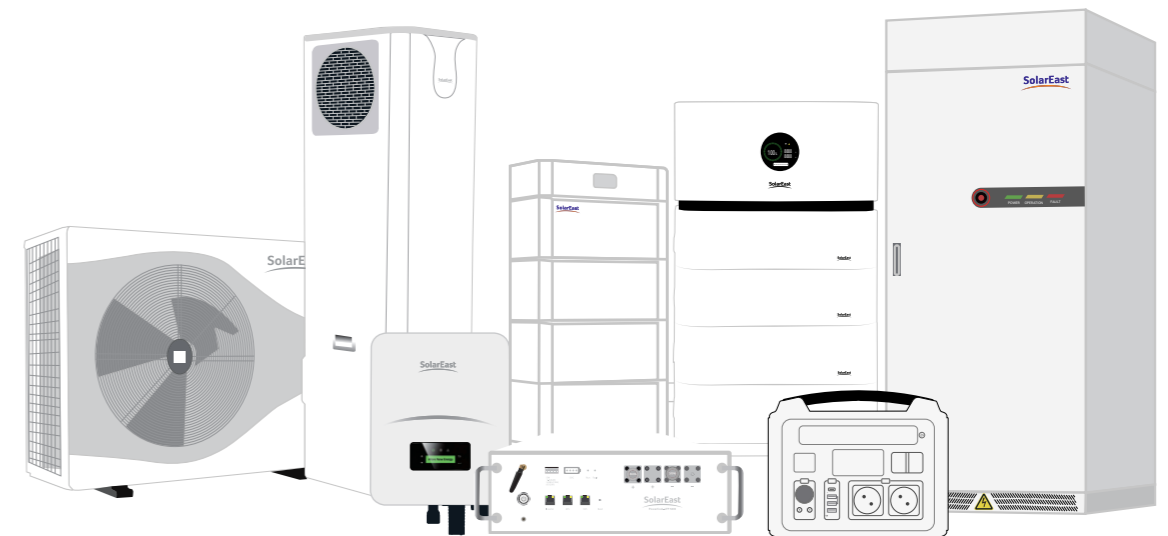




# SolarEast Energy Storage Technology Co.,Ltd



SolarEast Energy Storage Technology Co., Ltd

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*Power Just In 'Case'*

# 01 | SOLAREAST INTRODUCTION

Founded in 1999, SolarEast is a technological innovation-based enterprise that is publicly listed on Shanghai Stock Exchange (Stock code: 603366.SS). Committed to making a 'clean world and beautiful life', SolarEast is a global leader in solar thermal industry and ranks Top 500 global new energy enterprises. SolarEast has established five production bases across China.

SolarEast Energy Storage Technology Co., Ltd is a wholly-owned subsidiary of SolarEast. It specializes in R&D, manufacturing and sales of energy storage products of various specifications that are widely used in industrial, commercial, and residential applications. Furthermore, the Company also smartly incorporates energy storage with PV, air-source heat pumps and EV chargers, providing customers with flexible All-in-One solutions.



5

Production bases  
across China



24

Years' experience



2 GWh

Annual battery production  
capacity





6,000+

Employees



▸ Main Business & Market Position

 **Largest solar thermal collector manufacturer in the world** 

 **Largest photovoltaic EPC contractors in Jiangsu, China** 

 **One of the largest heat pump OEM suppliers in China** 

 **One of the fastest growing energy storage manufacturers in China** 

▸ Strong Manufacturing Capability

SolarEast owns 24 years' experience in solar thermal, heat pump and energy storage production. It has established five modern production bases across China and boasts 2GWh annual production capacity for energy storage systems.



▸ Advanced Laboratory and Equipment

**CNAS Accredited Lab**

The laboratory, accredited by CNAS, is equivalent to a national testing center.



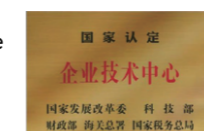
**Postdoctoral Research Workstation**

In 2010, it was jointly established by the Ministry of Human Resources and Social Security and the National Postdoctoral Management Committee



**Nationally recognized enterprise technology center**

The nationally recognized enterprise technology center is a testament to our strengths on scientific research and technological innovation.



**Solar simulator**

SolarEast is the first company in China to have introduced the indoor solar testing equipment, which simulates sunlight to test the solar thermal products



## Global Sales Network

Up to date, SolarEast has provided clean energy solutions for up to 67 million families and 20,000 enterprises in more than 80 countries and regions. With multiple overseas warehouses and branch offices worldwide, such as China, Europe, USA, etc., SolarEast is able to offer global customers products and services in a timely and effective manner.



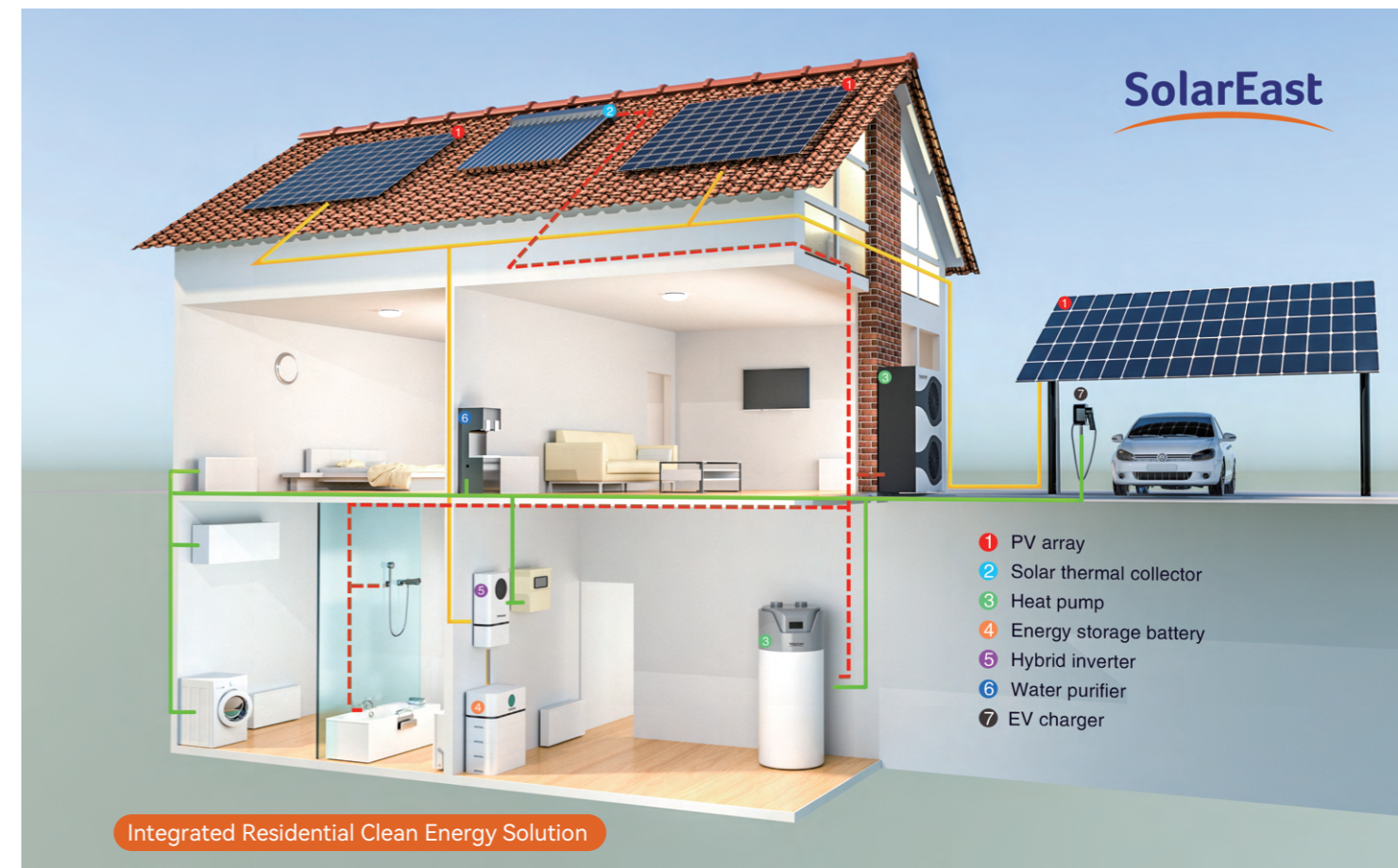
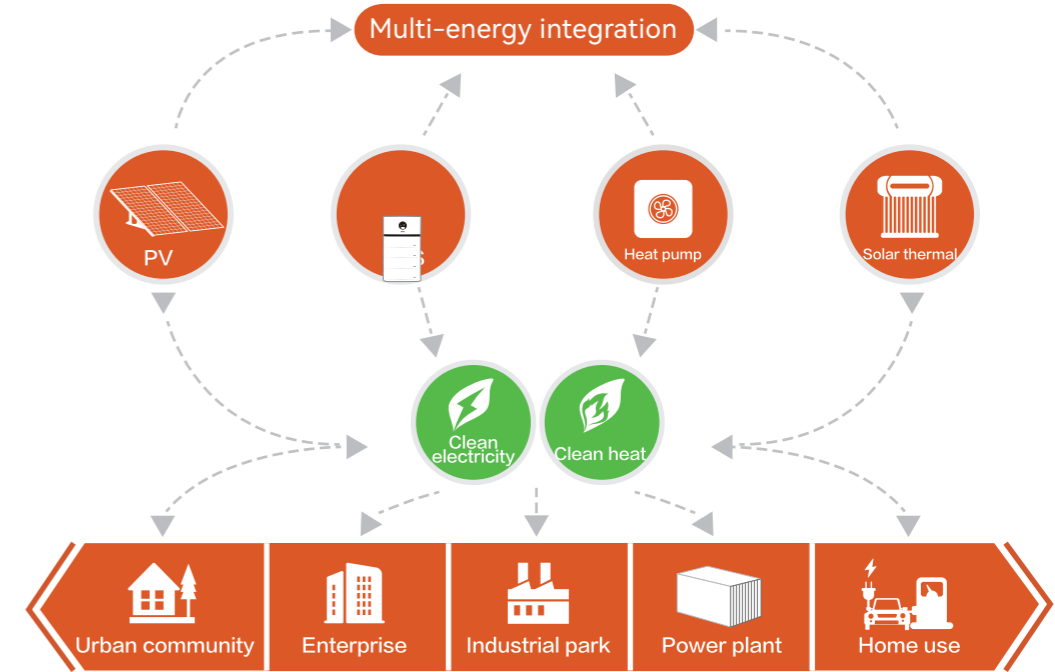
## Comprehensive Clean Energy Solution

Multi-energy integration: PV, energy storage, heat pump, and solar thermal energy

Application scenarios: front-of-the-meter market (power supply side, grid side)

Behind-the-meter market (industrial & commercial users, homes, and communities, etc)

Energy type: Clean electricity, clean thermal energy



## 02 | BATTERY ENERGY STORAGE PRODUCTS

### ▸ Rack-mounted Residential ESS

#### ▸ Features & Advantages



**Safety**

LFP Battery, Intelligent BMS and protective hardware providing complete protection



**Accuracy**

Dynamic SOC calibration



**Compatibility**

Suitable for most mainstream inverters



**Flexibility**

Could be connected in parallel or series



**Durability**

6,000 cycles at 90% DOD, 15+ years design life



**Certificates**

UL, CE, IEC62619, UN38.3, MSDS



### ▸ Technical Specifications

| Model                                | PowerCool-LFP-2400/U   |
|--------------------------------------|--|
| Battery Type                         | LFP  |
| Total Energy                         | 2.4kWh   |
| Usable Energy                        | 2.2kWh   |
| Voltage                              | 51.2V  |
| Max. parallel connection number      | 8S/8P  |
| Max. charging voltage                | 57.6V  |
| Nominal charging/discharging current | 30A/40A  |
| Discharge cut-off voltage            | 48V  |
| Battery efficiency                   | 92%  |
| Max. recommended DOD                 | 90%  |
| Communication                        | RS485/CAN  |
| IP rating                            | IP20   |
| Operating temperature                | -10 ~ 50°C   |
| Cooling Type                         | Natural cooling  |
| Altitude                             | ≤5,000m  |
| Humidity                             | 5%~95%(No condensed water)   |
| Battery Protection                   | Over-current/Over-voltage/Short-circuit/Under-voltage/Over temperature |
| Warranty                             | 10 years   |
| Dimension                            | 500*442*133mm  |
| Net weight                           | 27.5kg   |
| Case Material                        | Metal  |
| Color                                | Black  |
| Installation                         | Ground Installation  |

Testing conditions based on temperature 25°C at the beginning of life.

