YIY

Hybrid System

Start Digital Power Supply

ZHEJIANG YIYEN HOLDING GROUP

Zhejiang YIYEN HOLDING GROUP is a high-tech company that focuses on researching and manufacturing power electronic technology，integrating design, research and development, manufacturing, sales and service. YIYEN is dedicated to reducing electricity costs, improving electricity efficiency, and providing core power equipment and system solutions for the energy Internet of Things.With electrochemical energy storage and energy efficiency management as its core industry, YIYEN provides energy-saving service for power system, communication system, financial system, education system, medical system, and large industrial and mining enterprises.

Energy storage and energy efficiency management are critical reducing carbon emissions and promoting sustainable development. YIYEN's mission is to help make energy and ecology more harmonious by providing advanced energy storage and power quality solutions which improve efficiency, reduce costs, and promote clean energy.YIYEN will always continue to devote ourselves to the research and development and manufacturing of power electronic technology, and be committed to delivering cutting-edge solutions helping customers meet their energy management goals while contributing to a more sustainable future for all.

300+
Staff

30000m²+
Plant Area

15 years +
Years Experience

100,000+ /year
Unit Shipments

ENTERPRISE ARCHITECTURE

Headquarters — **ZHEJIANG YIYEN HOLDING GROUP**

Intelligent Manufacturing	Lishui Yiyen Technology CO.,LTD	Factory
Globalization Channel	Wenzhou Yiyen Supply Chain Management CO.,LTD	Marketing/Sales/Sourcing Total Solutions and Technical Services
Investment Operation	Wenzhou Yiyen Energy Development CO.,LTD	EPC Service Provider for New Energy and Energy Storage Plants Contract Energy Management (Domestic Only)
R&D	Nanjing Branch Shenzhen Branch Hangzhou Branch	R&D Center

50+
R&D Staff

130+
Export Countries

100+
Intellectual Properties

BMS
12V~1500V
Voltage Class

Qualification Certification

ISO9001

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No. : 20222Q21193R0S

We hereby certify that the organization:

LISHUI YIYEN TECHNOLOGY COMPANY LIMITED

Unified social credit code: 91331127MA2E079Y8T

is in conformity with Quality Management System Standard:

GB/T19001-2016 idt ISO9001:2015

The certificate is valid to the following products/service:

The assembling of Voltage Stabilizer、Inverter、Photovoltaic Equipment（MPPT Solar Charger、PCS）、 Uninterruptible Power Supply、Emergency Power Supply、Battery Pack Energy Storage System、Battery Management System（BMS）

Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du Zone,Lishui City,Zhejiang Province, China.

Date of Issue: 26-09-2022
Date of Expiry: 25-09-2025
Date of Initial: 26-09-2022

Issued By

中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C197-M

The audit of validity of the certificate, the certificate shall be at least once a year. The effectiveness of the Certificate is subject to QR Code in the lower left corner. Meanwhile, you can search the website of certification body: www.qpc.org.cn or search the CNCA website: www.cnca.gov.cn

ZHEJIANG QUANPIN CERTIFICATION CO.,LTD.

Room 603, Floor 6, Building 1, No.74, Puyan Road, Puyan Street, Binjiang District, Hangzhou City, Zhejiang Province, China 310053 WEB: Http://www.qpc.org.cn

ISO45001

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.：20222S20467R0S

We hereby certify that the organization:

LISHUI YIYEN TECHNOLOGY COMPANY LIMITED

Unified social credit code: 91331127MA2E079Y8T

is in conformity with Occupational Health Safety Management System Standard：

GB/T45001-2020 idt ISO45001:2018

The certificate is valid to the following products/service：

The assembly and related management activities of Voltage Stabilizer、Inverter、Photovoltaic Equipment（MPPT Solar Charger、PCS）、Uninterruptible Power Supply、Emergency Power Supply、Battery Pack Energy Storage System、Battery Management System（BMS）

Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du Zone,Lishui City,Zhejiang Province, China.

Date of Issue: 26-09-2022
Date of Expiry: 25-09-2025
Date of Initial: 26-09-2022

Issued By

中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C197-M

The audit of validity of the certificate, the certificate shall be at least once a year. The effectiveness of the Certificate is subject to QR Code in the lower left corner. Meanwhile, you can search the website of certification body: www.qpc.org.cn or search the CNCA website: www.cnca.gov.cn

ZHEJIANG QUANPIN CERTIFICATION CO.,LTD.

Room 603, Floor 6, Building 1, No.74, Puyan Road, Puyan Street, Binjiang District, Hangzhou City, Zhejiang Province, China 310053 WEB: Http://www.qpc.org.cn

ISO14001

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No.：20222E20495R0S

We hereby certify that the organization:

LISHUI YIYEN TECHNOLOGY COMPANY LIMITED

Unified social credit code: 91331127MA2E079Y8T

is in conformity with Environmental Management System Standard：

GB/T24001-2016 idt ISO14001:2015

The certificate is valid to the following products/service：

The assembly and related management activities of Voltage Stabilizer、Inverter、Photovoltaic Equipment（MPPT Solar Charger、PCS）、Uninterruptible Power Supply、Emergency Power Supply、Battery Pack Energy Storage System、Battery Management System（BMS）

Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du Zone,Lishui City,Zhejiang Province, China.

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Room 603, Floor 6, Building 1, No.74, Puyan Road, Puyan Street, Binjiang District, Hangzhou City, Zhejiang Province, China 310053 WEB: Http://www.qpc.org.cn

CERTIFICATION

CERTIFICATION

Certificate of compliance

Low Voltage Directive 2014/35/EU

Certificate No.	BTEK230406006AS
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77,Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	Any-Power Combined Inverter & Charger
Model / Series Models:	APC 1048E, APC 1548E, APC 2048E, APC 3048E, APC 4048E, APC 5048E, APC 6048E
Test Report No(s):	BTEK230406006AS
Test Standard(s):	EN IEC 62368-1: 2020 + A11: 2020

Conclusion:

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The Low Voltage Directive 2014/35/EU

May 16, 2023 — Date of issue | Certification Mark. | Safety Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
A5&A6,Building B1&B2,No.45 Gangtou Road,Bagang Community,
Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

CERTIFICATION

VERIFICATION

Verification of compliance

Electromagnetic compatibility 2014/30/EU

Certificate No.	BTEK230406007AEV
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77, Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	High-Power Combined Inverter & Charger
Model / Series Models:	HP 1012E, HP 1512E, HP 2012E, HP 3012E, HP 4012E, HP 5012E, HP 6012E
Test Report No(s):	BTEK230406007AE
Test Standard(s):	EN 55032:2015+A1:2020, EN 55035:2017+A11:2020, EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021

Conclusion:

This attestation is issued in accordance with the Directive 2014/30/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

June 17, 2023 — Date of issue | Certification Mark. | EMC Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
A5&A6,Building B1&B2,No.45 Gangtou Road,Bagang Community,
Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

CERTIFICATION

VERIFICATION

Verification of compliance

Electromagnetic compatibility 2014/30/EU

Certificate No.	BTEK230406017AEV
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77, Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	High-Power Combined Inverter & Charger
Model / Series Models:	HP 1548E, HP 1848E
Test Report No(s):	BTEK230406017AE
Test Standard(s):	EN 55032:2015+A1:2020, EN 55035:2017+A11:2020, EN 61000-3-3:2013+A2:2021, EN IEC 61000-3-2:2019+A1:2021

Conclusion:

This attestation is issued in accordance with the Directive 2014/30/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

June 17, 2023 — Date of issue | Certification Mark. | EMC Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
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Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

CERTIFICATION

CERTIFICATION

Certificate of compliance

Low Voltage Directive 2014/35/EU

Certificate No.	BTEK230406010AS
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77,Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	High-Power Combined Inverter & Charger
Model / Series Models:	HP 1024E, HP 1524E, HP 2024E, HP 3024E, HP 4024E, HP 5024E, HP 6024E
Test Report No(s):	BTEK230406010AS
Test Standard(s):	EN IEC 62368-1: 2020 + A11: 2020

