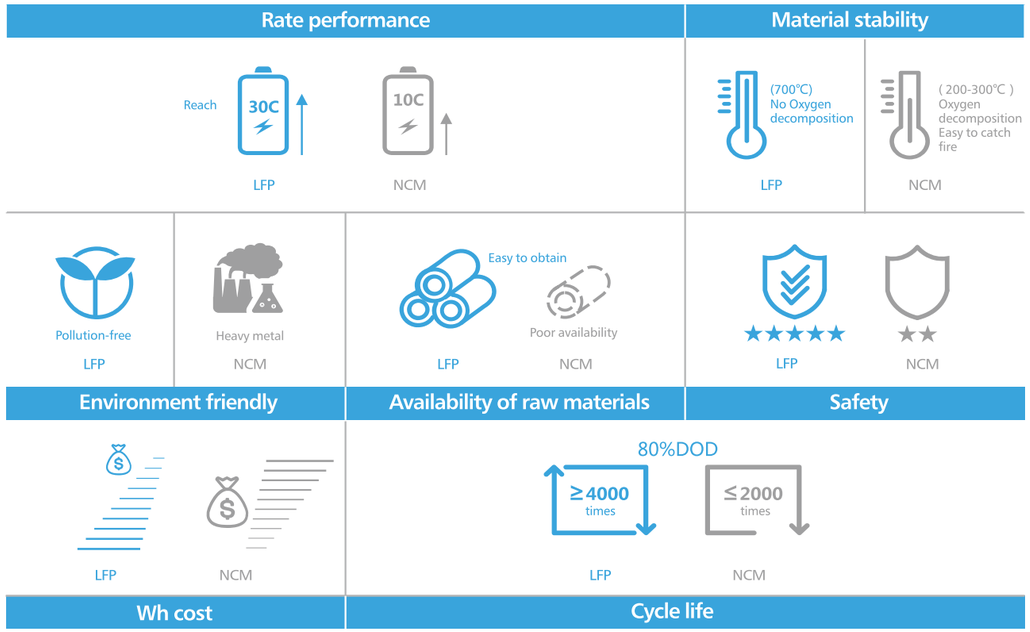
POWER LINK

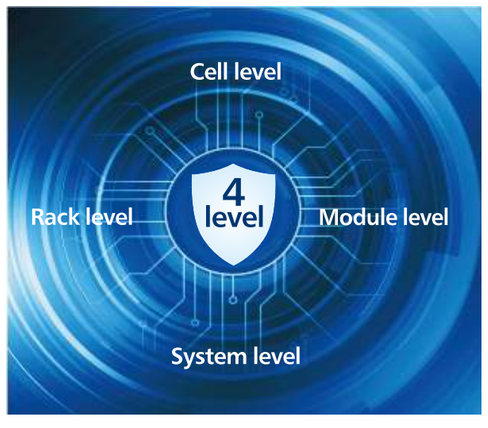
LITHIUM BATTERY LFP SERIES

POWER YOUR LIFE

More Reliable And Safety



System Security Guide



Cell level: The electric core adopts LFP material system, which has extremely high safety. In addition, one-way explosion-proof valve is designed on the top. In case of emergency, such as short-time connection outside, the explosion-proof valve can be punched open to cut off the circuit to prevent large safety risks.

Module level: The temperature control module controlled by BMU at the module level can adjust the temperature in the module in real time to ensure that the operating environment is in a controllable range.

Rack level: Rack level is mainly through the CBMS internal DC circuit breaker, reply, pre-charge resistance and diode and other power devices, the system to achieve overcharge, over-current, anti-reverse connection and other state management, to ensure the safety and reliability of the rack.

System level: The main purpose of the system is to control the pressure difference between racks in the parallel machine state, and realize the balance adjustment between racks through pre-charge resistance to ensure the safety of system operation.

Battery Monitor System

1、According to the battery modules connected in series after the total voltage is divided into three grades：
U-BMS-LV， 10~64V (series4~16cells)
U-BMS-MV，10~96V (series4~24cells)
U-BMS-HV， 96~300V (series4~80cells)

2、Interface:
The one RS485 for battery module;
The other RS232 with PC or other controller connection；
The 5 signals " 0 " or " 1 " output signal; GPIO1~GPIO5
The 2 signals universal input or output port; GPIO6~GPIO7 (standby)

3、BMS power supply:
U-BMS-LV and U-BMS-MV from the string of battery power, or the external DC12V power supply;U-BMS-HV built-in 10AH3.6V rechargeable battery, battery charger charging;

4、The power consumption of BMS:
U-BMS-LV and U-BMS-MV:0.3W~0.8W
U-BMS-HV:0.4W~0.6W

