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

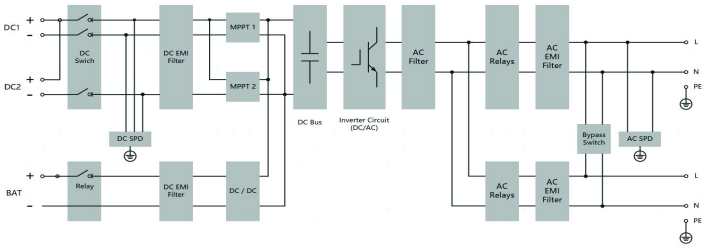
USER FRIENDLY SETUP

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

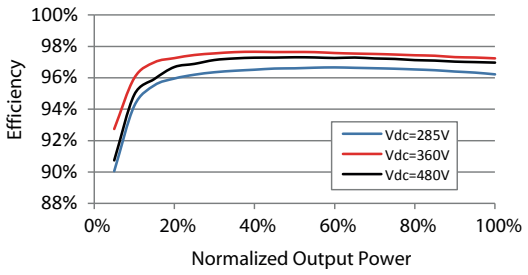
SMART MANAGEMENT

- 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	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 MPPT voltage range	140 - 480 V	170 - 480 V	190 - 480 V	235 - 480 V	285 - 480 V
MPP voltage range	40 V – 560 V				
No. of independent MPP inputs	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	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				
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 %
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 %)				
Output voltage harmonic (THD)	< 2 %				
Switch time to emergency mode	< 10 ms				
Rated output power	3000W / 3000VA	3680W / 3680VA	4000 W / 4000 VA	5000W / 5000VA	6000W / 6000VA
Peak output power	8400 VA, 10s				
Protection & Function					
Grid monitoring	Yes				
DC reverse polarity protection	Yes				
AC short-circuit protection	Yes				
Leakage current protection	Yes				
DC switch(solar)	Yes				
DC overcurrent protection (Battery)	Yes				
Surge protection	DC Type II /AC Type II				
PID Zero function	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 ℃ to 60 ℃				
Allowable relative humidity range	0 % – 100 %				
Cooling method	Natural convection				
Max. operating altitude	4000 m				
Noise emission	< 45dB (A)				
Display	LED digital display & LED indicator				
Communication	RS485 / Ethernet / WLAN / CAN				
DI / DO	DI * 4 / DO * 1 / DRM				
DC connection type	MC4 (PV) / Evo2 Compatible (Battery)				
AC connection type	Plug and Play				
Grid compliance	IEC/EN 62109-1, IEC/EN 62109-2, IEC62116, IEC61727, IEC/EN 61000-3-11, IEC/EN 61000-3-12, EN 62477-1, AS/NZS 4777.2:2020, EN 50549-1, CEI 0-21, G98 / G99, UNE 217002:2020, NTS V2 TypeA, C10/26				

* For optimizer compatibility, please consult Sungrow before placing an order. ** To optimise the generation, the PV system must be within the rated MPPT voltage range.
*** If the max. MPPT input voltage in between 560V and 600V the inverter will shutdown.
**** Sungrow's DC/AC ratio recommened is mentioned in the Manufacturer self-declaration.

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