Conclusion:

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The Low Voltage Directive 2014/35/EU

May 16, 2023 — Date of issue | Certification Mark. | Safety Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
A5&A6,Building B1&B2,No.45 Gangtou Road,Bagang Community,
Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

CERTIFICATION

CERTIFICATION

Certificate of compliance

Low Voltage Directive 2014/35/EU

Certificate No.	BTEK230406014AS
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77,Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	High-Power Combined Inverter & Charger
Model / Series Models:	HP 8024E, HP 10024E, HP 12024E
Test Report No(s):	BTEK230406014AS
Test Standard(s):	EN IEC 62368-1: 2020 + A11: 2020

Conclusion:

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The Low Voltage Directive 2014/35/EU

May 16, 2023 — Date of issue | Certification Mark. | Safety Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
A5&A6,Building B1&B2,No.45 Gangtou Road,Bagang Community,
Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

CERTIFICATION

VERIFICATION

Verification of compliance

Electromagnetic compatibility 2014/30/EU

Certificate No.	BTEK230406003AEV
Certificate holder.	LISHUI YIYEN TECHNOLOGY COMPANY LIMITED
Address.	No.77, Xiang Long Road, Lian Du Zone, Lishui City, Zhejiang Province, China
Manufacturer.	Same Certificate holder
Address.	Same Certificate holder
Brand Name.	YIY
Product Designation:	Any-Power Combined Inverter & Charger
Model / Series Models:	APC 1024E, APC 1524E, APC 2024E, APC 3024E, APC 4024E, APC 5024E, APC 6024E
Test Report No(s):	BTEK230406003E
Test Standard(s):	EN 55032:2015+A1:2020, EN 55035:2017+A11:2020, EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021

Conclusion:

This attestation is issued in accordance with the Directive 2014/30/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

June 17, 2023 — Date of issue | Certification Mark. | EMC Laboratory Manager

Shenzhen BANTEK Testing Co.,Ltd.
A5&A6,Building B1&B2,No.45 Gangtou Road,Bagang Community,
Shajing Street,Bao'an District, Shenzhen,Guangdong,China 518104
Tel: +(86)755-2334 4200 E-mail: Service@btek-lab.com Web: www.btek-lab.com

DEKRA

ATTESTATION OF CONFORMITY

Issued to:	LISHUI YIYEN TECHNOLOGY CO.,LTD (Lijing National Industrial Park) No. 77 Xianglong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China
For the product:	Power Conversion Module
Trade name:	YIY
Type/Model:	UP-M-62.5KW, UP-M-100KW
Ratings:	See model list
Manufactured by:	LISHUI YIYEN TECHNOLOGY CO.,LTD (Lijing National Industrial Park) No. 77 Xianglong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China
Requirements:	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174214.51

This Attestation implies that the examined types are in accordance with the standards designated under the Electromagnetic compatibility directive 2014/30/EU.

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

The CE marking may be affixed on the product if all relevant and effective EC directives are complied with.

Arnhem, 1 March 2024 — Number: 6174214.02AOC

DEKRA Testing and Certification (Shanghai) Ltd.

Kreny Lin
Certification Manager

CE

DEKRA Testing and Certification (Shanghai) Ltd.
3F #250 Jiangchangsan Road Shibei Hi-Tech Park, 200436 Jing'an District, Shanghai, China
T +86 21 6056 7666 F +86 21 6056 7555 www.dekra-product-safety.com

DEKRA

ATTESTATION OF CONFORMITY

Issued to:	LISHUI YIYEN TECHNOLOGY CO.,LTD No. 77 Xianglong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China (Lijing National Industrial Park)
For the product:	Power Conversion System
Trade name:	YIY
Type/Model:	UP-M-62.5KW, UP-M-100KW
Ratings:	UP-M-62.5KW: DC: Voltage range: 650-950Vdc; Max Current: 100A, AC: Rated power: 62.5kW, rated voltage: 400Vac, Max. current: 100A, 50/60Hz, 3W+PE, power factor: -1(lagging)~ 1(leading) UP-M-100KW: DC: Voltage range: 650-950Vdc, Max Current: 170A, AC: Rated power: 100kW, rated voltage: 400Vac, Max. current: 167A, 50/60Hz, 3W+PE, power factor: -1(lagging)~ 1(leading) General: IP20, class I protection, 2000m altitude, -20-50°C
Manufactured by:	LISHUI YIYEN TECHNOLOGY CO.,LTD No. 77 Xianglong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China (Lijing National Industrial Park)
Requirements:	EN 62477-1:2012+A1:2017

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174215.50.

This Attestation implies that the examined types are in accordance with the standards designated under the Low Voltage Directive (LVD) 2014/35/EU.

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

The CE marking may be affixed on the product if all relevant and effective EC directives are complied with.
Arnhem, 28 May 2024 — Number: 6174215.01AOC

DEKRA Testing and Certification (Shanghai) Ltd.

Kreny Lin
Certification Manager

CE

DEKRA Testing and Certification (Shanghai) Ltd.
3F #250 Jiangchangsan Road Shibei Hi-Tech Park, 200436 Jing'an District, Shanghai, China
T +86 21 6056 7666 F +86 21 6056 7555 www.dekra-product-safety.com

DEKRA

CERTIFICATE OF CONFORMITY

Issued to:	LISHUI YIYEN TECHNOLOGY CO., LTD No. 77 Xiangkong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China (Lijing National Industrial Park)
For the product:	Power Conversion System
Trade name:	YIY
Type/Model:	UP-M-62.5KW, UP-M-100KW
Ratings:	Operating temperature range: - 20°C to + 50°C Protective class: I Ingress protection rating: IP20 Power factor range (adjustable): -1(lagging)~1(leading) UP-M-62.5KW: DC: Voltage range: 650-950Vdc, Max Current: 100A, AC: Rated power: 62.5kW, rated voltage: 400Vac, Max. current: 100A, 50/60Hz, 3W+PE UP-M-100KW: DC: Voltage range: 650-950Vdc, Max Current: 170A, AC: Rated power: 100kW, rated voltage: 400Vac, Max. current: 167A, 50/60Hz, 3W+PE
Manufactured by:	LISHUI YIYEN TECHNOLOGY CO., LTD No. 77 Xiangkong Road, Nanmingshan Street, Liandu District, Lishui City, Zhejiang Province, P.R. China (Lijing National Industrial Park)
Requirements:	EN 50549-1:2019 (Requirements for type A Generating Units) COMMISSION REGULATION (EU) 2016/631 (NC RfG)

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174227.30.
The examination has been carried out on one single specimen of the product. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

This Test Certificate expires at the latest on 31 May 2029 or expires upon withdrawal of one of the above mentioned standards.

Shanghai, 31 May 2024 — Number: 6174227.01COC

DEKRA Testing and Certification (Shanghai) Ltd.

