



**NPP**



**CLEAN ENERGY, SAFE POWER**

LITHIUM-ION BATTERIES



# Company Introduction

NPP Power focuses on R&D, manufacturing and sales of traditional and new energy products, including valve-regulated lead-acid batteries and lithium batteries.

At present, the company has five A to Z manufacturing plants, four in China (Dongguan, Guangzhou, Henan and Hunan) and one in Ho Chi Minh City, Vietnam. NPP Power has sales offices all over mainland China and overseas sales subsidiaries in North America, Europe, and Africa. It has built a truly global manufacturing, distribution, marketing and after-sales service network.

NPP Power products are manufactured based on strong technical expertise, coupled with advanced manufacturing equipment. With professional Management and R&D Team, the company acquired ISO9001 quality management system, ISO14001 environment management system, and ISO45001 health and safety management system certifications. Furthermore, Chenzhou NPP Power Co., Ltd. was certified as a high-tech enterprise in China.

We pay great attention to the quality of our products. Strict quality control from the raw materials to the finished products ensures every battery reaches the highest quality standard. NPP Power products own a variety of international certificates and comply with all applicable standards.

NPP Power Vietnam factory  
VRLA



## Milestones

- **2002** 1st factory founded in Guangzhou, with a total area of 40,000m<sup>2</sup>
- **2003** Shanghai & Guangzhou offices established
- **2005** Beijing, Shenzhen & Chengdu offices established
- **2010** Shenyang & Xi'an offices established
- **2011** 2nd factory founded in Jiaozuo, a total area of 70,000m<sup>2</sup>
- **2012** Total 16 sales offices located in China
- **2013** 3rd factory founded in Chenzhou, a total area of 200,000m<sup>2</sup>
- **2014** North American office & warehouse established in Los Angeles, USA
- **2017** 4th factory founded in Dongguan, manufacturing lithium batteries and solar panels
- **2017** European office & warehouse established in Rotterdam, The Netherlands
- **2018** 5th factory founded in Ho Chi Minh City, Vietnam, a total area of 72,280m<sup>2</sup>
- **2018** African office & warehouse established in Lagos, Nigeria
- **2019** Second phase of Vietnam factory expansion
- **2021** Lithium cells production line are built

