOLAX  
POWER

solis

# Advantages & Services

## More Efficient

- Compact size with high energy density.
- Low energy consumption with high conversion ratio.

## Smarter

- Optional LOT function with Bluetooth/4G/WLAN module.
- Realtime remote monitoring with friendly HMI.

## More Reliable

- New Grade A cell with cycle life up to 10,000 times.
- Smart BMS with full function protection.

## Easier Operation

- Most of the models Plug and Play design, fast commissioning.
- Engineer friendly maintenance design.

# Technical Certificate



# Sunpal Products List

## Wall Mounted Series



**Y1 Series**  
Capacity:4.8-10KWH



**Y3 Series**  
Capacity:4.8-10KWH



**Y4 Series**  
Capacity:5-15KWH

## Rack Mounted Series



**E1 Series**  
Capacity:4.8-10KWH



**E3 Series**  
Capacity:16KWH

## Floor Type Series



**F1 Series**  
Capacity:15-16KWH

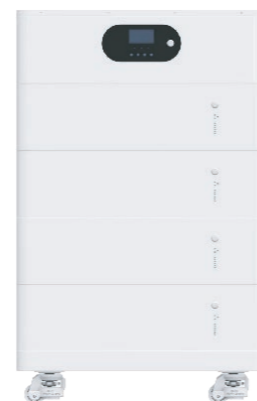


**F2 Series**  
Capacity:16KWH

## Stacking Series



**S1 Series**  
Capacity:10-20KWH



**All In One Series**  
Capacity:5-10KWH




**All In One Series**  
Capacity:15-30KWH





# Wall Mounted Lithium Battery

## Low Voltage

Y1 | Y3 | Y4

 **Long Life And Safety**  
6000 cycles with 80% DOD,  
high-quality prismatic battery cell

 **Backup Protection**  
Stores energy, detects outages and  
automatically becomes energy source

 **Plug In And Play**  
Plug in batteries then working,  
easy to install and set up

 **Compatibility**  
Compatible with most of the available  
hybrid inverters

 **Intelligent**  
With independent smart BMS system,  
manages power output effectively

 **Safety Cert**  
IEC62619,CE,UN38.3,MSDS



# Y1 SERIES



5/10KWH



# Y1 SERIES

## Product Specifications

Model	PP-Y1-5kWh	PP-Y1-10kWh
Voltage	48/51.2V	
Capacity	100Ah	200Ah
Battery Cell	3.2V 100Ah Prismatic Battery Cell	
Configuration	15S/16S 1	15S/16S 2P
Parallel Capacity	Yes, 15 units maximum	
Max. Charge Current	100A	
Max. Discharge Current	100A	
Discharge Cut-off Protect Voltage	42V/44.8V	
Charge Cut-off Protect Voltage	54V/57.6V	
Cycle life	6500 Cycles @80% DOD	
Communication Port	CAN, RS485, RS232	
L×W×H(mm)	680×485×180(220)mm	
Weight(KG)	68Kg±1Kg/72Kg±1Kg	98Kg±1Kg/106Kg±1Kg
Discharge Temperature(°C)	-20~50°C	
Charge Temperature(°C)	0~55°C	
Lithium Battery Standard	UL1642/IEC62619/UN38.3/ROHS/CE-EMC	

## Product Features

- Long Life And Safety**  
6000 cycles with 80% DOD, high-quality prismatic battery cell
- Backup Protection**  
Stores energy, detects outages and automatically becomes energy source
- Intelligent**  
With independent smart BMS system, manages power output effectively
- Plug In And Play**  
Plug in batteries then working, easy to install and set up
- Compatibility**  
Compatible with most of the available hybrid inverters
- Safety Cert**  
IEC62619, CE, UN38.3, MSDS



