

**YIY**

# **Residential Energy Storage Solutions**

*May energy and ecology be more harmonious*

# YIYEN HOLDING GROUP

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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



**15+**  
Years Experience



**30000m<sup>2</sup>+**  
Plant Areas



**3GWH+ / year**  
Delivered Capacity





**50+**  
R&D Staff



**BMS Platform**  
12V~1500V Voltage Class



**100+**  
Intellectual Properties




**130+**  
Export Countries

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## APPLICATIONS

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**B**attery  
**E**nergy  
**S**torage  
**S**olution



**PRODUCTS**

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NEW

# On&Off-Grid Solar+ESS (HYBRID)

Reducing grid energy demand through PV systems



On&off-grid



PV generation



Peak & Valley  
Reduction



Back-up power

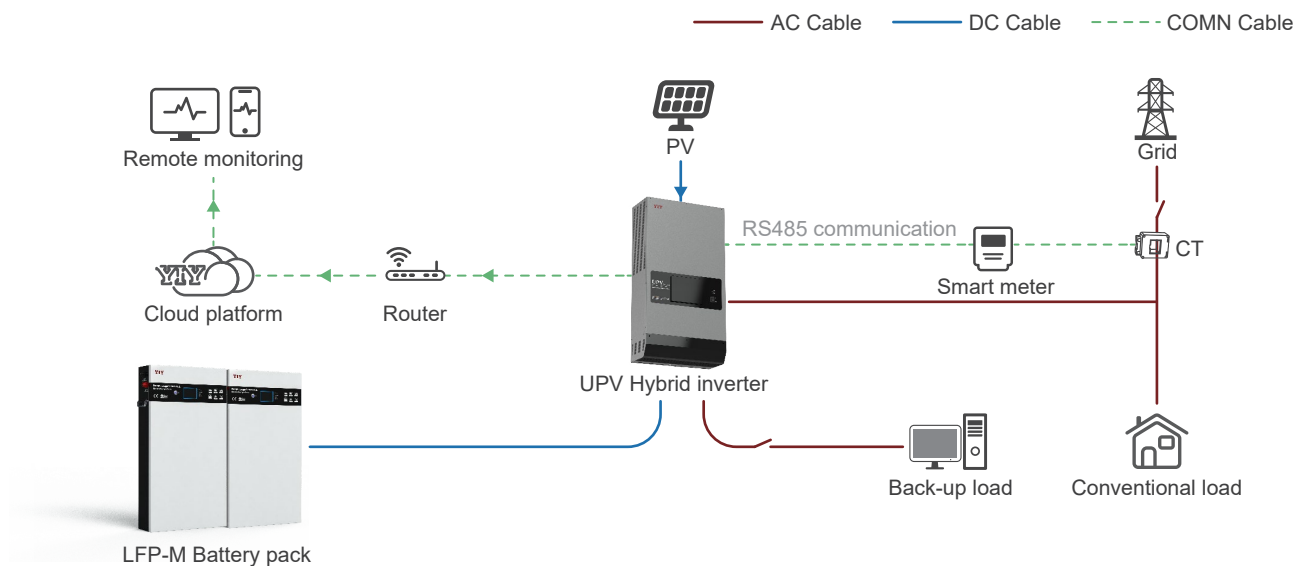




## • Overview

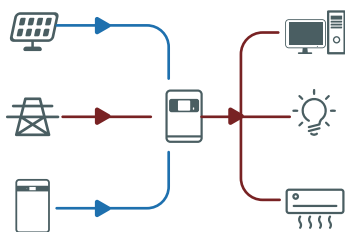
YIY UPV Hybrid energy storage inverter + LFP-M Battery pack is a DC-coupled photovoltaic energy storage system solution for a variety of scenarios, featuring hybrid power supply, reservation of energy supply and high overall system efficiency. It helps customers build their own solar self-powered systems, reducing their electricity bills while providing them with a flexible and stable power supply environment.

## • System Topology



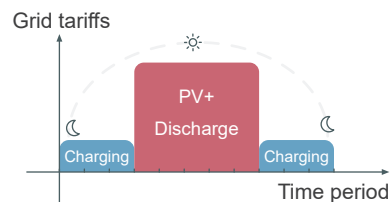
### > Hybrid power supply

supporting PV, battery and grid power simultaneously



### > Reservation enable

can set power consumption strategy according to the local grid tariffs between peak and valley time.



### > High efficiency

UPV efficiency is up to 95%

### > Fast response time

switch to battery power within 8ms in case of grid failure



NEW

# On&Off-Grid ESS

Battery backup and peak shaving function



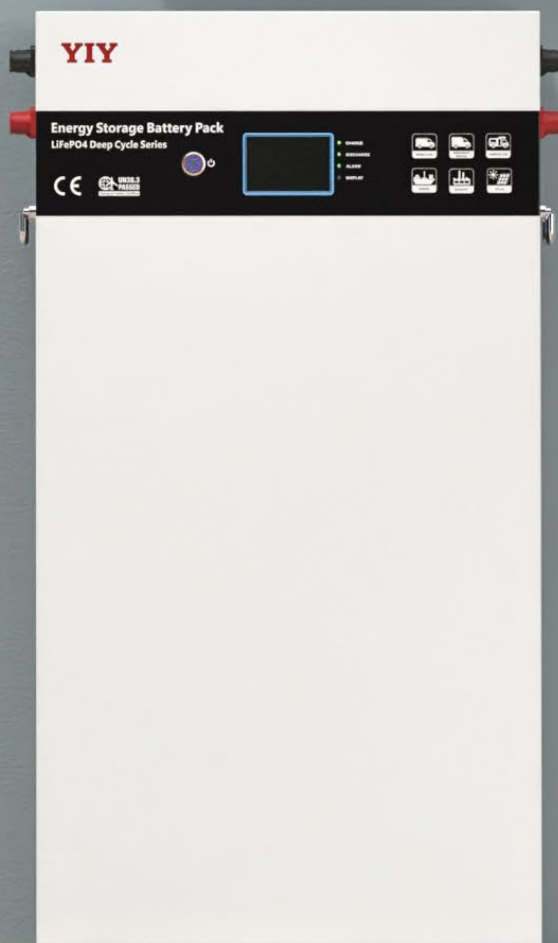
On&off-grid



Peak & Valley  
Reduction



Back-up power





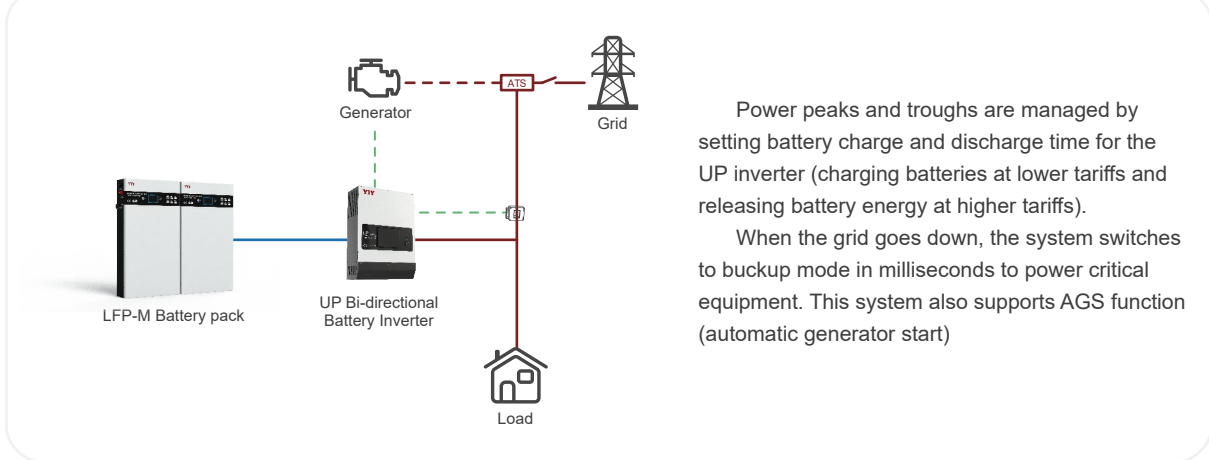
## • Overview

UP bi-directional power inverter + LFP-M battery pack is an energy storage solution for areas with unstable electricity grids and large peak-to-valley price difference and for upgrading existing PV system. It helps customers to avoid blackouts and reducing their electricity bills by taking advantage of the difference between peak and valley time.

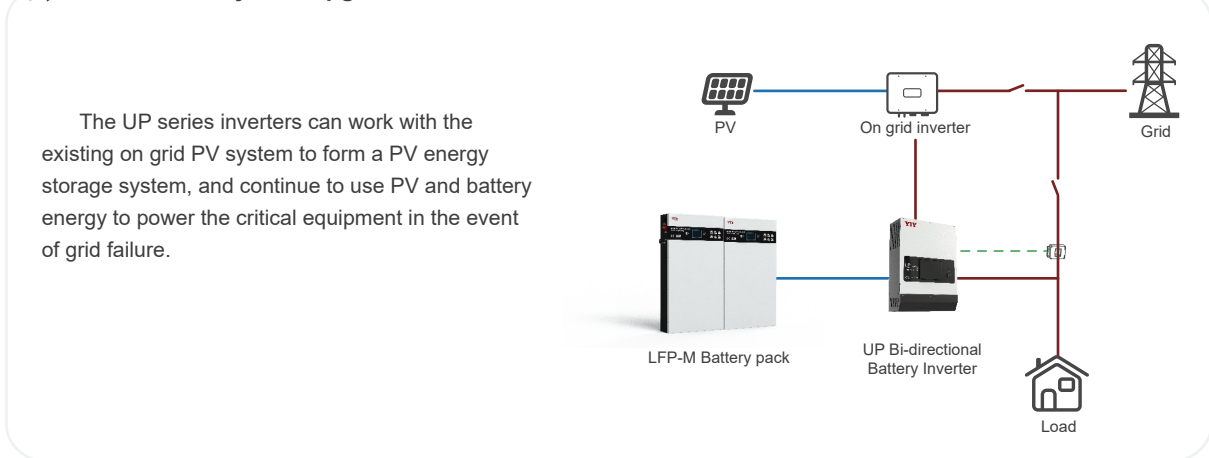
Supporting external MPPT solar controllers to expand solar power generation capabilities.

