

SH3.0/3.6/4.0/5.0/6.0RS

Residential Hybrid Single Phase Inverter

NEW



FLEXIBLE APPLICATION

- 80~460 V wide battery voltage range
- Ideal for both retrofitting and new installations
- Built-in smart PID recovery function

ENERGY INDEPENDENCE

- Seamless transition to backup mode, for protection against power outages
- Fast Charging or discharging, enabling higher self-consumption results
- Built-in EMS with advanced customization

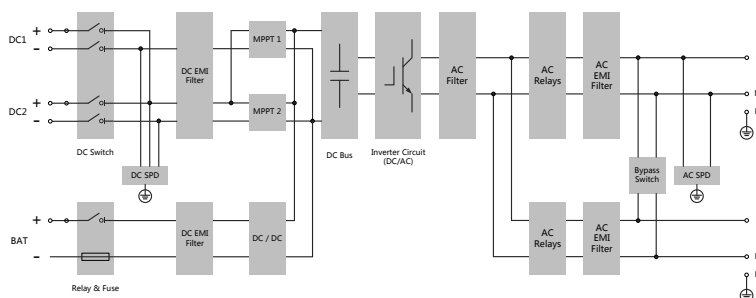
USER FRIENDLY SETUP

- Plug and play installation
- iSolarCloud monitoring available on App and Web
- Lightweight and compact, optimized for heat-dissipation

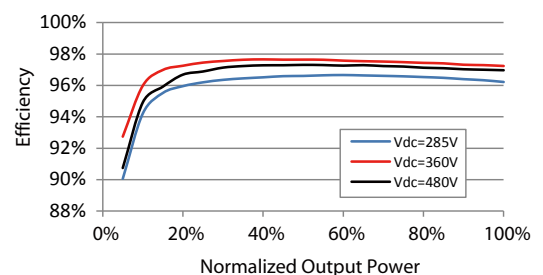
SMART MANAGEMENT

- Real time data (10 seconds refresh sample)
- 24/7 live monitoring both online and with integrated display
- Online IV curve scan and diagnosis

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SH3.0RS	SH3.6RS	SH4.0RS	SH5.0RS	SH6.0RS
Input (DC)					
Recommended max. PV input power	10000 Wp	10700 Wp	11000 Wp	12000 Wp	13000 Wp
Max. PV input voltage	600 V				
Min. operating PV voltage / Start-up input voltage	40 V / 50 V				
Rated PV input voltage	360 V				
MPP voltage range	40V – 560 V				
No. of independent MPP inputs	2				
Default No. of PV strings per MPPT	1				
Max. PV input current	32 A (16 A/16 A)				
Max. DC short-circuit current	40 A (20 A/20 A)				
Input / Output (AC)					
Max. AC input power from grid	10000 VA	10700 VA	11000 VA	12000 VA	13000 VA
Rated AC output power	3000 W	3680 W	4000 W	5000 W*	6000 W
Max. AC output power	3000 VA	3680 VA	4000 VA	5000 VA*	6000 VA
Rated AC output current (at 230 V)	13.1 A	16 A	17.4 A	21.8 A**	26.1 A
Max. AC output current	13.7 A	16 A	18.2 A	22.8 A**	27.3 A
Rated AC voltage	220 / 230 / 240 V				
AC voltage range	154 V – 276 V				
Rated grid frequency /	50 Hz / 45 – 55 Hz				
Grid frequency range	60 Hz / 55 – 65 Hz				
Harmonic (THD)	<3 % (of rated power)				
Power factor at rated power /	>0.99 at default value at rated power				
Adjustable power factor	(adj. 0.8 overexcited/leading to 0.8 underexcited/lagging)				
Feed-in phases / connection phases	1 / 1				
Efficiency					
Max. efficiency / European efficiency	97.4 % / 97.0 %	97.5 % / 97.1 %	97.6 % / 97.2 %	97.7 % / 97.3 %	97.7 % / 97.3 %
Protection & Function					
Grid monitoring	Yes				
DC reverse polarity protection	Yes				
AC short circuit protection	Yes				
Leakage current protection	Yes				
Surge Protection	DC Type II / AC Type II				
DC switch(solar)	Yes				
DC fuse(battery)	Yes				
PID recovery function	Yes				
Battery input reverse polarity protection	Yes				
Battery Data					
Battery type	Li-ion battery				
Battery voltage	80 V – 460 V				
Max charge / discharge current	30 A / 30 A				
Max charge / discharge power	6600 W				
General Data					
Dimensions (W * H * D)	490 * 340 * 170 mm				
Weight	18.5 kg				
Mounting method	Wall-mounting bracket				
Topology (Solar / Battery)	Transformerless / Transformerless				
Degree of protection	IP65				
Operating ambient temperature range	-25 °C to 60 °C				
Allowable relative humidity range	0 % – 100 %				
Cooling method	Natural convection				
Max. operating altitude	4000 m				
Display	LED digital display & LED indicator				
Communication	RS485 / Ethernet / WLAN / CAN				
DI / DO	DI * 4 / DO * 1 / DRM				
DC connection type	MC4 (PV) / Sunclix (Battery)				
AC connection type	Plug and Play				
Grid compliance	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 61000-3-11, IEC/EN 61000-3-12, EN 62477-1, AS/NZS 4777.2, EN 50549-1, CEI 0-21, G98 / G99				
Backup Data (on grid mode)					
Rated output power for backup load	6000 W				
Rated output current for backup load	27.3 A				
Backup Data (off-grid mode)					
Rated voltage	220 V / 230 V / 240 V (±2 %)				
Frequency range	50 Hz / 60 Hz (±0.2 %)				
Total output THDv for linear load	< 2 %				
Switch time to emergency mode	< 10 ms				
Rated output power	3000 W / 3000 VA	3680 W / 3680 VA	4000 W / 4000 VA	5000 W / 5000 VA	6000 W / 6000 VA
Peak output power	8400 VA, 10s				