\*Total Energy/Usable Energy measured under specific conditions from PowerCool-LFP 0.2C CC-CV

## ▸ Rack-mounted Residential ESS

### ▸ Features & Advantages

- Safety**  
LFP Battery, Intelligent BMS and protective hardware providing complete protection
- Expandability**  
Support parallel connection number up to 10
- Accuracy**  
Dynamic SOC calibration
- Durability**  
6,000 cycles at 90% DOD, 15+ years design life
- Compatibility**  
Suitable for most mainstream inverters
- Certificates**  
CE, IEC62619, UN38.3, MSDS



### ▸ Technical Specifications

| Model                           | PowerCool-LFP-5000   |
|---------------------------------|--|
| Battery Type                    | LFP  |
| Total Energy                    | 5.22kWh  |
| Usable Energy                   | 4.96kWh  |
| Voltage                         | 51.2V  |
| Cell capacity                   | 102Ah  |
| Max. parallel connection number | 10P  |
| Max. charging voltage           | 57.6V  |
| Nominal charging current        | 50A(single) /110A(multiple in parallel)                                |
| Nominal discharging current     | 80A(single) /110A(multiple in parallel)                                |
| Discharge cut-off voltage       | 44.8V  |
| Battery efficiency              | 95%  |
| Max. recommended DOD            | 95%  |
| Communication                   | RS485/CAN  |
| IP rating                       | IP20   |
| Operating temperature           | 0 ~ 50°C   |
| Cooling Type                    | Natural cooling  |
| Altitude                        | ≤5,000m  |
| Humidity                        | 5% ~ 95%(No condensed water)   |
| Battery Protection              | Over-current/Over-voltage/Short-circuit/Under-voltage/Over temperature |
| Warranty                        | 10 years   |
| Dimension                       | 560*390*131mm  |
| Net weight                      | 45kg   |
| Case Material                   | Metal  |
| Color                           | Black  |
| Installation                    | Ground Installation  |

Testing conditions based on temperature 25°C at the beginning of life.

\*Total Energy/Usable Energy measured under specific conditions from PowerCool-LFP 0.2C CC-CV

## Stack-mounted Residential ESS

### Features & Advantages



#### Safety

LFP Battery, Intelligent BMS and protective hardware providing complete protection



#### Beauty

Furniture style that goes together with your home



#### Compatibility

Suitable for most mainstream inverters



#### Easy Installation

Modular design, stackable up to 21 packs



#### Durability

6,000 cycles at 90% DOD



#### Certificates

CE, IEC62619, UN38.3, MSDS



### Technical Specifications

| Model                           | PowerCool-LFP-LV                        |               |               |               |                |                |                |
|---------------------------------|---|---------------|---------------|---------------|----------------|----------------|----------------|
| Battery type                    | LFP                                     |               |               |               |                |                |                |
| Number of connection            | 1pcs                                    | 2pcs          | 3pcs          | 4pcs          | 5pcs           | 6pcs           | 7pcs           |
| Total energy                    | 5.22kWh                                 | 10.44kWh      | 15.67kWh      | 20.89kWh      | 26.11kWh       | 31.33kWh       | 36.56kWh       |
| Usable energy                   | 4.96kWh                                 | 9.92kWh       | 14.88kWh      | 19.85kWh      | 24.81kWh       | 29.77kWh       | 34.73kWh       |
| Max. parallel connection number | 3P                                      |               |               |               |                |                |                |
| Voltage                         | 51.2V                                   |               |               |               |                |                |                |
| Max. charging voltage           | 57.6V                                   |               |               |               |                |                |                |
| Nominal charging current        | 50A(single) /120A(multiple in parallel) |               |               |               |                |                |                |
| Discharging cut-off voltage     | 44.8V                                   |               |               |               |                |                |                |
| Battery efficiency              | 95%                                     |               |               |               |                |                |                |
| Max. recommended DOD            | 95%                                     |               |               |               |                |                |                |
| Communication                   | RS485/CAN                               |               |               |               |                |                |                |
| IP rating                       | IP55                                    |               |               |               |                |                |                |
| Operating temperature           | -10 ~ 50°C                              |               |               |               |                |                |                |
| Altitude                        | ≤5,000m                                 |               |               |               |                |                |                |
| Humidity                        | 5% ~ 95%                                |               |               |               |                |                |                |
| Warranty                        | 10years                                 |               |               |               |                |                |                |
| Dimension                       | 720*420*458mm                           | 720*420*608mm | 720*420*758mm | 720*420*908mm | 720*420*1058mm | 720*420*1208mm | 720*420*1358mm |
| Net weight                      | 63kg                                    | 113kg         | 163kg         | 213kg         | 263kg          | 313kg          | 363kg          |
| Certificates                    | CE, IEC62619, UN38.3, MSDS              |               |               |               |                |                |                |

| Model                             | PowerCool-LFP-HV           |               |               |                |                |                |
|-----------------------------------|----------------------------|---------------|---------------|----------------|----------------|----------------|
| Battery type                      | LFP                        |               |               |                |                |                |
| Number of connection              | 2pcs                       | 3pcs          | 4pcs          | 5pcs           | 6pcs           | 7pcs           |
| Total energy                      | 10.44kWh                   | 15.67kWh      | 20.89kWh      | 26.11kWh       | 31.33kWh       | 36.56kWh       |
| Usable energy                     | 9.92kWh                    | 14.88kWh      | 19.85kWh      | 24.81kWh       | 29.77kWh       | 34.73kWh       |
| Max.parallel strings              | 3P                         |               |               |                |                |                |
| Voltage                           | 102.4V                     | 153.6V        | 204.8V        | 256V           | 307.2V         | 358.4V         |
| Nominal charging voltage          | 115.2V                     | 172.8V        | 230.4V        | 288V           | 345.6V         | 403.2V         |
| Max. charging/discharging current | 50A                        |               |               |                |                |                |
| Discharge cut-off voltage         | 89.6V                      | 134.4V        | 179.2V        | 224V           | 268.8V         | 313.6V         |
| Battery efficiency                | 95%                        |               |               |                |                |                |
| Maximum recommended DOD           | 95%                        |               |               |                |                |                |
| Communication                     | RS485/CAN                  |               |               |                |                |                |
| IP rating                         | IP55                       |               |               |                |                |                |
| Operating temperature             | -10 ~ 50°C                 |               |               |                |                |                |
| Altitude                          | ≤5,000m                    |               |               |                |                |                |
| Humidity                          | 5% ~ 95%                   |               |               |                |                |                |
| Warranty                          | 10years                    |               |               |                |                |                |
| Dimension                         | 720*420*608mm              | 720*420*758mm | 720*420*908mm | 720*420*1058mm | 720*420*1208mm | 720*420*1358mm |
| Net weight                        | 113kg                      | 163kg         | 213kg         | 263kg          | 313kg          | 363kg          |
| Certificates                      | CE, IEC62619, UN38.3, MSDS |               |               |                |                |                |

Testing conditions based on temperature 25°C at the beginning of life.

\*Total Energy/Usable Energy measured under specific conditions from PowerCool-LFP 0.2C CC-CV

## Stack-mounted Residential ESS

### Features & Advantages

**Safety**  
LFP Battery, Intelligent BMS and protective hardware providing complete protection

**Versatility**  
Adaptive to both LV and HV applications

**Compatibility**  
Suitable for most mainstream inverters

**Easy Installation**  
Modular design, stackable up to 8 packs

**Durability**  
6,000 cycles at 90% DOD

**Certificates**  
UL, CE, IEC62619, UN38.3, MSDS



### Technical Specifications

| Model                              | PowerCool-LFP<br>4.8K/U   | PowerCool-LFP<br>9.6K/U | PowerCool-LFP<br>14.4K/U | PowerCool-LFP<br>19.2K/U |
|------------------------------------|---|-------------------------|--------------------------|--------------------------|
| Nominal Capacity                   | 4.8kWh  | 9.6kWh                  | 14.4kWh                  | 19.2kWh                  |
| Size (L*W*H)                       | 650*300*523mm   | 650*300*786mm           | 650*300*1049mm           | 650*300*1312mm           |
| Weight                             | 60.5kg  | 103.5kg                 | 146.5kg                  | 189.5kg                  |
| Maximum Usable Capacity            | 4.32kWh   | 8.64kWh                 | 12.96kWh                 | 17.28kWh                 |
| Rated Discharge/Charge Current     | 60A   | 120A                    | 180A                     | 200A                     |
| Nominal Dis-/Charge Power          | 2.8kW   | 5.6kW                   | 8.4kW                    | 9.6kW                    |
| Parallel Peak Power(OnlyDischarge) | 4.8kW for 3s  | 9.6kW for 3s            | 14.4kW for 3s            | 16.0kW for 3s            |
| Series Peak Power(OnlyDischarge)   | 4.8kW for 3s  | 9.6kW for 3s            | 14.4kW for 3s            | 16.0kW for 3s            |
| Nominal Voltage in Series          | 45~52.5Vdc  | 90~105Vdc               | 135~175.5Vdc             | 180~210Vdc               |
| Voltage                            | 45~52.5Vdc  |                         |                          |                          |
| Nominal Voltage(In parallel)       | 48V   |                         |                          |                          |
| Max. Battery Voltage               | 54V   |                         |                          |                          |
| Max.recommended DOD                | 90%   |                         |                          |                          |
| Operating Condition                | Indoor or outdoor   |                         |                          |                          |
| Discharge Temperature              | -10~55°C  |                         |                          |                          |
| Charge Temperature                 | 0~50°C  |                         |                          |                          |
| WIFI Frequency Range               | 2400~2483MHz  |                         |                          |                          |
| Humidity                           | 5%~95%(No condensed water)  |                         |                          |                          |
| IP Rating                          | IP65  |                         |                          |                          |
| Cooling Type                       | Natural cooling   |                         |                          |                          |
| Case Material                      | Metal   |                         |                          |                          |
| Efficiency                         | ≥96%  |                         |                          |                          |
| Protective Class                   | I   |                         |                          |                          |
| Max. Number of Series or Parallel  | 8S/8P   |                         |                          |                          |
| Warranty                           | 10 years  |                         |                          |                          |
| Life Span                          | >15 years   |                         |                          |                          |
| Communication                      | CAN/ RS485  |                         |                          |                          |
| Battery Protection                 | Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature/Low temperature |                         |                          |                          |
| Hazardous Material classification  | 9   |                         |                          |                          |
| Certifications                     | CE, UL1973, IEC62619, IEC62477, IEC62040, MSDS, UN38.3                                  |                         |                          |                          |







Testing conditions based on temperature 25°C at the beginning of life.

