



创新驱动新能源世界进步



Sunwoda Energy Technology Co.,Ltd

Residential, C&I and Utility BESS



Sunwoda

SUNWODA
ENERGY

Focus on new energy industry for **27** years



- **Production** : Global 14 Bases
 - 2022 80Gwh
 - 2023 246Gwh
 - 2025 500Gwh
- China **Top 5** LFP Cell Brand
- Global **Top 10** Power battery Player
- NO.1 global market share consumer batteries

Founded: 1997

Staff : 50,000+

Listed on Stock: 2011

Stock No: **300207**

 www.sunwoda.com

Company Revenue



2021

Revenues: **\$5.9 B**

Y-o-Y growth:

25.82 %

2011—2021

Revenues increase: **50 x**

CAGR:

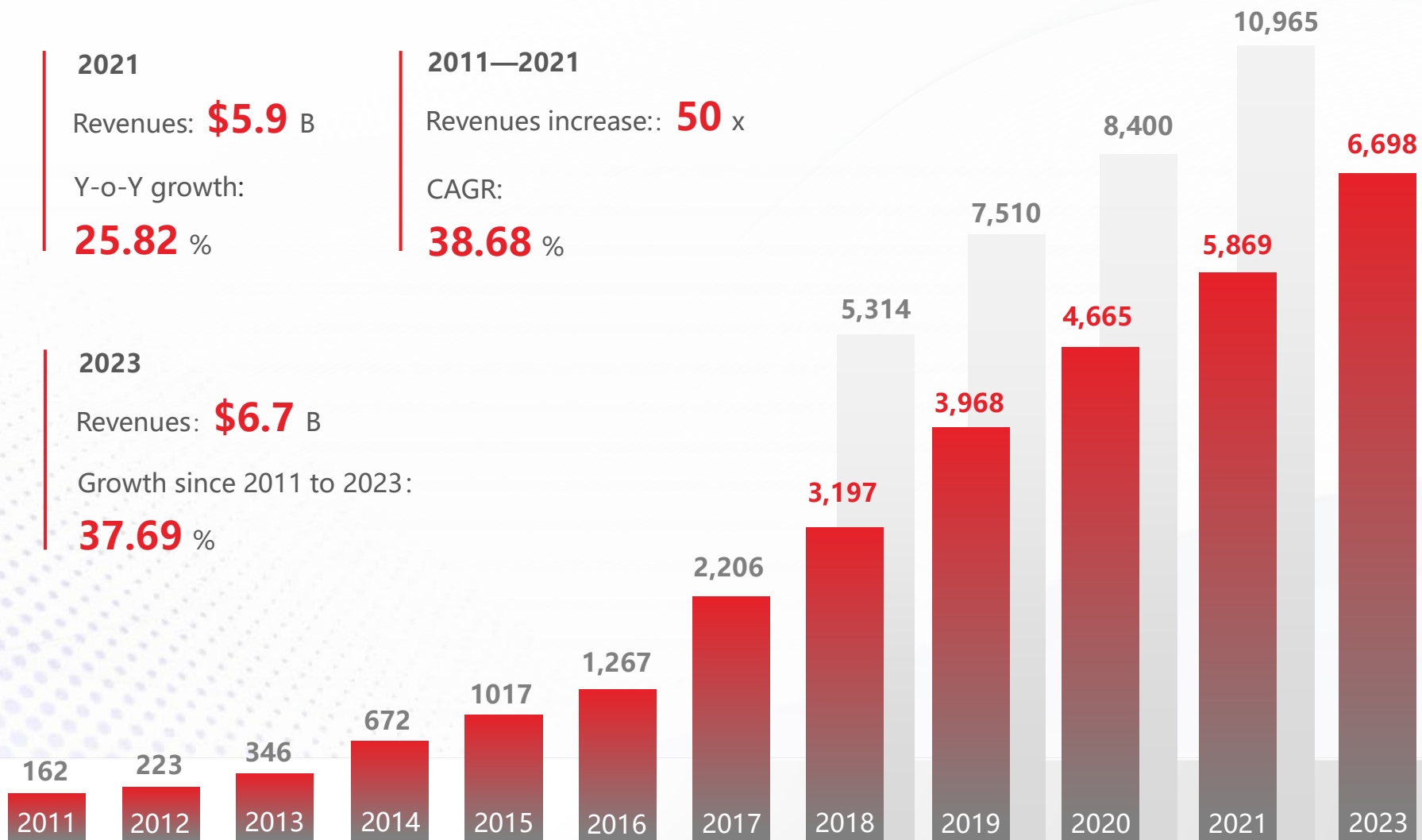
38.68 %

2023

Revenues: **\$6.7 B**

Growth since 2011 to 2023:

37.69 %



Revenues Outputs
The ordinate values set for revenue and output are different.

Unit: **\$ million**

14 Production Bases



Total Production Park area : 7.02 million square meters

3C 0.14billion pcs/Month, 2023 EV&Storage **210GWh**, ESS 2024 **20GWh**

11 in China and **3** overseas

Plan on having a production base in **Mexico**.



Baoan Industrial Center
3C Pack
190,000m²



Guangming Industrial Center
3C park
120,000 m²



Huizhou Industrial Center
3C Cell , EV
1.7 million m²



Jiangxi Industrial Center
EV&ESS
810,000 m²



Shandong Industrial Center
EV&ESS
840,000 m²



Zhenghao, Huizhou Industrial Center
ESSPack
100,000 m²



Bac Giang Industrial Center Vietnam
15,100 M²



Nanjing Power Industrial Center
EV&ESS
1 million m²



Zhejiang Industrial Center
3C Cell & Pack
400,000 m²



Sichuan Industrial Center
EV Cell & Pack
380,000 m²



Hubei Industrial Center
EV Cell & Pack
400,000m²



Zhejiang Industrial Center
EV Cell & Pack
1million m²



New Delhi Industrial Center
3C Cell & Pack
45,000 m²

Hungary
Industrial Center will go into operation in 2024

6 Business Sectors



Consumer battery



Energy storage system



Automatic and smart manufacturing



Electric vehicle battery



Smart hardware



Laboratory testing services

Continuous R&D investment



1.24 billion dollars

2014-2021 cumulative investment)



Global industry-leading
R&D investment

19.3%

100+ Ph.D.

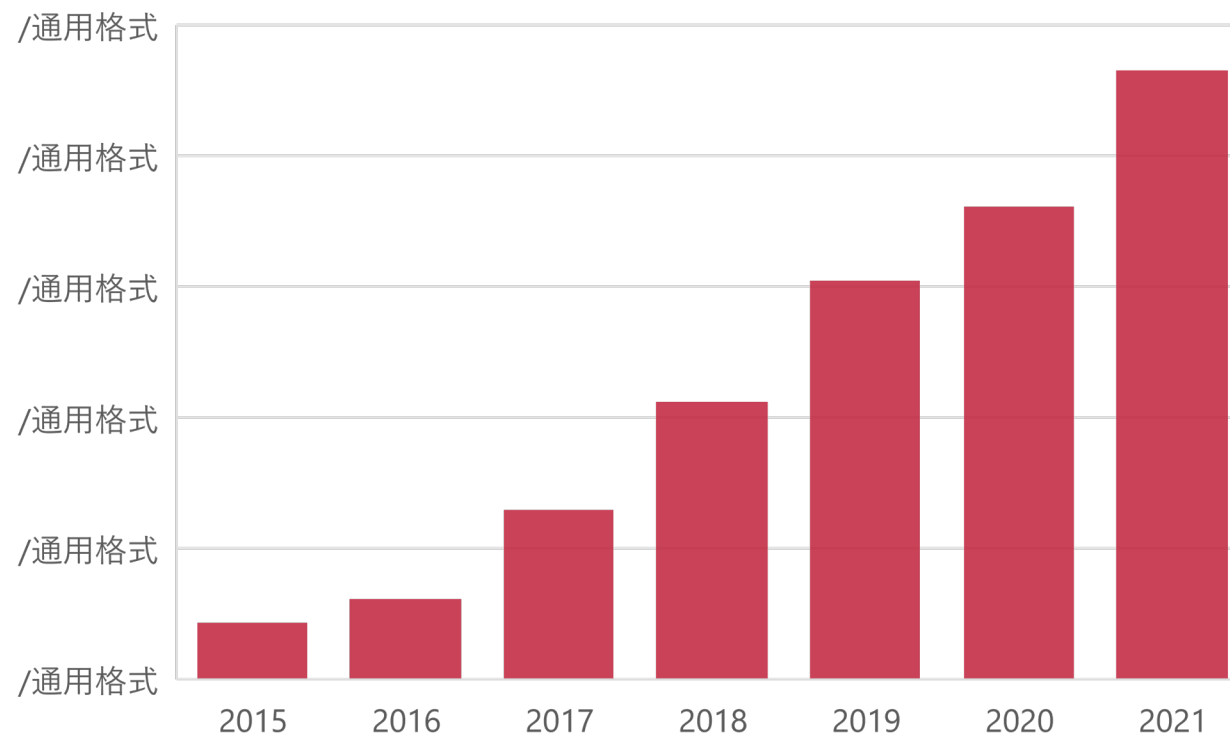


Technology R&D Investment in
2021

**3600 million
dollars**

Revenue accounted for 6.23%

R&D investment (100 million yuan)



