



# RESIDENTIAL SOLAR POWER SOLUTION

# STORAGE

Premium High Performance Solar Modules and Systems.

# SOLUTION



11/2023-24

## Builder Solution

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# 2024

# CATALOGUE

ALL IN ONE SOLAR SYSTEM

## RESIDENTIAL SOLAR POWER SOLUTION

Builder Solution is a professional manufacturer of solar energy systems and a distributor of top-quality related products, such as solar panels, inverters, solar batteries and so on. We adopt the latest technology and equipment to ensure our solar systems to be high-efficient, reliable, and long-lasting.

We pursue innovation, reliability, and responsibility, and we strive to uphold these values in all aspects of our business. Adhering to the core culture of "Thanksgiving", and we believe that only on the basis of trust, respect, and gratitude can we build strong and long-term relationships with our customers.

### 1 HYBRID SOLAR ENERGY SYSTEM

Hybrid energy storage system is a photovoltaic and energy storage integrated optical storage system, the system provides a variety of working modes, convenient for the user's electricity cost, to ensure the stability of electricity consumption.

### 2 OFF GRID SOLAR POWER SYSTEM

Off-grid photovoltaic power generation systems can generate and consume electricity locally. It makes full use of the characteristics of the widespread existence of solar energy and supplies power to the load through photovoltaic modules, solar controllers, and inverters. At the same time, it also charges the battery bank. When the photovoltaic power is not enough, the energy storage battery will be used to power the load through the controller and inverter. It is characterized by simple installation and flexible design.

### 3 ON GRID SOLAR POWER PLANT

Grid connection refers to the connection of power generation equipment to the power system, facilitating bidirectional energy transmission and exchange. In the energy industry, it is a key aspect of renewable energy generation and a necessary condition for advancing clean energy development.

### 4 OTHER

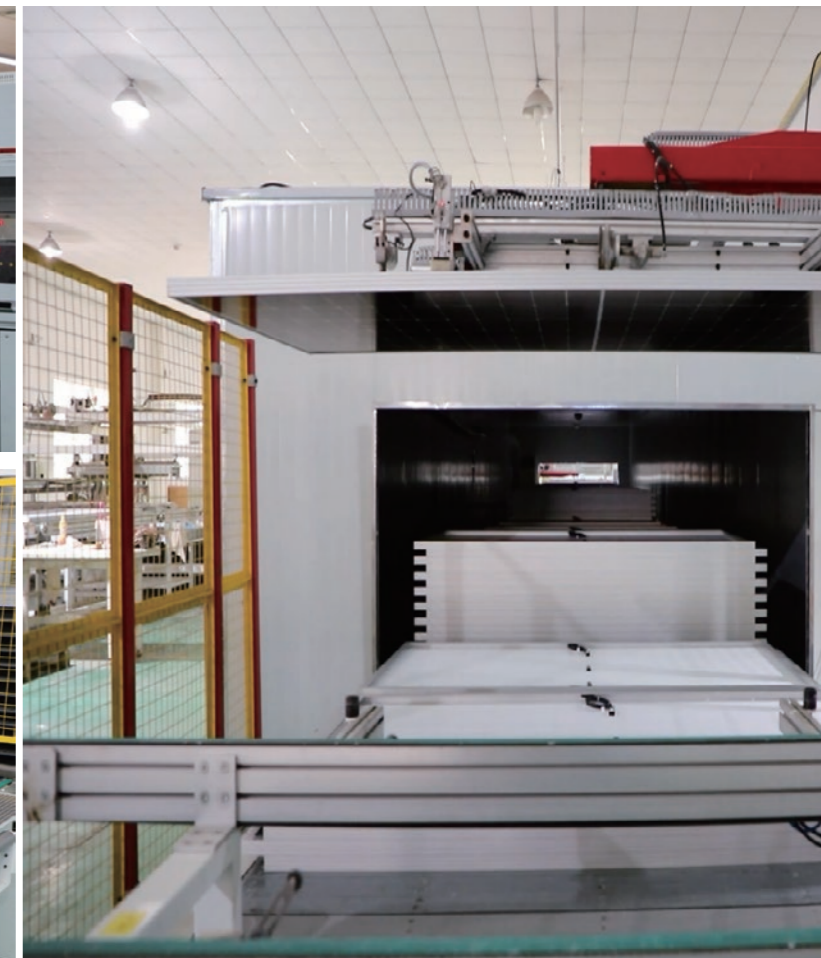


## OUR COMPANY

Builder Solution is a professional enterprise specializing in the research, development, production, and sales of solar panels. Our factory is headquartered in USA and has a modern production base and advanced production equipment, committed to providing high-quality solar products and excellent service to customers worldwide.

Our solar panels are manufactured using the latest technology and processes to ensure high efficiency and long lifespan. Product range covers multicrystalline solar panels, monocrystalline solar panels, as well as a range of components and accessories related to solar panels. These products are widely used in various fields such as rooftops, agriculture, industry, public utilities, and residential use.

The company has a dynamic and innovative R&D team that continuously launches new products and technologies to meet customer demand for solar products. Our production processes strictly adhere to the ISO 9001 quality management system to ensure product quality and stability. Additionally, our products have obtained relevant certifications such as German TUV, CE, etc.



