



Creating Undertaking & Sharing



Ningbo Hicoreenergy Co.,Ltd
BATTERY EXPERT-GREEN ENERGY PROVIDER

LI-ION BATTERY FOR ENERGY STORAGE





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As a leading lithium battery solution provider, Hicoreenergy boasts an exceptional core team with 20 years of deep involvement in the industry. Specializing in the research, development, production and sales, distinguished by outstanding quality and professional expertise, Hicoreenergy is committed to offering top-tier energy storage solutions globally.

Grasping the general trend of globalization, Hicoreenergy not only possesses multiple production bases in China, but also runs branches, offices and factories in North America, Europe, Vietnam and other sites to achieve multi-regional coverage of the service network, with faster delivery and quicker response.

"Making Life Better" drives our mission as we adhere to the service philosophy of creating win-win situations with partners. Providing safe and reliable green energy solutions for households and communities, we pave the way for a more carbon-free future.



\$810M

Total Asset

20 Years

Industry experience



1000+

Employee

4Gwh

Annual capacity



Global Marketing & Service

North America

USA office & Warehouse
(Los Angeles)



Europe
EU office
(The Netherlands)



USA warehouse
(Dallas)



Panama Warehouse

EU office
in France



EU office in Germany

Factory in Hungary



Shandong New
Energy Technology



Shandong
Electronics

China



Headquartered in Ningbo
Factory in Shanghai