5、BMS working mode:
Master mode : the whole battery modules' system managed by BMS, RS-232 for monitoring ；
Slave mode : PC may control BMS to manag battery system used RS-232 to receive data and send command；

6、The BMS function：
- Battery configuration, such as Series or parallel；
- Battery module address management；
- Battery system state judgment: charging, discharging, static；
- RS485，RS232 Bus management；
- According to data, control protection switches；
- The bus includes the following data：
  Each battery module voltage, current；
  Temperature of each battery module；
  Module type and serial number；
  Hardware version；
  The balance among the modules
  Error codes
  The total voltage of battery system
  The total current of battery system
  The balance among the modules when charging
  Battery module maximum temperature
  Battery module minimum temperature
  The minimum and maximum voltage of battery module
  Fault management：
  Communication data lost
  Communication data error
  Over temperature warning/alarm
  Over current warning/alarm
  Overvoltage warning/alarm
  Temperature sensor fault
  Current sensor fault

Lithium Battery

12V/24V Series

Product Information

UP To 10X Life
Times longer than lead acid battery.

60% Faster Charge
100% full charge in one hour

Less weight
Lithium-ion batteries are one-third the weight of lead acid batteries

Warranty
18 months warranty on our line of Lithium Ion Batteries that guarantees it to be free of manufacturer defects

Maintenance Free
Maintenance free or automatic repair

Built In Protection
Our lithium batteries have a built in Battery Management System (BMS)

Wide Range Temperature
Wide adaptability from low temperature to high temperature

100% DOD
Our battery will perform for over 2,000 cycles at 100% DOD, comparing with only 500 cycles at 80% DOD with a lead acid battery

Applications

- Office machines and Computers
- Telecommunications
- UPS Equipment
- Electrical facilities
- Vending machine

Solar Street Lighting

Park & Scenic Spot Solar Lighting

Square & Parking Solar Lighting

Residential & Campus Solar Lighting

Other Solar Lighting Applications

Features

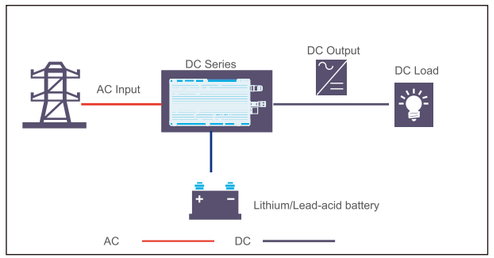
- Built-in automatic protection for over-charge, over-discharge, and exceeding temperature conditions
- One single BMS can manage multiple battery models (<200)
- Application voltages from 12V~ 480V
- Internal cell balancing
- Thousands of cycles, 100% DOD, under normal conditions
- Thousands of cycles,100% DOD,under normal conditions
- Can be charged using most standard lead-acid chargers (set for AGM/GEL cells)

LiFePO4	Nominal Capacity	Nominal Voltage	Nominal Energy	Max Charging current	Max Discharge current	Dimensions (L*W*H)			Approx. Weight	Terminal	IP Degree
	[Ah]	[V]	[Wh]	[A]	[A]	L [mm]	W [mm]	TH [mm]	[kg]	Type	
LFP12006	6	12.8	77	3	6	90	70	107	0.90	F2	IP50
LFP12008	8	12.8	102	4	8	151	65	94	1.10	F2	IP50
LFP12012	12	12.8	154	6	12	151	98	101	1.30	F2	IP50
LFP12020	20	12.8	256	10	20	181	77	167	2.00	Insert M5	IP50
LFP12030	30	12.8	384	15	30	195	130	168	3.60	Insert M5	IP50
LFP12040	40	12.8	512	20	40	195	130	168	5.60	Insert M6	IP50
LFP12050	50	12.8	640	25	50	229	138	213	6.30	Insert M8	IP50
LFP12060	60	12.8	768	25	50	229	138	213	9.40	Insert M8	IP50
LFP12080	80	12.8	1024	40	80	258	166	215	9.50	Insert M8	IP50
LFP12100-1	100	12.8	1280	50	100	258	166	215	13.00	Insert M8	IP50
LFP12100-2	100	12.8	1280	50	100	330	172	215	13.00	Insert M8	IP50
LFP12120-1	120	12.8	1536	50	100	330	172	220	13.50	Insert M8	IP50
LFP12120-2	120	12.8	1536	50	100	260	180	257	13.50	Insert M8	IP50
LFP12150	150	12.8	1920	50	100	521	237	217	20.00	Insert M8	IP50
LFP12200	200	12.8	2560	50	100	483	170	240	22.00	Insert M8	IP50
LFP12300	300	12.8	3840	50	100	522	240	218	29.20	Insert M8	IP50
LFP24050	50	25.6	1280	25	50	330	172	215	13.20	Insert M8	IP50
LFP24060	60	25.6	1536	30	60	260	180	257	17.50	Insert M8	IP50
LFP24085	85	25.6	2176	43	85	483	170	240	20.60	Insert M8	IP50
LFP24100	100	25.6	2560	50	100	483	170	240	22.00	Insert M8	IP50
LFP24120	120	25.6	3072	50	100	483	170	240	26.50	Insert M8	IP50
LFP24150	150	25.6	3840	50	100	520	269	208	35	Insert M8	IP50

