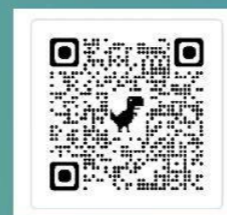




PKENERGY[®]
Power Solution

Solution provider for customized application
Your reliable Lithium battery manufacturer



PKENERGY[®]

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- 01 Company Profile
- 02 Office&Service
- 03 Qualification &Certification
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- 05 Battery, Solar System&Application
- 06 Accessories And Inverter Matching List

PKENERGY adheres to the value of "integrity and win-win". With the revolution and innovation, we hope that PKENERGY will become the best model in the lithium battery industry.

Shenzhen Pknergy Energy Co., Ltd



Company Profile

Shenzhen Pknergy Energy Co., Ltd is a new energy company established in 1998, mainly engaged in lithium batteries, lithium iron phosphate(LiFePO4) batteries, and lithium lead-acid batteries, li-polymer batteries. PKnergy is always specializing engaged in R & D, production, sales of energy storage solutions, and renewable energy solutions. Focus on becoming a high-tech enterprise of green energy and a battery solution provider for customized applications.

Since its establishment, Pknergy has been committed to serving communication, IT, home applications, finance, security, transportation, high-end consumer electronics, medical equipment, power tools and other industries involving batteries and power. After years of development, Pknergy has become one of the top lithium battery solution providers in the global market.