NPP Power Dongguan factory, China  
lithium battery



NPP Power Henan factory, China  
VRLA



NPP Power Guangzhou factory, China  
VRLA



NPP Power Hunan factory, China







## Our Culture

For the customer • By the customer • Of the customer

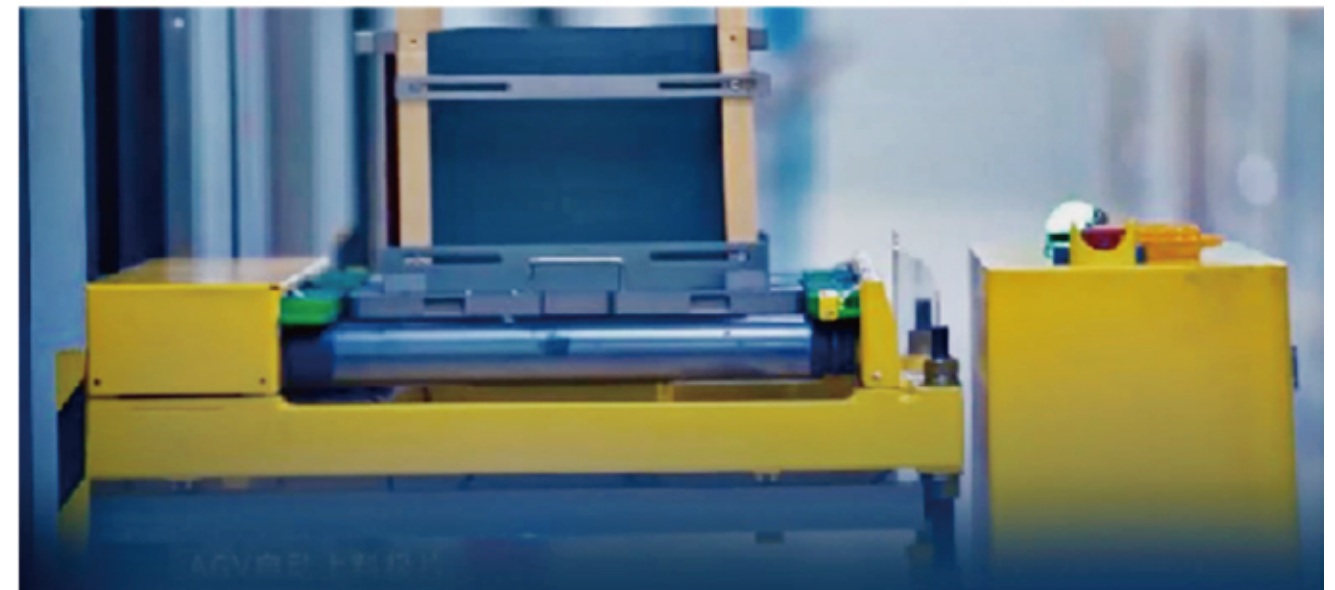
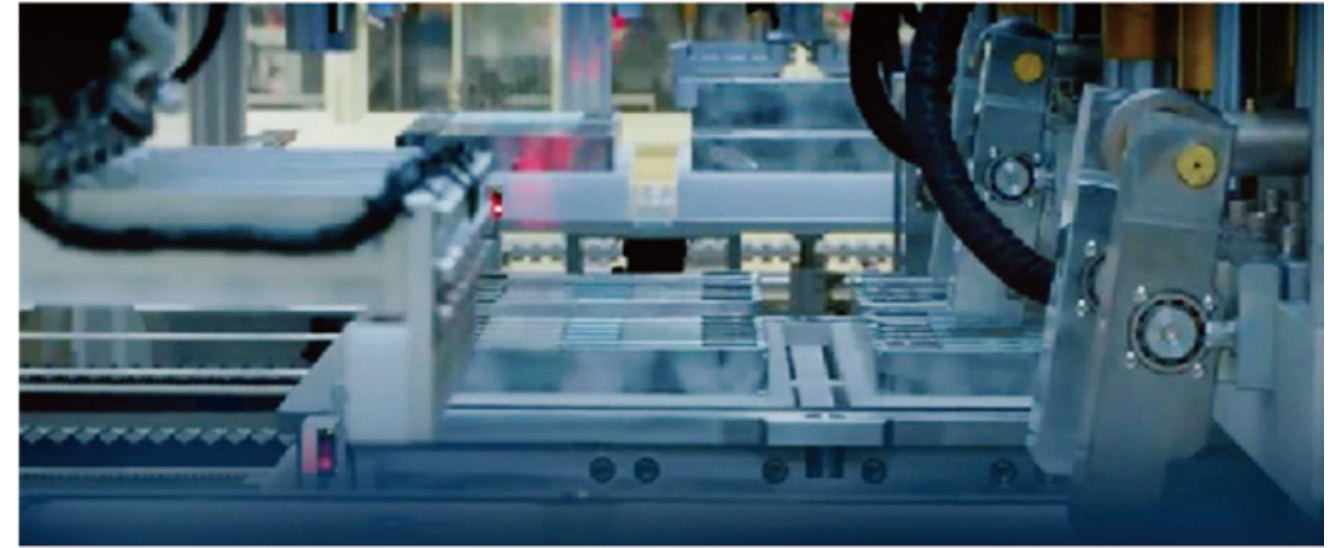
## Customer Service

100% Customer Satisfaction Service  
HEE Principle - Your Hands • Your Eyes • Your Ears  
Six Sigma • 6S



# LFC Series

LiFePO<sub>4</sub> Technology - Lithium Cells



Voltage	Capacity	Application	Discharge current	Cycle life
3.2V	100	ESS	100A	>5000
3.2V	280	ESS	280A	>5000