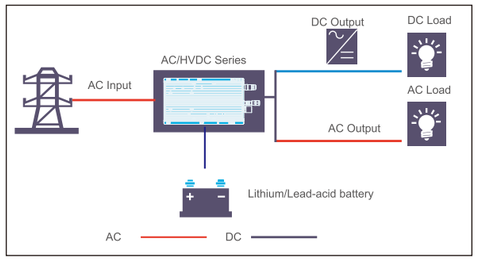
Lithium Battery

5G Power Station

Product Information



Micro Base Station Integrated Lithium Power Supply System (-48VDC)



Micro Base Station 220V AC/DC Integrated Lithium Power Supply System

Features and Benefits

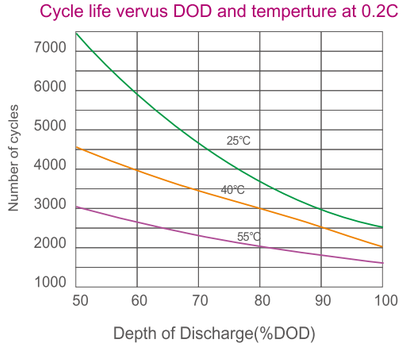
Rapid Design

Easy Operation

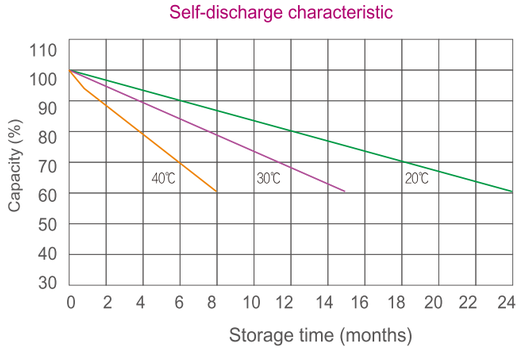
Reliable Power Supply

NEATA series power supply module. When the AC output supplies to the load bypass, the DC output supplies 48V power to the battery. When the AC is tured off the DC output is inverted to 220V supplying power to the load. NEATA power module convert AC or HVDC to steady 48V DC. Lithium battery modul supply power to communication device.

Cycle life vervus DOD and temperture at 0.2C



Self-discharge characteristic



Model	Voltage	Capacity	Dimensions(L*W*H)mm	Weight(KG)	communication	warranty	Description
5G IP65 rectifier 1KW	56.5V	1KW	300*97*420	9	bluetooth, APP	3years	56.5V1KW
5G IP65 rectifier 2KW	56.5V	2KW	300*97*420	9	bluetooth, APP	3years	56.5V2KW
5G IP65 rectifier 3KW	56.5V	3KW	300*97*420	9	bluetooth, APP	3years	56.5V3KW
5G-LFP4850	48V	50AH	300*190*420	34	RS485/4G	3years	Maximum charge/discharge current: 50A Charging current limit: 20A. Max 4pcs parallel application
	51.2V	50AH	300*190*420	35	RS485/4G	3years	
SMART-LFP48100	48V	100AH	442*400*133	46	RS485/Dry port	5years	no limited for parallel application

Rack Design

LFP48V Series

PRODUCT FEATURES

High Energy Cell

- Advanced High Capacity and Long Lifecycle

Standard Module

- Standard Module for Various Customer Needs

Easy Installation

- Easy Installation by Simple Module Structure

Scalability

- Easy to Expand Capacity

INTELLIGENT BMS

- Intelligent BMS management system
- Super active/passive equalization manager
- High resolution thermal management functio

n

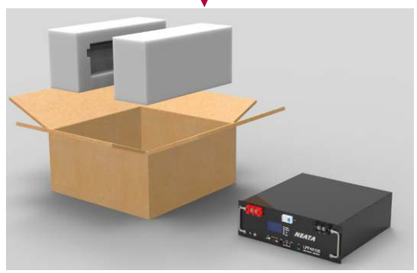
Compatibility

- Compatible with Various Standard Inverters

* Inverter for Residential, SMPS for Telecom

Standard maintenance free design. Meet the inch communication cabinet installation

The built-in BMS has a variety of protection and communication functions to ensure the reliability of the battery pack performance and achieve long-distance real battery data.



