SG3125UD-MV-20

MV Grid-connected PV Inverter for 1500Vdc System



INTELLIGENT OPERATION AND MAINTENANCE

- Split design, ultra-fast maintenance within 1 hour
- Pioneering in intelligent fault location, real-time fault monitoring and active warning
- AI Monitoring of air duct health + Self-cleaning, eliminating manual air duct maintenance

LOWER LCOE

- Integrated inverter and MV for rapid deployment and unified maintenance
- 9,375 kW larger sub-array for lower system cost
- Modular system for flexible sub-array capacity design

PERFECT SAFETY

- DC parallel arc protection, protecting the modules within 40 ms
- 24-hour insulation monitoring to ensure system safety

PROACTIVE GRID FORMING

- PV grid forming for daily reactive voltage support
- Pioneering in strong / weak grid self-adaption for active identification of grid changes
- Enhanced grid support for 20ms ultra-fast reactive power dispatch

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Type Designation	SG3125UD-MV-20
Input (DC)	
Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	938 V / 950 V
MPP voltage range	938 V ~ 1500 V
No. of independent MPPT inputs	4
No. of DC inputs	16 (optional: 20 inputs negative ground)
Max. PV input current	4 * 1016 A
Max. DC short-circuit current	4 * 2520 A
PV array configuration	Negative grounding (optional: floating)
Output (AC)	
AC output power	3125 kVA @ 52 ℃ 3290 kVA @ 45 ℃ 3390 kVA @ 40 ℃ 3750 kVA @ 23 ℃
Max. AC output current [1]	361 A
Rated output voltage	6 kV - 35 kV
Frequency	50 Hz (45 Hz ~ 55 Hz) / 60 Hz (55 Hz ~ 65 Hz)
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading ~ 0.8 lagging
Feed-in phases / AC connection	3 / 3
Efficiency	
Max. inverter unit efficiency	99.02 %
CEC inverter unit efficiency	98.83 %
Max. efficiency (including transformer)	98.42 %
CEC efficiency (including transformer)	98.06 %
Protection & Function	
DC input protection	DC load switch + fuse
AC protection	AC circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes / Yes
Insulation monitoring	Yes
Overheat protection	Yes
Q at night function	Optional
General data	
Dimensions (W*H*D)	6058 mm * 2896 mm * 2438 mm
Weight	≤ 17 T
Transformer vector	Dy11
Oil type	Mineral oil (PCB free)
Degree of protection	Inverter unit: IP66 / Others: IP54
Auxiliary power supply	15 kVA (optional: 40 kVA)
Operating ambient temperature range [2]	-35 ℃ ~ 60 ℃ [3]
Allowable relative humidity range	0 % ~ 100 %
Cooling method	Temperature controlled forced air cooling + ONAN
Max. operating altitude	1000 m (optional: max. 5000 m)
Display	LED Indicators, Ethernet+WebHMI
Communication	DC: RS485 (optional: MPLC), AC: Ethernet
Compliance	CE, IEC: IEC 62109, IEC 61727, IEC 62116, IEC 60068, IEC 61683, IEC 62443-4-2, IEC-62271-202

1) Calculated based on the minimum nominal AC voltage.
2) The ambient temperature is determined as the average temperature obtained from at least four temperature monitoring points located at a distance of 1 meter from the equipment, at a height halfway up the machine. The temperature sensors must be shielded from airflow, thermal radiation, and rapid temperature fluctuations to prevent display inaccuracies.
3) When the temperature is below -20℃ , optional configuration is required.

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