

# UTILITY-SCALE 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
- ⊙ System size and weight: 20ft, 25,000 kg



## Performance

- ⊙ 1.1x overload, 1.5x overload
- ⊙ Max RTE: 88.5%
- ⊙ 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

**88.5%**

Max.RTE

**C4-M**

High Protection

Model	WS-GS2000-2H3	WS-G2000-2H3
<b>AC parameter</b>		
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		0.8 leading-0.8lagging
Total Current Harmonic Distortion (THDi)		<3% (of Rated power)
DC Injection Current		<0.5% In
Max.RTE		88.50%
<b>Battery parameter</b>		
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)
<b>Other parameter</b>		
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)		20ft (HC)
Weight approximate (kg)		≤26000kg
Installation Location		Floor mount
Recommend storage temperature (°C)		-20~60
<b>PV parameter</b>		
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%	/

Model	WS-GS2000-4H3	WS-G2000-4H3
<b>AC parameter</b>		
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		0.8 leading-0.8lagging
Total Current Harmonic Distortion (THDi)		<3% (of Rated power)
DC Injection Current		<0.5% In
Max.RTE		88.50%
<b>Battery parameter</b>		
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)
<b>Other parameter</b>		
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)		20ft (HC)
Weight approximate (kg)		≤26000kg
Installation Location		Floor mount
Recommend storage temperature (°C)		-20~60
<b>PV parameter</b>		
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) A	/
Max. Input Short-Circuit Current	4× (60+60+60+60+60+60+60) A	/
No. of MPP Trackers	32 (4*8)	/
Max. Efficiency	>99%	/

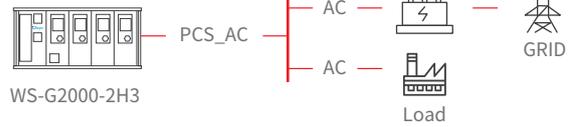


## WS-TS1000-2-A

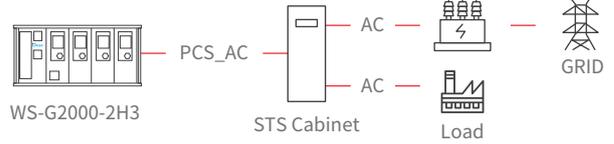
Model	WS-TS1000-2-A
<b>Grid Side Data</b>	
Rated AC Input/Output Active Power (kw)	1000
Rated AC Input/Output Current(A)	1450
Rated input/Output Voltage(V)	220/380,230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated input/Output Grid Frequency	50Hz/60Hz
<b>Load Side Data</b>	
Rated AC Input/Output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

