GS HUB
SMART ENERGY FOR LIFE

4.888MWh Container ESS

IndustrialHub – 4888kWh/CE

The liquid-cooled container energy storage system of GS-HUB GmbH mainly consists of several battery racks, a battery management system, a liquid cooling system, a fire extinguishing system, an auxiliary power distribution system and the housing. The battery rack consists of 4 battery packs and a high-voltage box in series, and the battery pack consists of 104 prismatic aluminium-shell lithium iron phosphate battery cells in series.

Product Features

Efficient & flexible

- Efficient liquid cooling & heat dissipation, synchronous improvement of battery life and system discharge capacity
- Modular design, convenient for battery replacement and system supplementation & expansion
- 1500V system, with synchronous improvement of energy density, power density and system efficiency and reduction of system cost

Cost reduction

- Intelligent liquid-cooled temperature control to reduce auxiliary power consumption of the system
- Pre- installation design for easy transportation of energy storage container
- Integral transportation to reduce on-site installation time

Safe and reliable

- Electrical cabin and battery compartment compartment design, reduce the risk of heat spread
- Multi-level electrical linkage protection measures
- Gas fire + water fire + ventilation system

Data Centers

Commercial Premises

Industrial Parks

Area Expansion

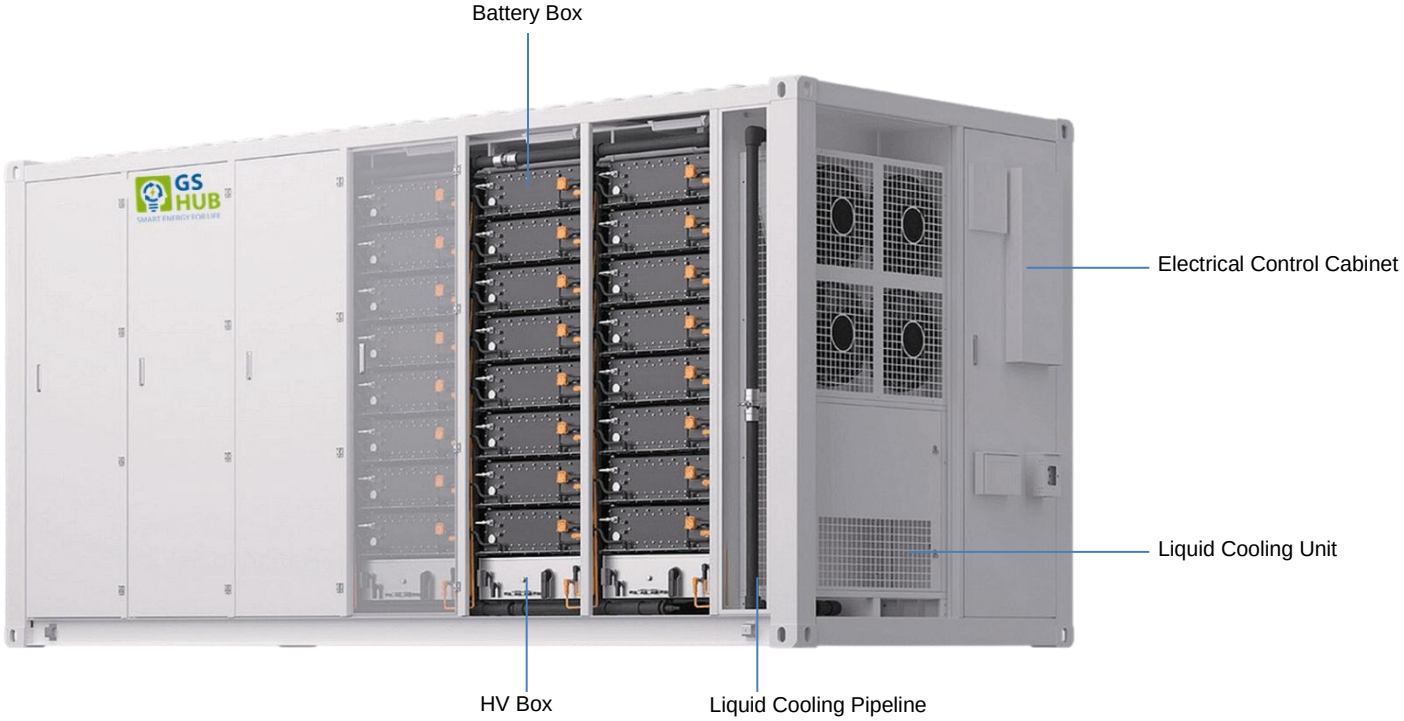
Power Generation Side

Grid Side

Technical Data

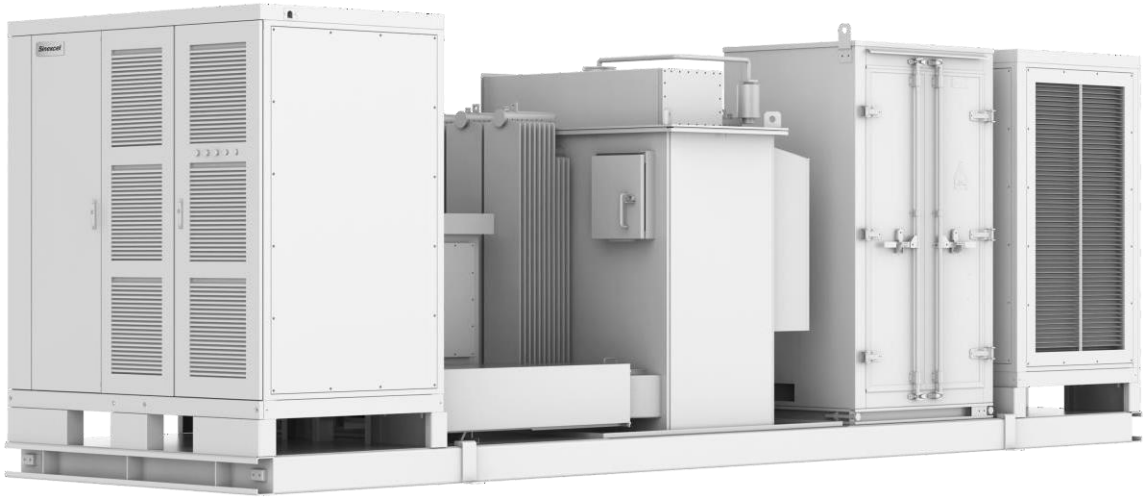
Product Type	IndustrialHub – 4888kWh/CE
Rated Energy (kWh)	4888
Rated Power (kW)	2500
Cooling Type	Liquid Cooling
Battery Cell Type (V/Ah)	3.2/306, LFP
Pack Configuration	1P104S
Rack Configuration	1P416S
Rack Quantity	12
Rated Voltage (V)	1331.2
Voltage Range (V)	1164.8~1497.6
FSS	Aerosol + Water
Dimension (W*D*H) mm	2438*6058*2896
Weight (t)	42
IP Level	IP55
Working Temperature Range (℃)	-30~55 (45 Reduction)
Altitude (m)	4000 (2000 Above Reduction)
Communication Protocol	Modbus TCP/RTU, Support IEC 61850
Communication Interface	RS485, Ethernet

Structure



SES3-342-MV-EX-Skid

Integrated Inverter Booster Unit



Features

Flexible Configuration

- Integrated inverter and booster, highly compact
- Improves space efficiency, easier installation
- Modular, configurable power

High Efficiency & Stability

- 1500V wide-range DC voltage
- Multi-branch DC design prevents battery looping currents

Intelligent Collaboration

- Automated peak shaving operation
- VSG / PQ / VF mode capabilities
- Islanding, black start capable

Safety & Compatibility

- With LVRT and HVRT
- 4-quadrant active and reactive power control
- Fast power response (<10ms)