Cliff Lin
Certification Manager

IAS ACCREDITED Product Certification PCA-141

DEKRA Testing and Certification (Shanghai) Ltd.
No.250, Jiangchangsan Road, Jing'an District, Shanghai, 200436 People's Republic of China
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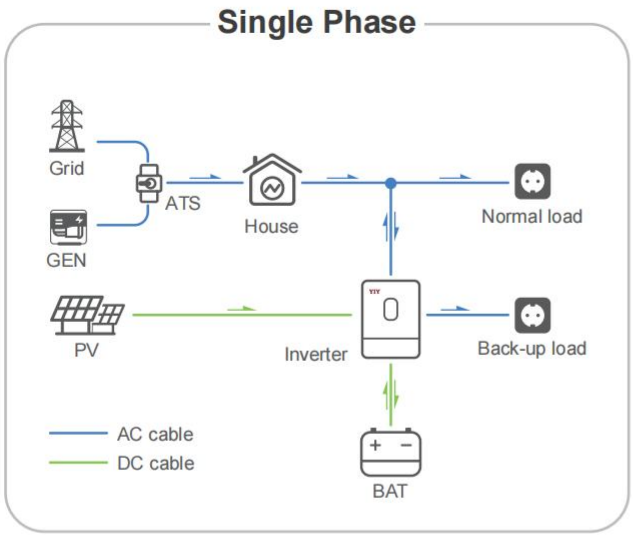
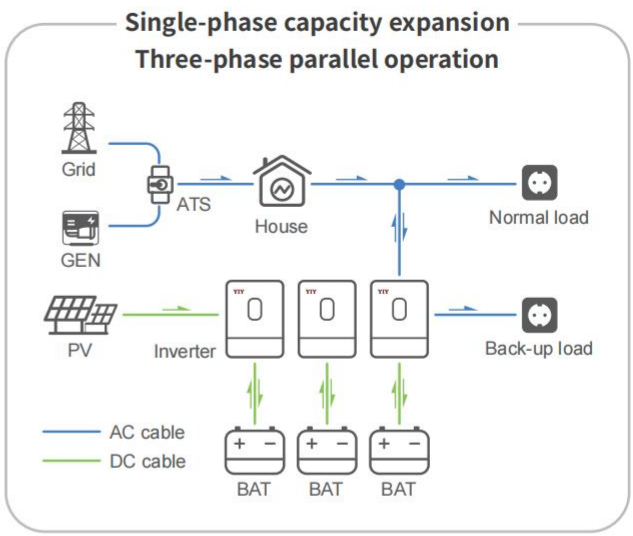
CONTENTS

PRODUCT CATALOGUE

Off-Grid Hybrid System

• System Topology





In an off-grid hybrid system, solar power prioritizes supplying the load, with excess energy charging the battery. When solar is insufficient, the battery and grid power supplement the supply to maximize energy utilization. In the event of a grid failure or outage, the system automatically switches to battery mode. If solar, grid, and battery are all unavailable, the inverter automatically starts the generator.

• Applicable Equipment

SMP-H Series

LFP-M IP65 Series

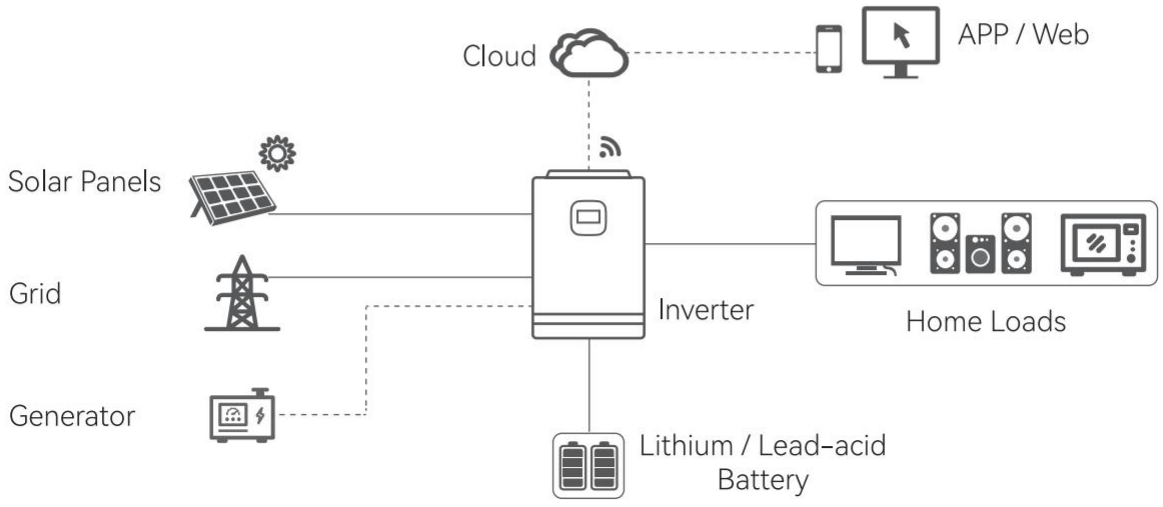
SMP-H 5.6-12kW

Off Grid Hybrid Inverter

• Features

- Sectional charge/discharge; supports lead-acid & lithium batteries with dual activation.
- Hybrid/grid-connected with anti-backflow; battery-less solar+grid operation.
- Four charging modes plus power-saving mode.
- Dual output (inverter/bypass) for uninterrupted pure sine-wave UPS.
- Full digital SPWM control & dual MPPT (99.9% efficiency).
- 360° protection and intelligent cooling (variable-speed fan, AC switch).