# HYBRID SOLAR ENERGY SYSTEM

10 - 50 kW



**Solar Panel**  
Mono/poly/halfcell/flexible/full black solar panel



**Solar Inverter**  
Hybrid solar inverter



**Battery Bank**  
Lithium Battery/GEL Battery



**Solar Controller**  
MPPT/PWM Controller



**MC4 Connector**  
Contact material is copper and tin plated



**PV Cable**  
Has excellent acid resistance and heat resistance



## LRS182-54H

## Solar Panel



**LTB182-410-430B TOPCON**  
Bifacial Monocrystalline Module

Number of Cells	108 Cells [6x18]
Dimensions of Module L*W*H[mm]	1722x1134x30mm
Weight [kg]	22.0 kg
Front Side Glass	High transparency solar glass 2.0mm
Back Side Glass	High transparency solar glass 2.0mm
Frame	Black Anodized Aluminium Alloy
Junction Box	IP 68 rated
Number of diodes	3
Connector	MC4



**LRS182-54H 400~420W**

Higher Output Power Low Light Features  
Harsh Environmental

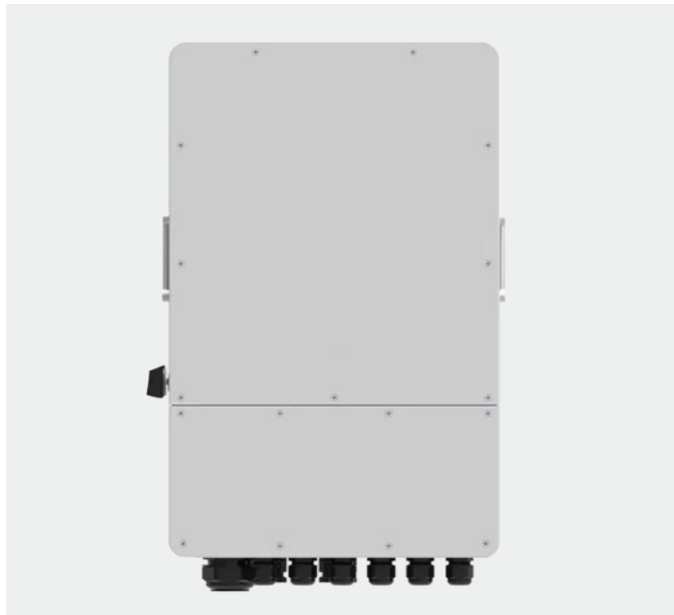
Cell Orientation	108 (6x18)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	20.5kg±3%
Dimension	1722x1134x30mm
Packaging	36pcs per pallet 936pcs per 40'GP



**LRS182-60HB 440~460W**

Higher Output Power Low Light Features  
Harsh Environmental

Cell Orientation	120 (6x20)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 350mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	20.5kg±3%
Dimension	1910x1134x35mm
Packaging	31pcs per pallet 744pcs per 40'GP



## THREE PHASE HYBRID INVERTER

SUN- 8 / 10 /12 K-SGO4LP3-EU

- 100%unbalanced output, each phase; Max.output up to 50%rated power AC couple to retrofit existing solar system
- Max. 10 pcs parallel for on-grid and off-gridoperation, Support multiple batteries parallel
- Max. charging/discharging current of 240A
- 48V low voltage battery, transformer isolation design
- 6 time periods for battery charging/discharging
- Support storing energy from diesel generator



## GROWATT HYBRID INVERTER

SPH 3000~6000TL BL-UP

- 1Smart load management via dry contact
- UPS function, 10ms transition
- Scalable system configuration
- VPP interface ready
- Remote smart O&M
- 2 DC/AC Ratio

## HIGH VOLTAGE THREE PHASE HYBRID INVERTER

4.0KW/5.0KW/6.0KW/8.0KW/10.0KW/12.0KW

- Big lcd display
- Power export limit
- Big lcd display
- Power export limit



## SPLIT- PHASE INVERTER

Battery voltage: 48V

- Max. 3 pcs in parallel
- Support multi-machine parallel mode sharing a battery pack;Single-machine load capacity 100A
- Support parallel SOC equalization control and parallelcurrent sharing control
- Using split-phase topology and eliminating the transformers,to make the system efficiency higher
- Support the diesel generator and the grid access at the same time



## ALL-IN-ONE SOLAR CHARGE INVERTER

SPI-8K-U/SPI-10K-U

- Load friendly: Stable sine wave AC output via SPWM modulation
- Supports a wide range of battery technology: GEL, AGM, Flooded, LFP, and program.
- Dual LFP battery activation method: PV&mains
- Uninterrupted power supply: simultaneous connection to utility grid/generator and PV
- Intelligent programming: the priority of the output from different energy sources can be set

## HYBRID INVERTER/THREE-PHASE

12~20KW

- Safe and reliable
- IP65 protection
- Easy Installation
- PV &storage system



## SOLAR HYBRID INVERTER

LOVSUN SYP-5K-U

- Safe and reliable
- ON/OFF switch controls the inverter AC output
- Easy Installation
- PV &storage system



# Battery



## LFP-POWERWALL BOX

48V100AH/48V200AH

Wall mounted battery&compact design ease of installation  
 Compatible with multiple inverters Multiple communication interfaces  
 RS232,RS485,CAN  
 Ip21 Protection, indoor application  
 Use of parallel connection;from 2 to 10 modules  
 High energy density,110wh/kg  
 Multiple protection LiFePO4 material, safe and long life



