

[illegible]

AlphaCS-H40-MEA

1000 V Liquid-Cooling System

CAPACITY

Battery Module: 52.2 kWh

40ft. DC Coupling: 500 kW / Max. 2351 kWh

40ft. AC Coupling: 500 kW & 1 MW / Max. 2351 kWh



All-in-One Design

Easily Installation

Seamless Switching (< 20ms)

Easily Set Function Parameters

Intelligent liquid cooling temperature control

AlphaCS-H40-MEA



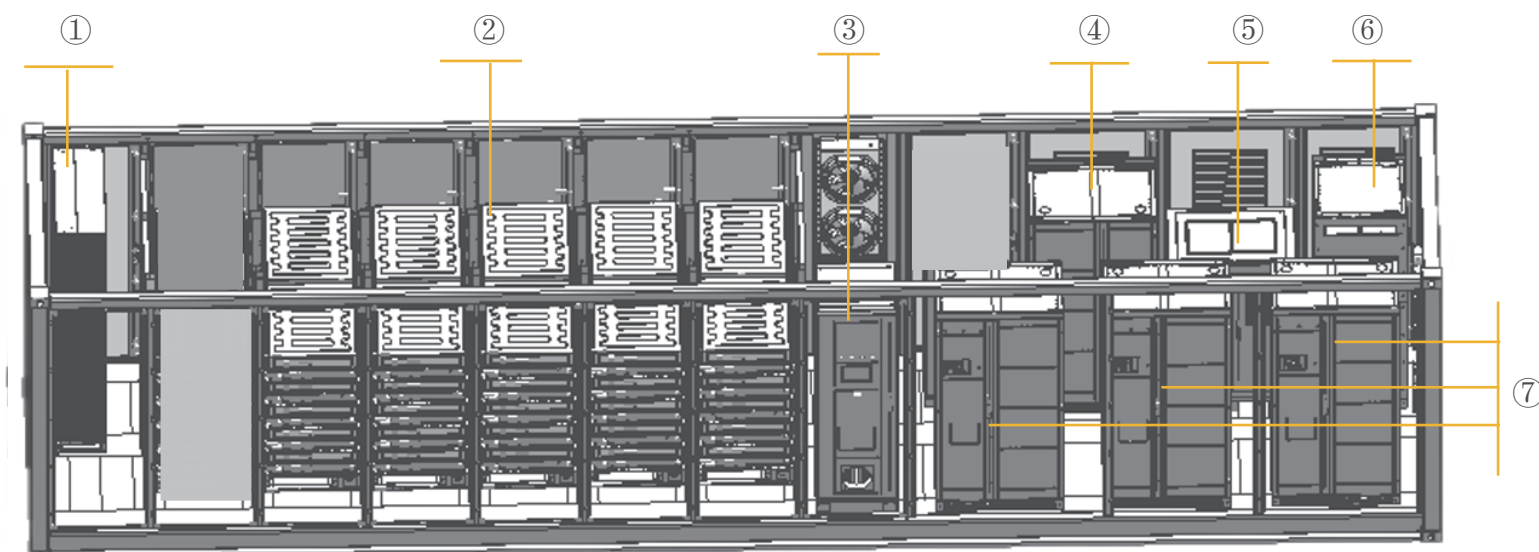
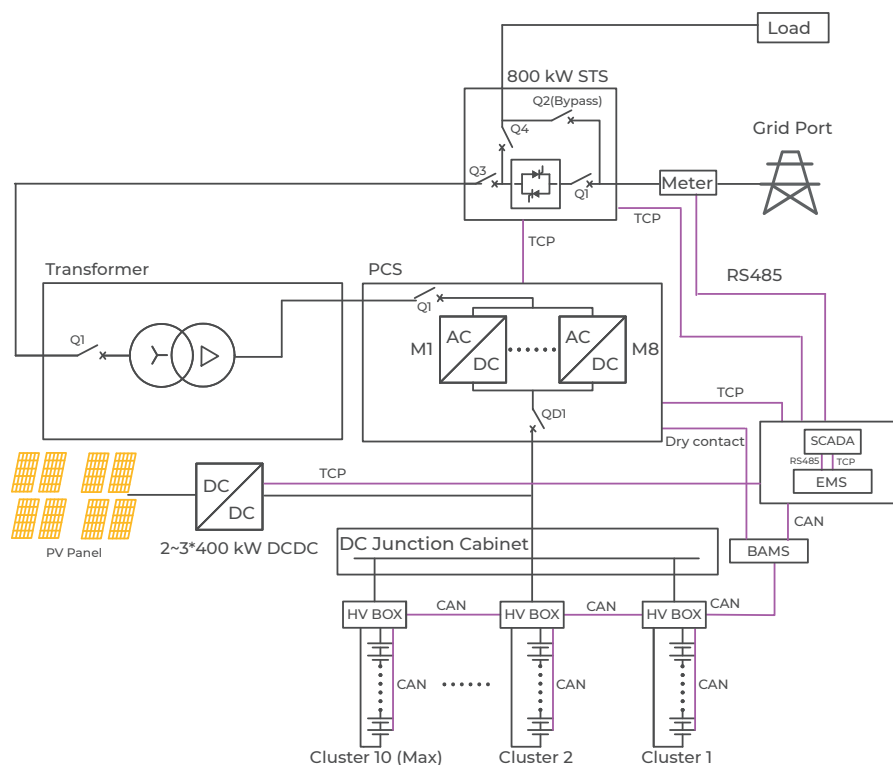
Model	AlphaCS-H40-MEA-DC500		AlphaCS-H40-MEA-AC500/1000
DC Parameters			
Nominal Capacity	Max. 2,351.2 kWh		
Battery Cluster Connection	Max. 10 Clusters in Parallel		
Rated Voltage	748.8 VDC		
Working Voltage Range	631.8 ~ 842.4 VDC		
Battery Chemistry	LFP (LiFePO ₄)		
Battery Cooling Type	Liquid Cooling		
AC Parameters			
Rated Charging and Discharging Power	500 kW	1~2 * 500 kW	
HV DC bus voltage	LV voltage + 40 V ~ 900 V	/	
LV PV input voltage	250 ~ 800V	/	
Max. PV Power	1,200 kW	/	
AC Current	760 A		
AC Frequency	50 Hz / 60 Hz (± 2.5 Hz)		
On-grid/off-grid switch time	<20 ms / <200 ms		
Rated Grid voltage	400 VAC (±15%)		
Physical Parameters			
Dimensions (W x D x H)	12,192 x 2,438 x 2,896 mm		
Ingress Protection	IP54		
Product Type	Outdoor (Container)		
Fire-Fighting System	Aerosol		
System Weight	40 t	42.5 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 1,125.5 x 237.5 mm		
Operating Temperature Range	-30 °C ~ 50 °C*		
Certification			
Safety	UN38.3, UN3536, IEC 62619, IEC 62477, IEC 61000, UL9540A		

