



# Energy Storage System Products Catalogue

**SUNGROW**  
Clean power for all

EUROPE

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2021 / 2022



1997

ESS Technology  
Emerged



800+MWh

2020 Energy storage  
system shipment



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Years in the  
Solar Industry

**3000+**

Patent  
applications

**NO.1**

Largest PV Inverter  
R&D Team

**150+**

Countries with Sungrow  
Installations

# ABOUT SUNGROW

Founded in 1997 by University Professor Cao Renxian, Sungrow Power Supply Co., Ltd. ("Sungrow") is the world's most bankable inverter brand. With over 154 GW installed worldwide as of December 2020, Sungrow is committed to providing clean power for all.

In 2006, Sungrow ventured into the energy storage system ("ESS") industry. Relying on its cutting-edge renewable power conversion technology and industry-leading battery technology, Sungrow focuses on integrated energy storage system solutions. The core components of these systems include PCS, lithium-ion batteries and energy management system. These "turnkey" ESS solutions can be designed to meet the demanding requirements for residential, C&I and utility-side applications alike, committed to making the power interconnected reliably.

After 15 years of growth, Sungrow is on the path to becoming the world-leader in supply of ESS equipment and integrated system solutions, with zero security incidents. Last year, Sungrow shipped more than 800 MWh ESS worldwide, ranging from islands and high altitude plateaus to ports and residential installations.

**154GW<sup>+</sup>**

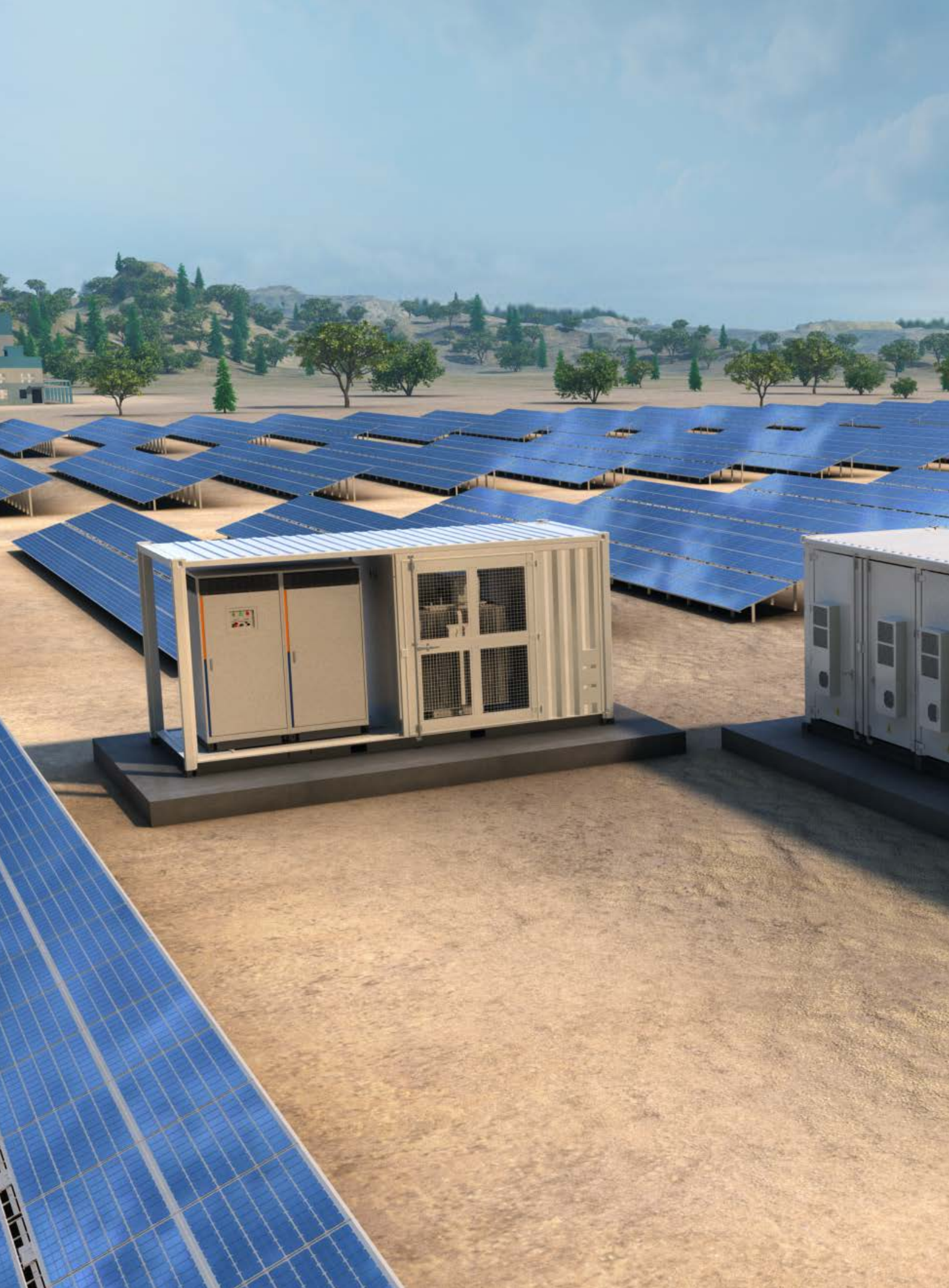
Deployed  
Worldwide

**90GW**

Inverter Annual  
Capacity

**6GW/6GWh**

ESS Annual  
Capacity





# Utility Energy Storage System

ST2236UX

ST2752UX

ST3440KWH(L)-3150UD-MV

ST3727KWH(L)-3450UD-MV

ST6710KWH(L)-3150UD-MV

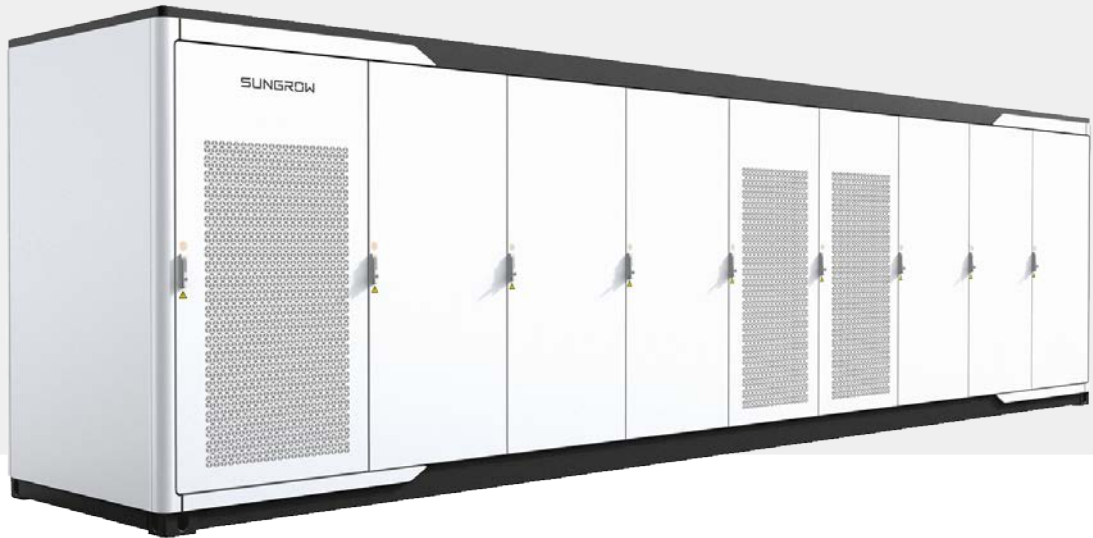
ST7454KWH(L)-3450UD-MV

ST3727KWH(L)-D1250HV+SG3125HV-MV

# ST2236UX

Liquid Cooling Energy Storage System

Preliminary



## LOW COSTS

- Highly integrated ESS for easy transportation and O&M
- All pre-assembled, no battery module handling on site
- 8 hour installation to commission, drop on a pad and make electrical connections



## SAFE AND RELIABLE

- DC electric circuit safety management includes fast breaking and anti-arc protection
- Multi level battery protection layers formed by discreet standalone systems offer impeccable safety



## EFFICIENT AND FLEXIBLE

- Intelligent liquid cooling ensures higher efficiency and longer battery cycle life
- Modular design supports parallel connection and easy system expansion
- IP55 outdoor cabinet and optional C5 anti-corrosion



## SMART AND ROBUST

- Fast state monitoring and faults record enables pre-alarm and faults location
- Integrated battery performance monitoring and logging

