

[illegible]

AlphaCS-H20-MEA

1000V Liquid-Cooling System

CAPACITY

Battery Module: 52.2kWh

20ft. DC Coupling: 250kW / Max.1175kWh

20ft. AC Coupling: 250kW&500kW / Max.1410kWh



All-in-One Design

Easily Installation

Seamless Switching (<20ms)

Easily Set Function Parameters

Intelligent liquid cooling temperature control

Various Operating Modes Available For Selection

AlphaCS-H20-MEA



Model	AlphaCS-H20-MEA-DC250	AlphaCS-H20-MEA-AC250/500
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DC Parameters

Nominal Capacity	Max.1175.6 kWh	Max.1410.7 kWh
Battery Cluster Connection	Max. 5 Clusters in Parallel	Max. 6 Clusters in Parallel
Rated Voltage	748.8 VDC	
Working Voltage Range	631.8~842.4 VDC	
Battery Chemistry	LFP (LiFePO ₄)	
Battery Cooling Type	Liquid Cooling	

AC Parameters

Rated Charging and Discharging Power	250 kW	250/500 kW
HV DC bus voltage	LV voltage+40V ~ 900V	/
LV PV input voltage	250~800V	/
Max. PV Power	800kW	/
AC Current	380A	380A/760A
AC Frequency	50Hz/60Hz (±2.5Hz)	
On-grid/off-grid switch time	<20ms	
Rated Grid voltage	400VAC(±15%)	

Physical Parameters

Dimensions (W x D x H)	6058 x 2438 x 2896 mm	
Ingress Protection	IP54	
Product Type	Outdoor (Container)	
Fire-Fighting System	Aerosol	
System Weight	21 t	23 t

Battery Parameters

Battery Model	M166314-52S-EX
Rated Voltage	166.4 V
Nominal Capacity	52.2 kWh
Rated Charging and Discharging Power	26.1 kW (0.5 P)
Ingress Protection	IP67
Weight	340 kg
Dimensions (W x D x H)	810 x 1125.5 x 237.5 mm
Operating Temperature Range	-30 °C ~ 50 °C*

Certification

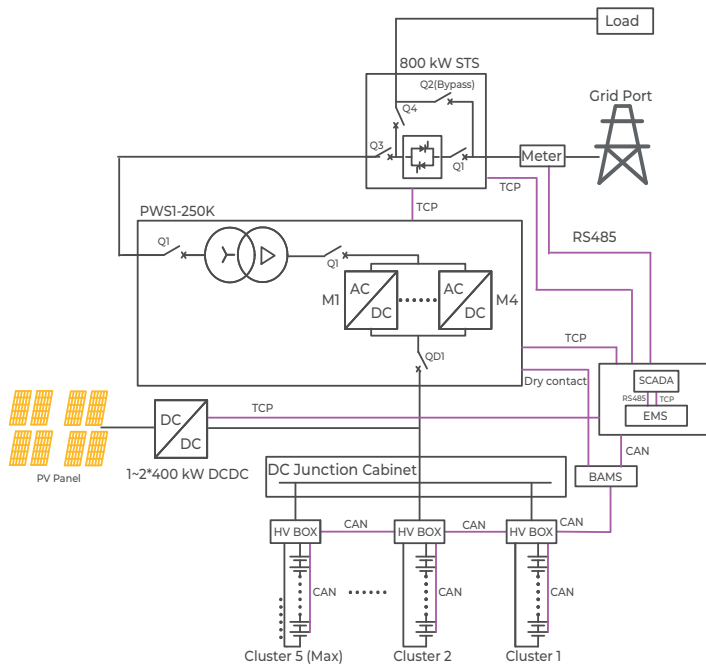
Safety	UN38.3, UN3536, IEC 62619, IEC 62477, IEC 61000, UL9540A
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*The optimum temperature range is 15~35°C. If the ambient temperature is too high or too low, the battery performance may deteriorate.

