

Smart Charging Station & Energy Storage

Our integrated micro-grid solutions offer autonomous energy storage and management for commerce and industry. Combining energy storage systems and smart control technologies, we provide a customized decentralized power grid that reduces electricity costs, and ensures a stable power supply.



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Smart Charging Station

AIO DC-EV



Master Battery AIO DC-EV series integrates energy storage systems (ESS), using lithium-ion batteries as energy storage devices. The battery system uses liquid cooling technology for better temperature consistency and longer service life. Through its local or remote EMS management systems, ESS enables the optimization of energy supply and demand between the grid, batteries and electric vehicles, with important applications in peak and valley power import consumption as well as lack of grid power capacity. The integration with ESS shows its advantages in terms of low input and high charging power. The Master compact charger has a thin-walled design for use in parking station, commercial center and EV experience center. Modular design, high stability, easy to operate, flexible deployment and unified services. The automatic identification connector plug-in and automatic charging scheduling function are convenient for users to use and improve charging efficiency.

Compact Design

Small footprint, thin-wall design, easy layout in parking area, high stability, easy and simple to operate, low noise.

Charging Experience Upgrade

Automatic recognition of charger connector plug-in, automatic charging scheduling, integrated LED system indication battery capacity.

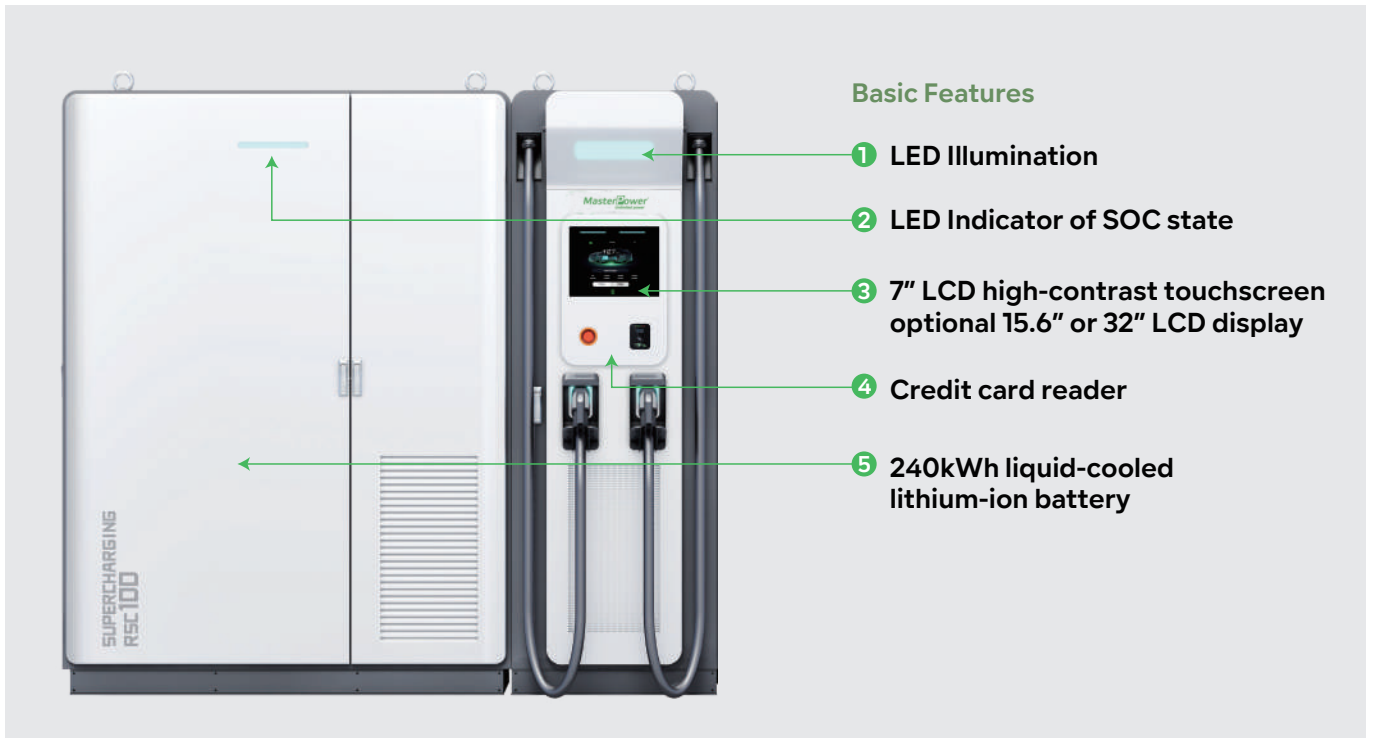
High Power Output With Less Input

Can provide higher output than most of other superchargers on the market when input power is very limited.