Core Customers

Consumer Electronics/Smart Hardware



EV Battery



Energy Storage



Production Base Related to Sunwoda Energy



Up to 2024, total installation 11 GWh

2024 Annual production capacity **20** GWh

Shenzhen R&D and Operating



Installed Capacity

11 GWh

Huizhou: Industrial base (PACK+Integration)



5 Product Lines



Utility ESS

Power generation side
Grid side
User side

C&I ESS

Smart building
Smart community
Backup power

RESS

Residential PV Remote Island
PV + ESS + Charging station
Emergency backup power
Off-Grid Applications
Portable energy storage

IDC

Communication Base
Data Center

Integrated Energy

Zero Carbon Factory
Zero Carbon Building
Zero Carbon Transport
Digitization of Energy
Virtual Power Plant

IN THE PAST 27 YEARS

we have been everywhere in your daily life

SUNWODA
ENERGY

Energy storage system and solution

In 2016, the subsidiary Sunwoda Energy was founded, spanning residential, commercial, industrial, utility, network, and smart energy storage.

Electric vehicle battery

Since 2012, Sunwoda Group has focused on EV batteries.

Consumer battery

Since then, it has dominated the consumer battery market with one third of the market share.

Cellphone battery

Late 1990s, Sunwoda Group manufactured its first cellphone battery.



BESS Product Overview

Sunwoda Energy Storage Systems



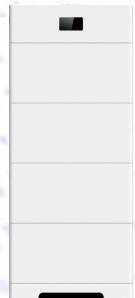
Atrix /Atrix basic Series



Mona Wall 5



SunESS Series



SunESS H



Portable



C&I solutions

1. Residential Energy Storage System

LV: Atrix/Atrix basic Series, Monawall 5, SUNESS

HV: SunESS-H

2. Portable Energy Storage System

DT Series: 800W/500Wh; 1500W/ 825Wh

3. C&I Solutions

C&I 60Kwh Battery cabinet

C&I 344Kwh Battery Cabinet & All on one 100/215Kwh

C&I Battery Rack



Residential Energy Storage System

Atrix Basic Series

Parameter items	Parameters			
Atrix basic Series Models	Atrix basic 5	Atrix basic 10	Atrix basic 15	Atrix basic 20
Nominal energy	5kWh	10kWh	15kWh	20kWh
Usable energy(90% DOD)	4.5kWh	9kWh	13.5kWh	18kWh
Number of parallel installations/system	1	2	3	4
Rated charge/discharge current	50A/50A	100A/100A	150A/150A	200A/200A
Maximum charge/discharge current	100A/100A	180A/180A	200A/200A	200A/200A
Communication	CAN 2.0/RS485			
Rated voltage	51.2V			
Cut-off charge/discharge voltage	44.8V~55.2V			
Dimensions (W/D/H, mm)	482*135*433/PACK			
Weight	<45kg	<90kg	<135kg	<180kg
Protection level	IP20			
Relative Humidity	10%~90%,			
Operating temperature	Charge:0°C~50°C;Discharge: 0°C~50°C.			
Altitude	<2000m			
Cycle life	10years			
Protection features	Charging overvoltage protection, discharge under-voltage protection, over current protection, over temperature protection ,short circuit protection, etc.			
Transportation Standards	UN38.3			
Certification	CE/IEC62619			

- ✓ **Easy To Install**
Lug Connection
Compact and light, 1 to 2 persons installation
- ✓ **Rack able**
Optimized for rack and build-in cabinet installation, easily extend 5kWh per module, scalable from 5kWh to 120kWh
- ✓ **Mobile APP(Optional)**
Real time monitoring
Remote maintenance and upgrade



Atrix Series



- ✓ **Easy To Install**
Plug and play, Compact and light, 1 to 2 persons installation
- ✓ **Rack able**
Optimized for rack and build-in cabinet installation, easily extend 5kWh per module, scalable from 5 to 120kWh
- ✓ **Excellent Low Temp Performance**
100 % DOD, Operate at -10°C without any limitation and attenuation
- ✓ **Mobile APP(Optional)**
Real time monitoring
Remote maintenance and upgrade

Parameter items	Parameters			
Atrix Series Models	Atrix 5	Atrix 10	Atrix 15	Atrix 20
Nominal energy	5kWh	10kWh	15kWh	20kWh
Number of parallel installations/system	1	2	3	4
Rated charge/discharge current	50A/50A	100A/100A	150A/150A	200A/200A
Maximum charge/discharge current	100A/100A	180A/180A	200A/200A	200A/200A
Communication	CAN 2.0/RS485			
Rated voltage	51.2V			
Cut-off charge/discharge voltage	44.8V~55.2V			
Dimensions (W/D/H, mm)	482*135*433/PACK			
Weight	<45kg	<90kg	<135kg	<180kg
Protection level	IP20			
Relative Humidity	10%~90%,			
Operating temperature	Charge: -10°C~50°C; Discharge: -10°C~50°C.			
Altitude	<2000m			
Cycle life	10years			
Protection features	Charging overvoltage protection, discharge under-voltage protection, over current protection, over temperature protection, short circuit protection, etc.			
Transportation Standards	UN38.3			
Certification	UL1973/IEC62619/UL9540/UL9540A/EMC/FCC			



MonaWall 5

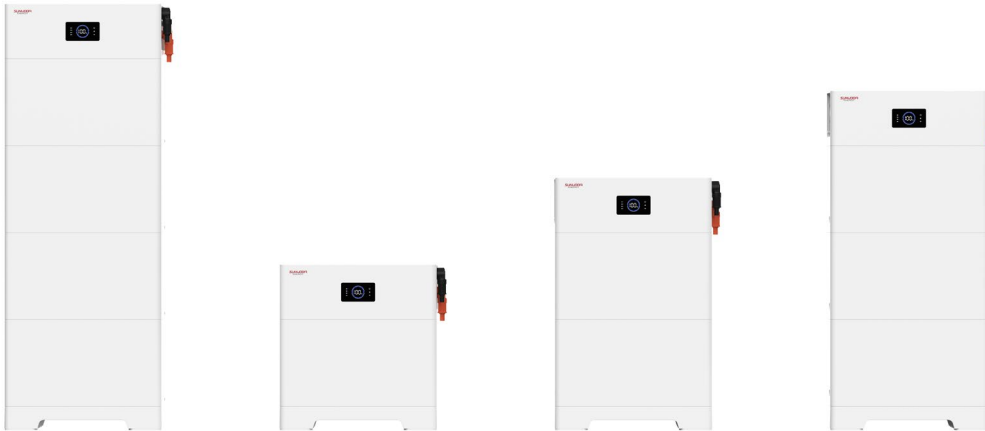
Under the premise of more clean power and reliable benefits, reduce weight and make installation faster and simpler.

Features:

- ✓ Optimized for wall-mounted installation.
- ✓ Plug and play, compact and Light, 2 persons installation.
- ✓ 100% DOD, operate at -10°C.
- ✓ Real time monitoring, remote maintenance and upgrades.

Model	Mona Wall 5
Nominal energy	5 kWh
Usable energy(100 % DOD)	5kWh
Number of parallel installations/system	Max 8 in parallel, maximum 40 kWh
Round trip efficiency	>98%
Rated charge/discharge current	50A/50A
Maximum charge/discharge current	100A/100A
Communication	CAN 2.0
Rated voltage	51.2V
Cut-off charge/discharge voltage	44.8V~55.2V
Dimensions (W/D/H, mm)	544*524*162
Weight	55kg
Installation location	Outdoor
Protection level	IP65
Relative Humidity	10%~90%, non-condensation
Storage temperature	-30°C to 60°C
Operating temperature	-10°C to 50°C
Altitude	<2000m
Cycle life	10years
Certification	IEC62619/CE/UN38.3
Cooling	Natural convection

SunESS - modern and compact design



✓ Easy To Install

without wire connection Compact and light, 1 to 2 persons installation

✓ Charge/Discharge Protection

Each module with independent charge/discharge protection function.