## • System Topology

### > Basic application



### > On Grid PV system upgrade scheme



### > Three-phase power supply

The UP series can be supplied with three-phase power through parallel machines.

### > Power Extension

The UP series can increase the capacity of the system through parallel operation.

# Off-Grid Solar+ESS

Self-generation where there is no grid or where the grid is of poor quality



Off-grid



PV generation



RV system



Back-up power



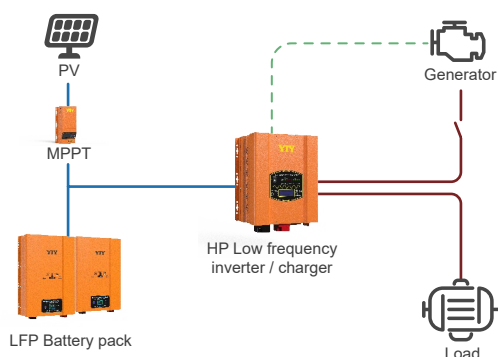


## • Overview

HP Low frequency inverter + MPPT + LFP battery pack is an off-grid PV energy storage system solution that can be adapted to harsh operating environments with inductive loads, like water pump, air conditioner, etc.

## • System Topology

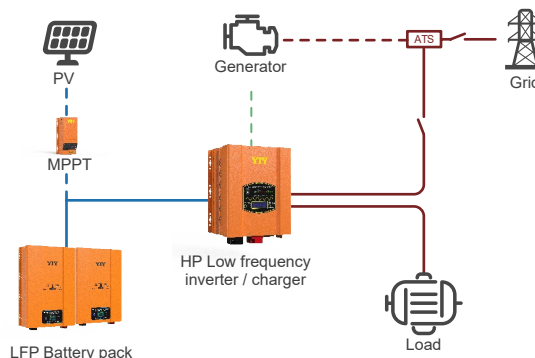
### ➤ Basic application



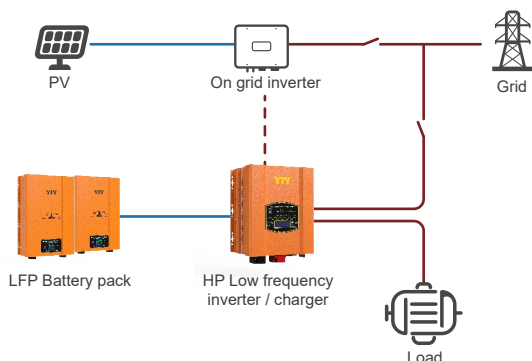
The system can use PV energy to power loads when grid is unavailable, minimizing the use of generator. Excessed PV energy can be stored in batteries and provide backup power during outages. Compensating with a generator to avoid power shortage issue

### ➤ Backup power scheme

It can be used as a stable and reliable backup power source, using photovoltaic energy to charge the batteries and seamlessly switching to standby mode in milliseconds to power critical equipment in the event of a grid failure. Coupled with a generator, it is possible to increase the amount of time spent off-grid at night.



### ➤ On Grid PV system upgrade scheme



The HP series inverters can work with the existing on grid PV system to form a PV energy storage system, and continue to use PV and battery energy to power the critical equipment in the event of grid failure.



# All-in-One ESS

All-in-one energy storage solutions



PV generation



Peak & Valley  
Reduction



Back-up power



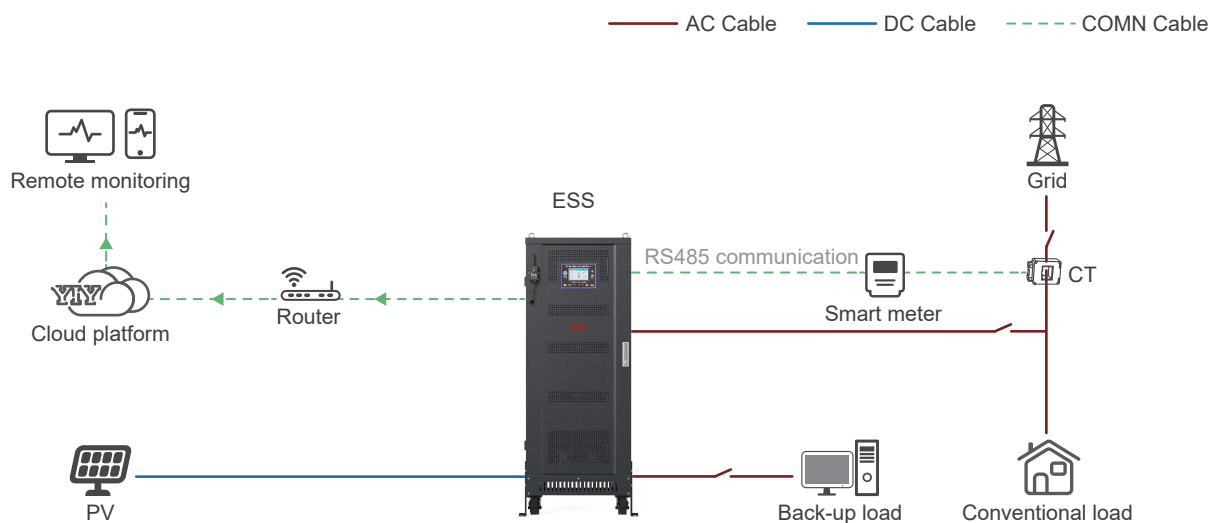


## • Structure



- Low frequency inverter/charger module (6~18kW)
- MPPT module
- 5kWh / 10kWh Battery pack
- WIFI Telecommunication module
- Touch screen


## • System Topology



  
Support 300% overload (20S)

  
Wide power range

  
PV support

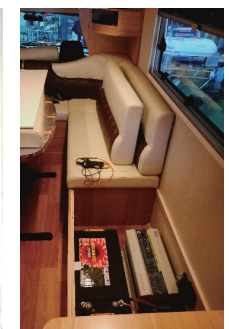
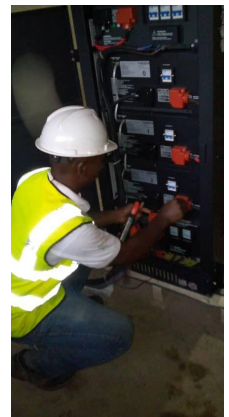
  
Support generator start/stop function

  
Support remote monitoring

  
Modular design



# DEMONSTRATIONS



# OUR PRODUCTS

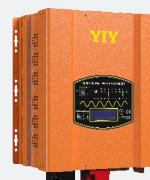
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Hybrid inverter



On&off grid inverter



Low frequency inverter/charger



Battery pack



All-in-One ESS

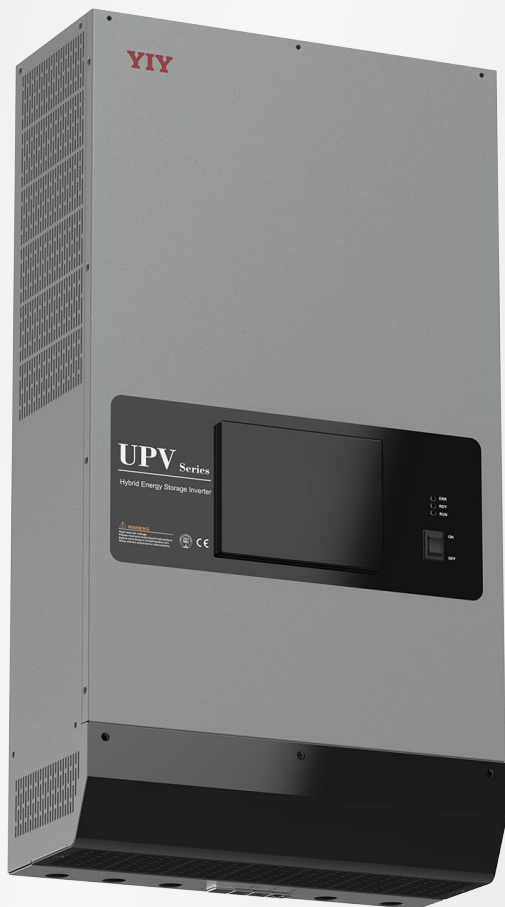


MPPT

# UPV

## Hybrid Energy Storage Inverter

NEW



### • Features

- Built-in EMS achieves high efficient utilization of power energy among the grid, battery and solar.
- Reservation mode allows users to set up time for charging and discharging(peak shaving function).
- Switch time <8 ms (to off grid mode).
- Can be used in single /dual/ three phase grid structures.
- On-grid mode and off grid mode selectable .
- Max efficiency 95%, THD<5% under full load .
- Battery charging voltage and charging current programmable .
- Friendly HMI allows user configuration.