The internal resistance of the battery is small, and the performance of the rate is superior.

Wide temperature range and high reliability

Multiple battery packs can be used in parallel for high volume applications

Long life, battery life cycle of more than 3500 cycles at 80% DOD depth and residual capacity 0% SOC

Model	Nominal voltage (V)	Typical capacity (Ah)	Charge current (A)	Constant discharge current/ Peak current (3S)	Weight (Kg)	Dimension（mm）	Remark
LFP4810	48	11	5	10A/20A	7	442*330*44	Support 16P
LFP4820	48	22	10	20A/40A	13	442*330* 88	Support 16P
LFP4850	48	50	25	50A/100A	24	442*390*88	Support 16P
LFP48100	48	100	50	100A/120A	45	442*480*155	Support 16P
LFP48150	48	150	50	100A/120A	65	442*465*178	Support 16P
LFP48180	48	180	50	100A/120A	72	442*550*226	Support 16P
LFP48200	48	200	50	100A/120A	76	442*580*226	Support 16P
LFP48240	48	240	50	100A/120A	95	442*600*264	Support 16P

Rack Design

LFP51.2V Series

PRODUCT FEATURES

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The built-in BMS has a variety of protection and communication functions to ensure the reliability of the battery pack performance and achieve long-distance real battery data.

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Model	Nominal voltage (V)	Typical capacity (Ah)	Charge current (A)	Constant discharge current/ Peak current (3S)	Weight (Kg)	Dimension（mm）	Remark	Cycle life
LFP4810	51.2	11	5	10A/20A	8	442*330*44	Support 16P	6000
LFP4820	51.2	22	10	20A/40A	14.5	442*330* 88	Support 16P	6000
LFP4850	51.2	50	25	50A/100A	25.5	442*390*88	Support 16P	6000
LFP48100	51.2	100	50	100A/120A	47	442*480*155	Support 16P	6000
LFP48150	51.2	150	50	100A/120A	69	442*465*178	Support 16P	6000
LFP48180	51.2	180	50	100A/120A	78	442*550*226	Support 16P	6000
LFP48200	51.2	200	50	100A/120A	82	442*580*226	Support 16P	6000
LFP48240	51.2	240	50	100A/120A	106	442*600*264	Support 16P	6000

PLUG&PLAY
Convenient and flexible

FLEXIBLE
Modular rack design for easier installation and smaller landscape

SAFE AND RELIABLE
Adopt high safety, long life, excellent performance LiFePO4 prismatic cells

LONG LIFE SPAN
Over 4000 times of cycle life

INTELLIGENT BMS
Intelligent BMS to ensure a safe reliable operation

ECO FRIENDLY
No outgassing and zero ambient emissions

INTERCONNECTION
Multiple communications including RS485, CAN

EXPANDABLE
Parallel on cabinet level available

Wall Mounting/Standing

LFP48V Series

Warranty

100% DOD

General Features

- Environmentally friendly
- Longer Service Life
- High Reliability and Quality
- High Power Density
- Excellent Recovery from Deep Discharge
- Living Up to Prevailing Standards
- Non–sensitive–to Occasional Deep Discharges
- International leading technology

Applications

- Solar and wind systems
- Cable TV
- Telecommunications
- Wheelchair
- Marine Equipment
- Military Equipment
- Emergency lighting
- Power Plants
- Medical Devices
- Golf Cart

Model	Nominal voltage (V)	Typical capacity (Ah)	Charge current (A)	Constant discharge current/ Peak current (3S)	Weight (Kg)	Dimension (mm)
LFP4850W	51.2	50	50	50A/100A	47	442*500*100
LFP48100W	51.2	100	50	100A/120A	48	442*550*126
LFP48150W	51.2	150	50	100A/120A	69	442*600*175
LFP48200W	51.2	200	50	100A/120A	82	442*600*200