✓ Easy Maintenance

Charging current limiting function, flexible battery module replacement, easy maintenance.

✓ Stackable

Stackable module design, easily extend 5kWh per module, scalable from 5 to 60kWh

✓ Excellent Low Temp Performance

100 % DOD, Operate at -10°C without any limitation and attenuation

✓ Mobile APP

Real time monitoring Remote maintenance and upgrade

SunESS – modern and compact design

Electrical characteristics				
Model	SunESS-5	SunESS-10	SunESS-15	SunESS-20
Nominal energy	5kWh	10kWh	15kWh	20kWh
Usable energy (100%DOD)	5kWh	10kWh	15kWh	20kWh
Rated voltage	51.2V	51.2V	51.2V	51.2V
Charge/discharge cut off voltage	44.8V~55.2V			
Roundtrip efficiency	>98%			
Max. charge/discharge current	100A/100A	180A/180A	200A/200A	200A/200A
Enclosure rating	IP65			
Warranty	10 years			
Dimensions (W*H*D, mm)	573*(597/912/1227/1542)*189			
User interface	Display battery running status, SOC, alarm information, WIFI status, heater status, etc.			
Protection features	Charging overvoltage protection, discharge under-voltage protection, over current protection, over temperature protection ,short circuit protection, etc.			
Cooling	Natural cooling			
Safety Certificates	IEC62619/CE/CEI 0-21/UL1973/FCC/UL9540/ UL9540A/UN38.3			

SunESS-H



Electrical characteristics				
Model	SunESS 5H	SunESS 10H	SunESS 15H	SunESS 20H
Nominal energy	5kWh	10kWh	15kWh	20kWh
Rated voltage	400V			
Charge/discharge cut off voltage	350V~450V			
Rated charge/discharge power	2.5kW	5kW	7.5kW	10kW
Communication interface	CAN 2.0 / RS485/Wi-Fi/LAN			
DC disconnect	Circuit breaker, 50A, 1000V rating			
Connection method	Quick plug and unplug terminals			
User interface	Display battery running status, SOC, alarm information, WIFI status, heater status, etc.			
Protection features	Charging overvoltage protection, discharge under-voltage protection, over current protection, short circuit protection, high and low temperature protection, DC reverse polarity protection, etc.			
Scalability	Max. 3 in parallel, Max. 60 kWh			
Operating temperature	14°F to 122°F (-10°C to 50°C)			
Dimensions(W*H*D, mm)	653*(597/912/1227/1542)*189			
Weight	67kg	119kg	171kg	223kg
Enclosure rating	IP65			
Altitude	<4000m			
Warranty	10 years			
Safety	IEC62619/CE/UN38.3			

- ❖ Safe and long-life LiFePO4 (LFP) technology
- ❖ Versatile configuration (5–60kWh), mixed use of old and new, upgrade at any time
- ❖ High voltage (~400V) enabled by built-in DC-DC
- ❖ Supported by market-leading PV-hybrid or battery-only inverter.
- ❖ Optimized for both grid-tied and off grid application

Max.12 Year's Warranty



- ❖ **ALL-IN-ONE**
- ❖ Modular, Compact and Simple
- ❖ Easy Installation(30 Minutes Max)
- ❖ Flexible Battery Expansion (5kWh-40kWh)
- ❖ **Safe and reliable**
 - Short circuit protection
 - Optional Arc-fault prevention (AFCI)
 - Optional rapid shut-down (RSD)
- ❖ **Withstand 150% inrush current over 10 seconds**
- ❖ **Support 150% oversized PV power**
- ❖ **Support 100% 3 phase Unbalanced load**
- ❖ **Ultra-fast switching (10ms) from On-grid to Off-grid state**
- ❖ **12 years' warranty**
- ❖ **Support diesel generator+ heat Pump (optional)**

SunESS Power Parameters-All in One

PV Input Parameters	SW5KH3UT	SW6KH3UT	SW8KH3UT	SW10KH3UT	SW12KH3UT	SW15KH3UT
Maximum input power (W)	8000	9000	12000	15000	22500	22500
Maximum input voltage (V)	1000					
MPPT voltage range (V)	180~850					
Start-up voltage (V)	180V					
Battery Input Parameters						
Support battery capacity (kwh)	10~40	10~40	15~40	20~40	30~40	30~40
Rated battery voltage (V)	400					
Battery voltage range (V)	350~430					
Maximum continuous charging/discharging current (A)	23			46		
Maximum charging/discharge power (W)	5000	6000	8000	10000	12000	15000
Output parameters(On-grid)						
Rated output power (W)	5000	6000	8000	10000	12000	15000
Rated output voltage (V)	220/380 & 230/400 3W/N/PE					
Rated output frequency (Hz)	50/60					
Maximum output current (A)	8.4	10	13.4	16.7	20	25
(Off grid)Maximum output current (A)	7.6	10	13.4	16.7	20	25
Power factor	0.8 leading to 0.8 lagging					
THDi	3%					
Efficiency						
Maximum efficiency	98.00%	98.00%	98.00%	98.20%	98.20%	98.20%
Battery side ⇄ AC side maximum efficiency	97.20%	97.20%	97.20%	97.50%	97.50%	97.50%
Euro. Efficiency	97%	97%	97%	97.50%	97.50%	97.50%
Basic parameters						
Operating temperature range (°C)	-30~+60 (>45°C /derating)					
Relative humidity	0~100%					
Maximum operating altitude (m)	<4000 (above 3000m derating)					
Cooling method	Air Cooling (≤47dB)					
Display	LED&APP					
BMS communication method	RS485;CAN					
Monitoring method	4G/WIFI					
Topology	Transformer less					
Degree of protection	IP65					
Protection	Input DC switch, Insulation Resistance Detection, Residual current monitoring, Input reverse polarity protection, Anti-Islanding Protection, Over current protection, AC short circuit protection, AC Over voltage protection, AFCI(Arc Fault Circuit Interrupter) Protection(Optional), Dry contact remote scheduling, DC Surge Protection(Type II), AC surge protection(Type II)					

C&I Oasis Flex 60KWh Battery



Easy to install and deploy with large space utilization



Unique modular design & flexible function configuration



Real time monitoring , remote maintenance and upgrades



Strong scalability, simple & convenient expansion on DC sides

System Model	CIESS25-R-S	CIESS30-R-S	CIESS35-R-S	CIESS40-R-S	CIESS45-R-S	CIESS50-R-S	CIESS55-R-S	CIESS60-R-S
Number of battery packs	5	6	7	8	9	10	11	12
Rated voltage	256V	307.2V	358.4V	409.6V	460.8V	512V	563.2V	614.4V
Voltage range	224~284V	268.8~340.8V	313.6~397.6V	358.4~454.4V	403.2~511.2V	448~568V	492.8~624.8V	537.6~681.6V
Rated energy	25kWh	30kWh	35kWh	40kWh	45kWh	50kWh	55kWh	60kWh
Usable energy (90%DOD)	22.5kWh	27kWh	31.5kWh	36kWh	40.5kWh	45kWh	49.5kWh	54kWh
Max.charging/ discharging current	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A
Weight	248kg	294kg	340kg	386kg	432kg	478kg	524kg	570kg
Dimension (W*D*H, mm)	440*410*1026	440*410*1197	1080*410*684	1080*410*855	1080*410*855	1080*410*1026	1080*410*1026	1080*410*1197
Cycle life	6000times (25°C, 0.5C/0.5C, 90%DOD, EOL70%)							
Communication	CAN/RS485/WIFI/ETH							
Expansion	Support in parallel up to 3 clusters							
Enclosure protection rating	IP20							
Cooling	Natural cooling							
Ambient temperature	Charge: 0-50°C Discharge: -20-55°C							
Humidity	10%~95%RH							
Altitude	< 2000m							
Short circuit protection	Yes							
Over current protection	Yes							
Over charge protection	Yes							
Over voltage protection	Yes							
Over discharge protection	Yes							
Under voltage protection	Yes							
Over temperature protection	Yes							
Certifications	UN38.3/CE/IEC62619							
Module Parameter								
Module Model	B051100S02							
Module Rated voltage	51.2V							
Module Energy	5kWh							
Module Dimension (W*D*H)	443*410*135mm							
Module Weight	45kg							
Warranty	5 years*							
* DC Usable Energy, Test conditions: 100% DOD, 0.2C charge & discharge at 25°C.								
* Charge/discharge derating occurs when the operating temperature from -10°C to 5°C.								

