

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**
0.96m² 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 _{pn} | | | |
| 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 | 1,450 kg | 1,700 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**
1.8m² 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 _{pn} |
| 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**
1.4m² 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.
- **Long Cycle Life**
Over 8,000 times cycle life, excellent performance of battery system.
- **Flexible Expansion**
Modular design, simplified parallel expansion.
- **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 _{pn} |
| 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 _{pn} |
| 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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