• System Diagram



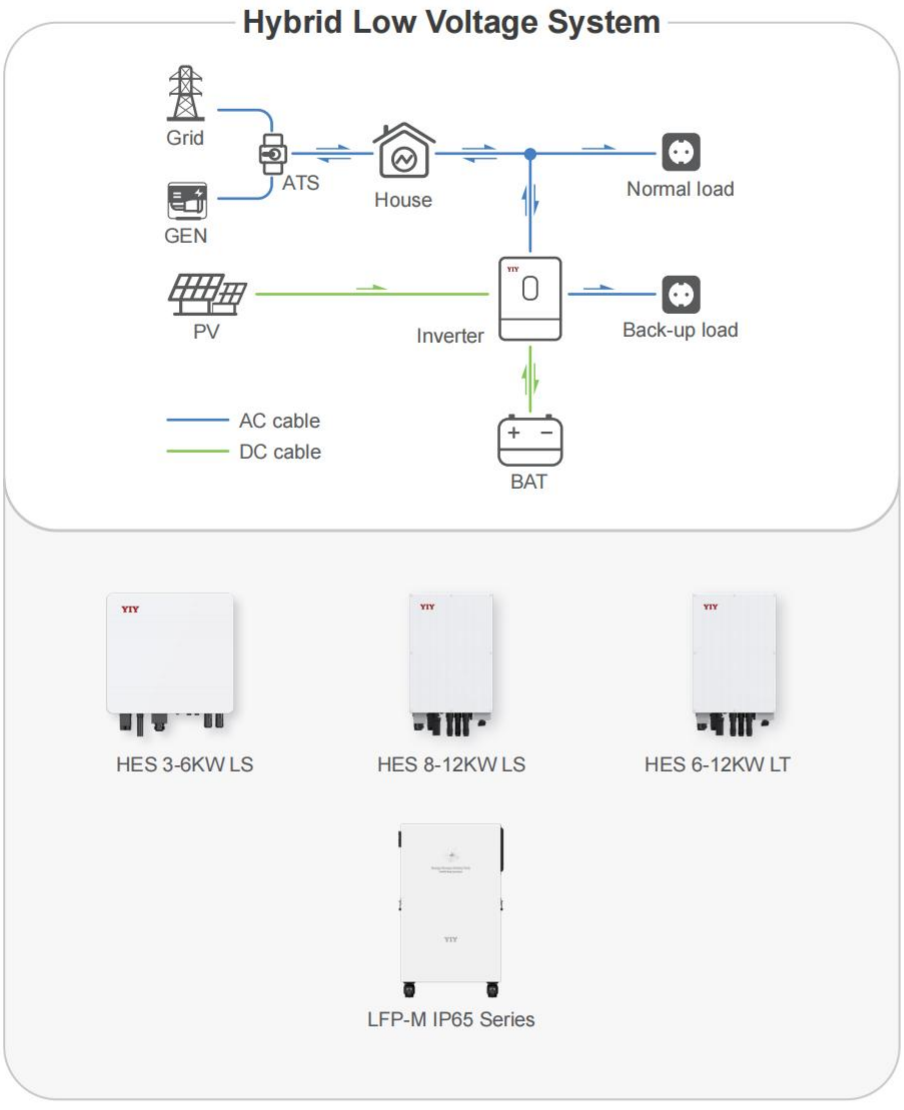
• Technical Parameter

SMP-H 5.6-12kW Series Off Grid Hybrid Inverter					
Models	SMP-H-5648-60P	SMP-H-6248-60P	SMP-H-8048-110P	SMP-H-11048-110P	SMP-H-12048-120P
Parallel mode					
Permitted parallel number	1~6				
AC Input					
Rated input voltage	220/230Vac				
Input voltage range	(170Vac~280Vac)±2% (90Vac-280Vac)±2%				
Frequency	50Hz/60Hz (Auto detection)				
Frequency Range	47±0.3Hz~55±0.3Hz (50Hz); 57±0.3Hz~65±0.3Hz (60Hz);				
Overload/short circuit protection	Circuit breaker				
Efficiency	>95%				
Conversion time (bypass and inverter)	10ms (typical)				
AC reverse protection	Yes				
Maximum bypass overload current	40A		60A		
Inverter mode					
Output voltage waveform	Pure sine wave				
Rated output power (VA)	5600	6200	8000	11000	12000
Rated output power (W)	5600	6200	8000	11000	12000
Power factor	1				
Rated output voltage (Vac)	230Vac				
Output voltage error	±5%				
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz				
Maximum Efficiency	>92%		>93%		
Overload protection	(102% < load <125%) ±10%: report error and turn off the output after 5 minutes; (125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds; Load >150% ±10%: report error and turn off the output after 5 seconds;				
Peak power	11000VA	12000VA	16000VA	22000VA	24000VA
Loaded motor capability	3HP	4HP	5HP	7HP	8HP
Output short circuit protection	Circuit breaker				
Bypass circuit breaker pecification	40A		63A		
Rated battery input voltage	48V (Minimum starting voltage 44V)				
Battery voltage range	40.0Vdc~60Vdc±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)				
Power saving mode self-consumption	Load≤25W		Load≤50W		

Battery Parameter			
Battery type	Lead acid or lithium battery		
Maximum charge current (can be set)	80A	120A	150A
Charge current error	±5Adc		
Charge voltage range	40~60Vdc		
Short circuit protection	Circuit breaker and blown fuse		
Circuit breaker specifications	40A	63A	
DC Input			
MPPT way	1	2	
Maximum PV open circuit voltage	500Vdc		
PV operating voltage range	120~500Vdc		
MPPT voltage range	90~450Vdc		
Battery voltage range	40~60Vdc		
Maximum PV input power	6000W	5500W+5500W	6000W+6000W
Maximum PV input current	22A	22A+22A	
PV charging current range (can be set)	0~100A	0-150A	
Charging short circuit protection	Blown fuse		
Wiring protection	Reverse polarity protection		
Hybrid charging Max charger current specifications (AC charger+PV charger)			
Max charger current (can be set)	0~100A	0~150A	
General Data			
Certification	CE(IEC62109-1,2)		
EMC certification level	EN61000, C2		
Operating temperature range	-15°C ~ 55°C	-10°C to 55°C,> 45°C drop runs	
Storage temperature range	-25°C ~ 60°C	-25°C ~ 55°C	
Humidity range	5% to 95%(Conformal coating protection)		
Noise	≤60dB		
Heat dissipation	Forced air cooling, variable speed of fan		
Communication interface	USB/RS485(/WiFi/GPRS)/ Dry contact control		
Size (L*W*D)	415mm*280mm*100mm	540mm*350mm*120mm	
Weight (kg)	7.8	19.5	

Hybrid Energy Storage System (Low voltage)

In a hybrid system, solar power prioritizes supplying the load, with any excess energy charging the battery. Any further surplus is fed back into the grid. When solar generation is insufficient, the battery and grid power supplement the supply. This enables peak shaving and demand management, alleviates grid congestion in areas with high solar penetration, supports participation in electricity market services such as virtual power plants (VPPs), and provides seamless backup power for scenarios requiring high supply continuity.



HES 3-6KW LS

HES 8-12KW LS

HES 6-12KW LT

LFP-M IP65 Series


Cloud+APP
• Monitoring system
Solar Panels
Battery
• Modular Design
• Wall-mounted / rack-mounted optional
Inverter
• Hybrid Inverter

HES 3-6KW LS

Single Phase LV Hybrid Inverter

• Product Features

- SiC Technology
  Max.Efficiency 98%
- Support 6 Units in
  Parallel (Off-grid Mode)
- 150-200% PV Input Power
  PV Input Current 18A
- Natural Cooling
  (Noise<25dB)
- <10ms On/Off-grid
  Switchover
- Support Setting of 6 Charging/
  Discharging Time Period
- Without LCD/LED Display
  Design, Higher Reliability
- Support AC Couple
- Self-owned APP,
  Support Adding New Language

• Technical Parameter

Model Name	HES(3K)LS	HES(3.6K)LS	HES(4K)HT	HES(4.6K)LS	HES(5K)LS	HES(6K)LS
AC Output (Off-grid Side)						
Rated Output Power	3KW	3.6KW	4KW	4.6KW	5KW	6KW
Rated Voltage	220V/230V/240V					
Rated Frequency	50/60Hz					
Rated Output Current	13.6A	16.4A	18.2A	20.8A	22.7A	27.2A
Output THDu	<2%					
Peak Power&Duration	120%(10s)*					
AC Output (Grid Side)						
Rated Output Power	3KW	3.6KW	4KW	4.6KW	5KW	6KW
Max. Output Power	13.6A	16.4A	18.2A	20.8A	22.7A	27.2A
Rated Grid Voltage	220V/230V/240V					
AC Input (Grid Side)						
Max. Input Current from Grid	16.4A	22.7A		27.2A		
Grid Voltage Range	184-276V					
Frequency Range	45-65Hz					
DC Input						
Max. Input Power	6000Wp	7200Wp		8000Wp		9000Wp
Starting Voltage	95V					
Max.Input Voltage	600V					
MPPT Voltage Range	80-500V					
Number of MPPT	2					
Max. Input String Per MPPT	1					
Rated Input Voltage	360V					
Max. Input Current	18A/18A					
Battery Parameter						
Battery Type	Lithium-ion/Lead-Acid/Sodium-ion					
Rated Battery Voltage	51.2V					
Battery Voltage Range	42-58V					
Max. Charging Voltage	≤60V					
Battery Charging/Discharging Current	75A	85A		100A		
Efficiency						
Max. Efficiency	97.5%		97.8%		98.0%	
European Efficiency	97.2%		97.3%		97.5%	
Max. Battery Charging / Discharging Efficiency	95.2%					
General Data						
Size(W*H*D)	500mm*470mm*180mm					
Weight	21kg					
Noise	<25dB(A)					
Operating Temperature	-25°C~+60°C (>45°C Derating)					
Operating Altitude	4000m(>3000m Derating)					
Cooling Method	Natural Cooling					
Ingress Protection Grade	IP65					
Mornitoring	LED/WIFI/4G/Bluetooth/RS485					
Communication Port	RS485/CAN/DRED/Dry contact/Parallel port					
Protection	DC Switch; AC Overvoltage Protection; AC Overcurrent Protection; AC Short Circuit Protection; Anti-islanding Protection; Residual Current Monitoring; PV Insulation Resistance Detection; Surge Protection:LEVEL II; Reverse Polarity Protection(PV&Battery]:Lightning Protection					
Certification						
CE-LVD	IEC 62109-1, IEC 62109-2, EN 62109-1, EN 62109-2, IEC 62477-1					
CE-EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 62920					
Grid	VDE-AR-N 4105, C10-11, G98/G99, CEI 0-21, EN50549, NRS 097-2-1, R25,UNE217001, UNE217002, NTS 2.1, PEA, MEA, NC RfG					

*Overload output is dependent on sufficient PV and battery energy

HES 8-12KW LS

Single Phase LV Hybrid Inverter

• Product Features

- SiC Technology, Max.Efficiency 98.2%
- 2 Independent Battery Ports for Mixture Use of Old & New Battery
- 150%-200% PV Input Power, 3 MPPTs, PV Input Current 20A, Higher Compatibility with PV Panel
- 150-340% Grid Input Power, Max.18kW, Supplying to Loads & Charging Battery in Parallel
- 166-400% Overload
- 165mm Ultra-thin, IP65
- Executive Generator Port, Smart Monitoring Max.Generator Input Current 82A
- Battery Current 250A, Battery Voltage 30-60V, Support Compability with Sodium-ion Battery
- 6 Units in Parallel (Off-grid Mode) AFCI/PID Function (Optional)