\*Total Energy/Usable Energy measured under specific conditions from PowerCool-LFP 0.2C CC-CV



## Multiple-use Residential ESS

### Features & Advantages

-  Solid-State LFP Battery Cells
-  Higher Safety Protection
-  Faster Discharging/Charging Speed
-  16 Years Total Calendar Life
-  Multiple Installation Methods
-  Scalable up to 164kWh



### Technical Specifications

| Model                      | PowerCool-LFP 5120M/U   | PowerCool-LFP 10240M/U |
|----------------------------|---|------------------------|
| Total Energy*              | 5.1kWh  | 10.2kWh                |
| Usable Energy(DC)*         | 4.7kWh  | 9.4kWh                 |
| Max Charge Power           | 5.12kW  | 10.2kW                 |
| Max Discharge Power        | 7.68kW  | 10.2kW                 |
| Peak Power(Only Discharge) | 9kW for 3s  | 12kW for 3s            |
| Voltage                    | 48~56Vdc  |                        |
| Nominal Voltage            | 51.2Vdc   |                        |
| Max. Charge Voltage        | 57.6Vdc   |                        |
| Max Discharging Current    | 150A  | 160A                   |
| Max Charging Current       | 100A  | 120A                   |
| Weight                     | 50kg  | 85kg                   |
| Dimension(mm)( H*L*W)      | 535*442*165mm   | 920*442*165mm          |
| Max.recommended DOD        | 90%   |                        |
| Operating Condition        | Indoor  |                        |
| Operating Temperature      | Charge  | From 0~50°C            |
|                            | Discharge   | From -10~55°C          |
| WiFi Frequency Range       | 2400MHz~2483MHz   |                        |
| Humidity                   | < 60%(No condensed water)   |                        |
| Over Voltage Category      | II  |                        |
| Cooling Type               | Natural cooling   |                        |
| Case Material              | Metal   |                        |
| Color                      | Black or White  |                        |
| Installation               | Wall/Ground/Rack Mounting   |                        |
| IP Rating                  | IP 20   |                        |
| Protective Class           | I   |                        |
| Max. Connection Number     | 16P   |                        |
| Warranty                   | 10 years  |                        |
| Life Span                  | >16 years   |                        |
| Communication              | CAN/ RS485  |                        |
| Protection Mode            | Dual hardware protection  |                        |
| Battery Protection         | Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature |                        |
| Safety                     | Cell UL 1973  |                        |
| Hazardous Material         | CE  |                        |
| Classification             | 9   |                        |
| Transportation             | UN 38.3   |                        |

Testing conditions based on temperature 25°C at the beginning of life.  
 \*Total Energy/Usable Energy measured under specific conditions from Solareast 0.2C CC-CV.

## ▸ All-in-One Residential ESS

### ▸ Features & Advantages



**Safety**  
LFP Battery, Intelligent BMS and protective hardware providing complete protection



**Accuracy**  
Dynamic SOC calibration



**Compatibility**  
Suitable for most mainstream inverters



**Easy Installation**  
Modular design, stackable up to 64 packs



**Durability**  
6,000 cycles at 90% DOD



**Certificates**  
Comprehensive certificates



### ▸ Technical Specifications

| Model                       | Single-Phase/U   | Three-Phase/U   |
|-----------------------------|--|---|
| <b>Battery</b>              |  |   |
| Nominal Battery Energy      | 4.8~19.2kWh  | 14.4~19.2kWh  |
| Battery Voltage             | 45~52.5Vdc   | 135~210Vdc  |
| Battery Type                | LFP  | LFP   |
| <b>Input DC (PV)</b>        |  |   |
| Max. PV Input Power         | 9kW  | 9~22.5kW  |
| Max. DC Voltage             | 550V   | 1000V   |
| MPPT Voltage Range          | 200~480V   | 180~850V  |
| Max. Input Current per MPPT | 15A  | 13A   |
| MPPT Tracker/Strings        | 2/1  | 2/1   |
| <b>AC Output</b>            |  |   |
| Rated Output Power          | 4.6~6kVA   | 6~15kVA   |
| Max. Output Current         | 22~27.2A   | 8.7~21.7A   |
| Nominal Grid Voltage        | 230V   | 380V/400V   |
| Frequency                   | 50/60Hz  | 50/60Hz   |
| THDI                        | <3%  | <2%   |
| AC Output Topology          | L+N+PE   | 3W+N+PE   |
| <b>EPS Output</b>           |  |   |
| Rated Power                 | 4.6~6kVA   | 6~15kVA   |
| Rated Output Voltage        | 230V   | 400V  |
| Rated Output Current        | 22~27.2A   | 8.7~21.7A   |
| THDV                        | <3%  | <3%   |
| <b>General Data</b>         |  |   |
| Dimensions W*D*H            | 650*300*973 mm (4.8kWh)<br>650*300*1236mm (9.6kWh)<br>650*300*1499mm (14.4kWh)<br>650*300*1762mm (19.2kWh) | 650*300*1449mm (14.4kWh)<br>650*300*1712mm (19.2kWh)  |
| Weight                      | 80.5/123.5/166.5/189.5KG<br>(4.8kWh/ 9.6kWh/14.4kWh/19.2kWh)   | 168.5/191.5KG<br>(14.4kWh/19.2kWh)  |
| Ingress Protection          | IP65   | IP65  |
| Operation Temperature       | -10~50°C   | -10~50°C  |
| Humidity                    | 5%~95%(non-condensing)   | 0~100%  |
| Altitude                    | ≤2,000m  | ≤4,000m   |
| Noise Emission              | <35dB  | <25dB   |
| Cooling                     | Natural  | Natural   |
| Warranty                    | 10 years   | 10 years  |
| Interface                   | RS485/CAN/DRM (Opt.WiFi/4G)  | RS485/CAN (Opt.WiFi/GPRS/4G)  |
| Safety Stand                | IEC/EN62109-1/-2, IEC/EN62477-1  | IEC/EN62109-1:2010, IEC/EN62109-2:2011  |
| EMC                         | IEC/EN61000-6-1, IEC/EN61000-6-3 ,UL   | IEC/EN61000-6-1:2019, IEC/EN61000-6-2:2019, IEC/EN61000-6-3:2021, IEC/EN61000-6-4:2019, IEC/EN61000-3-2:2019/A1:2021, IEC/EN61000-3-3:2013/A22021, IEC/EN61000-3-11:2019, IEC/EN61000-3-12:2011,  |
| Grid Regulation             | South Africa NRS097-2-1:2017, UK G98, G99  | Europe:EN50549-1:2019/AC:2019, Poland:EN50549-1:2019/Rfg:2018/PTPIREE:2021, Germany:VDE-AR-N4105:2018/DIN, VDE-V-0124-100(VDE-V-0124-100):2022, South Africa:NRS 097-2-10:2017 Edition 2.1, UK:G99/1-6:2020, Spain:UNE217001:2020/ UNE207002:2020/NTS V2.1:2021-07, IEC61727:2004/IEC62116:2014/IEC61683:1999, Hungary:EN50549-1:2019/RFG:2016/Hungary. |

The final configuration is subject to adjustment based on the capacity and nature of the load, local solar radiation and other specific requirements of the end user.

► Portable Power Station

► Features & Advantages



**Safety**  
A-grade LFP battery, fire and explosion resistance, long service life



**12V jump start**  
World-leading car jump starter technology



**All-round protection**  
Over-charge/discharge, over-current, over-temperature, short-circuit, reverse-polarity protection



**Long usage time**  
Expand extra battery to double usage time



**Multiple charging methods**  
Charging by PV, AC adapter, car charger



**Super charging**  
Max 1500W AC input power, only 1 hour to be fully-charged



► Technical Specifications



| Model        |                   | PowerBank-600  | PowerBank-1500  | PowerBank-2200  |
|--------------|-------------------|--|---|---|
| Battery      | Capacity          | 307Wh  | 1408Wh  | 1408Wh  |
|              | Cell Type         | LFP32700   | LFP 55Ah  | LFP 55Ah  |
| AC Output    | Output Power      | 600W   | 1500W   | 2200W   |
|              | Output Voltage    | 220V/50Hz  |   |   |
|              | AC waveform       | Pure Sine Wave   |   |   |
| Input        | AC Socket         | 2  | 3   | 3   |
|              | AC Input          | /  | 1500W   | /   |
|              | Full Charge Time  | 3.6HRS   | 1HR   | 8HRS  |
|              | DC5525/5521       | 100W   | 120W  | 200W  |
|              | Cigarette Charger | /  | 12V/10A   | /   |
|              | Anderson port     | /  | 400W  | /   |
| DC Output    | Type C            | /  | /   | /   |
|              | Cigarette Charger | /  | 120W Max  | /   |
|              | QC3.0             | /  | 18W   | /   |
|              | Wireless Charging | /  | /   | /   |
|              | Jump Starter      | /  | 12V/1000A Peak  | /   |
| Others       | Type C            | PD60W  | PD100W*2  | PD100W*2  |
|              | Weight            | 6.7KGs   | 19.3KGs   | 17.5KGs   |
|              | Dimension(W*H*D)  | 263*221*216mm  | 360*270*280mm   | 360*270*280mm   |
|              | Extra Battery     | 640Wh  | 1408Wh  | 1408Wh  |
| Certificates | Safety & EMC      | CE,ROHS,FCC,PSE,UL2743   | CE,ROHS,FCC,PSE,UL2743  | CE,ROHS,FCC,PSE,UL2743  |
|              | Package           | Kraft box  | 427*360*357mm   | 427*360*357mm   |
| Loading Data | Export Carton     | 330*315*300mm  | 445*380*360mm   | 445*380*360mm   |
|              | By Container      | Pallet (20GP):<br>10 pallets 720 boxes<br>Pallet (40GP/40HQ):<br>20 pallets 1280 boxes | Pallet (20GP):<br>10 pallets 360 boxes<br>Pallet (40GP/40HQ):<br>20 pallets 720 boxes | Pallet (20GP):<br>10 pallets 360 boxes<br>Pallet (40GP/40HQ):<br>20 pallets 720 boxes |

