

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

Residential Hybrid Single Phase Inverter



## FLEXIBLE APPLICATION

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

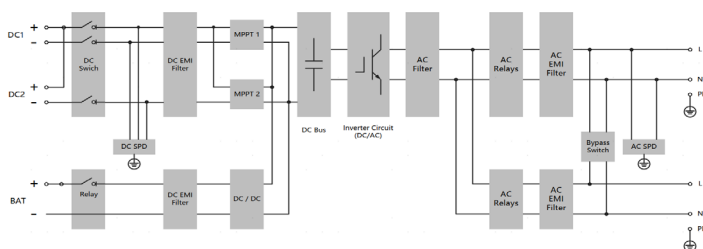
- Plug and play installation
- iSolarCloud monitoring available on App and Web
- Lightweight and compact, optimized for heat-dissipation



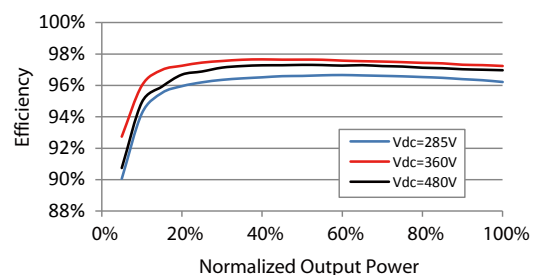
## SMART MANAGEMENT

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

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE (SH6.0RS)



Type designation	SH3.0RS	SH3.6RS	SH4.0RS	SH5.0RS	SH6.0RS
<b>Input (DC)</b>					
Recommended max. PV input power	10000 Wp	10700 Wp	11000 Wp	12000 Wp	13000 Wp
Max. PV input voltage *			600 V		
Min. PV input voltage / Startup input voltage			40 V / 50 V		
Rated PV input voltage			360 V		
MPPT operating voltage range **			40 V – 560 V		
No. of independent MPP trackers			2		
No. of PV strings per MPPT			1/1		
Max. PV input current			32 A ( 16 A / 16 A )		
Max. DC short-circuit current			40 A ( 20 A / 20 A )		
Max. current for input connector			20 A		
<b>Battery data</b>					
Battery type			Li-ion battery		
Battery voltage range			80 V - 460 V		
Max. charge *** / discharge current ***			30 A / 30 A		
Max. charge / discharge power			6600 W		
<b>Input / output (AC)</b>					
Max. AC 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 apparent power	3000 VA	3680 VA	4000 VA	5000 VA	6000 VA
Max. AC output current	13.7 A	16 A	18.2 A	22.8 A	27.3A
Rated AC voltage			220 V / 230 V / 240 V		
AC voltage range			154 V – 276 V		
Rated grid frequency			50 Hz / 60 Hz		
Grid frequency range			45 Hz – 55 Hz / 55 Hz – 65 Hz		
Harmonic (THD)			< 3 % ( of rated power )		
Power factor at rated power / Adjustable power factor			>0.99 at default value at rated power		
Feed-in phases / connection phases			1/1		
<b>Backup data (on grid mode)</b>					
Max. output power for backup load ****			6000 W		
Max. output current for backup load *****			27.3 A		
<b>Backup data (off-grid mode)</b>					
Rated voltage			220 V / 230 V / 240 V ( ± 2 % )		
Rated frequency			50 Hz / 60 Hz ( ± 0.2 % )		
THDV(@Linear load)			< 2 %		
Backup switch time			< 10 ms		
Rated output power	3000W / 3000VA	3680W / 3680VA	4000 W / 4000 VA	5000W / 5000VA	6000W / 6000VA
Peak output power			8400 VA, 10s		
<b>Efficiency</b>					
Max. efficiency / European efficiency	97.4 % / 97.0 %	97.5 % / 97.1 %	97.6 % / 97.2 %	97.7% / 97.3%	97.7 % / 97.3 %
<b>Protection &amp; Function</b>					
Grid monitoring			Yes		
DC reverse polarity protection			Yes		
AC short-circuit protection			Yes		
Leakage current protection			Yes		
DC switch(solar)			Yes		
Surge protection			DC Type II / AC Type II		
PID Zero			Yes		
Parallel operation on grid port / Max. No of inverters			Master-slave mode / 3		
Optimizer compatibility *****			Optional		
<b>General data</b>					
Topology (Solar / Battery)			Transformerless / Transformerless		
Degree of protection			IP65		
Dimensions (W * H * D)			490 mm * 340 mm * 170 mm		
Weight			18.5 kg		
Mounting method			Wall-mounting bracket		
Operating ambient temperature range			-25 °C - 60 °C		
Allowable relative humidity range			0 % – 100 %		
Cooling method			Natural convection		
Max. operating altitude			4000 m		
Noise (typical)			< 45 dB ( A )		
Display			LED digital display & LED indicator		
Communication			RS485 / Ethernet / WLAN / CAN		
DI / DO			DI * 4 / DO * 1 / DRM		
DC connection type			MC4 (PV, Max.6 mm <sup>2</sup> ) / Evo2 Compatible (Battery, Max.6 mm <sup>2</sup> )		
AC connection type			Plug and Play (Grid Max.16mm <sup>2</sup> , Backup Max.6mm <sup>2</sup> )		
Grid compliance			IEC/EN 62109-1, IEC/EN 62109-2, IEC 62116, IEC 61727, IEC/EN 61000-3-11, IEC/EN 61000-3-12, EN 62477-1, AS/NZS 4777.2:2020, EN 50549-1, CEI 0-21, G 98 / G 99, UNE 217002:2020, NTS V2 TypeA, C10/26		

\* Input voltage exceeding the MPPT operating voltage range triggers inverter protection \*\* Please refer to the user manual for the full load MPPT voltage range \*\*\* Depending on the connected battery \*\*\*\* Please refer to the user manual and modify the settings based on actual load power \*\*\*\*\* Calculated based on 220V grid voltage \*\*\*\*\* For optimizer compatibility, please consult Sungrow before placing an order

