

# SH5.0/6.0/8.0/10RT

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

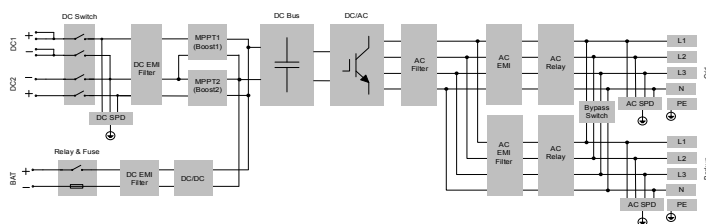
- High self-consumption with optimised built-in EMS
- Free online monitoring to enhance energy management for end user, installer and retailer
- Remote firmware update and customisable settings



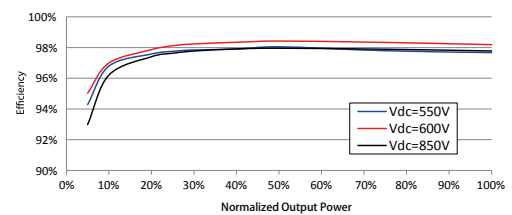
## EASY INSTALLATION

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

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE



Type designation	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT
<b>PV Input</b>				
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)	
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)
<b>AC Input and Output</b>				
Max. AC input power from grid	12500 W	15000 W	18600 W	20600 W
Nominal AC output power	5000 W	6000 W	8000 W	10000 W
Nominal AC output 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 /			50 Hz / 45 – 55 Hz,	
Grid frequency range			60 Hz / 55 – 65 Hz	
THD			<3 % (of nominal power)	
DC current injection			<0.5 % I <sub>n</sub>	
Power factor			>0.99 / 0.8 leading to 0.8 lagging	
<b>Protection</b>				
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 input reverse polarity protection			Yes	
Parallel operation on grid port /			Master-slave mode / 5 *	
Max. No. of inverters				
<b>Battery Data</b>				
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
<b>System Data</b>				
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	
Degree of protection			IP65	
Operating ambient temperature range			-25 °C – 60 °C	
Allowable relative humidity range			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, IEC / EN 61000-6, EN 62477-1, IEC 61727, IEC 62116, IEC 61683, VDE-AR-N-4105, AS/NZS 4777.2, EN50549-1, NRS 097-2-1, TOR Generator Type A	
<b>Mechanical Data</b>				
Dimensions (W * H * D)			460 * 540 * 170 mm	
Mounting method			Wall-mounting bracket	
Weight			27 kg	
<b>Backup Data</b>				
Nominal voltage			3 / N / PE, 220 Vac / 230 Vac / 240 Vac	
Frequency range			50 Hz / 60 Hz	
Total harmonic factor output voltage			2 %	
(Linear load)				
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
Rated output current for backup load			3 * 18.5 A	
during on grid mode				

\*: Germany is available for 2 inverters parallel in maximum if no ripple control is used in system    \*\*: Depending on the connected battery

\*\*\*: Can be reached only if PV and battery power is enough