## Commercial & Industrial ESS

### Features & Advantages

- Compact Size**

- Cabinet covers no more than 1.7 m<sup>2</sup>
- Energy density improved by 40%

- Modular Design & Scalable**

- Support cabinet-level parallel connection and cluster control
- Support flexible capacity expansion
- Easy installation & connection

- Safe & Cost-effective**

- AI diagnosis system enables pre-alarm and faults location
- Integrated battery modules with fire protection and isolation
- System efficiency higher than 91%

- Minimal Maintenance**

- Multi-scenario intelligent battery management system
- Cloud EMS, Millisecond-level precise control
- Fast state monitoring and unattended design



### Technical Specifications

| Model                            | PowerHub-372/H   |
|----------------------------------|--|
| <b>Battery PACK</b>              |  |
| Cell type                        | LFP280Ah   |
| Nominal capacity                 | 372.7kWh   |
| Thermal management               | Liquid cooling   |
| <b>AC side</b>                   |  |
| AC rated power                   | 186kW  |
| Max. AC power                    | 220kW  |
| AC rated voltage                 | 690Vac   |
| Way of connection                | Three-phase & three-wire   |
| Voltage range                    | 586~759V   |
| Adjustable range of power factor | -1~1   |
| Rated grid frequency             | 50/60Hz  |
| Range of rated grid frequency    | 45~55Hz/55~65Hz  |
| Max. THDI                        | <3% (at rated power)   |
| DC component                     | <0.5%  |
| Thermal management               | Forced air cooling   |
| <b>Communication</b>             |  |
| Communication interface          | RS485/Ethernet   |
| Communication protocol           | MODBUS-RTU/MODBUS-TCP/IEC61850   |
| <b>Battery energy system</b>     |  |
| System efficiency                | ≥91%   |
| Charge/discharge ratio           | 0.5C   |
| DOD                              | 95%  |
| Number of cycles                 | 6600   |
| Ingress protection level         | IP54   |
| Environment temperature          | -30~50°C   |
| Environment humidity             | 0~95%RH no condensing  |
| Max. altitude                    | 2000m  |
| Dimension (width*depth*height)   | 1300*1300*2450mm   |
| Weight                           | 3600kg   |
| Fire control system              | Combustible gas, smoke and temperature detectors + module-level fire extinguishing system (Perfluorohexanone) + water firefighting system (reserved) |

# 03 | HYBRID INVERTER

## ▸ Single-phase Hybrid Inverter

### ▸ Features & Advantages

- Support Time-of-use Optimization
- Configurable Operation Modes
- AFCI (Optional) & Rapid Shutdown Ready
- Build-in Anti-feed-in Function
- 100% unbalanced output, each phase;  
200% unbalanced output, each phase (Below 10kW)
- Smart Monitoring & Remote Firmware Upgrade



### ▸ Technical Specifications

| PV Input                            | PowerLink-3.6KL1/A | PowerLink-5KL1/A   |
|-------------------------------------|--------------------|--|
| Max. Input Power                    | 5.4kW              | 7.5kW  |
| Max. PV Voltage                     |                    | 550V   |
| MPPT Range                          |                    | 80 - 500V  |
| Full MPPT Range                     | 110 - 500V         | 150 - 500V   |
| Normal Voltage                      |                    | 360V   |
| Startup Voltage                     |                    | 100V   |
| Max. Input Current                  |                    | 18.5 x 2A  |
| Max. Short Current                  |                    | 26 x 2A  |
| No. of MPP Tracker/No. of PV String |                    | 2 / 2  |
| Battery Port                        |                    |  |
| Max. Charge/Discharge Power         | 3.6kw              | 4.8kw  |
| Max. Charge/Discharge Current       |                    | 80A  |
| Battery Normal Voltage              |                    | 51.2V  |
| Battery Voltage Range               |                    | 40 - 60V   |
| Battery Type                        |                    | Li-ion / Lead-acid etc.  |
| AC Grid                             |                    |  |
| Max Continuous Current              | 17.0A              | 23.0A  |
| Max Continuous Power                | 3.6kVA             | 5.0kVA   |
| Nominal Grid Current                | 16.4/15.7A         | 22.8 / 21.8A   |
| Nominal Grid Voltage                |                    | 198 to 242 @ 220 / 207 to 253 @ 230V   |
| Nominal Grid Frequency              |                    | 50 / 60 Hz   |
| Power Factor                        |                    | 0.999 (Adjustable from 0.8 overexcited to 0.8 underexcited)                                  |
| Current THD                         |                    | < 3%   |
| AC Load Output                      |                    |  |
| Max Continuous Current              | 17.0A              | 23.0A  |
| Max Continuous Power                | 3.6kVA             | 5.0kVA   |
| Max Peak Current (10min)            | 24.6/23.5A         | 34.1 / 32.7A   |
| Max Peak Power(10min)               | 5.4kVA             | 7.5kVA   |
| Nominal AC Current                  | 16.4 / 15.7A       | 22.8 / 21.8A   |
| Nominal AC Voltage L-N              |                    | 220/230V   |
| Nominal AC Frequency                |                    | 50/60Hz  |
| Switching Time                      |                    | Seamless s   |
| Voltage THD                         |                    | < 3%   |
| Efficiency                          |                    |  |
| CEC Efficiency                      |                    | 97.0%  |
| Max. Efficiency                     |                    | 97.6%  |
| PV to Bat. Efficiency               |                    | 98.1%  |
| Bat. between AC Efficiency          |                    | 96.8%  |
| Protection                          |                    |  |
| PV Reverse Polarity Protection      |                    | Yes  |
| Over Current/Voltage Protection     |                    | Yes  |
| Anti-Islanding Protection           |                    | Yes  |
| AC Short Circuit Protection         |                    | Yes  |
| Residual Current Detection          |                    | Yes  |
| Ground Fault Monitoring             |                    | Yes  |
| Insulation Resister Detection       |                    | Yes  |
| PV Arc Detection                    |                    | Yes  |
| Enclosure Protect Level             |                    | IP65/NEMA4X  |
| General Data                        |                    |  |
| Dimensions                          |                    | 370 x 535 x 192mm  |
| Weight                              | 18.5kg             | 20.5kg   |
| Topology                            |                    | Transformerless  |
| Cooling                             |                    | Intelligent Fan  |
| Relatively Humidity                 |                    | 0 - 100%   |
| Operating Temperature Range         |                    | -25 to 60°C  |
| Operating Altitude                  |                    | < 4000m  |
| Noise Emission                      |                    | <25dB  |
| Standby Consumption                 |                    | <10W   |
| Mounting                            |                    | Wall Bracket   |
| Communication with RSD              |                    | SUNSPEC  |
| Display & Communication Interfaces  |                    | LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G  |
| Certification & Approvals           |                    | NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2 |
| EMC                                 |                    | EN61000-6-2, EN61000-6-3   |

## ▸ Single-phase Hybrid Inverter

### ▸ Features & Advantages

- Pure sine wave output
- Self-consumption and Feed-in to the grid
- Built-in communication port for BMS (RS485), Wi-Fi
- Programmable multiple operation modes: Grid-tie, off-grid and grid-tie with backup
- IP65 waterproof and dustproof makes the inverter available for various working conditions
- Programmable supply priority for PV, Battery or Grid
- User-adjustable charging current and voltage
- Parallel operation up to 9 units



### ▸ Technical Specifications

| Model  | PowerLink-6KL1/R   |
|--|--|
| Maximum PV input Power                         | 7000W  |
| Rated Output Power                             | 6000VA/6000W   |
| Maximum Charging Power                         | 6000 W   |
| <b>GRID-TIE OPERATION</b>                      |  |
| <b>PV INPUT (DC)</b>                           |  |
| Maximum DC Voltage                             | 550 Vdc  |
| Start-up Voltage / Initial Feeding Voltage     | 120VDC / 150 Vdc   |
| MPP Voltage Range                              | 120 VDC ~ 450 Vdc  |
| Number of MPP Trackers / Maximum Input Current | 1 / 30A  |
| <b>GRID OUTPUT (AC)</b>                        |  |
| Nominal Output Voltage                         | 220/230/240 Vac  |
| Output Voltage Range                           | 184 - 264.5 Vac or 195.5 - 253 VAC or 184 - 264.4 Vac (Selectable) |
| Nominal Output Current                         | 26A  |
| Power Factor                                   | > 0.99   |
| <b>EFFICIENCY</b>                              |  |
| Maximum Conversion Efficiency (DC/AC)          | 97%  |
| <b>OFF-GRID OPERATION</b>                      |  |
| <b>AC INPUT</b>                                |  |
| AC Start-up Voltage / Auto Restart Voltage     | 120 - 140 Vac / 180 Vac  |
| Acceptable Input Voltage Range                 | 90 - 280 Vac or 170 - 280 Vac                                      |
| Frequency Range                                | 50 Hz/60 Hz (Auto sensing)   |
| Maximum AC Input Current                       | 40 A   |
| <b>PV INPUT (DC)</b>                           |  |
| Maximum DC Voltage                             | 550 Vdc  |
| MPP Voltage Range                              | 120VDC ~ 450 Vdc   |
| Number of MPP Trackers / Maximum Input Current | 1 / 30A  |
| <b>BATTERY MODE OUTPUT (AC)</b>                |  |
| Nominal Output Voltage                         | 220/230/240 Vac  |
| Output Waveform                                | Pure sine wave   |
| Efficiency (DC to AC)                          | 93%  |
| <b>HYBRID OPERATION</b>                        |  |
| <b>PV INPUT (DC)</b>                           |  |
| Maximum DC Voltage                             | 550 Vdc  |
| Start-up Voltage / Initial Feeding Voltage     | 120 Vdc / 150 Vdc  |
| MPP Voltage Range                              | 120 Vdc ~ 450 Vdc  |
| Number of MPP Trackers / Maximum Input Current | 1 / 30A  |
| <b>GRID OUTPUT (AC)</b>                        |  |
| Nominal Output Voltage                         | 220/230/240 Vac  |
| Output Voltage Range                           | 184 - 264.5 Vac or 195.5 - 253 Vac or 184 - 264.4 Vac (Selectable) |
| Nominal Output Current                         | 26A  |
| <b>AC INPUT</b>                                |  |
| AC Start-up Voltage / Auto Restart Voltage     | 120 - 140 Vac / 180 Vac  |
| Acceptable Input Voltage Range                 | 90 - 280 Vac or 170 - 280 Vac                                      |
| Maximum AC Input Current                       | 40 A   |
| <b>BATTERY MODE OUTPUT (AC)</b>                |  |
| Nominal Output Voltage                         | 220/230/240 Vac  |
| Efficiency (DC to AC)                          | 93%  |
| <b>BATTERY &amp; CHARGER</b>                   |  |
| Nominal DC Voltage                             | 48 Vdc   |
| Maximum Solar Charging Current                 | 120 A  |
| Maximum AC Charging Current                    | 120 A  |
| Maximum Charging Current                       | 120 A  |
| <b>GENERAL</b>                                 |  |
| <b>PHYSICAL</b>                                |  |
| Dimension, D*W*H                               | 192 * 360 * 665mm  |
| Net Weight                                     | 22.5kgs  |
| <b>INTERFACE</b>                               |  |
| Parallel Function                              | Yes, 9 units   |
| Communication Port                             | USB or RS-232/Dry Contact/RS485/Wi-Fi                              |
| <b>ENVIRONMENT</b>                             |  |
| Humidity                                       | 0 ~ 95% RH (No condensing)   |
| IP degree                                      | IP65   |
| Operating Temperature                          | -25°C to 50°C  |

Product specifications are subject to change without further notice.