### • Applications



On&off-grid



PV generation



Peak & Valley  
Reduction



Back-up power



## • Technical Parameter

| UPV Series Hybrid Energy Storage Inverter             |  |                                       |           |
|---|--|---------------------------------------|-----------|
| Model   |  | UPV 5048E                             | UPV 6048E |
| Battery   |  |                                       |           |
| Battery Type  |  | Lead-acid or Lithium-ion              |           |
| Battery Voltage Range                                 |  | 40~60V                                |           |
| Max. Charge/Discharge Current                         |  | 100A                                  |           |
| Charging Curve  |  | 3 Stages                              |           |
| Charging Voltage                                      |  | Depends On Battery Type (Schedule 1)  |           |
| Input DC(PV Side)                                     |  |                                       |           |
| Recommended Max.PV Power                              |  | 3kW                                   |           |
| Rated Voltage Range                                   |  | 60~200V                               |           |
| Max.Input Voltage                                     |  | 200V                                  |           |
| Start Up Voltage                                      |  | 75V                                   |           |
| MPPT Voltage Range                                    |  | 75~170V                               |           |
| Max.Input Current                                     |  | 60A                                   |           |
| No.Of MPPT Trackers<br>No.Of Strings Per MPPT Tracker |  | 1                                     |           |
| PV Module Efficiency                                  |  | ≥99.6%                                |           |
| Output AC(Back Up)                                    |  |                                       |           |
| Rated Output Power                                    |  | 5000W                                 | 6000W     |
| Max.AC Output Power                                   |  | 5500W                                 | 6600W     |
| Back Up Switch Time                                   |  | <8ms                                  |           |
| Rated output voltage                                  |  | 230V (Single Phase)                   |           |
| Rated frequency                                       |  | 50Hz                                  |           |
| Rated output current                                  |  | 22.7A                                 | 27.3A     |
| Input Voltage Waveform                                |  | Sine Wave                             |           |
| THDv(@linear load)                                    |  | 2%                                    |           |
| No load loss  |  | <50W                                  |           |
| Output AC(Grid side)                                  |  |                                       |           |
| Rated Output Power                                    |  | 5000W                                 | 6000W     |
| Max.AC Output Power                                   |  | 5500W                                 | 6600W     |
| Rated grid voltage                                    |  | 230V(177~267V/90~267V) (Single Phase) |           |
| Rated grid frequency                                  |  | 50Hz/60Hz(47Hz~55Hz/ 57Hz ~65Hz)      |           |
| Rated output current                                  |  | 22.7A                                 | 27.3A     |
| Power Factor  |  | >0.95                                 |           |
| THDi  |  | <5%                                   |           |

| Efficiency                                  |  |
|---|--|
| Max.efficiency                              | 95%  |
| Protection                                  |  |
| Anti islanding Protection                   | Integrated   |
| PV String Input Reverse Polarity Protection | Integrated   |
| Insulation Resistor Detection               | Integrated   |
| Output Over Current Protection              | Integrated   |
| Output Over Voltage Protection              | Integrated   |
| Overtemperature protection                  | Integrated   |
| Surge protection                            | Integrated   |
| General Data                                |  |
| Display                                     | LED+LCD  |
| Communication                               | RS485/CAN  |
| Dimensions (W*H*D)                          | 370*706*168mm  |
| Weight                                      | 16kg   |
| Installation Style                          | Rack/Wall Mounted  |
| Topology                                    | Transformer Isolation  |
| Operating Temperature Range                 | -20~60°C (Derating Treatment Is Required If The Radiator Is Above 80°C ) |
| Humidity                                    | 0%~95%Relative Humidity (No Condensation)                                |
| Cooling                                     | Intelligent Air Cooling  |
| Protection Degree                           | IP20   |
| Max.operation altitude                      | 2000m (>2000m Derating)  |
| Warranty                                    | 1Year  |

\* Schedule 1: Battery type and charging voltage

| Battery Type | Boost/Vdc   | Float/Vdc |
|--------------|---|-----------|
| Gel USA      | 56Vdc   | 54.8Vdc   |
| AGM 1        | 56.4Vdc   | 53.6Vdc   |
| LiFePO4_LF14 | 57.6Vdc   | 54.4Vdc   |
| MnNiCo_N14   | 54.8Vdc   | 54.8Vdc   |
| Custom       | Set The Information According To The Specification Of The Battery |           |

## \* Schedule 1: Battery type and charging voltage

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| MnNiCo_N14   | 54.8Vdc   | 54.8Vdc   |
| Custom       | Set The Information According To The Specification Of The Battery |           |

# UP

## Bi-directional Battery Inverter

NEW



### • Features

- Built-in EMS achieves high efficient utilization of power energy between the grid and battery.
- Reservation mode allows users to set up time for charging and discharging (peak shaving function).
- Switch time <8 ms (to off grid mode) .
- Can be used in single /dual/ three phase grid structures.
- On-grid mode and off grid mode selectable .
- Max efficiency 95%, THD<5% under full load.
- Battery charging voltage and charging current programmable.
- Friendly HMI allows user configuration.

### • Applications



On&off-grid



Peak & Valley  
Reduction



Back-up power



## • Technical Parameter

## UP Series Bi-directional Battery Inverter/Charger

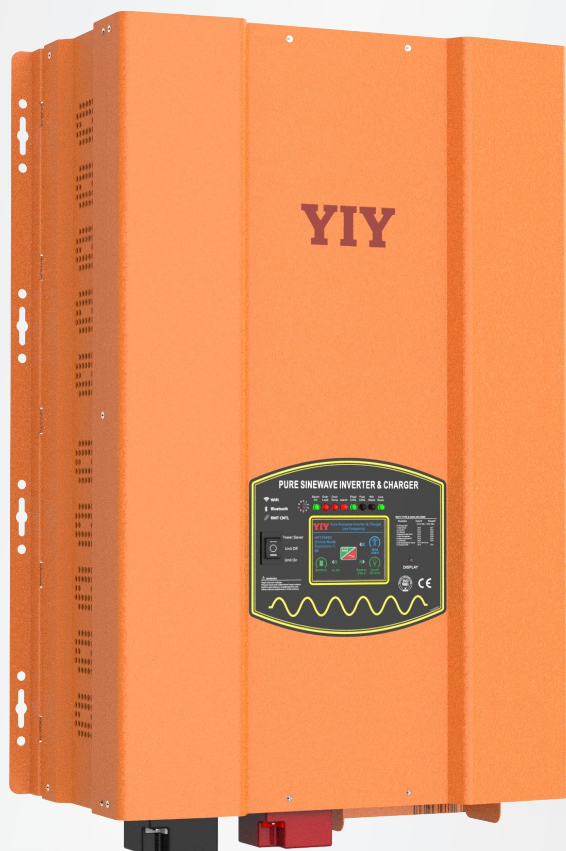
|                                |                                       |          |   |   |           |
|--------------------------------|---------------------------------------|----------|---|---|-----------|
| Model                          | UP 5048E                              | UP 6048E | General Data                                    |   |           |
| Battery                        |                                       |          | Display   | LED+LCD   |           |
| Battery Type                   | Lead-acid or Lithium-ion              |          | Communication                                   | RS485/CAN   |           |
| Battery Voltage Range          | 40~60V                                |          | Dimensions (W*H*D)                              | 370*531*168mm   |           |
| Max.Charge/Discharge Current   | 100A                                  |          | Weight  | 16kg  |           |
| Charging Curve                 | 3 Stages                              |          | Installation Style                              | Rack/Wall Mounted   |           |
| Charging Voltage               | Depends On Battery Type(Schedule 1)   |          | Topology  | Transformer Isolation   |           |
| Output AC (Back Up)            |                                       |          | Operating Temperature Range                     | -20~60℃（Derating Treatment Is Required If The Radiator Is Above 80℃）。 |           |
| Rated Output Power             | 5000W                                 | 6000W    | Humidity  | 0%~95%Relative Humidity (No Condensation)                             |           |
| Max.AC Output Power            | 5500W                                 | 6600W    | Cooling   | Intelligent Air Cooling   |           |
| Back Up Switch Time            | <10ms                                 |          | Protection Degree                               | IP20  |           |
| Rated output voltage           | 230V (Single Phase)                   |          | Max. operation altitude                         | 2000m(>2000m Derating)  |           |
| Rated frequency                | 50Hz                                  |          | Warranty  | 1Year   |           |
| Rated output current           | 22.7A                                 | 27.3A    |   |   |           |
| Input Voltage Waveform         | Sine Wave                             |          |   |   |           |
| THDv(@linear load)             | 2%                                    |          |   |   |           |
| No load loss                   | <50W                                  |          |   |   |           |
| Output AC(Grid side)           |                                       |          | * Schedule 1: Battery type and charging voltage |   |           |
| Rated Output Power             | 5000W                                 | 6000W    | Battery Type                                    | Boost/Vdc   | Float/Vdc |
| Max. AC Output Power           | 5500W                                 | 6600W    | Gel USA   | 56Vdc   | 54.8Vdc   |
| Rated grid voltage             | 230V(177~267V/90~267V) (Single Phase) |          | AGM 1   | 56.4Vdc   | 53.6Vdc   |
| Rated grid frequency           | 50Hz/60Hz (47Hz~55Hz/57Hz ~65Hz)      |          | LiFePO4_LF14                                    | 57.6Vdc   | 54.4Vdc   |
| Rated output current           | 22.7A                                 | 27.3A    | MnNiCo_N14                                      | 54.8Vdc   | 54.8Vdc   |
| Power Factor                   | >0.95                                 |          | Custom  | Set The Information According To The Specification Of The Battery     |           |
| THDi                           | <5%                                   |          |   |   |           |
| Efficiency                     |                                       |          |   |   |           |
| Max.efficiency                 | 95%                                   |          |   |   |           |
| Protection                     |                                       |          |   |   |           |
| Anti islanding Protection      | Integrated                            |          |   |   |           |
| Insulation Resistor Detection  | Integrated                            |          |   |   |           |
| Output Over Current Protection | Integrated                            |          |   |   |           |
| Output Over Voltage Protection | Integrated                            |          |   |   |           |
| Over temperature protection    | Integrated                            |          |   |   |           |
| Surge protection               | Integrated                            |          |   |   |           |

## \* Schedule 1: Battery type and charging voltage

| Battery Type | Boost/Vdc   | Float/Vdc |
|--------------|---|-----------|
| Gel USA      | 56Vdc   | 54.8Vdc   |
| AGM 1        | 56.4Vdc   | 53.6Vdc   |
| LiFePO4_LF14 | 57.6Vdc   | 54.4Vdc   |
| MnNiCo_N14   | 54.8Vdc   | 54.8Vdc   |
| Custom       | Set The Information According To The Specification Of The Battery |           |

# HP/HPV

## Low Frequency Pure Sine Wave Inverter/Charger



### • Features

- High Output Capacity up to 20 KW, single phase.
- Ultra Low THD, Typically 7% Under Full Linear Load (battery low).
- Battery Temperature Sensing For Increased Charging Precision.
- Charging current up to 140Amp, 0%-100% adjustable.
- Auto Gen Start Function.
- MPPT Solar Charger Controller Available.
- BTS Seletable.
- GFCI Seletable.