Flexible Extension

Support energy-storage module extension, achieve 2*240kWh battery capacity, intelligent power module distribution.

System Overview



Technical Specification(EU)

	AIO DC-EV	Version: A	Version: B
Product Specification	Type	DC Charging Station With ESS	
	Installation	On Ground	
	Applicable Site	Outdoors or Underground Parking	
	Material	Industrial Grade Alloy	
	Color	White weather-resistant coating	
	Dimensions (W*D*H)	Version A: 2557*700*2350mm	Version B: 4314*700*2350mm
Energy Storage System(ESS)	Weight	Version A: 3850kg	Version B: 7350kg
	Battery Capacity(kWh)	Version A: 240	Version B: 480
	Battery Charging Rate	≤0.5C	
	Battery Discharge Rate	<1C	
	Battery Efficiency	≥97%	
	Battery Module IP Ranking	IP65	
AC Output & Input(PCS)	Battery Cooling System	Liquid-cooling	
	Thermal Control Management	Aerosol Extinguishing	
	Rated Power(kW)	Version A: 120	Version B: 240
	Rated Voltage(Vac)	230/400,3P+N+PE	
	Max.current(Aac)	Version A: 172	Version B: 344
	Rated Grid Frequency(Hz)	50/60Hz(settable)	
PV Input System	Power Factor	0.8cap-0.8ind	
	Unbalanced Load Capacity	100%	
	Overload	35°C 110%@10min,120%@1min	
	Switch from Grid-connected to Off-grid	Integration	
	Cooling System	Air-cooling	
	Standard	DC Input Voltage(Vdc)	300~825(Start up Voltage:375~825)
Max Input current(Adc)		Version A: 100	Version B: 200
Rated Power(kW)		Version A: 60	Version B: 120
Number of MPPT		Version A: 2	Version B: 4
Charging System	Cooling System	Air-cooled	
	Battery	IEC62619, UN38.3, UL1973,UL9540A	
	EV Charger	IEC/EN 61851-1, IEC 61851-23,IEC 61851-24, IEC 62196-1, IEC 62196-3, DIN 70121, ISO/IEC 15118, CHAdeMO	
	System Level	IEC/EN 62477-1, EN-50549-1, VDE-4105,AS4777,G99,UL9540	
Meter	Charging Voltage(Vdc)	150~1000(Constant power from 300-1000)	
	Charging Efficiency	95% (peak)	
	Connectors	2	
	Power Distribution	2 connectors intelligent distribution	
	Charging Power	180kW/240kW	
	Cable	400A, 5m, CCS	
	Cooling System	Air-cooling	
	User Interface	7" LCD high-contrast touchscreen, optional 15.6" or 32" LCD display	
	User Authentication	RFID, QR code	
	RFID Reader	ISO/IEC 14443 A Mifare RFID reader	
	Connectivity	4G/3G/Ethernet (RJ45)	
	Communication	Proprietary and OCPP 1.6J	
Environment Parameter	Emergency Button	Yes	
	AC Side	AC meter	
	DC Side	2-access DC meter	
	Ambient Temperature	-25°C-50°C(over 45°C derating)	
	Humidity	≤95%, No condensation	
	Storage Conditions	-20°C to 30°C, Up to 95% RH, non-condensing, State of Energy (SoE): 50% initial	
Safety	Altitude	2000m / 6561ft	
	Noise Level @1m	<80 dB(A)	
	EMC Emission	Type A	
	Medium	No explosive hazardous, No toxic & harmful gases	
	Interference	Without strong vibration and shock,no strong electromagnetic interference	
	System IP Rating	IP54	
Safety	Input Protection	Under voltage protection,over voltage protection,over current protection, over temperature protection,leakage protection, lightning protection, short circuit protection	
	Output Protection	Short circuit protection,over-temperature protection,communication fault protection,leakage protection,over-current protection	
	Emergency Protection	Set emergency stop button,leakage protection function,high-precision output insulation monitoring function	
	Special Protection	IP54 protection level, anti-salt damage	