## ▸ Three-phase Hybrid Inverter

### ▸ Features & Advantages

- Support Time-of-use Optimization
- Configurable Operation Modes
- AFCI (Optional) & Rapid Shutdown Ready
- Build-in Anti-feed-in Function
- 100% unbalanced output, each phase;  
200% unbalanced output, each phase (Below 10kW)
- Smart Monitoring & Remote Firmware Upgrade



### ▸ Technical Specifications

| PV Input                            | PowerLink-8KH3/A   | PowerLink-10KH3/A | PowerLink-12KH3/A  | PowerLink-15KH3/A |
|-------------------------------------|--|-------------------|--------------------|-------------------|
| Max. DC Input Power                 | 12kW   | 15kW              | 18kW               | 22.5kW            |
| Max. PV Voltage                     | 1000V  |                   |                    |                   |
| Rated DC Input Voltage              | 620V   |                   |                    |                   |
| DC Input Voltage Range              | 150-1000V  |                   |                    |                   |
| MPPT Voltage Range                  | 150-850V   |                   |                    |                   |
| Full MPPT Range                     | 300-850V   | 200-850V          | 500-850V           | 500-850V          |
| Start-up Voltage                    | 160V   |                   |                    |                   |
| Max. DC Input Current               | 20x2A  |                   |                    |                   |
| Max. Short Current                  | 30x2A  |                   |                    |                   |
| No. of MPPT Tracker / Strings       | 2/2  |                   |                    |                   |
| <b>Battery Port</b>                 |  |                   |                    |                   |
| Battery Nominal Voltage             | 200V   | 250V              | 450V               | 500V              |
| Battery Voltage Range               | 80-600V  | 120-650V          | 150-800V           | 150-800V          |
| Max. Charge/Discharge Current       | 50A  |                   |                    |                   |
| Max. Charge/Discharge Power         | 8KW  | 10KW              | 12KW               | 15KW              |
| Charging Curve                      | 3 Stages   |                   |                    |                   |
| Compatible Battery Type             | Li-ion battery   |                   |                    |                   |
| <b>AC Grid</b>                      |  |                   |                    |                   |
| Nominal AC Output Power             | 8kW  | 10kW              | 12kW               | 15kW              |
| Max. AC Input/Output Power          | 12/8.8kVA  | 15/11kVA          | 18/13.2kVA         | 22.5/16.5kVA      |
| Max. AC Output Current              | 13.5A  | 17A               | 21.5A              | 27A               |
| Nominal AC Voltage                  | 230/400V   |                   |                    |                   |
| Nominal AC Frequency                | 50/60Hz  |                   |                    |                   |
| Power Factor                        | 1 (-0.8-0.8)   |                   |                    |                   |
| Current THD                         | <3%  |                   |                    |                   |
| <b>AC Load Output (Back-up)</b>     |  |                   |                    |                   |
| Nominal Output Power                | 8000VA   | 10000VA           | 12000VA            | 15000VA           |
| Nominal Output Voltage              | 230/400V   |                   |                    |                   |
| Nominal Output Frequency            | 50/60Hz  |                   |                    |                   |
| Nominal Output Current              | 11.6 A   | 14.5A             | 17.4A              | 21.8A             |
| Peak Output Power                   | 8800VA, 60s  | 11000VA, 60s      | 13200VA, 60s       | 16500VA, 60s      |
| THDV (with linear load)             | <3%  |                   |                    |                   |
| Switching Time                      | <10ms  |                   |                    |                   |
| <b>Efficiency</b>                   |  |                   |                    |                   |
| Europe Efficiency                   | 97.50%   |                   |                    |                   |
| Max. Efficiency                     | 98.20%   | 98.20%            | 98.30%             | 98.30%            |
| Battery Charge/Discharge Efficiency | 98.00%   |                   |                    |                   |
| <b>Protection</b>                   |  |                   |                    |                   |
| Reverse Polarity Protection         | Yes  |                   |                    |                   |
| Over Current / Voltage Protection   | Yes  |                   |                    |                   |
| Anti-islanding Protection           | Yes  |                   |                    |                   |
| AC Short-circuit Protection         | Yes  |                   |                    |                   |
| Leakage Current Detection           | Yes  |                   |                    |                   |
| Ground Fault Monitoring             | Yes  |                   |                    |                   |
| Grid Monitoring                     | Yes  |                   |                    |                   |
| Enclosure Protect Level             | IP65   |                   |                    |                   |
| <b>General Data</b>                 |  |                   |                    |                   |
| Dimensions                          | 558 x 535 x 260 mm   |                   | 370 x 497 x 192 mm |                   |
| Weight                              | 29kg   |                   | 20.8kg             |                   |
| Topology                            | Transformerless  |                   |                    |                   |
| Cooling Concept                     | IntelligentFan   |                   |                    |                   |
| Relatively Humidity                 | 0-100%   |                   |                    |                   |
| Operating Temperature Range         | -25 to 60°C  |                   |                    |                   |
| Operating Altitude                  | <4000m   |                   |                    |                   |
| Noise Emission                      | <30dB  |                   |                    |                   |
| Standby Consumption                 | <5W  |                   |                    |                   |
| Display & Communication Interfaces  | LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G  |                   |                    |                   |
| Certification & Approvals           | NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2 |                   |                    |                   |
| EMC                                 | EN61000-6-2, EN61000-6-3   |                   |                    |                   |

# 04 | EV CHARGER

## ▸ AC charger

### ▸ Features & Advantages

- Excellent industrial design brings pleasant user experience.
- Equipped with Bluetooth for easy commissioning.
- Connect to any backend based on OCPP 1.6J protocol.
- Could connect to Starcharge Peak Controller (optional accessories) via Ethernet to realize local dynamic load management.



## ▸ Technical Specifications

| PowerBoost-7AC/X                   |  |
|------------------------------------|--|
| <b>General Information</b>         |  |
| Charging Mode                      | Mode 3 (IEC 61851-1)   |
| Input/Output Power&Current Rating  | 7kW/32A max.   |
| Input/Output Voltage Rating        | 176-264Vac, single phase, 45-65Hz, L+N+PE  |
| Grid Type                          | TN-S, TN-C-S, TT, IT   |
| Charging Interface                 | IEC 62196-2 Type 2 tethered plug (Case C)  |
| Metering                           | Onboard metering chip, Accuracy: 1%  |
| Internal RCD                       | Type A RCD + 6mA DC  |
| Protection                         | Overcurrent, Overvoltage, Undervoltage, Residual current, Short circuit, Over temperature, Grounding fault, Integrated surge protection, PEN fault detection |
| <b>User Interface</b>              |  |
| Display & Support Languages        | Digital screen(optional)   |
| Status Indication                  | LED indicator  |
| Bluetooth                          | 5.0  |
| Button & Switch                    | No emergency button, with rotary switch inside(used for setting output current limitation)   |
| User Authentication                | Free Charge+ RFID card + APP   |
| RFID Reader                        | 1S0/IEC 14443 NB, 1S0/IEC 18092, IEC/1S0 15693   |
| <b>Communication</b>               |  |
| Network Interface                  | 4G, Wi-Fi, Bluetooth, Ethernet, RS485  |
| Protocol (EVSE&Backend)            | OCPP 1.6J  |
| Protocol (EVSE&EV)                 | Control pilot  |
| <b>Environmental</b>               |  |
| Operating Temperature              | -30°C to 50°C  |
| Storage Temperature                | -40°C to 85°C  |
| Humidity                           | 5% to 95% no condensation  |
| Altitude                           | ≤3000m above sea level   |
| <b>Mechanical</b>                  |  |
| IP Rating                          | IP55   |
| IK Rating                          | IK10   |
| Cooling                            | Natural cooling  |
| Charging Cable Length              | 5m or 7m(optional)   |
| Dimensions(W*H*D)                  | 280*280*148mm  |
| Weight                             | Approx.3.75kg  |
| Installation                       | Wall mounting,Pole mounting (Pole is optional)   |
| <b>Certification and standards</b> |  |
| Standards and compliance           | BS EN 61851-1: 2019  |
| Certification                      | UKCA   |

Note: Pictures are for reference only, please prevail in kind



# 05 | AIR SOURCE HEAT PUMP

## ▶ All-In-One Hot Water Heat Pump-R134a

### ▶ Features & Advantages

- R134a refrigerant, environmental friendly.
- CMEV: Central mechanical extract ventilation.
- WIFI smart control.
- Microchannel heat exchanger.
- Higher water temperature output up to 75°C.



### ▶ Technical Specifications R134a



| Model                            | YT-200TB1      | YT-300TB1      | YT-120TC1      | YT-150TC1      |
|----------------------------------|----------------|----------------|----------------|----------------|
| Hot Water Capacity               | 2.5kw          | 2.5kw          | 2.5kw          | 2.5kw          |
| Power Input                      | 0.6kw          | 0.6kw          | 0.6kw          | 0.6kw          |
| COP                              | 4.16           | 4.16           | 4.16           | 4.16           |
| Max Power Input                  | 3kw            | 3kw            | 3kw            | 3kw            |
| Rated Current                    | 2.7A           | 2.7A           | 2.7A           | 2.7A           |
| Max Current                      | 15A            | 15A            | 15A            | 15A            |
| Power Supply                     |                |                | 220V/1/50Hz    | 220V/1/50Hz    |
| Electric Heater                  | 2000w          | 2000w          | 2000w          | 2000w          |
| Refrigerant                      | R134a          | R134a          | R134a          | R134a          |
| Net Dimension                    | φ620/1638mm    | φ620/2038mm    | 500*500*1500mm | 500*500*1670mm |
| Package Dimension                | 700/700/1830mm | 700/700/2230mm | 640*640*1720mm | 640*640*1840mm |
| Net Weight                       | 88kg           | 102kg          | 89kg           | 92kg           |
| Gross Weight                     | 106kg          | 120kg          | 48kg           | 48kg           |
| Noise                            | 48dB           | 48dB           |                |                |
| Water Tank Volume                | 200L           | 300L           | 120L           | 150L           |
| Temperature Range                | -7~43°C        | -7~43°C        | -7~43°C        | -7~43°C        |
| Loading Quantity(20ft container) | 24             | 24             |                |                |
| Loading Quantity(40ft container) | 51             | 51             |                |                |

## ▶ Wall Mounted

### ▶ Features & Advantages

- Horizontal/Vertical optional
- Maximum outlet water temperature up to 75°C
- Multiple running mode
- Silent running, low to 38dBA



