SH5.0/10RT

Residential Hybrid Three Phase Inverter

FLEXIBLE APPLICATION

- 150–600V wide battery voltage range
- Supports parallel connection with master-slave controlling
- Provides 100% power to unbalance loads in backup mode

ENERGY INDEPENDENCE

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

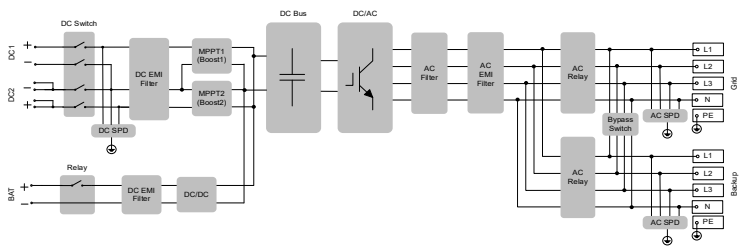
SMART MANAGEMENT

- 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

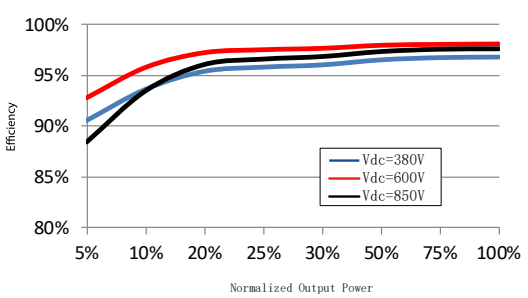
EASY INSTALLATION

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

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH5.0RT)



SUNGROW
Clean power for all

Type designation	SH5.0RT	SH10RT
Input (DC)		
Recommended max. PV input power	7500 Wp	15000 Wp
Max. PV input voltage *	1000 V	
Min. PV input voltage / Startup input voltage	150 V / 180 V	200 V / 250 V
Rated PV input voltage	600 V	
MPPT operating voltage range **	150 V – 950 V	200 V - 950 V
No. of independent MPP trackers	2	
No. of PV strings per MPPT	1 / 1	1 / 2
Max. PV input current	25 A (12.5 A / 12.5 A)	37.5 A (12.5 A / 25 A)
Max. DC short-circuit current	36 A (18 A / 18 A)	54 A (18 A / 36 A)
Max. current for input connector	30 A	
Battery data		
Battery type	Li-ion battery	
Battery voltage range	150 V - 600 V	
Max. charge *** / discharge current ***	30 A / 30 A	
Max. charge / discharge power	7500 W / 6000 W	10600 W / 10600 W
Input / Output (AC)		
Max. AC input power	11600 W	14000 W
Max. AC power from grid	12500 VA	20600 VA
Rated AC output power	5000 W	9999 W
Max. AC output apparent power	5000 VA	9999 VA
Rated AC output apparent power	5000 VA	9999 VA
Rated AC ouput current	7.3 A	14.5 A
Max. AC output current	7.6 A	15.2 A
Rated AC voltage	3 / N / PE, 220 V / 380 V; 230 V / 400 V	
AC voltage range	270 V - 480 V	
Rated grid frequency	50 Hz	
Grid frequency range	45 Hz - 55 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		
Rated voltage	3 / N / PE, 220 Vac / 230 Vac	
THDV(@Linear load)	2 %	
Backup switch time	< 20 ms	
Rated output power	5000 W / 5000 VA	9999 W / 9999 VA
Peak output power ****	6000 W / 6000 VA, 5 min 10000 W / 10000 VA, 10 s	12000 W / 12000 VA, 5 min
Rated output current for backup load during on grid mode	3 * 18.5 A	
Efficiency		
Max. efficiency / European efficiency	98.0 % / 97.2 %	98.4 % / 97.9 %
PV to Bat to Grid efficiency	> 94 %	
Protection & Function		
Grid monitoring	Yes	
DC reverse polarity protection	Yes	
AC short-circuit protection	Yes	
Leakage current 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 / 5	
Battery input reverse polarity protection	Yes	
General data		
Topology (solar / battery)	Transformerless / Transformerless	
Degree of protection	IP65	
Dimensions (W * H * D)	460 mm * 540 mm * 170 mm	
Weight	27 kg	
Mounting method	Wall-mounting bracket	
Operating ambient temperature range	- 25 ℃ - 60 ℃	
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	
DC connection type	MC4 (PV, Max.6 mm²) / Evo2 Compatible (Battery, Max.6 mm²)	
AC connection type	Plug and play connector (Grid Max.10 mm², Backup Max.6 mm²)	
Compliance	IEC 62109-1/2, IEC 62477-1, AS/NZS 4777.2:2020	
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
**** Can be reached only if PV and battery power is sufficient. Detail compatibility for backup under off-grid scenario can be referred to the user manual.