### Ultra-Safe

Explosion-proof no leakage  
Fast heating dissipation  
Stable structure



### Stable

Low IR/High CR/  
Discharge steadily



### Long life

Low self-discharge  
Self-repair  
Reduce battery battery internal resistance



### Customized

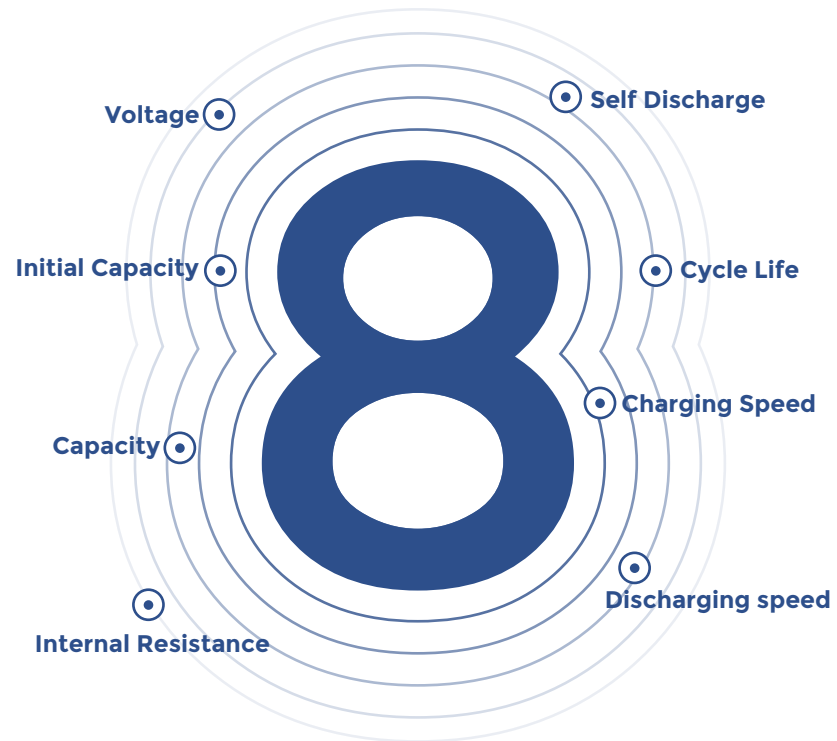
Design accord to customer needs  
OEM



# Advantages

- Cells Quiescence : Cells stand for 30 days to remove zero voltage and micro-short-circuit cells (over 4 times longer than other factories)
- Eight Consistency : Voltage, capacity, internal resistance, discharge voltage plateau, self-discharge, initial capacity, cycle life
- Active Equalizer : Equalize the voltage difference and current distribution of the cells in any conditions
- 5mm Spacing Assemblage : Good heat dissipation, improved life and safety
- New NPP cells with more than 3000 cycles

Note: NPP PACK process can improve battery performance by 15% at same materials and same conditions.



## Battery Pack

- Support high voltage DC power supply solutions above 700V

## Strict configuration and assembly scheme

- 8 aspects for consistency grading is four times of the traditional standard, standing still for four times longer makes the consistency twice higher than others

# LFB Series- Portable Power Station



## Applications

- Charging power for lamps, tools, coolers, lighting laptops, smartphones, etc
- Camping power supply
- Recreational Vehicle (RV) power supply
- Travel power supply

## AC output

- 110V/220V

## Models Available

- Capacity range: 600W 1200W 1500W 2200W

## Multiple charging methods

- power grid with an adaptor
- car
- Type-C (input and output)
- solar panel

## DC output

- Car outlet
- DC5.5x2.5
- USB QC3
- USB Type-C





# LFP Series

## LiFePO<sub>4</sub> Technology in VRLA Container



### Applications

- Solar & Wind Energy Storage
- UPS
- Data Centers
- Telecommunication
- Electric Power Systems
- Electric Vehicles
- Emergency Light
- All-purpose

### Hot-sale Models

- 12V 12Ah M7 case 151x65x97mm
- 12V 100Ah M100 case 330x171x215mm
- 12V 150Ah M100 case 406x174x207mm
- 12V 200Ah M100 case 483x170x240mm