*The optimum temperature range is 15~35 °C. If the ambient temperature is too high or too low, the battery performance may deteriorate.

AlphaCS-H40-MEA-DC500

TOPOLOGY DIAGRAM

DC-Coupling Solution

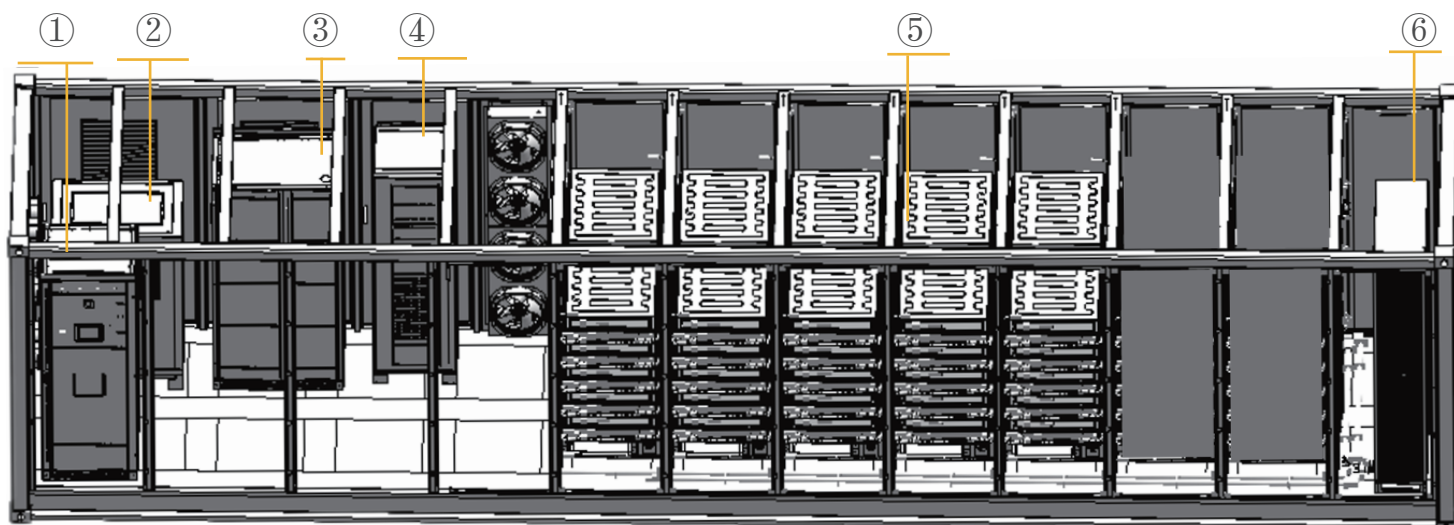
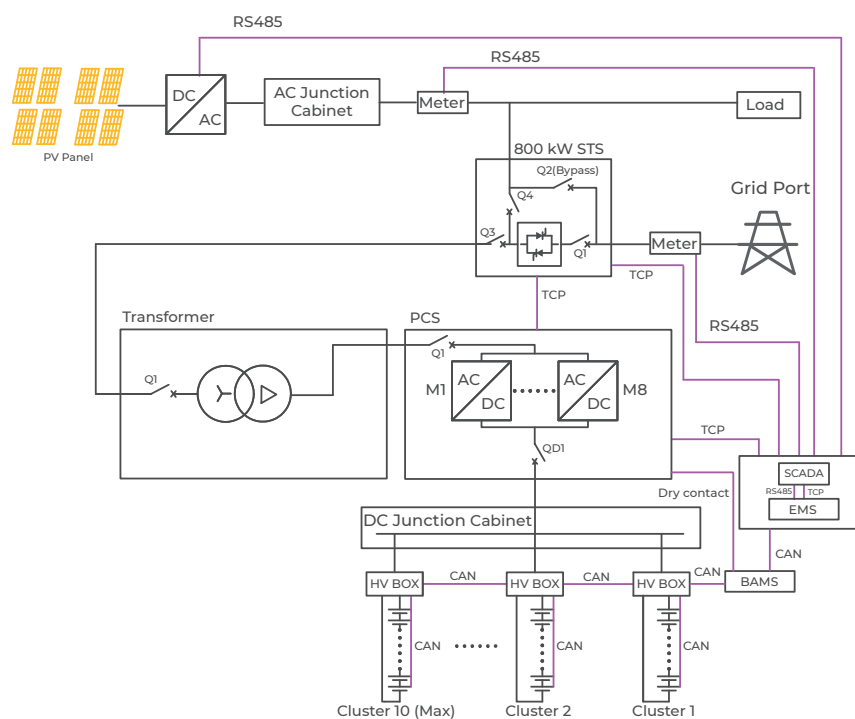


- ①: Liquid cooling unit
- ②: Battery Cluster
- ③: DC junction Cabinet
- ④: PCS
- ⑤: Transformer
- ⑥: STS
- ⑦: DCDC