• Technical Parameter

Model Name	HES(8K)LS	HES(10K)LS	HES(12K)LS
AC Output (Off-grid Side)			
Rated Output Power	8KW	10KW	12KW
Max. Output Power	8.8KVA	11KVA	13.2KVA
Peak Power&Duration	20KVA(10s)*		
Max. Output Current	40A	50A	60A
Rated Output Voltage	L/N/PE, 220V/230V/240V		
Switching Time	<10ms		
GEN Max. Current	82A		
GEN Voltage Range	185-276V(P2N)		
AC Output (Grid Side)			
Rated Output Power	8KW	10KW	12KW
Max. Output Power	8.8KVA	11KVA	13.2KVA
Max. Output Current	40A	50A	60A
AC Input (Grid Side)			
Max. Input Power	18KVA		
Grid Frequency	50/60±5Hz		
DC Input			
Max. Input Power	18KW		
Max.Input Voltage	800V		
Number of MPPT	3		
Max. Input String Per MPPT	1/1/1		
MPPT Voltage Range	130-800V		
Starting Voltage	140V		
Max. Input Current	20A/20A/20A		
Short-Circuit Current	24A/24A/24A		
Battery Parameter			
Battery Type	Lithium-ion/Lead-Acid/Sodium-ion		
Number of Battery Input	2		
Battery Voltage Range	30-60V		
Battery Charging/Discharging Current	125A*2		
Efficiency			
Max. Efficiency	98.2%		
European Efficiency	97.70%		
Max. Battery Charging / Discharging Efficiency	95.00%		
General Data			
Size(W*H*D)	465mm*665mm*165mm		
Weight	36kg		
Noise	<45dB(A)		
Operating Temperature	-25°C~+60°C (>45°C Derating)		
Operating Altitude	4000m(>3000m Derating)		
Cooling Method	Intelligent Air Cooling		
Ingress Protection Grade	IP65		
Topology	Isolation		
Communication Port	RS485*1,Wi-Fi/4G dongle*1,DO*2,DRM*1		
Protection	DC Switch; Reverse Polarity Protection; AC Overvoltage/Overcurrent/Short Circuit Protection; Anti-islanding Protection; Residual Current Monitoring; Insulation Resistance Detection; Surge Protection:DC Type II / AC Type III; AFCI(Optional); PID(Optional)		
Certification			
CE-LVD	IEC62109-1&2, IEC62477-1		
CE-EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3,EN61000-6-4 EN 61000-4-16, EN 61000-4-18,EN 61000-4-29		
Grid	VDE-AR-N 4105;VDE 0126-1-1 EN 50549-1;G98,G100; CEI 0-21;AS/NZS4777.2 NRS 097-2-1		

*Overload output is dependent on sufficient PV and battery energy

HES 6-12KW LT

Three Phase LV Hybrid Inverter

• Product Features

- SiC Technology, Max. 98.2% Efficiency
- 2 Independent Battery Ports for Mixture Use of Old & New Battery
- 150%-200% PV Input Power, 3 MPPTs, PV Input Current 20A, Higher Compatibility with PV Panel
- 200-480% Grid Input Power, Max.24kW, Supplying to Loads & Charging Battery in Parallel
- 166-400% Overload
- 165mm Ultra-thin, IP65
- Executive Generator Port, Smart Monitoring Max. Generator Input Current 36.4A
- Battery Current 250A, Battery Voltage 30-60V, Support Compability with Sodium-ion Battery
- 6 Units in Parallel (Off-grid Mode) AFCI/PID Function (Optional)

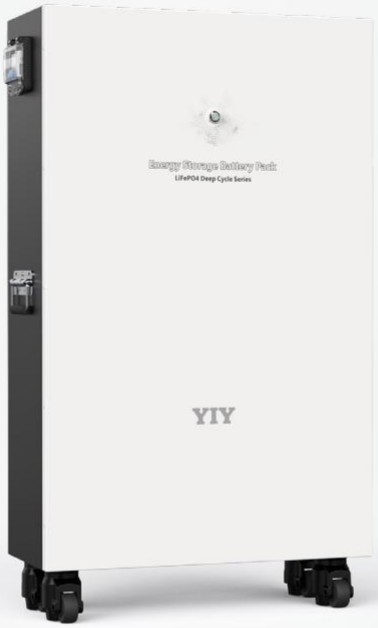
• Technical Parameter

Model Name	HES(6K)LT	HES(8K)LT	HES(10K)LT	HES(12K)LT
AC Output (Off-grid Side)				
Rated Output Power	6KW	8KW	10KW	12KW
Max. Output Power	6.6KVA	8.8KVA	11KVA	13.2KVA
Peak Power&Duration	20KVA(10s)*			
Max. Output Current	10A	13.3A	16A	20A
Rated Output Voltage	3/N/PE, 220/380Vac, 230/400Vac			
Switching Time	<10ms			
GEN Max. Current	36.4A			
GEN Voltage Range	185-276V(P2N)			
AC Output (Grid Side)				
Rated Output Power	6KW	8KW	10KW	12KW
Max. Output Power	6.6KVA	8.8KVA	11KVA	13.2KVA
Max. Output Current	10A	13.3A	16A	20A
AC Input (Grid Side)				
Max. Input Power	24KVA			
Rated Voltage	3/N/PE, 220/380Vac, 230/400Vac			
Grid Voltage range	185-276V (P2N)			
Grid Frequency	50/60±5Hz			
DC Input				
Max. Input Power	18KW			
Max.Input Voltage	800V			
Number of MPPT	3			
Max. Input String Per MPPT	1/1/1			
MPPT Voltage Range	130-800V			
Starting Voltage	140V			
Max. Input Current	20A/20A/20A			
Short-Circuit Current	24A/24A/24A			
Battery Parameter				
Battery Type	Lithium-ion/Lead-Acid/Sodium-ion			
Number of Battery Input	2			
Battery Voltage Range	30-60V			
Battery Charging/Discharging Current	125A*2			
Efficiency				
Max. Efficiency	98.2%			
European Efficiency	97.70%			
Max. Battery Charging / Discharging Efficiency	95.00%			
General Data				
Size(W*H*D)	465mm*665mm*165mm			
Weight	36kg			
Noise	<45dB(A)			
Operating Temperature	-25°C~+60°C (>45°C Derating)			
Operating Altitude	4000m(>3000m Derating)			
Cooling Method	Intelligent Air Cooling			
Ingress Protection Grade	IP65			
Topology	Isolation			
Communication Port	LED/WIFI/4G/Bluetooth/RS485			
Protection	DC Switch; Reverse Polarity Protection; AC Overvoltage/Overcurrent/Short Circuit Protection; Anti-islanding Protection; Residual Current Monitoring; Insulation Resistance Detection; Surge Protection:DC Type II / AC Type III; AFCI(Optional); PID(Optional)			
Certification				
CE-LVD	IEC62109-1&2, IEC62477-1			
CE-EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3,EN61000-6-4 EN 61000-4-16, EN 61000-4-18,EN 61000-4-29			
Grid	VDE-AR-N 4105;VDE 0126-1-1 EN 50549-1;G98,G100; CEI 0-21;AS/NZS4777.2 NRS 097-2-1			

*Overload output is dependent on sufficient PV and battery energy

LFP-M IP65

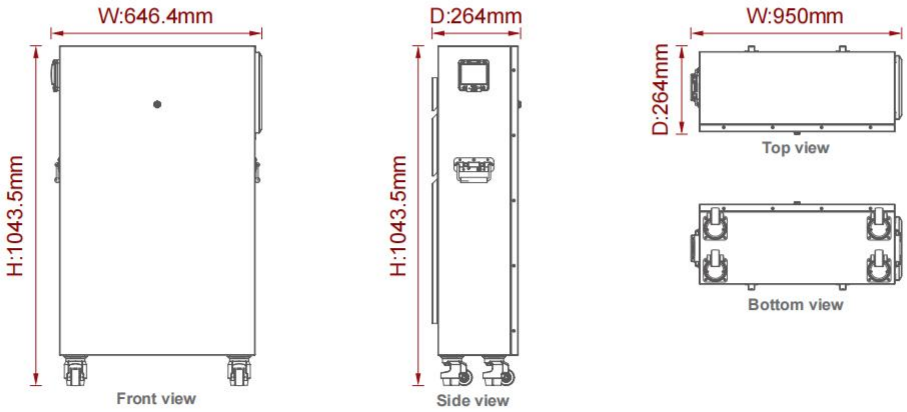
LiFePO4 Battery Pack



• Features

- Grade A LiFePO4 cells.
- IP65 Protection.
- 51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Parallel connection up to 9 PCS,Standard CAN &RS485 communication port.
- Compatible with other brand inverters' communication protocols.

