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Website



Electronic brochure



# GREEN ENERGY FOR A BETTER LIFE

TIANNENG BATTERY ENERGY STORAGE SOLUTION

PRODUCT BROCHURE





**\$11.0 billion**

2024 Annual Sales

**A+H Listed**

6888.19.SH/00819.HK

**4000+**

Patents

**No.21**

Global New Energy Enterprise Ranking

# Company Profile

Tianneng is a Global Leading New Energy Company committed to providing environmentally-friendly battery solutions for various industries worldwide since 1986.

Tianneng now has more than 30,000 employees and more than 160 subsidiaries around the world. There are 18 production bases in 7 provinces in China and 1 overseas manufacturing center in Vietnam. Tianneng set up 7 R&D centers to constantly develop technology and keep innovation in the area of lead acid batteries, lithium batteries, hydrogen Fuel Cells, and Sodium-ion batteries.

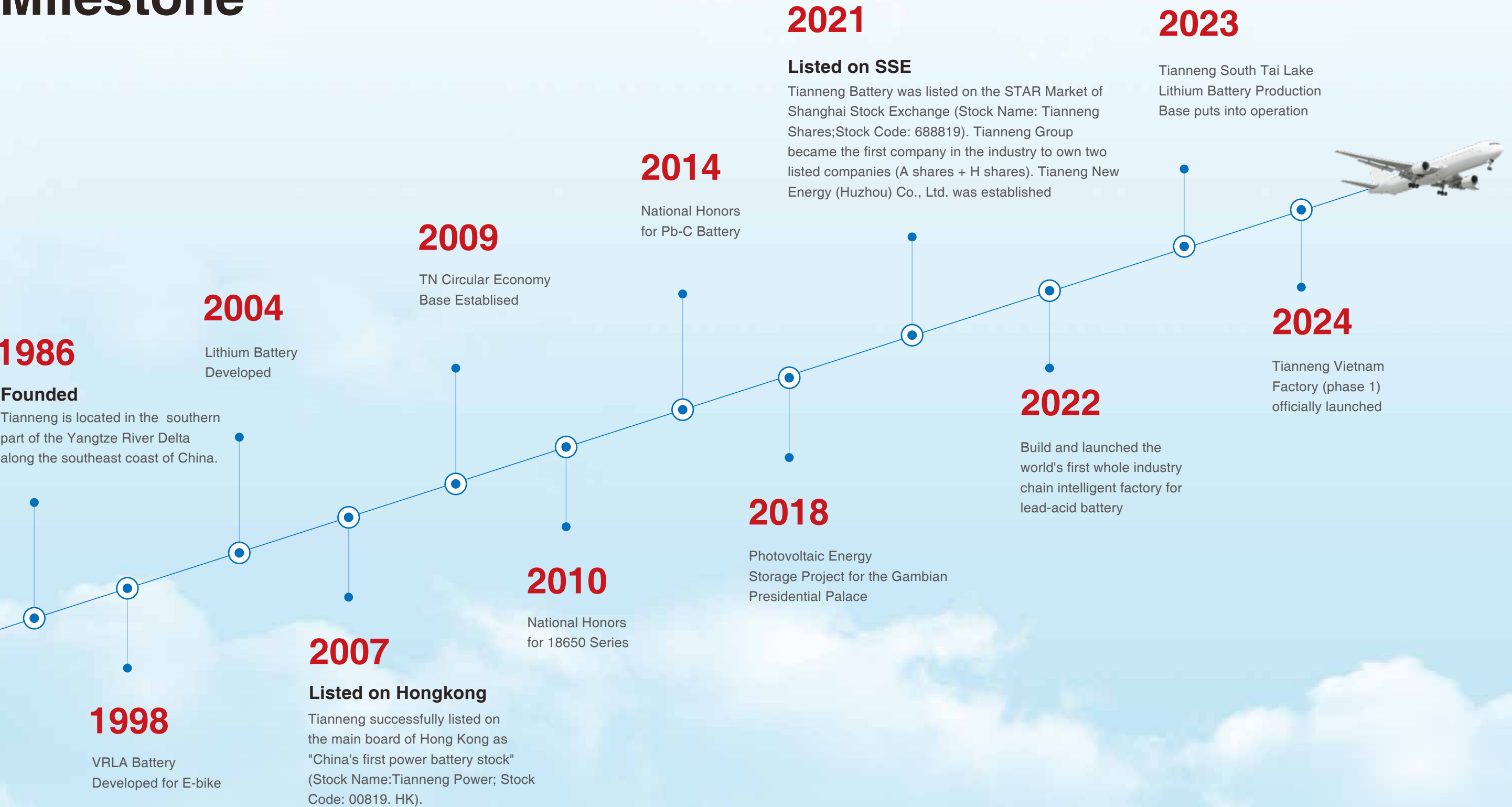
## Honor:

- Top 1 in China Lead Acid Battery
- Top 10 in the Chinese battery industry
- Top 500 Chinese enterprises
- Global top 500 new energy enterprises

## Main Business areas:

- Battery and system Solutions (Motive, SLI, Energy Storage)
- Battery Recycling Solutions (Lead Acid battery recycling, Lithium-ion battery recycling)

# Milestone



# Global Footprint

- 100+ Countries Footprint.
- 11+ Oversea Branches.
- Tianneng has a global footprint around the world, our business covers more than 100 countries and regions.
- Market Performance  
2024 Global Delivery: **≈ 110Gwh+**

## Headquarters

- HQ: Huzhou, Zhejiang, China
- INT HQ: Hongkong, China

## Manufacturing Base

- China, Vietnam

## Branch

- **APAC:** Vietnam, Thailand, Indonesia, Philippines, Australia & New Zealand
- **South Asia:** India
- **MENA (Middle East and North Africa) :** Turkey, Nigeria
- **Americas:** Argentina, Colombia
- **Europe:** Netherlands





# Technology And Innovation

Tianneng has the first domestically-made motive battery automatic continuous casting, rolling, continuous punching, and continuous coating production demonstration line, as well as the first domestically-made small-density power battery intelligent automatic assembly demonstration production line and other digital production lines, forming a complete digital industry. Tianneng's supply chain has significant advantages in high equipment utilization, relatively stable production capacity, high product quality, flexible operation, and excellent product adaptability.