## POWERWALL LITHIUM BATTERY

51.2V100AH/51.2V200AH

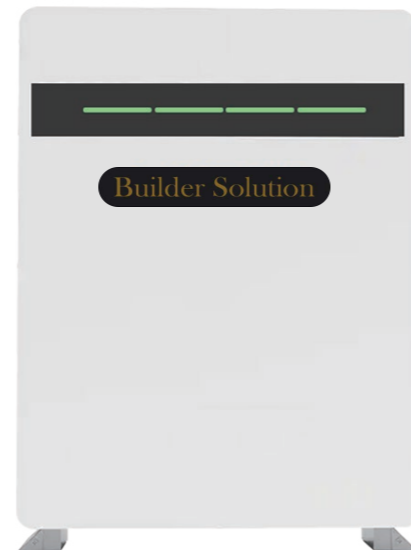
Vertical industry integration ensures more than 6000 cycles with 80%  
 DoD.Safe Lithium iron phosphate battery cell.  
 Just plug and play to minimize the installation time and cost.Compact  
 and fashionable design fits in your sweet homeenvironment.  
 Compatible with most of the available Hybrid inverters  
 UL1642.IEC62619.CE UN38 .3.MSDS



## 51.2V WALL MOUNTED LIFEP04 BATTERY

5KWH/7.5KWH/10KWH

6000 cyclesat 80% DOD  
 1C/1C continualcharge and discharge  
 10Years (board 5years,cell 10years)  
 Superior LiFePO4safety performance  
 Low voltagesafety connection  
 Max. 8 modules parallel



## LIFEPO4 HIGH VOLTAGE BATTERY

10kwh-20kwh

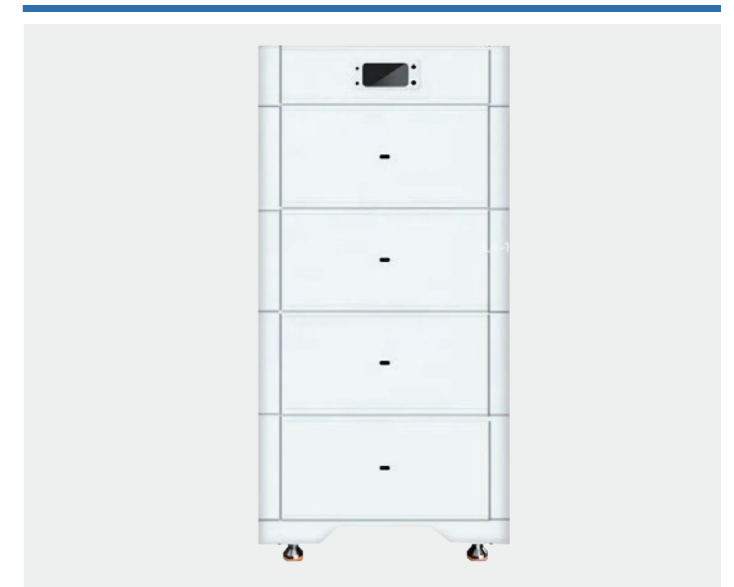
6000 Cycle Life@25°C  
 5120/10240W Capacity  
 7680/10200W Peak Power  
 No DIP Switch Automatically Assign Module Address  
 Solid-State LFP Battery Cells  
 1.5C Discharging Rate  
 Increase 8% Energy Density  
 93% Max.Recommended DOD (Capacity)



## Lovsun HV BATTERY PACK

10-40kWh

- Long Design Life
- Multiple Protection
- Modular Design
- Dekra Certification
- Scalable&Flexible
- Easy Maintenance



## RESIDENTIAL ESSS

9.6kwh/14.4kWh/19.2kWh

- LiFePO4 Safe Battery Chemistry
- Remote software programup date, fault diagnosis
- Visual interface,real-time monitoring of product status
- >6,000 Cycles at 90% DOD
- Easy Installation & After Sales Service
- High energy density of product status



# COMMERCIAL ON GRID PHOTOVOLTAIC SOLAR SYSTEM

50 - 150 kW



**Solar Panel**  
Mono/poly/halfcell/flexible/full black solar panel



**Solar Inverter**  
On Grid Inverter



**Solar Controller**  
MPPT/PWM Controller



**MC4 Connector**  
Contact material is copper and tin plated



**PV Cable**  
Has excellent acid resistance and heat resistance

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## Solar Panel



### LRS182-72H 535~560W

Higher Output Power Low Light Features  
Harsh Environmental

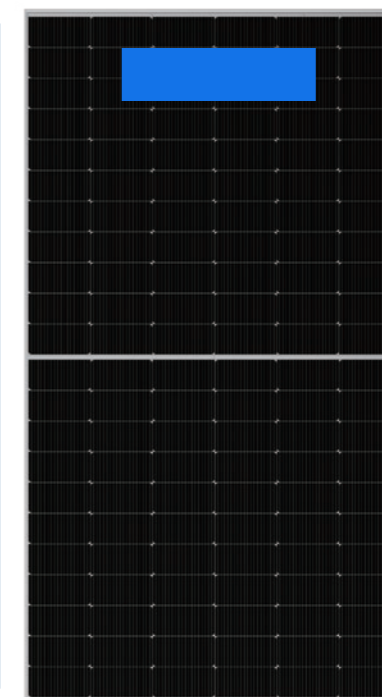
Cell Orientation	144 (6x24)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	28kg±3%
Dimension	2279x1134x30mm
Packaging	36pcs per pallet 720pcs per 40'ft Container



### LRS182-72HB 570~600W

182mm Cells All Black Mono PERC with  
MBB & Half-cut Technology

Cell Orientation	156 (6x26)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	30.5kg±3%
Dimension	2465x1134x35mm
Packaging	31pcs per pallet 496pcs per 40'ft Container



### LRS210-66H 660~685W

Higher Output Power Low Light Features  
Harsh Environmental

Cell Orientation	132 (6x22)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	33.6kg±3%
Dimension	2384x1303x35mm
Packaging	31pcs per pallet 558pcs per 40'GP