### Features

- Capacity range: 5Ah ~ 400Ah
- Voltage class: 12.8V
- Long design life: 20 years (depending on cycles)
- Long cycle life
- Light weight: 70% lighter than VRLA
- Fast charging: 0.5CA, nearly 2 hours fast charging
- Smart BMS
- Self-discharge per month: ≤ 1% at 25 °C (28 days)
- Operation temperature range: -10°C to + 55 °C
- Recommended operation temperature: 25 °C
- Touch screen available: for showing parameter and settings
- Bluetooth, RS232, RS485 communication options

## LFS Series for Storage Power



### Applications

- Base Stations Telecommunications
- Solar & Wind Energy Storage
- UPS
- Data Centers
- Electric Power Systems
- All-purpose

### Hot-sale Models

- 24/25.6V/100Ah
- 24/25.6V/200Ah
- 48/51.2V100Ah
- 48/51.2V200Ah
- 48/51.2V300Ah

### Features

- Capacity range: 50Ah ~ 300Ah
- Voltage class: 25.6V, 48V, 51.2V
- Nice outlook
- Monitor screen
- Small size
- Easy Installation
- Wall-mounted/landed available
- Touch screen available: for showing parameter and settings
- RS485,RS232,CAN
- Support full power operation (operation at 100% load)
- Continuous discharge at 1C



# LFR Series

## LiFePO<sub>4</sub> Technology for Telecom - Base Station

### Applications

- Base Stations
- Telecommunications
- Solar & Wind Energy Storage
- UPS
- Data Centers
- Electric Power systems
- All-purpose



Battery Model	Rated Voltage	Rated Capacity	Discharge Current	Peak Discharge Current	Cut off Discharge Voltage	Charge Voltage	Charge Current	Weight	Dimension LxWxH [mm]	Height*
LFR51.2-50	51,2V	50Ah	100A	150A	44,8	58,4	10	28,7 kg	442x480x178	3U/2U
LFR51.2-100	51,2V	100Ah	100A	300A	44,8	58,4	20	46 kg	442x480x222	3U/2U
LFR51.2-150	51,2V	150Ah	100A	300A	44,8	58,4	30	73,5 kg	442x480x311	5U/3U
LFR51.2-200	51,2V	200Ah	100A	300A	44,8	58,4	40	85 kg	442x480x311	5U/3U
LFR51.2-250	51,2V	280Ah	100A	300A	44,8	58,4	50	115 kg	442x650x311	7U
LFR51.2-300	51,2V	300Ah	100A	300A	44,8	58,4	60	125,5 kg	442x650x311	7U

\*Rack Unit: 1U = 44.45 mm (EC 60297-3-108:2014)

### Hot-sale Models

- 51.2V 100Ah
- 51.2V 200Ah

### Models Available

- Capacity range: 50Ah ~ 300Ah
- Voltage class: 25.6V, 48V, 51.2V

## Cabinet Power



### Applications

- High-power UPS
- Inverter devices
- Solar & Wind Energy Storage
- Telecommunications
- Rail and Transportation Data Centers
- Electric Power systems

### Industrial and commercial energy storage

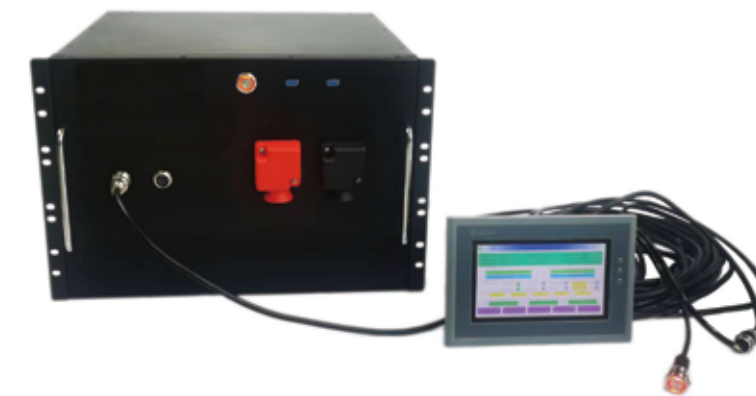
- Capacity range: 50Ah ~ 800Ah
- Voltage class: 96V, 192V, 240V, 384V
- 384V-1500V