# Y3 SERIES



4.8-10KWH



# Y3 SERIES

## Product Specifications

Model	PP-Y3-5kWh/PP-Y3-10kWh			
Cells In Series	15S		16S	
Rated Energy (KWh)	4.8	9.6	5.12	10.24
Rated Voltage (V)	48		51.2	
Charging Voltage (V)	54.75		58.4	
Discharge Cut-off Voltage (V)	40		42	
Standard Charge Current (A)	20	40	20	40
Maximum Charging Current (A)	100A		100A	
Maximum Discharge Current (A)	100A		100A	
Cycle Life	≥ 3500 times @ 80% DOD 25°C		≥ 3500 times @ 80% DOD 25°C	
Methods Of Communication	RS232/RS485/CAN		RS232/RS485/CAN	
Charging Temperature	0~60°C		0~60°C	
Discharge Temperature	-10~65°C		-10~65°C	
How It Is Displayed	LCD display		LCD display	
IP Protection	IP 21		IP 21	
Product Dimensions (L×W×Hmm)	440×150×560	520×150×680	440×150×560	520×150×680
Net Weight (Kg)	42	76	44	80
Packing Dimensions (L×W×Hmm)	525×340×645	595×316×755	525×340×645	595×316×755
Gross Weight (Kg)	48	94	50	98

## Product Features

### Long Life And Safety

The charging and discharging efficiency is high, and the number of cycles is more than 3500 times

### Safety And Reliability

Original Grade A lithium iron phosphate battery cell has high safety and reliability

### Battery Parallel Connection

Supporting up to 15 batteries in parallel

### Compatibility

Compatible with most inverters on the market

### Modular Design

Modular design, can be expanded at any time to increase the energy of the system

### Communication

Supporting RS485 and CAN communication



# Y4 SERIES



5-15KWH



# Y4 SERIES

## Product Specifications

Model	PP-Y4-5kWh	PP-Y4-10kWh	PP-Y4-15kWh	
Rated Voltage	51.2V		51.2V	
Rated Capacity(C5)	100Ah	200Ah	280Ah	314Ah
Battery Cell	3.2V 100Ah Prismatic Battery Cell		3.2V 280Ah Prismatic Battery Cell	3.2V 314Ah Prismatic Battery Cell
Configuration	16S1P	16S2P	16S1P	
Parallel Capacity	Yes,15units maximum		Yes,15units maximum	
Max.Charge Current/3s	100A	200A	200A	200A
Continuous Discharge Current	50A	100A	140A	157A
Discharge Cut-off Protect Voltage	44.8V		44.8V	
Charge Cut-off Protect Voltage	57.60V		57.6V	
Cycle Life	6000 cycles@90%DOD,0.2C,SOH80%		6000 cycles@90%DOD,0.2C,SOH80%	
Communication Port	Can,RS485,RS232		Can,RS485,RS232	
L×W×H(mm)	440×500×142	442×820×142	660×820×239	
Weight(kg)	49kg	98kg	122kg	125kg
Protection Rating	IP21(Indoor)		IP21(Indoor)	
Installation	Wall mounted		Wall mounted	
Discharge Temperature(°C)	-20~60		-20~60	
Charge Temperature(°C)	0~55		0~55	
Lithium Battery Standard	UL1642/IEC62619/UN38.3/ROHS/CE-EMC		UL1642/IEC62619/UN38.3/ROHS/CE-EMC	

## Product Features

- Unique Design**  
New wall mount design.
- LED Display**  
SOC, Battery status.
- Flexible Capacity**  
Max.15pcs in parallel to extend capacity.
- Safe & Reliable**  
Lithium iron phosphate (LFP) cell.
- Easy Installation**  
Quick plug in +/- and parallel connection.
- Safety Cert**  
IEC62619,CE,UN38.3,MSDS



# Rack Mounted Battery

## Low Voltage

E1 | E3



### Safe And Reliable

LiFeP4 cathode: safe, long life. Low self-discharge, 6-month storage, no memory effect, great shallow cycling.



### Intelligent BMS

Stores energy, detects outages and automatically becomes energy source



### Flexible Configuration

Parallel for higher capacity & power. Supports USB, WiFi(optional), remote upgrade, compatible with Deye inverters.



### Wide Temperature

Working temperature range is from  $-0^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ , with excellent discharge performance and cycle life.