C&I Oasis Rack 60KWh Battery Rack



System Model	CIESS25-R	CIESS30-R	CIESS35-R	CIESS40-R	CIESS45-R	CIESS50-R	CIESS55-R	CIESS60-R
Number of battery packs	5	6	7	8	9	10	11	12
Rated voltage	256V	307.2V	358.4V	409.6V	460.8V	512V	563.2V	614.4V
Voltage range	224~284V	268.8~340.8V	313.6~397.6V	358.4~454.4V	403.2~511.2V	448~568V	492.8~624.8V	537.6~681.6V
Rated energy	25kWh	30kWh	35kWh	40kWh	45kWh	50kWh	55kWh	60kWh
Usable energy (90%DOD)	22.5kWh	27kWh	31.5kWh	36kWh	40.5kWh	45kWh	49.5kWh	54kWh
Max. charging/ discharging current	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A	100A/100A
Weight	311kg	356kg	401kg	446kg	515kg	560kg	605kg	650kg
Dimension (W*D*H)	605*588*1470mm				605*588*2070mm			
Cycle life	6000times (25°C, 0.5C/0.5C, 90%DOD, EOL70%)							
Communication	CAN/RS485/WIFI/ETH							
Expansion	Support in parallel up to 3 clusters							
Enclosure protection rating	IP20							
Cooling	Natural cooling							
Ambient temperature	Charge: 0-50°C							
	Discharge: -20-55°C							
Humidity	10%~95%RH							
Altitude	< 2000m							
Short circuit protection	Yes							
Over current protection	Yes							
Over charge protection	Yes							
Over discharge protection	Yes							
Over voltage protection	Yes							
Under voltage protection	Yes							
Over temperature protection	Yes							
Certifications	UN38.3/CE/IEC62619							
Module Parameter								
Module Model	B051100S02							
Module Rated voltage	51.2V							
Module Energy	5kWh							
Module Dimension (W*D*H)	443*410*135mm							
Module Weight	45kg							
Warranty	5 years*							
* DC Usable Energy, Test conditions: 100% DOD, 0.2C charge & discharge at 25°C.								
* Charge/discharge derating occurs when the operating temperature from -10°C to 5°C.								

-  Easy to install and deploy with large space utilization
-  Unique modular design & flexible function configuration
-  Real time monitoring , remote maintenance and upgrades
-  Strong scalability, simple & convenient expansion on DC sides

C&I Oasis 60 - 60KWh Battery Cabinet







Model Type	CIESS 60
System Parameters	
Battery number	12pcs
Rated voltage	614.4V
Voltage range	537.6~691.2V
Max. charge current	100A
Max. discharge current	100A
Rated energy	60kWh
Weight	880kg
Dimensions	715*750*2140mm (L * W * H)
Expansion	Supports up to 3 battery cabinets in parallel
Protection level	IP55
Temperature control method	air-conditioning
Charging ambient temperature	0~50°C
Discharging ambient temperature	-20~55°C
Recommended storage temperature	20~30°C
Working humidity	10%~95%RH (without condensation)
Communication	CAN/RS485/Wifi
Warranty	5 years*
Max. working altitude	2000m
Cycle life	6000times (25°C, 0.5C/0.5C, 90%DOD)
Basic protection functions	Charge overvoltage, discharge under voltage, overcurrent, over temperature, short circuit protection, etc.
Accreditation	IEC62619/CE/UN38.3
* DC Usable Energy, Test conditions: 100% DOD, 0.2C charge & discharge at 25°C.	
* Charge/discharge derating occurs when the operating temperature from -10°C to 5°C.	

-  Plug-and-Play Installation (Pre-Wired), Convenient Expansion from 60kWh to 180kWh; IP55 Rated.
-  An All-in-One Outdoor Battery with Air Cooling for Ultimate Convenience.
-  Equipped with Fire Suppression System, Heat and Smoke Sensors, and Emergency Button for Enhanced Safety and Protection.
-  Compatibility with Solis, Deye, and Solinteg inverters offers unparalleled flexibility, empowering you to tailor your energy solution.

C&I Oasis L215 Battery Cabinet



-  Support maximum continuous 1 C charge / discharge rate.
-  Ultimate safety, five levels of safety design, with combustible gas venting and explosion relief design
-  Innovative liquid cooling technology, extending battery lifespan by over 20%.
-  Modular design, support capacity expansion, flexible installation

Single Cluster Solution	
Model Type	NoahX-L215
Rated energy	215kWh
No.of modules	5
Rated voltage	768V
Voltage range	672-864V
Rated C-rate	0.5CP
Max. C-rate	1CP
Working temperature	-30°C~55°C
Storage temperature	-40°C~60°C
Working relative humidity	0~100% (no condensation)
Altitude	2000m
Cooling method	Liquid cooling (water and glycol mix)
Fire suppression system	Pack level clean gas agent fire suppression+combustible gas detection and ventilation linkage+deflagration relief panel
Auxiliary power supply	220VAC/50HZ; 110VAC/60HZ
Communication interface	CAN/RS485/Ethernet
Enclosure protection rating	IP55
Dimensions(W*D*H)	1570mm*1350mm*2380mm
Weight	2385kg
Accreditation	UN38.3/IEC62619/IEC 61000-6-2/IEC61000-6-4/GB36276

C&I Oasis L344



Easily configurable and scalable



Less LCOS within life span



Long service life



Smart management



High system safety



Shorter deployment time



High energy density





Single Cluster Solution

Model Type	NoahX-L344
Rated energy	344kWh
No. of modules	8
Rated voltage	1228.8V
Voltage range	1075.2V~1382.4V
Rated C-rate	0.5CP
Max. C-rate	1CP
Working temperature	-30°C~55°C
Storage temperature	-40°C~60°C
Working relative humidity	0~100% (no condensation)
Altitude	2000m
Cooling method	Liquid cooling (water and glycol mix)
Fire suppression system	Pack level clean gas agent fire suppression+combustible gas detection and ventilation linkage+deflagration relief panel
Auxiliary power supply	220VAC/50HZ; 110VAC/60HZ
Communication interface	CAN/RS485/Ethernet
Enclosure protection rating	IP55
Dimensions(W*D*H)	1570mm*1350mm*2380mm
Weight	3330kg
Accreditation	UN38.3/IEC62619/IEC 61000-6-2/IEC61000-6-4/GB36276

C&I System Oasis Power



Inverter cabinet parameters								
Product Model	OSP-100K-A	OSP-100K-B	OSP-100K-H	OSP-200K-A	OSP-200K-B	OSP-200K-H	OSP-300K-A	OSP-400K-A
Batteries								
Operating voltage range	650~950V							
Full load voltage range	680~950V							
Battery branch	1		2		1		3	4
Photovoltaic input								
Max. photovoltaic power	/	100kW		/	200kW		/	
Operating voltage range	/	180~650V		/	180~650V		/	
Max. current per MPPT	/	100A		/	100A		/	
AC (grid-connected)								
Max. power (kVA)	110		220		330		440	
Normal power (kW)	100		200		300		400	
Normal voltage (V)	230/400		230/400		230/400		230/400	
Max. current (A)	167		167*2		167*3		167*4	
Nominal frequency	50/60Hz							
Nominal frequency range	45-55/55-65Hz							
THDI	≤3%							
Power Factor	1 (Leading)~1 (Laging)							
AC mode	3W+N+PE							
AC (off-grid)								
Maximum Power	/	110kVA		/	220kVA		/	
Normal Power	/	100kW		/	200kW		/	
Normal Voltage	/	230/400V		/	230/400V		/	
Nominal Current	/	167A		/	167*2A		/	
Nominal Frequency	/	50/60Hz		/	50/60Hz		/	
THDU	/	< 3% (Linearload)		/	< 3% (Linear load)		/	
Power Factor	/	1 (Leading)~1 (Laging)		/	1 (Leading)~1 (Laging)		/	
Overload Capacity	/	110% Long-time		/	110% Long-time		/	
System Parameter								
On/Off Grid Switching Time	/	≤20ms		/	≤20ms		/	
EMS	Integrated							
Operating Temperature Range	-25~+55°C(45°C start to derate)							
Operating Humidity Range	5~95%RH, non-condensing							
Max. Operating Altitude	2000m							
Cooling Mode	Intelligent Air-Cooling							
Protection Level	IP55							
Weight	535kg	785kg	890kg	585kg	835kg	980kg	850kg	900kg
Dimensions (W * D * H)mm	750*1200*2060	1200*1200*2380		750*1200*2060		1200*1200*2380		
Accreditation	EN50549-1/EN 62477-1/EN 61000-6-2/EN 61000-6-4/GBT 34120-2017							

-  Modularized design, support optional PV module; flexible capacity expansion, convenient operation and maintenance.
-  Adjustable output power, charge and discharge power can be set, strong grid adaptability.
-  Smooth switching between off-grid and on-grid, uninterrupted power supply to the load.
-  Integrated EMS function, support various EMS energy management strategies, can participate in the power market auxiliary services.