### • Applications



Off-grid



PV generation



Back-up power

## • Technical Parameter

### HP Pure Sine Wave Inverter/Charger

|  |                                       |  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|--|---------------------------------------|--|------------------|-------|-------------------------|-------------------------|--------|---|----------------|----------------------------|--------|-----------------|--------|--------|
| Inverter Output  | Model                                 | 1.0KW  | 1.5KW            | 2.0KW | 3.0KW                   | 4.0KW                   | 5.0KW  | 6.0KW                                   | 8.0KW          | 10.0KW                     | 12.0KW | 15.0KW          | 18.0KW | 20.0KW |
|  | Continuous Output Power               | 1.0KW  | 1.5KW            | 2.0KW | 3.0KW                   | 4.0KW                   | 5.0KW  | 6.0KW                                   | 8.0KW          | 10.0KW                     | 12.0KW | 15.0KW          | 18.0KW | 20.0KW |
|  | Surge Rating (20Secs)                 | 3.0KW  | 4.5KW            | 6.0KW | 9.0KW                   | 12.0KW                  | 15.0KW | 18.0KW                                  | 24.0KW         | 30.0KW                     | 36.0KW | 45.0KW          | 54.0KW | 60.0KW |
|  | Output Waveform                       | Pure Sine vave/Same as input (Bypass Mode)   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Nominal Efficiency                    | >88% (Peak)  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Line Mode Efficiency                  | >95%   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Power Factor                          | 0.9-1.0  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Nominal Output Voltage rms            | 100-110-120Vac/ 220-230-240Vac   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Output Voltage Regulation             | ±10%RMS  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Output Frequency                      | 50Hz± 0.3Hz/60Hz± 0.3Hz  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Short Circuit Protection              | Yes( 1 sec after fault)  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Typical transfer Time                 | 10ms (Max)   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | THD                                   | < 3% (Rated battery level, rated full linear load)   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
| DC Input   | Nominal Input Voltage                 | 12.0Vdc/24.0Vdc  |                  |       | 12.0Vdc/24.0Vdc/48.0Vdc |                         |        | 24.0Vdc<br>48.0Vdc                      |                | 24.0Vdc/48.0Vdc<br>96.0Vdc |        | 48.0Vdc/96.0Vdc |        |        |
|  | Minimum Start Voltage                 | 10.0Vdc/ 10.5Vdc for 12Vdc Mode  |                  |       |                         |                         |        | *2 for 24Vdc/*4 for 48Vdc/*8 for 96Vdc, |                |                            |        |                 |        |        |
|  | Low Battery Alarm                     | 10.5Vdc/ 11.0Vdc for 12Vdc Mode  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Low Batteiy Trip                      | 10.0Vdc/ 10.5Vdcfor 12VdcMode  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | High Voltage Alarm                    | 16.0Vdcfor12Vdc Mode   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Low Battery Voltage Recover           | 15.5Vdc for 12Vdc Mode   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Idle Consumption-Search Mode          | < 25W When Power Saver On. (Refer to Table )   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
| Charger  | Output Voltage                        | Depends on battery type (Refer to Table 2.5.2)   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Charger Breaker Rating                | 20A  | 20A              | 20A   | 25A                     | 32A                     | 40A    | 40A                                     | 50A            | 80A                        | 80A    | 100A            |        |        |
|  | Max Charge Power Rate                 | 1/3 Rating Pover (Refer to Table 2.5.3)  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Battery Initial Voltage for start     | 10-15.7Vdcfor12Vdc Mode  |                  |       |                         |                         |        | *2 for 24Vdc;4 for 48Vdc/8 for 96Vdc,   |                |                            |        |                 |        |        |
|  | Over Charge Protection S.D.           | 15.7Vdcfor12Vdc Mode   |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  | Selector                              | Switch Setting   | Description      |       |                         | Fast Mode / VDC         |        |   | Float Mode/VDC |                            |        |                 |        |        |
|  |                                       | 0  | Charger Off      |       |                         |                         |        |   |                |                            |        |                 |        |        |
|  |                                       | 1  | Gel USA          |       |                         | 14.0                    |        |   | 13.7           |                            |        |                 |        |        |
|  |                                       | 2  | AGM 1            |       |                         | 14.1                    |        |   | 13.4           |                            |        |                 |        |        |
|  |                                       | 3  | Lithium          |       |                         | 13.8                    |        |   | 13.6           |                            |        |                 |        |        |
|  |                                       | 4  | Sealed Lead Acid |       |                         | 14.4                    |        |   | 13.6           |                            |        |                 |        |        |
|  |                                       | 5  | Gel EURO         |       |                         | 14.4                    |        |   | 13.8           |                            |        |                 |        |        |
|  |                                       | 6  | Open Lead Acid   |       |                         | 14.8                    |        |   | 13.8           |                            |        |                 |        |        |
|  |                                       | 7  | LifePO4          |       |                         | 14.0                    |        |   | 13.8           |                            |        |                 |        |        |
|  |                                       | 8  | De-sulphation    |       |                         | 15.5 (4 Hours then Off) |        |   |                |                            |        |                 |        |        |
|  |                                       | 9  | Classic LFP      |       |                         | 13.6                    |        |   | 13.5           |                            |        |                 |        |        |
| For 12Vdc Mode Series("2 for 24Vdc Mode/4 for 48Vdc Mode/8 for 96Vdc Mode) |                                       |  |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |
| BTS  | Battery Temperature Sensor (Optional) | Yes ( Refer to the table) Variances in Charging Voltage & S.D Voltage Base on the Battery Temperature. |                  |       |                         |                         |        |   |                |                            |        |                 |        |        |





### HP Pure Sine Wave Inverter/Charger

|                           |                                       |  |        |        |        |               |        |        |               |        |        |               |        |         |
|---------------------------|---------------------------------------|--|--------|--------|--------|---------------|--------|--------|---------------|--------|--------|---------------|--------|---------|
| BTS                       | Battery Temperature Sensor (Optional) | Yes ( Refer to the table) Variances in Charging Voltage & S.D Voltage Base on the Battery Temperature. |        |        |        |               |        |        |               |        |        |               |        |         |
| Bypass & Protection       | Input Voltage Waveform                | Sine vave (Grid or Generator)  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Nominal Voltage                       | 100-110-120Vac/ 220-230-240Vac   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Max Input AC Voltage                  | 150Vac For 120Vac LV Mode; 300Vac For 230Vac HV Mode:  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Nominal Input Frequency               | 50Hzor60Hz   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Low Freq Trip                         | 47±0.3Hzfor 50Hz 57±0.3Hzfor 60Hz  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | High Freq Trip                        | 55±0.3Hz for 50Hz. 65±0.3Hz for 60Hz   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Over load protection (SMPS load)      | Circuit Breaker  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Output Short Circuit Protection       | Circuit Breaker  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | By pass Breaker Rating                | 20A  | 20A    | 20A    | 25A    | 32A           | 40A    | 40A    | 50A           | 80A    | 80A    | 100A          |        |         |
|                           | Transfer SWitch Rating                | 30Amp for UL&TUV   |        |        |        | 40Amp for UL  |        |        | 80Amp for UL  |        |        | 100Amp for UL |        |         |
|                           | Bypass Without Battery Connected      | Yes (Optional)   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Max Bypass Current                    | 30Amp  |        |        |        | 40Amp         |        |        | 80Amp         |        |        | 100Amp        |        |         |
| Mechanical Specifications | Mounting                              | Wall Mount   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Inverter Dimensions (L*WH)            | 388*415*200mm  |        |        |        | 488*415*200mm |        |        | 588*415*200mm |        |        | 706*415*213mm |        |         |
|                           | Inverter Weight (Solar Chg) KG        | 21+2.5   | 22+2.5 | 23+2.5 | 27+2.5 | 38+2.5        | 48+2.5 | 49+2.5 | 60+2.5        | 66+2.5 | 70+2.5 | 85+2.5        | 95+2.5 | 100+2.5 |
|                           | Shipping Dimensions(LWH)              | 550*520*310mm  |        |        |        | 650*520*310mm |        |        | 750*520*310mm |        |        | 850*520*350mm |        |         |
|                           | Shipping Weight (Solar Chg) KG        | 23+2.5   | 24+2.5 | 25+2.5 | 29+2.5 | 40+2.5        | 50+2.5 | 51+2.5 | 62+2.5        | 68+2.5 | 72+2.5 | 87+2.5        | 97+2.5 | 102+2.5 |
|                           | Display                               | Status LEDs / Status LEDs+LCD  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Standard Warranty                     | 1 Year   |        |        |        |               |        |        |               |        |        |               |        |         |

**\*Details of the built-in MPPT solar controller parameters on page 28.**

# LFP-M 10.75kWh

## LiFePO4 Battery Pack

NEW



### • Features

- 32PCS 105AH LiFePO4 cells
- 51.2Vdc 10.75KWH rated capacity.
- Long cycle life 4000 times.
- IP56 Protection.
- Unique automatic calibration active banlancing technology BMS syestem.
- 51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Standard CAN &RS485 communication port, can meet the require ment of several packages to connect in parallel, Master & Slave relationship, Monitor and other functions.Compatible with other brand inverters' communication protocols.