AlphaCS-H40-MEA-AC500

TOPOLOGY DIAGRAM

AC-Coupling Solution

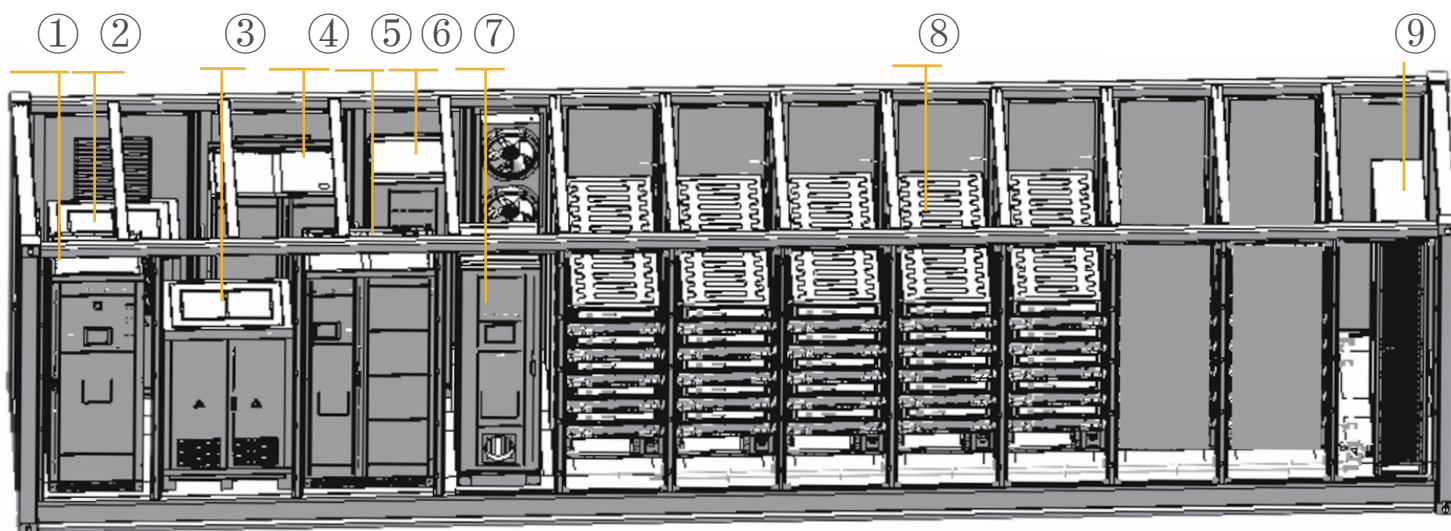
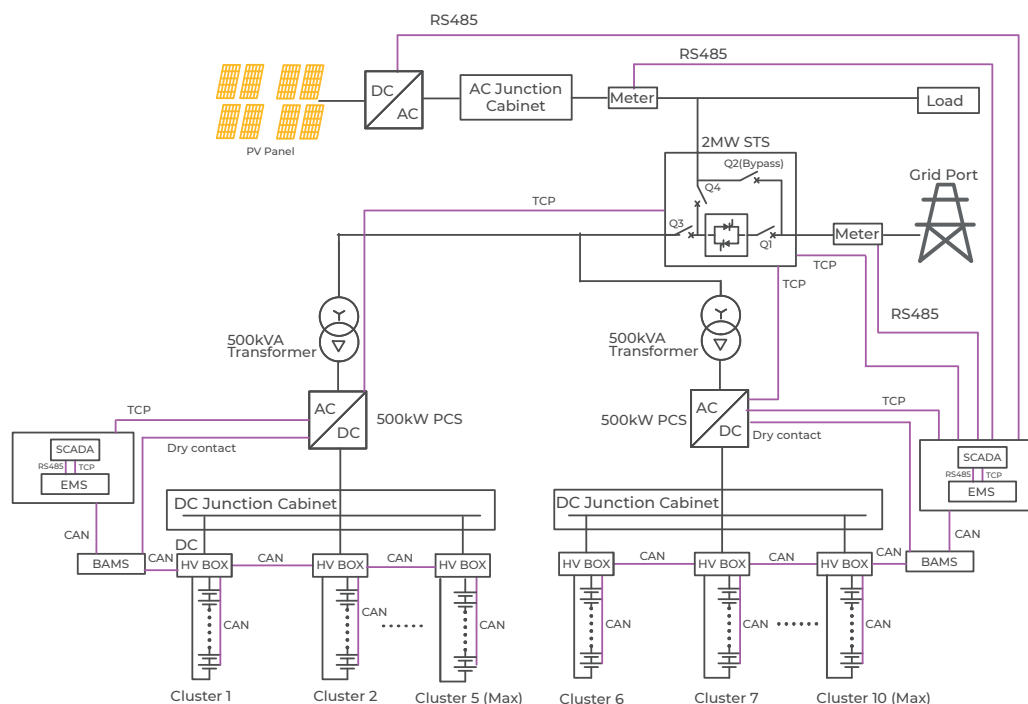