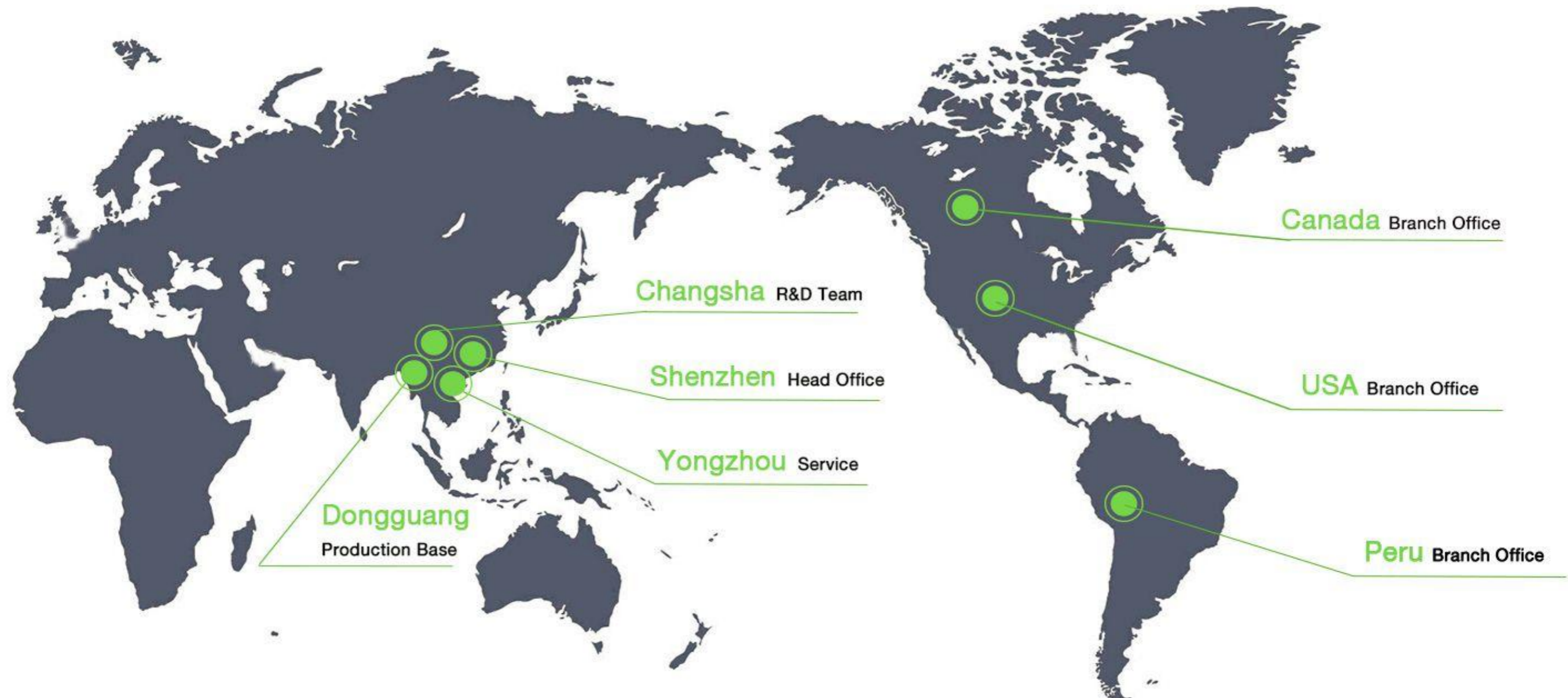


At the same time, we have the most advanced ODM service, processing and production and the most powerful full supply chain system. As a participant in the global market, PKNERGY's products have passed CB, UL, CE / IEC, reach, RoHS and other international certifications. In addition, PKNERGY has also introduced ISO9001 and ISO14001 systems. Due to its rapid growth,

PKNERGY has introduced the best equipment, the most advanced technology and management system. The innovative attitude always brings customers the best product and service experience. PKNERGY has established lots of logistics warehousing bases to efficiently serve customers in North America Canada, USA,etc.



OFFICE & SERVICE



PKENERGY adheres to the value of "integrity and win-win". With the revolution and innovation, we hope that PKENERGY will become the best model in the lithium battery industry.

PKENERGY has reached a long-term strategic partnership with thousands of overseas customers in the new energy industry, and has established lots of logistics warehousing bases to efficiently serve customers in North America Canada, USA, etc.

Global Pre-sales & After-Sales Service:

PKENERGY Provide Warranty Services for our Customers, For the above-mentioned products, you receive the factory warranty valid for 5-10 years. Please contact PKENERGY Customer Service for further details on specific products.

We will provide you with 7*24 hours of uninterrupted service and effective reply and feedback. We look forward to the opportunity of being of service of you.

QUALIFICATION & CERTIFICATION



ISO9001:2015



ISO14001:2015



UL1973



UL1973



IEC62619



GB31241



CB



UL



PSE



KC



REACH



ROHS



IEC62133



UN38.3



CE

LIFEPO4 BATTERY SYSTEM COMPOSITION



LiFePO4 Battery Pack

Introduction:

PKENERGY Lithium Iron Phosphate (LiFePO4) batteries are developed to deliver high efficiency energy output batteries. They are able to accept continuous high rate charging amps which make the battery fully charged in short time and improve the load service efficiency significantly. The built-in advanced BMS ensures intelligent automatic protection against over voltage, over current, over discharge, over temperature.



- ◆ Nominal voltage: 12.8-25.6V
- ◆ Nominal capacity: 6AH-200Ah
- ◆ Weight: 1.1-26kg
- ◆ Support customization



