

SC2500U-MV New

Energy Storage Turnkey Solution for 1500 Vdc



High Yield

- Advanced three-level technology, max. inverter efficiency 98.8%
- Effective forced air cooling, no derating up to 122°F
- Wide DC voltage operation window, flexible for battery configuration



Easy O&M

- Integrated current & voltage monitoring function for online analysis and fast trouble shooting
- Low transportation and installation cost due to 20-foot container design
- Modular design and all components front accessible, easy for maintenance
- Integrated auxiliary power supply panels for external devices
- MV transformer integrated, easy for installation and deployment



ESS Applications

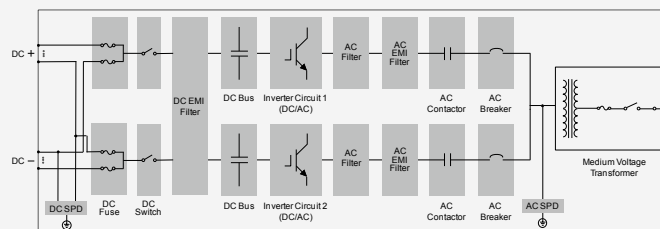
- Typical applications: peak shaving, energy shifting, frequency regulation, capacity firming.
- Compatible with high voltage battery system, low system cost
- Bidirectional power conversion system with full four-quadrant operation
- Battery charge & dis-charge management and black start functions integrated



Grid Support

- Compliance with UL 1741, UL1741 SA, IEEE 1547, California Rule 21
- Dynamic grid voltage and frequency support
- L/HVRT, L/HFRT, soft start/stop, specified power factor control and reactive power support

Circuit Diagram



DC side**SC2500U-MV**

Max. DC voltage	1500V
Min. DC voltage	800 V
DC voltage range for nominal power	800 – 1300 V
Max. DC current	3508 A
Max. DC power	2806 kW

AC side (Grid)

AC output power	2750 kVA @ 45 °C (113 °F) / 2500 kVA @ 50 °C (122 °F)
Max. inverter output current	2886 A
AC voltage range	34.5 kV
Nominal grid frequency / Grid frequency range	60 Hz / 55 – 65 Hz
AC current THD	< 3 % (at nominal power)
DC current injection	< 0.5 % I _n
Power factor at nominal power / Adjustable power factor	> 0.99 / 1 leading – 1 lagging

AC side (Off-Grid)

Inverter port nominal AC voltage	550 V
Inverter port AC voltage range	484 – 605 V
AC voltage THD	< 3 % (Linear load)
DC voltage component	< 0.5 % U _n (Linear balance load)
Unbalance load capacity	100 %
Nominal voltage frequency / Voltage frequency range	60 Hz / 55 - 65 Hz

Efficiency

Inverter max. efficiency / Inverter Euro. efficiency	98.8 % / 98.5 %
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Transformer

Transformer rated power	2500 kVA
Transformer max. power	2750 kVA
LV / MV voltage	0.55 kV / 34.5 kV
Transformer vector	Dy1
Transformer cooling type	ONAN (Oil Natural Air Natural)
Oil type	Mineral oil (PCB free) or degradable oil on request

Protection

DC input protection	Load break switch + fuse
Inverter output protection	Circuit breaker
AC output protection	Load break switch + fuse
Overvoltage protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes

General Data

Dimensions (W*H*D)	6058*2896*2438 mm (238.5**114.0**96.0")
Weight	17 T (37478.6 lbs)
Degree of protection	Type 3R
Auxiliary power supply	220 Vac, 1.5 kVA / 110 Vac, 2.2kVA / Optional: 480 Vac, 30 kVA
Operating ambient temperature range	-30 to 60 °C (> 50 °C derating) (-22 to 140 °F (> 122 °F derating))
Allowable relative humidity range (non-condensing)	0 – 95 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	1000 m (standard) / > 1000m (optional) (3280.8 ft (standard) / > 3280.8 ft (optional))
Display	Touch screen
Communication	Standard: RS485, CAN, Ethernet; Optional: optical fiber
Compliance	UL 1741, IEEE 1547, UL1741 SA, NEC Standard
Grid support	L/HVRT, L/HFRT, active & reactive power control and power ramp rate control
Type designation	SC2500U-MV-10

