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

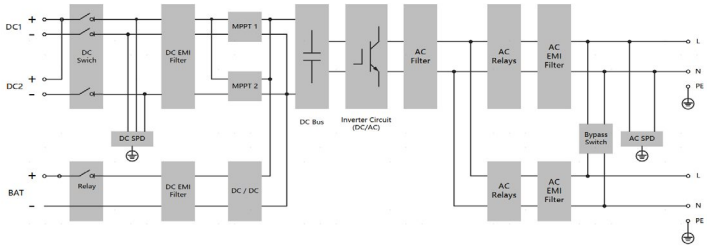
USER FRIENDLY SETUP

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

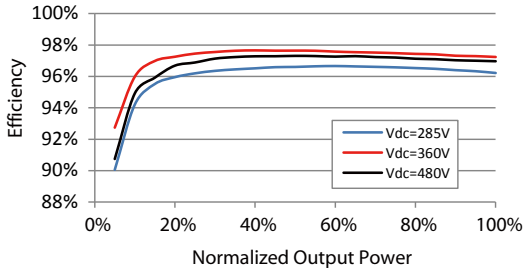
SMART MANAGEMENT

- 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)



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SUNGROW
Clean power for all

Type designation	SH3.0RS	SH3.6RS	SH4.0RS	SH5.0RS	SH6.0RS
Input (DC)					
Recommended max. PV input power *	4500 Wp	5400 Wp	6000 Wp	7500 Wp	9000 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				
Battery data					
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				
Input / output (AC)					
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				
Backup data （on grid mode）					
Max. output power for backup load *****	6000 W				
Max. output current for backup load ******	27.3 A				
Backup data （off-grid mode）					
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				
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				
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 compatbility *******	Optional				
General data					
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 ℃ - 60 ℃				
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^2) / Evo2 Compatible (Battery, Max.6 mm^2)				
AC connection type	Plug and Play (Grid Max.16mm^2, Backup Max.6mm^2)				
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				

* Max. input PV power is 13,000 Wp ** 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

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