# On Grid Inverter



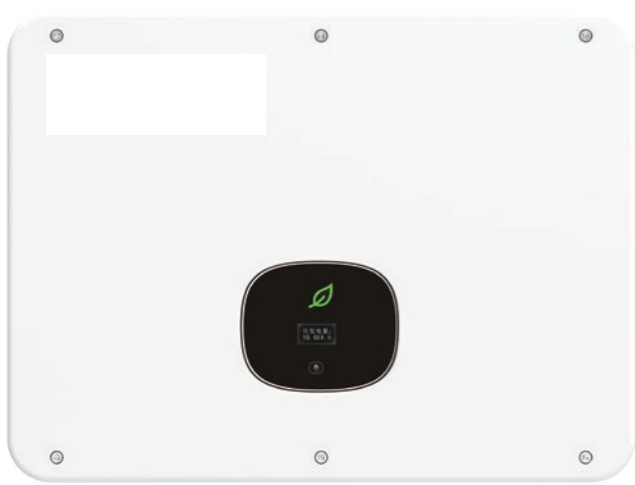
## MOD 10~15K TL3-X

- Max. efficiency 98.6%
- OLED and touch button
- Type II SPD on DC and AC side
- String monitoring
- AFCI function ready



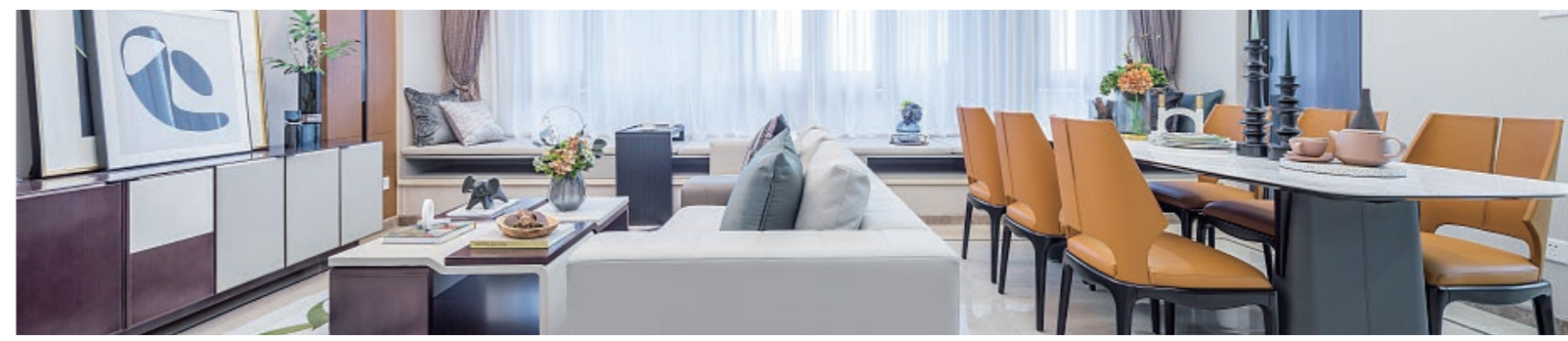
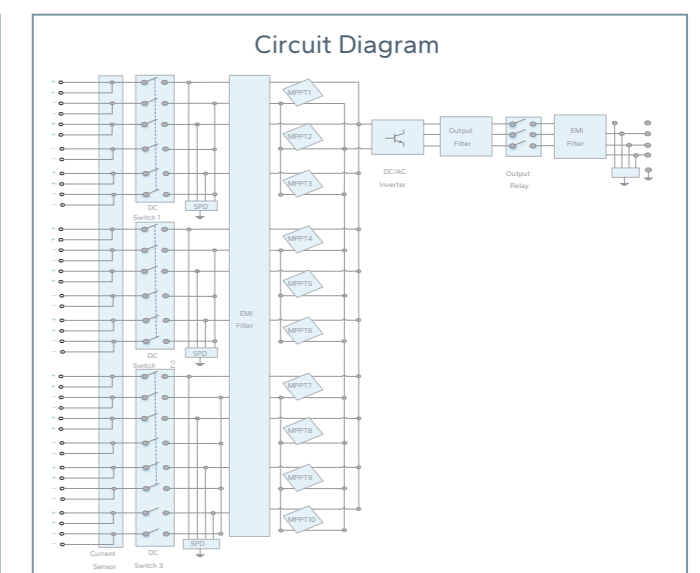
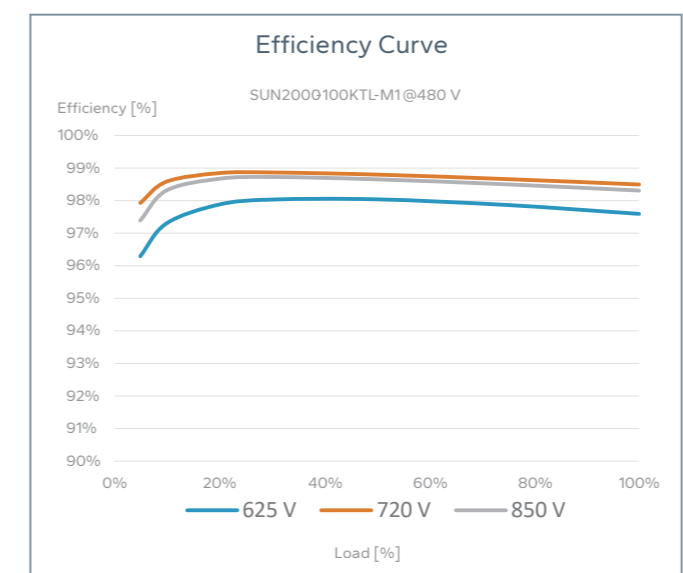
## SUN200000KTL-M1

