

GESS-SW-1096TH-PO

1.096MW/1.096MWh (1C)



GESS



**SPECIALLY DESIGNED
BESS FOR
ARCTIC ENVIRONMENT**

Global Energy Storage Solutions Battery AB

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Features

- 1.096MW/1.096MWh capacity Forced Air-cooled (1CP; 1.096MW throughout 10 years guaranteed)
- Cold start operations from -55°C *
- Can operate in extreme environments up to -40°C* or -55°C * (Standard version designed for -20°C)
- Special Auxiliary heating systems to keep the battery & PCS warm for black start *
- Fully containerized IP55 system
- Internal humidity controller to ensure to prevent static discharge in extreme weather conditions*
- Separate remote condition monitoring system to monitor Internal & external CCTV cameras, Fire system, door sensors, humidity & temperature *
- 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
- Clip-on Generator mounting facility and supply socket to facilitate to maintain the BESS temperature during transport*
- Directly communicating with IEC60870-5-104 /101, Modbus TCP

CELL Standard:

- IEC 62619
- UL 1973
- UL9540A
- UN 38.3

Pack Standard:

- IEC 62619
- UL9540A

System Standards :

- IEC 62619

PCS Standards :

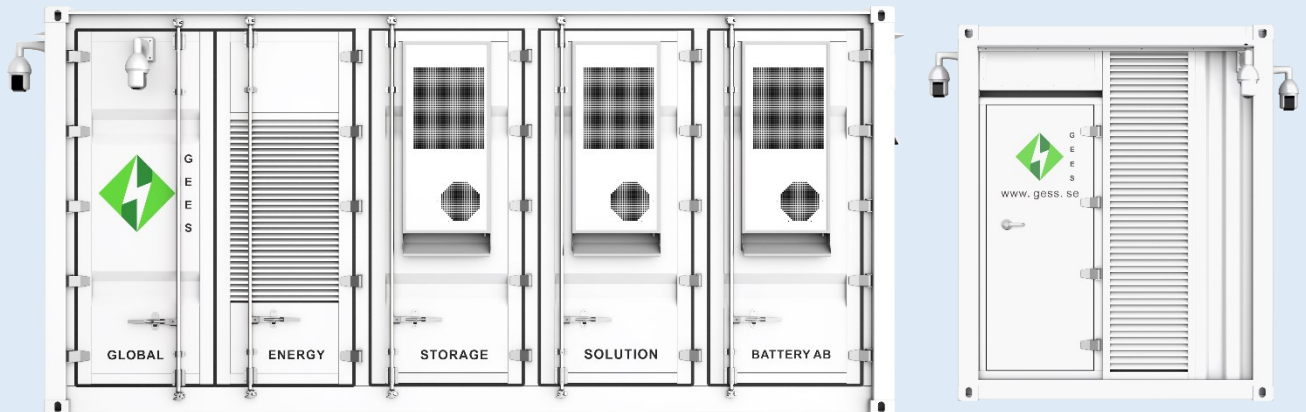
- IEC62477
- EN61000
- EN50549

Technical specification	GESS-SW-1096TH-PO
Rated discharge power (kW)	1096
Rated charging power (kW)	1096
Rated capacity (kWh)	1096.7
Max. power (kW)	1540
Max. 2Sec power (kW)	1680
No of Cells	2856
Battery clusters (units)	7
Number of battery stacks	7
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	17
Rated capacity (Ah)	120
Rated voltage (V)	1305
Rated energy (kWh)	156.6
Series-parallel	1P17S
Battery stack parameters	
Clusters	1
Rated voltage (V)	1305
Minimum discharge voltage (V)	1142.4
Maximum charging voltage (V)	1468.8
Rated power (kW)	156.6
Rated current (A)	120
Rated capacity (kWh)	156.6
BESS parameters	
Stacks	7
Rated voltage (V)	1305
Minimum discharge voltage (V)	1142.4
Maximum charging voltage (V)	1468.8
Rated power (kW)	1096
Rated current (A)	840

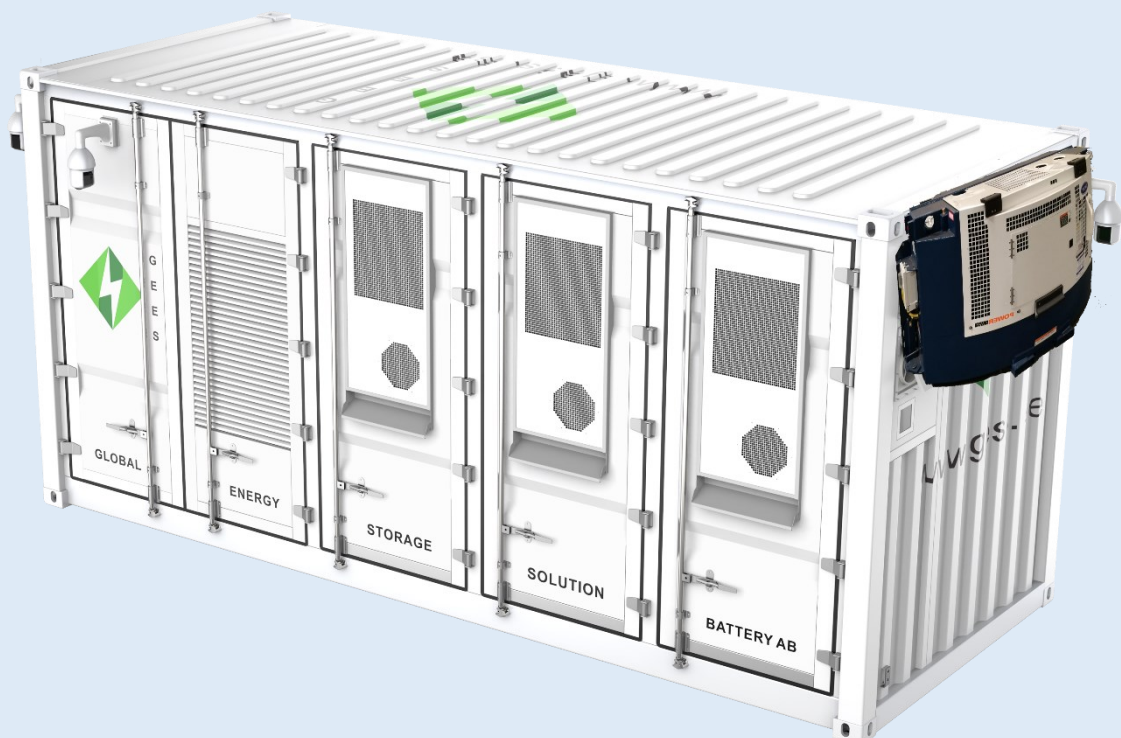
Fire Fighting system	
Perfluorohexanone fire protection system	1 set
Cooling system	
Forced air cooling system with six air conditioner units	
PCS parameters	
PCS systems	7
Nominal power	200kVA
AC max power	220kVA
AC frequency	50/60(-2.5~2.5) Hz
AC voltage	690(-15%~15%) Vac
Battery voltage range	1000~1500Vdc
Quantity of battery strings	7
DC max current in each branch	120A
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	(-40°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	
AC connection	3-Phase 3-Wire
Display	Touch Screen
Communication	RS485, CAN, Ethernet
Isolation	Non-isolation
Certification	CE LVD IEC 62477, CE EMC IEC 61000, EN 50549-1:2019 G99, AS4777



GESS-SW-1096TH-PO



GESS-SW-1096TH-PO side views



GESS-SW-1096TH-PO with Clip-On Genset attached