

SG5.0RT/SG7.0RT/SG10RT/ SG15RT/SG20RT **New**

SUNGROW
Clean power for all

Multi-MPPT String Inverter for 1000 Vdc System



HIGH YIELD

- Lower startup & wider MPPT voltage
- Compatible with bifacial modules
- Built-in PID recovery function

SMART MANAGEMENT

- Smart IV curve scanning
- 24/7 Live monitoring
- Over-the-air firmware updates

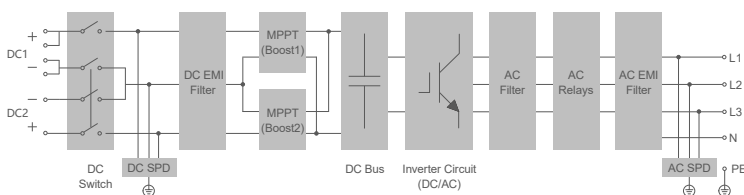
SAFE AND DURABLE

- Quick arc fault circuit interrupter
- Build-in Type II DC & AC SPD
- High anti-corrosion rating at C5

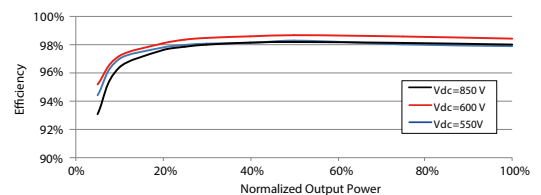
EASY AND USER FRIENDLY

- 18 kg compact design
- Unique push-in connectors
- Fast and easy commissioning via App

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SG5.0RT	SG7.0RT	SG10RT	SG15RT	SG20RT
Input (DC)					
Recommended max. PV input power	7.5 kW	10.5 kW	15 kW	22.5kW	30 kW
Max. PV input voltage			1100 V		
Min. PV input voltage / Start-up input voltage			180 V		
Nominal input voltage			600 V		
MPP voltage range			160 V – 1000 V		
No. of independent MPP inputs			2		
No. of PV strings per MPPT	1/1	2/1	2/1	2/2	2/2
Max. PV input current	25 A (12.5 A/12.5 A)	37.5 A (25 A/12.5 A)	37.5 A (25 A/12.5 A)	50 A (25 A / 25 A)	50 A (25 A / 25 A)
Max. current for input connector	30A				
Max. DC short-circuit current	32 A (16 A / 16 A)	48 A (32 A / 16 A)	48 A (32 A / 16 A)	64 A (32 A / 32 A)	64 A (32 A / 32 A)
Output (AC)					
Nominal AC power (@230 V, 50 Hz)	5000 W	7000 W**	10000 W	15000 W	20000 W
Max. AC output power	5500 VA*	7700 VA**	11000 VA*	16500 VA*	22000 VA*
Max. AC output current	8.3 A	11.7 A	16.7 A	25 A	31.9 A
Nominal AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V				
AC voltage range	180 V – 276 V				
Nominal grid frequency/ Grid frequency range	50 Hz / 45 – 55 Hz 60 Hz / 55 – 65 Hz				
Harmonic(THD)	<3 % (at nominal power)				
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. efficiency	98.40%	98.40%	98.50%	98.50%	98.50%
European efficiency	97.40%	97.70%	97.90%	98.10%	98.10%
Protection					
Grid monitoring	Yes				
DC reverse connection protection	Yes				
AC short-circuit protection	Yes				
Leakage current protection	Yes				
Surge Protection	DC Type II / AC Type II				
DC switch	Yes				
Arc fault circuit interrupter (AFCI)	Yes				
PID recovery function	Yes				
General Data					
Dimensions (W*H*D)	370 * 480 * 195 mm				
Mounting method	Wall-mounting bracket				
Weight	18 kg	18 kg	18 kg	21 kg	21 kg
Topology	Transformerless				
Degree of protection	IP65				
Operating ambient temperature range	-25 °C to 60 °C				
Allowable relative humidity range	0% – 100%				
Cooling method	Natural cooling	Natural cooling	Natural cooling	Smart forced air cooling	Smart forced air cooling
Max. operating altitude	4000 m (> 2000 m derating)				
Noise(Typical)	35dB (A)	35dB (A)	35dB (A)	45dB (A)	45dB (A)
Display	LED				
Communication	WLAN, Ethernet, RS485, DI, DO				
DC connection type	MC4				
AC connection type	Plug and play				
Compliance	EN 61000-6-1/-3, IEC62109-2, IEC 61727, IEC 62116, AS/NZS 4777.2:2015, VDE-AR-N-4105, DIN VDE0126-1-1, CEI 0-21, EN50549-1				

