

LIQUID COOLING C&I SYSTEM COMPONENTS

ZES ESS liquid cooling C&I battery solution has both only DC cabinet System option which support bigger capacities with parallel connection capability and also all in one cabinet option to provide a compact and ready design. ZES ESS, can support you for any use cases with several C&I solutions.



C&I BATTERY SOLUTIONS

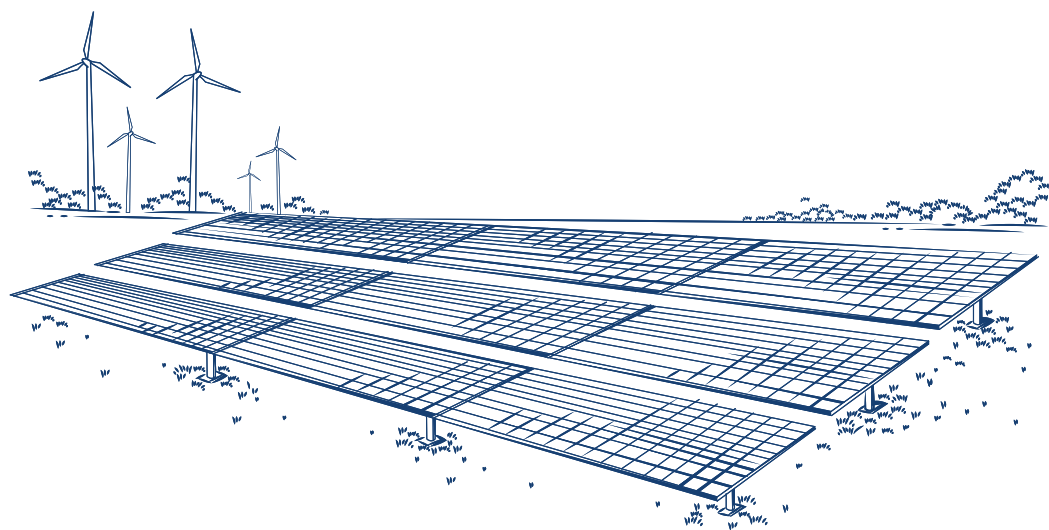
LIQUID COOLING C&I CABINET TECHNICAL PARAMETERS

PARAMETERS	418KWH	261KWH
AC Side		
Rated output power	N/A	125kW
Maximum AC power	N/A	138kW (continuous for 1 minute)
Grid voltage	N/A	400V ac/3P+N+PE
Grid frequency	N/A	50Hz/60Hz
AC voltage harmonics	N/A	≤3% (linear load)
DC component	N/A	<0.5% _{p-n}
Power factor range	N/A	0.99
Energy conversion efficiency	N/A	≥89%
DC Side		
Cell type	LFP 314Ah	LFP 314Ah
Grouping method	1P416S	1P260S
Rated energy	418kWh	261.00kWh
Rated capacity	314Ah	314Ah
Rated voltage	1331.2 Vdc	832V
Recommended voltage range	1164.8~1497.6 Vdc	DC 728~936V
Charging/discharging rate	≤1C	≤0.5C
Maximum current	314Ah	157A
Discharge depth	95%DOD	95%DOD
General Parameters		
Cycle life	≥8000 times (25±2°C)	≥8000 times (25±2°C)
Protection level	IP65	IP65
Cooling method	Active liquid cooling	Active liquid cooling
Operating temperature	-25 to 55°C	-25 to 55°C
Relative humidity	0~95%RH	0~95%RH
Working Altitude	≤2000m	≤2000m
Dimensions (W*D*H)	1,300 × 1,300 × 2,400 mm	1050*1350*2400mm
Total weight	Approximately 3,700kg	Approximately 2,670kg
Fire protection system	PACK-level aerosol (Optional) + RACK-level aerosol fire extinguishing	PACK-level aerosol (Optional) + RACK-level aerosol fire extinguishing
Communication	Ethernet/RS485/CAN	Ethernet/RS485/CAN
Standards complied with	UN38.3, IEC62619, IEC63056, IEC62281, IEC62619, IEC61000	UN38.3, IEC62619, IEC63056, IEC62281, IEC62619, IEC61000

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LIQUID COOLING C&I CABINET BATTERY MODULE SPECIFICATIONS

PARAMETERS	52S PACK (314Ah)	52S PACK (314Ah)
Model	52S Battery Pack	52S Battery Pack
Cell Configuration	52S1P	52S1P
Design Capacity	314Ah	314Ah
Cell Chemistry	Lithium Iron Phosphate (LFP)	Lithium Iron Phosphate (LFP)
Cell Under Voltage (per cell)	2.8V	2.8V
Cell Over Voltage (per cell)	3.6V	3.6V
Voltage Range	DC 145.6 - 187.2V (Nominal 166.4V)	DC 145.6 - 187.2V (Nominal 166.4V)
Rated Energy	52.250Wh (166.4V × 280Ah)	52,249.6Wh (166.4V × 314Ah)
Maximum CHARGE/DISCHARGE Current	314Ah @1C	157A @0.5C
SAFE Pin Activation Enabled	NO	NO
Communication Protocols	Daisy Chain, UART	Daisy Chain, UART
Cooling Method	Active liquid cooling	Active liquid cooling
Circuit breaker	550A @250Vdc, 1pcs	315A @250Vdc, 1pcs
Manual Safety Disconnect	350A@1500Vdc, 1pcs	350A@1500Vdc, 1pcs
Cell Balancing Enabled	Yes	Yes
Internal or External Temperature Sensor	External Enabled	External Enabled
BMU Features	Voltage Monitoring (Max. 52 sampling) Temperature Monitoring (Max. 52 Sampling) Passive Balancing Overcurrent Self Protection Voltage Drop Monitoring (Optional) Manual Safety Clamp Detection (Optional)	Voltage Monitoring (Max. 52 sampling) Temperature Monitoring (Max. 52 Sampling) Passive Balancing Overcurrent Self Protection Voltage Drop Monitoring (Optional) Manual Safety Clamp Detection (Optional)
Power Consumption (Active Mode)	min. 60mA ; max. 100mA	min. 60mA ; max. 100mA
Power Consumption (Shut Down Mode)	min. 60uA ; max. 100uA	min. 60uA ; max. 100uA
Display Mode	2-bar LED(Run,Alarm) (Optional)	2-bar LED(Run,Alarm) (Optional)
Applicable System Voltage Level	≤1500V DC	≤1500V DC
Operating Temperature	-25 to 55°C	-25 to 55°C
Storage Temperature	-20°C to 45°C	-20°C to 45°C
Relative Humidity	0% to 95% RH	0% to 95% RH
IP Rating	IP65	IP65
Dimensions	790 x 1140 x 248 mm	790 x 1140 x 248 mm
Weight	315kg	330kg
Cycle Life	≥ 8000 cycles (70% SOH @25°C)	≥ 8000 cycles (70% SOH @25°C)
Compliance	CE, RoHS	CE, RoHS
Certifications	IEC 62619, IEC 62281	IEC 62619, IEC 62281



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