# E1 SERIES

4.8-10KWH



# E1 SERIES

## Product Specifications

Model	PP-E1-5kWh	PP-E1-10kWh
Voltage	48/51.2V	
Capacity	100Ah	200Ah
Battery Cell	3.2V 100Ah Pirsmatic Battery Cell	
Configuration	15S/16S 1P	15S/16S 2P
Parallel Capacity	Yes,15units maximum	
Max.Charge Current	100A	
Max.Discharge Current	100A	
Disharge Cut-off Protect Voltage	54V/57.6V	
Charge Cut-off Protect Voltage	42V/44.8V	
Design life	15+ Years (25°C/77°F)	
Cycle life	> 6000 Cycles, 25°C	
Communication Port	CAN, RS485, RS232	
Size (L×W×H)	460×442×180mm	680×442×180mm
Weight	46Kg±1 Kg/50Kg±1Kg	85Kg±1 Kg/89Kg±1Kg
Operation Temperature Range	Charge:0~55°C/Discharge:-20~55°C	

## Product Features

### Safe And Reliable

Cathode material: LiFePO4, safe and long cycle life. Low self-discharge, storable up to 6 months, no memory effect,good shallow charge-discharge performance

### Intelligent BMS

Provides over-discharge, over-charge, over-current and temperature protection.The system automatically manages charging/discharging and balances cell voltage and current.

### Flexible Configuration

Parallel for expanding capacity and power.Support USB upgrade,wifi upgrade(optional),remote upgrade (Compatible with Deye inverter)

### Wide Temperature

Working temperature range is from -0°C to 55°C, with excellent discharge performance and cycle life.





# E3 SERIES

# E3 SERIES

16KWH



## Product Specifications

Model	PP-E3-16kWh
Nominal Voltage	51.2V(16series)
Cell model/Configuration	3.2V314Ah(EVE)/16S1P
Capacity(Ah)	314AH
Rated Energy(KWH)	16.076KWH
Usable Energy(KWH)	16.07KWH
Max.Charge/Discharge Current(A)	200A/200A
Voltage Range(Vdc)	43.2~57.6
Scalability	Up to 10 parallel
Communieation	RS232-PC,TYPE-C(PC),RS485-Inverter,Canbus-Inverter
Cycle Life	>6000cycles@25C, 90%DOD, 70%EOL
Design Life	≥10 Years(25°C )
Weight(Approx)(KG)	Approx:120kg
Dimension(W/D/Hmm)	780*442*230
IP Grade	Ip20(Optional)
Operoting Temperature	Charge:0°C~50°C;Discharge:-20°C~50°C

## Product Features

### Safe And Reliable

Cathode material: LiFePO4, safe and long cycle life. Low self-discharge, storable up to 6 months, no memory effect, good shallow charge-discharge performance

### Intelligent BMS

Provides over-discharge, over-charge, over-current and temperature protection.The system automatically manages charging/discharging and balances cell voltage and current.

### Flexible Configuration

Parallel for expanding capacity and power.Support USB upgrade,wifi upgrade(optional),remote upgrade (Compatible with Deye inverter)

### Wide Temperature

Working temperature range is from -0°C to 55°C, with excellent discharge performance and cycle life.



# Floor Type Battery

Low Voltage

F1 | F2

 **Long Life And Safety**  
Cells cycle times 6000 cycles

 **BMS System**  
Smart BMS system to optimize the performance

 **LFP Cells**  
Reliable LFP cells

 **CAN**  
CANbus standard connection

 **Cooling**  
Natural cooling system

 **IP65 Rating**  
Triple hardware protection



# F1 SERIES



14.3-16KWH



# F1 SERIES

## Product Specifications

Model	PP-F1-15kWh	PP-F1-16kWh
Cells In Series	16S	16S
Rated Energy (KWh)	14.3	16
Rated Voltage (V)	51.2	51.2
Charging Voltage (V)	58.4	58.4
Discharge Cut-off Voltage (V)	42	42
Standard Charge Current (A)	50	50
Maximum Charging Current (A)	100A	100A
Maximum Discharge Current (A)	100A	200A
Cycle Life	≥ 6000times@80%DOD,25°C	≥ 6000times@80%DOD,25°C
Methods Of Communication	RS232/RS485/CAN	RS232/RS485/CAN
Charging Temperature	0~60°C	0~60°C
Discharge Temperature	-10~65°C	-10~65°C
How It Is Displayed	LCD display	LCD display
IP Protection	IP 21	IP 21
Product Dimensions (L×W×Hmm)	580×280×800	550×290×850
Net Weight (Kg)	124.2	132.4
Packing Dimensions (L×W×Hmm)	700×495×900	905×700×495
Gross Weight (Kg)	142.7	153

