SH5.0/6.0/8.0/10RT New

Residential Hybrid Three Phase Inverter

SUNGROW
Clean power for all

FLEXIBLE APPLICATION

- 150~600V wide battery voltage range
- Supports parallel connection with full communication between inverters
- Provides 100% 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 and energy trading

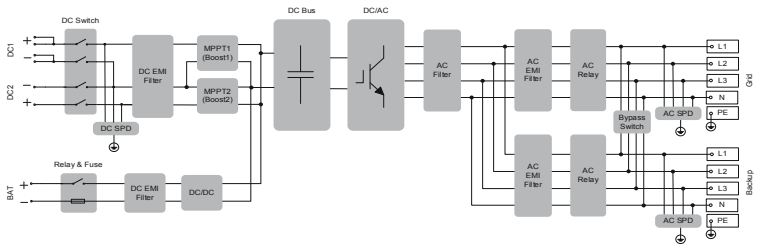
SMART MANAGEMENT

- 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

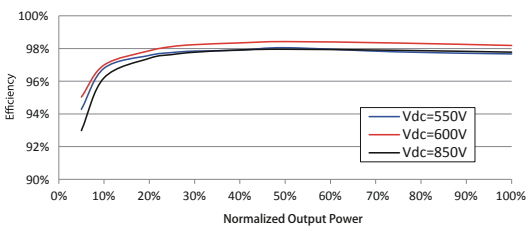
EASY INSTALLATION

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

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH10RT)



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Type designation	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
PV Input				
Max. PV input power	7500 W	9000 W	12000 W	15000 W
Max. PV input voltage	1000 V			
Startup voltage	180 V	250 V	250 V	250 V
Nominal input voltage	600 V			
MPP voltage range	150 V - 950 V	200 V - 950 V	200 V - 950 V	200 V - 950 V
MPP voltage range for nominal power	210 V - 850 V	250 V - 850 V	330 V - 850 V	280 V - 850 V
No. of MPPTs	2			
Max. number of PV strings per MPPT	1 / 1	1 / 1	1 / 1	1 / 2
Max. PV input current	25 A (12.5 A / 12.5 A)	25 A (12.5 A / 12.5 A)	25 A (12.5 A / 12.5 A)	37.5 A (12.5 A / 25 A)
Max. current for input connector	16 A			
Short-circuit current of PV input	32 A (16 A / 16 A)	32 A (16 A / 16 A)	32 A (16 A / 16 A)	48 A (16 A / 32 A)
AC Input and Output				
Nominal AC output power	5000 W	6000 W	8000 W	10000 W
Nominal AC ouput current	7.3 A	8.7 A	11.6 A	14.5 A
Max. AC output apparent power	5000 VA	6000 VA	8000 VA	10000 VA
Max. AC output current	7.6 A	9.1 A	12.1 A	15.2 A
Nominal AC voltage	3 / N / PE, 220 / 380 V; 230 / 400 V; 240 / 415 V			
AC voltage range	270 - 480 V			
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz			
THD	<3 % (of nominal power)			
DC current injection	<0.5 % In			
Power factor	>0.99 / 0.8 leading to 0.8 lagging			
Protection				
LVRT	Yes			
Anti-islanding protection	Yes			
AC short circuit protection	Yes			
Leakage current protection	Yes			
DC switch (solar)	Yes			
DC fuse (battery)	Yes			
Overvoltage category	III [MAINS], II [PV] [BATTERY]			
SPD	DC Type II / AC Type II			
Battery Data				
Battery type	Li-ion battery			
Battery voltage	150 V - 600 V			
Max charge / discharge current	30 A* / 30 A*			
Max charge / discharge power	7500 W / 6000 W	9000 W / 7200 W	10600 W / 10600 W	10600 W / 10600 W
System Data				
Max. efficiency	98.0%	98.2%	98.4%	98.4%
European efficiency	97.2%	97.5%	97.9%	97.9%
Isolation method (solar / battery)	Transformerless / Transformerless			
Ingress protection rating	IP65			
Operating ambient temperature range	-25 ℃ – 60 ℃			
Allowable relative humidity range (non-condensing)	0% – 100%			
Cooling method	Natural convection			
Max. operating altitude	4000 m (>3000 m derating)			
Noise (Typical)	30dB (A)			
Display	LED			
Communication	RS485, WLAN, Ethernet, CAN, 4×DI, 1×DO			
DC connection type	MC4 (PV) / Sunclix (Battery)			
AC connection type	Plug and play connector			
Compliance	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-3,IEC / EN 61000-3, EN 62477-1, VDE-AR-N-4105, AS / NZS 4777.2			
Mechanical Data				
Dimensions (W * H * D)	460 * 540 * 170 mm			
Mounting method	Wall-mounting bracket			
Weight	27 kg			
Backup Data				
Nominal voltage	3 / N / PE, 220 Vac / 230 Vac / 240 Vac			
Frequency range	50Hz / 60Hz			
Total hamonic factor output voltage	2%			
Switch time to emergency mode	< 20ms			
Nominal output power	5000 W / 5000 VA	6000 W / 6000 VA	8000 W / 8000 VA	10000 W / 10000 VA
Peak output power	6000 W / 6000 VA,5min 10000 W / 10000 VA,10s	7200 W / 7200 VA,5min 10000 W / 10000 VA,10s	12000 W / 12000 VA,5min	12000 W / 12000 VA,5min
Parallel operation	Yes / 2			

* Depending on the connected battery

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