LARGE-SCALE C&I ESS SOLUTION

DEYE WINTER WS SERIES



Integrated Technology

- LC, PCS, MPPT, and battery integrated
- EMS for system management
- ATS for on/off-grid switching
- 1 MW PCS output, 1.6 MWp solar input
- System energy capacity: 2057 kWh

Performance

- 1.1x overload, 1.5x overload
- System Operating Conditions : -20°C ~ 55°C | IP54 | C4-M
- Supports 2 PCS & 2 MW off-grid

Advanced Safety

- 2-hour fire resistance
- Combustible gas detection, smoke evacuation, aerosol extinguishers, water sprinklers

Applications

- Support black start function
- Support off-grid operation & back up
- Support peak shaving
- Transformer capacity control

4 Level
Power Redundancy Design

C4-M
High Protection

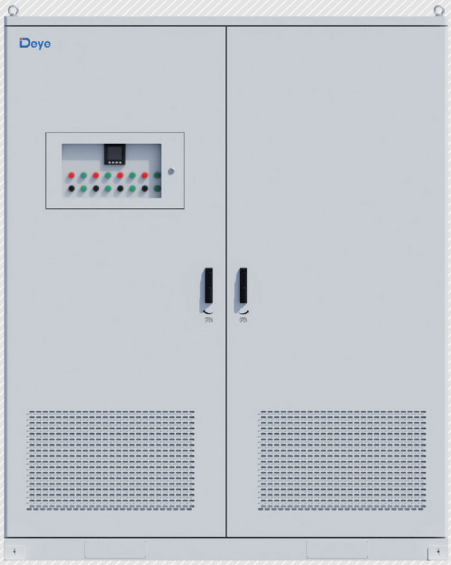
Air-Cooled ESS

Model	WS-GS2000-2H3	WS-G2000-2H3
AC parameter		
Rated power	1000kW	
Max. Apparent Power	1100kVA	
AC Rated Current	1443A(8×180.4A)	
Rated Voltage/Range	400V/0.85Un-1.1Un	
Grid Connection Form	3L+N+PE	
Frequency/Range	50Hz/45Hz-55Hz	
Power Factor Adjustment Range	-1~+1	
Total Current Harmonic Distortion （THDi）	<3% (of Rated power)	
DC Injection Current	<0.5% In	
Max.RTE(excluding auxiliary supply)	86%	
Battery parameter		
Cell type	LFP	
Nominal Capacity (Cell)	314Ah	
PACK Configuration	1P16S	
Battery configuration	256S1P*8	
Battery energy	2057kWh	
Battery voltage range	819.2Vdc(691.2~921.6Vdc)	
Other parameter		
Fire protect system	Gas fire protection+Water fire protection	
Cooling type	Air cooling	
Communication port	RJ45	
Communication protocol	Modbus TCP，IEC104，IEC61850	
Operating ambient	-20~55 °C	
Humidity	0%~90%RH	
Altitude	3000m	
IP rating of enclosure	IP54	
Anti-corrosion level	C4-M	
Seismic grade	Moderate performance level (0.5g)	
Dimension (W/D/H,mm)	6058 x2438 x 2896 mm	
Weight approximate (kg)	⩽26000kg	
Installation Location	Floor mount	
Recommend storage temperature (°C)	-20~60	
PV parameter		
Max. PV Input Power	1280kW(160kW*8)	/
Max. PV Input Voltage	800Vdc	/
Start-up Voltage	200Vdc	/
MPPT Voltage Range	180-750Vdc	/
Full Load MPPT Voltage Range	450-750Vdc	/
Rated PV Input Voltage	600Vdc	/
Max. Operating PV Input Current	8×（40+40+40+40+40+40+40+40）A	/
Max. Input Short-Circuit Current	8×（60+60+60+60+60+60+60+60）A	/
No. of MPP Trackers	64（8*8）	/
Max. Efficiency	>99%	/