**Categorisation      Combination      Application block diagram**

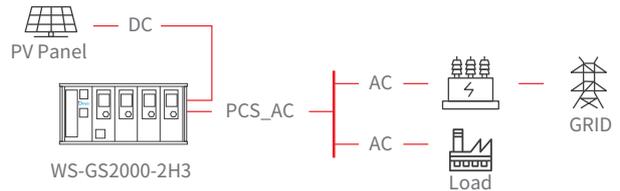
Energy Storage Only



Energy Storage/Backup Power

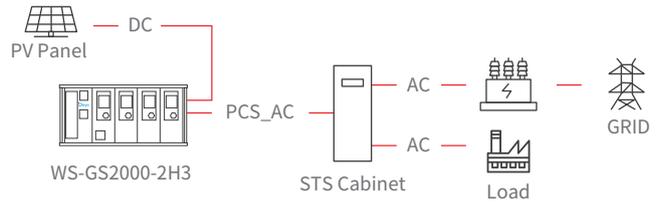


Energy Storage+Photovoltaic

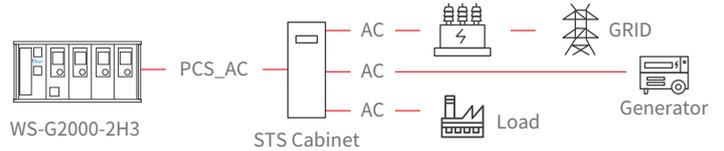


On-grid/On-grid,  
Off-grid Switching

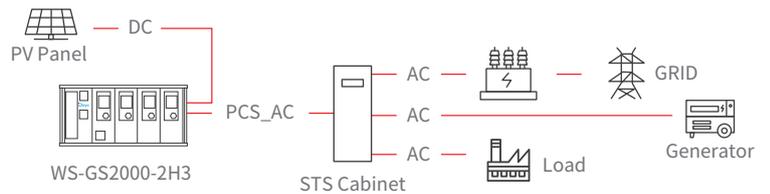
Energy Storage+Photovoltaic/  
Standby Power