Vietnam



Factory in Ho Chi Minh City



SGS, TÜV, BV, DEKRA

Accredited Cooperative Testing Labs

Mechanical Tests



Vibration Test



Drop Test



Shocking Test



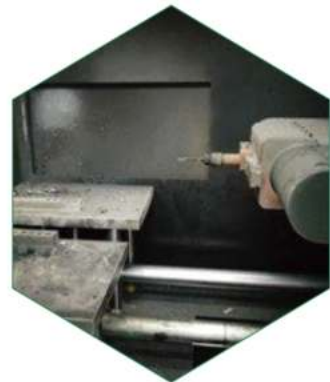
Safety Tests



Short Circuit Test



Impact Test



Needle Test

Environmental Tests



Altitude Simulation



Thermal Shock

Electrical Tests







Standard Products

Standard Products

Introduction

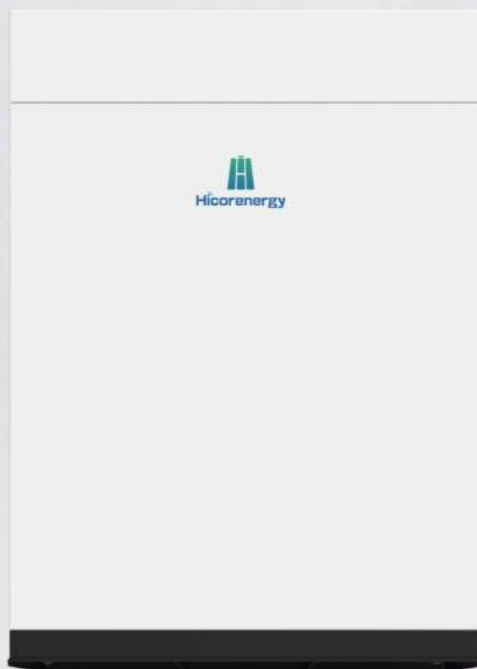
Introduction



C 5°α



I-BOX 48100R



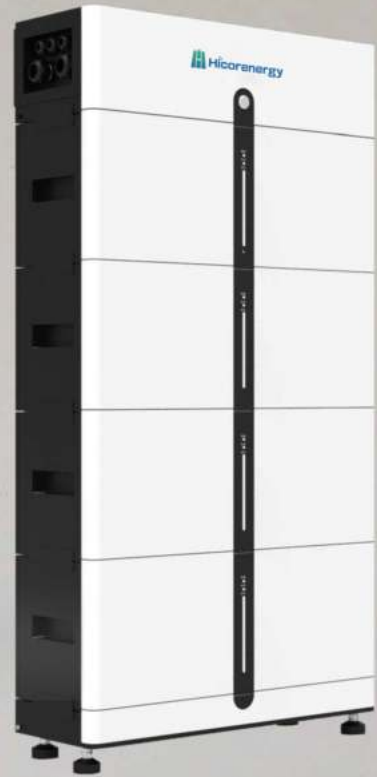
R-BOX



V-BOX-OC



Si Station 230



Si LV1

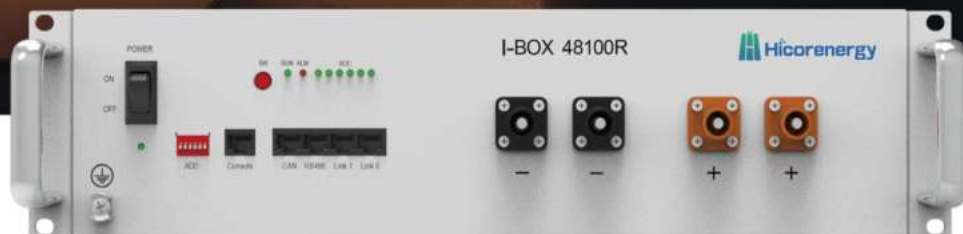


SHV48100



I-BOX 48100R on R-Bracket

I-BOX 48100R



Features



Scalable

- From 5.12kWh to 491.52kWh



Compact, Flexible and Easy Install



Long-lasting

- ≥ 6000 cycles @ 90%DOD



Wide Compatibility



Safe & Reliable

- Tier 1 Automotive Grade A LiFePO₄ cells
- Self-designed & Field-proven BMS

10 Years Warranty



UN38.3



CEC

SGIP

I-Box 48100R Specs

Electrical

Nominal Voltage	51.2V
Voltage Range	47.5V~57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Recommended Charge/	50A (2.56kW DC)
Discharge Current	
Maximum Charge/	50A (2.56kW DC)
Discharge Current	
Peak Discharge Current	102A (5.22kW@15s)

General

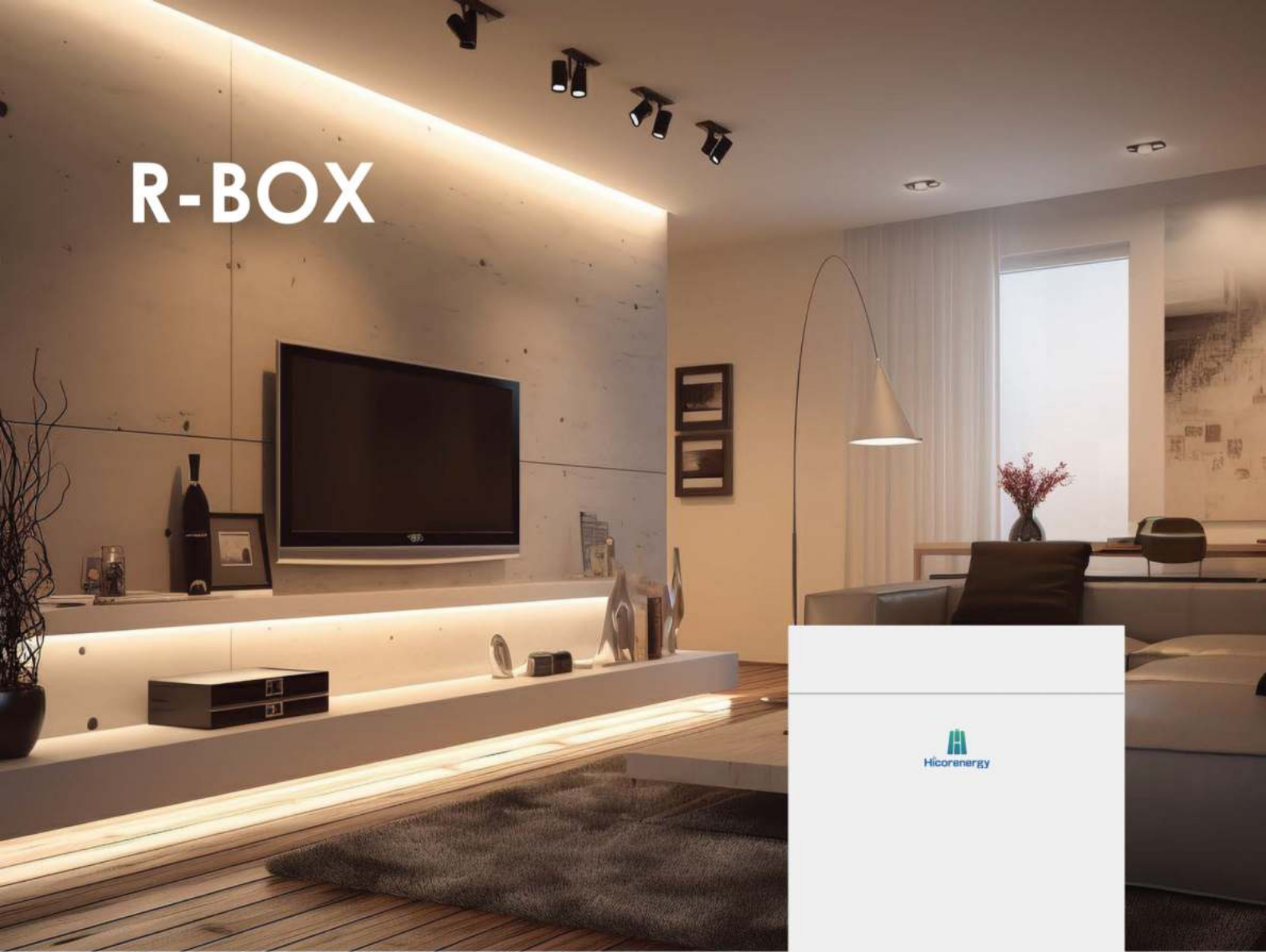
Chemistry	LFP
Communication Protocol	CAN/RS485
Dimensions (L*W*H)	440 * 620 * 117mm (2.6U) / 17.3 * 24.4 * 4.6 inch (2.6U)
Weight	51 kg / 112.5 lbs
Ambient Temperature	-10°C~50°C / 14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life*	≥6000cycle
Warranty	10 Years