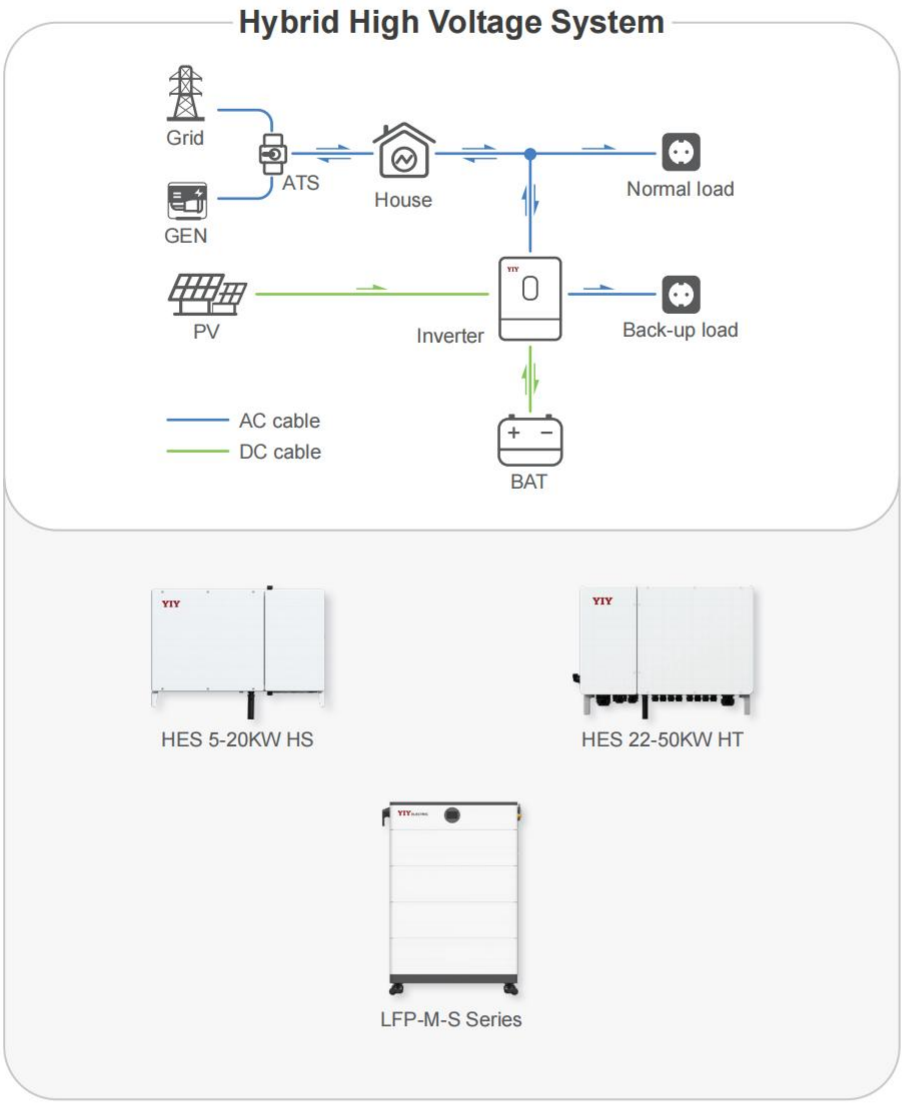
• Product Dimensions



• Technical Parameter

LFP-M IP65 Series LiFePO4 Battery Pack		
Specifications		
Model	LFP-M48314H	
Rated Voltage	51.2V	
Rated Capacity	314Ah	
Rated Energy	16.07KWH	
Cell Configuration	16S1P	
Battery Cell	3.2V 314AH	
Cycles	8000@70%SOH,90%DOD (25°C)	
Standard Charge		
Operation temperature range @charging	0~60°C	
Rated charge voltage	56V	
Over charge protection	57.6V	
Allowed MAX charge current	150A	
Peak charge current	160A 3S	
Rated charge current	150A	
Recommended charge method	CC-CV	
Standard Discharge		
Operation temperature range @discharging	-20~60°C	
Output Voltage Range	48~57.6V	
Discharge Cut-off voltage	48V	
Allowed MAX discharge current	150A	
Peak discharge current	160A 3S	
Rated discharge current	150A	
Recommended discharge current	150A	
Mechanical Characteristics		
Dimension W*D*H	646.4*264*1043.5mm	
Weight(N.W)	130KG	
Communication		
RS485	PC control and monitor	
CAN	Inverter PC control and monitor	
Storage and Transportation Requirements		
Storage Temperature	Less than 1 month	-20~35°C
	Less than 6 month	-10~30°C
Storage Humidity	45~75%RH	
SOC	Storage	60~75%SOC
	Transport	45~55%SOC

Hybrid Energy Storage System (High Voltage)




Cloud+APP
• Monitoring system
Solar Panels
PV Combiner Box
• Easy installation
• Easy to expand
Battery
• Modular Design
• Stacked Type LiFePO4
Battery Pack
Inverter
• Hybrid Inverter

HES 5-20KW HS

Split Phase HV Hybrid Inverter

• Product Features

- SiC Technology, Max. 98% Efficiency
- 2 Independent Battery Ports for Mixture Use of Old & New Battery
- 160% -300% Overload
- 200% Grid Input Power, Max.48kW
- Max. 200% PV Input Power, Max.36A PV Current, 4 MPPTs
- Battery Current 100A, High Compatibility to Battery
- 180mm Ultra-thin Small Size, Easier for Installation and Price-wise in Shipping
- > 200% Generator Input Power, Executive Generator Port, Smart Monitoring
- IP66/NEMA 4X Protection Grade AFCI Function(Optional)