Air-Cooled ESS

Model	WS-GS2000-4H3	WS-G2000-4H3
AC parameter		
Rated power	500kW	
Max. Apparent Power	550kVA	
AC Rated Current	722A(8×180.4A)	
Rated Voltage/Range	400V/0.85Un-1.1Un	
Grid Connection Form	3L+N+PE	
Frequency/Range	50Hz/45Hz-55Hz	
Power Factor Adjustment Range	-1~+1	
Total Current Harmonic Distortion （THDi）	<3% (of Rated power)	
DC Injection Current	<0.5% In	
Max.RTE(Excluding Auxiliary Supply)	86%	
Battery parameter		
Cell Type	LFP	
Nominal Capacity (Cell)	314Ah	
PACK Configuration	1P16S	
Battery Configuration	256S1P*8	
Battery Energy	2057kWh	
Battery Voltage Range	819.2Vdc(691.2~921.6Vdc)	
Other parameter		
Fire Protect System	Gas Fire Protection+Water Fire Protection	
Cooling Type	Air Cooling	
Communication Port	RJ45	
Communication Protocol	Modbus TCP，IEC104，IEC61850	
Operating Ambient	-20~55 °C	
Humidity	0%~90%RH	
Altitude	3000m	
IP Rating of Enclosure	IP54	
Anti-corrosion Level	C4-M	
Seismic Grade	Moderate Performance Level (0.5g)	
Dimension (W/D/H,mm)	6058 x2438 x 2896 mm	
Weight Approximate (kg)	⩽26000kg	
Installation Location	Floor Mount	
Recommend Storage Temperature (°C)	-20~60	
PV parameter		
Max. PV Input Power	640kW(160kW*4)	/
Max. PV Input Voltage	800Vdc	/
Start-up Voltage	200Vdc	/
MPPT Voltage Range	180-750Vdc	/
Full Load MPPT Voltage Range	450-750Vdc	/
Rated PV Input Voltage	600Vdc	/
Max. Operating PV Input Current	4×（40+40+40+40+40+40+40+40）A	/
Max. Input Short-Circuit Current	4×（60+60+60+60+60+60+60+60）A	/
No. of MPP Trackers	32（4*8）	/
Max. Efficiency	>99%	/

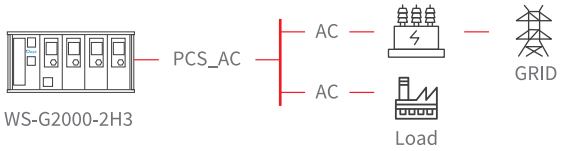
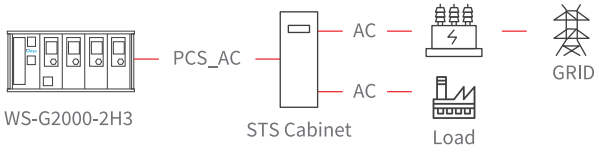
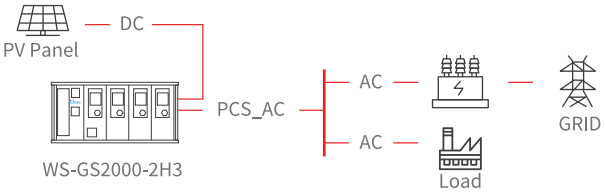
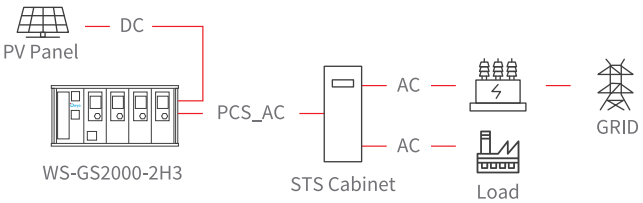
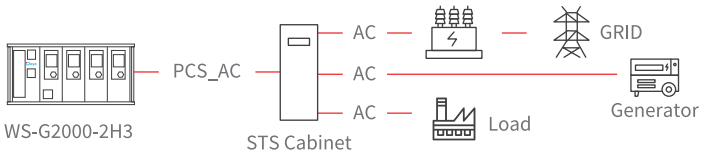
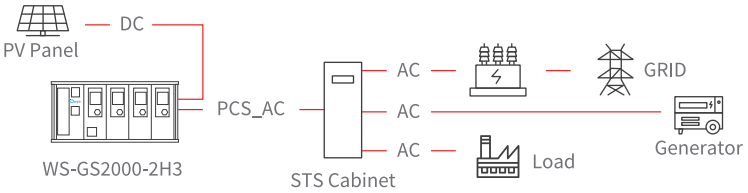
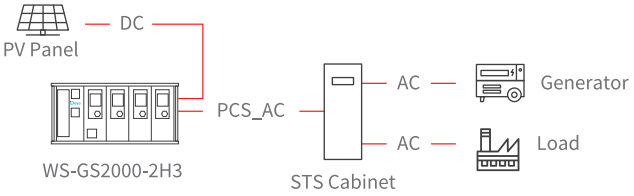
Liquid-Cooled ESS