## • Technical Parameter

### LFP-M 10.75kWh LiFePO4 Battery Pack

| Specification                               |   | Mechanical Characteristics              |                           |
|---|---|---|---------------------------|
| Model                                       | LFPM 48210H   | Dimension H*W*D                         | 890*490*175mm             |
| Rated Voltage                               | 51.2V   | Shipping H*W*D                          | 1000*670*400mm            |
| Rated Capacity                              | 210Ah   | Weight (N.W.)                           | 100KG                     |
| Rated Energy                                | 10.75KWH  | Weight(G.W.)                            | 110KG                     |
| Cell Configuration                          | 16S2P   | Storage and Transportation Requirements |                           |
| Battery Cell                                | 3.2V105AH 32PCS(EVE LF105)  | Storage Temperature                     | Less than 1month -20~35°C |
| Life cycles (80%SOH,25°C )                  | 4000 Cycles   |   | Less than 6month -10-30°C |
| Standard Charge                             |   | Storage Humidity                        | 45~75%RH                  |
| Operation temperature range<br>©charging    | 0~60°C  | SOC                                     | Storage 60~75% SOC        |
| Rated charge voltage                        | 56V   |   | Transport 45~55% SOC      |
| Max. charge voltage                         | 56.8±0.4V   |   |                           |
| Overcharge protection                       | 58.4±0.4V   |   |                           |
| Allowed MAX charge current                  | 205A  |   |                           |
| Peak charge current                         | 210A  |   |                           |
| Rated charge current                        | 200A  |   |                           |
| Recommend charge current                    | <200A   |   |                           |
| Standard Discharge                          |   |   |                           |
| Operation temperature range<br>©discharging | -35~60°C  |   |                           |
| Output Voltage Range                        | 43.2~56.8Vdc  |   |                           |
| Recommend Working Range                     | 46.4~56Vdc  |   |                           |
| Discharge Cut-off voltage                   | 43.2V   |   |                           |
| Allowed MAX discharge current               | 205A  |   |                           |
| Peak discharge current                      | 210A  |   |                           |
| Rated discharge current                     | 200A  |   |                           |
| Recommend discharge current                 | <200A   |   |                           |
| Communication                               |   |   |                           |
| Display                                     | 2.8 inch color LCD  |   |                           |
| RS485/CAN                                   | Matching with leading inverter brands (Victron/SMA /SolArk/Solis/Deye /Growatt/ Goodwe/Voltronic/Luxpower etc.) |   |                           |
| Expansion                                   | Up to 16units in parallel (RS485 parallel communication)  |   |                           |
| RS232                                       | PC monitor  |   |                           |
| Dip SW                                      | ADD setting   |   |                           |
| EnclosureEnclosure                          | IP56  |   |                           |



# LFP 2.56/5.12/10.24kWh

## LiFePO4 Battery Pack



### • Features

- IP31 Protection, Indoor use only.
- Long cycle life 4000 times.
- High reliability intelligent BMS .
- 12.8Vdc/25.6Vdc/51.2Vdc, 2.56KWH/5.12KWH/10.24KWH rated capacity.
- 12.8Vdc/25.6Vdc/51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Standard CAN & RS485 communication port

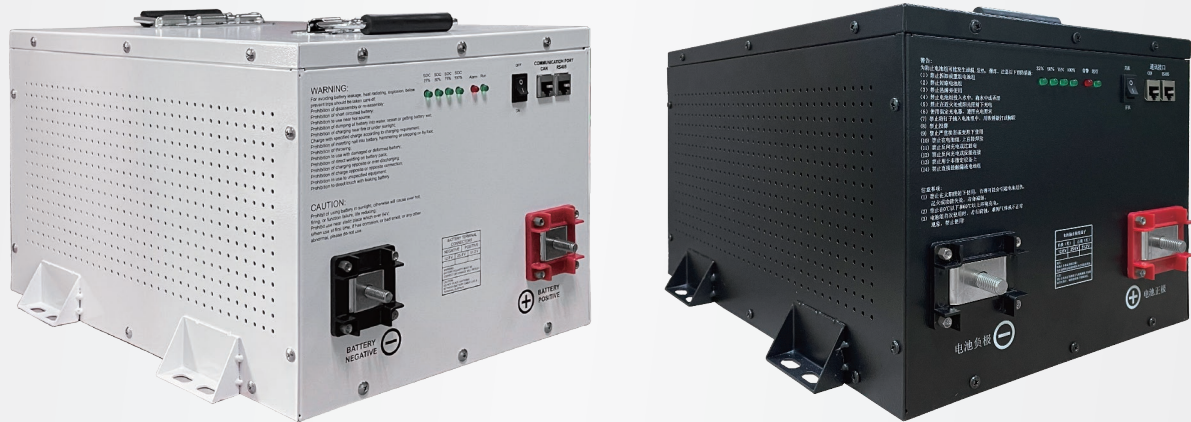


### • Technical Parameter

| LFP 2.56/5.12/10.24kWh LiFePO4 Battery Pack |                        |           |                 |           |           |                 |           |
|---|------------------------|-----------|-----------------|-----------|-----------|-----------------|-----------|
| Specification                               |                        |           |                 |           |           |                 |           |
| Model                                       | LFP12200M              | LFP24100M | LFP12400H       | LFP24200H | LFP48100H | LFP24400H       | LFP48200H |
| Rated Voltage                               | 12.8V                  | 25.6V     | 12.8V           | 25.6V     | 51.2V     | 25.6V           | 51.2V     |
| Rated Capacity                              | 200Ah                  | 100Ah     | 400Ah           | 200Ah     | 100Ah     | 400Ah           | 200Ah     |
| Rated Energy                                | 2.56KWH                |           | 5.12KWH         |           |           | 10.24KWH        |           |
| Cell Configuration                          | 4S2P                   | 8S1P      | 4S4P            | 8S2P      | 16S1P     | 8S4P            | 16S2P     |
| Battery Cell                                | 3.2V100AH 8PCS         |           | 3.2V100AH 16PCS |           |           | 3.2V100AH 32PCS |           |
| Standard Charge                             |                        |           |                 |           |           |                 |           |
| Operation temperature range<br>@charging    | 0~60°C                 |           |                 |           |           |                 |           |
| Rated charge voltage                        | 13.8±0.1V              | 27.6±0.2V | 13.8±0.1V       | 27.6±0.2V | 55.2±0.4V | 27.6±0.2V       | 55.2±0.4V |
| Max charge voltage                          | 14.2±0.1V              | 28.4±0.2V | 14.2±0.1V       | 28.4±0.2V | 56.8±0.4V | 28.4±0.2V       | 56.8±0.4V |
| Overcharge protection                       | 14.6±0.1V              | 29.2±0.2V | 14.6±0.1V       | 29.2±0.2V | 58.4±0.4V | 29.2±0.2V       | 58.4±0.4V |
| Allowed MAX charge current                  | 220A 30s               | 110A 30s  | 440A 30s        | 220A 30s  | 110A 30s  | 440A 30s        | 220A 30s  |
| Peak charge current                         | 240A 5s                | 120A 5s   | 480A 5s         | 240A 5s   | 120A 5s   | 480A 5s         | 240A 5s   |
| Rated charge current                        | 200A                   | 100A      | 400A            | 200A      | 100A      | 400A            | 200A      |
| Recommend charge current                    | <200A                  | <100A     | <400A           | <200A     | <100A     | <400A           | <200A     |
| Standard Discharge                          |                        |           |                 |           |           |                 |           |
| Operation temperature range<br>@discharging | -35~60°C               |           |                 |           |           |                 |           |
| Output Voltage Range                        | 10-14Vdc               | 20~28Vdc  | 10-14Vdc        | 20~28Vdc  | 40~56Vdc  | 20~28Vdc        | 40~56Vdc  |
| Recommend Working Range                     | 11.5~13.5Vdc           | 23~27Vdc  | 11.5~13.5Vdc    | 23~27Vdc  | 46~54Vdc  | 23~27Vdc        | 46~54Vdc  |
| Discharge Cut-off voltage                   | 10V                    | 20V       | 10V             | 20V       | 40V       | 20V             | 40V       |
| Allowed MAX discharge current               | 220A 30s               | 110A 30s  | 440A 30s        | 220A 30s  | 110A 30s  | 440A 30s        | 220A 30s  |
| Peak discharge current                      | 240A 5s                | 120A 5s   | 480A 5s         | 240A 5s   | 120A 5s   | 480A 5s         | 240A 5s   |
| Rated discharge current                     | 200A                   | 100A      | 400A            | 200A      | 100A      | 400A            | 200A      |
| Recommend discharge current                 | <200A                  | <100A     | <400A           | <200A     | <100A     | <400A           | <200A     |
| Mechanical Characteristics                  |                        |           |                 |           |           |                 |           |
| Dimension H*W*D                             | 450*260*185mm          |           | 516*550*187mm   |           |           | 850*550* 187mm  |           |
| Shipping H*W*D                              | 500*360*315mm          |           | 616*614*290mm   |           |           | 1000*670*400mm  |           |
| Weight(N.W.)                                | 26KG                   |           | 48KG            |           |           | 100KG           |           |
| Weight(G.W.)                                | 29KG                   |           | 53KG            |           |           | 110KG           |           |
| Communication                               |                        |           |                 |           |           |                 |           |
| RS485                                       | For LCD remote         |           |                 |           |           |                 |           |
| CAN   | 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      |           |           |                 |           |

# LFP-RV 5.12kWh

## LiFePO4 Battery Pack



### • Features

- IP31 Protection, Indoor use only.
- 16PCS 100AH LiFePO4 cells .
- High reliability intelligent BMS .
- 12.8Vdc/25.6Vdc/51.2Vdc, 5.12KWH rated capacity.
- Long cycle life 4000 times.
- 12.8Vdc/25.6Vdc/51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Standard CAN & RS485 communication port.