### ▶ Technical Specifications R134a



Installation

Wall Mounted-Vertical

Wall Mounted-Horizontal

| Model  | YT-060GV          | YT-080GV       | YT-100GV       | YT-060GH          | YT-080GH       | YT-100GH       |
|--|-------------------|----------------|----------------|-------------------|----------------|----------------|
| Power Supply   | 220 ~ 240V/1/50Hz |                |                | 220 ~ 240V/1/50Hz |                |                |
| Heating Capacity at Air 20°C/15°C, Water Temperature from 15°C to 55°C |                   |                |                |                   |                |                |
| Heating Capacity   | 600W              | 600W           | 600W           | 600W              | 600W           | 600W           |
| Power Input  | 169W              | 169W           | 169W           | 169W              | 169W           | 169W           |
| COP  | 3.50              | 3.50           | 3.50           | 3.50              | 3.50           | 3.50           |
| Hot Water Production   | 12L/h             | 12L/h          | 12L/h          | 12L/h             | 12L/h          | 12L/h          |
| Refrigerant  | R134a             |                |                | R134a             |                |                |
| Electric Heating Element   | 2kW               |                |                | 2kW               |                |                |
| Max Power Input  | 2.5kW             |                |                | 2.5kW             |                |                |
| Max Current  | 11.4A             |                |                | 11.4A             |                |                |
| Water Tank Volume  | 60L               | 80L            | 100L           | 60L               | 80L            | 100            |
| Max Water Tank Pressure  | 0.8MPa            |                |                | 0.8MPa            |                |                |
| IP Class   | IPX4              |                |                | IPX4              |                |                |
| Working temperature range  | -7 ~ 43°C         |                |                | -7 ~ 43°C         |                |                |
| Net Dimension  | φ470*977mm        | φ470*1142mm    | φ470*1282mm    | φ470*890mm        | φ470*1040mm    | φ470*1180mm    |
| Package Dimension (L*W*H)  | 565*585*1010mm    | 565*585*1180mm | 565*585*1320mm | 565*570*960mm     | 565*570*1100mm | 565*570*1250mm |
| Net Weight   | 39kg              | 42kg           | 45kg           | 39kg              | 42kg           | 50kg           |
| Gross Weight   | 43kg              | 46kg           | 58kg           | 43kg              | 46kg           | 54kg           |
| Noise  | 38dB(A)           |                |                | 38dB(A)           |                |                |
| Air Duct   | Non-ducted        |                |                | Non-ducted        |                |                |

## ► Heating, Cooling and DHW Heat Pump-R290

### ► Features & Advantages



#### Stable Running AT-25°C

Direct current inverter compressor good running at ultra-low temperature environment.



#### R290

With many advantages such as low carbon emission and high efficiency, R290 refrigerant is recognized as a refrigerant with the most development potential in the industry, which contributes to the reduction of carbon emission and help achieve the global goal of carbon neutrality.



#### Convenient IOT

Free WI-FI, intelligent control any time, anywhere.



#### Quiet

Ultra Low noise, enjoy the comfortable environment.



### ► Technical Specifications



| Model                         | BLN-006TC1           | BLN-012TC1            | BLN-018TC1            | BLN-012TC3            | BLN-018TC3           |              |
|-------------------------------|----------------------|-----------------------|-----------------------|-----------------------|----------------------|--------------|
| Rated voltage / Frequency     | 220-240V~ / 50(60)Hz |                       |                       | 380-415V/3N~/50(60)Hz |                      |              |
| Heating <sup>1</sup>          | Capacity             | 2.92-9.10kW           | 4.30-15.20kW          | 7.24-21.90kW          | 4.30-15.20kW         | 7.24-21.90kW |
|                               | Input Power          | 0.61-2.11kW           | 0.87-3.73kW           | 1.50-5.88kW           | 0.87-3.73kW          | 1.50-5.88kW  |
|                               | Input Current        | 2.80-9.25A            | 4.02-16.38A           | 6.86-30.25A           | 1.78-6.04A           | 2.82-9.16A   |
| Heating <sup>2</sup>          | COP                  | 4.31-5.66W/W          | 4.07-5.57W/W          | 3.82-5.59W/W          | 4.07-5.57W/W         | 3.82-5.59W/W |
|                               | Capacity             | 2.99-8.16kW           | 4.25-14.55kW          | 6.36-19.45kW          | 4.25-14.55kW         | 6.36-19.45kW |
|                               | Input Power          | 1.03-2.92kW           | 1.45-4.28kW           | 2.15-6.85kW           | 1.45-4.28kW          | 2.15-6.85kW  |
| Cooling                       | Input Current        | 4.57-12.79A           | 6.71-18.80A           | 9.84-30.12A           | 2.84-6.78A           | 3.71-10.60A  |
|                               | COP                  | 2.79-3.46W/W          | 2.83-3.45W/W          | 2.84-3.57W/W          | 2.83-3.45W/W         | 2.84-3.57W/W |
|                               | Capacity             | 1.38-5.70kW           | 3.65-11.04kW          | 4.55-17.20kW          | 3.65-11.04kW         | 4.55-17.20kW |
|                               | Input Power          | 0.67-2.44kW           | 1.12-3.97kW           | 1.85-7.31kW           | 1.12-3.97kW          | 1.85-7.31kW  |
|                               | Input Current        | 3.06-10.27A           | 5.18-17.44A           | 8.47-32.1A            | 1.97-6.30A           | 2.99-11.26A  |
| SCOP (Water Temp. At 35°C)    | 4.83                 | 4.77                  | 4.81                  | 4.74                  | 4.79                 |              |
| SCOP (Water Temp. At 55°C)    | 3.71                 | 3.77                  | 3.72                  | 3.70                  | 3.71                 |              |
| Rated Input Power             | 3.5kW                | 5.40kW                | 7.50kW                | 5.85kW                | 10.5kW               |              |
| Rated Input Current           | 15.0A                | 25.0A                 | 35.0A                 | 10.0A                 | 17.0A                |              |
| Refrigerant Type/Charge/GWP   | R290/0.55/3/kg       | R290/1.05/3/kg        | R290/1.4/3/kg         | R290/1.05/3/kg        | R290/1.4/3/kg        |              |
| CO2 Equivalent                | 0.0017t              | 0.0032t               | 0.0042t               | 0.0032t               | 0.0042t              |              |
| Operation Pressure(Low Side)  | 0.8MPa               | 0.8MPa                | 0.8MPa                | 0.8MPa                | 0.8MPa               |              |
| Operation Pressure(High Side) | 3.0MPa               | 3.0MPa                | 3.0MPa                | 3.0MPa                | 3.0MPa               |              |
| Maximum Allowable Pressure    | 3.2MPa               | 3.2MPa                | 3.2MPa                | 3.2MPa                | 3.2MPa               |              |
| Electrical Shockproof         | I                    | I                     | I                     | I                     | I                    |              |
| IP Class                      | IPX4                 | IPX4                  | IPX4                  | IPX4                  | IPX4                 |              |
| Max. Outlet Water Temp.       | 75°C                 | 75°C                  | 75°C                  | 75°C                  | 75°C                 |              |
| Operating Ambient Temperature | -25~45°C             | -25~45°C              | -25~45°C              | -25~45°C              | -25~45°C             |              |
| Water Piping Connections      | G1inch               | G1inch                | G1-1/4inch            | G1inch                | G1-1/4inch           |              |
| Rated Water Flow              | 1.0m <sup>3</sup> /h | 2.06m <sup>3</sup> /h | 3.10m <sup>3</sup> /h | 2.06m <sup>3</sup> /h | 3.1m <sup>3</sup> /h |              |
| Water Pressure Drop           | 20kPa                | 20kPa                 | 55kPa                 | 20kPa                 | 55kPa                |              |
| Min/Max Water Pressure        | 0.1/0.3MPa           | 0.1/0.3MPa            | 0.1/0.3MPa            | 0.1/0.3MPa            | 0.1/0.3MPa           |              |
| Sound pressure Level          | 46dB(A)              | 53dB(A)               | 56dB(A)               | 54dB(A)               | 56dB(A)              |              |
| Net Dimensions ( L×W×H )      | 1187×418×805mm       | 1287×448×904mm        | 1187×488×1456mm       | 1287×448×904mm        | 1187×488×1456mm      |              |
| Net Weight                    | 110kg                | 134kg                 | 195kg                 | 134kg                 | 195kg                |              |

Rated Test Conditions:

Heating<sup>1</sup>: Ambient Temp 7°C/6°C(DB/WB),Water-In/Out Temp 30°C/35°C Heating<sup>2</sup>: Ambient Temp 7°C/6°C(DB/WB),Water-In/Out Temp 47°C/55°C Cooling: Ambient Temp 35°C/24°C(DB/WB),Water-In/Out Temp 12°C/7°C

## ► Heating, Cooling and DHW Heat Pump-R32

### ► Features & Advantages



#### Stable running at -25°C

Panasonic EVI direct current inverter compressor good running at ultra-low temperature environment



#### R32

A new generation non-toxic refrigerants with energy-saving, carbon reducing and environment-friendly. No harm to ozone layer, slow down global warming.



#### Convenient IOT

Free Wi-Fi, intelligent control any time, anywhere.