### Hot-sale Models

- 96V 100Ah/200Ah
- 192V 100Ah/200Ah
- 384V 100Ah/200Ah
- 768V 100Ah/200Ah

### Features

- Safety
- Reliability
- Long life
- Standardized designs
- Modular connection
- Charging and discharging dual control
- RS485/232/CAN port
- Visualization, touch screen
- Flexible expansion, parallel connection available
- Remote maintenance feature
- support long distance monitoring, 4G mobile app monitoring





# Smart String Energy Storage System



### Strong Expansibility

Support 16 modules in parallel



### Meticulous Care

Each module can be independently managed and operated to ensure the safety of the system



### Easy Management

Pulley bottom, manual switch, and visual supervision interface



### Stronger Compatibility

Cover all mainstream protocols and match most mainstream inverters 1C discharge



### Long Life

4 times long static and 8 consistency screening make the battery more durable



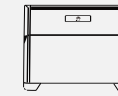
### Safety & reliability

Nano-coating and self-healing technology construct the LPF channel to add a firewall to the battery

## FLCD16-10048

Technical Specification

FLCD16-10048



Performance	
Battery Module Model	
Battery Module Specification	51.2V 100AH (100A)
Battery Module Energy	5KWH
Battery Module Maximum Output Power	4.2KW
Battery Module Peak Output Power	5KW 10S
Battery Module Rated Voltage(DC)	51.2V
Battery Module BMS Allowable Load Current	100A
Battery Module DC Voltage Range	44.8V~58.4V
Inverter Operating Voltage Range (Single Phase)	200V-240V
Inverter Operating Voltage Range (Three Phase)	340V-600V
Communication	
Display	SOC Status Indication, LED Indicator Screen
Protocol	RS485 /RS232/ CAN (For parallel systems only)
General Parameters	
Dimensions of Battery Module (Width x Height x Thickness)	
Weight (Including tools such as bracket tools)	
Installation	Floor (No more than 5 stacks per group)
Working Temperature	-20℃ ~ +55℃
Maximum Working Altitude	4000 m(Derating above 2000 m)
Installation Environment	Outdoor/ Indoor(*Please refer to the user manual for installation conditions)
Working Relative Humidity	5%~95%
Cooling Mode	Natural Convection
Protection Grade	IP 54
Cell	Lithium Iron Phosphate (LFP)
Expansibility	A maximum of 16 modules can be used in parallel
Matching Inverter	Most current mainstream inverters (lithium)
Satisfied criteria	
Certificates	CE, CEC, IEC62619, IEC 60730, UN38.3
*1 Test conditions: Based on the manufacturing date, 0.2C charge and discharge rate at 100% depth of discharge (DOD) at 25°C.	
*2 The weight of the battery module is subject to the actual object, and a tolerance of ±3% is allowed.	
*3 The installation of the battery pack is related to product quality assurance as well as safe and stable operation. Please follow the requirements of the user manual for standard installation, use and routine maintenance.	