Compatibility List of Inverter Brands LV Residential

LV Residential Energy Storage Solution



Inverter brand	Inverter model	SUNWODA ENERGY BATTERY SERIES			
		SunESS-5/10/15/20	Atrix-5/10/15/20	MonaWall 5	Atrix basic
SMA	SI 4.4-M SI 6.0-H SI 8.0-H	✓	✓	✓	✓
Solis	RHI-(3-6)K-48ES-5G RHI-(3-5)K-48ES S6-EH1P(3-6)K-L	✓	✓	✓	✓
	S5-EH1P(3-6)K-L	✓(CEI 0-21 listing)	✓(CEI 0-21 listing)	✓	✓
Deye	SUN-3.6/5/6/7.6/8K-SG01LP1-EU SUN-3.6/5/6K-SG03LP1-EU SUN-5/6/8/10/12K-SG04LP3-EU SUN-12/14/16K-SG01LP1-EU	✓	✓	✓	✓
	GW3648D/5048D-ES	✓	✓		
	EM:GW304B/504B-EM LV	✓	✓		
	S-BP:GW3600S/5000S-BP	✓	✓		
Luxpower	LXP-LB-US 12K	✓(UL9540 listing)	✓		
	LXP3/3.6/4.6/6K, 1phase	✓(CEI 0-21 listing)	✓(CEI 0-21 listing)	✓(CEI 0-21 listing)	
	SNA3000/4000/5000/6000	✓	✓		
Megarevo	R3K/3K6/4K/4K6/5K/6KLL	✓	✓		
	RSK/6K/7K6/8K/10KLN	✓(UL9540 listing)	✓		
Sacolar	M5000H-48BP,MHP series MHP 3000 series MLP series,SP series		✓		
	Solark	Sol-Ark-5k-P/Sol-Ark-8k-P/Sol-Ark-12k-P	✓(UL9540 listing)	✓	
Solplanet	ASW3000/3680/4000/5000/6000H-S2	✓	✓		
Senergy	SE 3K6HB-60 SE 4K6/5K/6KHB-120 SE 8/10KHB-T/EU SE 5K/6K/8K/10KHB-UL	✓	✓		
	Afore	AF1/1.5/2/2.5/3/3.6K-SL-1 AF3/3.6/4.6/5/5.5/6K-SL	✓	✓	✓
	Hoymile	HYS-LV Series HAS-LV Series	✓	✓	✓
	Invt	XD3K6/4K/4K6/5K/6KTL	✓	✓	✓
SAJ	H1-(3-6)K-S2 H1-(3-6)K-S2-15		✓		
GREENHEISS	GH-IH 3/4/5/6 2M STYLE GH-IH 3/4/5/6 2M-15 STYLE		✓		✓
	Voltronic	Axpert VM III/ 4 Series Axpert MKS III/4 Series Axpert MAX/ II Series InfiniSolar VIII/4 Series	✓	✓	✓

Compatibility List of Inverter Brands HV Residential

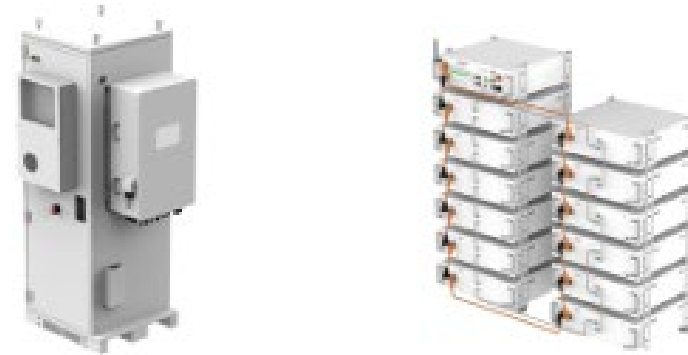
HV Residential Energy Storage Solution



Inverter brand	Inverter model	SUNWODA ENERGY BATTERY SERIES	
		SunESS-5/10/15/20H	
 Sinexcel	Isuna 5000-20000T Isuna 5000-20000T Isuna D5000-12K-SH		✓
 Deye	SUN-5/6/8/10/12/15/20K/25K-SG01HP3-EU-AM2 SUN-30K-SG01HP3-US-BM SUN-29.9/30/35/40/50K-SG01HP3-EU-BM SUN-60K-SG01HP3-US-BM		✓
 SOLINTEG	MHS-3~8K-30 MHT-4~12K-25 MHT-10~20K-40		✓
 YINERGY	HI-3P(5-12)K-H		✓
 SUNWODA ENERGY	SW5KH3UT SW8KH3UT SW12KH3UT SW6KH3UT SW10KH3UT SW15KH3UT		✓
 hoy miles	HYT-(5.0-12.0)HV-EUG1 HYT-(5.0-12.0)HV-AUG1 HAT-(5.0-10.0)HV-EUG1		✓
 solis	S6-EH3P(5-10)K-H-EU S6-EH3P(12-20)K-H		✓(CEI 0-21 listing) ✓

* The communication protocols of SunESS-H Series /SunESS-H2 Series are the same.

Compatibility List of Inverter Brands C&I



C&I Energy Storage Solution

Inverter brand	Inverter model	SUNWODA ENERGY BATTERY SERIES	
		CIESS Series	CIESS-R/CIESS-R-S Series
Deye 	SUN-5/6/8/10/12/15/20K/25K-SG01HP3-EU-AM2 SUN-29.9/30/35/40/50K-SG01HP3-EU-BM	✓	✓
SOLINTEG 	MHT-10K/12K/15K/20K-40 MHT-25K/30K/36K/40K/50K-100	✓	✓
Solis 	S6-EH3P(29,9-50)K-H	✓	✓
Afore 	AF(3K-30K)TH	✓	✓

* The communication protocols of CIESS Series /CIESS-R/CIESS-R-S Series are the same.