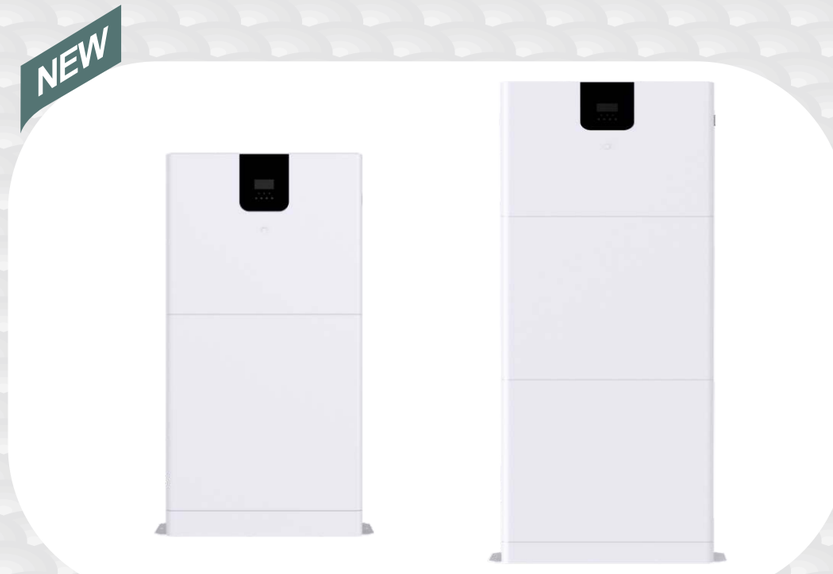
Technical features:

- Longer service life(for standby use);
- Longer cycle life;
- Excellent high rate performance;
- Special thermal runaway defense system design;
- Four layers structure design to prevent battery leakage;
- Innovative connecting copper strip;
- Better cost performance;
- Higher reliability.

Vertical ESS

Energy storage system

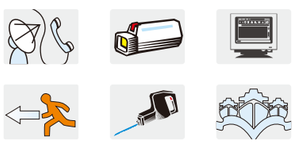
VESS48 Series



Villa | Base station | Telecom room | EV charging station | Farm

Applications

- Office machines and Computers
- Telecommunications
- UPS Equipment
- Electrical facilities
- Vending machine



Long life and safety

Vertical industry integration ensures more than 6000 cycles with 80% DoD.

Easy to install and use

Integrated inverter design, easy to use and quick to install. Small size, minimizing installation time and cost Compact and stylish design suitable for your sweet home environment.

Multiple working modes

The inverter has a variety of working modes. Whether it is used for main power supply in the area without electricity or backup power supply in the area with unstable power to deal with sudden power failure, the system can respond flexibly.

Fast and flexible charging

A variety of charging methods, which can be charged with photovoltaic or commercial power, or both at the same time

Solar Street Lighting

Park & Scenic Spot Solar Lighting

Square & Parking Solar Lighting

Residential & Campus Solar Lighting

Other Solar Lighting Applications

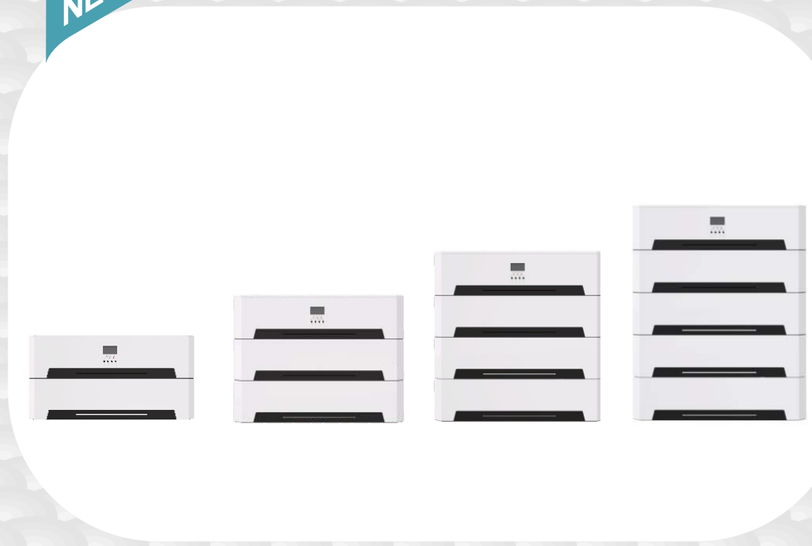
		VESS48-5.0S-S1	VESS48-10.0S-S	VESS48-15.0S-S1	VESS48-20.0S-S
	Battery Module	1	2	3	4
BATTERY	Battery Energy	5.12kWh	10.24kWh	15.36kWh	20.48kWh
	Battery Capacity	100AH	200AH	300AH	400AH
	Weight	80kg	130kg	190kg	250kg
	Dimension L× D× H	1190X600X184	1800X600X184	1800×600×184 690×600×184	1800×600×184 1300×600×184
	Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4
	Battery Rated Voltage	51.2V	51.2V	51.2V	51.2V
	Battery Working Voltage Rang	44.8 ~ 57.6V	44.8 ~ 57.6V	44.8 ~ 57.6V	44.8 ~ 57.6V
	Maximum Charging Current	100A	100A	100A	100A
	Maximum Discharging Current	100A	100A	100A	100A
	DOD	80%	80%	80%	80%
	Parallel Quantity	1	2	3	4
	Designed Life-span	15years	15years	15years	15years
PV CHARGE	Solar Charge Type	MPPT	MPPT	MPPT	MPPT
	Maximum Output Power	5KW	5KW	5KW	5KW
	PV Charging Current Range	0~80A	0~80A	0~80A	0~80A
	PV Operating Voltage Range	120~500V	120~500V	120~500V	120~500V
	MPPT Voltage Range	120~450V	120~450V	120~450V	120~450V
AC CHARGE	Maximum Charge Power	3150W	3150W	3150W	3150W
	AC Charging Current Range	0 ~ 60A	0 ~ 60A	0 ~ 60A	0 ~ 60A
	Rated Input Voltage	220/230Vac	220/230Vac	220/230Vac	220/230Vac
	Input Voltage Range	90~280Vac	90~280Vac	90~280Vac	90~280Vac
INVERTER OUTPUT	Rated Output Power	5KW	5KW	5KW	5KW
	Maximum Peak Power	10KVA	10KVA	10KVA	10KVA
	Power Factor	1	1	1	1
	Rated Output Voltage (Vac)	230Vac	230Vac	230Vac	230Vac
	Frequency	50Hz	50Hz	50Hz	50Hz
	Auto Switch Period	< 15ms	< 15ms	< 15ms	< 15ms
	THD	< 3%	< 3%	< 3%	< 3%