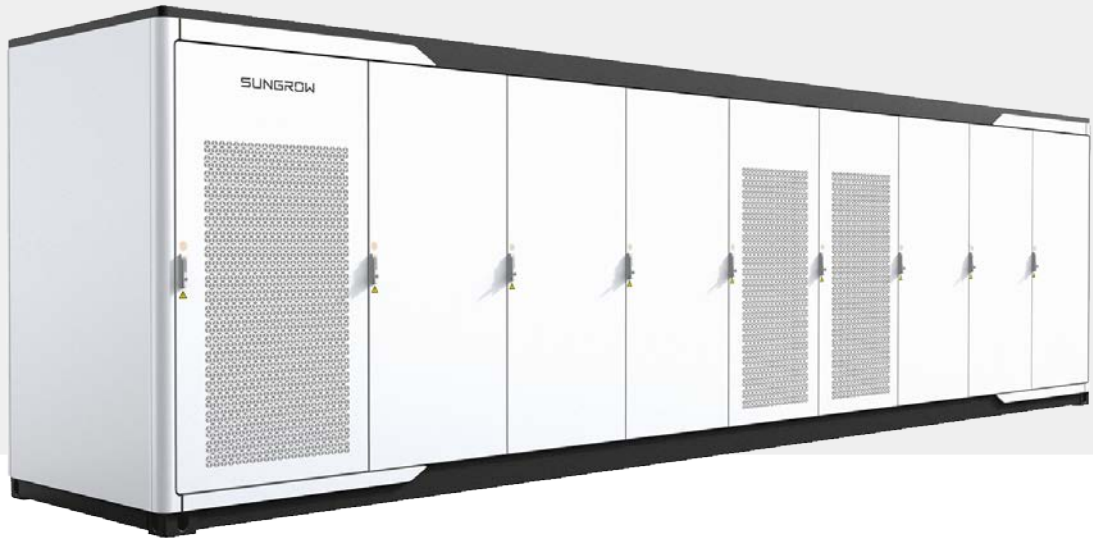


Type designation	ST2236UX
<b>Battery Data</b>	
Cell type	LFP
Battery capacity (BOL)	2236 kWh
System output voltage range	1150 – 1497 V
<b>General Data</b>	
Dimensions of battery unit (W * H * D)	9340*2520*1730 mm
Weight of battery unit	26,000 kg
Degree of protection	IP 55
Operating temperature range	-30 to 50 °C (> 45 °C derating)
Relative humidity	0 ~ 95 % (non-condensing)
Max. working altitude	3000m
Cooling concept of battery chamber	Liquid cooling
Fire safety standard/Optional	Deluge sprinkler heads (standard), Fused sprinkler heads (optional), NFPA69 explosion prevention and ventilation IDLH gases (optional)
Communication interfaces	RS485, Ethernet
Communication protocols	Modbus RTU, Modbus TCP
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4, IEC62619
<b>1 HOURS APPLICATION-ST2236UX*2-4000UD-MV</b>	
BOL kWh (DC/AC LV Side)	4,472 kWh DC / 4,229 kWh AC
ST2236UX Quantity	2
PCS Model	SC4000UD-MV
<b>Grid Connection Data</b>	
Max.THD of current	< 3 % (at nominal power)
DC component	< 0.5 % (at nominal power)
Power factor	> 0.99 (at nominal power)
Adjustable power factor	1.0 leading – 1.0 lagging
Nominal grid frequency	50 / 60 Hz
Grid frequency range	45 – 55 Hz / 55 – 65 Hz
<b>Transformer</b>	
Transformer rated power	4,000 kVA
LV/MV voltage	0.8 kV / 33 kV
Transformer cooling type	ONAN (Oil Natural Air Natural)
Oil type	Mineral oil (PCB free) or degradable oil on request

# ST2752UX

Liquid Cooling Energy Storage System

Preliminary



## LOW COSTS

- Highly integrated ESS for easy transportation and O&M
- All pre-assembled, no battery module handling on site
- 8 hour installation to commission, drop on a pad and make electrical connections



## SAFE AND RELIABLE

- DC electric circuit safety management includes fast breaking and anti-arc protection
- Multi level battery protection layers formed by discreet standalone systems offer impeccable safety



## EFFICIENT AND FLEXIBLE

- Intelligent liquid cooling ensures higher efficiency and longer battery cycle life
- Modular design supports parallel connection and easy system expansion
- IP55 outdoor cabinet and optional C5 anti-corrosion



## SMART AND ROBUST

- Fast state monitoring and faults record enables pre-alarm and faults location
- Integrated battery performance monitoring and logging

Type designation	ST2752UX
<b>Battery Data</b>	
Cell type	LFP
Battery capacity (BOL)	2752 kWh
System output voltage range	1300 – 1500 V
<b>General Data</b>	
Dimensions of battery unit (W * H * D)	9340*2520*1730 mm
Weight of battery unit	26,000 kg
Degree of protection	IP 55
Operating temperature range	-30 to 50 °C (> 45 °C derating)
Relative humidity	0 ~ 95 % (non-condensing)
Max. working altitude	3000 m
Cooling concept of battery chamber	Liquid cooling
Fire safety standard/Optional	Deluge sprinkler heads (standard), Fused sprinkler heads (optional), NFPA69 explosion prevention and ventilation IDLH gases (optional)
Communication interfaces	RS485, Ethernet
Communication protocols	Modbus RTU, Modbus TCP
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4, IEC62619
<b>2 HOURS APPLICATION-ST2752UX*4-5000UD-MV</b>	
BOL kWh (DC/AC LV Side)	11,008 kWh DC / 10,379 kWh AC
ST2752UX Quantity	4
PCS Model	SC5000UD-MV
<b>4 HOURS APPLICATION-ST2752UX*8-5000UD-MV</b>	
BOL kWh (DC/AC LV Side)	22,016 kWh / 21,448 kWh
ST2752UX Quantity	8
PCS Model	SC5000UD-MV
<b>Grid Connection Data</b>	
Max.THD of current	< 3 % (at nominal power)
DC component	< 0.5 % (at nominal power)
Power factor	> 0.99 (at nominal power)
Adjustable power factor	1.0 leading – 1.0 lagging
Nominal grid frequency	50 / 60 Hz
Grid frequency range	45 – 55 Hz / 55 – 65 Hz
<b>Transformer</b>	
Transformer rated power	5,000 kVA
LV/MV voltage	0.95 kV / 33 kV
Transformer cooling type	ONAN (Oil Natural Air Natural)
Oil type	Mineral oil (PCB free) or degradable oil on request

# ST3440KWH(L)-3150UD-MV/ ST3727KWH(L)-3450UD-MV

## Energy Storage System



### HIGH INTEGRATION

- Highly integrated energy storage system for easy transportation and O&M
- Advanced integration technology ensures optimal system performance and lower cost



### SAFE AND RELIABLE

- DC electric circuit safety management includes fast breaking and anti-arc protection
- Multi-state monitoring and linkage actions ensure battery system safety



### EFFICIENT AND FLEXIBLE

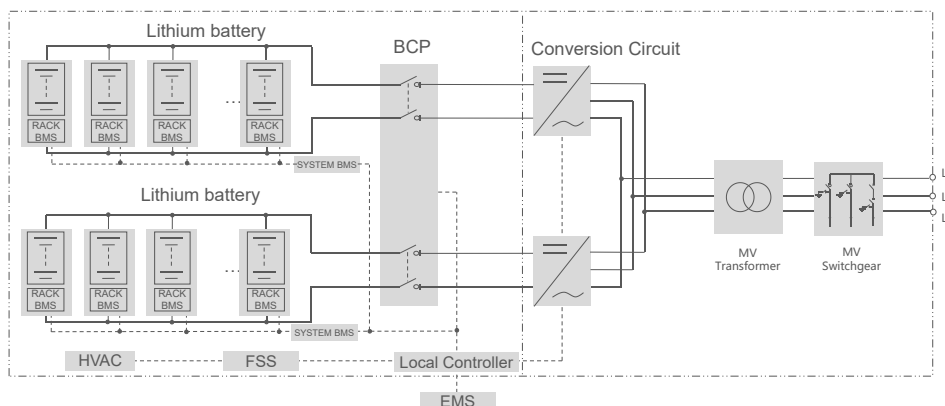
- Intelligent cell-level temperature control ensures higher efficiency and longer battery cycle life
- Modular design supports parallel connection and easy system expansion



### SMART AND FRIENDLY

- Integrated local controller enables single point of communication interface
- Fast state monitoring and faults record enables pre-alarm and faults location

## CIRCUIT DIAGRAM



System Type	ST3440KWH(L)-3150UD-MV	ST3727KWH(L)-3450UD-MV
<b>Battery Data</b>		
Cell type	LFP 280Ah	
Configuration of system	384S10P	416S10P
Battery capacity (BOL)	3,440 kWh	3,727 kWh
Battery voltage range	1,036.8 – 1,401.6 V	1123.2 – 1,497.6 V
BMS communication interfaces	RS485, Ethernet	
BMS communication protocols	Modbus RTU, Modbus TCP	
<b>AC Data</b>		
Nominal AC power	3,150 kVA	3,450 kVA
Max. THD of current	< 3 % (at nominal power)	
DC component	< 0.5 % (at nominal power)	
Grid voltage range	10 – 35 kV	
Power factor	> 0.99 (at nominal power)	
Adjustable power factor	1.0 leading – 1.0 lagging	
Nominal grid frequency	50 / 60 Hz	
Grid frequency range	45 – 55 Hz / 55 – 65 Hz	
Isolation method	Transformer	
<b>Transformer</b>		
Transformer rated power	3,150 kVA	3,450 kVA
LV/MV voltage	0.63 kV / 10 – 35 kV	0.69 kV / 10 – 35 kV
Transformer vector	Dy11	
Transformer cooling type	ONAN (Oil Natural Air Natural)	
Oil type	Mineral oil (PCB free) or degradable oil on request	
<b>General Data</b>		
Dimensions of PCS unit (W * H * D)	6,058 * 2,896 * 2,438 mm / 238.5" * 114.0" * 96.0"	
Dimensions of battery unit (W * H * D)	12,192 * 2,896 * 2,438 mm / 480.0" * 114.0" * 96.0"	
Weight of PCS unit (with MV transformer)	16.0 T / 35274 lbs	
Weight of battery unit (with / without battery)	43.5T 95,901.1 lbs / 15.5 T 34,171.7 lbs	45.5T 100,310.3 lbs / 15.5 T 34,171.7 lbs
Degree of protection	IP54	
Operating temperature range	-30 to 50 °C / -22 to 122 °F ( > 45 °C / 113 °F derating)	
Relative humidity	0 – 95 % (non-condensing)	
Max. working altitude	1,000 m (standard) > 1,000 m (optional)	
Cooling concept of battery chamber	Heating, Ventilation and Air Conditioning	
Cooling concept of PCS chamber	Temperature controlled forced air cooling	
Fire suppression system of battery unit	Novec1230 extinguishment system	
Communication interfaces	RS485, Ethernet	
Communication protocols	Modbus RTU, Modbus TCP, IEC 104	
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4, IEC62619	

# ST6710KWH(L)-3150UD-MV/ ST7454KWH(L)-3450UD-MV

Energy Storage System



## HIGH INTEGRATION

- Highly integrated energy storage system for easy transportation and O&M
- Advanced integration technology ensures optimal system performance and lower cost