WS-TS1000-2-A

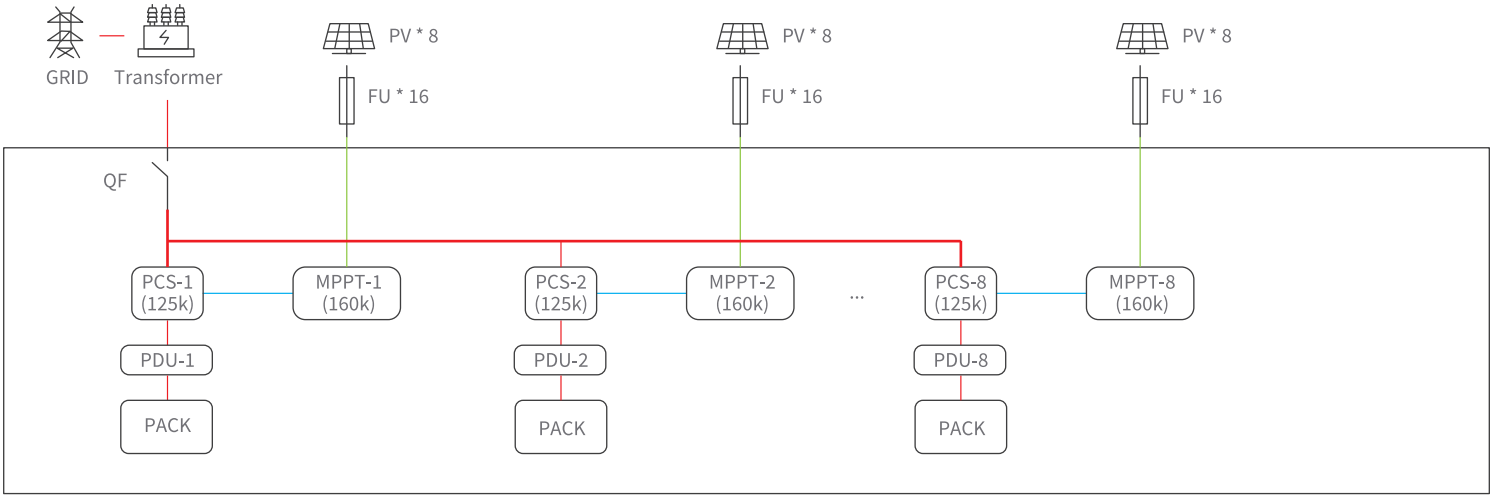
Model	WS-TS1000-2-A
Grid Side Data	
Rated AC Input/Output Active Power (kw)	1000
Rated AC Input/Output Current(A)	1450
Rated input/Output Voltage(V)	220/380,230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated input/Output Grid Frequency	50Hz/60Hz
Load Side Data	
Rated AC Input/Output Active Power(kw)	1000
Rated AC Input/Output Current	1450
Rated Input/Output Voltage(V)	220/380,230/400(three phase)
Grid Connection Form	3L/N/PE
Rated input/Output Grid Frequency	50Hz/60Hz
GEN Side Data	
Rated AC Input/Output Active Power (kW)	1000
Rated AC input/Output Current(A)	1450
Rated Input/Output Voltage(V)	220/380,230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated input/Output Grid Frequency	50Hz/60Hz
System Data	
Dimension (W x D x H, mm)	2000 × 1200 × 2450mm
Weight Appr. (kg)	1600
System Operating temperature range	-20~55 °C
Max. working altitude (m)	⩽3000
IP Rating of Enclosure	IP54
Switching Time (ms)	⩽20

