SUNGROW
Clean power for all

1+X-R Series

Retrofit Solution for Utility PV Inverter

Versatile Adaptation

- AC voltage range: 270Vac ~ 690Vac, covering all mainstream models of historical versions
- Modular design featuring compact size and light weight for convenient construction
- Compatible with mainstream communication protocols to meet networking requirements of different projects

Efficient & Convenient

- 1+X common-platform design with reliable components, ensuring worry-free spare parts supply throughout the entire life cycle
- IP65 protection rating and C5 anti-corrosion grade, suitable for diverse application scenarios
- Supports IV scanning, DC safety protection and air duct self-cleaning function for easier operation and maintenance

Type designation	SG840UD			SG1300UD		
Input (DC)						
Max. PV input voltage	1100 V			1500 V		
Min. PV input voltage / Startup input voltage	420 V / 440 V	550 V / 570 V	610 V / 630 V	785 V / 805 V	940 V / 960 V	980 V / 1000 V
MPP voltage range	420 V - 1000 V	550 V - 1000 V	610 V - 1000 V	785V - 1500 V	940 V - 1500 V	980 V - 1500 V
No. of independent MPPT inputs	1					
No. of DC inputs	8 (optional: 10 inputs negative ground)					
Availiable DC Fuse Sizes	250 A ~ 400 A			250 A ~ 550 A		
Max. DC short-circuit current	3200 A			3528 A		
PV array configuration	Negative grounding (optional: floating)					
Output (AC)						
Max AC output power@ Nominal AC voltage*	540 kVA @ 40 ℃ 462 kVA @ 50 ℃	720 kVA @ 40 ℃ 615 kVA @ 50 ℃	840 kVA @ 40 ℃ 718 kVA @ 50 ℃	1036 kVA @ 40 ℃ 964 kVA @ 50 ℃	1244 kVA @ 40 ℃ 1157 kVA @ 50 ℃	1300 kVA @ 40 ℃ 1209 kVA @ 50 ℃
Max. AC output current @ 40℃	1155 A			1088 A		
Nominal AC voltage**	270 V	360 V	420 V	550 V	660 V	690 V
AC voltage range	229 V - 310 V	306 V - 414 V	357 V - 483 V	468 V - 605 V	561 V - 726 V	587 V - 759 V
Nominal grid frequency (Grid frequency range)	50 Hz (45 ~ 55 Hz) / 60 Hz (55 ~ 65 Hz)					
Harmonic (THD)	≤ 1.5 % (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					
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						
Maximum Parallel Number***	4					
Dimensions (W * H * D)	700 mm * 2100 mm * 1525 mm					
Weight	800 kg					
Topology	Transformerless					
Degree of protection	IP65					
Night power consumption	< 200 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, AC: Ethernet					
Compliance	CE, IEC62109 , IEC61727 , IEC62116 , IEC60068 , IEC61683 , IEC 62443-4-2					

*The output power can be customized according to the customer's on-site equipment model, provided it is below the maximum output power.

**The AC output voltage can be custom-matched according to the model of the equipment on site. range can selectable between 270V ~ 420V@DC1100V,550V~690V@DC1500V

***The Parallel Number is 4,AC outpower x4 , DC input number :32(optional: 40 inputs negative ground) ,Dimensions (W*H*D) : 2900*2300*1550 mm , Weight : 4x800kg,Night power consumption:4x200W

****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.