## SAFE AND RELIABLE

- DC electric circuit safety management includes fast breaking and anti-arc protection
- Multi-state monitoring and linkage actions ensure battery system safety



## EFFICIENT AND FLEXIBLE

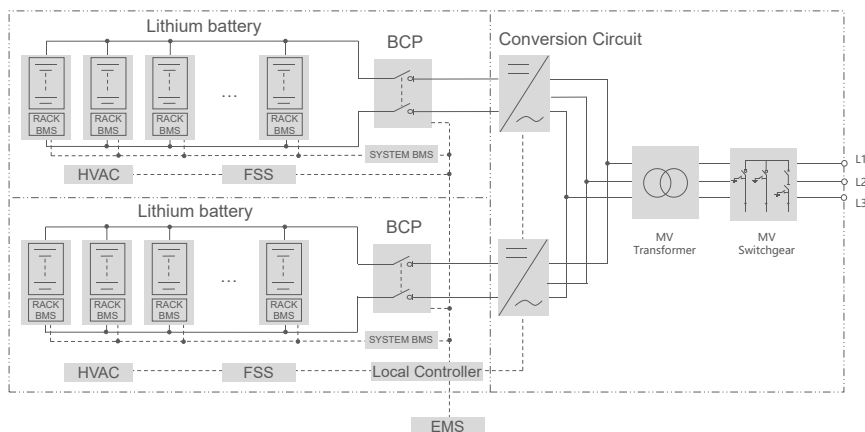
- Intelligent cell-level temperature control ensures higher efficiency and longer battery cycle life
- Modular design supports parallel connection and easy system expansion



## SMART AND FRIENDLY

- Integrated local controller enables single point of communication interface
- Fast state monitoring and faults record enables pre-alarm and faults location

## CIRCUIT DIAGRAM



System Type	ST6710KWH(L)-3150UD-MV	ST7454KWH(L)-3450UD-MV
<b>Battery Data</b>		
Cell type	LFP 280Ah	
Configuration of system	416S9P*2	416S10P*2 (Max. 416S12P*2)
Battery capacity (BOL)	3,355 kWh*2	3,727 kWh*2 (Max. 4473kWh*2)
Battery voltage range	1,123.2 – 1,497.6 V	
BMS communication interfaces	RS485, Ethernet	
BMS communication protocols	Modbus RTU, Modbus TCP	
<b>AC Data</b>		
Nominal AC power	3,150 kVA	3,450 kVA
Max. THD of current	< 3 % (at nominal power)	
DC component	< 0.5 % (at nominal power)	
Grid voltage range	10 – 35 kV	
Power factor	> 0.99 (at nominal power)	
Adjustable power factor	1.0 leading – 1.0 lagging	
Nominal grid frequency	50 / 60 Hz	
Grid frequency range	45 – 55 Hz / 55 – 65 Hz	
Isolation method	Transformer	
<b>Transformer</b>		
Transformer rated power	3,150 kVA	3,450 kVA
LV/MV voltage	0.63 kV / 10 – 35 kV	0.69 kV / 10 – 35 kV
Transformer vector	Dy11	
Transformer cooling type	ONAN (Oil Natural Air Natural)	
Oil type	Mineral oil (PCB free) or degradable oil on request	
<b>General Data</b>		
Dimensions of PCS unit (W * H * D)	6,058 * 2,896 * 2,438 mm / 238.5" * 114.0" * 96.0"	
Dimensions of battery unit (W * H * D)	2 * (12,192 * 2,896 * 2,438 mm / 480.0" * 114.0" * 96.0")	
Weight of PCS unit (with MV transformer)	16.0 T / 35274 lbs	
Weight of battery unit (with / without battery)	2* (42.5T 93,696.5 lbs / 15.5 T 34,171.7 lbs)	2* (45.5T 100,310.3 lbs / 15.5 T 34,171.7 lbs)
Degree of protection	IP54	
Operating temperature range	-30 to 50 °C / -22 to 122 °F ( > 45 °C / 113 °F derating)	
Relative humidity	0 – 95 % (non-condensing)	
Max. working altitude	1,000 m (standard) > 1,000 m (optional)	
Cooling concept of battery chamber	Heating, Ventilation and Air Conditioning	
Cooling concept of PCS chamber	Temperature controlled forced air cooling	
Fire suppression system of battery unit	Novecl230 extinguishment system	
Communication interfaces	RS485, Ethernet	
Communication protocols	Modbus RTU, Modbus TCP, IEC 104	
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4, IEC62619	

# ST3727KWH(L)-D1250HV+ SG3125HV-MV

Energy Storage System



## HIGH INTEGRATION

- DC coupled energy storage system integrated with PV inverter
- Advanced integration technology ensures optimal system performance and lower cost



## SAFE AND RELIABLE

- DC electric circuit safety management includes fast breaking and anti-arc protection
- Multi-state monitoring and linkage actions ensure battery system safety



## EFFICIENT AND FLEXIBLE

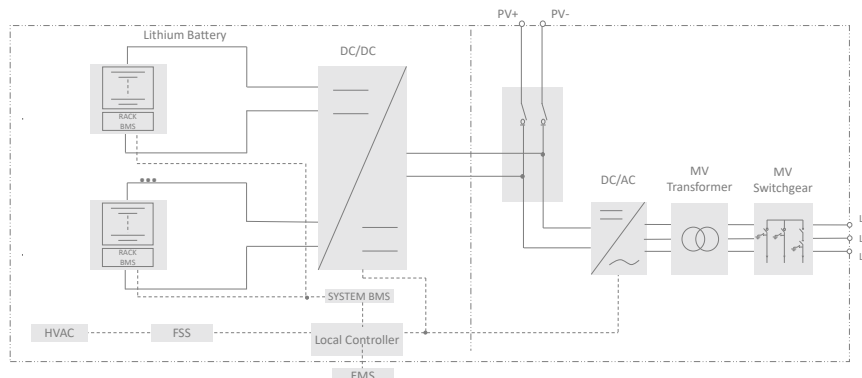
- Intelligent cell-level temperature control ensures higher efficiency and longer battery cycle life
- Modular design supports parallel connection and easy system expansion



## SMART AND FRIENDLY

- Integrated local controller enables single point of communication interface
- Fast state monitoring and faults record enables pre-alarm and faults location

## CIRCUIT DIAGRAM





System Type	ST3727KWH(L)-D1250HV+SG3125HV-MV
<b>PV Data</b>	
Max. PV input voltage	1,500 V
MPPT voltage range for nominal power	875 – 1,300 V
Number of PV inputs	24
Max. PV input current	3,997 A
<b>Battery Data</b>	
Cell type	LFP , 280 AH
Configuration of system	416S10P
Battery capacity (BOL)	3,727 kWh
Battery voltage range	1,123.2 – 1,497.6 V
BMS communication interfaces	RS485, Ethernet
BMS communication protocols	Modbus RTU, Modbus TCP
<b>DCDC Data</b>	
Working voltage range	500 – 1,500 V
Nominal power	1,250 kW
Max. current	1,400 A
<b>AC Data</b>	
Nominal AC power	3,125 kVA @ 50 °C / 3,437 kVA @ 45 °C
Max.TH.D of current	< 3 % (at nominal power)
DC component	< 0.5 % I <sub>n</sub>
Grid voltage range	20 – 35 kV
Power factor	> 0.99 (at nominal power)
Adjustable power factor	0.8 leading – 0.8 lagging
Nominal grid frequency	50 Hz /60 Hz
Grid frequency range	45 – 55 Hz / 55 – 65 Hz
Isolation method	Transformer
<b>Transformer</b>	
Transformer rated power	3,125 kVA
LV/MV voltage	0.6 kV / 20 - 35 kV
Transformer vector	Dy11
Transformer cooling type	ONAN (Oil Natural Air Natural)
Oil type	Mineral oil (PCB free) or degradable oil on request
<b>General Data</b>	
Dimensions of PCS unit (W * H * D)	6,058*2,896*2,438 mm
Dimensions of battery unit (W * H * D)	12,192*2,896*2,438 mm
Weight of PCS unit	15.0 T
Weight of battery unit (with / without battery)	46.3 T / 16.3 T
Degree of protection	IP54
Operating temperature range	-30 to 50 °C (> 45 °C derating)
Relative humidity	0 – 95 % (non-condensing)
Max. working altitude	1000 m (standard) / > 1000 m (optional)
Cooling concept of battery chamber	Heating, Ventilation and Air Conditioning
Cooling concept of PCS chamber	Temperature controlled forced air cooling
Fire suppression system of battery unit	Novtec1230 extinguishment system
Communication interfaces	RS485, Ethernet
Communication protocols	Modbus RTU, Modbus TCP, IEC 104
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4, IEC62619



# C&I Energy Storage System

ST101/106/111/115/120/124/129CP-50HV

# ST101/106/111/115/120/ 124/129CP-50HV

Battery Outdoor Cabinet / AC Outdoor Cabinet

Preliminary



## SCALABLE CONFIGURATION

- Support the parallel use of multiple systems, covering wide power range from 50 KW to 1 MW
- 2-5 hours for a variety of configuration options



## EASY INSTALLATION

- Outdoor cabinet design, easy for transportation and on-site installation
- C5 anti-corrosion grade to meet off-shore scenarios



## SMART AND FRIENDLY

- Cloud technology enables remote maintenance and monitoring
- Built-in EMS, multiple operation mode selection increasing revenue