Sunwoda Energy Technology Co., Ltd

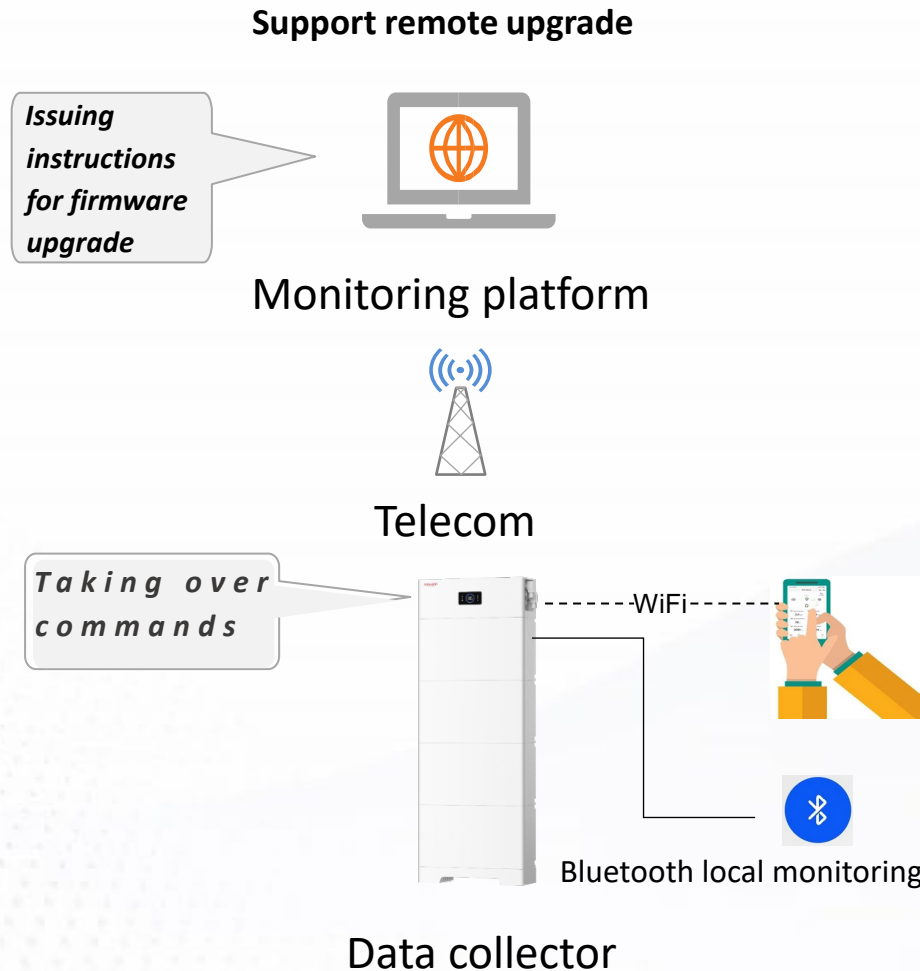
Remote monitoring



Real-time data monitoring



Remote firmware upgrade



Fast Firmware Upgrade

- Remotely complete software upgrades in 05-15 minutes
- Supports single/multiple cluster parallel upgrades

Save time, save money

- Eliminates the need for O&M engineers to be on-site for inspections and operations

WiFi

- Real-time monitoring anytime, anywhere through APP

Application Case: RESS



Greece
10kW/40kWh
residential



Vietnam
5KW/15Kwh



South Africa
5kW/10kWh
Residential



12KW/20Kwh

Germany
15 kWh
Residential energy
storage project



Bulgaria
15kW/15kWh
Residential Energy
Storage Project



Italy
10 kWh
Residential ESS



Vietnam
25Kwh ESS



Czech Republic
10kW/10kWh
Residential ESS

Application Case: RESS



Applications: C&I ESS



North Africa Gibb
1.14MWh project

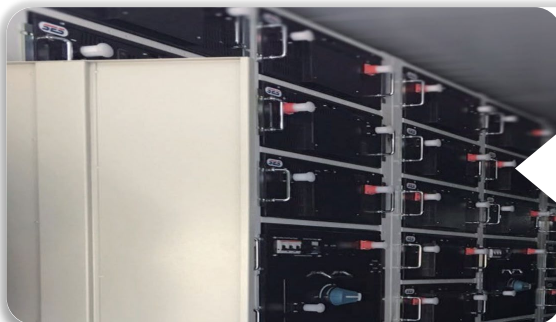


Long Island
Substation
500 kW/500 kWh
Energy Storage
Battery Project

Hong Kong CLP
300kW/250kWh
energy storage system
project



Antarctic
Research Station
100 kW/160 kWh
Micro grid Project



Africa
410 kW/2 MWh
Photovoltaic Micro
grid Project

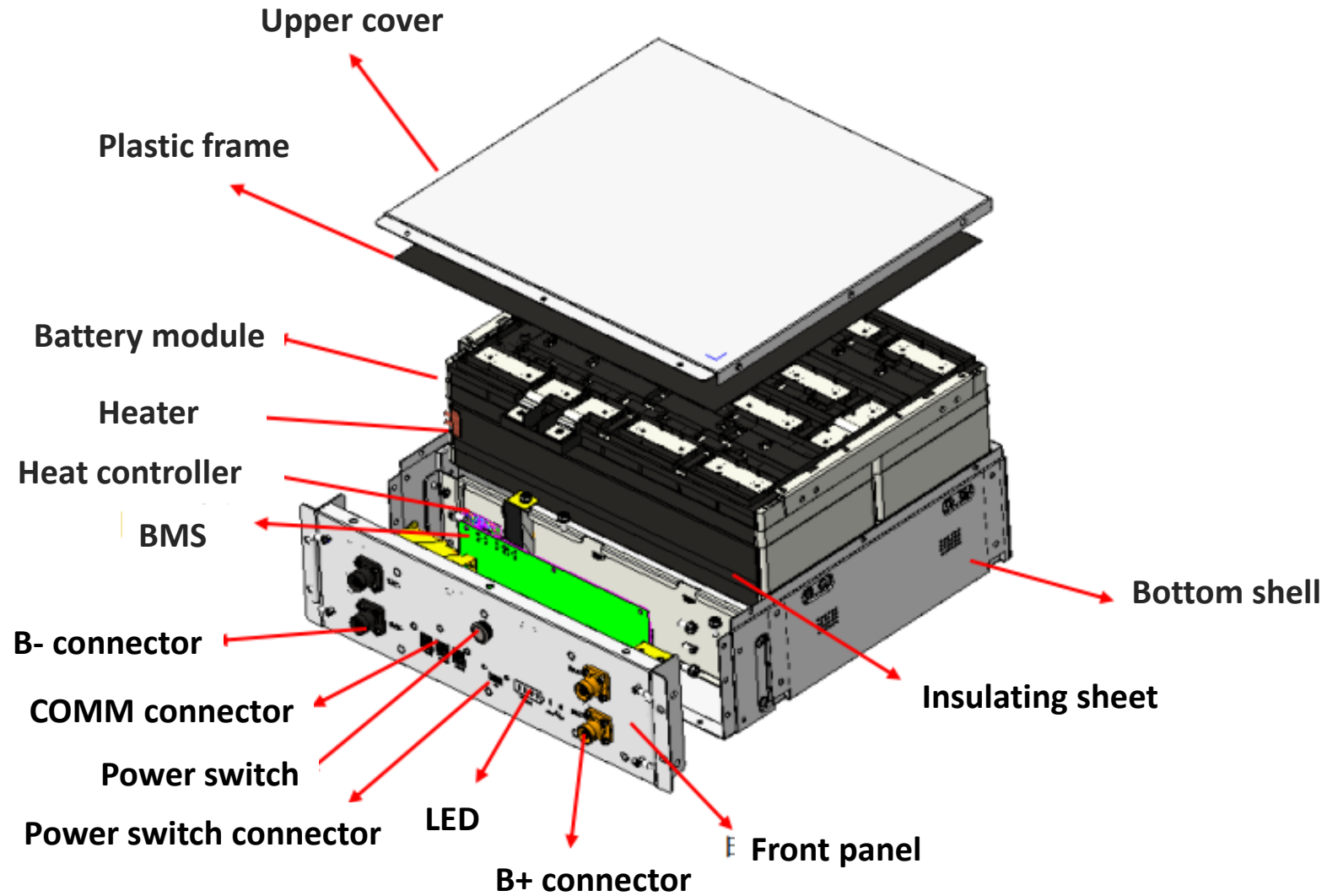


Africa
5 kW/35 kWh Wind
and Wind Diesel
Storage Micro grid
Project

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are framed by a blue sky with scattered white clouds. The perspective creates a sense of height and architectural grandeur. The text is centered over the image in a bold, white, sans-serif font.

**To build a better future
for sustainable development**

Explode picture



The whole frame---Using mold bending technology, the overall appearance is tougher