• Technical Parameter

Model Name	HES(5K)HS	HES(6K)HS	HES(8K)HS	HES(10K)HS	HES(12K)HS	HES(15K)HS	HES(20K)HS
AC Output (Off-grid Side)							
Rated Output Power	5KW	6KW	8KW	10KW	12KW	15KW	20KW
Rated Output Current	21A	25A	33.5A	41.7A	50A	62.5A	83.5A
Max. Output Power	5.5KVA	6.6KVA	8.8KVA	11KVA	13.2KVA	16.5KVA	22KVA
Peak Power&Duration*	15KVA(10s)	18KVA(10s)	24KVA(10s)	30KVA(10s)	32KVA(10s)	32KVA(10s)	32KVA(10s)
Rated Frequency	50Hz/60Hz						
GEN Input Power	48KW						
GEN Port Current	200A						
Off-grid Switching Time	<8ms						
AC Output (Grid Side)							
Rated Output Power	5KW	6KW	8KW	10KW	12KW	15KW	20KW
Rated Output Current	21A	25A	33.5A	41.7A	50A	62.5A	83.5A
AC Input (Grid Side)							
Rated Grid Voltage	120V/240V/208V(240V/208V Single phase support)						
Input Current from Grid	200A						
DC Input							
Max. PV Input Power	10KWp	12KWp	16KWp	20KWp	24KWp	24KWp/30KWp	24KWp/30KWp
Starting Voltage	95V						
MPPT Voltage Range	80-500V						
Numbers of MPPT	4						
Numbers of String Per MPPT	1/1/1/1					2/2/1/1	2/2/2/2
Max. MPPT Input Current	18A					36/36/18/18A	36A
MPPT Short-circuit Current	22A					44/44/22/22A	44A
Battery Parameter							
Battery Type	Lithium-ion/Lead-acid/Sodium-ion(optional)						
Battery Voltage Range	80-480V						
Battery Charging/Discharging Current	50A*2						
Efficiency							
Max. Efficiency	97.6%						
CEC Efficiency	97.2%						
PV Charge to Battery Efficiency	97.7%						
Max. Battery Charging/ Discharging Efficiency	96.6%						
General Data							
Size(W*H*D)	31.5*18.5*7.1 in/800*470*180 mm						
Weight	105 lb/48 kg						
Operating Temperature	-13~140°F/-25~60°C(>104 °F/40°C Derating)						
Operating Altitude	4000m (>3000m Derating)						
Protection Grade	IP66/NEMA 4X						
Communication Port	WIFI/LAN/4G/Bluetooth						
Battery Communication Port	CAN*2/RS485*2						
ATS Function	Built-in						
Protection	DC Switch; Ground Fault Detection; PV Quick Shutdown Control; PV Arc Fault Detection; PV Input Lightning Protection; PV Reverse Polarity Protection; Battery Reverse Protection; Surge Protection: DC Type II /AC Type II; AC Grid Input Circuit Breaker						

*Overload output is dependent on sufficient PV and battery energy

HES 22-50KW HT

Three Phase HV Hybrid Inverter

• Product Features

- SiC Technology, Max. Efficiency 98%
- 2 Independent Battery Ports for Mixture Use of Old & New Battery
- 150%-340% PV Input Power, 4 MPPTs, PV Input Current 40A, Higher Compatibility with PV Panel
- 200%-470% Grid Input Power, 150A Grid Input Current Supplying to Loads & Charging Battery in Parallel
- 150% Overload, AFCI Function(Optional)
- Smaller Size, Easier for Installation and Price-wise in Shipping
- Executive Generator Port, Smart Monitoring Max.Generator Input Current 150A
- Battery Current 160A, High Adapability with Battery
- 6 Units in Parallel (Off-grid Mode)

• Technical Parameter

Model Name	HES(22K)HT	HES(25K)HT	HES(29.9K)HT	HES(30K)HT	HES(40K)HT	HES(42.5K)HT	HES(50K)HT
AC Output (Off-grid Side)							
Rated Output Power	22KW	25KW	29.9KW	30KW	40KW	42.5KW	50KW
Max. Output Power	24.2KVA	27.5KVA	29.9KVA	33KVA	44KVA	42.5KVA	55KVA
Rated Voltage	3L/N/PE,220/380V; 230/400V						
Rated Frequency	50Hz/60Hz						
Rated Output Current	31.9A	36.3A	43.5A	43.5A	58A	61.6A	72.5A
Max. Output Current	35.1A	39.9A	43.5A	47.9A	63.8A	61.6A	79.8A
Peak Power &Duration	150%(10s)						
Generator Input Current	150A						
THDU	<3%						
On-grid Parameter							
Rated Output Power	22KW	25KW	29.9KW	30KW	40KW	42.5KW	50KW
Rated Grid Voltage	3L/N/PE,220/380V; 230/400V						
Rated Grid Frequency	50H2/60HZ						
Rated Output Current	31.9A	36.3A	43.5A	43.5A	58A	61.6A	72.5A
Grid Input Current	150A						
DC Input							
Max. DC Input Power	75000Wp						
Max.Input Voltage	1000V						
Rated Input Voltage	600V						
Starting Voltage	180V						
MPPT Voltage Range	150-850V						
Max.Input String Per MPPT	4/8						
Max. DC Input Current	4*40A						
Short-circuit Current	4*60A						
Battery Parameter							
Battery Type	Lithium-ion/Lead-Acid/Sodium-ion						
Battery Voltage Range	140-800V						
Max. Charing/Discharing Power	22KW	25KW	29.9KW	30KW	40KW	42.5KW	50KW
Max. Charing/Discharing Current	80A*2						
Number of Battery Input Ports	2						
Efficiency							
Max. Efficiency	98.6%						
European Efficiency/CEC Efficiency	97.97%						
Max. Battery Charging/Discharging Efficiency	98%						
General Data							
Size(W*H*D)	850mm*550mm*295mm						
Weight	88kg						
Noise	55dB(A)						
Operating Temperature	-25C~+60C						
Operating Altitude	4000m(>3000m Derating)						
Humidity Range	0-100%						
Ingress Protection Grade	IP66						
Cooling Method	Intelligent Air Cooling						
Monitoring	LED+Bluetooth+APP, WIFI/LAN/4G						
Communication Port	RS485* 1, Internet/WIFI/4G, DO*2,DI*2,AI*1,AO*1,DRM*3						
DC Power	12VDC 2A						

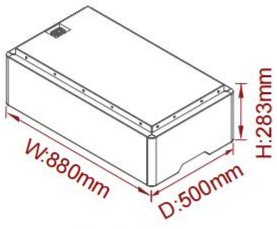
LFP-M-S

Stacked Type High-Voltage LiFePO4 Battery Pack

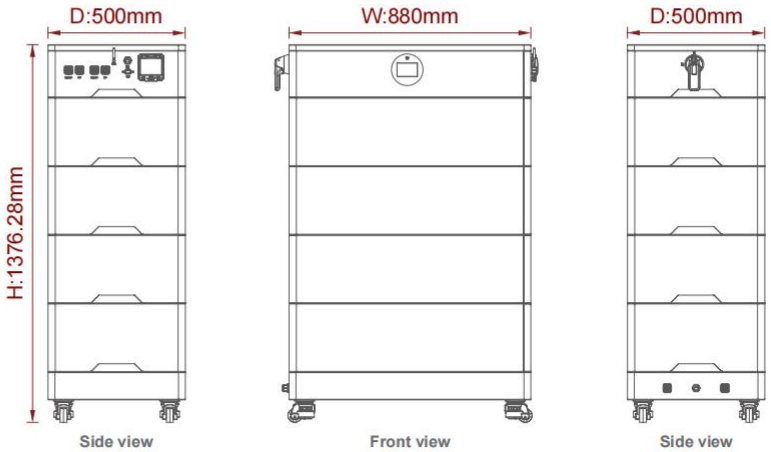
• Features

- **Flexible Expansion**
  Up to 4 clusters in parallel, 32.14KWh~257.12KWh capacity.
- **Easy Installation**
  Stackable design, Hot Plugging connection.
- **IP54 Protection**
  Indoor&outdoor installation.