## Product Features

### Long Life And Safety

The charging and discharging efficiency is high, and the number of cycles is more than 3500 times

### Safety And Reliability

Original Grade A lithium iron phosphate battery cell has high safety and reliability

### Battery Parallel Connection

Supporting up to 15 batteries in parallel

### Compatibility

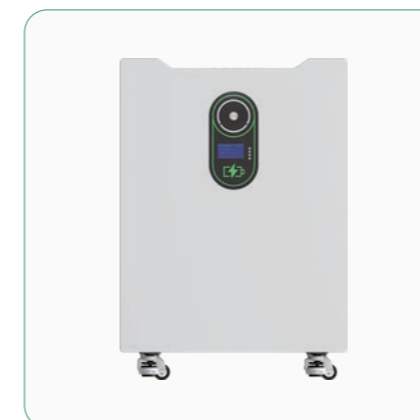
Compatible with most inverters on the market

### Modular Design

Modular design, can be expanded at any time to increase the energy of the system

### Communication

Supporting RS485 and CAN communication



# F2 SERIES



# F2 SERIES

16KWH



## Product Features

### Long Life And Safety

6000 cycles with 80% DOD, high-quality prismatic battery cell

### Backup Protection

Stores energy, detects outages and automatically becomes energy source

### Intelligent

With independent smart BMS system, manages power output effectively

### Plug In And Play

Plug in batteries then working, easy to install and set up

### Compatibility

Compatible with most of the available hybrid inverters

### Safety Cert

IEC62619,CE,UN38.3,MSDS UL1973 STANDARD

## Product Specifications

Model	PP-F2-16kWh
Nominal Capacity (at 25°C)	16kWh
Usable Capacity (90%DOD)	14.4kWh
Nominal Dis-/ Charge Power	10kW
Peak Power(only Discharge)	11.6kW for 3 seconds
Constant Current(only Discharge)	200A
Operating Voltage Range	43~58V
Nominal Voltage	51.2Vd.c
Weight	120kg
Dimensions (mm)	530*900*245mm
Certificates	UN38.3
Operating Condition	Indoor or outdoor
Operating Temperature Charge	From 0~60°C
Operating Temperature Discharge	From -30~60°C
Humidity	Up to 90% (non- condensing)
Pollution Degree	3
Over Voltage Category	II
Cooling Type	Natural cooling
IP Rating	IP65
Protective Class	I
Max. Number of Parallel	4
Warranty	10 years
Life Span	>15years
Communication Interface	CAN /RS485
Protection Mode	Triple hardware protection
Battery Protection	Over-current/ Over-voltage / Short circuit / Under-voltage

# Low Voltage Stacking Battery

Low Voltage

S1

 **Compact Design**  
Small footprint/640\*205mm

 **Compatibility**  
Compatible with most of the available hybrid inverters

 **Flexible Investment**  
Up to 20kwh per system and supporting up to 5 pcs parallel configuration

 **Perfect Compatibility**  
Compatible to most inverter brands on the market

 **Fast Installation**  
Plug & Play battery interface/  
Plug in modular design

 **Safety**  
BMS & Breaker modular level protection



# S1 SERIES



10-20KWH

# S1 SERIES

Product Specifications			
Model	PP-S1-10kWh	PP-S1-15kWh	PP-S1-20kWh
Rated Voltage	51.2V		
Energy storage	10.24KWH	15.3KWH	20.48KWH
Cycle life	6000 cycles @80% DOD, 0.5C		
Months self discharge	≤2%		
Charge voltage(V)	56		
Max. charge current(A)	100		
Max. discharge current(A)	100		
Discharge cut-off voltage(VDC)	43.2		
Charge cut-off voltage(VDC)	58.4		
Charge temperature	0°C to 55 °C@60±25% Relative Humidity		
Discharge temperature	-20°C to 55 °C@60±25% Relative Humidity		
Storage temperature	-20°C to 55 °C@60±25% Relative Humidity		
IP class	IP65		
Case type	Stand Stack		
Pack dimension L*W*H(mm)	640*205*897	640*205*1239	640*205*1581
Package dimension L*W*H(mm)	760*335*450*2 705*395*240*1	760*335*450*3 705*395*240*1	760*335*450*4 705*395*240*1
Net weight(kg)	14+48*2	14+48*3	14+48*4
Gross weight(kg)	21+53*2	21+53*3	21+53*4
Protocol(Optional)	Canbus/RS485/RS232		
Monitoring	Bluetooth/WLAN Optional		
Cell	UN38.3, MSDS, IEC62619, CE-EMC		
Pack	UN38.3, MSDS		
Others	15S(48V) models also available		