*: For Australia & Belgium & Germany Max. AC output power: SG5.0RT is 5000VA, SG10RT is 10000VA, SG15RT is 15000VA, SG20RT is 20000VA,

** : For Australia, 6999W, 6999 VA



SH5.0/6.0/8.0/10RT-20

Residential Hybrid Three Phase Inverter



FLEXIBLE APPLICATION

- DC 13.5A current input, compatible with high-power PV module
- Supports parallel connection with master-slave controlling
- Provides 100% power to unbalance loads in backup mode
- Supports application in retrofit scenario



SMART MANAGEMENT

- Compatible with AC EV Charger for green energy to EV
- High self-consumption with optimised built-in EMS
- Free online monitoring to enhance energy management for end user, installer and retailer
- Remote firmware update and customisable settings



ENERGY INDEPENDENCE

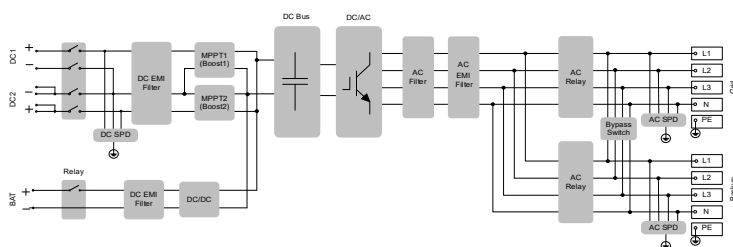
- Seamless transition to backup mode for protection against power outages
- Fast charging / discharging to meet the demand of higher consumption



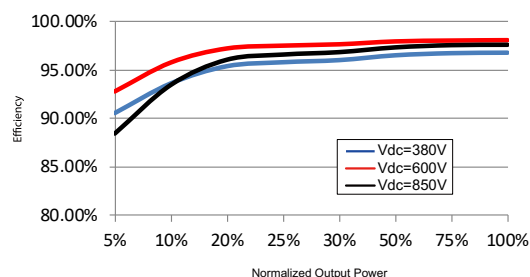
EASY INSTALLATION

- Unique push-in connectors for time-saving installation
- Touch free commissioning with smartphone
- Lightweight and compact

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH5.0RT)



