

# V-ESS

ESS Cabinet



## V-BAT-100/120WP-2H

The V-BAT-100/120WP-2H series is a professional PV-plus ESS solution, designed on ESS integration and digital monitoring technologies. The cabinet integrates components such as lithium battery, HVAC, fire suppression system (FSS), and EMS. With compact structure, it enables easy installation and flexible capacity expansion. Paired with hybrid inverter, the ESS supports multiple work modes and various operation strategies.



## Features

- **Economical and Efficient**  
RTE up to 90%, DOD up to 100%.
- **Safe & Reliable**  
IP55, optimized ventilation design, temperature difference within 6°C.
- **Compact & Convenient**  
0.96m<sup>2</sup> footprint, easy to transport and install.
- **Expandable & Modular**  
Easy modular design supports parallel connection for convenient system expansion.
- **Versatile**  
Support multiple brands of hybrid inverter, with higher selectivity.
- **PV pluggable**  
Support PV connection, with higher integration.
- **Self-developed**  
LFP314Ah battery cell system integration, leading cost advantage, 3S fusion.
- **Easy O&M**  
Support multiple ways of operation and maintenance, including onsite, cloud.

DC Side	V-BAT-100WP-2H		V-BAT-120WP-2H	
Cell type	LFP / 314 Ah		LFP / 314 Ah	
Pack configuration	20.096 kWh / 1P20S		20.096 kWh / 1P20S	
System configuration	100.48 kWh / 1P100S		120.576 kWh / 1P120S	
Rated DC voltage	320 V		384 V	
DC voltage range	280 ~ 360 V		336 ~ 432 V	
Max. charge/discharge rate	0.5 P			
Max. depth of discharge	100 % (25 ± 2 °C)			
PV Input				
Max. input power	60 kW	80 kW	100 kW	
PV voltage range	150 ~ 850 V		150 ~ 850 V	
MPPT	3	4	4	
Max. input current	40 A * 3	40 A * 4	40 A * 4	
AC Side				
Rated output power	30 kW	40 kW	50 kW	
Rated AC voltage	400 V			
AC voltage range	± 15 %			
Grid type	3W + N + PE			
Rated frequency	50 Hz / 60 Hz			
Power factor	0.99 / -0.8 ~ +0.8			
THDi	≤ 3 %			
DC ratio	<0.5 % I <sub>pn</sub>			
General				
Max. round trip efficiency	90 %			
Cycle life	≥ 8,000 cycles			
Communication	Modbus TCP / IP			
Fire suppression system	Aerosol			
Ingress rating	IP55			
Cooling	Air cooling			
Operating temperature	-25 °C ~ 55 °C (Derating after 45 °C)			
Anticorrosion rating	C4 (C5 optional)			
Humidity	0 ~ 95 % RH (non - condensing)			
Altitude	3,000 m (Derating above 2,000 m)			
Dimensions (W*D*H)	800 × 1,200 × 2,100 mm			
Weight	1,200 kg			
Safety/EMC	UN38.3, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4			
Grid code	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11			

## V-ESS-241WP-2A

The V-ESS-241WP-2A integrates a long-life battery system, high-performance PCS, efficient balancing BMS, active safety systems, smart distribution, and HVAC into a single cabinet, ensuring long-term operation with superior safety, stability, and reliability. Through AC-side parallel connections, it enables agile deployment of ESS power with flexible capacity expansion.



## Features

- **Economical and Efficient**  
RTE up to 87%,  
DoD up to 100%.
- **Safe & Reliable**  
IP55 protection level, optimized ventilation design,  
cells temperature difference  $\leq 6^{\circ}\text{C}$ .
- **Compact**  
1.8m<sup>2</sup> footprint only,  
easy transportation & fast installation.
- **Long Cycle Life**  
Over 8,000 times cycle life,  
excellent performance of battery system.
- **Flexible Expansion**  
Modular design, simplified parallel expansion,  
fast expansion.
- **Smart O & M**  
Diversified O & M access,  
both on APP & Cloud.