## Product Features

### Perfect Compatibility

Compatible to most inverter brands on the market

### Compact Design

Small footprint/640\*205mm

### Fast Installation

Plug & Play battery interface/  
Plug in modular design

### Flexible Investment

Up to 20kWh per system and supporting up to 5 pcs parallel configuration

### Compatibility

Compatible with most of the available hybrid inverters

### Safety

BMS & Breaker modular level protection

# ALL IN ONE SERIES



5-30KWH



# ALL IN ONE SERIES

## Product Specifications

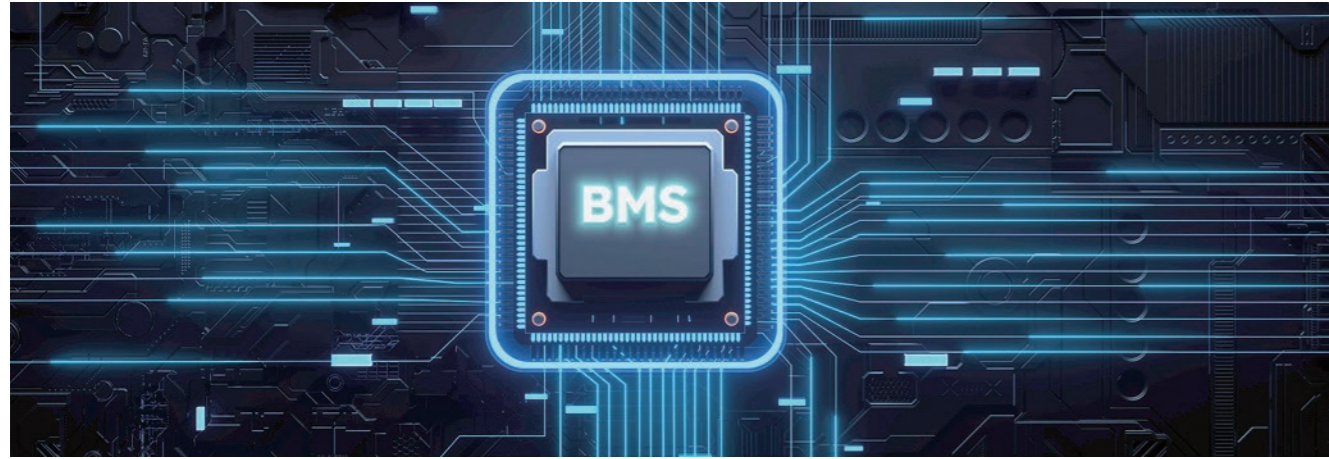
Inverter module	PP-INV5KLP1-S5.0	PP-INV10KLP1-V5.0
<b>Output</b>		
Rated output power	5,000W	10,000W
Maximum peak power	10,000VA	20,000VA
Motor load capacity	6HP	6HP
Wave form	PSW (Pure Sine Wave)	PSW (Pure Sine Wave)
Rated output voltage	220V ac (Single Phase)	220V ac (Single Phase)
Maximum parallel capacity	2 units (Up to 10KW)	2 units (Up to 20KW)
Output mode	Off-grid/Hybrid	Off-grid/Hybrid
<b>Solar input</b>		
Types of solar charging	MPPT	MPPT
Maximum solar array power	5500W	5,500W+5500W
Maximum solar open-circuit voltage	500Vdc	500Vdc+500Vdc
<b>Grid/generator inputs</b>		
Input voltage range	90~280Vac	90~280Vac
Bypass overload current	63A	63A
<b>Battery charging</b>		
Maximum solar charging current	0.5C	0.5C
Maximum grid/generator charging current	1C	1C
<b>Routine</b>		
Dimensions (LxWxHmm)	600x400x175	750x470x250
Weight (Kg)	~16	~32
<b>Battery module</b>		
Battery power	5.12KWh	15KWh
Rated voltage	51.2V	48V
Rated capacity	100Ah	280Ah
Battery type	Prismatic cell	Prismatic cell
Cycle life	≥6500 (90%DOD, 0.5C, 25°C)	≥6500(90%DOD,0.5C,25°C)
Maximum parallel capacity	6 units (Max. 30.7KWh)	4 units (Max. 53.76KWh)
Dimensions(LxWxHmm)	660x440x175	750x470x250
Weight (Kg)	~46	~115
Standard	UN38.3, MSDS, IEC62619:2017, EN IEC61000-3-2, EN IEC61000-6-1	UN38.3, MSDS, IEC62619:2017, EN IEC61000-3-2, EN IEC61000-6-1