PRODUCT APPLICATION



WIND POWER



SOLAR SYSTEM



TELECOM



ELECTRIC VEHICLE



GOLF CART

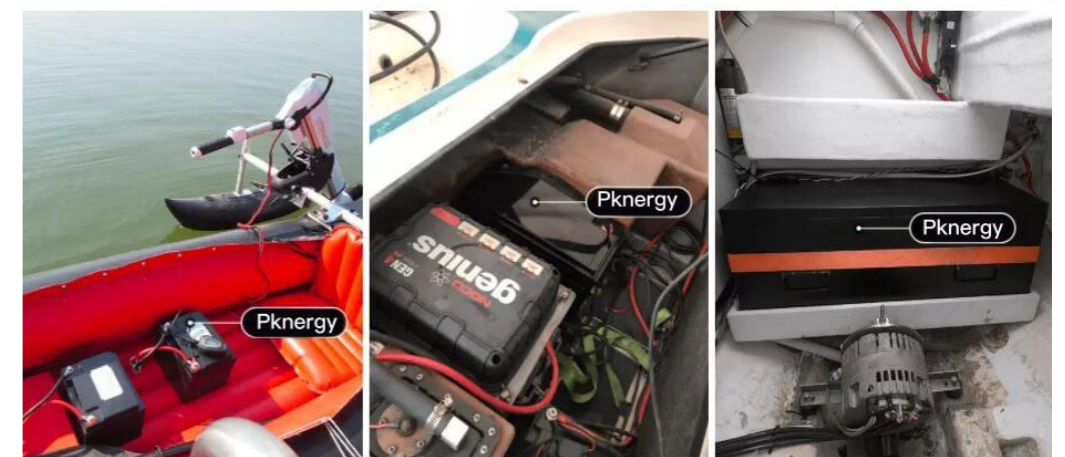


YACHT AND BOAT



Features:

- A. Extremely safe and stable chemistry: PCB and/or BMS built inside to balance protect the battery.
- B. Long life-cycle: Can be circularly used, best can up to 6000 times recycles , 8 times of Lead acid battery.
- C. Lighter weight, with the best power-to-weight ratio: 1/3 of Lead acid battery weight.
- D. Good performance at high temperature and high temperature resistance
- E. Low self-discharge rate, less than 3% monthly.
- F. No memory effects and highly efficient charge.
- G. Environment friendly: Clean and Green energy poses no pollution on our environment.





Home PowerWall Battery

Performance characteristics

- 48V LFP-based ESS, long life expectancy of 10+ years.
- Battery bank Expandable in parallel as power needs to increase.
- Operates at 80% efficiency for more than 6000 times
- Offer up to 100% depth of discharge
- Integrated battery management system (BMS)
- Flexible control that covers all commercial fields
- Quick and Easy Installation, Maintenance-free



**PK48100P-1
/PK48200P-1**

Technical parameters

Battery voltage, capacity and shape can be customized.				
Model	PK48100P	PK48200P	PK48300P	PK48400P
Voltage	48V			
Capacity	100Ah	200Ah	300Ah	400Ah
Energy	4.8KWH	9.6KWH	14.4KWH	19.2KWH
Operation Voltage	43.5-57Vdc			
Max Charging Voltage	57 Vdc			
Max Charging Current	100A	100A	100A	200A
Max Discharge Current	100A	100A	200A	200A
Max Power	4800W	9600W	14400W	19200W
LifeTime(25°C)	10 Years			
Life cycles(80% DOD, 25°C)	6000 Cycles			
Storage Time/Temperature	0°C to 45°C			
Operation Temperature	-20°C to 55°C @60+/-25% Relative Humidity			
Storage Temperature	0°C to 45°C @60+/-25% Relative Humidity			
Enclosure protection rating	IP54			
Dimensions(LxWxH)	680x485x180(220)mm	680x485x180(220)mm	760x622x180(220)mm	920x730x180(220)mm
Weight	63KG	107 KG	125 KG	205 KG

Remarks: The above data are for reference only and are subject to change without prior notice. Special voltage can be customized, display can be selected.

Home Usage PowerWall Battery

Product introduction

Designed as an Energy storage system ess battery module. It can be used in series or in parallel. It is compatible with all industry-leading standard solar charge controllers, inverters. Superior chemical and thermal stability, Lithium Iron Phosphate battery pack is the safest in the lithium-ion family. It includes Can, RS232, RS485 communication etc, modules can be connected in parallel, and paralleled modules that communicate through RS485. Battery modules communicate with the inverter via the CAN interface. Compatible with CAN protocol, compatible with Growatt, Goodwe, Deye inverter etc. Supports parallel, Best for energy storage, and more extended cycle life Module Applications. It is easy to install and keep in parallel households, small industrial businesses, tiny houses, and homes.