- ①: STS
- ②: Transformer
- ③: PCS
- ④: DC junction Cabinet
- ⑤: Battery Cluster
- ⑥: Liquid cooling unit

AlphaCS-H40-MEA-AC1000

TOPOLOGY DIAGRAM

AC-Coupling Solution



- ①: STS
- ②: Transformer
- ③: Transformer
- ④: PCS
- ⑤: PCS
- ⑥: DC junction Cabinet
- ⑦: DC junction Cabinet
- ⑧: Battery Cluster
- ⑨: Liquid cooling unit



Equipment Parameter

PCS		
Model	PWS1-500KTL-CN	
Battery Voltage Range	600 ~ 900 V	
Max. Charging / Discharging Current	873 ADC	
Nominal Power	500 kW	
Rated Voltage	400 V	
Grid Voltage Range	340 ~ 460 V, 3L / N / PE	
Power Factor Range	0.99 / -1 ~ 1	
Rated Output Frequency	50 / 60 Hz	
Dimensions (W×D×H)	1,100 × 800 × 2,160 mm	
Rated AC Current	760 A	
Transformer		
Model	PWT-500K	
Rated Capacity	500 kVA	
Input Voltage	380 V	
Output Voltage	400 V	
Group of Connections	Dyn11	
Insulation Class	H	
No-Load Current	5%	
Full-Load Efficiency	≥99.17%	
Ambient Temperature	-25 ~ 50 °C	
Weight	15,80 kg	
Dimension (W×H×L)	1,100 × 800 × 2,160 mm	
STS		
Model	PWD_800K	PWD_2000K
Rated Capacity	800 kW	2,000 kW
Rated Voltage	400 V	400 V
Input Voltage Range	-15% ~ 15%	-15% ~ 15%
Output Voltage Range	-15% ~ 15%	-15% ~ 15%
Nominal Current	1,154 A	3,039 A
AC Frequency	50 Hz / 60 Hz ± 2.5 Hz	50 Hz / 60 Hz ± 2.5 Hz
Switching Time Gap	≤20 ms	≤200 ms
Ingress Protection	IP20	IP20
Wiring Mode	Three Phase, 4 Wires	Three Phase, 4 Wires
Max. Efficiency	99.5% (Full Load)	99.5% (Full Load)
Cooling Method	Forced Air Cooling	Forced Air Cooling
Dimensions (W×H×L)	800 × 800 × 2,160 mm	800 × 800 × 2,160 mm
Weight	450 kg	600 kg
Altitude	3,000 m	3,000 m



Equipment Parameter

DCDC	
Model	PDS1_400K
HV DC Bus Voltage	LV voltage + 40 V ~ 900 V
HV DC Bus Current	0 ~ 130 A ×8
LV PV Input Voltage/Battery Voltage	250 ~ 800 V
LV PV Input Current/Battery Current	0 ~ 130 A ×8
Power Rating	50 kW×8
Ingress Protection	IP20
Weight	Cabinet 280 kg + Module 40 kg*n (n=1,2,...,8)
Dimension (W×H×L)	1,100 × 2,160 × 800 mm
Altitude	3,000 m
PV Inverter (Adjust for specific projects)	
Model	SG125CX-P2
Recommended max. PV input power	175 kW
Max. PV input voltage	1,100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPPT voltage range	180 V – 1,000 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, 230 V / 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	89.5 kg
Dimension (W×H×D)	1,020 × 795 × 360 mm
Altitude	4,000 m

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