## I Advantages and Strengths



### Material Innovation

Research and innovation and on NCM/LFP/LMFP material, guarantee the performance and safety from start point



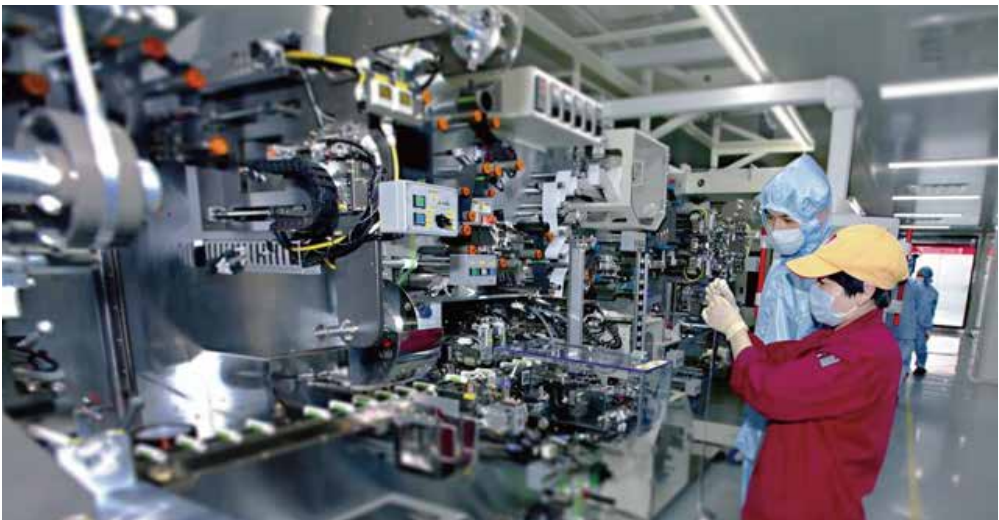
### Manufacturing Development

Fully-automated manufacturing system maintains a high-level of consistency on cells and packs.



### SELF-DEVELOPMENT BMS


Providing intelligent and customized management through accurate battery dynamic monitoring technology.