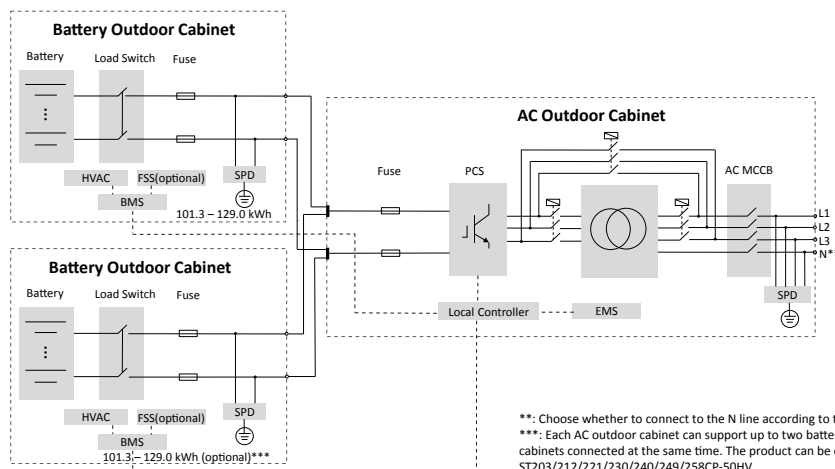
## ECONOMIC AND RELIABLE

- 100% DOD, 15 years performance life under standard conditions
- Efficient thermal management design, hierarchical linkage protection to ensure system safety

Type designation	ST101CP-50HV	ST106CP-50HV	ST111CP-50HV	ST115CP-50HV	ST120CP-50HV	ST124CP-50HV	ST129CP-50HV
<b>Battery outdoor cabinet data</b>							
Battery type	LiFePO4 Prismatic Cell						
Battery module	4.6 kWh, 40 kg						
Battery module number	22 modules	23 modules	24 modules	25 modules	26 modules	27 modules	28 modules
Nominal energy	101.3 kWh	105.9 kWh	110.5 kWh	115.2 kWh	119.8 kWh	124.4 kWh	129.0 kWh
Nominal voltage	844.8 V	883.2 V	921.6 V	960.0 V	998.4 V	1036.8 V	1075.2 V
Operating voltage	712.8 – 963.6 V	745.2 – 1007.4 V	777.6 – 1051.2 V	810.0 – 1095.0 V	842.4 – 1138.8 V	874.8 – 1182.6 V	907.2 – 1226.4 V
Max. charging/discharging rate	≤0.5C						
Depth of discharge	100 %						
Dimensions (W*H*D)	1300*2400*1000 mm						
Weight	2360 kg	2400 kg	2440 kg	2480 kg	2520 kg	2560 kg	2600 kg
Installation location	Outdoor						
Degree of protection	IP54						
Anticorrosion grade	Standard C5 (optional: C4)						
Allowable relative humidity range	0% to 95% (non-condensing)						
Operating temperature range	-20 °C to 50 °C (> 45 °C derating)						
Max. operating altitude	3000 m (> 2000 m derating)						
Communication interfaces	CAN2.0B						
Cooling concept	Heating, ventilation and air conditioning						
Certificates	IEC 62619, IEC 62477, IEC 62040, IEC 61000, UN 38.3						
<b>Ac outdoor cabinet data</b>							
Nominal AC power	50 kW						
Max. THD of current	< 3 % (at nominal power)						
DC component	< 0.5 % (at nominal power)						
Nominal grid voltage	400 V						
Grid voltage range	360 – 440V						
Nominal grid frequency	50 Hz						
Grid frequency range	45 – 55 Hz						
Isolation method	Transformer*						
Dimensions (W*H*D)	1000*2400*1000 mm						
Weight	1500 kg						
Degree of protection	IP54						
Anticorrosion grade	Standard C5 (optional: C4)						
Allowable relative humidity range	0% to 95% (non-condensing)						
Operating temperature range	-20 °C to 50 °C (> 45 °C derating)						
Operating altitude	3000 m (> 2000 m derating)						
Communication interfaces	RS485, Ethernet						
Communication protocols	Modbus RTU, Modbus TCP						
Certificates	IEC61000, IEC62477, AS4777.2, NRS 097-2-1						

\*: This transformer can be optional for non-off-grid use scenarios.

## CIRCUIT DIAGRAM





# Power Conversion System

SD125HV

SD1250HV

SC2000UD / SC2500UD

SC2750UD-MV / SC3150UD-MV / SC3450UD-MV

SC4000UD-MV/SC5000UD-MV

SC5500UD-MV / SC6300UD-MV / SC6900UD-MV

# SD125HV

DC/DC Converter



## HIGH YIELD

- Max efficiency 99%
- Wide DC input voltage range, flexible for battery configuration
- Modular design, compatible with rack level battery management



## SMART O&M

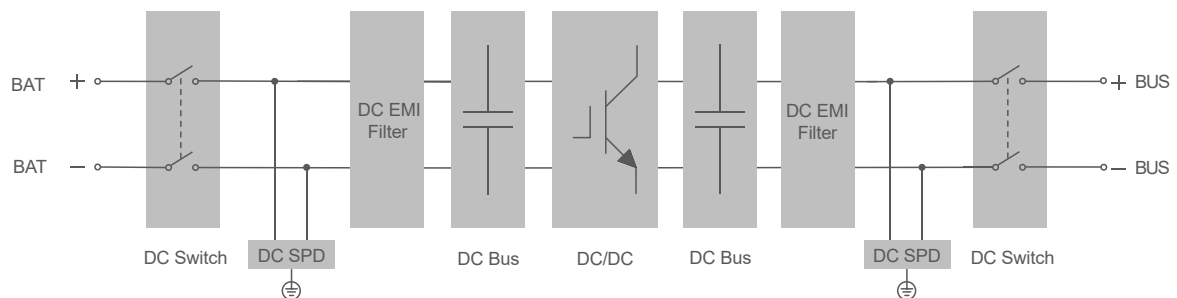
- High protection degree(IP65/NEMA 4X, C5)
- Compact design and light weight for easy installation
- Easy site commissioning & monitoring via APP



## FLEXIBLE APPLICATION

- Bidirectional buck-boost design for better voltage matching
- Compatible with 1500V battery system
- MPPT function integrated, compatible with DC microgrid applications

## CIRCUIT DIAGRAM





Type Designation	SD125HV
<b>Power Rating</b>	
Nominal power	125 kW
Max. power	169 kW
<b>Battery Side</b>	
Max. DC voltage	1500 V
DC operating voltage range	0 – 1500V
Max. DC current	140 A
<b>BUS Side</b>	
Max. DC voltage	1500 V
DC operating voltage range	500 – 1500 V
Max. DC current	140 A
<b>Efficiency</b>	
Max efficiency	99.0 %
<b>Protection</b>	
Reverse polarity protection	Yes
Surge protection	Type II
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	630*680*298 mm 24.8"*26.8"*11.7"
Weight	65 kg 143.3 lbs
Degree of protection	IP65 NEMA 4X
Operating ambient temperature range	-30 to 60 °C -22 to 140 °F
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature-controlled forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) 13123 ft (> 9843 ft derating)
Display	LED, Bluetooth + APP
Communication	RS485, Ethernet, CAN
Compliance	CE, IEC62477-1, IEC 62109-1, UL 1741

# SD1250HV

DC/DC Converter



## HIGH YIELD

- Max efficiency 99%
- Wide DC input voltage range, flexible for battery configuration
- Modular design, compatible with rack level battery management

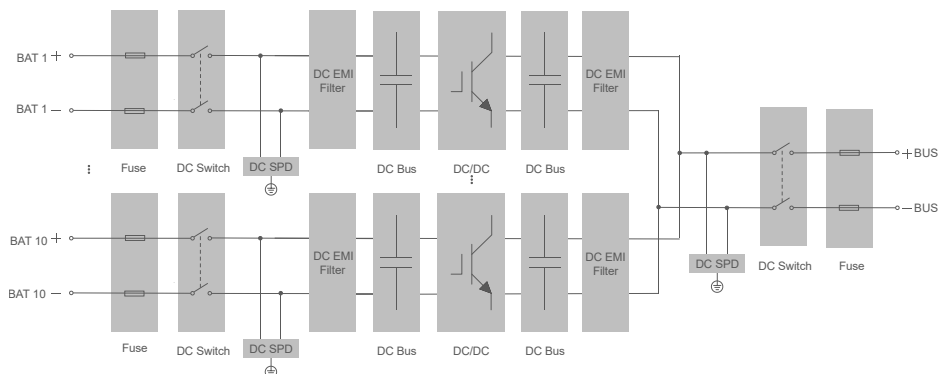
## SMART O&M

- High protection degree (IP65/NEMA 4X, C5)
- Compact design and light weight for easy installation

## FLEXIBLE APPLICATION

- Bidirectional buck-boost design for better voltage matching
- Compatible with 1500V battery system
- MPPT function integrated, compatible with DC microgrid applications

## CIRCUIT DIAGRAM



Type Designation	SD1250HV
<b>Power Rating</b>	
Nominal power	1250 kW
Max. power	1690 kW
<b>Battery Side</b>	
Max. DC voltage	1500 V
DC operating voltage range	0 – 1500 V
Max. DC current	10 * 140 A
<b>BUS Side</b>	
Max. DC voltage	1500 V
DC operating voltage range	500 – 1500 V
Max. DC current	1400 A
<b>Efficiency</b>	
Max efficiency	99.0%
<b>Protection</b>	
Reverse polarity protection	Yes
Surge protection	Type II
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	2140*2150*816 mm 84.3"*84.6"*32.1"
Weight	1200 kg 2645.5 lbs
Degree of protection	IP65 NEMA 4X
Operating ambient temperature range	-30 to 60 °C -22 to 140 °F
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature-controlled forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) 13123 ft (> 9843 ft derating)
Display	LED, Bluetooth + APP
Communication	RS485, Ethernet, CAN
Compliance	CE, IEC62477-1, IEC 62109-1, UL 1741

# SC2000UD

## Power Conversion System



### HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Wide DC voltage operation window, full power operation at 1500 V



### SMART O&M

- Modular design, easy for maintenance
- IP65 protection degree, easy for outdoor installation
- C5 anti-corrosion degree, adjust to applications close to the sea