#### Quiet

Ultra low noise, enjoy the comfortable environment



### ► Technical Specifications



| Model                         |                   | BLN-006TB1           | BLN-010TB1   | BLN-014TB1   | BLN-018TB1    | BLN-010TB3              | BLN-014TB3   | BLN-018TB3    | BLN-024TB3    |            |
|-------------------------------|-------------------|----------------------|--------------|--------------|---------------|-------------------------|--------------|---------------|---------------|------------|
| Power Supply                  | /                 | 220-240V~/50 (60) Hz |              |              |               | 380-415V/3N~/50 (60) Hz |              |               |               |            |
| Heating <sup>1</sup>          | Capacity          | KW                   | 2.50-8.30    | 4.20-12.20   | 5.30-16.50    | 6.20-19.80              | 4.20-12.20   | 5.30-16.60    | 6.20-19.80    | 6.80-25.90 |
|                               | Input Power       | KW                   | 0.57-1.92    | 0.86-2.88    | 1.15-4.15     | 1.36-5.28               | 0.86-2.88    | 1.15-4.15     | 1.36-5.28     | 1.78-4.15  |
|                               | Input Current     | A                    | 2.53-8.52    | 3.82-12.77   | 5.10-18.41    | 6.10-23.67              | 1.46-4.89    | 1.86-6.70     | 2.31-8.96     | 2.87-6.70  |
| Heating <sup>2</sup>          | Capacity          | KW                   | 2.30-7.62    | 3.85-11.20   | 4.90-15.10    | 6.30-19.90              | 3.85-11.20   | 4.90-15.10    | 6.30-19.90    | 6.90-26.10 |
|                               | Input Power       | KW                   | 0.75-2.61    | 1.13-3.75    | 1.65-5.25     | 1.65-6.82               | 1.13-3.75    | 1.65-5.25     | 1.65-6.82     | 1.95-8.55  |
|                               | Input Current     | A                    | 3.32-11.58   | 5.01-16.6    | 7.32-23.30    | 7.40-30.56              | 1.92-6.37    | 1.67-8.47     | 2.80-11.58    | 3.15-13.80 |
| Cooling                       | Capacity          | KW                   | 1.80-7.10    | 2.60-10.30   | 4.50-13.50    | 5.50-17.50              | 2.60-10.30   | 4.50-13.50    | 5.50-17.50    | 5.20-20.30 |
|                               | Input Power       | KW                   | 0.61-2.43    | 0.91-3.65    | 1.45-4.85     | 1.65-6.25               | 0.91-3.65    | 1.45-4.85     | 1.65-6.25     | 1.95-8.20  |
|                               | Input Current     | A                    | 2.71-10.78   | 4.03-16.19   | 6.43-21.52    | 7.40-28.02              | 1.55-6.2     | 2.34-7.82     | 2.80-10.61    | 3.15-13.23 |
| SCOP (Water Temp. At 35°C)    |                   | 4.89                 | 4.55         | 4.58         | 4.64          | 4.59                    | 4.62         | 4.67          | 4.6           |            |
| SCOP (Water Temp. At 55°C)    |                   | 3.37                 | 3.41         | 3.39         | 3.45          | 3.44                    | 3.44         | 3.45          | 3.46          |            |
| Rated Input Power             | KW                | 2.71                 | 3.83         | 6.2          | 7.5           | 3.83                    | 6.2          | 7.5           | 10            |            |
| Rated Input Current           | A                 | 12                   | 17           | 27.5         | 35            | 6.5                     | 10.5         | 13            | 17            |            |
| CO <sub>2</sub> Equivalent    | /                 | 0.84t                | 1.21t        | 1.89t        | 2.36t         | 1.21t                   | 1.89t        | 2.36t         | 2.36t         |            |
| Maximum Allowable Pressure    | MPa               | 4.4                  | 4.4          | 4.4          | 4.4           | 4.4                     | 4.4          | 4.4           | 4.4           |            |
| IP Class                      | /                 | IPX4                 | IPX4         | IPX4         | IPX4          | IPX4                    | IPX4         | IPX4          | IPX4          |            |
| Max. Outlet Water Temp.       | °C                | 60                   | 60           | 60           | 60            | 60                      | 60           | 60            | 60            |            |
| Operating Ambient Temperature | °C                | -25 ~ 45             | -25 ~ 45     | -25 ~ 45     | -25 ~ 45      | -25 ~ 45                | -25 ~ 45     | -25 ~ 45      | -25 ~ 45      |            |
| Water Piping Connections      | mm                | G1                   | G1           | G1-1/4       | G1-1/2        | G1                      | G1-1/4       | G1-1/2        | G1-1/2        |            |
| Rated Water Flow              | m <sup>3</sup> /h | 1.1                  | 1.75         | 2.52         | 3.2           | 1.75                    | 2.52         | 3.2           | 4.12          |            |
| Water Pressure Drop           | kPa               | 25                   | 27           | 30           | 32            | 27                      | 30           | 32            | 35            |            |
| Noise Level                   | dB(A)             | 49                   | 52           | 55           | 56            | 52                      | 55           | 56            | 58            |            |
| Net Dimensions ( L×W×H )      | mm                | 1100×445×850         | 1100×445×850 | 1110×480×850 | 1110×445×1450 | 1100×445×850            | 1110×480×850 | 1110×445×1450 | 1110×445×1450 |            |
| Net Weight                    | kg                | 102                  | 107          | 124          | 151           | 107                     | 124          | 151           | 160           |            |

#### Rated Test Conditions:

Heating<sup>1</sup>: Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 30°C/35°C

Heating<sup>2</sup>: Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 47°C/55°C

Cooling: Ambient Temp 35°C/24°C(DB/WB), Water-In/Out Temp 12°C/7°C

## Swimming Pool Heat Pump-R32

### Features & Advantages

- Full inverter, higher COP, better performance.
- R32 refrigerant, environmental friendly.
- Titanium heat exchanger, corrosion resistance .
- Intelligent controller.
- WIFI function included.
- MODBUS communication.
- Heating, cooling & Auto function included.



### Technical Specifications



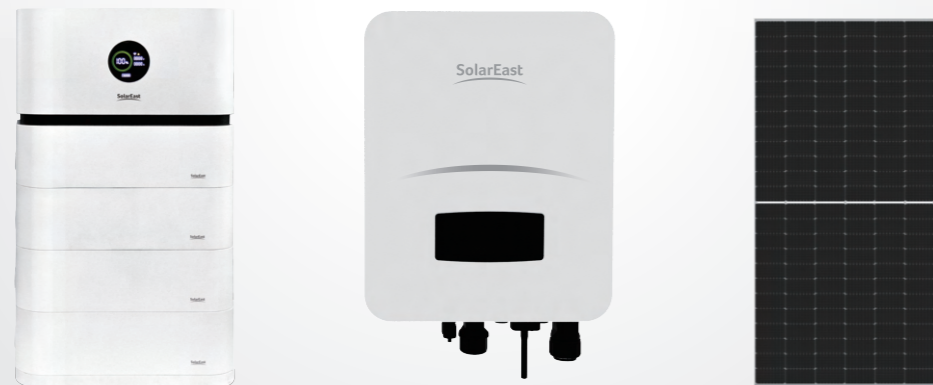
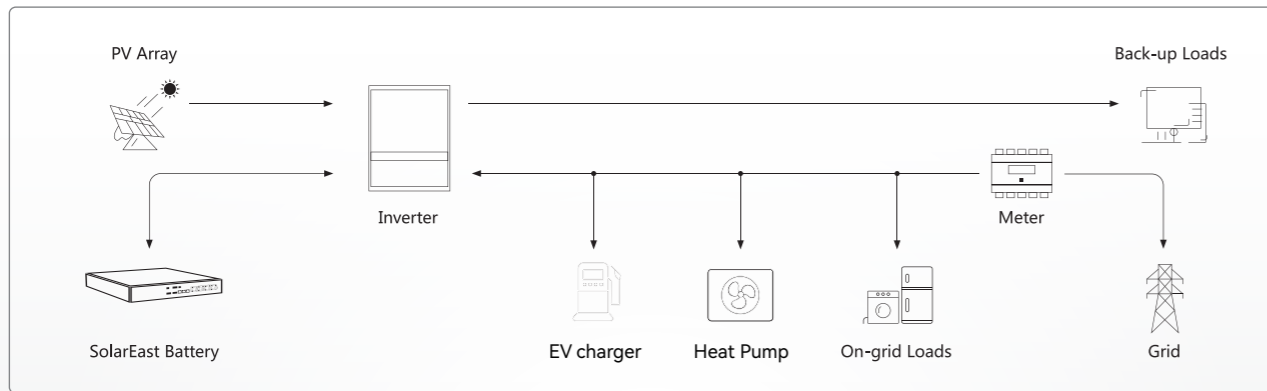
| Model  | BYC-007TB1            | BYC-010TB1     | BYC-013TB1     | BYC-017TB1     | BYC-021TB1     | BYC-025TB1     |
|--|-----------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Heating Capacity at Air 26°C, Humidity 80%, Water 26°C in, 28°C out</b> |                       |                |                |                |                |                |
| Heating Capacity   | 7.8 ~ 1.8kW           | 9.8~2.3kW      | 12.6~3.0kW     | 16.5~3.8kW     | 20.5~4.7kW     | 25.5~6.4kW     |
| Power Input  | 1.15 ~ 0.11kW         | 1.42~0.14kW    | 1.83~0.19kW    | 2.39~0.24kW    | 2.97~0.30kW    | 3.70~0.40      |
| COP  | 15.8 ~ 6.8            | 15.8~6.9       | 15.9~6.9       | 15.9~6.9       | 15.8~6.9       | 15.9~6.9       |
| <b>Heating Capacity at Air 15°C, Humidity 70%, Water 26°C in, 28°C out</b> |                       |                |                |                |                |                |
| Heating Capacity   | 6.2 ~ 1.4kW           | 7.7~1.8kW      | 9.8~2.3kW      | 12.2~2.7kW     | 15.1~3.5       | 20.2~4.9       |
| Power Input  | 1.27 ~ 0.18kW         | 1.57~0.24kW    | 1.99~0.30kW    | 2.49~0.36kW    | 3.08~0.47      | 4.12~0.64      |
| COP  | 7.6 ~ 4.9             | 7.6~4.9        | 7.6~4.9        | 7.6~4.9        | 7.6~4.9        | 7.6~4.9        |
| <b>Cooling Capacity at Air 35°C, Water 29°C in, 27°C out</b>               |                       |                |                |                |                |                |
| Cooling Capacity   | 4.3 ~ 1.1kW           | 5.5~1.4kW      | 7.3~1.7kW      | 9.1~2.2kW      | 11.2~2.5kW     | 14.5~3.2kW     |
| Power Input  | 1.13 ~ 0.16kW         | 1.45~0.21kW    | 1.87~0.25kW    | 2.33~0.33kW    | 2.95~0.37kW    | 3.72~0.48kW    |
| EER  | 6.7 ~ 3.8             | 6.7~3.8        | 6.7~3.9        | 6.7~3.9        | 6.7~3.8        | 6.7~3.9        |
| Power supply   | 220 ~ 240V / 1/ 50 Hz |                |                |                |                |                |
| Max Power Input  | 1.3kW                 | 1.6kW          | 2kW            | 2.5kW          | 3.1kW          | 4.2kW          |
| Max Current  | 5.9A                  | 7.3A           | 9.1A           | 11.4A          | 14.1A          | 19A            |
| Refrigerant  | R32                   | R32            | R32            | R32            | R32            | R32            |
| Heat Exchanger   | Titanium              | Titanium       | Titanium       | Titanium       | Titanium       | Titanium       |
| Air Flow Direction   | Horizontal            | Horizontal     | Horizontal     | Horizontal     | Horizontal     | Horizontal     |
| Water Flow Volume  | 2.5m³/h               | 3.5m³/h        | 4.5m³/h        | 5.5m³/h        | 6.5m³/h        | 9m³/h          |
| Automatic defrosting   | by 4 way valve        | by 4 way valve | by 4 way valve | by 4 way valve | by 4 way valve | by 4 way valve |
| Working temperature range  | -15 ~ 43°C            | -15 ~ 43°C     | -15 ~ 43°C     | -15 ~ 43°C     | -15 ~ 43°C     | -15 ~ 43°C     |
| Noise level 1m dB  | 39~49A                | 40~49A         | 42~50A         | 42~50A         | 44~51A         | 45~53A         |
| Noise level 10m dB   | 20~29A                | 20~32A         | 22~33A         | 23~35A         | 25~36A         | 27~38A         |
| Casing Material  | ABS plastic           | ABS plastic    | ABS plastic    | ABS plastic    | ABS plastic    | ABS plastic    |
| Net Dimensions (L*W *H)  | 850*360*590mm         |                | 972*430*653mm  |                | 1083*448*704mm |                |
| Package Dimensions (L*W*H)   | 920*440*770mm         |                | 1022*460*788mm |                | 1130*460*830mm |                |
| Net Weight   | 44kg                  | 46kg           | 55kg           | 56kg           | 60kg           | 92kg           |
| Gross Weight   | 55kg                  | 57kg           | 66kg           | 67kg           | 72kg           | 105kg          |

# 06 | INTEGRATED CLEAN ENERGY SOLUTION

## ▸ PV+ Energy Storage

### ▸ Features & Advantages

-  Backup energy storage
-  Easy installation
-  24/7 outage protection
-  Energy independence