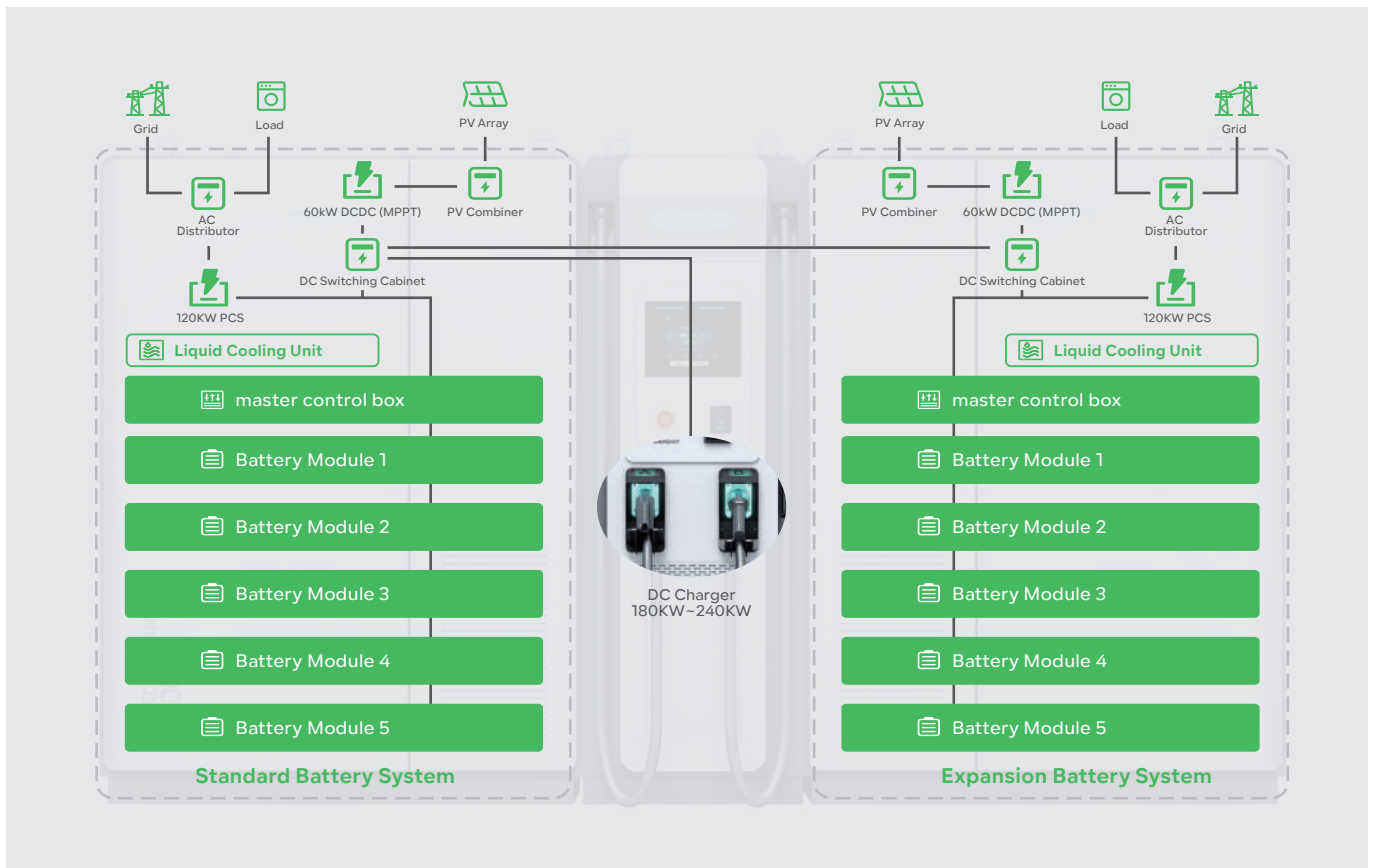
Technical Specification(US)