* Test Condition 0.5C, 25°C @90%DOD

Certifications

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP, CE, IEC62619, UN38.3

R-BOX



R-Box Specs

Mechanical

Load capacity	2* I-Box 48100R
Dimensions(L*W*H)	280 * 510 * 700 mm (780 mm H w/holder)/ 11.0 * 20.1 * 27.5 inch (30.8 inch H w/holder)
Weight	17 kg / 37.5 lbs
Mount	Wall / Floor mount
Enclosure rating	IP20
Enclosure material	Cool-rolled steel
Cooling	Natural convection

R-BOX-OC



R-Box-OC Specs

Mechanical

Load capacity	4*I-Box 48100R
Structure	Busbar & DC Circuit Breaker Integrated
Dimensions(L*W*H)	800 * 330 * 1575 mm / 31.5 * 13.0 * 62.0 inch
Weight	80 kg / 176.4 lbs
Mount	Floor mount
Enclosure rating	IP55
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

Forest-RB Plus



Forest-RB Plus Specs

Mechanical

Load capacity

6* I-Box 48100R

Structure

Busbar Integrated

Dimensions(L*W*H)

720 * 400 * 1150 mm / 28.3 * 15.7 * 45.3 inch

Weight

68 kg / 150 lbs

Mount

Floor mount

Enclosure rating

IP20

Enclosure material

SGCC(Galvanized steel)

Cooling

Natural convection



C5° / C5°α



Features



Remote Monitoring and Upgrading



Higher Charge/Discharge Rate



Wider Operation Temperature



Higher Energy Density



Greater scalability

10 Years Warranty



UN38.3



CEC

SGIP

C5°/ C5°a Specs

Electrical

Nominal Voltage	51.2V
Voltage Range	47.5V~57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Recommended Charge/ Discharge Current ^[1]	75A
Max Continuous Charge/ Discharge Current ^[2]	100A
Peak Charge/Discharge Current	101A~120A(3min) ; 121A~180A(15sec)
Connection Options	C5°: PHOENIX M6 Bolt C5°a: Amphenol SurLok Plus 8.0mm

[1], [2]: The recommended and Max continuous charge and discharge current is for a battery cell temperature within 10°C~40°C(50°F~104°F) to consider.
It will result in a derating on current if out of the temperature range.

General

Chemistry	LFP
Communication Protocol	CAN / RS485
Dimensions (L*W*H)	442 * 530 * 140 mm (3.2U) / 17.4 * 20.87 * 5.51 inch (3.2U)
Weight	44 kg / 97 lbs
Ambient Temperature	-10°C~50°C/14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life ^[3]	≥6000cycle
Warranty	10 Years

[3]: Test conditions 0.2C Charging/Discharging, @25°C(77°F), 90% DOD.