# ESS Series

## LiFePO<sub>4</sub> Technology - Energy Storage Power Station

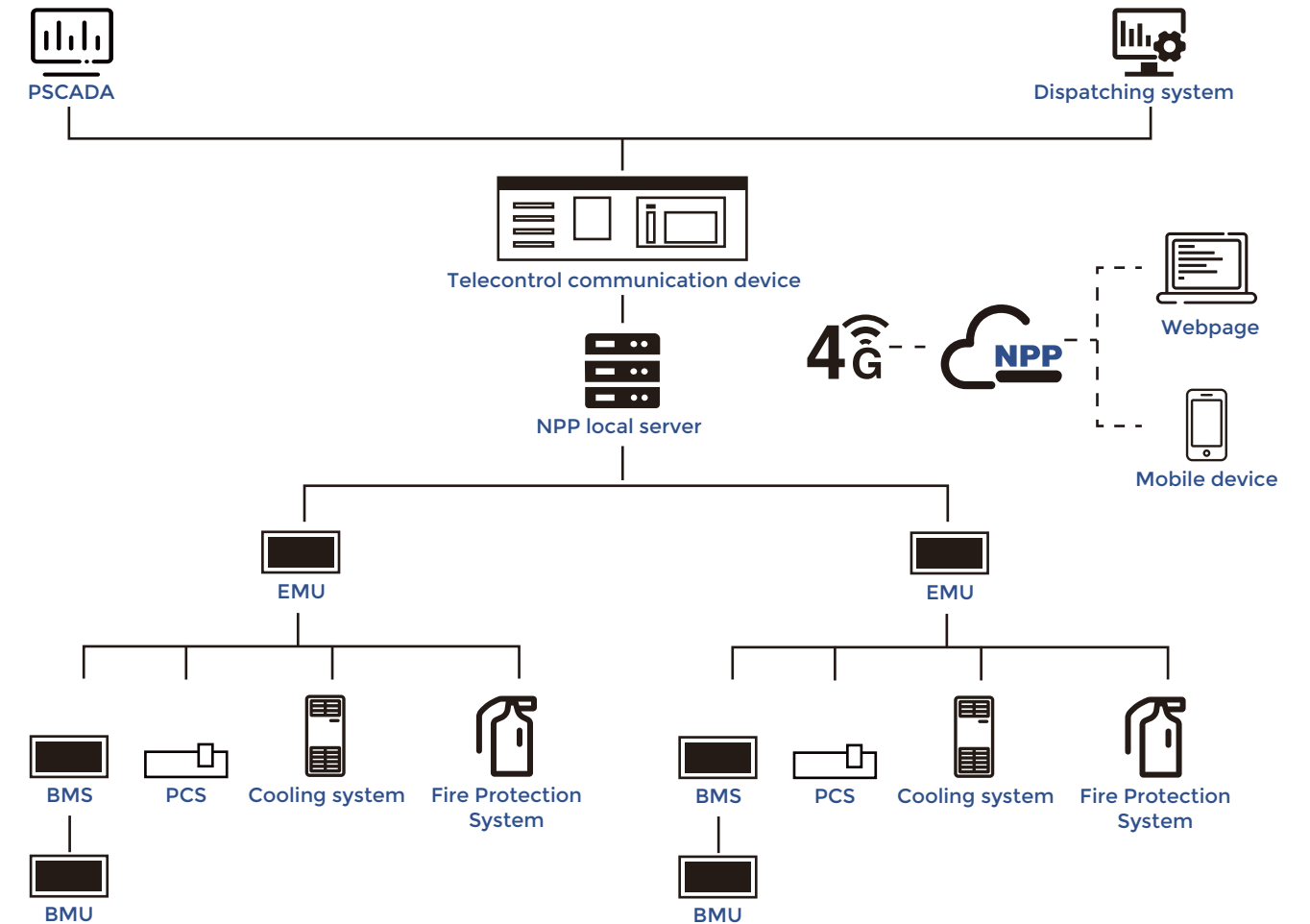


### Models Available

- Capacity range: Customized
- Battery box: 51.2V 280Ah/306AH
- Battery cluster: 768V 280Ah/300AH

### Hot-sale Models

- 1MWh/500KW
- 2MWh/1MW
- 1MWh above available



### System main parameters(1.07MWh/500kW)

- Battery chemistry: LiFePO<sub>4</sub>
- Cell voltage: 3.2V
- Cell capacity: ≥280Ah
- Battery unit voltage: 51.2V 16S
- Battery unit capacity: ≥100Ah
- Battery unit quantity: 15
- Battery cluster: 5P(768Vx280Ahx5)
- Battery group: 2S
- Battery group voltage: 384Vdc x2
- Battery system voltage: 768Vdc
- Battery continue discharge current: 700Ah(2HR)
- Battery max output power: 500KW
- Battery work temperature: -10 to +55°C
- BMS communicate port: RS232, RS485,CAN
- Battery cabinet size: 20ft