Type designation	SH5.0RT-20	SH6.0RT-20	SH8.0RT-20	SH10RT-20
PV Input				
Recommended max. PV input power	7500 W	9000 W	12000 W	15000 W
Max. PV input voltage	1000 V			
Min. PV input voltage / Startup input voltage	150 V / 180 V	200 V / 250 V	200 V / 250 V	200 V / 250 V
Rated PV input voltage	600 V			
MPP voltage range	150 V – 950 V	200 V – 950 V	200 V – 950 V	200 V – 950 V
No. of independent MPP inputs	2			
No. of PV strings per MPPT	1 / 1	1 / 1	1 / 1	1 / 2
Max. PV input current	27 A (13.5 A / 13.5 A)	27 A (13.5 A / 13.5 A)	27 A (13.5 A / 13.5 A)	40.5 A (13.5 A / 27 A)
Short-circuit current of PV input	36 A (18 A / 18 A)	36 A (18 A / 18 A)	36 A (18 A / 18 A)	54 A (18 A / 36 A)
Max. current for input connector	30 A			
Battery Data				
Battery type	Lithium battery			
Battery voltage	150V - 600V			
Max charge / discharge current	30A ** / 30A **			
Max charge / discharge power	7500W / 6000W	9000W / 7200W	10600W / 10600W	10600W / 10600W
AC Input and Output				
Max. AC input power to battery	11600W	14000W	18600W	20600W
Max. AC power from grid	12500W	15000W	18600W	20600W
Rated AC output power	5000W	6000W	8000W	10000W
Rated AC output apparent power	5000VA	6000VA	8000VA	10000VA
Max. AC output current	7.6A	9.1A	12.1A	15.2A
Rated AC voltage	3 / N / PE, 220 / 380 V; 230 / 400 V			
AC voltage range	270 - 480V			
Rated grid frequency	50Hz			
Grid frequency range	45 - 55Hz			
Harmonic (THD)	<3% (of rated power)			
DC current injection	<0.5% In			
Power factor at Rated power / Adjustable power factor	>0.99 / 0.8 leading to 0.8 lagging			
Feed-in phases/connection phases	3 / 3			
Backup Data				
Rated voltage	3 / N / PE, 220 Vac / 230 Vac			
Frequency range	50Hz			
Total hamonic factor output voltage (Linear load)	2%			
Switch time to emergency mode	<20ms			
Rated output power	5000W / 5000VA	6000W / 6000VA	8000W / 8000VA	10000W / 10000VA
Peak output power ***	6000W / 6000VA, 5min 10000W / 10000VA, 10s	7200W / 7200VA, 5min 10000W / 10000VA, 10s	12000W / 12000VA, 5min 12000W / 12000VA, 5min	12000W / 12000VA, 5min 12000W / 12000VA, 5min
Peak output power on single phase ****	2000 VA (≥9.6kWh)	2200 VA (≥12.8kWh)	2700 VA (≥12.8kWh)	3400 VA (≥12.8kWh)
Rated output current for backup load during on grid mode	3 x 18.5A			
Efficiency				
Max. efficiency / European efficiency	98% / 97.2%	98.2% / 97.5%	98.4% / 97.9%	98.4% / 97.9%
Protection & Function				
Grid monitoring	Yes			
DC reverse polarity protection	Yes			
AC short-circuit protection	Yes			
DC switch (solar)	Yes			
DC Overcurrent Protection (Battery)	Yes			
Surge Protection	DC Type II / AC Type II			
Parallel operation on grid port / Max. No. of inverters	Master-slave mode / 2			
Battery input reverse polarity protection	Yes			
General Data				
Topology (solar / battery)	Transformerless / Transformerless			
Degree of protection	IP65			
Dimensions (W * H * D)	460mm×540mm×170mm			
Weight	27kg			
Mounting method	Wall-mounting bracket			
Operating ambient temperature range	-25 °C ~ 60 °C			
Allowable relative humidity range (non-condensing)	0 % - 100 %			
Cooling method	Natural convection			
Max. operating altitude	4000 m			
Noise (Typical)	30 dB(A)			
Display	LED			
Communication	RS485, WLAN, Ethernet, CAN, 4 × DI, 1 × DO			
DI/DO	DI*4/DO*1/DRM			
DC connection type	MC4 (PV) / Evo2 Compatible (Battery)			
AC connection type	Plug and play connector			
Compliance	IEC / EN 62109-1/-2, IEC / EN 61000-6-1/2/3/4, EN 62477-1, IEC 61727, IEC 62116, IEC 61683, VDE-AR-N-4105, AS/NZS 4777.2:2020, EN50549-1, NRS 097-2-1, TOR Generator Type A, OVE-Richtlinie R25, NC RfG PTPiREE,PSE 2018, EIFS 2018:2, PPDS4, NTS 631 V2.0, UNE217002 RD 1699, CFI 0-21			

** : Depending on the connected battery *** : Can be reached only if PV and battery power is sufficient.

**** : Peak power only for Resistive loads. Detail refer to SHRT backup output power document.

SH15/20/25T

Hybrid Three Phase Inverter



FULL BACKUP

- Built-in 63 A bypass for whole home backup
- 10 ms seamless switch
- Peak output up to 36500 VA (10 s) in backup mode (SH25T)



FLEXIBLE APPLICATION

- Support 100 % unbalance output in backup and on grid mode
- Max. 16 A DC input current per string
- 50 A fast charge / discharge current