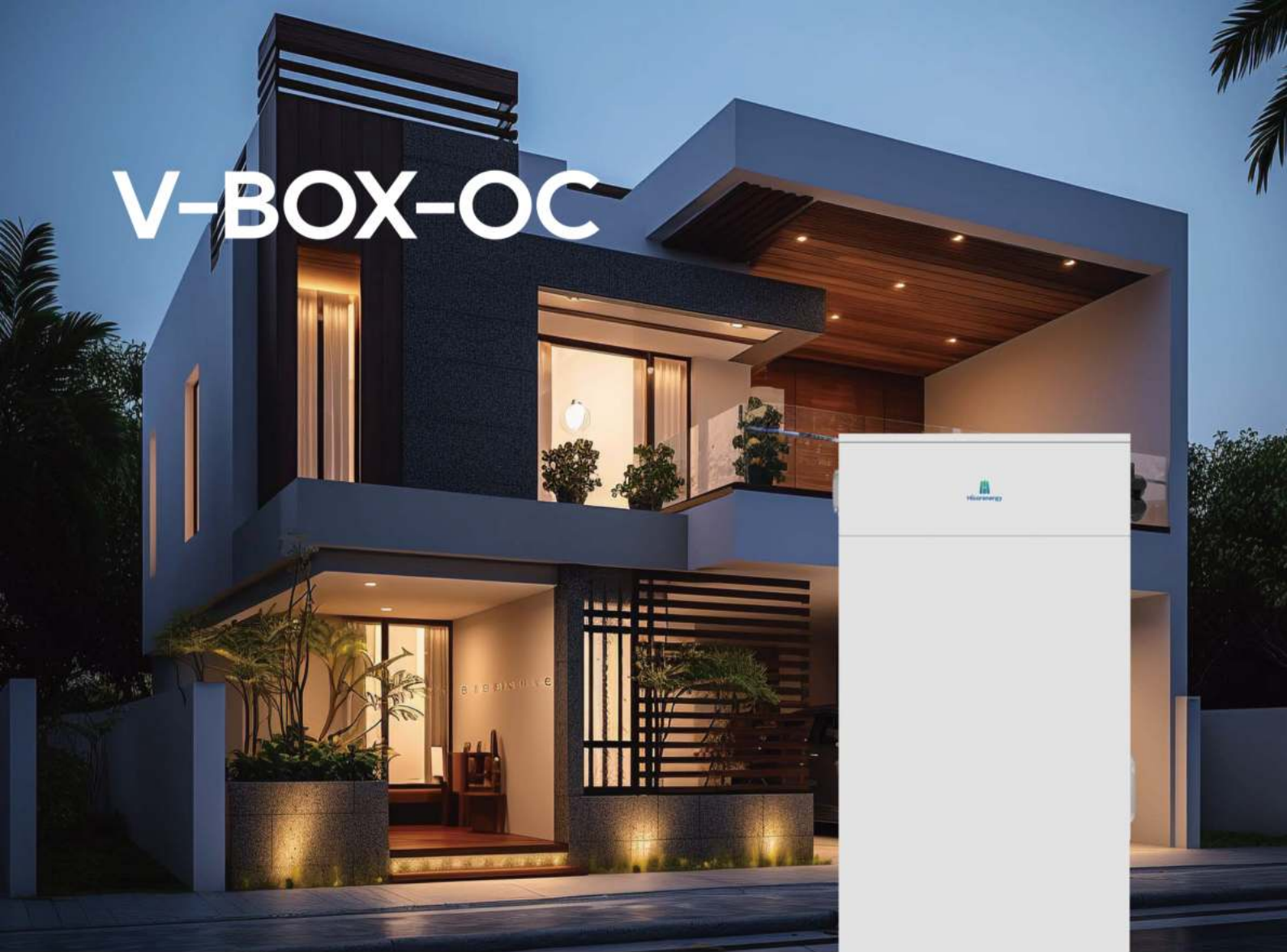
Add-on Functionalities

WIFI Connection	Remote monitoring and upgrade
Heating Pad	Temperature Rise: 10°C/ h/18°F/h Operation Temperature: -18°C~10°C/-0.4°F~50°F
Scalability	16 pcs (81.92kWh) in a group 6 groups (491.52kWh) in a system w / a Hub

Certifications (On-going)

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP, CE, IEC62619, UN38.3

V-BOX-OC



V-Box-OC Specs

Mechanical

Load capacity

4* $C5^\circ$ /4* $C5^\circ$

Structure

Busbar & DC Circuit Breaker Integrated

Dimensions(L*W*H)

645 * 395 * 1395 mm / 25.4 * 15.6 * 54.9 inch

Weight

88 kg / 194 lbs

Mount

Floor mount

Enclosure rating

IP55

Enclosure material

SGCC(Galvanized steel)

Cooling

Natural convection

SMART MONITOR

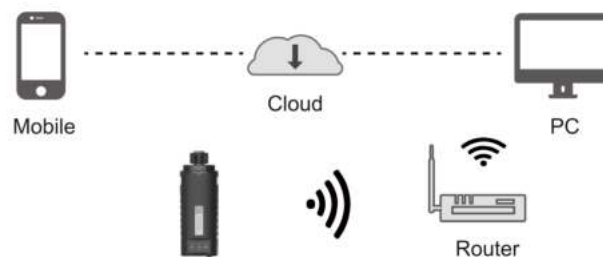


Smart Monitor feature

- Real-time Monitoring
- Data Visualization
- Remote Upgrading
- Error Detection
- Alarm Notification