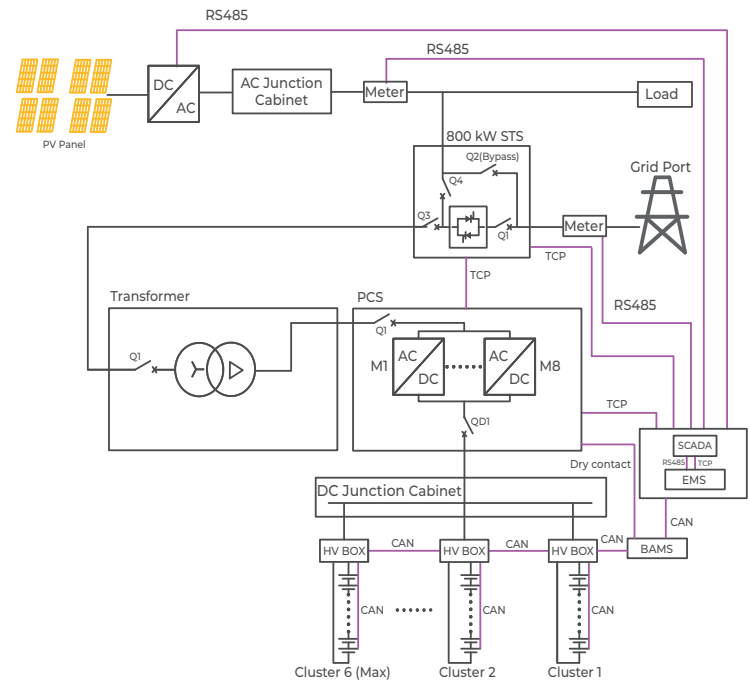
AlphaCS-H20-MEA

TOPOLOGY DIAGRAM

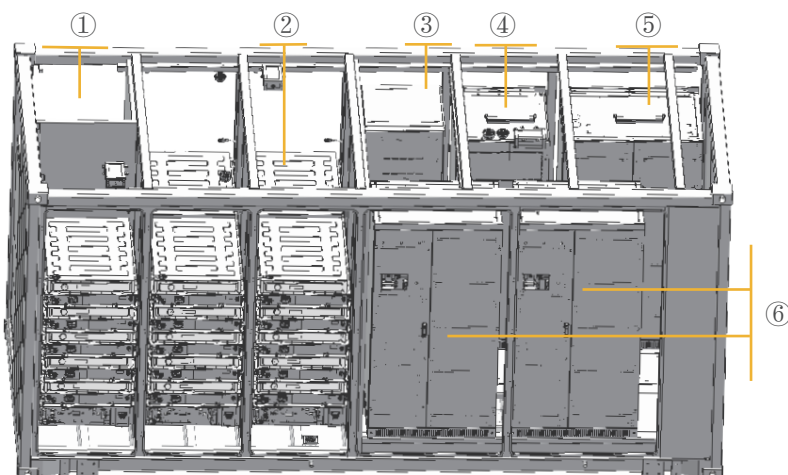
DC-Coupling Solution



AC-Coupling Solution

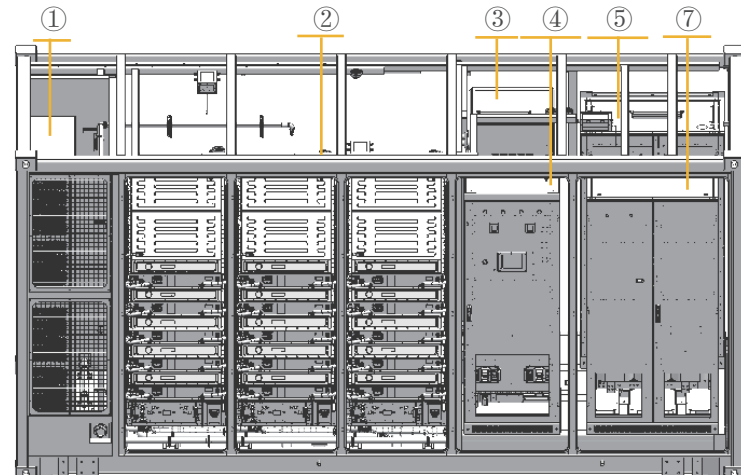


DC-Coupling



- ①: Liquid cooling unit
- ②: Battery Cluster
- ③: DC junction Cabinet
- ④: STS

AC-Coupling



- ⑤: PCS
- ⑥: DCDC
- ⑦: Transformer

Equipment Parameter

PCS		
Model	PWS1-250KTL-CN	PWS1-500KTL-CN
Battery Voltage Range	600 ~ 900 V	600 ~ 900 V
Max. Charging / Discharging Current	440 ADC	873 ADC
Nominal Power	250 kW	500 kW
Rated Voltage	400 V	400 V
Grid Voltage Range	380/400(-15%~15%)VAC, 3L / N / PE	340 ~ 460 V, 3L / N / PE
Power Factor Range	0.99 / -1 ~ 1	0.99 / -1 ~ 1
Rated Output Frequency	50/60(-2.5~2.5) Hz	50 / 60 Hz
Dimensions (W×D×H)	1200*2160*800 mm	1100×800×2160 mm
Rated AC Current	380 A	760 A
Transformer		
Model	PWT-500K	
Rated Capacity	500kVA	
Input Voltage	380V	
Output Voltage	400V	
Group of Connections	Dyn11	
Insulation Class	H	
No-Load Current	5%	
Full-Load Efficiency	≥99.17%	
Ambient Temperature	-25 ~ 50°C	
Weight	1580 kg	
Dimension (W×H×L)	1100×800×2160 mm	
STS		
Model	PWD_800K	
Rated Capacity	800 kW	
Rated Voltage	400 V	
Input Voltage Range	-15% ~ 15%	
Output Voltage Range	-15% ~ 15%	
Nominal Current	1154 A	
AC Frequency	50Hz / 60Hz±2.5Hz	
Switching Time Gap	≤20 ms	
Ingress Protection	IP20	
Wiring Mode	Three Phase, 4 Wires	
Max. Efficiency	99.5% (Full Load)	
Cooling Method	Forced Air Cooling	
Dimensions (W×H×L)	800×800×2160 mm	
Weight	450 kg	

Equipment Parameter



DCDC	
Model	PDS1_400K
HV DC Bus Voltage	LV voltage+40V ~ 900
HV DC Bus Current	0~130A×8
LV PV Input Voltage/Battery Voltage	250~800V
LV PV Input Current/Battery Current	0~130A×8
Power Rating	50kW×8
Ingress Protection	IP20
Weight	Cabinet 280kg + Module 40kg*n (n=1,2,...,8)
Dimension (W×H×L)	1100×2160×800 mm
Altitude	3000 m
PV Inverter (Adjust for specific projects)	
Model	SG125CX-P2
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Rated PV input voltage	600 V
MPPT voltage range	180 V – 1000 V
Max. PV input current	360 A (30 A * 12)
Rated AC output power	125 kW
Max. AC output current	181.1 A
Rated AC voltage	3 / N / PE, 400 V
AC voltage range	320 V – 480 V
Rated grid frequency	50 Hz / 60 Hz
Cooling method	Smart forced air cooling
Ingress Protection	IP66
Weight	89.5kg
Dimension (W×H×D)	1020×795×360 mm

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