### FLEXIBLE APPLICATION

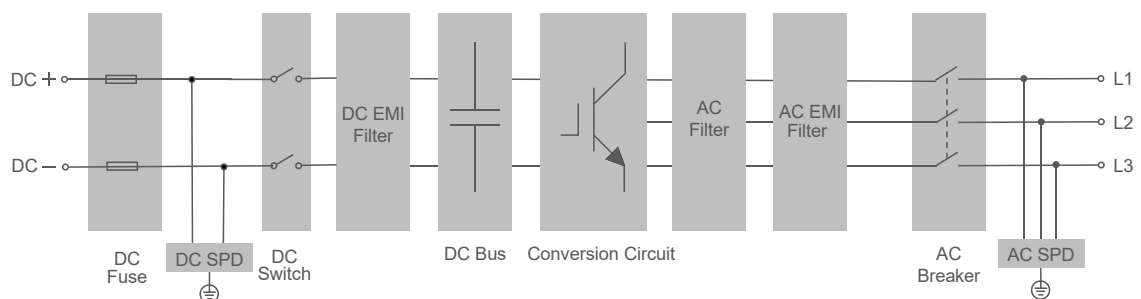
- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated



### GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM



System Type	SC2000UD
<b>DC side</b>	
Max. DC voltage	1500 V
Min. DC voltage	1150 V
DC voltage range	1150 – 1500 V
Max. DC current	1935 A
No. of DC inputs	1
<b>AC side (Grid)</b>	
AC output power	2000 kVA @ 45 °C/ 2200 kVA @ 30 °C
Max. AC output current	1443 A @ 45 °C / 1587 A @ 30 °C
Nominal AC voltage	800 V
AC voltage range	704 – 880 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor	>0.99 / 1 leading – 1 lagging
Adjustable reactive power range	-100 % – 100 %
Feed-in phases / AC connection	3 / 3-PE
<b>AC side (Off-Grid)</b>	
Nominal AC voltage	800 V
AC voltage range	704 – 880 V
AC voltage Distortion	< 3 % (Linear load)
DC voltage component	< 0.5 % Un (Linear balance load)
Unbalance load Capacity	100 %
Nominal Voltage frequency / Voltage frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
<b>Efficiency</b>	
Max. efficiency / European efficiency	99 % / 98.5 %
<b>Protection</b>	
DC input protection	Load break switch + fuse
AC output protection	Circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	1080*2400*1400 mm
Weight	1500 kg
Topology	Transformerless
Degree of protection	IP65
Operating ambient temperature range	-35 to 60 °C (> 45 °C derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	4000 m (> 2000 m derating)
Display	LED, WEB HMI
Communication	RS485, CAN, Ethernet
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4
Grid support	L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt

# SC2500UD

## Power Conversion System



### HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 40°C
- Wide DC voltage operation window, full power operation at 1500 V



### SMART O&M

- Modular design, easy for maintenance
- IP65 protection degree, easy for outdoor installation
- C5 anti-corrosion degree, adjust to applications close to the sea



### FLEXIBLE APPLICATION

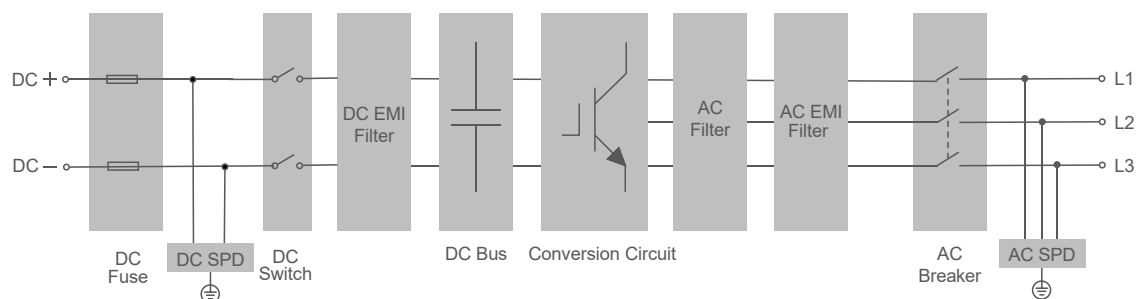
- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated



### GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM



System Type	SC2500UD
<b>DC side</b>	
Max. DC voltage	1500 V
Min. DC voltage	1300 V
DC voltage range	1300 – 1500 V
Max. DC current	1958 A @ 40 °C / 2154 A @30 °C
No. of DC inputs	1
<b>AC side (Grid)</b>	
AC output power	2500 kVA @ 40 °C/ 2750 kVA @ 30 °C
Max. AC output current	1604 A @ 40 °C / 1764 A @ 30 °C
Nominal AC voltage	900 V
AC voltage range	792 – 990 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor	>0.99 / 1 leading – 1 lagging
Adjustable reactive power range	-100 % – 100 %
Feed-in phases / AC connection	3 / 3-PE
<b>AC side (Off-Grid)</b>	
Nominal AC voltage	900 V
AC voltage range	792 – 990 V
AC voltage Distortion	< 3 % (Linear load)
DC voltage component	< 0.5 % Un (Linear balance load)
Unbalance load Capacity	100 %
Nominal Voltage frequency / Voltage frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
<b>Efficiency</b>	
Max. efficiency / European efficiency	99 % / 98.5 %
<b>Protection</b>	
DC input protection	Load break switch + fuse
AC output protection	Circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	1080*2400*1400 mm
Weight	1500 kg
Topology	Transformerless
Degree of protection	IP65
Operating ambient temperature range	-35 to 60 °C (> 40 °C derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	4000 m (> 2000 m derating)
Display	LED, WEB HMI
Communication	RS485, CAN, Ethernet
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4
Grid support	L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt

# SC2750UD-MV/SC3150UD-MV/ SC3450UD-MV

Power Conversion System



## HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Wide DC voltage operation window, full power operation at 1500V

## SMART O&M

- Modular design, easy for maintenance
- IP65 protection degree, easy for outdoor installation
- Optional C5 anti-corrosion degree, adjust to applications close to the sea

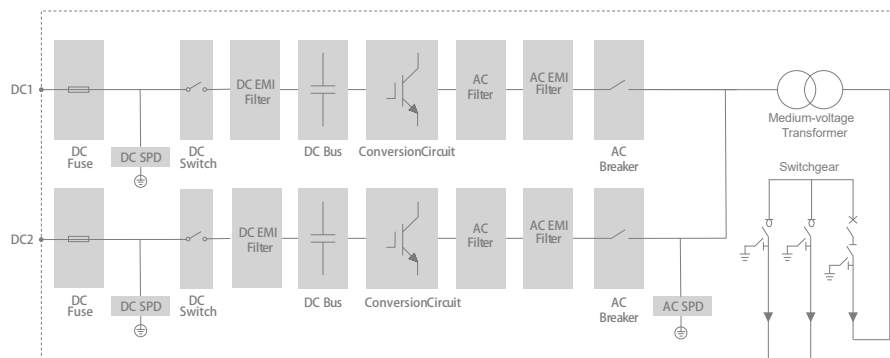
## FLEXIBLE APPLICATION

- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated

## GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM





System Type	SC2750UD-MV	SC3150UD-MV	SC3450UD-MV
<b>DC side</b>			
Max. DC voltage		1500 V	
Min. DC voltage	800 V	915 V	1000 V
DC voltage range	800 – 1500 V	915 – 1500 V	1000 – 1500 V
Max. DC current		1935 A * 2	
No. of DC inputs		2	
<b>AC side (Grid)</b>			
AC output power	2750 kVA @ 45 °C 3025 kVA @ 30 °C	3150 kVA @ 45 °C 3465 kVA @ 30 °C	3450 kVA @ 45 °C 3795 kVA @ 30 °C
Max. AC output current		3174 A	
Nominal AC voltage	550 V	630 V	690 V
AC voltage range	484 – 605 V	554 – 693 V	607 – 759 V
Nominal grid frequency / Grid frequency range		50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz	
Harmonic (THD)		< 3 % (at nominal power)	
Power factor at nominal power / Adjustable power factor		>0.99 / 1 leading – 1 lagging	
Adjustable reactive power range		-100 % – 100 %	
Feed-in phases / AC connection		3 / 3-PE	
<b>AC side (Off-Grid)</b>			
Inverter port nominal AC voltage	550 V	630 V	690 V
Inverter port AC voltage range	484 – 605 V	554 – 693 V	607 – 759 V
AC voltage distortion		< 3 % (Linear load)	
DC voltage component		< 0.5 % Un (Linear balance load)	
Unbalance load capacity		100%	
Nominal Voltage frequency / Voltage frequency range		50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz	
<b>Efficiency</b>			
Inverter Max. efficiency		99.0 %	
<b>Transformer</b>			
Transformer rated power	2750 kVA	3150 kVA	3450 kVA
Transformer max. power	3025 kVA	3465 kVA	3795 kVA
LV / MV voltage	0.55 kV / (20 – 35) kV	0.63 kV / (20 – 35) kV	0.69 kV / (20 – 35) kV
Transformer vector		Dy11	
Transformer cooling type		ONAN	
Oil type		Mineral oil (PCB free) or degradable oil on request	
<b>Protection</b>			
DC input protection		Load break switch + fuse	
Inverter output protection		Circuit breaker	
AC output protection		Circuit breaker	
Surge protection		DC Type II / AC Type II	
Grid monitoring / Ground fault monitoring		Yes / Yes	
Insulation monitoring		Yes	
Overheat protection		Yes	
<b>General Data</b>			
Dimensions (W*H*D)		6058*2896*2438 mm	
Weight		16000 kg	
Degree of protection		IP54 (Inverter: IP65)	
Operating ambient temperature range		-35 to 60 °C (> 45 °C derating)	
Allowable relative humidity range		0 – 100 %	
Cooling method		Temperature controlled forced air cooling	
Max. operating altitude		1000 m (Standard) / > 1000 m (Optional)	
Display		LED, WEB HMI	
Communication		RS485, CAN, Ethernet	
Compliance		CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4	
Grid support		L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt	