DC Side	V-ESS-241WP-2A
Cell type	LFP / 314 Ah
Pack configuration	24.1 kWh / 1P24S
System configuration	241 kWh / 1P240S
Rated DC voltage	768 V
DC voltage range	672 ~ 864 V
Max. charge/discharge rate	0.5 P
Max. depth of discharge	100 % (25 ± 2 °C)
AC Side	
Rated output power	125 kW
Rated AC voltage	400 V
AC voltage range	± 15 %
Grid type	3W + N + PE
Rated frequency	50 Hz / 60 Hz
Power factor	0.99 / -1 ~ +1
THDi	≤ 3 %
DC ratio	<0.5 % I <sub>pn</sub>
General	
Max. round trip efficiency	87 %
Cycle life	≥ 8,000 cycles
Communication	Modbus TCP / IP
Fire suppression system	Aerosol
Ingress rating	IP55
Cooling	Air cooling
Operating temperature	-25 °C ~ 55 °C (Derating after 45 °C)
Anticorrosion rating	C4 (C5 optional)
Humidity	0~95% RH (non-condensing)
Noise	≤ 75 dB
Altitude	3,000 m (Derating above 2,000 m)
Dimensions (W*D*H)	1,250 × 1,450 × 2,250 mm
Weight	2,670 kg
Safety/EMC	UN38.3, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4
Grid code	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11

## V-ESS-261LP-2A

The V-ESS-261LP-2A features advanced pack-level liquid cooling and temperature balancing, maintaining cell temperature differences within 3 °C. This enhances cell temperature consistency and extends battery life. Its modular design enables flexible parallel configurations and higher energy density, significantly improving the cost-effectiveness, safety, and installation convenience of ESS projects.



## Features

- **Compact**  
1.4m<sup>2</sup> footprint only, easy transportation & fast installation.
- **High Integration**  
261kWh energy in one cabinet with remarkable endurance.
- **Efficient Cooling**  
Optimal in-PACK duct design, achieve high-efficiency cooling and low energy consumption.
- **Flexible Expansion**  
Modular design, simplified parallel expansion.
- **Long Cycle Life**  
Over 8,000 times cycle life, excellent performance of battery system.
- **Ultimate Safety**  
In-PACK fire warning and protection with aerosol, prevent heat diffusion and runaway.

DC Side	V-ESS-261LP-2A
Cell type	LFP / 314Ah
Pack configuration	52.2 kWh / 1P52S
System configuration	261 kWh / 1P260S
Rated DC voltage	832 V
DC voltage range	728 ~ 936 V
Max. charge/discharge rate	0.5 P
Max. depth of discharge	100 % (25 ± 2 °C)
AC Side	
Rated output power	125 kW
Rated AC voltage	400 V
AC voltage range	± 15 %
Grid type	3W + N + PE
Rated frequency	50 Hz / 60 Hz
Power factor	0.99 / -1 ~ +1
THDi	≤ 3 %
DC ratio	< 0.5 % I <sub>pn</sub>
General	
Max. round trip efficiency	89 %
Cycle life	≥ 8,000 cycles
Communication	Modbus TCP/IP
Fire suppression system	Aerosol
Ingress rating	IP55
Cooling	Liquid cooling + Forced air cooling
Operating temperature	-25 °C ~ 55 °C (Derating after 45 °C)
Anticorrosion rating	C4 (C5 optional)
Humidity	0~95% RH (non-condensing)
Noise	≤ 75 dB
Altitude	3,000 m (Derating above 2,000 m)
Dimensions (W*D*H)	1,050×1,350×2,400 mm
Weight	2,600 kg
Safety/EMC	UN38.3, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4, UL9540A
Grid code	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11, CEI0-21, CEI0-16

## V-ESS-20FT2170LP

V-ESS-20FT2170LP's innovative all-in-one container solution integrates key systems and components. Featuring high-quality battery cells and efficient hybrid cooling, it delivers high energy density and stable operation with minimal temperature variation. Its plug-and-play design enables rapid installation and flexible deployment for diverse energy storage applications.