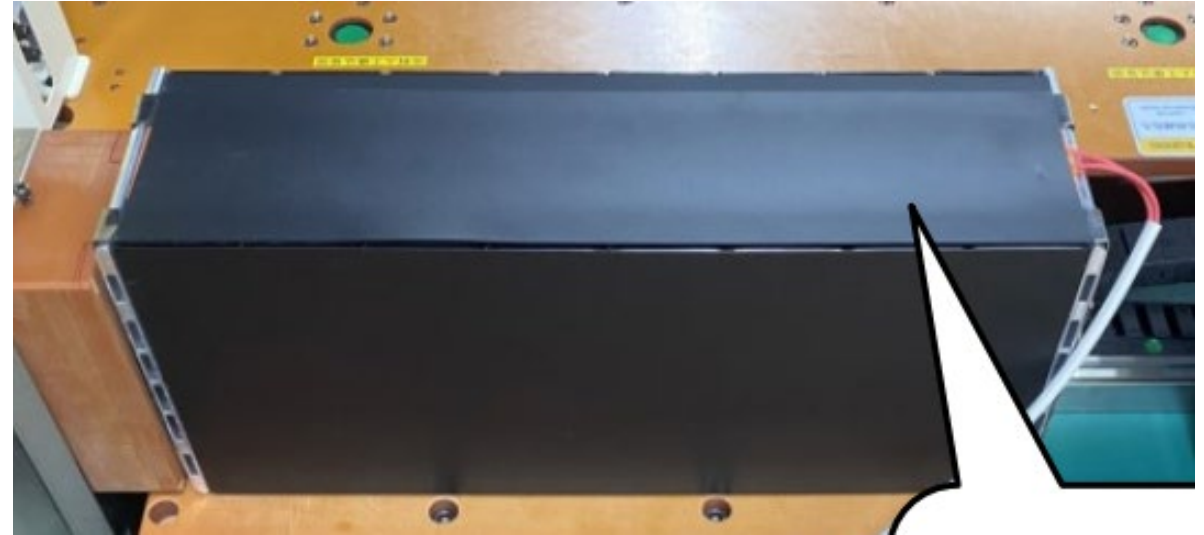
SUNWODA
ENERGY



Insulation protection

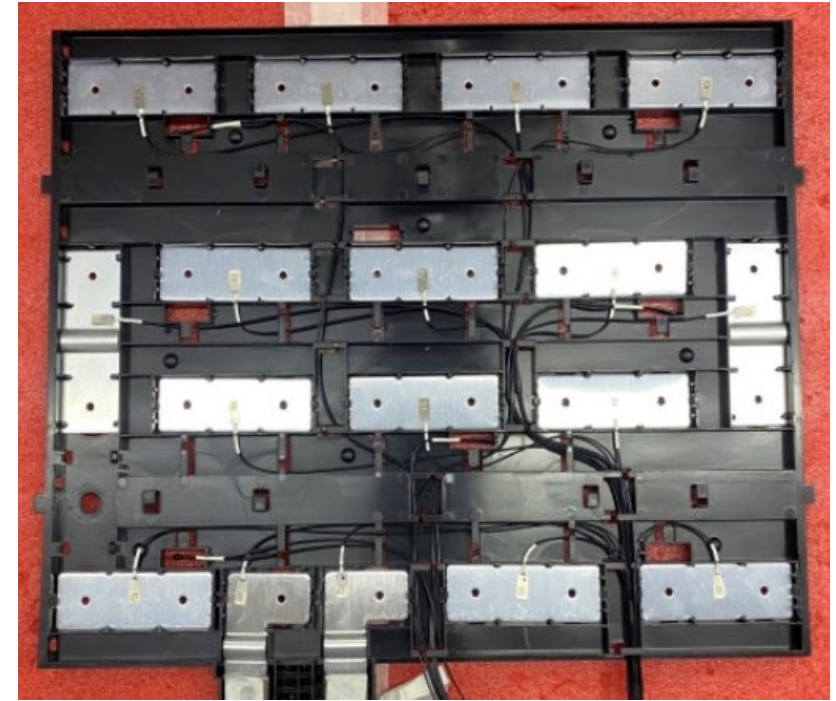


After opening the battery box cover, you can see a black bracket insulation film, which plays the role of insulation and protection. Products are safer and more reliable



The entire battery pack is wrapped with insulating film, which is safe and reliable

Partition design between battery cells and voltage collection cables

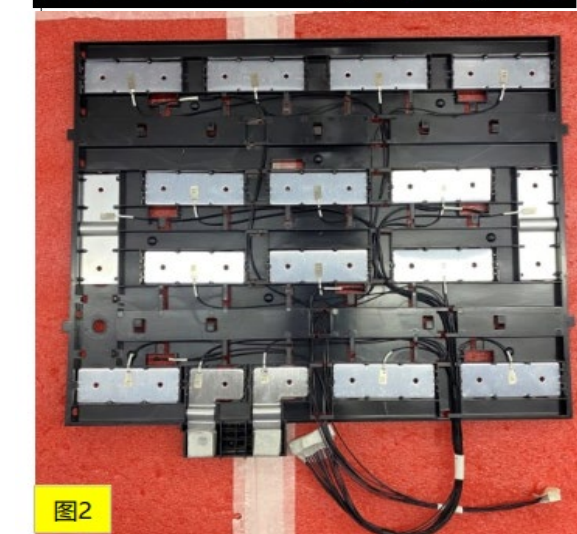
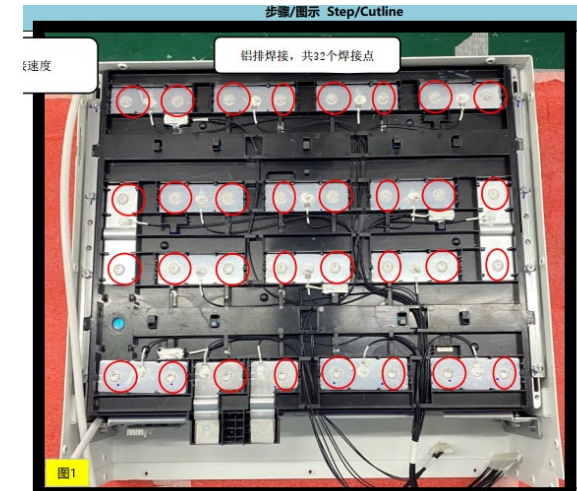


The sampling insulation bracket separates the battery cell from the voltage collection cable, eliminating the risk of short circuits between the collection cable and the battery cell collection cable, and improving safety

The power connection between the battery cells adopts aluminum laser welding to ensure reliable connection



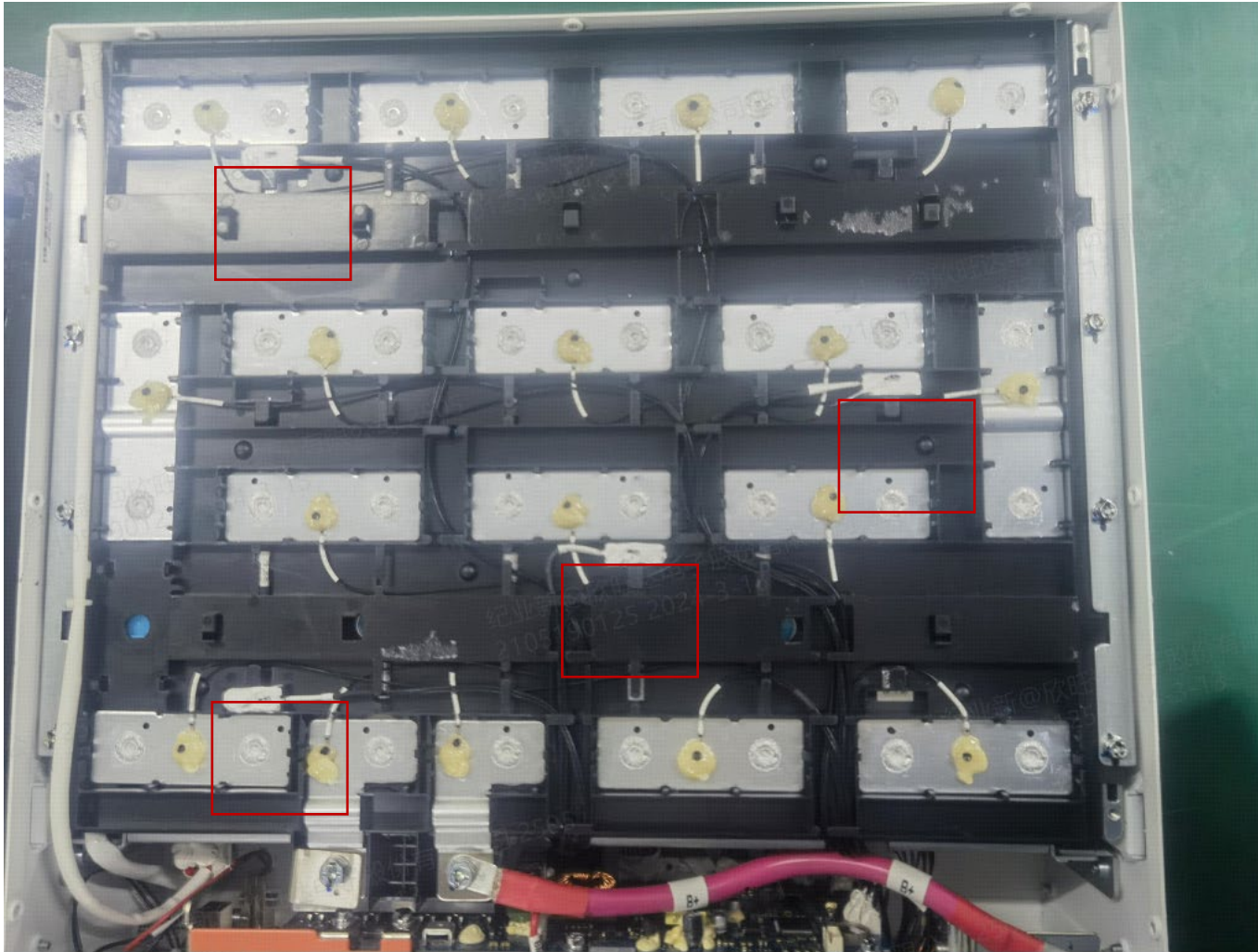
Fixing glue



Voltage collection uses nickel sheets 9 Point laser welding, fixed with fixing glue, reliable connection