* AS4777.2 4999W, 4999VA ** AS 4777.2 :Rated and Max. AC current is 21.7A

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

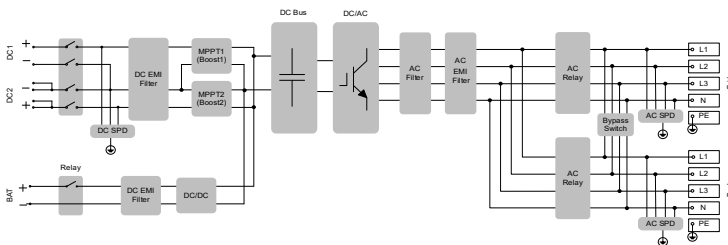
ENERGY INDEPENDENCE

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

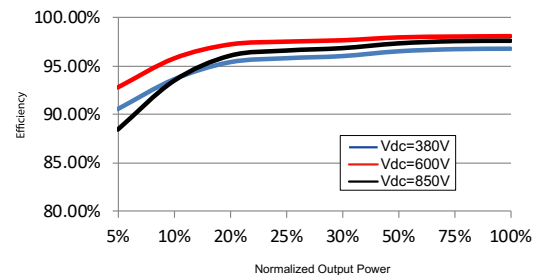
EASY INSTALLATION

- 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.

SBR064/096/128/160/ 192/224/256

High Voltage LFP Battery



HIGH-PERFORMANCE

- Up to 30 A continuous charging and discharging current with high efficiency
- Up to 100 % usable energy



SAFETY

- Lithium iron phosphate battery
- Multi-stages protection design plus authorized certification



FLEXIBILITY








- Extendable during lifetime
- Support 2-8 modules per unit, 6.4-25.6 kWh capacity range



EASY INSTALLATION

- Compact and Light, single person installation
- Plug and Play, wiring-less connection between modules



Type designation	SBR064 ³	SBR096	SBR128	SBR160	SBR192	SBR224	SBR256
Technical properties							
	2 modules	3 modules	4 modules	5 modules	6 modules	7 modules	8 modules
System Data							
Battery Type	LiFePO4 Prismatic Cell						
Battery Module	3.2 kWh, 33 kg						
Energy (usable) ¹	6.4 kWh	9.6 kWh	12.8 kWh	16 kWh	19.2 kWh	22.4 kWh	25.6 kWh
Nominal voltage	128 V	192 V	256 V	320 V	384 V	448 V	512 V
Operating voltage	108 – 146 V	162 – 219 V	216 – 292 V	270 – 365 V	324 – 438 V	378 – 511 V	432 – 584 V
Rated DC power	3.84 kW	5.76 kW	7.68 kW	9.60 kW	11.52 kW	13.44 kW	15.36 kW
Max. charging/discharging current: continuous	30 A						
Depth of Discharge	Max. 100 % DOD (settable)						
Short circuit current	3500 A						
Display	SOC indicator, status indicator						
Communication interface	CAN						
Protection							
Over / under voltage protection	Yes						
Over current protection	Yes						
Over / under temperature protection	Yes						
DC breaker	Yes						
General Data							
Dimensions (W*H*D)	625*545*330 mm	625*545*330 mm	625*675*330 mm	625*805*330 mm	625*935*330 mm	625*1065*330 mm	625*1195*330 mm
Weight	89 kg	114 kg	147 kg	180 kg	213 kg	246 kg	279 kg
Installation location	Indoor / Outdoor						
Mounting method	Floor stand						
Operating ambient temperature range	Charge: 0 to 50 °C Discharge: -20 to 50 °C						
Degree of protection	IP55						
Allowable relative humidity range	0% to 95% (non-condensing)						
Max. operating altitude	4000 m						
Cooling method	Natural convection						
Certificates	CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50, IEC62477, IEC63056, IEC61000, UKCA						
Warranty ²	10 Years						

¹ Test conditions: 25 °C, 100 % depth of discharge (DOD), 0.2C charge & discharge

² Refer to battery warranty letter for conditional application.

³ SBR064 consists of 2 battery modules and 1 empty module.