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MVS Product Specification

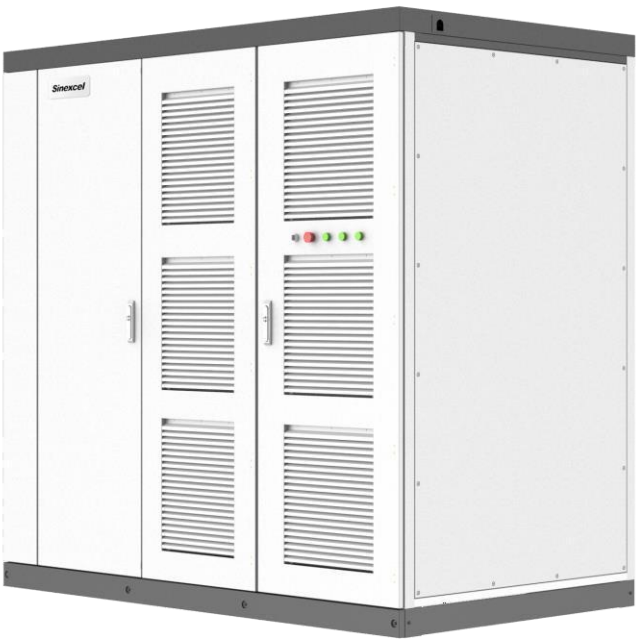
Model	SES3-342-MV-EX-Skid
LV EQUIPMENT	
Nominal power	3450kVA
DC voltage range	1000~1500V
Full load voltage range	1070~1500V
Number of DC branches	2*1/2/4/8
Maximum DC current	1662A
Voltage regulation accuracy	≤±1%
Current regulation accuracy	≤±1%
LC AND AUXILIARY EQUIPMENT	
Aux. Transformer	100kVA\690V\400V
UPS	Up to 1kVA (0.5h standard) (Consult with Sinexcel for more capacity)
Meter	Meters for Aux. Power Consumption and PCS
Communication method	Gateway
Cooling Method	Temperature controlled forced air cooling
Output Power	400V/50Hz 3P4W (Power supply for external equipment)
MV EQUIPMENT	
Nominal AC power	3450kVA@45℃
Transformer Vector	Oil-immersed transformer
Transformer protection	Protection relay for pressure, temperature (two levels) and gas.
Oil retention tank	Galvanized steel. Integrated with hydrocarbon filter. Optional
Switchgear configuration	DeV\CV (RMU)
Switchgear protection	Circuit breaker (V)
Switchgear short circuit rating	20 kA 1s (Consult with Sinexcel for customized)
Transformer winding type	Dy11y11 (Consult with Sinexcel for customized)
Overload capability	100%
MV AC voltage	10kV-33kV （Consult with Sinexcel for other voltage level）
LV AC voltage	690V （Consult with Sinexcel for other voltage level）
AC frequency	50Hz\60Hz
Transformer impedance	5.75%~8%
Cooling type	KNAN
THDi	≤3%
AC PF	0.99/-1~1

MVS Product Specification

Insulation Level	A
Compliance	IEC62477/IEC61000/G99/VDE4110/VDE4120/EN50549-2
CONNECTION AND PROTECTION	
LV-MV connections	Copper bar or cable
LV protection	Motorized CB in PCS
MV protection	Microcomputer protection
GENERAL PARAMETER	
Size (W*H*D)	7600*2553*2200 mm
Weight	≤20t
Enclosure	IP54
Corrosion Prevention	C4
Operating temp.	-30℃ to 55℃ (De-rating over 45℃)
Storage temp.	-50℃ to 70℃
Cooling	Air cooling
Humidity	0~95% (No condensing)
Max elevation	Standard 1000m/3300feet (Consult with Sinexcel for other elevation)
Communication parameters	
Communication	RS 485,Ethernet,CAN

PWS1-1725KTL-H-EX-XMY-O

Power Conversion System



Features

Flexible Configuration

- Modular design with up to 8 modules
- Direct interconnection with 690Vac
- Power range: 215kW-1.72MW

High Efficiency & Stability

- Maximum efficiency can reach 98.5%, @ DC 1070V
- Multi-string technology for better battery safety and performance.

Extensive Use

- Automatic operation strategy of peak shaving and load shifting
- Outdoor NEMA3R Cabinet

Safety & Compatibility

- Fast response time less than 20ms
- Grid-support function built-in
- Global grid certified & listed

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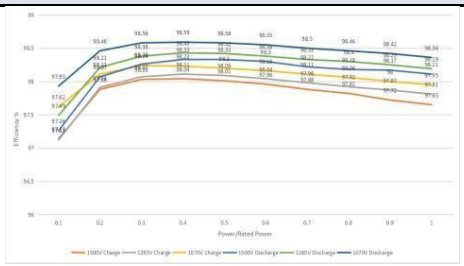
Specification

PWS1-1725KTL-H-EX-XM1-O

AC parameters								
Nominal AC power	215kVA	430kVA	645kVA	860kVA	1075kVA	1290kVA	1505kVA	1725kVA
AC connection	Three-phase three-wire (3P3W)							
Overload Capability	237kVA	473kVA	710kVA	946kVA	1183kVA	1419kVA	1656kVA	1898kVA
AC voltage	690(-15%~10%)V							
AC frequency	50/60（-5~5）Hz							
THDi	≤3%							
AC PF	-0.9~0.9							
DC parameters								
Max DC power	237kW	473kW	710kW	946kW	1183kW	1419kW	1656kW	1898kW
DC voltage range	1000~1500V (full power charging)							
Full load voltage range	1070~1500V (full power discharging)							
Number of DC branch	1							
Number of modules	1	2	3	4	5	6	7	8
Maximum DC current every branch	208A	416A	624A	832A	1040A	1248A	1456A	1664A
Voltage regulation accuracy	≤±1%							
System parameters								
Efficiency curve								
Peak efficiency (with auxiliary source)	98.5%							
Size (W*H*D)	2200*2160*1300 mm							
Weight	1549kg	1642kg	1735kg	1828kg	1921kg	2014kg	2107kg	2200kg
Noise	＜75dB							
Enclosure	IP54/NEMA3R							
Operating temp.	-20°C to 60°C (De-rating over 45°C)							
Cooling	Air cooling							
Humidity	0~95%（No condensing）							
Max altitude	3000m (> 3000m derating)							
Connection parameters								
Communication	RS 485, Ethernet, CAN							
Protocol	Modbus TCP/RTU,IEC104,IEC61850							
Certification	EN50549-2, VDE4110, VDE4120, G99, IEC62477/61000/62109							