Energy Storage+Generator



Energy Storage+Photovoltaic+  
Generator

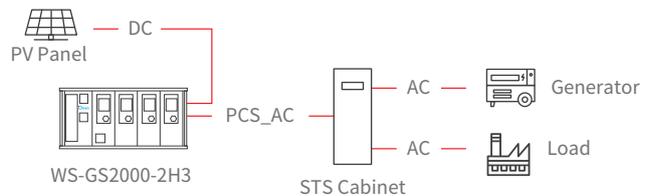


Energy Storage+Photovoltaic

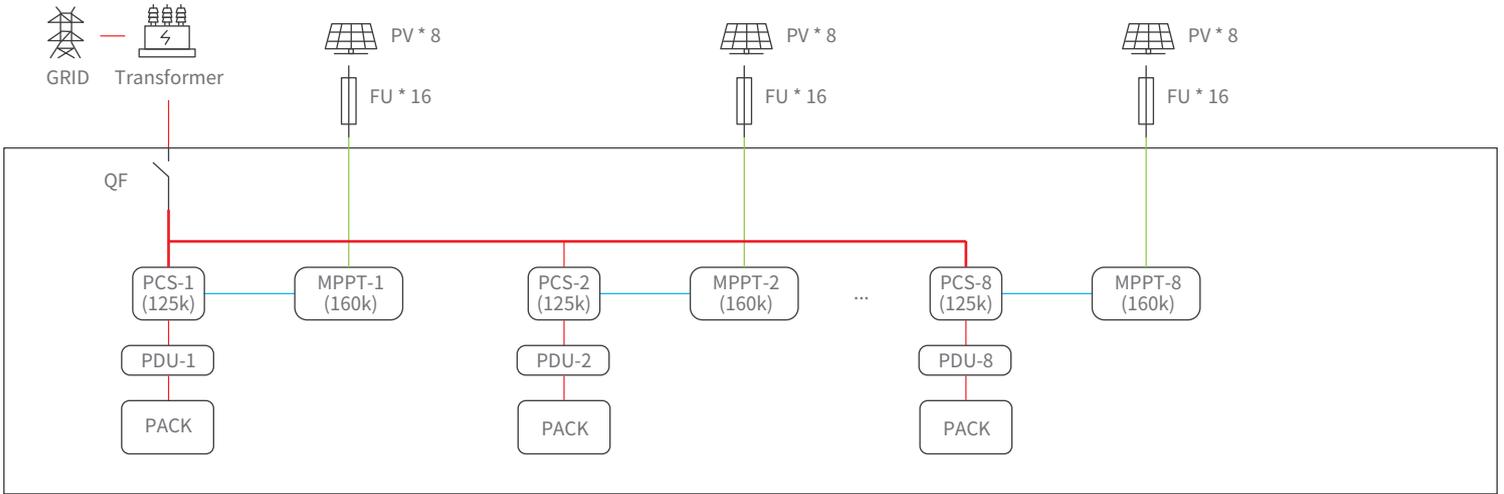


Off-grid

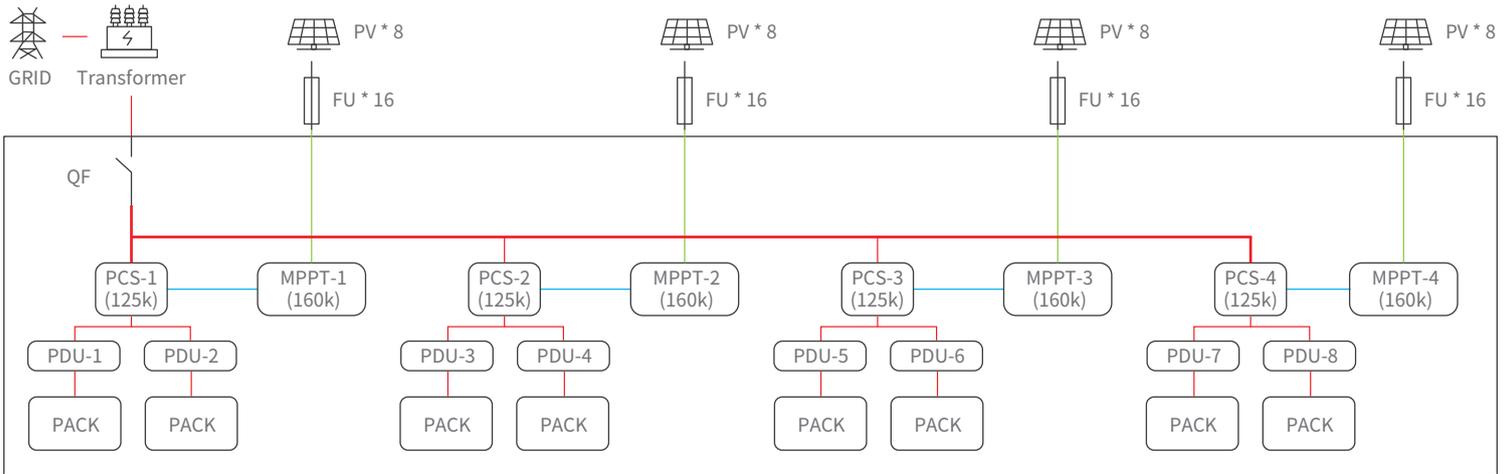
Energy Storage+Photovoltaic+  
Generator



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

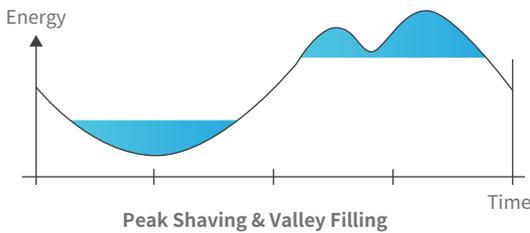


**4-hour Energy Storage Solution 0.5MW/2MWh(4h)**

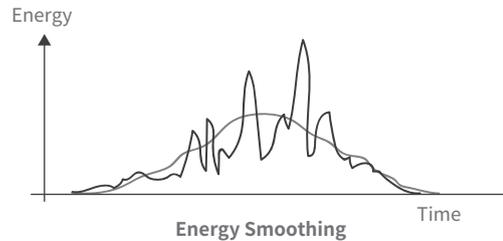


**Application Scenarios**

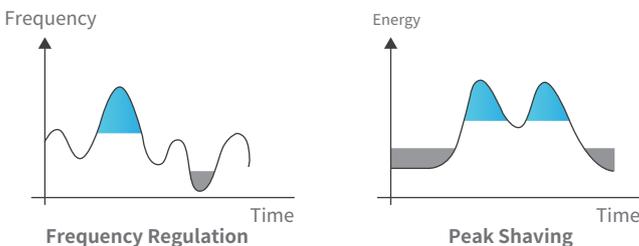
**1. Applied in medium to large-scale C&I applications (Peak Shaving & Valley Filling)**



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



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



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