## • Technical Parameter

| LFP-RV 5.12kWh LiFePO4 Battery Pack         |                        |            |            |
|---|------------------------|------------|------------|
| Specifications                              |                        |            |            |
| Model                                       | LFP12400RV             | LFP24200RV | LFP48100RV |
| Rated Voltage                               | 12.8V                  | 25.6V      | 51.2V      |
| Rated Capacity                              | 400Ah                  | 200Ah      | 100Ah      |
| Rated Energy                                | 5.12KWH                |            |            |
| Cell Configuration                          | 4S4P                   | 8S2P       | 16S1P      |
| Battery Cell                                | 3.2V100AH 16PCS        |            |            |
| Standard Charge                             |                        |            |            |
| Operation temperature range<br>@charging    | 0~60°C                 |            |            |
| Rated charge voltage                        | 13.8±0.1V              | 27.6±0.2V  | 55.2±0.4V  |
| Max charge voltage                          | 14.2±0.1V              | 28.4±0.2V  | 56.8±0.4V  |
| Overcharge protection                       | 14.6±0.1V              | 29.2±0.2V  | 58.4±0.4V  |
| Allowed MAX charge current                  | 220A 30s               | 110A 30s   | 55A 30s    |
| Peak charge current                         | 240A 5s                | 120A 5s    | 60A 5s     |
| Rated charge current                        | 200A                   | 100A       | 100A       |
| Recommend charge current                    | <200A                  | <100A      | <50A       |
| Standard Discharge                          |                        |            |            |
| Operation temperature range<br>@discharging | -35~60°C               |            |            |
| Output Voltage Range                        | 10-14Vdc               | 20~28Vdc   | 40~56Vdc   |
| Recommend Working Range                     | 11.5~13.5Vdc           | 23~27Vdc   | 46~54Vdc   |
| Discharge Cut-off voltage                   | 10V                    | 20V        | 40V        |
| Allowed MAX discharge current               | 440A 30s               | 220A 30s   | 110A 30s   |
| Peak discharge current                      | 480A 5s                | 240A 5s    | 120A 5s    |
| Rated discharge current                     | 400A                   | 200A       | 100A       |
| Recommend discharge current                 | <400A                  | <200A      | <100A      |
| Mechanical Characteristics                  |                        |            |            |
| Dimension H*W*D                             | 450*320*240mm          |            |            |
| Shipping H*W*D                              | 550*420*360mm          |            |            |
| Weight(N.W.)                                | 47KG                   |            |            |
| Weight(G.W.)                                | 50KG                   |            |            |
| Communication                               |                        |            |            |
| RS485                                       | For LCD remote         |            |            |
| CAN   | 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 |            |

# LFP-B

## LiFePO4 Backup Battery (Home/Industrial)



### • Features

- IP67 Protection
- 3000 cycles at 0.5C charge & discharge
- 12Vdc/24Vdc/48Vdc, Multiple capacities available.
- 12Vdc/24Vdc/48Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Support Bluetooth connection (Optional).

### • Technical Parameter

| LFP-B Solar LiFePO4 Backup Battery (Home/Industrial) |  |             |             |             |             |             |             |             |
|--|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Model  | LFP-1212                               | LFP-3012    | LFP-5012    | LFP-10012   | LFP-13012   | LFP-20012   | LFP-10024   | LFP-10048   |
| Capacity   | 12V12Ah                                | 12V30Ah     | 12V50Ah     | 12V100Ah    | 12V130Ah    | 12V200Ah    | 24V100Ah    | 48V100Ah    |
| Continuous Discharge Current                         | 8A                                     | 15A         | 25A         | 50A         | 65A         | 100A        | 50A         | 50A         |
| Peak Protection Current                              | 16A                                    | 30A         | 50A         | 100A        | 130A        | 200A        | 100A        | 100A        |
| Working Voltage                                      | 10-14.6V                               |             |             |             |             |             | 20-29.2V    | 37.5-54.75V |
| Standard Voltage                                     | 12.8V                                  |             |             |             |             |             | 25.6V       | 48V         |
| Continuous Work Current                              | 8A                                     | 15A         | 25A         | 50A         | 65A         | 100A        | 50A         | 50A         |
| Max Charge Voltage                                   | 14.6V                                  |             |             |             |             |             | 29.2V       | 54.75V      |
| Suggested DoD Model                                  | 80%                                    |             |             |             |             |             |             |             |
| Size(mm)   | 155*99*94                              | 195*133*171 | 229*138*208 | 256*165*210 | 330*172*215 | 521*238*218 | 345*190*245 | 520*267*220 |
| Weight   | 1.5kg                                  | 3.2kg       | 4.5kg       | 10kg        | 13kg        | 19kg        | 22kg        | 33kg        |
| Humidity   | ≤85%                                   |             |             |             |             |             |             |             |
| Cooling Type   | Natural Cooling                        |             |             |             |             |             |             |             |
| IP   | IP67                                   |             |             |             |             |             |             |             |
| Cycles   | 3000 cycles at 0.5C charge & discharge |             |             |             |             |             |             |             |

# ESS 10.24kWh~102.4kWh

## Battery Energy Storage All-in-One



### • Features

- Unique integrated inverter, MPPT and battery pack design
- LiFePO4 Battery inside
- Life cycle at least 4000 cycles.
- Optional WIFI module for real-time remote monitoring• High reliability intelligent BMS .
- Unique automatic calibration active banlancing technology BMS syystem.
- 51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.

### • Applications



On&off-grid



PV generation



Peak & Valley Reduction



Back-up power



## • Technical Parameter

| ESS Battery Energy Storage All-in-One       |                             |                             |                              |                             |                              |                              |                              |                               |
|---|-----------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| Specifications                              |                             |                             |                              |                             |                              |                              |                              |                               |
| Rated Energy                                | 10.24KWH                    | 15.36KWH                    | 20.48KWH                     | 25.6KWH                     | 30.72KWH                     | 40.96KWH                     | 51.2KWH                      | 102.4KWH                      |
| Model                                       | ESS6048<br>E200P2           | ESS8048<br>E300P3           | ESS10048<br>E400P4           | ESS1204<br>8E500P4          | ESS12048<br>E600P4           | ESS15048<br>E800P4           | ESS18048<br>E1000P4          | ESS2000P8                     |
| Rated Voltage                               | 51.2V                       |                             |                              |                             |                              |                              |                              |                               |
| Rated Capacity                              | 200Ah                       | 300Ah                       | 400Ah                        | 500Ah                       | 600Ah                        | 800Ah                        | 1000Ah                       | 2000Ah                        |
| Battery Configuration                       | 5.12KWH<br>(16S1P)<br>*2PCS | 5.12KWH<br>(16S1P)<br>*3PCS | 10.24KWH<br>(16S2P)<br>*2PCS | 5.12KWH<br>(16S1P)<br>*5PCS | 10.24KWH<br>(16S2P)<br>*3PCS | 10.24KWH<br>(16S2P)<br>*4PCS | 10.24KWH<br>(16S2P)<br>*5PCS | 10.24KWH<br>(16S2P)<br>*10PCS |
| Battery Cell<br>(3.2V100AH)                 | 32PCS                       | 48PCS                       | 64PCS                        | 80PCS                       | 96PCS                        | 128PCS                       | 160PCS                       | 320PCS                        |
| Standard Charge                             |                             |                             |                              |                             |                              |                              |                              |                               |
| Operation temperature<br>range @charging    | 0~60°C                      |                             |                              |                             |                              |                              |                              |                               |
| Rated charge voltage                        | 55.2±0.4V                   |                             |                              |                             |                              |                              |                              |                               |
| Max charge voltage                          | 56.8±0.4V                   |                             |                              |                             |                              |                              |                              |                               |
| Overcharge protection                       | 58.4±0.4V                   |                             |                              |                             |                              |                              |                              |                               |
| Allowed MAX charge<br>current(Total)        | 220A 30s<br>(110A/pack)     | 330A 30s<br>(110A/pack)     | 440A 30s<br>(220A/pack)      | 550A 30s<br>(110A/pack)     | 660A 30s<br>(220A/pack)      | 880A 30s<br>(220A/pack)      | 1100A 30s<br>(220A/pack)     | 2200A 30s<br>(220A/pack)      |
| Peak charge<br>current(Total)               | 240A 5s<br>(120A/pack)      | 360A 5s<br>(120A/pack)      | 480A 5s<br>(240A/pack)       | 600A 5s<br>(120A/pack)      | 720A 5s<br>(240A/pack)       | 960A 5s<br>(240A/pack)       | 1200A 5s<br>(240A/pack)      | 2400A 5s<br>(240A/pack)       |
| Rated charge<br>current(Total)              | 200A<br>(100A/pack)         | 300A<br>(100A/pack)         | 400A<br>(200A/pack)          | 500A<br>(100A/pack)         | 600A<br>(200A/pack)          | 800A<br>(200A/pack)          | 1000A<br>(200A/pack)         | 2000A<br>(200A/pack)          |
| Recommend charge<br>current(Total)          | <200A                       | <300A                       | <400A                        | <500A                       | <600A                        | <800A                        | <800A                        | <1600A                        |
| Standard discharge                          |                             |                             |                              |                             |                              |                              |                              |                               |
| Operation temperature<br>range @discharging | -35~60°C                    |                             |                              |                             |                              |                              |                              |                               |
| Output Voltage Range                        | 40~56Vdc                    |                             |                              |                             |                              |                              |                              |                               |
| Recommend Working<br>Range                  | 46~54Vdc                    |                             |                              |                             |                              |                              |                              |                               |
| Discharge Cut-off<br>voltage                | 40V                         |                             |                              |                             |                              |                              |                              |                               |
| Allowed MAX<br>discharge<br>current(Total)  | 220A 30s<br>(110A/pack)     | 330A 30s<br>(110A/pack)     | 440A 30s<br>(220A/pack)      | 550A 30s<br>(110A/pack)     | 660A 30s<br>(220A/pack)      | 880A 30s<br>(220A/pack)      | 1100A 30s<br>(220A/pack)     | 2200A 30s<br>(220A/pack)      |
| Peak discharge<br>current (Total)           | 240A 5s<br>(120A/pack)      | 360A 5s<br>(120A/pack)      | 480A 5s<br>(240A/pack)       | 600A 5s<br>(120A/pack)      | 720A 5s<br>(240A/pack)       | 960A 5s<br>(240A/pack)       | 1200A 5s<br>(240A/pack)      | 2400A 5s<br>(240A/pack)       |
| Rated discharge<br>current(Total)           | 200A<br>(100A/pack)         | 300A<br>(100A/pack)         | 400A<br>(200A/pack)          | 500A<br>(100A/pack)         | 600A<br>(200A/pack)          | 800A<br>(200A/pack)          | 1000A<br>(200A/pack)         | 2000A<br>(200A/pack)          |
| Recommend<br>discharge<br>current(Total)    | <200A                       | <300A                       | <400A                        | <500A                       | <600A                        | <800A                        | <800A                        | <1600A                        |
| Communication                               |                             |                             |                              |                             |                              |                              |                              |                               |
| RS485                                       | For LCD remote              |                             |                              |                             |                              |                              |                              |                               |
| CAN   | PC control and monitor      |                             |                              |                             |                              |                              |                              |                               |