	AIO DC-EV	Version: A	Version: B	
Product Specification	Type	DC Charging Station With ESS		
	Installation	On Ground		
	Applicable Site	Outdoors or Underground Parking		
	Material	Industrial Grade Alloy		
	Color	White weather-resistant coating		
	Dimensions (W*D*H)	Version A: 2557*700*2350mm	Version B: 4314*700*2350mm	
Energy Storage System(ESS)	Weight	Version A: 3850kg	Version B: 7350kg	
	Battery Capacity(kWh)	Version A: 240	Version B: 480	
	Battery Charging Rate	≤0.5C		
	Battery Discharge Rate	<1C		
	Battery Efficiency	≥97%		
	Battery Module IP Ranking	IP65		
AC Output & Input(PCS)	Battery Cooling System	Liquid-cooling		
	Thermal Control Management	Aerosol Extinguishing		
	Rated AC Output and Input Power(kW)	Version A: 25/50/75	Version B: 50/100/150	
	Rated Output and Input Voltage(Vac)	277/480,3P+N+PE		
	Max.current(Aac)	Version A: 31~93	Version B: 62~186	
	Rated Grid Frequency(Hz)	50/60Hz(settable)		
PV Input System	Power Factor	-1~1		
	Overload Capacity	125%(10min)32kVa, 150%(1min)38kVa		
	Cooling System	Air-cooled		
	DC Input Voltage(Vdc)	300~825(Start up Voltage:375~825)		
	Max Input current(Adc)	Version A: 100	Version B: 200	
	Rated Power(kW)	Version A: 60	Version B: 120	
Standard	Number of MPPT	Version A: 2	Version B: 4	
	Cooling System	Air-cooled		
	Battery	IEC62619, UN38.3, UL1973,UL9540A		
Charging System	EV Charger	IEC/EN 61851-1, IEC 61851-23,IEC 61851-24, IEC 62196-1, IEC 62196-3, DIN 70121, ISO/IEC 15118, CHAdeMO		
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	Charging Efficiency	95% (peak)		
	Connctors	2		
	Power Distribution	2 connectors intelligent distribution		
	Charging Power	180kW/240kW		
	Cable	400A, 5m, CCS		
	Cooling System	Air-cooling		
	User Interface	7" LCD high-contrast touchscreen, optional 15.6" or 32" LCD display		
	User Authentication	RFID, QR code		
	RFID Reader	ISO/IEC 14443 A Mifare RFID reader		
	Connectivity	4G/3G/Ethernet (RJ45)		
	Communication	Proprietary and OCPP 1.6J		
Meter	Emergency Button	Yes		
	AC Side	AC meter		
Environment Parameter	DC Side	2-access DC meter		
	Ambient Temperature	-25°C-50°C(over 45°C derating)		
	Humidity	≤95%, No condensation		
	Storage Conditions	-20°C to 30°C, Up to 95% RH, non-condensing, State of Energy (SoE): 50% initial		
	Altitude	2000m / 6561ft		
	Noise Level @1m	<80 dB(A)		
	EMC Emission	Type A		
	Medium	No explosive hazardous, No toxic & harmful gases		
	Interference	Without strong vibration and shock,no strong electromagnetic interference		
Safety	System IP Rating	IP54		
	Input Protection	Under voltage protection,over voltage protection,over current protection, over temperature protection,leakage protection, lightning protection, short circuit protection		
	Output Protection	Short circuit protection,over-temperature protection,communication fault protection,leakage protection,over-current protection		
	Emergency Protection	Set emergency stop button,leakage protection function,high-precision output insulation monitoring function		
Special Protection	IP54 protection level, anti-salt damage			