# SC4000UD-MV

## Power Conversion System



### HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Wide DC voltage operation window, full power operation at 1500V



### SMART O&M

- Modular design, easy for maintenance
- High protection degree, easy for outdoor installation
- Optional C5 anti-corrosion degree, adjust to applications close to the sea



### FLEXIBLE APPLICATION

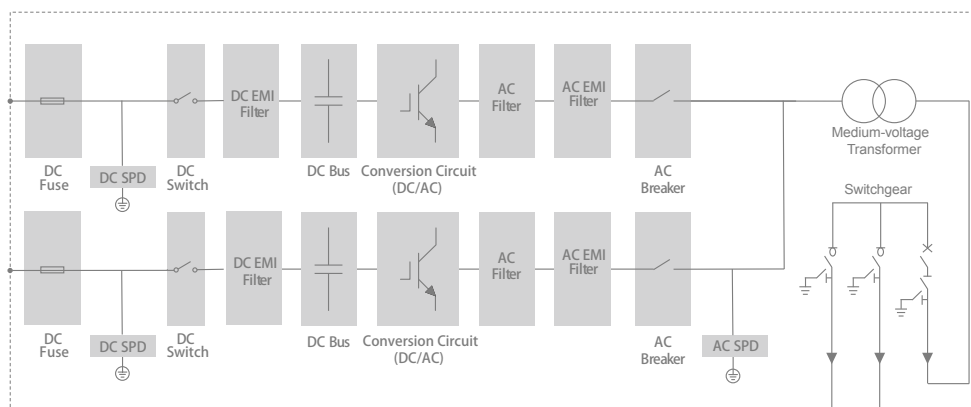
- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated



### GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM



System Type	SC4000UD-MV
<b>DC side</b>	
Max. DC voltage	1500 V
Min. DC voltage	1150 V
DC voltage range	1150 – 1500 V
Max. DC current	2 * 1952 A @ 30 °C
No. of DC inputs	2
<b>AC side (Grid)</b>	
AC output power	4000 kVA @ 45 °C / 4400 kVA @ 30 °C
Max. AC output current	2886 A @ 45 °C / 3174 A @ 30 °C
Nominal AC voltage	800 V
AC voltage range	704 – 880 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor	>0.99 / 1 leading – 1 lagging
Adjustable reactive power range	-100 % – 100 %
Feed-in phases / AC connection	3 / 3-PE
<b>AC side (Off-Grid)</b>	
Inverter port nominal AC voltage	800 V
Inverter port AC voltage range	704 – 880 V
AC voltage distortion	< 3 % (Linear load)
DC voltage component	< 0.5 % Un (Linear balance load)
Unbalance load Capacity	100 %
Nominal Voltage frequency / Voltage frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
<b>Efficiency</b>	
Max. efficiency	99 %
<b>Transformer</b>	
Transformer rated power	4000 kVA
Transformer max. power	4400 kVA
LV / MV voltage	0.8 kV / 35 kV
Transformer vector	Dy11
Transformer cooling type	ONAN
Oil type	Mineral oil (PCB free) or degradable oil on request
<b>Protection</b>	
DC input protection	Load break switch + fuse
Inverter output protection	Circuit breaker
AC output protection	Circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	6058*2896*2438 mm
Weight	18000 kg
Degree of protection	IP65
Operating ambient temperature range	-35 to 60 °C (> 45 °C derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	1000 m (Standard) / > 1000 m (Optional)
Display	LED, WEB HMI
Communication	RS485, CAN, Ethernet
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4
Grid support	L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt

# SC5000UD-MV

## Power Conversion System



### HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Wide DC voltage operation window, full power operation at 1500V



### SMART O&M

- Modular design, easy for maintenance
- High protection degree, easy for outdoor installation
- Optional C5 anti-corrosion degree, adjust to applications close to the sea



### FLEXIBLE APPLICATION

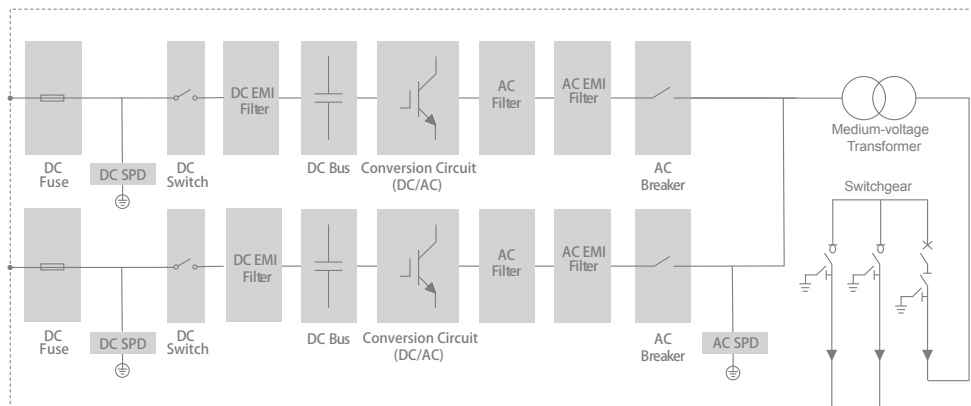
- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated



### GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM



System Type	SC5000UD-MV
<b>DC side</b>	
Max. DC voltage	1500 V
Min. DC voltage	1300 V
DC voltage range	1300 – 1500 V
Max. DC current	2 * 2154 A @ 30 °C
No. of DC inputs	2
<b>AC side (Grid)</b>	
AC output power	5000 kVA @ 40 °C/ 5500 kVA @ 30 °C
Max. AC output current	3208 A @ 40°C / 3528 A @ 30 °C
Nominal AC voltage	900 V
AC voltage range	792 – 990 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor	>0.99 / 1 leading – 1 lagging
Adjustable reactive power range	-100 % – 100 %
Feed-in phases / AC connection	3 / 3-PE
<b>AC side (Off-Grid)</b>	
Inverter port nominal AC voltage	900 V
Inverter port AC voltage range	792 – 990 V
AC voltage Distortion	< 3 % (Linear load)
DC voltage component	< 0.5 % Un (Linear balance load)
Unbalance load Capacity	100 %
Nominal Voltage frequency / Voltage frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
<b>Efficiency</b>	
Inverter max. efficiency	99 %
<b>Transformer</b>	
Transformer rated power	5000 kVA
Transformer max. power	5500 kVA
LV / MV voltage	0.9 kV / 35 kV
Transformer vector	Dy11
Transformer cooling type	ONAN
Oil type	Mineral oil (PCB free) or degradable oil on request
<b>Protection</b>	
DC input protection	Load break switch + fuse
Inverter output protection	Circuit breaker
AC output protection	Circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes
<b>General Data</b>	
Dimensions (W*H*D)	6058*2896*2438 mm
Weight	18000 kg
Degree of protection	IP65
Operating ambient temperature range	-35 to 60 °C (> 40 °C derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	1000 m (Standard) / > 1000 m (Optional)
Display	LED, WEB HMI
Communication	RS485, CAN, Ethernet
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4
Grid support	L/HVRT, FRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt

# SC5500UD-MV/SC6300UD-MV/ SC6900UD-MV

Power Conversion System



## HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Wide DC voltage operation window, full power operation at 1500V



## SMART O&M

- Modular design, easy for maintenance
- IP65 protection degree, easy for outdoor installation
- Optional C5 anti-corrosion degree, adjust to applications close to the sea



## FLEXIBLE APPLICATION

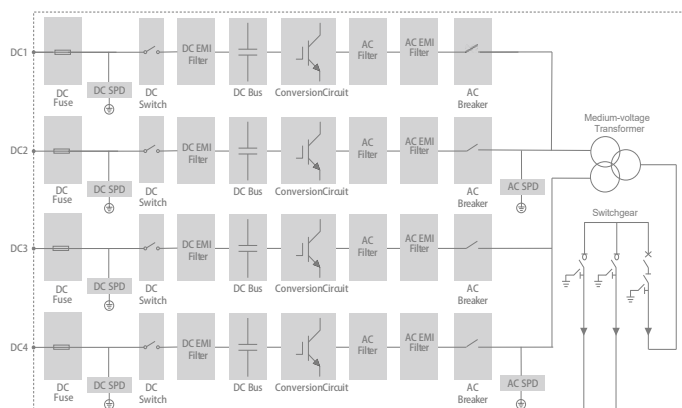
- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated



## GRID SUPPORT

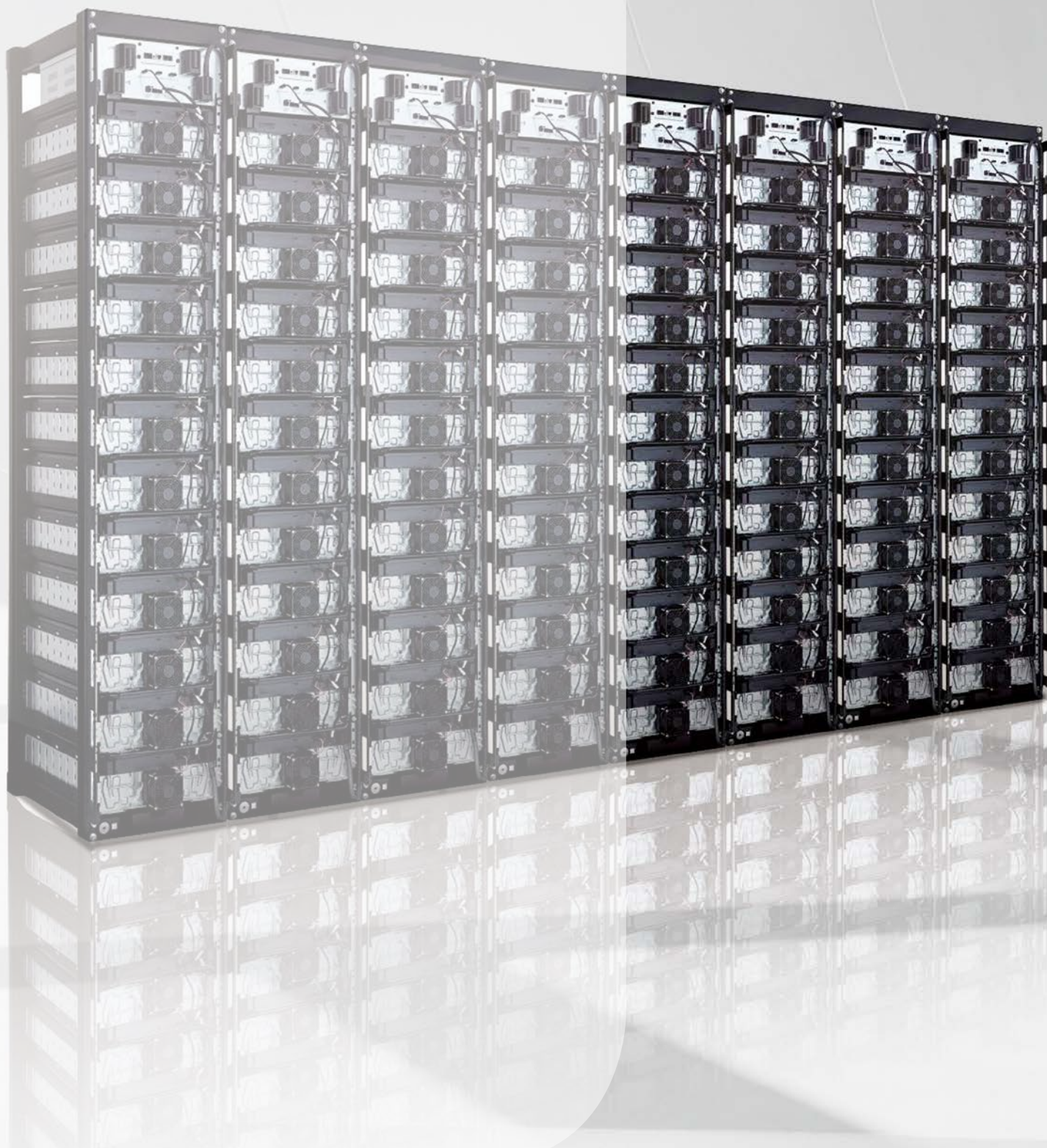
- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

## CIRCUIT DIAGRAM



System Type	SC5500UD-MV	SC6300UD-MV	SC6900UD-MV
<b>DC side</b>			
Max. DC voltage		1500 V	
Min. DC voltage	800 V	915 V	1000 V
DC voltage range	800 – 1500 V	915 – 1500 V	1000 – 1500 V
Max. DC current		1935 A * 4	
No. of DC inputs		4	
<b>AC side (Grid)</b>			
AC output power	5500 kVA @ 45 °C 6050 kVA @ 30 °C	6300 kVA @ 45 °C 6930 kVA @ 30 °C	6900 kVA @ 45 °C 7590 kVA @ 30 °C
Max. AC output current		6348 A	
Nominal AC voltage	550 V	630 V	690 V
AC voltage range	484 – 605 V	554 – 693 V	586.5 – 759 V
Nominal grid frequency / Grid frequency range		50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz	
Harmonic (THD)		< 3 % (at nominal power)	
Power factor at nominal power / Adjustable power factor		>0.99 / 1 leading – 1 lagging	
Adjustable reactive power range		-100 % – 100 %	
Feed-in phases / AC connection		3 / 3-PE	
<b>AC side (Off-Grid)</b>			
Inverter port nominal AC voltage	550 V	630 V	690 V
Inverter port AC voltage range	484 – 605 V	554 – 693 V	586.5 – 759 V
AC voltage distortion		< 3 % (Linear load)	
DC voltage component		< 0.5 % Un (Linear balance load)	
Unbalance load capacity		100 %	
Nominal Voltage frequency / Voltage frequency range		50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz	
<b>Efficiency</b>			
Inverter Max. efficiency		99.0 %	
<b>Transformer</b>			
Transformer rated power	5500 kVA	6300 kVA	6900 kVA
Transformer max. power	6050 kVA	6930 kVA	7590 kVA
LV / MV voltage	0.55 kV / (20 – 35) kV	0.63 kV / (20 – 35) kV	0.69 kV / (20 – 35) kV
Transformer vector		Dy11y11	
Transformer cooling type		ONAN	
Oil type		Mineral oil(PCB free) or degradable oil on request	
<b>Protection</b>			
DC input protection		Load break switch + fuse	
Inverter output protection		Circuit breaker	
AC output protection		Circuit breaker	
Surge protection		DC Type II / AC Type II	
Grid monitoring / Ground fault monitoring		Yes / Yes	
Insulation monitoring		Yes	
Overheat protection		Yes	
<b>General Data</b>			
Dimensions (W*H*D)		12192*2896*2438 mm (480"*114.0"*96.0")	
Weight		27000 kg (59525 lbs)	
Degree of protection		IP54 (Inverter: IP65)	
Operating ambient temperature range		-35 to 60 °C (> 45 °C derating)	
Allowable relative humidity range		0 – 100 %	
Cooling method		Temperature controlled forced air cooling	
Max. operating altitude		1000 m (Standard) / > 1000 m (Optional)	
Display		LED, WEB HMI	
Communication		RS485, CAN, Ethernet	
Compliance		CE, IEC 62477-1, IEC 61000-6-2, IEC61000-6-4	
Grid support		L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt	

# NCM Li-ion Battery System





## Top Safety

### The First Battery Solution to Meet NFPA 855 Requirements at Unit Level Based on UL9540A\*

\*UL9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems

Safety is Samsung SDI's priority.

Samsung SDI provides safer battery solutions with multiple safety features from cell level to module and rack system, which meet global ESS safety standards including NFPA's.

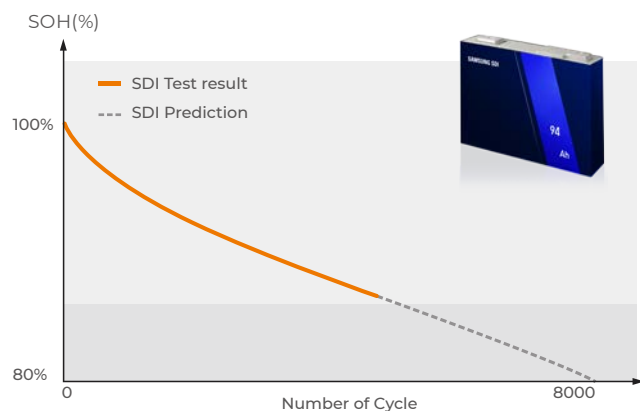


## Long Cycle Life

### Long Life with Higher Capacity

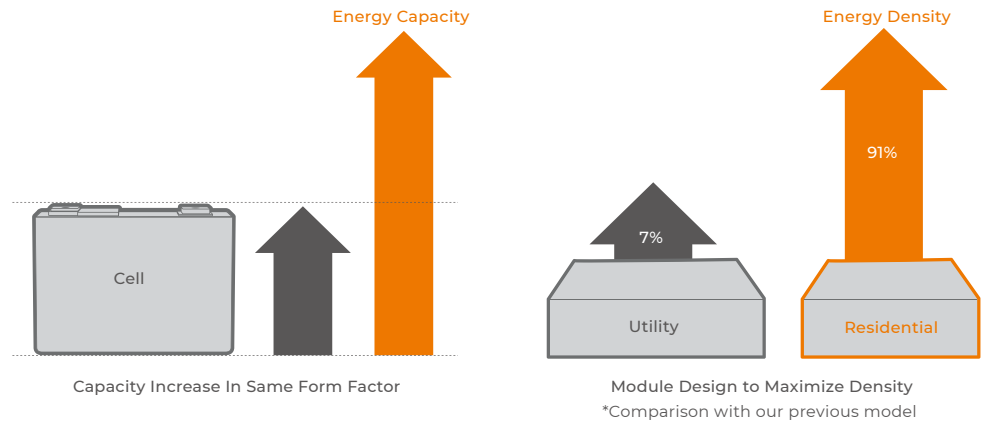
Samsung SDI maintains stable life and performance while increasing cell capacity.

Our technological edge and superior quality enable the longer cycle life among comparable technologies.



## Compact Design

### Compact Design with High Energy Density



Samsung SDI maximizes capacity while maintaining the same form factor and materializing the compact design through sophisticated module design for higher density.

## Multi-use Solution

### Multi-functional Cell for Diverse Applications

Innovation starts at the cell level. We have optimized our ESS battery solutions with multi-functional prismatic cells for diverse ESS applications for easy configurations of high-voltage and small-capacity applications.