## ▸ Recommended Configuration

### Option 1 On-Grid System



| Model       | Battery                          | Inverter                 | PV1                  | PV2                    |
|-------------|----------------------------------|--------------------------|----------------------|------------------------|
| <b>5kW</b>  | PowerCool-LFP-5000*2 pcs (10kWh) | PowerLink-5K-L1/A(5kW)   | 550W*10 pcs (5.5kWp) | 410W*14 pcs (5.74kWp)  |
| <b>10kW</b> | PowerCool-LFP-HV20 (20kWh)       | PowerLink-10K-H3/A(10kW) | 550W*20 pcs (11kWp)  | 410W*28 pcs (11.48kWp) |

### Option 2 Off-Grid System



| Model       | Battery                          | Inverter                     | PV1                  | PV2                   |
|-------------|----------------------------------|------------------------------|----------------------|-----------------------|
| <b>3kW</b>  | PowerCool-LFP-5000*1 pc (5kWh)   | PowerLink-6KL1-OFF/R (6kW)   | 550W*6 pcs (3.3kWp)  | 410W*8 pcs (3.28kWp)  |
| <b>5kW</b>  | PowerCool-LFP-5000*2 pcs (10kWh) | PowerLink-6KL1-OFF/R (6kW)   | 550W*10 pcs (5.5kWp) | 410W*14 pcs (5.74kWp) |
| <b>10kW</b> | PowerCool-LFP-5000*2 pcs (10kWh) | PowerLink-11KL1-OFF/R (11kW) | 550W*18 pcs (9.9kWp) | 410W*24 pcs (9.84kWp) |

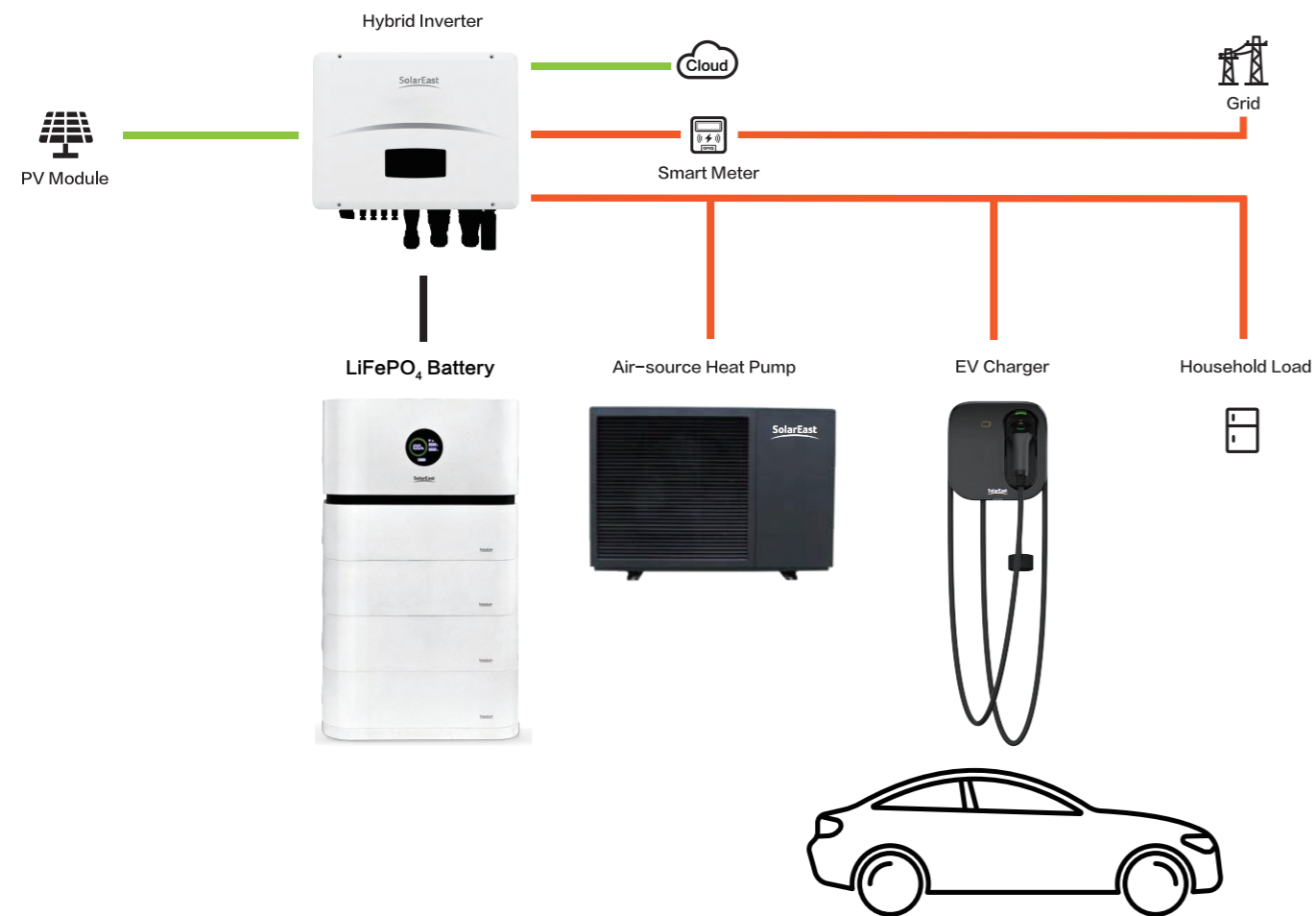
The final configuration is subject to adjustment based on the capacity and nature of the load, local radiation and other specific requirements of the end user.

## ▸ PV+Energy Storage+Heat Pump+EV Charger

The Company can provide customers with "PV+storage+thermal/charging" combined system, which integrates low-cost power generation with power storage, realizing clean, efficient and cost-efficient energy end use.

The system includes PV module, hybrid inverter, energy storage battery module and air-source heat pump and/or EV charger.

The PV module adopts high-efficient mono-crystalline cells, which can be installed on the roof or ground according to the specific situation of users to better achieve clean and low-cost power supply. The energy storage module stores part of the electricity generated by the photovoltaic module and uses it at night or when the light is poor, therefore improving the utilization rate of the solar panels and reducing the use cost; while the air-source heat pump module uses heat pumps for heating, which can save 70% of electricity.



## 07 | PROJECT DEVELOPMENT

For those big power consumers, such as steel factories and chemical plants, the Company can work out feasibility study report and customize the energy storage facilities accordingly based on their load characteristics, with a view to helping them save power bill, postpone transformer capacity expansion, enhance utilization of PV power generation, and improve electrical safety alike through the means of peak load shifting and other avenues.

The Company provides overall solutions encompassing engineering, procurement, construction, operation & maintenance, and can offer financing for the eligible clients.



10MW/39MWh Energy Storage Station



PV+Solar Thermal+Energy Storage Project, Tibet



PV+Storage+Thermal project for 17 elementary schools, Tibet



Industrial & Commercial Energy Storage Project, Guangdong



Heat Pump Project, Jingtu Industrial Park in Caina Town, Tibet



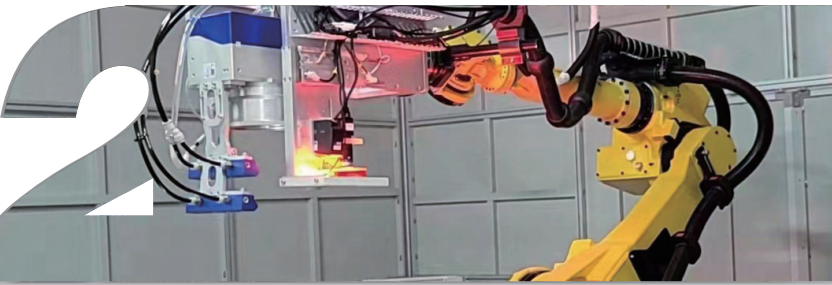
202MW Distributed PV Project (Phase I) of Guannan County, Jiangsu

## 07 | FLEXIBLE COOPERATION



### **Regional Distributors**

Act as an agent/distributor/dealer to represent our products



### **OEM/ODM**

Act as your OEM/ODM supplier



### **Integrated Solutions**

Help you come up with Integrated cleaning energy solutions



## Commercial & Industrial ESS

### Features & Advantages

- Compact Size**

- Cabinet covers no more than 1.3 m<sup>2</sup>
- Energy density improved by 35%

- Modular Design & Scalable**

- Support cabinet-level parallel connection and cluster control
- Support flexible capacity expansion
- Easy installation & connection

- Safe & Cost-effective**

- AI diagnosis system enables pre-alarm and faults location
- Integrated battery modules with fire protection and isolation
- System efficiency higher than 91%

- Minimal Maintenance**

- Multi-scenario intelligent battery management system
- Cloud EMS, Millisecond-level precise control
- Fast state monitoring and unattended design



### Technical Specifications

| Model                            | PowerHub-215A/H   | PowerHub-256L/H                |
|----------------------------------|---|--------------------------------|
| <b>Battery PACK</b>              |   |                                |
| Cell type                        | LFP280Ah  | LFP280Ah                       |
| Nominal capacity                 | 215.0kWh  | 256kWh                         |
| Thermal management               | Air cooling (industrial AC)   | Liquid cooling                 |
| <b>AC side</b>                   |   |                                |
| AC rated power                   | 100kW   | 125kW                          |
| Max. AC power                    | 110kW   | 137.5kW                        |
| AC rated voltage                 | 400Vac  | 400Vac                         |
| Way of connection                | Three-phase & three-wire  | Three-phase & three-wire       |
| Voltage range                    | 340~440V  | 340~440V                       |
| Adjustable range of power factor | -1~1  | -1~1                           |
| Rated grid frequency             | 50/60Hz   | 50/60Hz                        |
| Range of rated grid frequency    | 45~55Hz/55~65Hz   | 45~55Hz/55~65Hz                |
| Max. THDI                        | <3% (at rated power)  | <3% (at rated power)           |
| DC component                     | <0.5%   | <0.5%                          |
| Thermal management               | Forced air cooling  | Liquid cooling                 |
| Way of isolation                 | None  | None                           |
| <b>Communication</b>             |   |                                |
| Communication interface          | RS485/Ethernet  | RS485/Ethernet                 |
| Communication protocol           | MODBUS-RTU/MODBUS-TCP/IEC61850  | MODBUS-RTU/MODBUS-TCP/IEC61850 |
| <b>Battery energy system</b>     |   |                                |
| System efficiency                | ≥90%  | ≥91%                           |
| Charge/discharge ratio           | 0.5C  | 0.5C                           |
| DOD                              | 95%   | 95%                            |
| Number of cycles                 | 6600  | 6600                           |
| Ingress protection level         | IP54  | IP54                           |
| Environment temperature          | -30~50°C  | -30~50°C                       |
| Environment humidity             | 0~95%RH no condensing   | 0~95%RH no condensing          |
| Max. altitude                    | 2000m   | 2000m                          |
| Dimension (width*depth*height)   | 1250*1200*2450mm  | 1030*1300*2400mm               |
| Weight                           | 2600kg  | 2800kg                         |
| Fire control system              | Combustible gas, smoke and temperature detectors + total gas flooding extinguishing system (Perfluorohexanone) + water firefighting system (reserved) |                                |