- 10 MPP Trackers
- 98.8% (@480V) Max. Efficiency
- String-level Management
- MBUS Supported
- Smart I-V Curve Diagnosis Supported
- Fuse Free Design



## MID 15~25KTL3-X

- Max. efficiency 98.75%
- Dual MPP trackers
- Supports export control
- Touch key and OLED display
- Type II SPD on AC and DC side





# OFF GRID SOLAR SOLAR SYSTEM

3 - 30 kw



**Solar Panel**  
Mono/poly/halfcell/flexible/full black solar panel



**Solar Inverter**  
OFF Grid Inverter



**Solar Controller**  
MPPT/PWM Controller



**MC4 Connector**  
Contact material is copper and tin plated



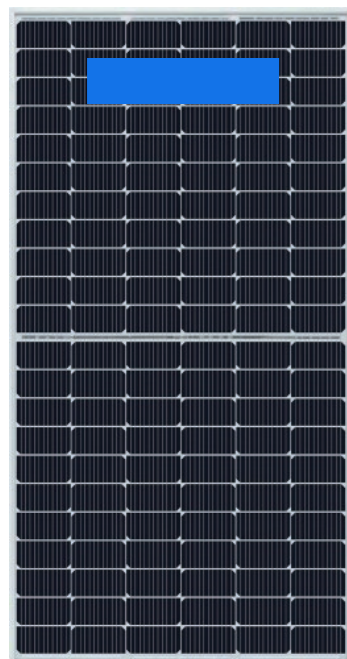
**PV Cable**  
Has excellent acid resistance and heat resistance



**Battery Bank**  
Lithium Battery/GEL Battery



## Solar Panel



### LTS182-560-580W TOPCON

144 Half-Cell Layout

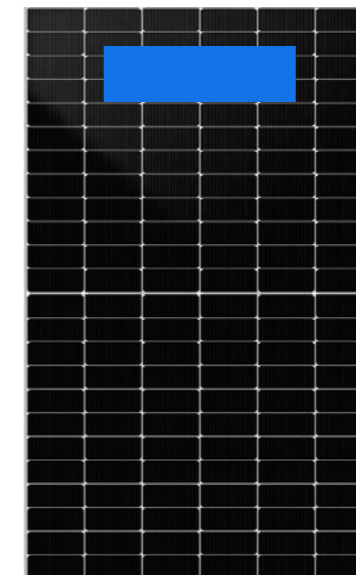
Solar Cells	N-type Mono
No. of Cells	144(6x24)
Dimensions	2279 x 1134 x 35mm
Weight	27.5kgs
Front Glass	3.2mm coated tempered glass
Frame	Anodized aluminium alloy
Junction Box	Ip68 rated (3 by pass diodes)
	4.0mm <sup>2</sup> /300mm(+) / 300mm(-)
Output Cables	Length can be customized
Connectors	Mc4 compatible
Mechanical load test	5400Pa



### LRS210-66H 675~700W

Higher Output Power Low Light Features  
Harsh Environmental

Cell Orientation	132 (6x22)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Single glass
	3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	33.6kg±3%
Dimension	2384x1303x35mm
Packaging	31pcs per pallet
	558pcs per 40'GP



### LTB182-410-430s N-TYPE

144 MONO-BIFACIAL

Cell Type	182 N type Mono-crystalline
No. of cells	144(6x72)
Dimensions	2278x1134x35mm
Weight	32.3 kg
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction BoX	IP68 Rated
Output Cables	TUV 1x4.0mm
Connector	MC4 compatible or MC compatible



### OFF GRID SOLAR INVERTER

**3-5KW**

Pure sinewave inverter  
Overload and shortCircuit protection  
Auto restart whileAC is recovering  
Cold start function



### OFF GRID SOLAR INVERTER

**4-6KW**

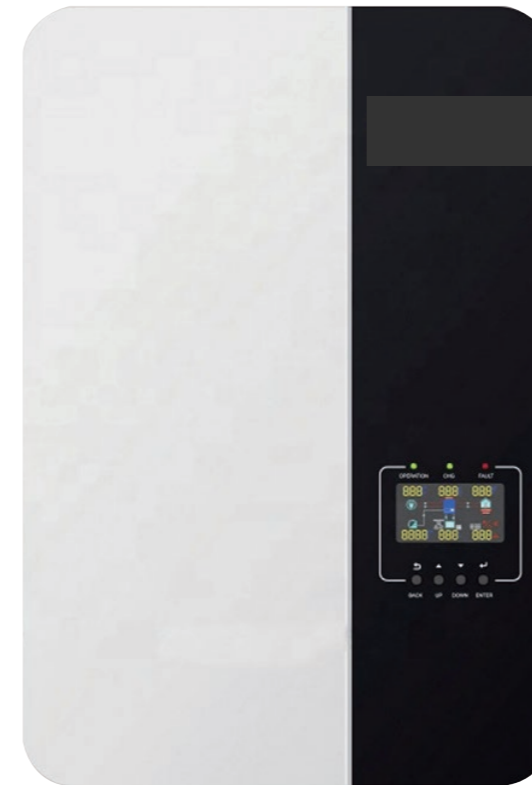
Dual output for smart load management  
MaximumPV input current 27A  
Support USB On-the Go function  
Data log eventstored in the inverter



