

# SG50KU-M New

String Inverter For North America



### High Yield

- Max. efficiency 98.9%, CEC efficiency 98.5%
- 10% overload capacity, supports bi-facial modules
- Built-in anti-PID function, reduces PV module degradation
- Wide operating temperature range from -22 °F to 140 °F
- Up to 5 MPP trackers



### Easy O&M

- Integrated string current monitoring function for fast troubleshooting
- NEMA 4X protection
- Support Bluetooth communication, easy for maintenance



### Saved Investment

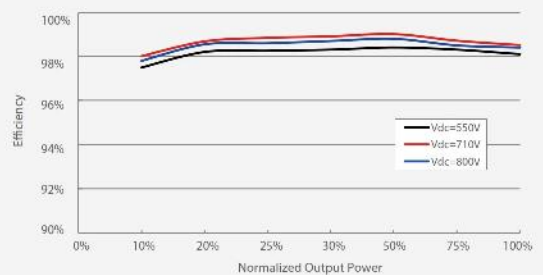
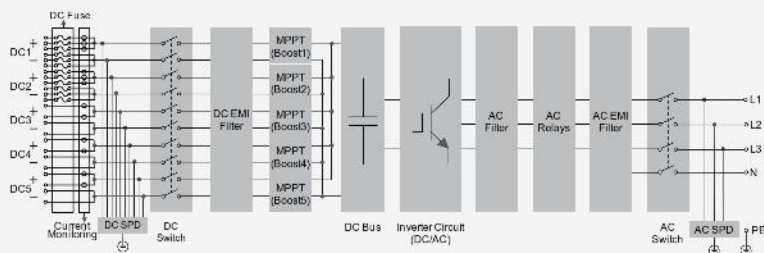
- Max. DC/AC ratio more than 1.5
- Integrated DC and AC switch
- Copper and Aluminum compatible AC connections
- Flexible installation e.g. vertical or horizontal



### Grid Support

- Complies with standards: UL1741, UL 1741 SA, CA Rule 21, IEEE 1547, IEEE 1547.1, CSA C22.2, No.107.1-01
- Low/High voltage ride through (L/HVRT)
- Active & reactive power control and power ramp rate control

### Circuit Diagram



© 2018 Sungrow Power Supply Co., Ltd. All rights reserved.  
Subject to change without notice. Version 1.1

**Input (DC)**

	<b>SG50KU-M</b>
Max. PV input voltage	1000 V
Min. PV input voltage / Startup input voltage	200 V / 200 V
Nominal input voltage	710 V
MPP voltage range	200 – 1000 V
MPP voltage range for nominal power	500 – 850 V
No. of independent MPP inputs	5
Max. number of PV strings per MPPT	3 / 3 / 2 / 2 / 2
Max. DC short-circuit current	45 A / 45 A / 30 A / 30 A / 30 A

**Output (AC)**

AC output power	55000 VA @ 45 °C (113 °F) / 50000 VA @ 50 °C (122 °F)
Max. AC output current	66.2 A
Nominal AC voltage	3 / N / PE, 277 / 480 V
AC voltage range	422 – 528 V
Nominal grid frequency / Grid frequency range	60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 %In
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / Connection phases	3 / 3

**Efficiency**

Max. efficiency / CEC efficiency	98.9% / 98.5%
----------------------------------	---------------

**Protection**

DC reverse connection protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
DC switch / AC switch	Yes / Yes
DC fuse	Yes (positive and negative)
PV string current monitoring	Yes
Anti-PID function	Yes
Arc fault circuit interrupter (AFCI)	Yes
Overvoltage protection	DC Type II / AC Type II

**General Data**

Dimensions (W*H*D)	954*781*274 mm <b>(37.6**30.7**10.8")</b>
Weight	67 kg <b>(147.7 lbs)</b>
Isolation method	Transformerless
Degree of protection	NEMA 4X
Night power consumption	< 2 W
Operating ambient temperature range	-30 to 60 °C (> 50 °C derating) <b>(-22 to 140 °F (&gt; 122 °F derating))</b>
Allowable relative humidity range (non-condensing)	0 – 100%
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) <b>(13123 ft (&gt; 9843 ft derating))</b>
Display / Communication	LED, Bluetooth + APP / RS485, Ethernet
Third-Party communication protocol	SunSpec Modbus
DC connection type	MC4 / Screw clamp terminal (10 AWG, Cu or Al)
AC connection type	OT (Max. 2/0 AWG, Cu or Al)
Compliance	UL1741, UL 1741 SA, CA Rule 21, IEEE 1547, IEEE 1547.1, CSA C22.2 No.107.1-01, UL 1699B and FCC Part 15
Grid support	L/HVRT, L/HFRT, active & reactive power control and power ramp rate control, Volt-var, Frequency-watt
Type designation	SG50KU-M-10