Diagram



WEB/APP



V-BOX-IC

Effortless to Upgrade
Your System in 3 minutes



Features



Easy to install with minimal
tools required



Scalable to meet demands



Capable of easy mobility and
secure fixation



Less footprint

Multi Combinations Customized



Basic Rack



Mobile Cabinet



Scalable System

V-BOX-IC Specs

Mechanical

Load capacity	3 * C5° / 3 * C5°α
Dimensions(L*W*H)	533 × 616 × 650 mm / 21.0 × 24.3 x 25.6 inch
Weight	42.2 kg / 93 lbs
Mount	Floor mount
Enclosure rating	IP20
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

V-BOX-IC se

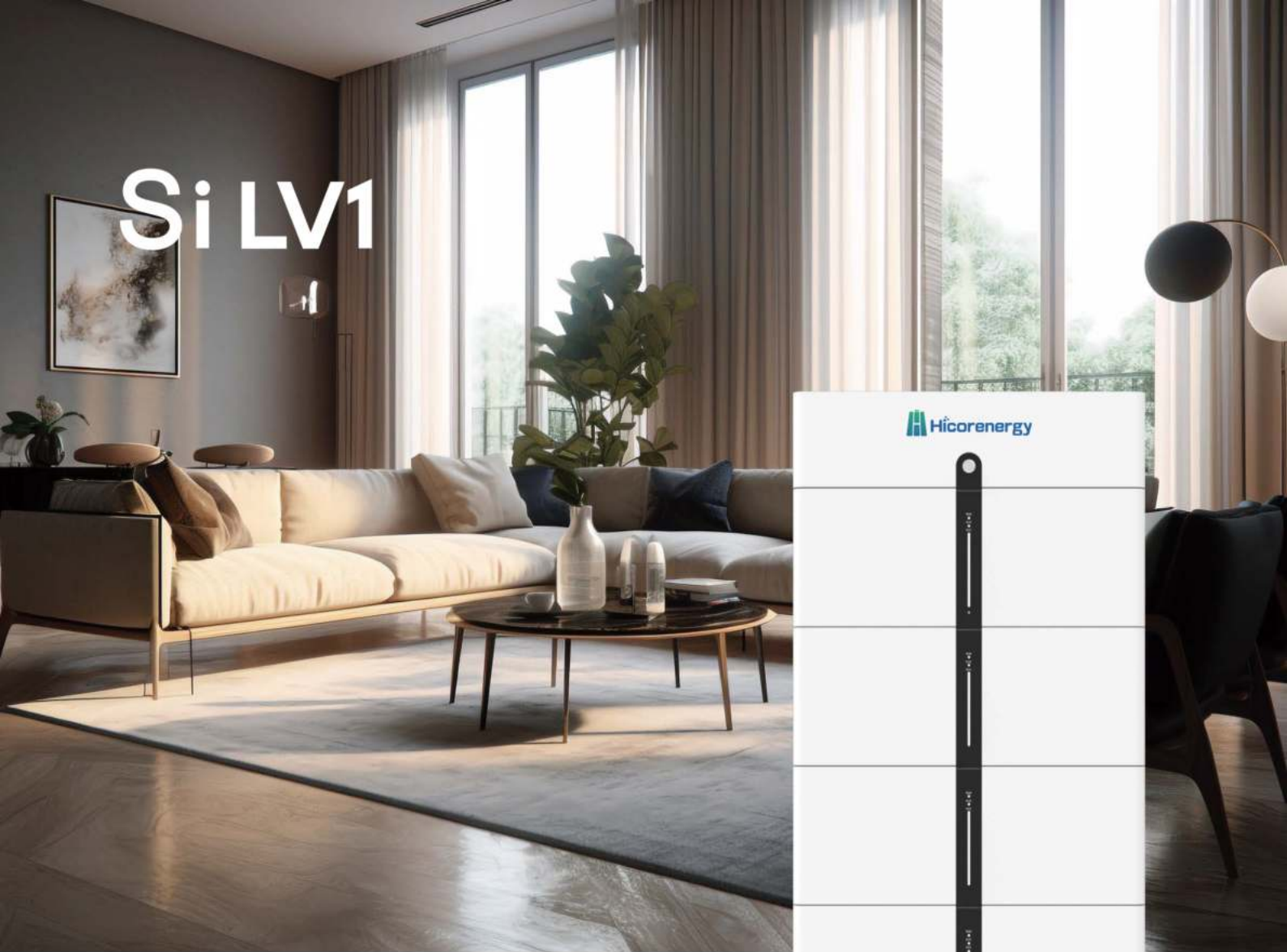


Specs

Mechanical

Load capacity	3 * C5° / 3 * C5°α
Dimensions(L*W*H)	533 × 565 × 660 mm / 21.0 × 22.2 x 26.0 inch
Weight	27.7 kg / 61.1 lbs
Mount	Floor mount
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

Si LV1



Features



Safe

- LFP Chemistry, Field-Proven BMS Integrated in Individual Module, DC Breaker & Fuse Adapted