World-class  
Technique


# Premium Safety And Performance


## Intelligent Protection


- 


Over-discharge Protection
- 


Over-charge Protection
- 

Cell-balance Mechanism
- 

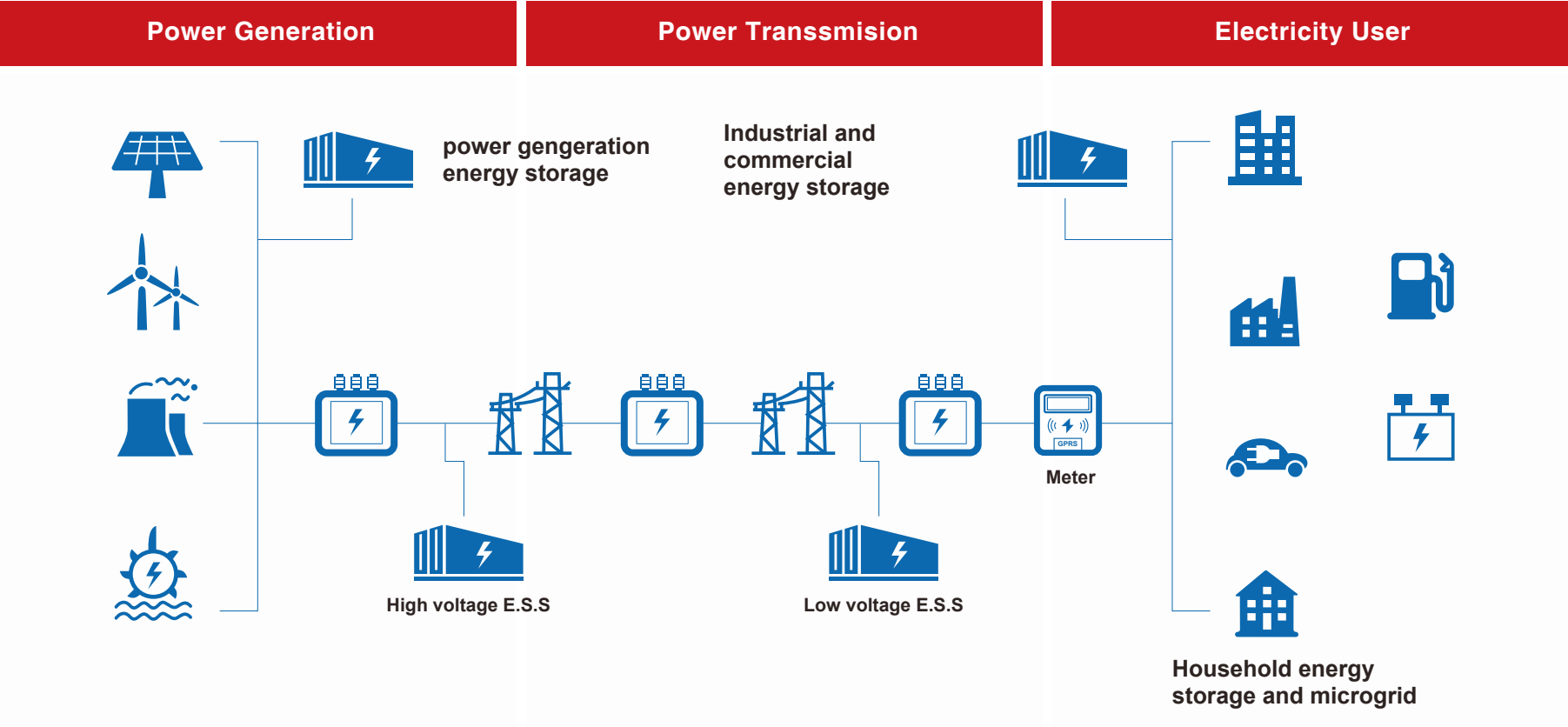
Short-circuit Prevention
- 

Over-current Protection
- 

Instant-impact Protection
- 

Cut-off Monitoring
- 

GPS Function Available



Energy storage cells



Product Model	TNSA39148100B50	TNSA50160119B100
Cell material system	LFP	LFP
Nominal voltage	3.2V	3.2V
Rated capacity	50Ah	100Ah
Mass energy density	≥ 150Wh/kg	≥ 170Wh/kg
Volumetric energy density	≥ 300Wh/L	≥ 366Wh/L
Operating voltage range	2.5~3.65V	2.5~3.65V
Operating temperature range	- 35℃ ~ 65℃	- 35℃ ~ 65℃
Rated charge/rated discharge	0.5C/0.5C	0.5C/0.5C
Cycle Life (@25℃)	≥ 4000cycle(@80%SOH) 100%DOD/25℃ @ 0.5C/0.5C	≥ 4000cycle(@80%SOH) 100%DOD/25℃ @ 0.5C/0.5C
Dimensions (including poles)	39.7×149.1×98.3mm	49.9×160.8×119mm
Product certificates	UN38.3, UL1973, UL9540A, ROHS, CB	



Product Model	TNSA79148120B150	TNSA54173207B180
Cell material system	LFP	LFP

Nominal voltage	3.2V	3.2V
Rated capacity	150Ah	180Ah
Mass energy density	≥ 175Wh/kg	≥ 150Wh/kg
Volumetric energy density	≥ 363Wh/L	≥ 335Wh/L
Operating voltage range	2.5~3.65V	2.5~3.65V
Operating temperature range	- 35℃ ~ 65℃	- 35℃ ~ 65℃
Rated charge/rated discharge	0.5C/0.5C	0.5P/0.5P
Cycle Life (@25℃)	≥ 4000cycle(@80%SOH) 100%DOD/25℃ @ 0.5C/0.5C	≥ 12000cycle(@80%SOH); 90%DOD/25℃ @ 0.5P/0.5P ≥ 10000cycle(@80%SOH); 90%DOD/25℃ @ 1P/1P
Dimensions (including poles)	79.2×148.5×120.3mm	53.7×174×207mm
Product certificates	UN38.3, UL1973, UL9540A, ROHS,CB GBT36276, GBT31484, GBT31486, GB38031, UL1973, UL9540A, CB, ROHS, UN38.3, BIS	



Product Model	TNSA71173207B280	TNSA71173207B314
Cell material system	LFP	LFP
Nominal voltage	3.2V	3.2V
Rated capacity	280Ah	314Ah
Mass energy density	≥ 173Wh/kg	≥ 185Wh/kg
Volumetric energy density	≥ 383Wh/L	≥ 420Wh/L
Operating voltage range	2.5~3.65V	2.5~3.65V
Operating temperature range	- 35℃ ~ 65℃	- 35℃ ~ 65℃
Rated charge/rated discharge	0.5P/0.5P	0.5P/0.5P
Cycle Life (@25℃)	≥ 8000cycle(@80%SOH) 100%DOD/25℃ @ 0.5P/0.5P	≥ 10000cycle(@80%SOH) 100%DOD/25℃ @ 0.5P/0.5P
Dimensions (including poles)	71.7×173.8×207.2mm	71.7×173.8×207.2mm
Product certificates	GBT36276, GBT31484, GBT31486, GB38031, UL1973, UL9540A, CB, ROHS, UN38.3, BIS	



# HESS

Household energy storage system

## Product Advantages



### Saving Electricity Bill

Charging during off-peak hours and discharge during peak hours, save the bill by avoiding peak hours.



### Self-consumption

Balance the solar generation with evening demand, and realize your own grid independence.



### Back-up Power

Guarantee your electricity is available when you encounter with a black-out or emergency.





# TELiF-48100B00

## 51.2V100Ah

Rechargeable Li-ion  
ESS Battery-LFP Series



PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cyclelife 4000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easyinstallation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI function (optional)

CERTIFICATES



APPLICATION

- Communication
- Data Center
- Industrial Application
- Wind Power
- Solar Power
- Electric Power

PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal capacity (@0.2c)	100Ah
	Nominal Energy	5120Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	cycleLife (@25"℃, 80%DoD)	≥4000 cycles (@80%)
Charging Specifcations	Battery Parallel connection Support	Max 20 when connected in parallel
	Recommended charging Voltage	56.0-57.6V
	Recommended chargingcurrent	50A
	Max. charging current	100A
Discharging Specifcations	Discharging cut-off Voltage	44.8V
	Recommended Discharge current	50A
	Max. Discharging continuous current	100A
Mechanical Characteristics	Width	390mm
	Depth	130mm
	Height	600mm
	Total Height	637mm
	Weight	about 90KG
	Communication Interface	R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32°F to 113°F)
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	0℃ to 45℃ (32°F to 113°F)
	Water Dust Resistance	IP54
Certification	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# TELiF-48150B00

## 51.2V150Ah

Rechargeable Li-ion  
ESS Battery-LFP Series



### PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (Lead-acid,Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI functions are optional

### CERTIFICATES



### APPLICATION

- Communication
- Data Center
- Industrial Application
- Wind Power
- Solar Power
- Electric Power

### PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal capacity (@0.2c)	150Ah
	Nominal Energy	7680Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
Charging Specifcations	cycleLife	≥ 4000 cycles (@80%)
	Battery Parallel connection Support	Max 20 connected in parallel
	Recommended charging Voltage	56.0-57.6V
	Recommended charging current	75A
	Max. charging current	150A
Discharging Specifcations	Discharging cut-off Voltage	44.8V
	Recommended Discharge current	75A
	Max. Discharging continuous current	150A
	Width	665mm
	Depth	135mm
Mechanical Characteristics	Height	482mm
	Total Height	519mm
	Weight	About 100KG
	Communication Interface	RS232/R485/CAN
	Charge Temperature	0℃ to 45℃ (32°F to 113°F)
Operating Conditions	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	0℃ to 45℃ (32°F to 113°F)
	Water Dust Resistance	IP54
Certification	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# TELiF-48200B00

## 51.2V200Ah

Rechargeable Li-ion  
ESS Battery-LFP Series



### PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 6000 cycles@80%DOD.
- Fully replaceable with current batteries (Lead-acid,Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI functions are optional

### CERTIFICATES



### APPLICATION

- Communication
- Data Center
- Industrial Application
- Wind Power
- Solar Power
- Electric Power

### PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal capacity (@0.2c)	200Ah
	Nominal Energy	10240Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	cycleLife	6000 cycles (@80%)
Charging Specifcations	Battery Parallel connection Support	Max.16
	Recommended charging Voltage	57.6Vdc
	Recommended charging current	100A
	Max. charging current	200A
Discharging Specifcations	Discharging cut-off Voltage	43.2V
	Recommended Discharge current	100A
	Max. Discharging continuous current	210A
Mechanical Characteristics	Width	490mm
	Depth	130mm
	Height	900mm
	Total Height	937mm
	Weight	115Kg
	Communication Interface	RS232/R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32℉ to 113℉)
	Discharge Temperature	-20℃ to 60℃ (-4℉ to 140℉)
	Storage Temperature	-20℃ -60℃
	Water Dust Resistance	IP54
Certification	Safety & Certification	/
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea



# TELiF-48280B00

## 51.2V280Ah

Rechargeable Li-ion  
ESS Battery-LFP Series



PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 8000 cycles@80%DOD.
- Fully replaceable with current batteries (Lead-acid,Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI functions are optional

CERTIFICATES



APPLICATION

- Communication
- Data Center
- Industrial Application
- Wind Power
- Solar Power
- Electric Power

PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal capacity (@0.2c)	280Ah
	Nominal Energy	14336Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	cycleLife	≥8000 cycles (@80%)
Charging Specificaitions	Battery Parallel connection Support	Max.16
	Recommended charging Voltage	57.6Vdc
	Recommended charging current	100A
	Max. charging current	200A
Discharging Specificaitions	Discharging cut-off Voltage	44.8V
	Recommended Discharge current	150A
	Max. Discharging continuous current	210A
Mechanical Characteristics	Width	502mm
	Depth	130mm
	Height	896mm
	Total Height	836mm
	Weight	120Kg
	Communication Interface	RS232/R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32°F to 113°F)
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	-20℃ -60℃
	Water Dust Resistance	IP54
Certification	Safety & Certification	/
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# Rack Mounted HESS Products

Low voltage model

### Removable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 100Ah 5.12kWh.
- Max. 15pcs in Parallel
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



## PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP20 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

## CERTIFICATES



## APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system
- Telecommunication UPS system
- Data center
- Wind&Solar power
- Industrial application

## LOW VOLTAGE MODEL

	Model	TELiF-48100S3
Performance	Specification	51.2V 100Ah
	Battery Energy	5120 Wh
	Nominal Charge/Discharge Current	50A
	Max Charge/Discharge Current	100A
	Working Voltage	43.2~56.16Vdc
General Specifcaition	Dimension(WxDxH)	440*550*133mm
	Weight	46kg
	Installation	Rack mounted/Wall mounted/Cabinet mounted
	Charge Temperature	0°C~55°C
	Discharge Temperature	-20°C~60°C
	IP Rating	IP 20
	Cell Technology	LiFePO4
Communication	Cycle Life	6000 @ 80% DOD, 25°C/0.5C
	Scalability	Max 15 batteries in parallel
	Communication	RS485、CAN
	Display	SOC status indicator, LED indicator

# Rack Mounted HESS Products

Low voltage model

## Removable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 150Ah 7.68kWh.
- Max. 15pcs in Parallel
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



## PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP20 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

## CERTIFICATES



## APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system
- Telecommunication UPS system
- Data center
- Wind&Solar power
- Industrial application

## LOW VOLTAGE MODEL

	Model	TELiF-48150C00
Performance	Specification	51.2V 150Ah
	Battery Energy	7680 Wh
	Nominal Charge/Discharge Current	75A
	Max Charge/Discharge Current	150A
	Working Voltage	43.2~56.16Vdc
General Specifcaition	Dimension(WxDxH)	440*570*133mm
	Weight	61kg
	Installation	Rack mounted/Wall mounted/Cabinet mounted
	Charge Temperature	0°C~55°C
	Discharge Temperature	-20°C~60°C
	IP Rating	IP 20
	Cell Technology	LiFePO4
Communication	Cycle Life	6000 @ 80% DOD, 25°C/0.5C
	Scalability	Max 15 batteries in parallel
	Communication	RS485、CAN
	Display	SOC status indicator, LED indicator




# TELiF-48100C00

## 51.2V100Ah


Rechargeable Li-ion  
ESS Battery-LFP Series




### Product Application




Communication




Data Center




Industrial Application



Wind Power



Solar Power



Electric Power

### PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI functions are optional

### CERTIFICATES

UN38.3

RoHS

IEC

ISO 9001

CE

### PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal capacity (@0.2c)	100Ah
	Nominal Energy	5120Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	cycleLife (@25"℃, 80%DoD)	≥ 4000 cycles (@80%)
Charging Specifcaitions	Battery Parallel connection Support	Max 20 connected in parallel
	Recommended charging Voltage	56.0-57.6V
	Recommended charging current	50A
	Max. charging current	100A
Discharging Specifcaitions	Discharging cut-off Voltage	44.8V
	Recommended Discharge current	50A
	Max. Discharging continuous current	100A
Mechanical Characteristics	Width	440mm
	Depth	440mm
	Height	133mm
	Total Width	483mm (19 Rack mounte type)
	Weight	Approx. 46Kg
	Communication Interface	RS232/R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32°F to 113°F)
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	0℃ to 45℃ (32°F to 113°F)
	Water Dust Resistance	IP20
Certification	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea


# TELiF-48150C00

## 48V150Ah


Rechargeable Li-ion  
ESS Battery-LFP Series




### Product Application




Communication




Data Center




Industrial Application



Wind Power



Solar Power



Electric Power

### PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth, WIFI functions are optional

### CERTIFICATES

UN38.3

RoHS

IEC

ISO 9001

CE

### PARAMETER

Nominal Characteristics	Nominal Voltage	48V
	Nominal capacity (@0.2c)	150Ah
	Nominal Energy	7200Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	CycleLife	≥4000 cycles (@80%)
Charging Specifcations	Battery Parallel connection Support	Max 20 when connected in parallel
	Recommended charging Voltage	52.5-54V
	Recommended charging current	75A
	Max. charging current	150A
Discharging Specifcations	Discharging cut-off Voltage	42V
	Recommended Discharge current	75A
	Max.Discharging continuous current	150A
Mechanical Characteristics	Width	442mm
	Depth	568mm
	Height	133mm
	Total Width	483mm (19" Rack mounted type)
	Weight	About 53KG
	Communication Interface	RS232/R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32℉ to 113℉)
	Discharge Temperature	-20℃ to 60℃ (-4℉ to 140℉)
	Storage Temperature	0℃ to 45℃ (32℉ to 113℉)
	Safety Standard	UN38.3 (battery)
Certification	Water Dust Resistance	IP20
	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# TELiF-48200C00

## 51.2V200Ah

Rechargeable Li-ion  
ESS Battery-LFP Series



### Product Application

Communication

Data Center

Industrial Application

Wind Power

Solar Power

Electric Power

### PRODUCT FEATURES

- Prismatic LiFePO4 cell-3.2v, higher reliability
- Longer cycle life 6000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-cd)
- Built-in BMS management system with interface RS232/RS485/CAN
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with parallel expansion support Bluetooth and WIFI functions are optional

### CERTIFICATES

UN38.3

RoHS

IEC

ISO 9001

CE

### PARAMETER

Nominal Characteristics	Nominal Voltage	51.2V
	Nominal Capacity (@0.2c)	200Ah
	Nominal Energy	10240Wh
	Internal Resisitance	≤30mΩ
	Self Discharge Rate	≤3.5% per month
	CycleLife	6000 cycles (@80%)
Charging Specifcations	Battery Parallel connection Support	Max.16 when connected in parallel
	Recommended charging Voltage	57.6Vdc
	Recommended charging current	100A
	Max. charging current	200A
Discharging Specifcations	Discharging cut-off Voltage	43.2V
	Recommended Discharge current	100A
	Max. Discharging continuous current	210A
Mechanical Characteristics	Width	440mm
	Depth	550mm
	Height	222mm
	Total Width	483mm (19" Rack mounted)
	Weight	Aprox. 76Kg
	Communication Interface	RS232/R485/CAN
Operating Conditions	Charge Temperature	0℃ to 45℃ (32°F to 113°F)
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	-20℃ -60℃
	Water Dust Resistance	IP20
Certification	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea



# Stackable HESS Products

Low voltage model

### Stackable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 100Ah 5.12kWh.
- 1 to MAX.6 layers recommended.
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



### PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP65 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

### CERTIFICATES



### APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system

### LOW VOLTAGE MODEL

Model		TELiF-HESS 48100 GL	TELiF-HESS 4850 GL
Battery Module	Single Module	51.2V 100Ah	51.2V 50Ah
	Battery Energy	5120 Wh	2560 Wh
	Nominal Charge/ Discharge Current	50A	25A
	Max Charge/ Discharge Current	100A	50A
	Working Voltage	43.2~56.16Vdc	
General Specification	Dimension (WxDxH)	600*210*300mm	600*210*180mm
	Weight	48kg	27kg
	Scalability	1-6 batteries in parallel	1-10 batteries in parallel
	Installation	Stacked	
	Charge Temperature	0°C~55°C	
	Discharge Temperature	-20°C~60°C	
	IP Rating	IP 65	
	Cell Technology	LiFePO4	
	Cycle Life	6000 @ 80% DOD, 25°C/0.5C	
	Communication	RS485、CAN	
Communication	Display	SOC status indicator, LED indicator	

# TELECOM ESS

Telecom energy storage system

## Product Advantages



Longer Lifespan



Flexible Compatibility



Premium Safety



# Telecom Energy Storage HESS Products

Low voltage model

### Removable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 100Ah 5.12kWh.
- Max. 15pcs in Parallel
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



### PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP20 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

### CERTIFICATES



### APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system
- Telecommunication UPS system
- Data center
- Wind&Solar power
- Industrial application

### LOW VOLTAGE MODEL

	Model	TTLiF-48100N
Performance	Specification	48V 100Ah
	Battery Energy	4800 Wh
	Nominal Charge/Discharge Current	50A
	Max Charge/Discharge Current	100A
	Working Voltage	43.2~56.16Vdc
General Specifcaition	Dimension(WxDxH)	440*550*133mm
	Weight	46kg
	Installation	Rack mounted/Wall mounted/Cabinet mounted
	Charge Temperature	0°C~55°C
	Discharge Temperature	-20°C~60°C
	IP Rating	IP 20
	Cell Technology	LiFePO4
Communication	Cycle Life	6000 @ 80% DOD, 25°C/0.5C
	Scalability	Max 15 batteries in parallel
	Communication	RS485、CAN
	Display	SOC status indicator, LED indicator

