

SG2500U-MV

Turnkey Station for North America 1500 Vdc System - MV Transformer Integrated



High Yield

- Advanced three-level technology, max. inverter efficiency 98.8%, inverter CEC efficiency 98.5 %
- Effective cooling, 1.1 overload capacity, no derating up to 122 °F
- Max. DC/AC ratio more than 1.5



Easy O&M

- Integrated current, voltage and MV parameters monitoring function for online analysis and fast trouble shooting
- Modular design, easy for maintenance
- Convenient external LCD



Saved Investment

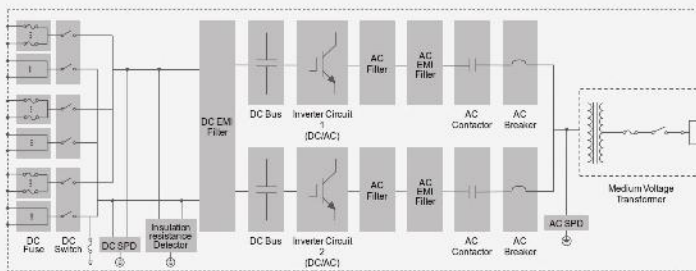
- Low transportation and installation cost due to 20-foot container design
- 1500V DC system, low system cost
- Integrated MV transformer and LV auxiliary power supply



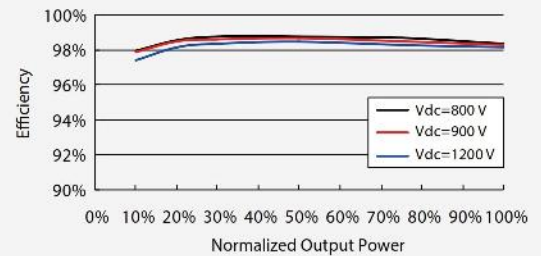
Grid Support

- Complies with UL 1741, UL 1741 SA, IEEE 1547, Rule 21 and NEC 2014/2017
- Grid support including L/HVRT, L/HFRT, power ramp rate control, active and reactive power support

Circuit Diagram



Inverter Efficiency Curve



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Input (DC)**SG2500U-MV**

Max. PV input voltage	1500V
Min. PV input voltage / Startup input voltage	800 V / 840 V
MPP voltage range for nominal power	800 – 1300 V
No. of independent MPP inputs	1
No. of DC inputs	18 – 21
Max. PV input current	3508 A
Max. DC short-circuit current	4800 A
PV array configuration	Negative grounding

Output (AC)

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
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % I _n
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / Connection phases	3 / 3

Efficiency

Inverter max. efficiency / Inverter CEC 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 MV output protection	Load break switch + fuse
Overvoltage protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Optional
Overheat protection	Yes

General Data

Dimensions (W*H*D)	6058*2896*2438 mm (238.5***114.0***96.0")
Weight	18 T (39683.2 lbs)
Degree of protection	NEMA 3R
Auxiliary power supply	120 Vac, 5 kVA / 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) / > 1000 m (optional) (3280.8 ft (standard) / > 3280.8 ft (optional))
Display	Touch screen
Communication	Standard: RS485, Ethernet; Optional: optical fiber
Compliance	UL 1741, IEEE 1547, UL1741 SA, NEC 2014/2017, CSA C22.2 No.107.1-01
Grid support	Night SVG function (optional), L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Frequency-watt