Stackable ESS

Energy storage system

SESS48 Series

NEW



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Product Information

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Times longer than lead acid battery.

60% Faster Charge
100% full charge in one hour

Less weight
Lithium-ion batteries are one-third the weight of lead acid batteries

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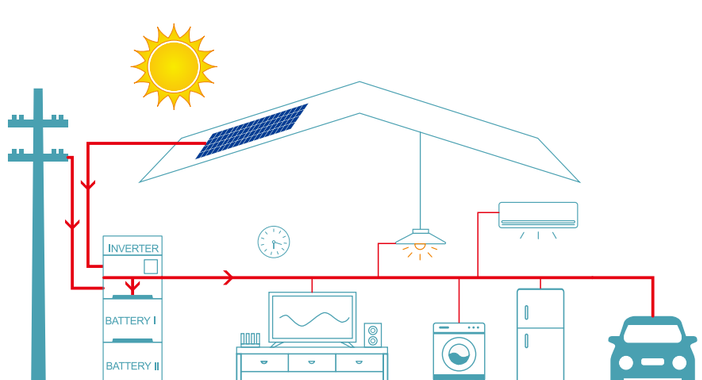
Wide adaptability from low temperature to high temperature



		SESS48-5.0S-S1	SESS48-10.0S-S1	SESS48-15.0S-S	SESS48-20.0S-S1
BATTERY	Battery Module	1	2	3	4
	Battery Energy	5.12kWh	10.24kWh	15.36kWh	20.48kWh
	Battery Capacity	100AH	200AH	300AH	400AH
	Weight	80kg	133kg	186kg	239kg
	Dimension L× D× H	710×450×400	710×450×600	710×450×800	710×450×1000
	Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4
	Battery Rated Voltage	51.2V	51.2V	51.2V	51.2V
	Battery Working Voltage Range	44.8 ~ 57.6V	44.8 ~ 57.6V	44.8 ~ 57.6V	44.8 ~ 57.6V
	Maximum Charging Current	100A	100A	100A	100A
	Maximum Discharging Current	100A	100A	100A	100A
	DOD	80%	80%	80%	80%
	Parallel Quantity	1	2	3	4
	Designed Life-span	15years	15years	15years	15years
PV CHARGE	Solar Charge Type	MPPT	MPPT	MPPT	MPPT
	Maximum Output Power	5KW	5KW	5KW	5KW
	PV Charging Current Range	0~80A	0~80A	0~80A	0~80A
	PV Operating Voltage Range	120~500V	120~500V	120~500V	120~500V
	MPPT Voltage Range	120~450V	120~450V	120~450V	120~450V
AC CHARGE	Maximum Charge Power	3150W	3150W	3150W	3150W
	AC Charging Current Range	0 ~ 60A	0 ~ 60A	0 ~ 60A	0 ~ 60A
	Rated Input Voltage	220/230Vac	220/230Vac	220/230Vac	220/230Vac
	Input Voltage Range	90~280Vac	90~280Vac	90~280Vac	90~280Vac
INVERTER OUTPUT	Rated Output Power	5KW	5KW	5KW	5KW
	Maximum Peak Power	10KVA	10KVA	10KVA	10KVA
	Power Factor	1	1	1	1
	Rated Output Voltage (Vac)	230Vac	230Vac	230Vac	230Vac
	Frequency	50Hz	50Hz	50Hz	50Hz
	Auto Switch Period	< 15ms	< 15ms	< 15ms	< 15ms
	THD	< 3%	< 3%	< 3%	< 3%