Powerful

- Up to 14.08kW Continuous Output



Plug-and-play (15-min installation)

- Quick Connectors, Hand-wiring Free



Scalable on Demand

- Flexible Configuration from 10.24 to 30.72 kWh per Stack, Up to 4 Stacks



Outdoor Rated Enclosure

- Water & Dust proof for Both Indoor and Outdoor



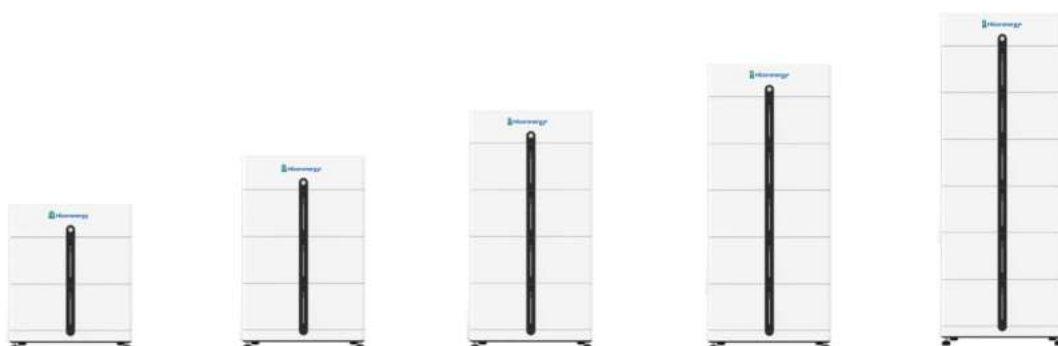
Smart

- Remote Upgrading & Monitoring

Si LV1

Battery Module Unit:

Cell Type	LFP
Nominal Energy	5.12kWh
Nominal Voltage	51.2V
Voltage Range	45.5V~58V
Nominal Capacity	100Ah
Recommended Continuous Discharge Current	50A
Recommended Continuous Charge Current	50A
Certifications	CE, IEC62619, UL1973, UN38.3, UL9540, UL9540A



Model	2	3	4	5	6
Cell Type	LFP				
Nominal Voltage	51.2V				
Voltage Range	45.5V~58V				
Nominal Capacity	100Ah				
Nominal Energy	10.24kWh	15.36 kWh	20.48 kWh	25.6 kWh	30.72 kWh
Recommended Power	5.12kW	7.68kW	10.24kW	10.24kW	10.24kW
Dimensions (L*W*H) (mm/inch)	681*242*800 26.8*9.5*31.5	681*242*1060 26.8*9.5*41.7	681*242*1320 26.8*9.5*52.0	681*242*1580 26.8*9.5*62.2	681*242*1840 26.8*9.5*72.4
Weight(kg/lbs)	130/285.5	187/411.2	244/536.8	301/662.5	358/788.2
Communication	CAN, RS485				
Cycle Life	≥ 6000 cycles				
Protection level	IP55				
Ambient Temperature	-10°C~55°C / 14°F~131°				
Storage Temperature	Within 1 month: -20°C~50°C / -4°F~122°F 1~3 months: -10°C~40°C / 14°F~104°F 3~12 months: 0°C~30°C / 32°F~86°F				

* The maximum power and peak power are tested based on an ambient temperature of 25 °C.

SHV48100



Features



Higher Energy Density



Lower Resistive Losses



Superior Performance



Remote Upgrading & Monitoring



Enhanced Safety Features

10 Years Warranty

CE UN38.3



SHV48100 Specs

SHV48100 BCU

Controller Working Voltage	200V~870V
Self-consumption Power	7.56W
Dimensions (W*D*H)	484*510*140 mm / 19.1*20.1*5.5 inch
Weight	13.3 kg / 29.3 lbs
Communication	CAN, RS485, Dry Contact, WiFi

SHV48100 BMU

Cell Type	LFP
Nominal Energy	5.12kWh
Nominal Voltage	51.2V
Nominal Capacity	100Ah
Continuous Discharging/Charging Current	50Adc
Voltage Range	45.5~58V
Depth of Discharge	80%
Dimensions (W*D*H)	484*530*140 mm / 19.1*20.9*5.5 inch
Weight	43 kg / 94.8 lbs
Communication	CAN, RS485
Cycle Life	≥6000 cycles
Operation Temperature	-20°C~60°C / -4°F~140°F
Storage Temperature	-30°C~60°C / -22°F~140°F