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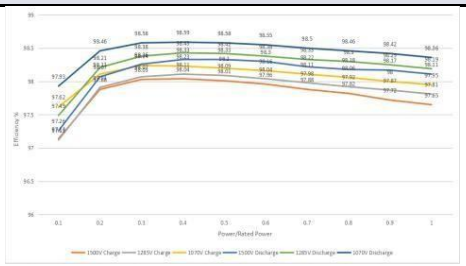
Specification

PWS1-1725KTL-H-EX-XM4-O

AC parameters					
Nominal AC power	215kVA	430kVA	860kVA	1290kVA	1725kVA
AC connection	Three-phase three-wire (3P3W)				
Overload Capability	237kVA	473kVA	946kVA	1419kVA	1898kVA
AC voltage	690(-15%~10%)V				
AC frequency	50/60（-5~5）Hz				
THDi	≤3%				
AC PF	-0.9~0.9				
DC parameters					
Max DC power	237kW	473kW	946kW	1419kW	1898kW
DC voltage range	1000~1500V (full power charging)				
Full load voltage range	1070~1500V (full power discharging)				
Number of DC branches	4				
Number of modules	1	2	4	6	8
Maximum DC current every branch	208A	416A	416A	416A	416A
Voltage regulation accuracy	≤±1%				
System parameters					
Efficiency curve					
Peak efficiency (with auxiliary source)	98.5%				
Size (W*H*D)	2200*2160*1300 mm				
Weight	1549kg	1642kg	1828kg	2014kg	2200kg
Noise	＜75dB				
Enclosure	IP54/NEMA3R				
Operating temp.	-20°C to 60°C (De-rating over 45°C)				
Cooling	Air cooling				
Humidity	0~95%（No condensing)				
Max altitude	3000m (> 3000m derating)				
Connection parameters					
Communication	RS 485, Ethernet, CAN				
Protocol	Modbus TCP/RTU,IEC104,IEC61850				
Certification	EN50549-2, VDE4110, VDE4120, G99, IEC62477/61000/62109				

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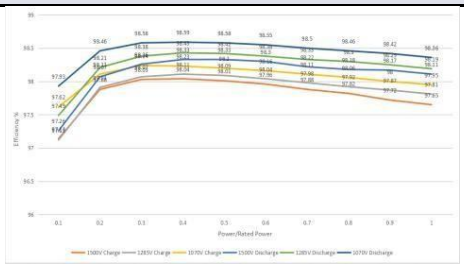
Specification

PWS1-1725KTL-H-EX-XM8-O

AC parameters								
Nominal AC power	215kVA	430kVA	645kVA	860kVA	1075kVA	1290kVA	1505kVA	1725kVA
AC connection	Three-phase three-wire (3P3W)							
Overload Capability	237kVA	473kVA	710kVA	946kVA	1183kVA	1419kVA	1656kVA	1898kVA
AC voltage	690(-15%~10%)V							
AC frequency	50/60（-5~5）Hz							
THDi	≤3%							
AC PF	-0.9~0.9							
DC parameters								
Max DC power	237kW	473kW	710kW	946kW	1183kW	1419kW	1656kW	1898kW
DC voltage range	1000~1500V (full power charging)							
Full load voltage range	1070~1500V (full power discharging)							
Number of DC branches	8							
Number of modules	1	2	3	4	5	6	7	8
Maximum DC current every branch	208A	208A	208A	208A	208A	208A	208A	208A
Voltage regulation accuracy	≤±1%							
System parameters								
Efficiency curve								
Peak efficiency (with auxiliary source)	98.5%							
Size (W*H*D)	2200*2160*1300 mm							
Weight	1549kg	1642kg	1735kg	1828kg	1921kg	2014kg	2107kg	2200kg
Noise	＜75dB							
Enclosure	IP54/NEMA3R							
Operating temp.	-20°C to 60°C (De-rating over 45°C)							
Cooling	Air cooling							
Humidity	0~95%（No condensing）							
Max altitude	3000m (> 3000m derating)							
Connection parameters								
Communication	RS 485, Ethernet, CAN							
Protocol	Modbus TCP/RTU,IEC104,IEC61850							
Certification	EN50549-2, VDE4110, VDE4120, G99, IEC62477/61000/62109							