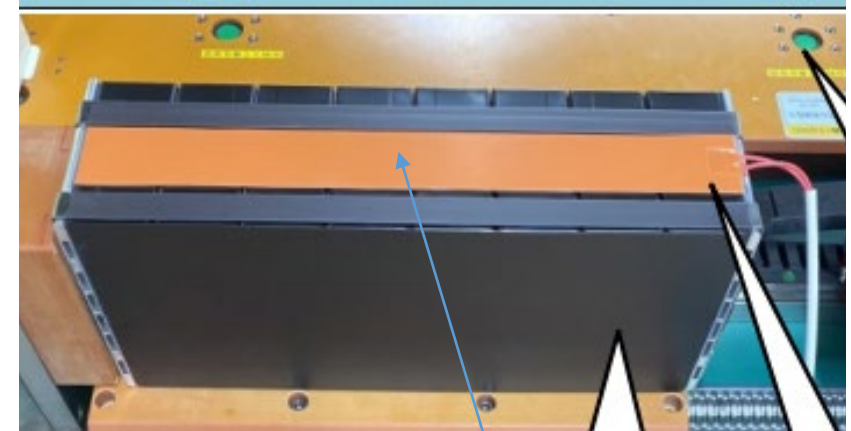
4-way temperature sampling



Use 4 Circuit temperature sampling, real-time monitoring of battery cell temperature to ensure the safety of battery cells during charging and discharging

The battery is equipped with a heating film that can be charged at low temperatures, achieving a wide temperature range of -10 °C to 50 °C for charging

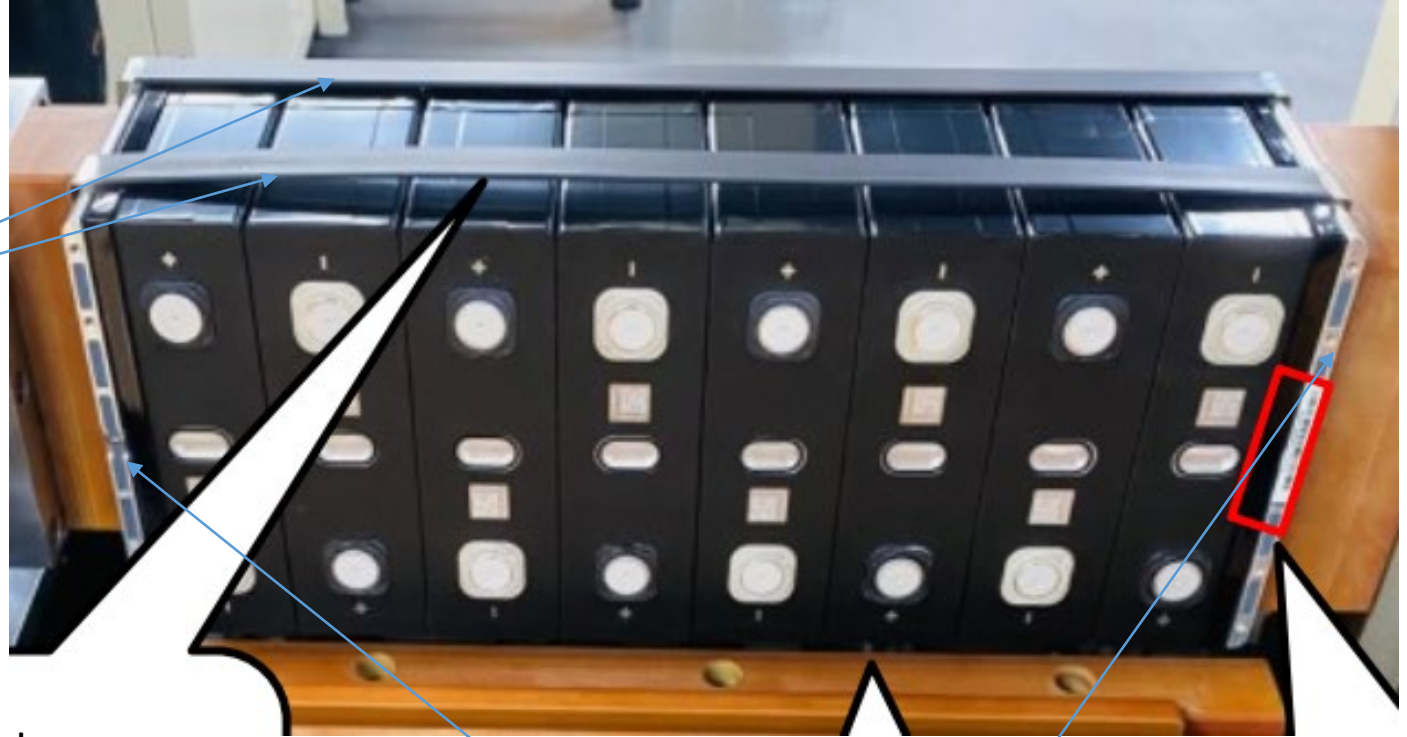
SUNWODA
ENERGY



One heating film on
each side

Anti-expansion design for charge and discharge cycles

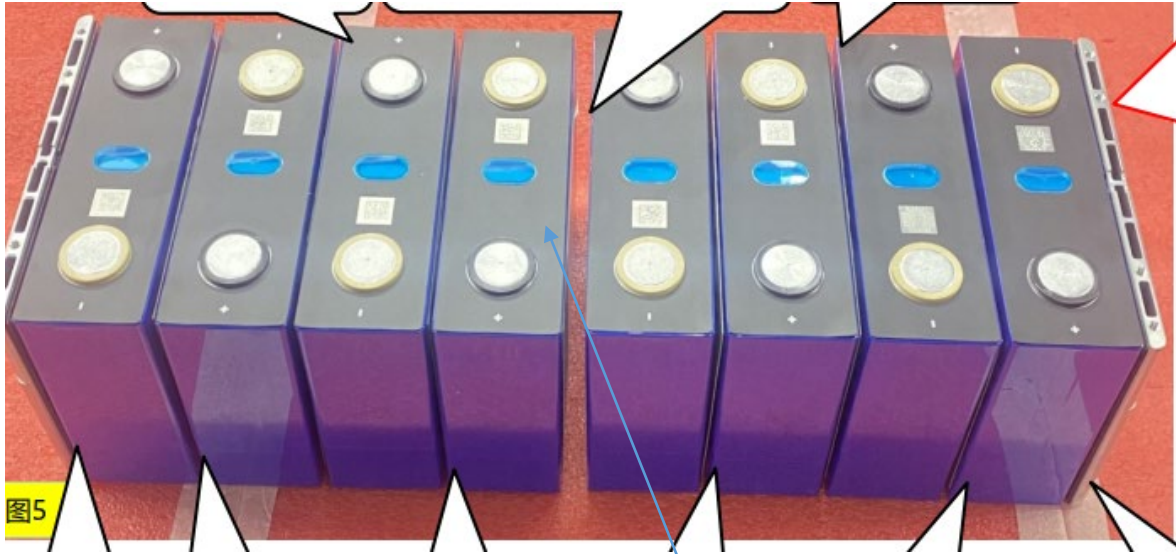
Steel strip



The two ends of the battery pack are made of aluminum plates and tightened with steel strips to prevent irreversible expansion of the battery cells due to overheating during charging and discharging cycles, which affects the battery cell's lifespan and reduces its capacity

aluminum plate

Thermal insulation design between cells



Mica sheets have been added between both cells for thermal insulation to prevent heat from spreading between the cells, which results in better heat dissipation and can effectively slow down the life degradation of the cells. In addition, when the battery cell is in abnormal condition, it can effectively organize the thermal runaway between the battery cells to prevent the abnormality from further spreading.