# LFC Series

## LiFePO<sub>4</sub> Technology - OEM Pack

Rated capacity of battery		280Ah/306Ah
Battery parameter	Rated voltage on the DC side	650V-949V
	Maximum charge&discharge rate	0.5C
	Rated capacity on the DC side	215kWH/230kWH
Performance & safety	DC charge/discharge efficiency @ rated power	93%-95%
	Battery type	LFP
	Calendar life	20 years
	Fire protection system	C6F12O (Water sprinkler system optional)
	Temperature control method	Air-cooled (energy storage AC system) Air conditioning refrigeration (energy storage DC system)
System parameter	Certification standards	UL9540/UL9540A/CE/IEC/KC/KBIA/GB/T36276
	Weight	About 3 tons
	Dimensions(W*H*D)	1600*2676.5*1200mm
	Ingress Protection	IP 55
	Operating temperature range	-20 C to +55 C
Communication	Communication methods	RS485,CAN,LAN,4G



### Flexible Deployment

- Modular structure, allowing for flexible cabinet integration, and plug-and-play capabilities
- High energy density design, saving up to 50% of place
- IP55 protection level for various outdoor scenarios



### Active Safety

- Five layers of security design and four-tier protection
- Multi-dimensional warning system, providing comprehensive protection for system safety
- Conforming to international and national standards such as NFPA966, UL9540A, GB, etc



### Ultra-long Life

- High-capacity, long-life battery cells and efficient active balance management
- Enabling a system design lifespan of 20 years



### Ultimate Integration

- 3S fusion, integrated control
- Efficient grouping with CTP technology, and all-in-one integration technology
- Newly upgraded wind-cooled temperature control technology, separated temperature managing for AC and DC



### Emergency Backup

- Optional AB machine configuration, enabling free off-grid operation
- Emergency power supply, improving energy quality and replacing diesel generators for green power



### Intelligent Operation and Maintenance

- Modular design, enhancing operational convenience
- On-line collaboration and digital twin technology for remote intelligent monitoring
- Enhancement of the whole life cycle benefits of the power station

### Hot-sale Models

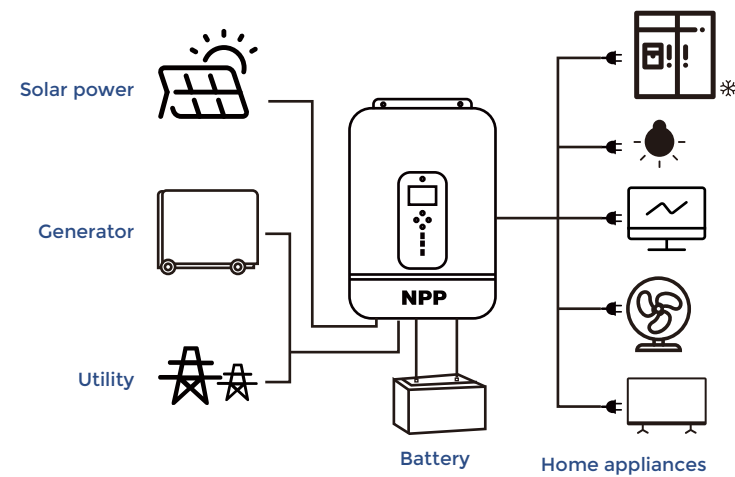
- 215kWH
- 230kWH

### Certifications



Compliant to: IEC 62133-2





## 5KW OFF GRID SYSTEM

- It's based on inverter 3KW and photovoltaic 5KW.
- Calculated with an inverter coefficient of 0.8, the total load power is  $\leq 4000W$ .
- And the quantity of solar modules and batteries can be expanded or reduced according to the actual power consumption of the load.