# Telecom Energy Storage HESS Products

Low voltage model

### Stackable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 150Ah 7.68kWh.
- Max. 15pcs in Parallel
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



### PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP20 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

### CERTIFICATES



### APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system
- Telecommunication UPS system
- Data center
- Wind&Solar power
- Industrial application

### LOW VOLTAGE MODEL

	Model	TTLIF-48150W
Performance	Specification	48V 150Ah
	Battery Energy	7200 Wh
	Nominal Charge/Discharge Current	75A
	Max Charge/Discharge Current	150A
	Working Voltage	43.2~56.16Vdc
General Specifcaition	Dimension(WxDxH)	440*570*133mm
	Weight	59kg
	Installation	Rack mounted/Wall mounted/Cabinet mounted
	Charge Temperature	0°C~55°C
	Discharge Temperature	-20°C~60°C
	IP Rating	IP 20
	Cell Technology	LiFePO4
Communication	Cycle Life	6000 @ 80% DOD, 25°C/0.5C
	Scalability	Max 15 batteries in parallel
	Communication	RS485、CAN
	Display	SOC status indicator, LED indicator

# Telecom Energy Storage HESS Products

Low voltage model

### Removable LiFePO4 Battery for Energy Storage System

- 51.2V Low voltage LiFePO4 battery module, Single module is 51.2V 200Ah 10240kWh.
- Max. 15pcs in Parallel.
- Compatible with the 48V single or three-phase off-grid, hybrid on/off grid solar inverter.
- Capable of High-Powered Emergency-Backup and Off-Grid Function.
- Self-Consumption Optimization for Residential and Commercial Applications.
- Modular Design Simplifies Transport and Installation



### PRODUCT FEATURE

- >6000 Times Super Cycle Life
- IP20 waterproof design
- Premium safety and Long-term reliability
- Money saving & Flexible compatibility
- Low self-consumption maximization
- Affordable and simple installation

### CERTIFICATES



### APPLICATION

- Household Energy Storage System
- Household Photovoltaic System
- Outdoor portable power station
- Removable power supply system
- Telecommunication UPS system
- Data center
- Wind&Solar power
- Industrial application

### LOW VOLTAGE MODEL

	Model	TTLiF-48200N
Performance	Specification	48V 200Ah
	Battery Energy	10080 Wh
	Nominal Charge/Discharge Current	100A
	Max Charge/Discharge Current	200A
	Working Voltage	43.2~56.6Vdc
General Specifcaition	Dimension(WxDxH)	400*500*250mm
	Weight	80kg
	Installation	Rack mounted/Wall mounted/Cabinet mounted
	Charge Temperature	0°C~55°C
	Discharge Temperature	-20°C~60°C
	IP Rating	IP 20
	Cell Technology	LiFePO4
Communication	Cycle Life	6000 @ 80% DOD, 25°C/0.5C
	Scalability	Max 15 batteries in parallel
	Communication	RS485、CAN
	Display	SOC status indicator, LED indicator




# TTLiF-48100C00

## 48V100Ah


Rechargeable Li-ion  
Telecom Battery-LFP Series




### Product Application




Communication




Data Center




Industrial Application



Wind Power



Solar Power



Electric Power

### PRODUCT FEATURES

- Prismatic LiFePO4 cell, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-Cd)
- Built-in BMS management system with interface CAN/RS232/RS485/SNMP/GPS +Anti theft (optional)
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with series & parallel expansion support

### CERTIFICATES



### PARAMETER

Nominal Characteristics	Nominal Voltage	48V
	Nominal Capacity (@0.2C)	100Ah
	Nominal Energy	4800Wh
	Internal Resisitance	≤55mΩ
	Self Discharge Rate	≤3.5% per month
	Cycle Life	≥4000 cycles (@80%)
	Parallel Connection Support	Max. 15 packs in parallel, recommended ≤ 12 packs
Charging Specificaitions	Series Connection Support	not supported
	Recommended Charging Voltage	54.7Vdc
	Max. Discharging/Charging Current	100A
	Rated Discharging/Charging Current	50A
Discharging Specificaitions	Discharging Cut-off Voltage	40V
	Max. Discharging Continuous Current	75A
	Max. Discharging Pulse Current	120A, ≤20MS
	Length	440mm
Mechanical Characteristics	Depth	440mm
	Height	133mm
	Total Height	133mm
	Weight	Approx. 43Kg
Operating Conditions	Communication Interface	CAN/RS232/SNMP/RS485
	Charge Temperature	0℃~60℃ (32℉ to 140℉)
	Discharge Temperature	-20℃ to 60℃ (-4℉ to 140℉)
	Storage Temperature	0℃ to 60℃ (32℉ to 140℉)
Certification	Water Dust Resistance	IP20
	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea


# TTLiF-48150C00

## 48V150Ah


Rechargeable Li-ion  
Telecom Battery-LFP Series




### Product Application




Communication




Data Center




Industrial Application



Wind Power



Solar Power



Electric Power

### PRODUCT FEATURES

- Prismatic LiFePO4 cell, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (e.g., Lead-acid and Ni-Cd)
- Built-in BMS management system with interface CAN/RS232/RS485/SNMP/GPS +Anti theft (optional)
- Maintenance free with standard 19" design easy installation
- Optimum adaptation to a variety of applications with series & parallel expansion support

