

GESS-SW-500TH-POB

500kW/552kWh (1C)



**Swedish Grid approved PCS with
EN50549, IFS 2018:2 certification**



BESS DESIGNED BY SWEDISH ENGINEERS

Global Energy Storage Solutions Battery AB

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Features

- 500kW/552kWh capacity Forced Air-cooled (1CP)
- Swedish Grid approved PCS with EN50549 & IEC 60870-5-104 certification
- Cold start operations from -20°C
- Fully containerized IP55 system
- Specially designed for FFR market with less than 600ms response time
- Can be used for other BESS applications (Reactive power trading, Peak shaving, UPS etc.)
- LiFePO4 Battery technology
- Backup power unit for emergency internal usage
- Directly communicating with IEC60870-5-104 /101, Modbus TCP
- 3 years warranty for PCS
- Cell cycle life: 4000 cycles or 5 years

CELL Standard:

- IEC 62619
- UL 1973
- UL9540A
- UN 38.3

Pack Standard:

- IEC 62619
- UL9540A

System Standards :

- IEC 62619

PCS Standards :

- IEC62477
- EN61000
- EN50549
- IEC 60870-5-104

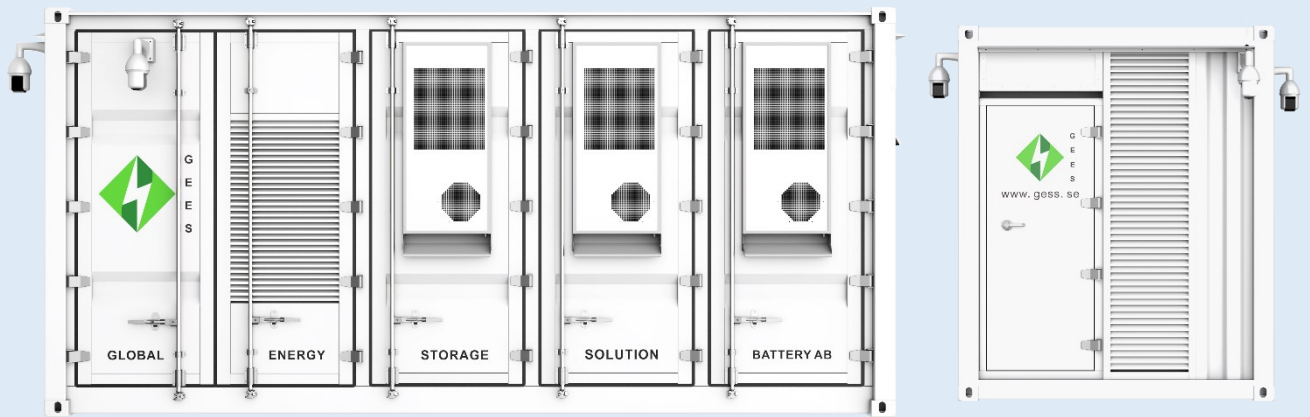
Technical specification	GESS-SW-500TH-POB
Rated discharge power (kW)	500
Rated charging power (kW)	500
Rated capacity (kWh)	552
Max. power (kW)	550
Max. 2Sec power (kW)	600
No of Cells	1,440
Battery clusters (units)	6
Number of battery stacks	2
Dimensions (L x W x H) mm	6058 *2438 *2896
Weight (T)	<22Ton
Cell parameters	
Cell type	LFP
Rated capacity (Ah)	120 (123~125)
Rated voltage (V)	3.2
Rated energy (kWh)	0.384 (+0.3936~+0.4)
Voltage range (V)	2.0-3.65
Charging cut-off voltage (V)	3.6
Discharge cut-off voltage (V)	2.8
Operating humidity	< 85% ROH, no condensation
Power Efficiency	97%
Calendar life	not less than 10 years
Battery pack parameters	
Combination	1P24S
Rated capacity (Ah)	120
Rated voltage (V)	76.8
Capacity (kWh)	9.216 (9.446-9.6)
Battery cluster parameters	
Battery packs	10
Rated capacity (Ah)	120
Rated voltage (V)	768
Rated energy (kWh)	92.16(94.46-96)
Series-parallel	1P10S
Battery stack parameters	
Clusters	3
Rated voltage (V)	768
Minimum discharge voltage (V)	672
Maximum charging voltage (V)	864
Rated power (kW)	250
Rated current (A)	360
Rated capacity (kWh)	276.48
BESS parameters	
Stacks	2
Rated voltage (V)	768
Minimum discharge voltage (V)	672
Maximum charging voltage (V)	864
Rated power (kW)	500
Rated current (A)	720

Fire Fighting system	
Perfluorohexanone fire protection system	1 set
Cooling system	
Forced air cooling system with six air conditioner units	
PCS parameters	
PCS systems	1
Nominal power	500kVA
AC max power	550kVA
AC frequency	50/60(-2.5~2.5) Hz
AC voltage	400(-15%~15%) Vac
Battery voltage range	600~900Vdc
Quantity of battery strings	4
DC max current in each branch	110A
THDi	≤ 3%
AC PF	Listed: 0.8~1 leading or lagging (Controllable) Actual: 0.1~1 leading or lagging (Controllable)
Cooling	Forced air cooling
Noise	<75dB
Enclosure	NEMA1 IP20 and optional IP54 with outdoor cabinet
Max elevation	3000m/ 10000feet (> 3000m/ 10000feet derating)
Operating ambient temperature	(-20°C to -55°C*) to 50°C (Derating over 45°C)
Humidity	0~95% (No condensing)
Size (W × H × D)	1100×2160×800 mm
Weight	Cabinet 280kg + Module 40kg*n (n=1, 2, ..., 8)
Installation	Floor standing OTP, AC OVP/ UVP, OFP/ UFP, EPO, AC Phase Reverse, Fan/ Relay Failure, OLP, GFDI, Anti-islanding
Protection	Upper/ Lower AC Voltage/ Frequency limit, Battery EOD voltage
Configurable protection limits	3-Phase 3-Wire Touch Screen
AC connection	RS485, CAN, Ethernet
Display	Non-isolation
Communication	CE LVD IEC 62477, CE EMC IEC 61000,
Isolation	EN 50549-1:2019 G99, AS4777
Certification	

*Optional features * Specification can be changed without notice



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GESS-SW-500TH-POB side views