| ESS Battery energy storage all-in-one |  |                    |                    |                    |                    |                    |                     |                      |
|---------------------------------------|--|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|----------------------|
| Inverter (built-in)                   |  |                    |                    |                    |                    |                    |                     |                      |
| Mode                                  | ESS6048<br>E200P2  | ESS8048<br>E300P3  | ESS10048<br>E400P4 | ESS1204<br>8E500P4 | ESS12048<br>E600P4 | ESS15048<br>E800P4 | ESS18048<br>E1000P4 | ESS2000P8            |
| Rated Power                           | 6KW  | 8KW                | 10KW               | 12KW               | 12KW               | 15KW               | 18KW                |                      |
| Output<br>Waveform                    | Pure Sine Wave/Same as input (Bypass Mode)   |                    |                    |                    |                    |                    |                     |                      |
| Output Voltage                        | 240Vac(H-H)/120Vac(H-N) ±10% RMS   |                    |                    |                    |                    |                    |                     |                      |
| Output<br>Frequency                   | 50 或 60±0.3Hz(Inverter mode by sw4 setting)  |                    |                    |                    |                    |                    |                     |                      |
| Typical<br>Transfer Time              | 4-6ms (typical),10ms(Max)  |                    |                    |                    |                    |                    |                     |                      |
| THD                                   | <3%(Rated voltage full load)   |                    |                    |                    |                    |                    |                     |                      |
| AC Input Range                        | 184-253Vac (UPSWeight) or 140-270Vac(GEN mode)。  |                    |                    |                    |                    |                    |                     |                      |
| Customized<br>AC Charger              | Battery type selector position 9,special design for LFP, make the battery cycle life Maximization                        |                    |                    |                    |                    |                    |                     |                      |
| MAX AC<br>Charge Current              | 40A  | 80A                | 90A                | 100A               | 100A               | 100A               | 100A                |                      |
| Battery priority<br>Function          | Setting by SW5 on position 1(inverter mode valid), AC automatic come in when battery voltage low alarm at 48Vdc or 50Vdc |                    |                    |                    |                    |                    |                     |                      |
| AC Bypass<br>without charging         | Battery type selector position 0   |                    |                    |                    |                    |                    |                     |                      |
| MPPT(built-in)                        |  |                    |                    |                    |                    |                    |                     |                      |
| PV POWER                              | 3.0KW*2  | 3.0KW*3            | 3.0KW*4            | 3.0KW*4            | 3.5KW*4            | 3.5KW*4            | 3.5KW*4             | 3.5KW*8              |
| PV Input Voltage                      | 60-145Vdc  |                    |                    |                    |                    |                    |                     |                      |
| MPPT<br>Charging Voltage              | 56.0Vdc (Fast charging)/54Vdc (Float charging)   |                    |                    |                    |                    |                    |                     |                      |
| MPPT<br>Output Current                | 50A*2  | 50A*3              | 50A*4              | 60A*4              | 60A*4              | 60A*4              | 60A*4               | 60A*8                |
| Configuration                         |  |                    |                    |                    |                    |                    |                     |                      |
| MPPT                                  | 100A(50A*2)  | 150A(50A*3)        | 200A(50A*4)        | 240A(60A*4)        | 240A(60A*4)        | 240A(60A*4)        | 240A(60A*4)         | 480A(60A*8)          |
| INVERTER                              | 6KW  | 8KW                | 10KW               | 12KW               | 12KW               | 15KW               | 18KW                | External             |
| BATTERY                               | 200AH<br>(100AH*2)   | 300AH<br>(100AH*3) | 400AH<br>(200AH*2) | 500AH<br>(100AH*5) | 600AH<br>(200AH*3) | 800AH<br>(200AH*4) | 1000AH<br>(200AH*5) | 2000AH<br>(200AH*10) |
| Energy                                | 10.24kwh   | 15.36kwh           | 20.48kwh           | 25.6kwh            | 30.72kwh           | 40.96kwh           | 51.2kwh             | 102.4kwh             |
| Mechanical Characteristics            |  |                    |                    |                    |                    |                    |                     |                      |
| Dimension<br>H*W*D (mm)               | 940*560*785  | 1360*560*785       | 1110*560*960       | 1810*560*785       | 1360*560*960       | 1610*560*960       | 1810*560*960        | 1650*1120*1000       |
| Shipping<br>H*W*D(mm)                 | 1100*700*870   | 1540*700*870       | 1290*700*1050      | 1960*700*870       | 1540*700*1050      | 1790*700*1050      | 1960*700*1050       | 1840*1260*1100       |
| Weight(N.W.)                          | 180KG  | 300KG              | 350KG              | 450KG              | 440KG              | 560KG              | 720KG               | 1300KG               |
| Weight(G.W.)                          | 200KG  | 330KG              | 370KG              | 500KG              | 480KG              | 610KG              | 770KG               | 1400KG               |

# MPPT

## Solar Charger Controller



### • Features

- Intelligent Maximum Power Point Tracking technology increases efficiency 25%~30%.
- Compatible for PV systems in 12V, 24V or 48V.
- Three-stage charging optimizes battery performance.
- Maximum charging current up to 60A.
- Maximum efficiency up to 98%.
- Battery temperature sensor (BTS) automatically provides temperature compensation.
- Automatic battery voltage detection.
- Support wide range of lead-acid batteries including wet, AGM and gel batteries.

### • Technical Parameter

| MPPT Solar Charger&Discharge Controller |  |                                 |                         |                   |
|---|--|---------------------------------|-------------------------|-------------------|
| MODEL                                   | 3KW  | Charging Set points             | Absorption Stage        | Float Stage       |
| Nominal System Voltage                  | 12, 24, or 48 VDC (Auto detection)                               | Flooded Battery                 | 14.6 / 29.2 / 58.4Vdc   | 13.5 / 27 / 54Vdc |
| Maximum Battery Current                 | 60 Amps  | AGM/Gel Battery (Default)       | 14.1 / 28.2 / 56.4Vdc   | 13.5 / 27 / 54Vdc |
| Maximum Solar Input Voltage             | 145Vdc   | Over-charging voltage           | 15Vdc / 30Vdc / 60Vdc   |                   |
| PV Array MPPT Voltage Range             | (Bat. Voltage+5)~115Vdc  | Overcharging comeback voltage   | 14.5Vdc / 29Vdc/ 58Vdc  |                   |
| Maximum Input Power                     | 12 Volt--800 Watts<br>24 Volt--1600 Watts<br>48 Volt--3200 Watts | Battery defect voltage          | 8.5Vdc/ 17Vdc/ 34Vdc    |                   |
| Transient Surge Protection              | 4500 Watts / port  | Battery defect comeback voltage | 9Vdc / 18Vdc / 36Vdc    |                   |
| Temperature compensation coefficient    | "Volt-5 mV/°C/ cell (25 °C ref.)"                                | Mechanical and Environment      | Product size (W*H*D mm) | 322*173*118       |
| Temperature compensation                | 0°C to +50°C   | Product weight(Kg)              | 4.8                     |                   |
| Charging stages                         | Bulk,Absorption,Float  | Enclosure                       | IP31 (indoor & vented)  |                   |



# 390W-410W Solar Panel

## 182M Half Cell



### • Features

- Outstanding mechanical load resistance, 2400 Pa wind load, 5400 Pa snow load.
- Anti-PID (potential induced degradation), passed anti-PID test under 85% damp heat, 85% relative humidity for 96 hours.
- Passed salt mist corrosion test, ammonia corrosion test, dust & sand test, fire test, alcertified by TUV.
- Double electroluminescence (EL) tests.