Dimensions



System layout



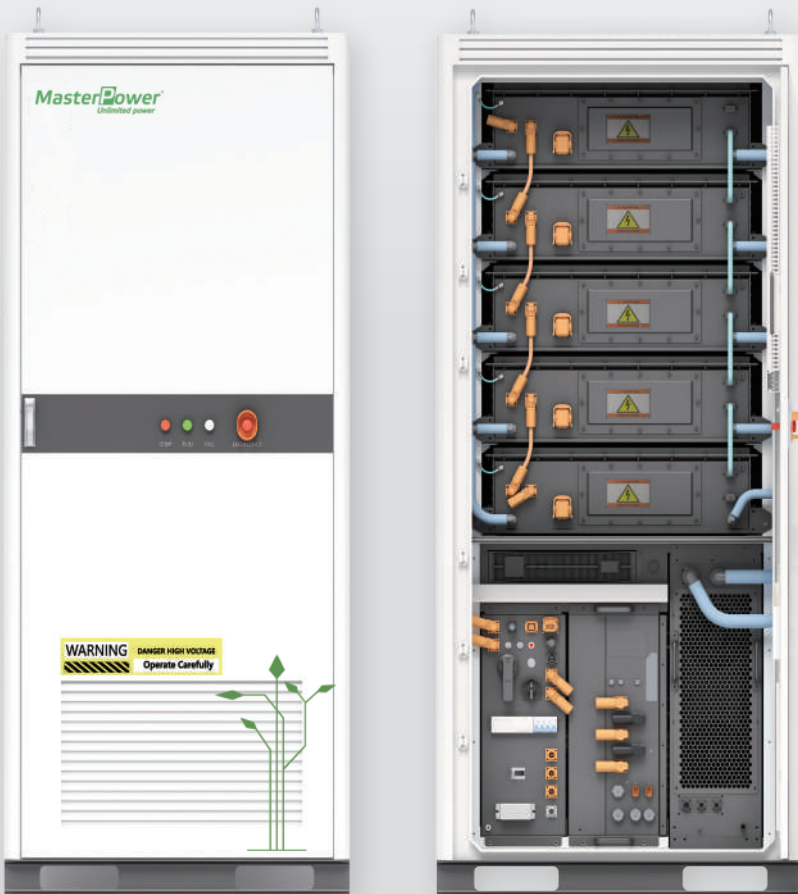
Application

Suitable for a variety of business scenarios, providing convenient and secure energy storage and supply



AC 233kWh Liquid-Cooling Battery

SCSCabinet



Highly integrated

Combining an all-in-one design with high power density, our system requires only minimal space. It offers flexibility in transportation, ease in on-site installation, and can be freely combined for expanded capacity and power output.

Efficient and Flexible

Designed for efficiency, our system boasts a modular structure for reduced failure and high uptime, enhanced by high-efficiency liquid cooling. It is adaptable to various extreme environments, maximizing battery life and discharge capacity.

Safety and Reliability

Our system ensures safety with comprehensive battery monitoring, multi-level fire prevention, and a top venting design for explosion risk mitigation. Additionally, it features proactive cell-level AI management to prevent thermal runaway.

Intelligent Operation and Maintenance

Equipped with a full EMS for easy upgrades and big data-managed intelligent inspection systems, our product offers proactive handling and warnings. Its intelligent SOC calibration ensures optimal performance without the need for downtime.

Battery Energy Storage

Cell Type	LFP 3.2V/280AH
Module Combination	1P52S
System Combination	5 modules in series
Capacity (kWh)	233
Nominal Voltage (V)	832
Operation Voltage Range (Vdc)	761~923
Discharge Depth	90% DoD
Thermal Management Mode	liquid cooling
Thermal Control Management	Aerosol Extinguishing

AC Output(EU/US)