## Product Features

- Long Life And Safety**  
6000 cycles with 80% DOD, high-quality prismatic battery cell
- Backup Protection**  
Stores energy, detects outages and automatically becomes energy source
- Intelligent**  
With independent smart BMS system, manages power output effectively
- Plug In And Play**  
Plug in batteries then working, easy to install and set up
- Compatibility**  
Compatible with most of the available hybrid inverters
- Safety Cert**  
IEC62619,CE,UN38.3,MSDS

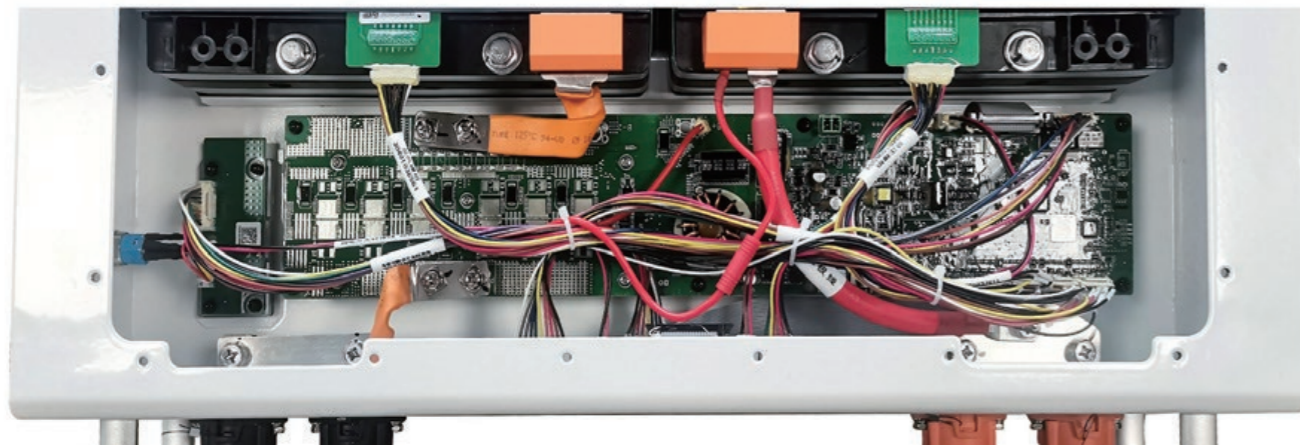
# Battery Manager System(BMS)

Leading Smart BMS, Developed & Designed By PACE



**50A-300A** Multiple Discharge Rate Options

**Over 40+** Adaptive Inverter Protocol Selection



### Detection & Control

Real-time monitoring of battery voltage, current, temperature and other parameters, and control according to the set parameter range.

### Signal Processing

Receive control instructions from the external system and send battery status information, and process the received instructions and information.

### Data Processing & Storage

Process and analyze the collected battery parameters, and record and store the battery's operating status and historical data.

### Bluetooth, WiFi Function

Remote real-time monitoring, online parameter setting, OTA software upgrade.

# APP Monitoring

Control And Monitor The System, Check The Battery Status



## SUNPAL CLOUD



- Dynamic Power Flow & Generation Report
- Real-time Monitoring & Comprehensive Visualization
- Multi-terminal Compatibility & Sharing
- Remote OTA Upgrade Reduce Maintenance Costs
- Integrated After-Sales Service
- Backup Function & Data Encryption

# Product line



# Product



# Installation



# Exhibition Promotion

## Munich Exhibition

2025/5



## Manila Exhibition

2025/3



## Dubai Exhibition

2025/4



## Uzbekistan Exhibition

2024/10