### CERTIFICATES

UN38.3

RoHS

IEC

ISO 9001

CE

### PARAMETER

Nominal Characteristics	Nominal Voltage	48V
	Nominal Capacity (@0.2C)	150Ah
	Nominal Energy	7200Wh
	Internal Resisitance	≤55mΩ
	Self Discharge Rate	≤3.5% per month
	Cycle Life	≥4000 cycles (@80%)
	Parallel Connection Support	Max. 15 packs in parallel, recommended ≤ 12 packs
Charging Specificaitions	Series Connection Support	not supported
	Recommended Charging Voltage	54.7Vdc
	Max. Discharging/Charging Current	100A
	Rated Discharging/Charging Current	75A
	Discharging Cut-off Voltage	40V
Discharging Specificaitions	Max. Discharging Continuous Current	75A
	Max. Discharging Pulse Current	120A, ≦20MS
	Length	442mm
Mechanical Characteristics	Depth	550mm
	Height	133mm
	Total Height	133mm
	Weight	Approx. 58Kg
	Communication Interface	CAN/232/SNMP/485
	Charge Temperature	0℃~60℃ (32°F to 140°F )
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F )
Operating Conditions	Storage Temperature	0℃ to 60℃ (32°F to 140°F)
	Water Dust Resistance	IP20
	Safety & Certification	
Certification	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# TTLiF-48150T00

## 48V150Ah

Rechargeable Li-ion  
Telecom Battery-LFP Series



### Product Application



Communication



Data Center



Industrial Application



Wind Power



Solar Power



Electric Power

### PRODUCT FEATURE

- Rack mounted battery 3U size
- Longer cycle life  
6000cycles@80%DOD.
- Low self-consumption
- Lithiumironphosphate technology, safe andreliable.
- Affordable and simple installation
- Optimum adaptation to a variety of applications with parallel expansionsupport

### CERTIFICATES



### PARAMETER

Nominal Characteristics	Nominal Voltage	48V
	Nominal Capacity (@0.2C)	150Ah (15S)
	Nominal Energy	7200Wh
	Installation	Rack mounted
	Self Discharge Rate	≤3.5% per month
Charging Specifcations	CycleLife	≥ 4000 cycles (@80%)
	Scalability	Max15 batteries in parallel
	Recommended Charging Voltage	54Vdc
	Max. Discharging/Charging Current	105A
	Rated Discharging/Charging Current	75A
Discharging Specifcations	Discharging Cut-off Voltage	40.5V
	Max. Discharging Continuous Current	75A
	Max. Discharging Pulse Current	150A, ≦ 100MS
	Depth	570mm
	Width	442mm
Mechanical Characteristics	Height	130.5mm
	Total Height	130.5mm
	Weight	Approx. 64Kg
	Communication Interface	CAN/RS232/RS485
	Charge Temperature	0℃~+55℃
Operating Conditions	Discharge Temperature	-20℃~+55℃
	Storage Temperature	-20℃~+45℃
	Water Dust Resistance	IP20
	Safety & Certification	CE, IEC62619
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea
Certification		

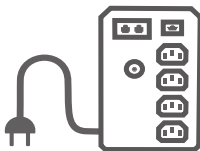
# TTLiF-48200C00

## 48V200Ah

Rechargeable Li-ion  
Telecom Battery-LFP Series



### Product Application



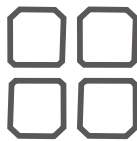
Household Energy storage system



Household photovoltaic system



Rack mounted 3U



Removable power supply system

### PRODUCT FEATURES

- Prismatic LiFePO4 cell, higher reliability
- Longer cycle life 4000 cycles@80%DOD.
- Fully replaceable with current batteries (Lead-acid, Ni-Cd)
- Built-in BMS management system with interface CAN/RS232/SNMP/GPS+Anti theft (optional)
- Maintenance free with standard 19” design easy installation
- Optimum adaptation to a variety of applications with series & parallel

### CERTIFICATES



### PARAMETER

Nominal Characteristics	Nominal Voltage	48V
	Nominal Capacity (@0.2C)	200Ah
	Nominal Energy	9600Wh
	Internal Resisitance	≤55mΩ
	Self Discharge Rate	≤3.5% per month
Charging Specificaitions	Cycle Life	6000 cycles (@80%)
	Parallel Connection Support	5
	Series Connection Support	not supported
	Recommended Charging Voltage	54.7Vdc
	Max. Discharging/Charging Current	100A
Discharging Specificaitions	Rated Discharging/Charging Current	75A
	Discharging Cut-off Voltage	40V
	Max. Discharging Continuous Current	75A
	Max. Discharging Pulse Current	120A, ≦20MS
Mechanical Characteristics	Length	440mm
	Depth	550mm
	Height	222mm
	Total Height	222mm
	Weight	Approx. 72Kg
Operating Conditions	Communication Interface	CAN/RS232/SNMP/RS485
	Charge Temperature	0c~60℃ (32°F to 140°F)
	Discharge Temperature	-20℃ to 60℃ (-4°F to 140°F)
	Storage Temperature	0℃ to 60℃ (32°F to 140°F)
	Water Dust Resistance	IP20
Certification	Safety & Certification	
	Transportation	UN38.3, MSDS, Report for Transport of Goods by Sea

# CESS

Commercial and Industrial Energy  
Storage Solution

## Product Advantages



### Uninterrupted Power Supply

Less space, longer life and more power than traditional UPS system.



### Peak-shifting

Balance the electricity input and output to provide the most economical power supply.



### Energy Integration

Integrated with existing energy facilities, like solar, diesel generators and so on.





# Outdoor Battery Energy Storage Cabinet

- Real-time data backup.
- Automatic fire fighting system with high safety.
- Grid and off-grid switching functions.
- One-button start, automatic operating, and it supports multiple parallel connections.
- Protection class IP55, suitable for outdoor use.
- Four layers of safety protection design for higher safety and reliability.
- Remote viewing service.



