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

Residential Hybrid Three Phase Inverter

FLEXIBLE APPLICATION

- DC 13.5A current input, compatiable 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

ENERGY INDEPENDENCE

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

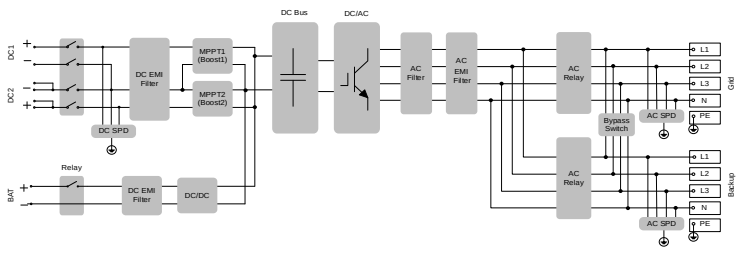
SMART MANAGEMENT

- 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

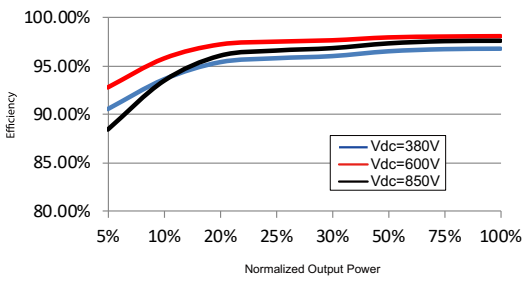
EASY INSTALLATION

- 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-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
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 ℃~ 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			
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.