## Energy Platform New

Over 2 hours

- Over 20% Increase in Rack Energy Density by Using Advanced Modules
- Higher Energy Density for Better Footprint and Installation Cost Savings



Item		Module
Battery Type		NCM Battery
Model		E3-M088
Cell Capacity	Ah	100
Energy	kWh	8.8
Operating Voltage	V	38.4-49.8
Dimensions (WxDxH)	mm	370 x 637 x 160
Weight	kg	59

## Standard Platform



Item		Rack		
Battery Type		NCM Battery		
Model		E3-R150	E3-R194	E3-R221
Cell Capacity	Ah	100	100	100
Energy	kWh	150	194	221
Operating Voltage	V	653-847	845-1096	960-1245
Dimensions (WxDxH)	mm	876 x 711 x 1624	876 x 711 x 2122	876 x 711 x 2288
Weight	kg	1100	1411	1593

## High Voltage Platform (1,500V)

Item		Module
Battery Type		NCM Battery
Model		E3-R256
Cell Capacity	Ah	100
Energy	kWh	256
Operating Voltage	V	1114-1444
Dimensions (WxDxH)	mm	876 x 711 x 2750
Weight	kg	1929

## Medium Platform New

Over 1 hour

- Unique Platform in the ESS Industry with Mid-range Capabilities
- Optimized Solution for 1 hour + of Grid Service
- The Highest Lifetime Performance in a Continuous Charge/Discharge for Over 1 hour



Item		Module
Battery Type		NCM Battery
Model		M3-M081
Cell Capacity	Ah	100
Energy	kWh	8.1
Operating Voltage	V	70.4–91.3
Dimensions (WxDxH)	mm	370 x 650 x 160
Weight	kg	56

## Standard Platform



Item		Rack		
Battery Type		NCM Battery		
Model		M3-R073	M3-R089	M3-R097
Cell Capacity	Ah	100	100	100
Energy	kWh	73	89	97
Operating Voltage	V	634–822	774–1004	845–1096
Dimensions (WxDxH)	mm	438 x 711 x 1791	438 x 711 x 2122	438 x 711 x 2288
Weight	kg	562	681	740

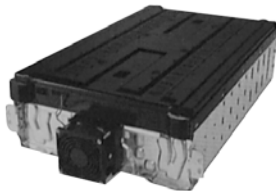
## High Voltage Platform (1,500V)

Item		Rack
Battery Type		NCM Battery
Model		M3-R130
Cell Capacity	Ah	100
Energy	kWh	130
Operating Voltage	V	1126–1461
Dimensions (WxDxH)	mm	438 x 711 x 3082
Weight	kg	1001

## Power Platform

Less than 1 hour

- High Power Platform for Less than 1 hour of Use.
- Optimized Solution for Power Applications such as F/R, Railway and Ship.



Item		Module
Battery Type		NCM Battery
Model		P3-M063
Cell Capacity	Ah	78
Energy	kWh	6.3
Operating Voltage	V	68.2–90.2
Dimensions (WxDxH)	mm	370 x 650 x 160
Weight	kg	54

## Standard Platform



Item		Rack		
Battery Type		NCM Battery		
Model		P3-R056	P3-R070	P3-R076
Cell Capacity	Ah	78	78	78
Energy	kWh	57	70	76
Operating Voltage	V	614–812	750–992	818–1082
Dimensions (WxDxH)	mm	438 x 711 x 1791	438 x 711 x 2122	438 x 711 x 2288
Weight	kg	544	659	716

## High Voltage Platform (1,500V)

Item		Rack
Battery Type		NCM Battery
Model		P3-R101
Cell Capacity	Ah	78
Energy	kWh	101
Operating Voltage	V	1091–1443
Dimensions (WxDxH)	mm	438 x 711 x 3082
Weight	kg	969





# LFP Li-ion Battery System



# LFP Li-ion Battery System

Over 1 hour

M2L-M143



M2L-R372



## EFFICIENT & HIGH YIELD

- 20-year service life, 8000+ times system-level cycle life
- Support 1500V system, reduce AC side loss by 60%
- Deep charge & discharge design, initial investment saves more than 5%



## INTELLIGENT & FRIENDLY

- 40-foot container can hold 4.4MWh, compatible downwards
- Online estimation of SOC & SOH based on scenes and big data
- Support cloud platform, remote real-time monitoring and fault identification



## SAFE & RELIABLE

- Two-level short-circuit protection, graded fast current limiting
- Fool-proof, anti-reverse connection design, safer installation and maintenance
- Patented air duct and intelligent air cooling design, temperature difference < 3 °C
- Meet global high standard authoritative certification requirements



Item	Specification
Model	M2L-M143
Charge&discharge rate	≤ 1C
Cell type	LFP 280Ah
Configuration	1P16S
Capacity	280 Ah
Nominal energy	14.3 kWh
Charging&discharging power	≤ 14.3 kW
Nominal voltage	51.2 V
Operating voltage range	43.2 V–58.4 V
Dimensions (W*H*D)	455*230*760mm
Weight	105 kg

Item	Specification
Model	M2L-R372
Charge&discharge rate	≤ 1C
Cell type	LFP 280Ah
Configuration	1P416S
Key component	PACK*26+SG*1
Capacity	280 Ah
Nominal energy	372,7 kWh
Charging&discharging power	≤ 372.7 kW
Nominal voltage	1331.2 V
Operating voltage range	1123.2V–1497.6 V
Dimensions (W*H*D)	1500*2285*760 mm

# Global Reference



16 MW / 8.5 MWh Frequency Regulation, Germany 



10 MW / 42 MWh PV+ESS, USA 



1 MW / 3.3 MWh Renewable Energy Shifting, Akita, Japan 



7 MW / 23.5 MWh Micro-grid, Tibet, China 🇨🇳



1.5MW / 3.836MWh DC-coupled Energy Storage Project in Florida, USA 🇺🇸



27.5MW/30.14MWh PV+ESS Yorkshire, England 🇬🇧



5.99 MW/21 MWh Energy Storage, Hokkaido Japan 



1 MW / 2.2 MWh Peak Shaving, Missouri, USA 



100 MW/100 MWh Energy Storage, Minety, the UK 



500 kW / 1.37 MWh C&I, Sampson Cay, Bahamas 





**We are committed to the clean and efficient energy, and to bring more green electricity to all mankind**

We have a thorough understanding of customers' needs to provide them with comprehensive and perfect services:



### **Consulting Services**

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Sungrow has set up marketing service agencies in France, Germany, Italy, Austria, the United States, Canada, Australia and other countries to provide customers with professional and convenient project advisory services.



### **System design services**

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Our senior system engineers have abundant PV power generation system design experience for years, who's able to develop tailored solutions accurately. The system design profile, budget, power generating capacity, and data as carbon dioxide emissions will be taken into account and provided to the customer as well.



### **Quality assurance services**

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We pursue high quality all the time. Every product is under quality inspections during manufacturing process, and needs to pass the complete machine test before shipment to ensure that it can be stably operated. Detailed and rapid warranty services are guaranteed by on-line monitoring system, hardware/software upgrades, regular inspection and training.



### **Training services**

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We provide customers with comprehensive, professional technical training and guidance by delivering the knowledge of power system and equipment's daily use and maintenance.

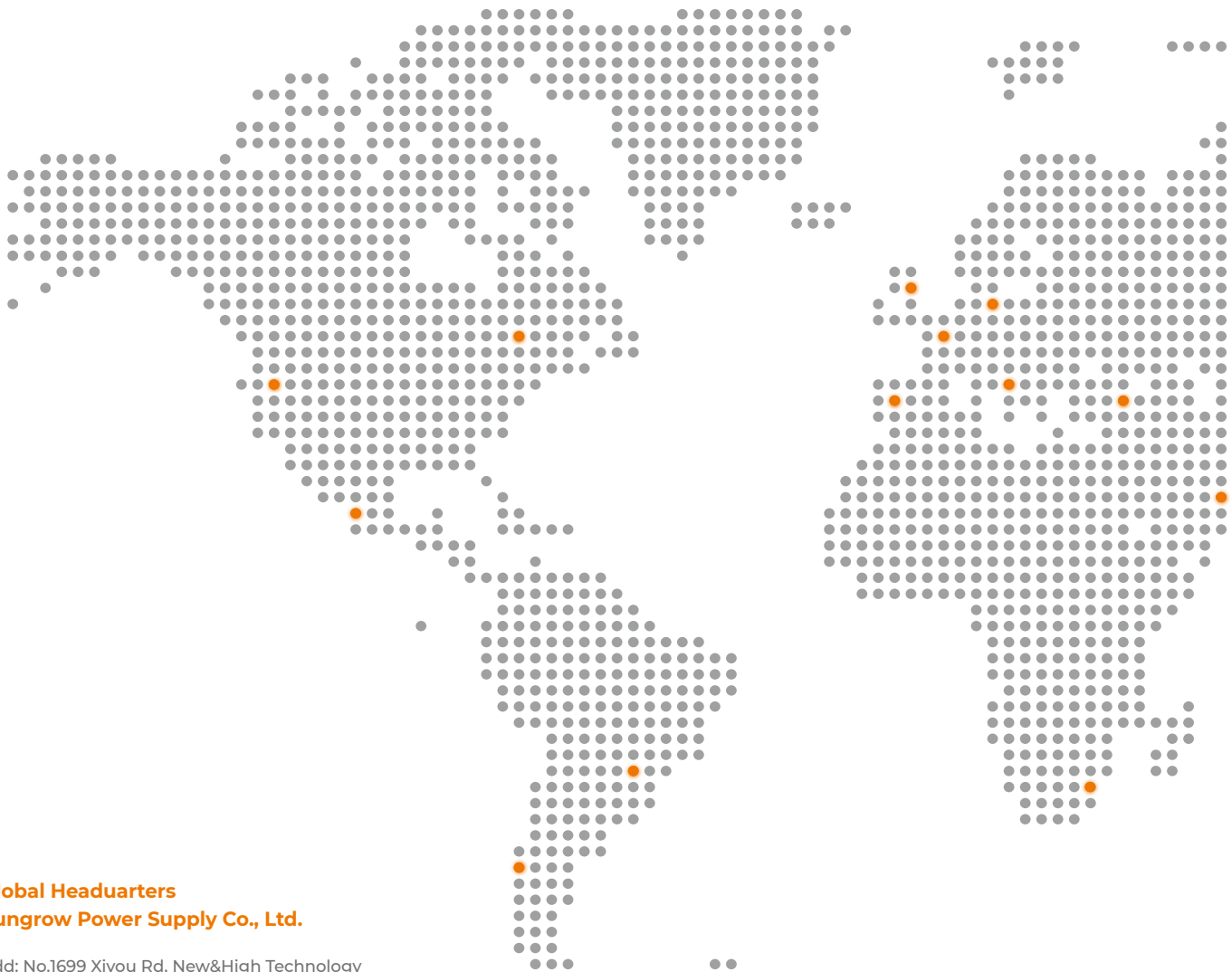


### **On-site service**

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Our technical service engineers can provide customers with professional and rapid installation and debugging services according to requirements, to ensure that customers' projects would be successfully completed and connected to the grid perfectly.

# Global Entry



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EUROPE