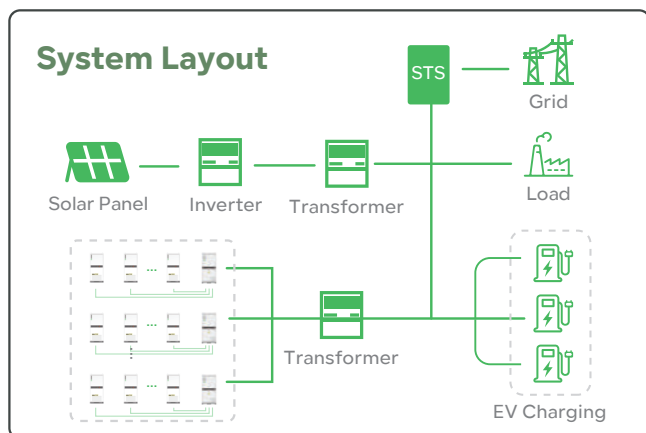
Rated AC output power(kW)	EU: 100	US: 125
Max. AC output power(kVA)	EU: 110	US: 137.5
Rated output voltage(Vac)	EU: 400	US: 480
Output voltage range(Vac)	-15%~ +10%(settable)	
Rated grid frequency(Hz)	EU:50/60Hz(settable)	US: 60Hz(settable)
Max. output current(A)	EU: 158	US: 165.4
Adjustable power factor	> 0.99	
THDi	< 3%	

System Characteristic

PCS Cooling	Forced Air Cooling
PCS Topology	Non-isolation
AC/DC start function	Integration
Switch from Grid-connected to Off-grid	Integration
Communication Interface	CAN, RS485, Wi-Fi, LTE
Warranty	3 years free, paid from the 4th to the 15th year
Certifications	IEC62619, UN38.3, IEC, EN 62477-1, IEC EN, 61000-6-2, IEC, EN 61000-6-4

General Parameters

Dimensions (W*D*H)	1100*1450*2350mm / 43*57*92.5in
Total Weight	2950kg /6503lb
Operation Altitude	2000m / 6561ft
Noise Level @1m	<75 dB(A)
IP Rating	IP54
Operating Temperature	-20°C to 55°C
Operating Humidity (RH)	0 to 95%
Storage Conditions	-20°C to 30°C Up to 95% RH, non-condensing State of Energy (SoE): 50% initial



DC 5MWh Liquid-Cooling Container Solution

SCS Container



💡 High Density and Efficiency

Our 5MWh container features a compact 2.5MW/5MWh integrated block design, ensuring minimal land usage. It incorporates a full liquid-cooling intelligent temperature control system, maintaining a charge/discharge temperature difference of $\leq 3^{\circ}\text{C}$ for extended system life. With a 2% increase in cycle efficiency, it's more energy-efficient and environmentally friendly. The design also supports back-to-back installation, saving up to 30% in installation space.

💡 Safety and Reliability

The container is equipped with multi-level fire suppression to effectively prevent thermal runaway, along with a top venting design for active ventilation, minimizing explosion risks. Cell-level AI management provides proactive early warnings for failing cells, enhancing overall safety.

💡 Intelligent Operation and Maintenance

The container is equipped with a full EMS (Energy Management System), supporting one-click station-wide upgrades within 15 minutes. An automatic liquid replenishment system eliminates the need for manual intervention. It also includes intelligent SOC calibration and correction capabilities, requiring no downtime for operations.

💡 Efficient and Flexible

Featuring a fully modular design, the container reduces failure losses and maintains high system uptime. The high-efficiency liquid cooling system significantly improves battery life and discharge capacity. With IP55/C5 protection, it's highly adaptable to various extreme environments. The 'cluster-by-cluster' management approach minimizes the impact of the barrel effect.

Battery Energy Storage

Cell Type	LFP 3.2V
Capacity(Ah)	314
Configuration	416S12P
Rated Voltage(Vdc)	1331.2
Voltage Range(Vdc)	1218.88~1476.8
Rated Capacity(kWh)	5018
System Charge/Discharge	≤0.5C
System Efficiency	≥97%
Thermal Management Mode	liquid cooling

Operating Environment

IP Rating	IP54
Noise Level @1m	<85dB
Operating Temperature	-25°C~55°C
Relative Humidity	≤95%, No condensation
Operation Altitude	2000m / 6561ft

System Parameters

Dimensions (W*D*H)	6058*2438*2896mm / 238.5*96*114in
Total Weight	42000±500kg / 92594±1100lb
Multi-level Fire Suppression	Combustible Gas Detection Accident Ventilation Gas Fire Fighting Water Fire Fighting
Communication Protocol	CAN, RS485, Wi-Fi, LTE
Certification	IEC62619, UN38.3, UL1973,UL9540A