**PK48100P-3
/PK48200P-3**

Home PowerWall Battery

- ◆ Remote control
- ◆ Safe and reliable
- ◆ Grade A LiFePO4 battery cell
- ◆ Moduler design
- ◆ Power/Capacity optional
- ◆ Easy to move and install
- ◆ Design service life of 10+ years



PK512400P-2

- ◆ Nominal voltage: 51.2V
- ◆ Nominal capacity: 400Ah
- ◆ Dimension: 920*730*220mm
- ◆ Weight: 205KG
- ◆ Built-in BMS



PK512300P-2

- ◆ Nominal voltage: 51.2V
- ◆ Nominal capacity: 300Ah
- ◆ Dimension: 622*185*760mm
- ◆ Weight: 125KG
- ◆ Built-in BMS



Rack-mounted Battery

Performance Characteristics

- Protect battery with BMS intelligent management
- Next-Generation Residential Energy Storage System
- Operates at 80% efficiency for more than 6000 times
- Offer up to 100% depth of discharge
- Integrated battery management system (BMS)
- Photovoltaic array access, integrated micro-grid design
- Support off-grid and on-grid dual-mode operation



PK48100R-2

Technical Parameters

Battery Voltage, Capacity And Shape Can Be Customized.		
Model	PK48100R (Voltage Optional 51.2V)	PK48200R (Voltage Optional 51.2V)
Voltage	48V	
Capacity	100Ah	200Ah
Energy	4.8KWH	9.6KWH
Operation Voltage	42-56.25Vdc	
Max Charging Voltage	51.75Vdc	
Max Charging Current	100A	100A
Max Discharge Current	100A	100A
Max Power	4800W	9600W
LifeTime(25°C)	10 Years	
Life cycles(80% DOD, 25°C)	6000 Cycles	
Storage Temperature	-20°C ~ 65°C	
Operation Temperature	-20°C to 60°C @60+/-25% Relative Humidity	
Storage Temperature	0°Cto45°C @60+/-25% Relative Humidity	
Enclosure protection rating	IP20	
Dimensions(LxWxH)	440*450*155mm	465*482*232mm
Weight	50KG	90 KG

Remarks: The above data are for reference only and are subject to change without prior notice. Special voltage can be customized, display can be selected.

Rack-mounted Battery

Product Introduction

PKNERGY Rack Mounted Lifepo4 Battery adopts highly reliable Lithium battery cells for long cycle life and consistent performances. The battery packs use advanced Battery Management System (BMS) to enhance system performance, prolong life and warrant safety. Various sizes valid, easy install, panel customization service, support for parallel expansion for large capacity applications.

LiFePO4 battery life is 10 times longer than ordinary batteries. And can be truly maintenance-free.

Electricity in the building is extremely important for energy consumption. And the way to maintain this thing is to use our rack battery. Custom solutions may be more tailored and meet individual needs.



PK48100R-1

Off Grid Solar System

Off-grid solar systems, also known as stand-alone photovoltaic systems, are systems that generate electricity independently rather than relying on the grid for power.

The off-grid solar system is mainly composed of solar panels, batteries, solar controllers, inverters and other components. The direct current generated by the solar panels flows directly into the battery and is stored. When it is time to power an AC load, the DC power in the battery is converted to an AC output by the inverter, which is a repeated charge and discharge cycle.

It is widely used in remote mountainous areas, areas without electricity, islands, communication base stations and other application places.



Main Advantages

- Operate with on-grid and off grid mode at the same time
- Sell energy back to the utility company and store excess energy to night use
- Use on grid energy or solar energy to charge the battery bank

System Components

- Battery Bank & Cables
- Solar Panel
- Roof/Ground Mounting System
- DC/AC Combiner Box
- Off Grid Inverter
- DC/AC Cables
- PV Installation Tools



01 Solar Panel
Mono/poly/half cell/flexible/full black solar panel



02 Solar Inverter
Off grid solar inverter



03 Battery Bank
Lithium Battery/GEL Battery



04 Solar Controller
MPPT/PWM Controller



05 PV Cable
Has excellent acid resistance and heat resistance



06 MC4 Connector
Contact material is copper and tin plated

Applications



Mountainous Areas



No Electricity Areas



Islands



Communication Stations



Ships



Circuit Signal Lights

Hybrid Solar System

PKenergy hybrid solar systems combine innovations in on-grid and off-grid technologies and are offered as grid-connected solar and battery pack storage.