Air-Cooled ESS

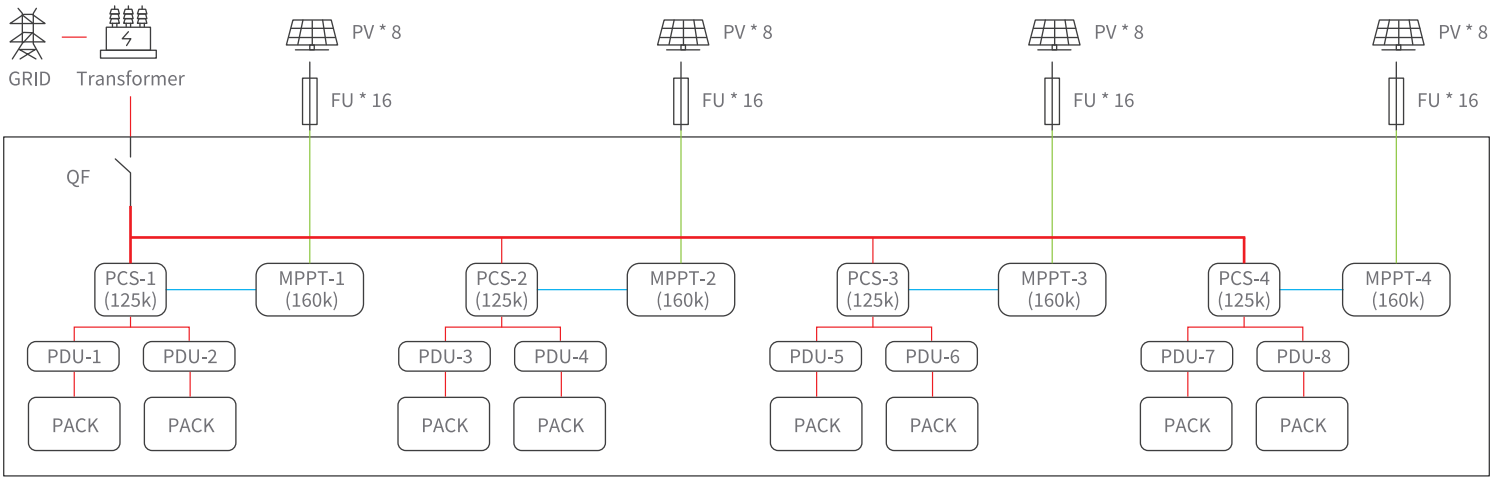
Categorisation	Combination	Application block diagram
On-grid/On-grid, Off-grid Switching	Energy Storage Only	
	Energy Storage/Backup Power	
	Energy Storage+Photovoltaic	
	Energy Storage+Photovoltaic/ Standby Power	
	Energy Storage+Generator	
	Energy Storage+Photovoltaic+ Generator	
Off-grid	Energy Storage+Photovoltaic	
	Energy Storage+Photovoltaic+ Generator	

Air-Cooled ESS

2-hour Energy Storage Solution 1MW/2MWh(2h)

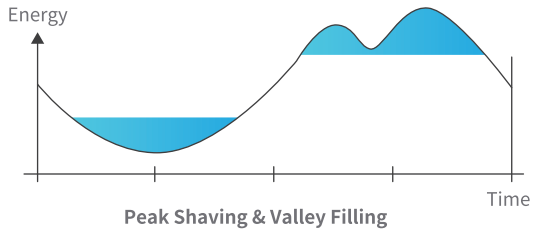


4-hour Energy Storage Solution 0.5MW/2MWh(4h)



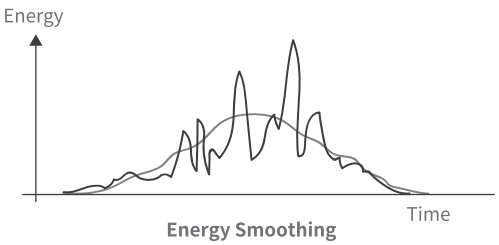
Application Scenarios

1.Applied in medium to large-scale C&I applications (Peak Shaving & Valley Filling)



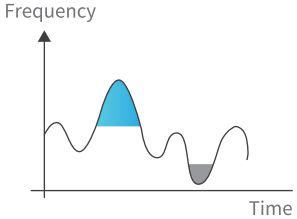
Peak Shaving & Valley Filling

2.Integrated with renewable energy storage systems to smooth power output

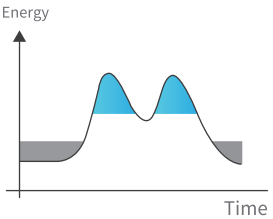


Energy Smoothing

3.Used for Peak Shaving and Frequency Regulation on the power generation side



Frequency Regulation



Peak Shaving

4.Participates in virtual power plants to provide ancillary power services (electricity trading)