SHV48100 System

System Energy	5.12kWh*n
System Voltage	51.2V*n
System Capacity	100Ah
Battery System Charge Upper-Voltage	58V*n
Battery System Discharge lower-Voltage	45.5V*n
Continuous Discharging/ Charging Current	50Adc
BCU Model	SHV48100 BCU
BMU Model	SHV48100 BMU
BMU Qty. (Optional)	5~15
Depth of Discharge	80%
Dimensions (W*D*H)	600 * 640 * 1555 mm / 23.6 * 25.2 * 61.2 inch
Weight	89.6 kg + 13.3 kg + 43 kg*n / 197.5 lbs + 29.3 lbs + 94.8 lbs*n
Communication	CAN, RS485, Dry Contact, WiFi
Cycle Life	≥6000 cycles
Operation Temperature	-20°C~60°C / -4°F~140°F
Storage Temperature	-30°C~60°C / -22°F~140°F
Operation Humidity	0~95%, No Condensation
Protection level	IP20

Certifications

CE, IEC62619, UL1973, UN38.3, (TBD: UL9540, UL9540A)

Si Station 230



Introduction

Liquid cooling battery cabinet integrates battery modules with a full configuration capacity of 232.96kWh. And can be widely used in various application scenarios such as generation and transmission grid, distribution grid, new energy plants.

Features

Flexible

- All-in-one design and highly integrated
- Modular design with different optional parts.

Compatible

- Grid-tied
- 400Vac 3P4W
- Optional backup module

Easy-to-Install

- IP54 rated
- Parallel installation back-to-back

Compliance

- Global grid certified & listed
- Compliance with global safety standards.

Technical Specifications

Mode	SI STATION 230
System Specification	
Battery Chemistry	LFP (LiFePO ₄)
Nominal Output Power	105KW
Battery Capacity	232.96kWh
Battery Nominal Voltage	832V
Operating DC Voltage Range	650V-949V(3P4W)
Recommended. Charging/ Discharging Current	140 ^[1]
Fire Fighting System	1.Sensor Tube(NOVEC 1230) 2.Water Fire Fighting System 3.Heat/Smoke/Gas sensor
Cycle life	6000 ^[2]
DOD	90%
Warranty	3 Year Product Warranty, 10 Year Battery Warranty
Communication	
Communication port	CAN, RS485, Ethernet
Communication protocol	ModbusRTU/TCP
Mechanical	
Dimensions(W x D x H)	1000 x 1390 x 2430mm
Weight	2500kg
Cooling System	Liquid cooling
IP protection	IP54
Environmental	
Reactive Humidity	0-95% (no condensing)
Operating Temperature Range	Charge:0~55°C; Discharge:-20~55°C
Altitude	2000m (>2000 derating)
Regulations	
Certification	CELL:IEC62619,UL1973,UL1642,UL9540A,GB/T36276-2018,GB/T 36276-2023,1S16046(Part 2):2018,GB, GD22-2019,2006/66/EC, ROHS, GB/T 30512UN38.3 PCS: CQC GB/T 34120-2017, CQCGB/T36547-2018; GB/T36548-2018, EMCCE-EMCEN61000-6-2:2019; EN61000-6-4:2019, CE-LVDEN62477-1, EN50549-1:2019+ AC:2019-04, EN50549-1:2019+AC:2019-04, EN50549-1:2019+AC:2019-04, EN50549-1:2019+PSE:2018-12, NRS097-2-1:2017 System:GB/T 36276,UN38.3
^[1] Charge and discharge current derating will occur outside 5°C and 50°C ^[2] Under test conditions(25 ± 3°C,0.5P,EOL80%)	

Si Station 186



Introduction

air cooling battery cabinet integrates battery modules with a full configuration capacity of 186kWh. And can be widely used in various application scenarios such as generation and transmission grid, distribution grid, new energy plants.

Features

Flexible

- All-in-one design and highly integrated
- Modular design with different optional parts.

Compatible

- Grid-tied and Off-grid
- 208/400/480Vac 3P4W
- Optional PV input
- Optional backup module

Easy-to-Install

- IP54 rated
- Parallel installation back-to-back

Compliance

- Global grid certified & listed
- Compliance with global safety standards.