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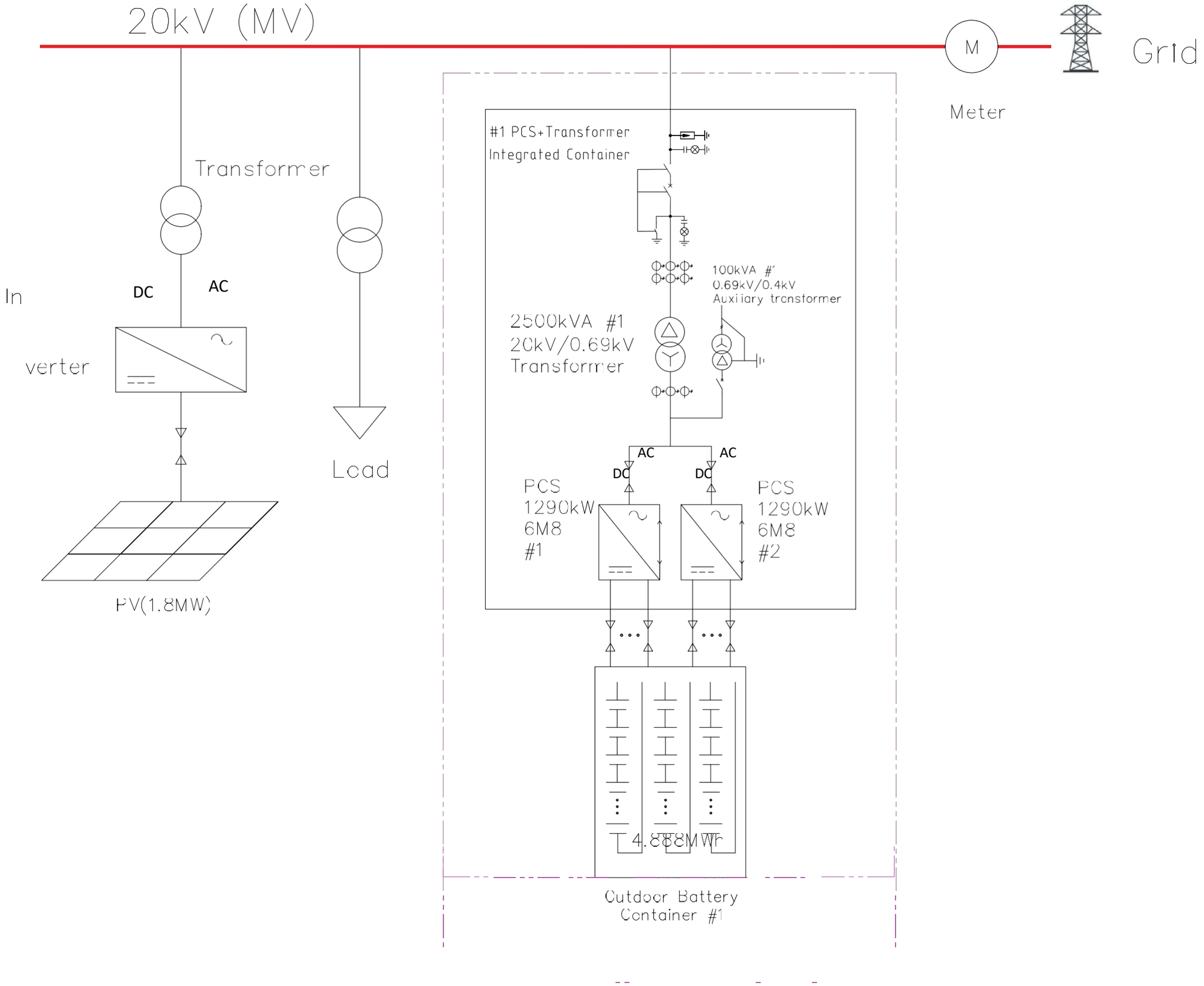
20kV (MV)
M
Grid
Meter
Transformer
In
DC
AC
verter
PV(1.8MW)
Load
#1 PCS+Transformer
Integrated Container
100kVA #1
0.69kV/0.4kV
Auxiliary transformer
2500kVA #1
20kV/0.69kV
Transformer
AC
AC
DC
DC
PCS
1290kW
6M8
#1
PCS
1290kW
6M8
#2
4.888MWh
Outdoor Battery
Container #1