## Features

- **Hybrid Cooling System**  
The liquid-cooled battery system, paired with air-cooled PCS system, provides dual assurance for optimal efficiency and outstanding performance.
- **String-Based Solution**  
Each battery cluster is independently managed, enhancing system reliability and stability.
- **All-in-One Design**  
Highly integrated 3S system, cooling system, and fire protection system, delivering greater capacity within a smaller footprint.
- **Standard 20ft Container**  
Pre-tested and pre-installed before delivery, enabling easy transportation, simple commissioning, and shorter lead times.

DC Side	V-ESS-20FT2170LP
Cell type	LFP / 314 Ah
Pack configuration	48.2 kWh / 1P48S
System configuration	2170 kWh / 9P240S
Rated DC voltage	768 V
DC voltage range	672 ~ 864 V
Max. charge/discharge rate	0.5 P
Max. depth of discharge	100 % (25 ± 2 °C)
AC Side	
Rated output power	1000 kW
Rated AC voltage	400 V
AC voltage range	± 15 %
Grid type	3W + N + PE
Rated frequency	50 Hz / 60 Hz
Power factor	0.99 / -1 ~ +1
THDi	≤ 3 %
DC ratio	< 0.5 % I <sub>pn</sub>
General	
Max. round trip efficiency	89 %
Cycle life	≥ 8,000 cycles
Communication	Modbus TCP/IP
Fire suppression system	Aerosol system + Water spray system
Ingress rating	IP55
Cooling	Liquid cooling + Forced air cooling
Operating temperature	-25 °C ~ 55 °C (Derating after 45 °C)
Anticorrosion rating	C4 (C5 optional)
Humidity	0~95% RH (non-condensing)
Noise	≤ 80 dB
Altitude	3,000 m (Derating above 2,000 m)
Dimensions (W*D*H)	6,058×2,438×2,591 mm
Weight	28,000 kg
Safety/EMC	UN3536, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4, UL9540A, IEC62933-5-2
Grid code	EN50549-1/-10, EN50549-2/-10, G99, VDE4105, NRS097, C10/11, CEI0-21, CEI0-16

## V-BAT-20FT5015LP

The 20ft liquid-cooled ESS container integrates PACK, EMS, BMS, HVAC, and fire suppression system (FSS) into a single container. Designed for demanding applications, the 20ft liquid-cooled ESS container is suitable for power generation, grid, and commercial & industrial (C&I) ESS scenarios that require high power and flexible capacity.



## Features

- **Higher Energy Density**  
The 20ft liquid-cooled energy storage container offers a maximum capacity of 5,015 kWh, delivering higher energy density and reducing overall costs.
- **Lower Self Power Consumption**  
A variable-frequency compressor adapts to temperature conditions, reducing the system's power consumption.
- **Lower Operating Noise**  
Minimized fan usage significantly reduces operating noise compared to air-cooled solutions.
- **Longer Service Life**  
Enhanced cell temperature consistency extends battery life, increases safety, and improves return on investment.
- **Better Temperature Control**  
The liquid cooling system maintains cell temperature differences below 3°C, improving voltage consistency and overall performance.
- **Higher Protection**  
The container features an IP55-rated enclosure (PACK IP65), up to C5 corrosion protection, and high/low-temperature design for robust environmental resistance.

DC Side	V-BAT-20FT5015LP
Cell type	LFP / 314 Ah
Pack configuration	104.5 kWh / 1P104S
System configuration	5,015 kWh / 12P416S
Rated DC voltage	1331.2 V
DC voltage range	1165 ~ 1498 V
Max. charge/discharge rate	0.5 P
Max. depth of discharge	100 % (25 ± 2 °C)
General	
Cycle life	≥ 8,000 cycles
Fire suppression system	Aerosol system + Water spray system
Ingress rating	IP55
Cooling	Liquid cooling+Forced air cooling
Operating temperature	-25 °C ~ 55 °C (Derating after 45 °C)
Anticorrosion rating	C4 (C5 optional)
Humidity	0~95% RH (non-condensing)
Altitude	3,000 m
Dimensions (W*D*H)	6,058×2,438×2,896 mm
Weight	41,800 kg
Safety/EMC	UN3536, IEC62619, IEC63056, IEC62477-1, IEC61000-6-2/4

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