### SP SERIES HYBRID SOLAR INVERTER

**3-6.2KW**

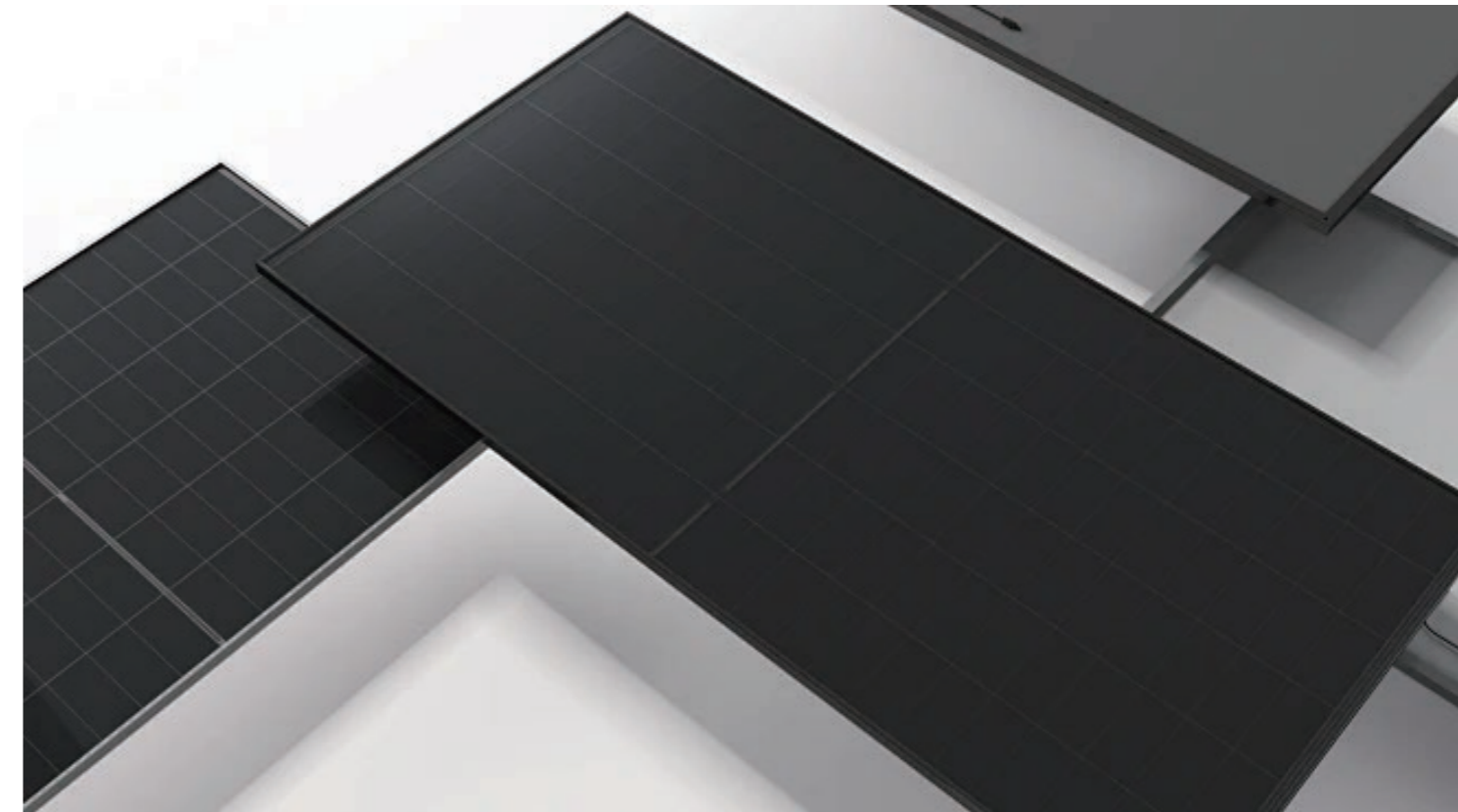
Pure sine wave inverter  
Programmable supply priority for PV, battery or Grid  
High PV input voltage range(55~450VDC)  
Built-in Max110A(3.6KW&6.2KW)MPPTsolar charge  
Compatibe with lithium-ion battery  
Support BMS communication with Lithium battery  
Smart battery charge design to optimize battery life



### SPF 3000TL LVM-ES

#### Inversor Cargador

Controlador de carga con MPPT integrado  
Función de carga de compensación  
Funciona con o sin batería  
Voltaje de entrada FV hasta 250 VDC



# Battery

## 48V RACK LITHIUM BATTERY

5kWh 10kWh Energy Storage

LFP-Rack box, a Low-voltage lithium battery. With a scalable modular design, the capacity range can be expanded from 5.12kWh to 51.2kWh. The modules are connected by cables to support high-power work and are easy to install and maintain. Long life technology ensures more than 6000 cycles with 90% DOD



## STATE LITHIUM BATTERY ESS

LFP 5120M/10240M

6000 Cycle Life@25°C  
5120/10240W Capacity  
7680/10200W Peak Power  
No DIP Switch Automatically Assign Module Address  
Solid-State LFP Battery Cells  
1.5C Discharging Rate  
Increase 8% Energy Density  
93% Max. Recommended DOD (Capacity)



## 12V GEL BATTERY

100-250ah

6 Maintenance free  
Safety and no leakage  
Excellent recharge and discharge performance  
Low self-discharge rate  
Adapt to high or low temperature  
Good deep discharge performance  
Longer cycle life



## PV CABLES

PV Cables in 4mm<sup>2</sup> and 6mm<sup>2</sup>, with TUV Certificate



## DC AC SWITCH

BYH-32 true DC isolator switch in IP66 enclosure is developed for solar residential and commercial PV rooftop systems, should be installed between solar panels and inverter for DC power isolation.

