

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

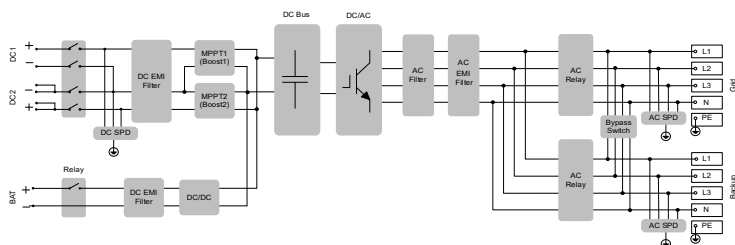
ENERGY INDEPENDENCE

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

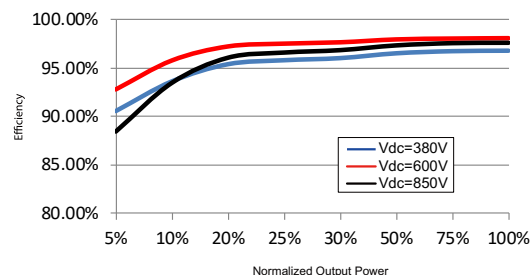
EASY INSTALLATION

- 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.ORT-20	SH6.ORT-20	SH8.ORT-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 harmonic 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
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 / 5 *	
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, CEI 0-21			

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