UPS Battery Series

LFP Solutions

Energy storage system

+ CONTROL PANEL

Features

19"

Standard 19" cabinet body design

Easy to maintain

7X24 HOURS

7*24h real-time monitoring

Long cycle life

Excellent discharge performance

High safety performance

▶ Residential grid-tie solar with backup power

Neata MODEL	battery type	Nominal voltage	Capacity (Ah)	Power	Charging Votage	charging		Max discharging power	Dimision(MM)			Weight about
		(V)		W	(V)	(A)						(kg)
						usually	Max		L	W	H	
NC30	512V20Ah	512	20	max.28.8KW	544~552(576)	10	20	25.6KW/20min	800	600	1500	275
TC60	512V30Ah	512	27	max.59.7KW	544~552(576)	15	27	55.5KW/10min	800	600	1500	335
TC100	512V50Ah	512	50	max.121.6KW	544~552(576)	25	50	99.2KW/15min	800	600	1500	405
NC40	512V80Ah	512	80	max.59.7KW	544~552(576)	40	80	40KW/60min	800	600	1500	480
TC100E	512V100Ah	512	100	max.121.6KW	544~552(576)	50	100	101.4KW/30min	800	600	1500	525
TC200	512V100Ah	512	100	max.243.2KW	544~552(576)	50	100	198.4KW/15min	1000	600	2000	710
NC70	512V150Ah	512	150	max.121.6KW	544~552(576)	75	150	75.5KW/60min	1000	600	2000	860
NC100	512V200Ah	512	200	max.121.6KW	544~552(576)	100	200	101.3KW/60min	1000	600	2000	1050
NC36	614.4V20Ah	614.4	20	max.34.56KW	652.8~662.4(691.2)	10	20	30.72KW/20min	800	600	1500	303
TC72	614.4V30Ah	614.4	27	max.71.64KW	652.8~662.4(691.2)	15	27	66.6KW/10min	800	600	1500	343
TC120	614.4V50Ah	614.4	50	max.145.92KW	652.8~662.4(691.2)	25	50	119.04KW/15min	800	600	2000	500
NC48	614.4V80Ah	614.4	80	max.71.64KW	652.8~662.4(691.2)	40	80	48KW/60min	800	600	2000	588
TC120E	614.4V100Ah	614.4	100	max.145.92KW	652.8~662.4(691.2)	50	100	121.68KW/30min	800	600	2000	732
TC240	614.4V100Ah	614.4	100	max.291.84KW	652.8~662.4(691.2)	50	100	198.4KW/15min	1000	600	2000	816
NC84	614.4V150Ah	614.4	150	max.145.92KW	652.8~662.4(691.2)	75	150	90.84KW/60min	1000	600	2300	1016
NC120	614.4V200Ah	614.4	200	max.145.92KW	652.8~662.4(691.2)	100	200	121.56KW/60min	1000	600	2300	1144