## MC4 CONNECTOR

MC4 PV Connectors 1000V, with TUV Certificate  
Rated current: 30A  
Rated voltage: 1000VDC





OUTDOOR CABINET ESS 50KW/100KWH



## Features

-  All-in-one hybrid inverter
-  Seamless on/off grid transfer within 10 ms
-  Programmable working mode
-  Support remote control of DG
-  Intelligent and efficient
-  Diversified function



OUTDOOR CABINET ESS 100KW/215KWH



**Outdoor Cabinet ESS**  
Smarter, Cleaner, Healthier Life!

Integration Product: power module, battery, refrigeration, fire protection, dynamic environment monitoring and energy management in one. It is suitable for microgrid scenarios such as small-scale commercial and industrial energy storage, photovoltaic diesel storage, and photovoltaic storage and charging. The local control screen can perform a variety of functions, such as monitoring system operation, formulating energy management strategies, and upgrading remote equipment.

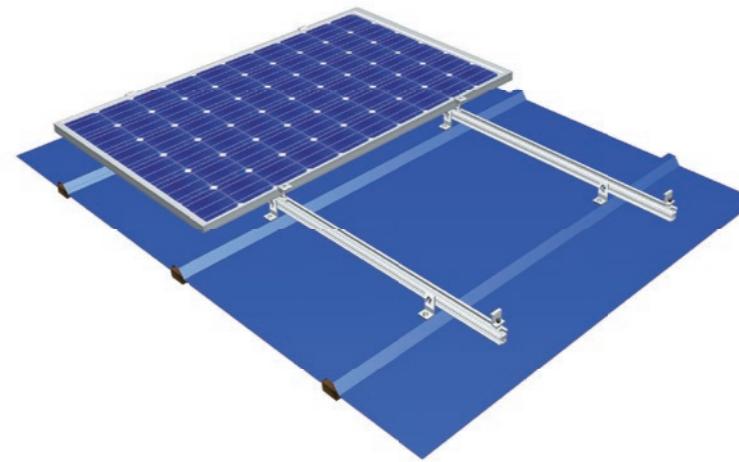


### Tile Roof Hook Solar PV Mounting System



Tile Hook 1

### Feet and Hanger Bolt Kit Metal Roof PV Mounting System



#### Technical Parameters

System Name	MRac Tile Hook	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Pitched Roof		International Building Code IBC 2009,
Foundation	Tile, Flat Tile, Slate Tile, Asphalt Shingle Tile		California Building Code CBC 2010
Tilt Angle	5-45°	Hook Material	AL6005-T5(Anodized)
Wind Load	≤60m/s	Fastener	SUS304&Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m <sup>2</sup>	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10 Years

#### Technical Parameters

System Name	MRac L Feet Kit & Hanger Bolt Kit	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Pitched Roof		International Building Code IBC 2009,
Foundation	Trapezoidal Roof		California Building Code CBC 2010
Tilt Angle	0°	Material	AL6005-T5(Anodized)
Wind Load	≤60m/s	Fastener	SUS304 & Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m <sup>2</sup>	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10-Year Warranty

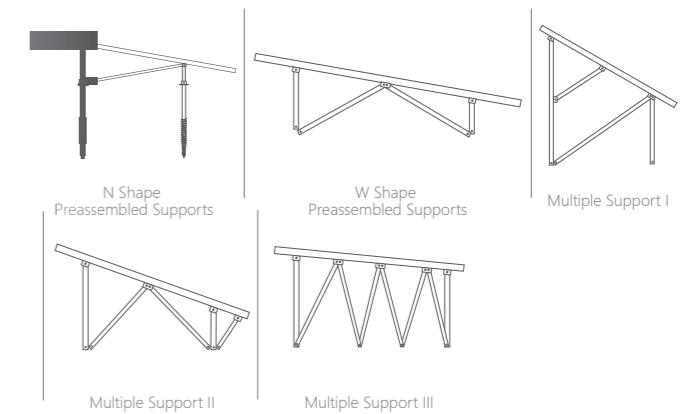
### Balcony Solar Mounting System



#### Technical Parameters

System Name	MRac Balcony Solar Mounting System	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Balcony		International Building Code IBC 2009,
Installation Base	Metal Railings, Wall, Concrete Roof		California Building Code CBC 2010
Mounting Angle	10°-30°	Material	Steel &AL6005-T5
Wind Load	≤30m/s	Fastener	SUS304
Snow Load	≤1.0KN/m <sup>2</sup>	Small Components	AL6005-T5
Applicable Solar Module	Framed	Color	Natural Silver or Customized
Panel Layout	Horizontal	Warranty	10-Year Warranty