Item	Models	Qty.	Power	Remark
Solar Panel	450W/36V	4 pcs	1800W	450W
Lithium ion Battery	100AH/51.2V	1 pcs	5120WH	1S
Inverter	5K	1 pcs	5000W	
Accessories	Cables, Brackets, Cabinets	As needed		
Average daily power generation: 6.6KWH, reference average sunshine peak 3.7H				
Battery storage capacity: 5.12 KWH				
The photovoltaic utilization rate is 90%				

## APPLICATION REFERENCE

Application	Unit Power (W)	Qty.	Total Power (W)	Electricity Consumption at Daytime		Electricity Consumption at Night	
				Time(H)	KWH	Time(H)	KWH
Lighting	30	5	150	0	0	5	0.75
LCD TV	100	1	100	3	0.3	0	0
Fans	100	3	300	2	0.6	2	0.6
Electric Cooker	800	1	800	1	0.8	0	0
Electric Kettle	1000	1	1000	0.5	0.5	0	0
Washer	300	1	300	1	0.3	0	0
Refrigerator	100	1	100	12	/	12	0.8
Others	50	1	50	2	0.1	2	0.1
			2800		2.6		2.1
Total Electricity Consumption (KWH)							4.75
Power loss Calculated by 1.2							5.7
High-power electrical appliances operate at staggered peaks; the load utilization rate is 50% , 50Ah <0.5C discharge,support 100Ah <1C discharge							

## 10KW OFF GRID SYSTEM

- It's based on inverter 10KW and photovoltaic 10KW.
- Calculated with an inverter coefficient of 0.9, the total load power is  $\leq 9000W$ .
- And the quantity of solar modules and batteries can be expanded or reduced according to the actual power consumption of the load.

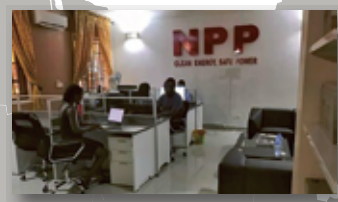
Item	Models	Qty.	Power	Remark
Solar Panel	550W/36V	8 pcs	4400W	
Lithium ion Battery	200AH/51.2V	1 pcs	10240WH	1S
Inverter	5K	1 pcs	10000W	
Accessories	Cables, Brackets, Cabinets	As needed		
Average daily power generation: 10.36KWH reference average sunshine peak 3.7H				
Battery storage capacity: 10.24KWH				
The photovoltaic utilization rate is 90%				

## APPLICATION REFERENCE

Application	Unit Power (W)	Qty.	Total Power (W)	Electricity Consumption at Daytime		Electricity Consumption at Night	
				Time(H)	KWH	Time(H)	KWH
Lighting	30	5	150	0	0	5	0.75
LCD TV	100	1	100	3	0.3	5	0.5
Fans	100	3	300	4	1.2	6	1.8
Electric Cooker	800	1	800	1	0.8	1	0.8
Electric Kettle	1000	1	1000	1	1	1	1
Washer	300	1	300	1	0.3	0	0
Refrigerator	100	1	100	12	/	12	0.8
Others	50	1	50	2	0.1	2	0.1
			2800		3.7		5.75
Total Electricity Consumption (KWH)							9.45
Power loss Calculated by 1.2							11.3
High-power electrical appliances operate at staggered peaks; the load utilization rate is 50% , 50Ah <0.5C discharge,support 100Ah <1C discharge							



Rotterdam, The Netherlands



Lagos, Nigeria



Henan



Hunan

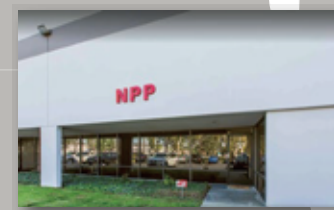


Guangzhou



Vietnam

Dongguan, China



Los Angeles, USA



NPP Factory



Overseas Branch

**Guangzhou NPP Power Co. Ltd (Headquarters)**  
Address: No.67 Lianglong Road, Huashan Town, Huadu District, Guangzhou, China  
Tel: +86 20-378-873-90  
E-mail: info@npplithium.com  
Website: www.npplithium.com www.nppower.com.cn

**NPP Power Europe B.V.**

Brouwerstraat 30, 2984AR Ridderkerk, The Netherlands  
Email: sales@npp-power.eu  
Website: www.npp-power.eu  
Tel.+31 88 888 2999

**NP Power International Inc.**

Tel: +1 626-921-4290  
Email: info@nppower.us

**NPP Power Nigeria CO., Ltd.**

Tel: +234 811-211-1213  
Email: nppafrica@nppower.com.cn



**For the customer · By the customer · Of the customer**