The electricity generated by PKenergy Hybrid Solar System can not only be used, but also stored for night use. Plus, excess energy can be fed back to the grid company, which is perfect for users.

Hybrid solar photovoltaic system is the focus and focus of developed countries in the field of photovoltaic applications. It is the mainstream development trend of solar photovoltaic power generation in the world.

Components of Solar Systems

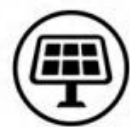


◆ Configuration of PV System

- Solar Panel
- Roof/Ground Mounting System
- DC/AC Combiner Box
- Hybrid Inverter/Charge Controller
- Battery Bank, Cable & Rack
- DC/AC Cables
- PV Installation Tools

◆ Main Applications:

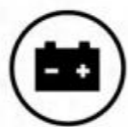
- User solar power supply
- Transportation
- Communication/communication field:
- Petroleum, marine and meteorological fields
- Household lighting power supply
- Photovoltaic power stations, etc.



01 Solar Panel
Mono/poly/half cell/flexible/full black solar panel



02 Solar Inverter
Hybrid solar inverter



03 Battery Bank
Lithium Battery/GEL Battery



04 Solar Controller
MPPT/PWM Controller



05 PV Cable
Has excellent acid resistance and heat resistance

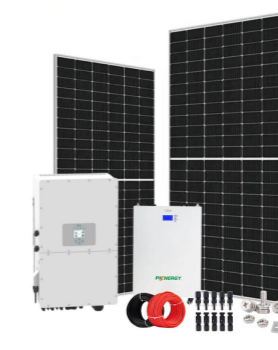


06 MC4 Connector
Contact material is copper and tin plated

Several Different Hybrid Systems



5-8KWH



8-12KWH



10-15KWH



12-20KWH



20-30KWH



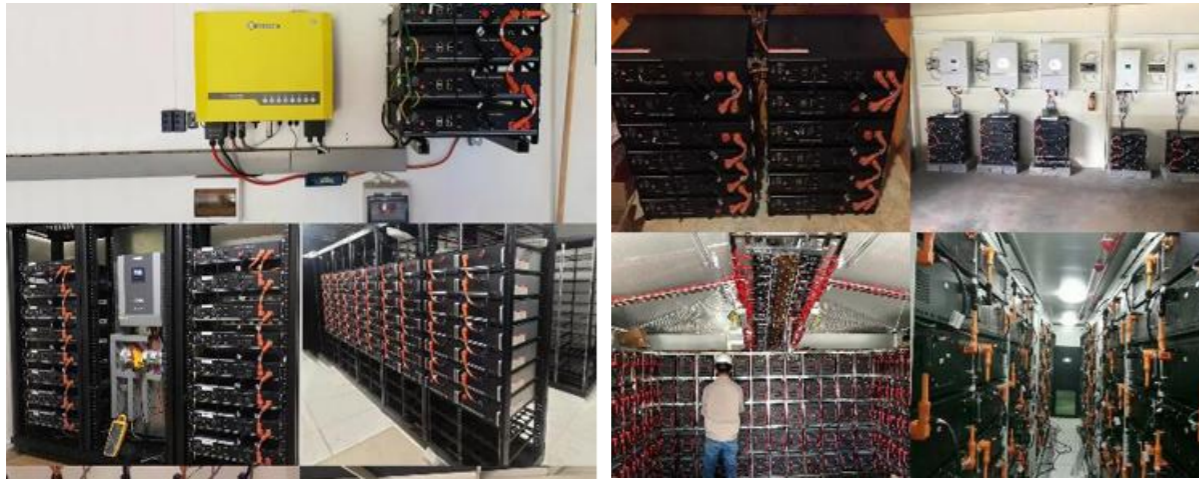
30-50KWH

Hybrid System Advantage:

Using clean and renewable natural energy solar power to generate electricity, which is in harmony with the ecological environment and in line with the sustainable economic and social development strategy. The power generated can be fed into the grid, which greatly reduces the cost of power generation.