### • Technical Parameter

#### Electrical Performance

| Model Type                  | 390W-27MH    |          | 400W-27MH |          | 405W-27MH |          | 410W-27MH |          |
|-----------------------------|--------------|----------|-----------|----------|-----------|----------|-----------|----------|
| Dimensions (L/W/H)          | 1722*1134*35 |          |           |          |           |          |           |          |
|                             | STC          | NOCT     | STC       | NOCT     | STC       | NOCT     | STC       | NOCT     |
| Peak Power at STC (Pmax)    | 390          | 290      | 400       | 297.4    | 405       | 301.1    | 410       | 304.8    |
| Maximum Power Voltage (Vmp) | 34.72        | 28.56    | 31.14     | 28.88    | 31.30     | 29.04    | 31.46     | 29.20    |
| Maximum Power Current (Imp) | 12.66        | 10.16    | 12.85     | 10.30    | 12.94     | 10.37    | 13.04     | 10.44    |
| Open Circuit Voltage (Voc)  | 36.65±3%     | 34.33±3% | 37.05±3%  | 34.69±3% | 37.25±3%  | 34.87±3% | 37.45±3%  | 35.05±3% |
| Short Circuit Current (Isc) | 13.49±3%     | 10.84±3% | 13.67±3%  | 11.00±3% | 13.76±3%  | 11.08±3% | 13.85±3%  | 11.16±3% |
| Module Efficiency(%)        | 19.97        |          | 20.48     |          | 20.74     |          | 20.99     |          |

#### Thermal Characteristics & Operating Conditions

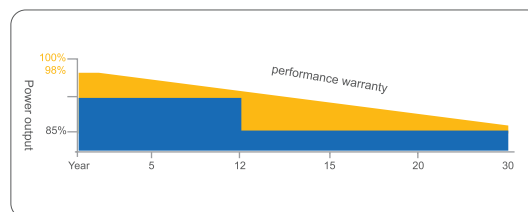
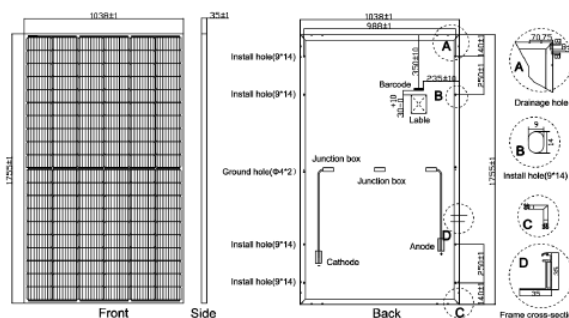
|   |             |
|---|-------------|
| Maximum System Voltage(V)                   | 1500/1000V  |
| Maximum Series Fuse Rating(A)               | 25A         |
| Power Tolerance                             | 0~+3W       |
| Pmax Temperature Coefficients(W/°C)         | -0.350%     |
| Voc Temperature Coefficients(V/°C)          | -0.285%     |
| Iso Temperature Coefficients(A/°C)          | +0.045%     |
| NOCT Nominal Operating Cell Temperature(°C) | 45±2°C      |
| Operating and Storage Temperature(°C)       | -40°C~+85°C |

#### Thermal Characteristics & Operating Conditions

|                                     |                                 |
|-------------------------------------|---------------------------------|
| Front Cover(Material /Thickness)    | low-iron tempered glass / 3.2mm |
| Weight                              | 19.00kg                         |
| Cell (Quantity/Type/Dimensions)     | 182*91 N Type Mono              |
| No. of Cells                        | 108 (12*9)                      |
| Frame (Material)                    | Anodized Aluminium Alloy        |
| Junction Box (Protection Degree)    | IP67/IP68                       |
| Cable (Length/Cross-Sectional Area) | 4mm² cable 35cm+mc4             |

#### Packaging Specifications

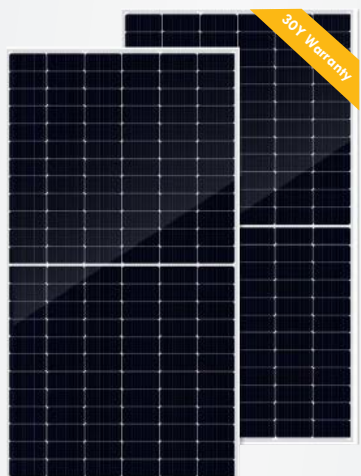
- 20FT container 6Packages/324PCS
- 40HQ container 26Packages/806PCS



STC ☀ Irradiance 1000W/m² ☀ Cell Temperature 25 °C AM=1.5  
 NOCT ☀ Irradiance 800W/m² ☀ Cell Temperature 20 °C AM=1.5

# 535W-550W Solar Panel

## 182M Half Cell



### • Features

- Outstanding mechanical load resistance, 2400 Pa wind load, 5400 Pa snow load.
- Anti-PID (potential induced degradation), passed anti-PID test under 85% damp heat, 85% relative humidity for 96 hours.
- Passed salt mist corrosion test, ammonia corrosion test, dust & sand test, fire test, alcertified by TUV.
- Double electroluminescence (EL) tests.



### • Technical Parameter

#### Electrical Performance

| Model Type                  | 535W-36MH    |          | 540W-36MH |          | 545W-36MH |          | 550W-36MH |          |
|-----------------------------|--------------|----------|-----------|----------|-----------|----------|-----------|----------|
| Dimensions (L/W/H)          | 2279*1134*35 |          |           |          |           |          |           |          |
|                             | STC          | NOCT     | STC       | NOCT     | STC       | NOCT     | STC       | NOCT     |
| Peak Power at STC (Pmax)    | 535          | 397.7    | 540       | 401.4    | 545       | 405.1    | 550       | 408      |
| Maximum Power Voltage (Vmp) | 41.6         | 38.62    | 41.76     | 38.78    | 41.93     | 38.93    | 42.13     | 39.09    |
| Maximum Power Current (Imp) | 12.84        | 10.3     | 12.93     | 10.35    | 13        | 10.41    | 13.06     | 10.46    |
| Open Circuit Voltage (Voc)  | 49.5±3%      | 46.36±3% | 49.7±3%   | 46.54±3% | 49.9±3%   | 46.73±3% | 50.1±3%   | 46.92±3% |
| Short Circuit Current (Isc) | 13.61±3%     | 10.97±3% | 13.72±3%  | 11.05±3% | 13.81±3%  | 11.13±3% | 13.9±3%   | 11.2±3%  |
| Module Efficiency(%)        | 20.93        |          | 21.12     |          | 21.32     |          | 21.51     |          |

#### Thermal Characteristics & Operating Conditions

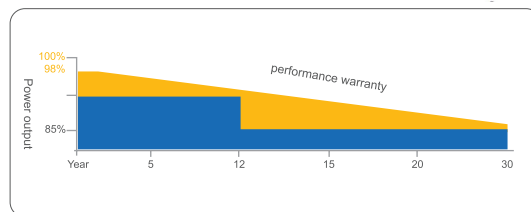
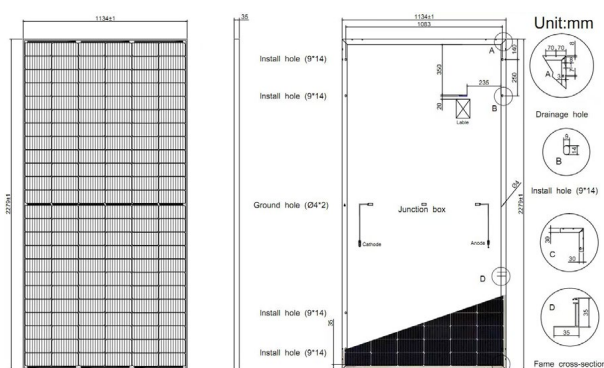
|   |             |
|---|-------------|
| Maximum System Voltage(V)                   | 1500V       |
| Maximum Series Fuse Rating(A)               | 25A         |
| Power Tolerance                             | 0~+3%       |
| Pmax Temperature Coefficients(W/°C)         | -0.350%     |
| Voc Temperature Coefficients(V/°C)          | -0.250%     |
| Isc Temperature Coefficients(A/°C)          | +0.04%      |
| NOCT Nominal Operating Cell Temperature(°C) | 45±2°C      |
| Operating and Storage Temperature(°C)       | -40°C~+85°C |

#### Thermal Characteristics & Operating Conditions

|                                     |                                |
|-------------------------------------|--------------------------------|
| Front Cover(Material /Thickness)    | low-iron tempered glass /3.2mm |
| Weight                              | 27.00kg                        |
| Cell (Quantity/Type/Dimensions)     | 182*91 N Type Mono             |
| No. of Cells                        | 144 (6*12)*2                   |
| Frame (Material)                    | Anodized Aluminium Alloy       |
| Junction Box (Protection Degree)    | IP68                           |
| Cable (Length/Cross-Sectional Area) | 4mm² cable 35cm+mc4            |

#### Packaging Specifications

- 20FT container 10 Packages/275 PCS
- 40HQ container 20 Packages/740 PCS



STC ☞ Irradiance 1000W/m² ☞ Cell Temperature 25 °C AM=1.5  
 NOCT ☞ Irradiance 800W/m² ☞ Cell Temperature 20 °C AM=1.5

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&  
Power Quality System Provider**

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