SG780UD-20

PV Inverter for 1500Vdc System



LOWER LCOE

- Modular system for flexible sub-array capacity design

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

PERFECT SAFETY

- DC parallel arc protection, protecting the modules within 40ms
- 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

© 2025 Sungrow Power Supply Co., Ltd. All rights reserved. Subject to change without notice. Version 1.1

Type designation	SG780UD-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 MPP inputs	1
No. of DC inputs	4 (optional: 5 inputs negative ground)
Max. PV input current	1016 A
Max. DC short-circuit current	2520 A
PV array configuration	Negative grounding (optional: floating)
Output (AC)	
AC output power	781.25 kVA @ 52 ℃ 937.5 kVA @ 23 ℃
Max. AC output current	821 A
Nominal AC voltage	660 V
AC voltage range	561 V – 759 V
Nominal grid frequency (Grid frequency range)	50 Hz (45 Hz – 55 Hz) / 60 Hz (55 Hz – 65 Hz)
Harmonic (THD)	≤ 1 % (at nominal power)
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases	3
Earthing system	IT system
Inverter efficiency	
Inverter max. efficiency / Inverter European efficiency	99.02 % / 98.83 %
Protection & Function	
DC input protection	Fuse + DC load break switch
AC output protection	Circuit breaker
Surge protection	DC Type II / AC Type II
Grid monitoring / Ground fault monitoring	Yes
Insulation monitoring	Yes
Q at night function	Optional
General data	
Dimensions (W*H*D)	730 mm * 2390 mm * 1530 mm
Weight	≤ 500 kg
Topology	Transformerless
Degree of protection	IP66
Night power consumption	< 35 W
Operating ambient temperature range *	-35 ℃ – 60 ℃
Cooling method	Temperature controlled forced air cooling
Allowable relative humidity range	0 % – 100 %
Max. operating altitude	5000 m
Display	LED Indicators, Ethernet + WebHMI
Communication	DC: RS-485 (optional: MPLC), AC: Ethernet
Compliance	CE, IEC: IEC 62109, IEC 61727, IEC 62116, IEC 60068, IEC 61683, IEC 62443-4-2

* 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.

© 2025 Sungrow Power Supply Co., Ltd. All rights reserved. Subject to change without notice. Version 1.1