Technical Specifications

Module	SI STATION 186
System Specificatoin	
Battery Chemistry	LFP (LiFePO ₄)
Nominal Output Power	30kVA*n (1~3)
Battery Capacity	186.368kWh
Battery Nominal Voltage	665.6V
Battery Charging and Discharging Voltage Range	200V~750V (350V~750V @full load) (Due to the electrical design different with the 30P module)
Recommended Charging/ Discharging Current	140A
Fire Fighting System	1.Sensor Tube(Aerosol) 2. Water Fire Fighting System 3. Heat/Smoke/Gas sensor 4. Explosion Relief Panel(Optional) or Exhaust & Ventilation System(Optional)
Cycle life	≥6000 ^[1] (25°C, 0.5C/0.5C, 70%EOL)
DOD	90%
Warranty	3 Year Product Warranty, 10 Year Battery Warranty
AC Side	
Rated Output Power	30kVA*n (1~3)
Maximum Apparent Power	33kVA*n (1~3)
Maximum Active Power	30kW*n (1~3)
AC power range	30kW (400 Or 800Vac & 350~750Vdc) *n units (n=1,2,3) 15kW (400 Or 480Vac & 150~350Vdc) *n units (n=1,2,3)
AC Voltage Grid-tied	400V(-15%~15%)3P4W+PE/480V(-15%~15%)3P4W+PE
AC Voltage Off-grid	400V(-20%~20%)3P4W+PE/480V(-5%~5%)3P4W+PE
AC Frequency	50Hz/60Hz(-2.5Hz~2.5Hz)
THDi	<3%
PV Side(Optional)	
Max units	2
PV Input Power	45kW*n units (n=1,2) 3 branches *15kW (per 45kW)
PV Input Voltage Range	250V~830V
MPPT Voltage Range	200~750V (430~750V @full load)
Maximum Input Current	65A*n (1~2)
Auto-switching Compatibility(Optional)	
Rated Power	150KVA (AC208V) 300KVA(AC400V) 360kVA (AC480V)
Switching Time	Active Switching: Seamless Passive Switching: 20ms
Communication	
Communication port	RS485/Ethernet
Communication protocol	Modbus TCP/RTU

Mechanical	
Dimensions(W*D*H)	2100*1200*2544.8mm
Weight	2900kg
Cooling System	Forced air cooling for power electronics 5kW Air-conditioned for battery system (pre-installed)
IP protection	IP54
Environmental	
Reactive Humidity	0-95% (No condensing)
Operating Temperature Range	-20°C~55°C (Derating over 45°C)
Altitude	2000m (>2000m derating)
Regulations	
Certification	CELL: IEC62619, UL1973, UL1642, UL9540A, GB/T 36276-2018, GB/T 36276-2023, IS16046(Part 2):2018, GB, GD22-2019, 2006/66/EC, RoHS, GB/T 30512, UN38.3
	Module: GB/T 36276, UL9540A, UN38.3
	Unit: GB/T 36276, IEC62619, IEC63056, IEC62477, IEC62040, CE-EMC, UL1973, UL9540A, UN38.3
	PCS: GB/T34120-2017 CE VDE-AR-N 4105:2018 TOR Erzeuger TypeA V1.2:2022 /OVE-Richtlinie R 25:2020 DIN VDE 0126-1-1:2013(with national deviation of France: DIN VDE 0126-1-1WER 2019) EN 50549-1:2019+AC:2019-04 NRS 097-2-1:2017 Edition 2.1
[1] Under specific test conditions	

Dimensions



Accessories

Brackets



Brackets for I-Box 48100R

150219100018 & 150219100019

F. & B. Bracket



110409100019

R-Bracket (Single Rack)

Single Bracket for 1 pc I-Box 48100R

Easy to expand up to 8 layers

110409100020

R-Bracket (8-in-1)

8 layers for holding 8 pcs I-Box 48100R



Brackets for C5°

150208100001

V-Bracket



Brackets for I-Box 4850

150208100010 & 150208100011

F. & B. Bracket

Equipments



HUB

110409100001

Hub

Enables communication with multiple groups of batteries



Busbar:

161506100003

300A Junction Box

300A/6*M5+2*M10 Terminals

110409100026

300A Busbar

300A/12*M6+2*M8 Terminals

110409100027

600A Busbar

600A/6*M10+2*M8 Terminals

Cables



Power Cables

161412100244 & 161412100245

4AWG/2000mm/Amphenol to M8 Bolt

161412100251 & 161412100252

4AWG/160mm/both Amphenol ends

161412100467 & 161412100468

4AWG/2000mm/Amphenol to M10 Bolt

161412100461 & 161412100462

4/0AWG/2000mm/both M10 ends

161412100465 & 161412100466

2/0AWG/2000mm/both M10 ends

Communication Cables

161412101071

Standard Communication Cable

Compatible with: Sol Ark, Megarevo, Luxpower, Growatt, APsystems, SMA, Studer

1614121010XX

Customized Communication Cable

Customized for: Victron, Voltronic, Phocos, MPP, SRNE

161412100916

Console Cable

USB to RJ45 cable for monitoring & upgrading





Netherlands



Netherlands



Germany



Africa



Germany



Austria



Austria



Curacao



Puerto Rico



Dominican Republic



Indiana



Puerto Rico

Compatibility List of Hicorenergy ESS and Inverters

Low Voltage



High Voltage





Ningbo Hicoreenergy Co.,Ltd

BATTERY EXPERT-GREEN ENERGY PROVIDER