## PRODUCT FEATURE

- All-in one integrated design
- LiFePo4 battery
- Support parallel mode
- Support Solar/City Grid
- EMS/Cloud APP

## APPLICATION

- Small industrial and commercial
- Industrial parks
- Commercial buildings
- Solar storage and charging stations
- Microgrid power backup

## CERTIFICATES

**GB/T 36558      IEC 62933**  
**GB/T 34120      UN3480**  
**UK G99          UN38.3**  
**IEC62619**

## PRODUCT PARAMETERS

Model	CESS-AiO 30P M30S ESS215	CESS-AiO 60P M60S ESS215
Cell type	LiFePO4, 3.2V 280Ah	LiFePO4, 3.2V 280Ah
System configuration	1P100S (5 Modules) ~1P240S (12 Modules)	1P140S (7 Modules) ~1P240S (12 Modules)
Battery capacity (BOL)	89kWh~215kWh	125kWh~215kWh
Battery voltage range	320V-864V	448V-864V
AC On-grid Parameters		
Grid type	3P4W	3P4W
Rated charge/discharge power	30kW	60kW
Rated grid voltage	AC400V	AC400V
Grid voltage range	-15%~+15%	-15%~+15%
Rated grid frequency	50Hz	50Hz
Frequency range	±5Hz	±5Hz
Rated current	43A	86A
Power factor	0.8 (Leading) ~0.8 (Lagging)	0.8 (Leading) ~0.8 (Lagging)
Output harmonics	≤3%	≤3%

PRODUCT PARAMETERS

☉AC Off-grid Parameters

Rated output power	30kW	60kW
Rated output voltage	AC400V	AC400V
Rated output frequency	50Hz	50Hz
Rated current	43A	86A
Voltage accuracy	1%	1%
Frequency accuracy	0.2Hz	0.2Hz

☉General Parameters

Dimension (W*H*D)	1900mm*2100mm*1230mm (BOL<125kWh, the width is 1500mm)	1900mm*2100mm*1230mm
Max. weight	2500kg	2500kg
Application	Outdoor	Outdoor
Seismic intensity rating	8 degree (IEC60980)	8 degree (IEC60980)
Anti-corrosion grade	C3	C3
Operating temperature	-20℃～50℃	-20℃～50℃
Relative humidity	0-95% (Non-condensing)	0-95% (Non-condensing)
Altitude	<2000m	<2000m
Cooling method	Battery room: air conditioning Electrical room: forced air cooling	Battery room: air conditioning Electrical room: forced air cooling

PRODUCT PARAMETERS

Noise	≤75dB	≤75dB
System efficiency	≥85%	≥85%
Fire fighting system	Automatic fire extinguishing	Automatic fire extinguishing
Fire extinguishing media	FM200	FM200
Communication interface	Ethernet	Ethernet
Communication protocols	Modbus TCP/IP	Modbus TCP/IP

☉Photovoltaic Side Parameters

Maximum input module power	30kW or 60kW	60kW
MPPT voltage range	200V-850V	200V-850V
Number of MPPT paths	1	1
Number of PV input channels	1	1
Maximum input current	100A	100A

☉STS Static Switch (Optional)

Rated power	60kW (Grid side 30kW, Load side 30kW)	120kW (Grid side 60kW, Load side 60kW)
Switch time	≤20ms	≤20ms

# Energy Storage Battery Cluster



Industrial and commercial energy storage integrated cabinet		Battery DC cabinet	
Model	TNA1240-280	TNL1240-280	TNL1416-280
Rated power (kWh)	215	215	372
Nominal voltage (V)	768	768	1331.2
Working voltage (V)	672~864	672~864	1164.8~1497.6
Cycle life (@25℃)	8000times	8000times	8000times
Battery module	3.2V280Ah/16S Air cooling plug-in box	3.2V280Ah/52S Liquid cooling plug-in box	3.2V280Ah/52S Liquid cooling plug-in box
Dimensions (W*D*H)	1600*1270*2340mm	1350*1400*2100mm	1500*1350*2270mm
Reference weight (kg)	2500	2500	3600

# Energy Storage System



Model	TN-S-10P416S-280-LA	TN-S-12P416S-314-LA
Size (W*D*H)	6800*2600*3000mm	6250*2438*2896mm
Maximum weight(t)	38	40
Rated capacity (Ah)	2800	3768
Rated voltage (V)	1331.2	1331.2
Battery box used	3.2V280Ah/52S Liquid cooling plug-in box	3.2V314Ah/52S Liquid cooling plug-in box
Number of series and parallel connections	1P416S*10	1P416S*12
Rated charge and discharge power	0.5P	0.5P
System power (kWh)	3727.36	5015.96

# PROJECT CASES

## Project Cases



 Datang Lubei Energy Storage Project  
100MW/200MWh



 China Southern Power Grid Chengbei Station  
Energy Storage Project  
15MW/30MWh



 Yuanhe Energy Hunan Liyujiang Thermal  
Power Frequency Modulation Project  
12MW/12MWh



 Huzhou Changxing Jinling Energy  
Storage Project  
12MW/48MWh



 "Heping smart storage" Comprehensive Smart Energy  
Shared Energy Storage Project  
100.8MW/1061.683MWh



 Changqiang steel plant energy  
Storage Project  
25.2MW/243.3MWh



# Project Cases



MIZUDA Group Energy Storage Project  
1MW/2MWh



Jiangsu Shuyang Energy Storage Project  
0.6MW/4MWh



Huzhou Production and Investment Energy Storage Project  
10MW/20MWh



Tianneng Battery Group Headquarters Energy Storage Project  
5MW/10MWh

# Partner

Anode Power

Eaton (Us)

Ethio Telecom (Ethiopia)

Zte Corporation

State Grid Corporation Of China

China Datang Corporation Ltd.

China Energy Conservation & Environmental Protection Group

China Energy Engineering Corporation Limited

China Southern Power Grid

State Power Investment Corporation Limited

China Silver Group

China power construction group co. LTD

China Three Gorges Renewables (Group) Co., Ltd.

Zhejiang Energy Group Cp Ltd.

China Unicom

Gansu Golden Specialized Fund

China Huaneng Group Co., Ltd.

China Railway Construction Corporation Limited

JD Energy

Huzhou Industrial Group

Xi'an Energetic Intelligence Technology Co.

Towngas

Beijing Yuanhe Energy Co.

Eternal Aisa

Philtower Consortium Inc.

AL RAJHI TELECOM



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 Tianneng Group



Website



Electronic brochure