Distributed construction is conducive to enhancing the ability of the power system to resist wars and disasters, and it is also conducive to improving the load balance of the power system and reducing line losses.

APPLICATION



ESS Container

8WM On-Grid Solar System



20WM Solar System In France



800KW Residential Use in Hungary



20KW On-Grid Solar System In Indonesia

APPLICATION



20MW Hy-Grid Solar System for Oil & Gas project



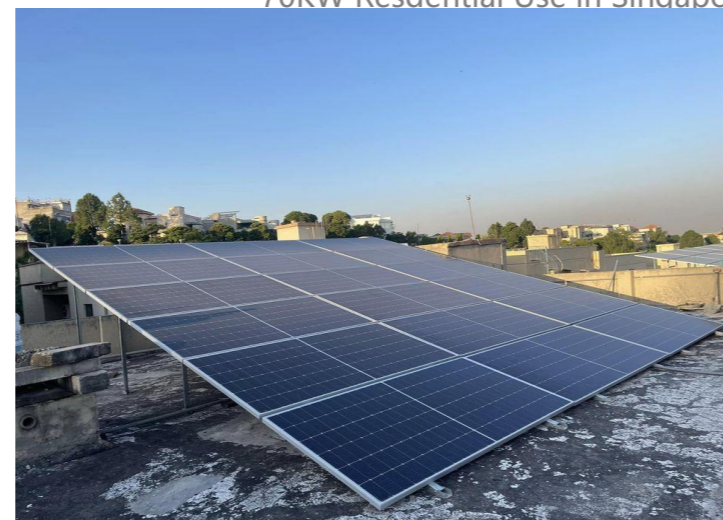
14MW Hy-Grid Solar System



70KW Residential Use in Singapore



2MW On-grid Solar System in Hungary



800KW Residential Use in Thailand



Rack-mounted Battery application



BATTERY ACCESSORIES



35 square, 2000mm output line



1000mm Ground Wire



2000mm inverter communication cable
(Battery to Inverter Communication)



1000mm Parallel wiring (Battery to Battery)



Brackets For Rack-Mouted
Battery



Screw(1 Pack -12 capsules per
pack)



Brackets For Powerwall Battery



Battery User manual

SOLAR ENERGY SYSTEM ACCESSORIES



Mounting System

- > Residential Roof (Pitched Roof)
- > Commercial Roof (Flat roof & workshop roof)
- > Ground Solar Mounting system
- > Vertical wall solar mounting system
- > All aluminum structure solar mounting system
- > Car parking solar mounting system

PV Cable



- > PV Cable 4mm² - 6mm²
- > AC Cable
- > DC Switches
- > AC Breaker
- > AC/DC Combine box

Wooden Case



- > Other better protection of the goods



PV Tools And MC4 Connector

- > PV Cable 4mm² - 6mm²
- > AC Cable
- > DC Switches
- > AC Breaker
- > AC/DC Combine box
- > MC4 Connectors Assembly
- > Wire Cable Cutter & Stripper
- > MC3 MC4 Crimper
- > Disassembly Tool



DC/AC Breaker

- > Provide Overcurrent Protection
- > Direct Current Control Circuit Application
- > Automatic Device Against Overload



PV Cable

- > IP Rating: IP65
- > Rated Voltage: 1000VDC
- > Input cable terminal: 4-6 mm²

Compatibility List of Pknergy ESS and Inverters

MATCH ALL 48VDC HYBRID INVERTER





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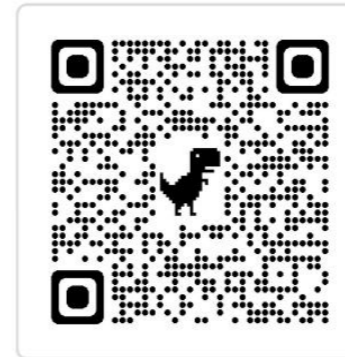
FUSPOWER INC(USA)
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