FRIENDLY INSTALLATION

- Plug & Play installation
- Quiet operation for indoor or outdoor installation



SAFE AND DURABLE

- Support precise AFCI
- IP65/C5



Type designation	SH15T		SH20T	SH25T
Input (DC)				
Max. PV input power	30000 Wp		40000 Wp	50000 Wp
Max. PV input voltage *			1000 V	
Min. PV input voltage / Startup input voltage			150 V / 180 V	
Rated PV input voltage			600 V	
MPPT operating voltage range **			150 V - 950 V	
No. of independent MPP trackers			3	
No. of PV strings per MPPT			2 / 2 / 1	
Max. PV input current			80 A (32 A / 32 A / 16 A)	
Max. DC short-circuit current			100 A (40 A / 40 A / 20 A)	
Max. current for input connector			30 A	
Battery data				
Battery type			Li-ion battery	
Battery voltage range			100 V - 700 V	
Max. charge / discharge current ***			50 A / 50 A	
Max. charge / discharge power	30000 W / 15000 W		30000 W / 20000 W	30000 W / 25000 W
Input and Output (AC)				
Max. AC power from grid ****			43000 VA	
Rated AC output power	15000 W		20000 W	25000 W
Max. AC output apparent power	15000 VA		20000 VA	25000 VA
Max. AC output current	22.8 A		30.4 A	37.9 A
Rated AC voltage	3 / N / PE, 220 V / 380 V ; 230 V / 400 V; 240 V / 415 V			
AC voltage range	270 V - 480 V			
Rated grid frequency	50 Hz / 60 Hz			
Grid frequency range	45 Hz - 55 Hz / 55 Hz - 65 Hz			
Harmonic (THD)	< 3 % (of rated power)			
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading to 0.8 lagging			
Feed-in phases/connection phases	3 / 3-N-PE			
Backup data (on grid mode)				
Max. output power for backup load ****			43000 W	
Max. output current for backup load			3 * 63 A	
Backup data (off-grid mode)				
Rated voltage	3 / N / PE, 220 / 380 V; 230 / 400 V; 240 / 415 V (± 2 %)			
Rated frequency	50 Hz / 60 Hz (± 0.2 %)			
THDV(@Linear load)	< 2 %			
Backup switch time	< 10 ms			
Rated output power	15000 W / 15000 VA		20000 W / 20000 VA	25000 W / 25000 VA
Peak output power *****	25500 W / 25500 VA , 10 s		32000 W / 32000 VA , 10s	36500 W / 36500 VA , 10 s
Efficiency				
Max. efficiency / European efficiency	98.1 % / 97.6 %			98.2 % / 97.8 %
Protection & Function				
Grid monitoring	Yes			
DC reverse polarity protection	Yes			
AC short-circuit protection	Yes			
Leakage current protection	Yes			
DC switch (solar)	Yes			
Surge protection	DC Type II / AC Type II			
PID zero	Yes			
Battery input reverse polarity protection	Yes			
General data				
Topology (solar / battery)	Transformerless / Transformerless			
Degree of protection	IP65			
Protective class	Protective class I			
Overvoltage category	III[AC] ; II[PV] ; [BATTERY]			
Active anti-islanding method	Frequency shift			
Dimensions (W * H * D)	620 mm * 480 mm * 245 mm			
Weight	38 kg			40 kg
Mounting method	Wall-mounting bracket			
Operating ambient temperature range	-25 °C - 60 °C			
Allowable relative humidity range(Non-condensing)	0 % - 100 %			
Cooling method	Natural convection			Fan cooling
Max. operating altitude	2000 m			
Noise(Typical)	35 dB (A)			50 dB (A)
Display	LED			
Communication	RS485, WLAN, Ethernet, CAN			
DI / DO	DI * 4 / DO * 2 / DRMO			
DC connection type	Plug and play connector (PV, Max.6mm² / battery, Max.10mm²)			
AC connection type	Plug and play connector (Max.16 mm²)			
Compliance	IEC / EN 62109, IEC 61000-6, EN 62477-1, IEC 61727, IEC 62116, IEC 62920, EN 55011, CISPR 11, VDE AR-N-4105, EN 50549-1, NRS 097, AS/NZS 4777.2:2020, TOR Type A, R25, CEI 0-21			
Country of manufacture	China			

* Input voltage exceeding the MPPT operating voltage range triggers inverter protection ** Please refer to the user manual for the full load MPPT voltage range *** Depending on the connected battery **** Please refer to the user manual and modify the settings based on actual load power ***** Can be reached only if PV and battery power is sufficient