### Ground Mounting System

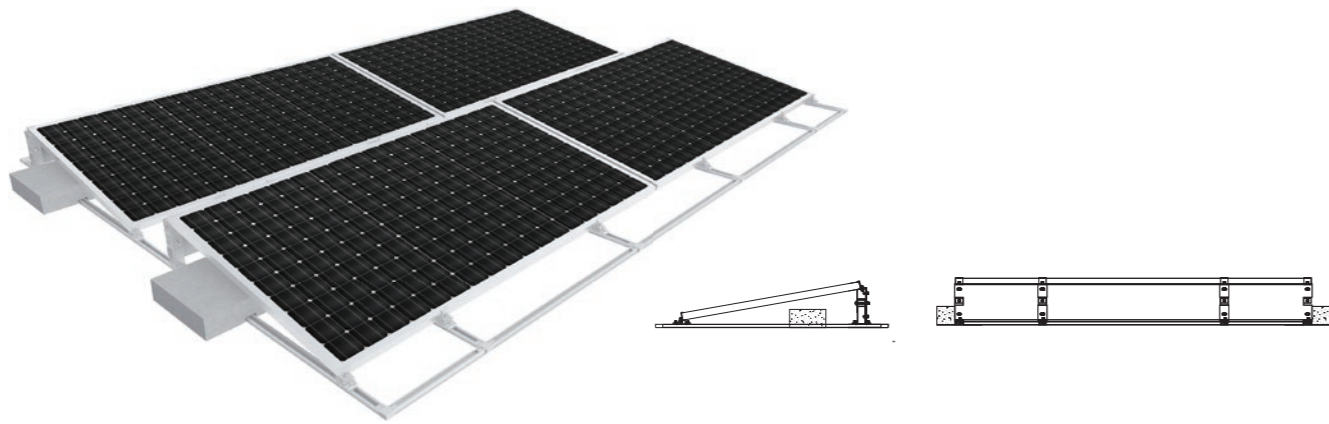


#### Technical Parameters

Installation Site	Ground	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Foundation	Concrete Base or Ground Screw		International Building Code IBC 2009,
Tilt Angle	0-60°		California Building Code CBC 2010
Wind Load	≤60m/s	Material	AL6005-T5(Anodized)
Snow Load	≤1.6KN/m <sup>2</sup>	Fastener	SUS304 & Zinc-Nickel Alloy Electroplated Steel
Ground Clearance	≤500-2000mm	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10-Year Warranty



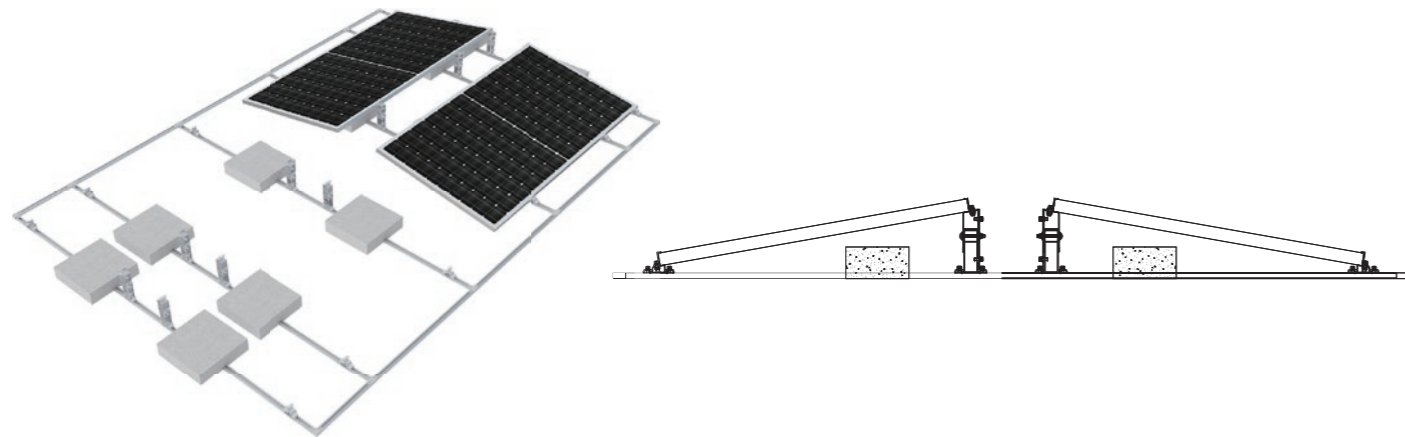
### Roof Solar PV Mounting System RM-Ad



#### Technical Parameters

System Name	MRac Roof Solar PV Mounting System RM-Ad	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Flat Concrete roof, Flat ground, Membrane roof		International Building Code IBC 2009,
Roof Type	Concrete Ballast		California Building Code CBC 2010
Tilt Angle	0-30°	Material	Q235B(Hot-Dip Galvanized) AL6005-T5(Anodized)
Wind Load	≤44m/s	Fastener	SUS304, Hot Dip Galvanized, Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed/Frameless, Any width panel	Color	Silver or Customized
Panel Layout	Landscape	Warranty	10-Year Warranty

### Roof Solar PV Mounting System RM-Ad Symmetric Ballast



#### Technical Parameters

System Name	MRac Roof Solar PV Mounting System RM-Ad	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Flat Concrete roof, Flat ground, Membrane roof		International Building Code IBC 2009,
Roof Type	Concrete Ballast		California Building Code CBC 2010
Tilt Angle	0-30°	Material	Q235B(Hot-Dip Galvanized) AL6005-T5(Anodized)
Wind Load	≤44m/s	Fastener	SUS304, Hot Dip Galvanized, Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed/Frameless, Any width panel	Color	Silver or Customized
Panel Layout	Landscape	Warranty	10-Year Warranty



● Country of sale

USA	UK	South Africa	Spain
Italy	Poland	Australia	Lebanon
	.....		

#### Our vision

Over the past years, BS has helped thousands of use....nd companies produce and consume green energy independently according to their individual needs, saving millions of tonnes of CO<sub>2</sub> emission. This motivates us to continually strive to create and innovate, on the universal carbon neutralization goal, and also a greener future energized by renewable energy technology



Location: South Africa  
Capacity: 1.5MW/2.8MWh



Location: Germany  
Capacity: 450kw/464kWh



Location: Croatia  
Capacity: 120kW / 200kWh