Lithium Battery

Energy storage system

Industry ESS Series

CORE COMPONENTS

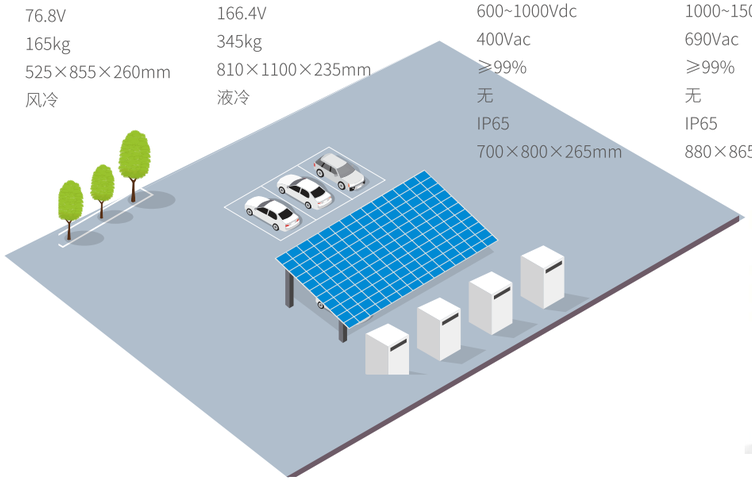
BATTERY

PCS

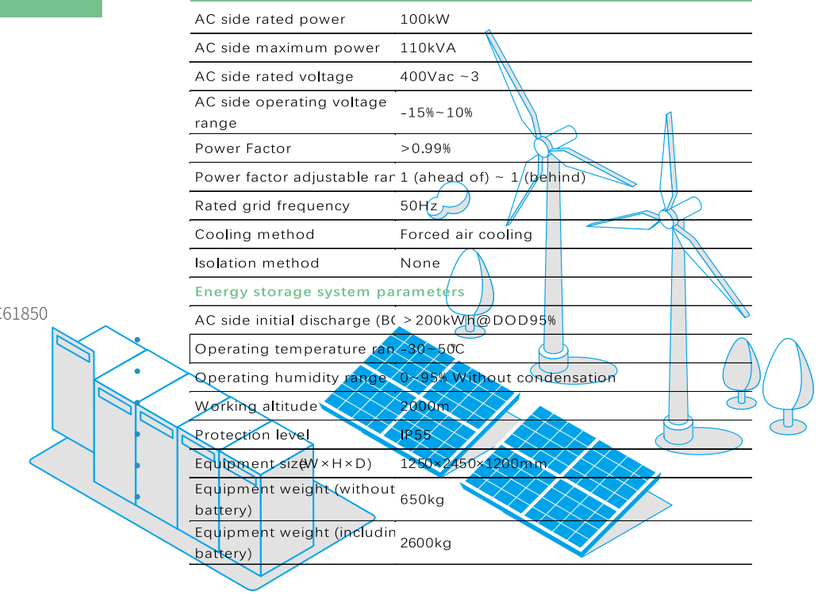
RTC

EMS

M77280-S	M166280-S	HZ100	HZ200	RTC100	HEMS100
LFP 280Ah	LFP 280Ah	110kW	220kW	AC100~240Vac/DC 24Vdc	220Vac
1P24S	1P52S	600~1500Vdc	1000~1500Vdc	Typ. 10kW Max. 50kW	≤2000kW
21.05 kWh	46.6 kWh	186A	224.5A		
76.8V	166.4V	600~1000Vdc	1000~1500Vdc	16路	工控机/服务器
165kg	345kg	400Vac	690Vac	4路，250Vac/1A、30Vdc/3A	二层交换机、支持网管功能
525×855×260mm	810×1100×235mm	≥99%	≥99%	1路 ,Modbus TCP 、IEC104（选配）	选配
风冷	液冷	无	无	6路，支持Modbus RTU、DL/T645（选配）	选配
		IP65	IP65	1路，功能保留	通讯
		700×800×265mm	880×865×275mm	4~20mA/0~10V/精度1%	Ethernet、光纤、RS-485等
				1路，USB2.0，USB-Host	Modbus RTU/TCP ，IEC104，IEC61850
				1路，支持容量≤32GB，速率：CLASS4	
				IP20	IP20
				-30~60°C	-30~60°C
				0~95%RH 无凝露	0~95%RH 无凝露
				440×241×44mm	700×700×2400mm



Battery system parameters	
Cell specifications	LFP 280Ah
Battery grouping method	264S1P
Battery Configuration Capacity	236.5kWh
Operating voltage range	713~950
Maximum DC current	140A
Charge/discharge multiplie	≤0.5C
Battery temperature contro mode	Industrial air conditioning
Fire protection system configuration	Gas fire, water fire (optional)
Variable flow system parameters	
AC side rated power	100kW
AC side maximum power	110kVA
AC side rated voltage	400Vac ~3
AC side operating voltage range	-15%~10%
Power Factor	>0.99%
Power factor adjustable rar	1 (ahead of) ~ 1 (behind)
Rated grid frequency	50Hz
Cooling method	Forced air cooling
Isolation method	None
Energy storage system parameters	
AC side initial discharge (B(	>200kWh@DOD95%
Operating temperature ran	-30~50C
Operating humidity range	0~95% Without condensation
Working altitude	2000m
Protection level	IP55
Equipment size(W×H×D)	1250×2450×1200mm
Equipment weight (without battery)	650kg
Equipment weight (includin battery)	2600kg



Data Center Project in Guiyang

Data Center Project in Guiyang

Unicom mobile base station project in Xinjiang

TCL Certificates

Energy Storage Certificates

CE in Europe

VDS in German

UL in US

ROSHS

Intertek

BS in UK

TUV in German

IEC Certificates

GOST in Russia

Data Center Project in airport

Power supply system on ship