• Product Dimensions



LFP-M48314S



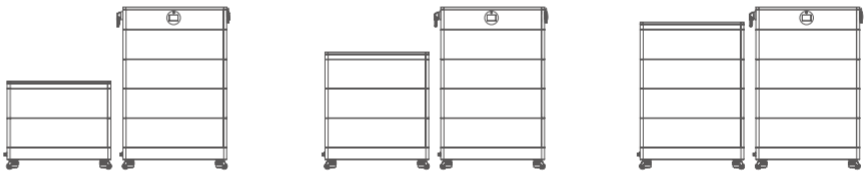
Max 4-Layer Rack

• Technical Parameter

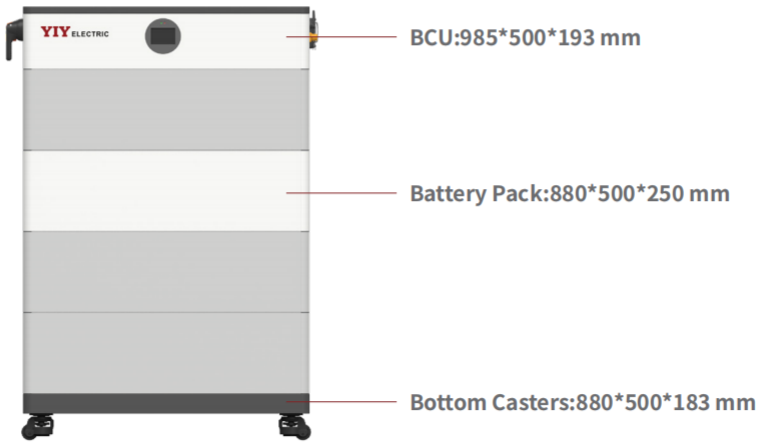
LFP-M-S Series Stacked Type LiFePO4 Battery Pack		
Specifications		
Model	LFP-M48314S	
Rated Voltage	51.2V	
Rated Capacity	314Ah	
Rated Energy	16.07KWH	
Cell Configuration	16S1P	
Battery Cell	3.2V 314AH	
Cycles	8000@70%SOH,90%DOD (25°C)	
Standard Charge		
Operation temperature range@charging	0~55°C	
Rated charge voltage	56V±0.4V	
Max charge voltage	57.6V±0.4V	
Allowed MAX charge current	157A	
Peak charge current	170A 2S	
Standard Discharge		
Operation temperature range @discharging	-10~60°C	
Output Voltage Range	46.4~57.6V	
Discharge Cut-off voltage	46.4V	
Allowed MAX discharge current	150A	
Peak discharge current	160A 3S	
Mechanical Characteristics		
Dimension (W*D*H)	880*500*283mm	
Weight (N.W)	130KG	
Communication		
CAN	Inverter PC control and monitor	
Storage and Transportation Requirements		
Storage Temperature	Less than 1 month	-20~35°C
	Less than 6 month	-10~30°C
Storage Humidity	45~75%RH	
SOC	Storage	60~75%SOC
	Transport	45~55%SOC

• Technical Parameter

Number of battery modules(Piece)	3	4	5
Total battery capacity(kWH)	48.21	64.28	80.35
Maximum charge/discharge power (kW)	24.1	32.15	40.19
Rated Voltage(V)	153.6	204.8	256
Total weight(Kg)	436	563	727
Applicable Equipment	HES 5-20KW HS	HES 5-20KW HS HES 22-50KW HT	HES 5-20KW HS HES 22-50KW HT

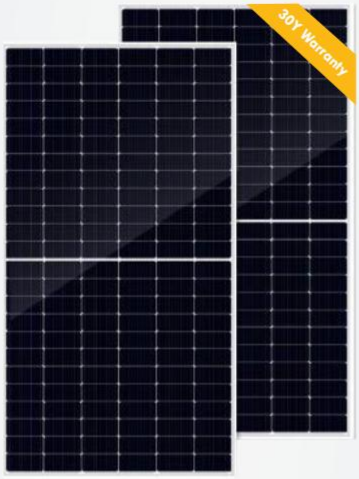


Number of battery modules(Piece)	6	7	8
Total battery capacity(kWH)	96.42	112.49	128.56
Maximum charge/discharge power (kW)	48.23	56.26	64.3
Rated Voltage(V)	307.2	358.4	409.6
Total weight(Kg)	854	981	1108
Applicable Equipment	HES 5-20KW HS HES 22-50KW HT	HES 5-20KW HS HES 22-50KW HT	HES 5-20KW HS HES 22-50KW HT



685W-730W Solar Panel

Bifacial Monocrystalline Module



• Features

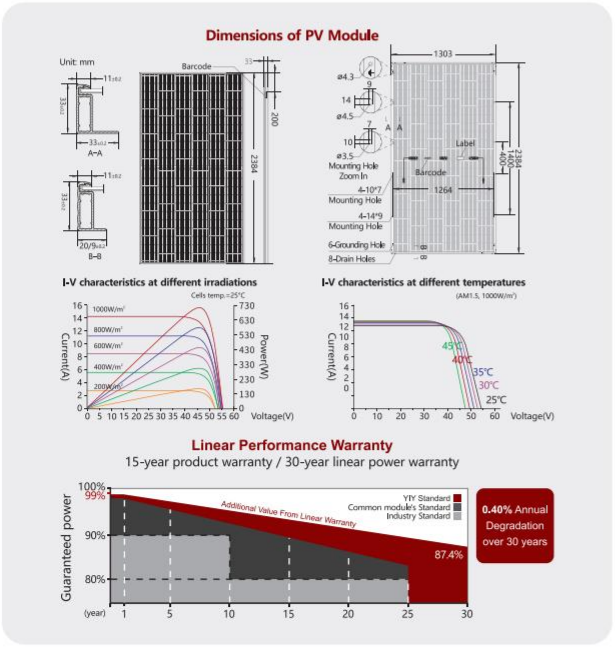
- Higher Power Output
- Multi Busbar Technology
- PID Resistance
- Low-light Performance
- Durability Against Extreme Environmental Conditions
- EL Full Inspection

• Technical Parameter

Specifications(BNPI)

Rated Power in Watts-Pmax(Wp)	758.9	764.7	769.3	774.8	780.6	785.7	791.6	797.1	802.6	808.6
Open Circuit Voltage-Voc(V)	47.90	48.10	48.50	48.80	49.00	49.20	49.40	49.60	49.80	50.00
Short Circuit Current-Isc(A)	20.06	20.11	20.15	20.19	20.24	20.28	20.33	20.37	20.41	20.46
Max. Power Voltage-Vmpp(V)	40.10	40.30	40.50	40.70	40.90	41.10	41.30	41.50	41.70	41.90
Max. Power Current-Impp(A)	18.93	18.98	19.00	19.04	19.09	19.12	19.17	19.21	19.25	19.30
Power Tolerance	0~+3%									
Operating Temperature	-40°C~85°C									

*BNPI: Irradiance: front 1000W/m², rear 135W/m², Cell Temperature 25°C, AM=1.5



Electrical Characteristics (STC*)

Rated Power in Watts-Pmax(Wp)	685	690	695	700	705	710	715	720	725	730
Open Circuit Voltage-Voc(V)	47.70	47.90	48.30	48.60	48.80	49.00	49.20	49.40	49.60	49.80
Short Circuit Current-Isc(A)	18.21	18.25	18.28	18.32	18.36	18.40	18.44	18.48	18.52	18.56
Max. Power Voltage-Vmpp(V)	39.90	40.10	40.30	40.50	40.70	40.90	41.10	41.30	41.50	41.70
Max. Power Current-Impp(A)	17.19	17.23	17.25	17.29	17.33	17.36	17.40	17.44	17.48	17.52
Module Efficiency(%)	22.05	22.21	22.37	22.53	22.70	22.86	23.02	23.18	23.34	23.50
Maximum System Voltage	1500V DC									
Fuse Rating(A)	30									
Temperature Coefficient Pmax	-0.30%/°C									
Temperature Coefficient Isc	0.046%/°C									
Temperature Coefficient Voc	-0.25%/°C									
Refer. Bifacial Factor	ΦIsc=80%±10%,ΦVoc=100%±3%,ΦPmax=80%±10%									

*STC: Irradiance 1000W/m², module temperature 25°C , AM=1.5

Mechanical Characteristics

Number of Cells	132pcs
Type of Cell	N-TOPCon Mono
Thickness of Glass(mm)	2.0
Type of Frame	Anodized Aluminum Alloy
Size of Module(mm)	2384×1303×33
Weight(kg)	37.5
Junction Box	IP68, 1500V DC, 3 Diodes
Cables/Connectors	4.0mm², MC4 compatible
Length of Cable	+350mm/-250mm Length can be customized(connector included)

Packaging Configuration

Height of Modules (mm)	33
Number of Modules Per Pallet	33
Packaging Box Dimensions (l×w×h) (mm)	1326×1140×2515
Box Gross Weight (kg)	1280
Number of Modules Per 40ft (HQ) Container	594
Number of Pallets Per 40ft (HQ) Container	18

YIY

Start Digital Power Supply

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