SUNGROW
Clean power for all

SH3.0/5.0/6.0RS

Residential Hybrid Single Phase Inverter

Flexible Application

- 80~460V 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



Technical Data Sheet	SH3.0RS	SH5.0RS	SH6.0RS
Input (DC)			
Recommended max. PV input power	10000 Wp	12000 Wp	13000 Wp
Max. PV input voltage [1]		600V	
Min. PV input voltage / Startup input voltage		40 V / 50 V	
Rated PV input voltage		360V	
MPPT operating voltage range [2]		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		50 A (25 A / 25 A)	
Max. current for input connector		30 A	
Battery Data			
Battery type		Li-ion battery	
Battery voltage range		80 V - 460 V	
Max. charge [3] / discharge current [3]		30 A / 30 A	
Max. charge / discharge power		6600 W	
Input / Output (AC)			
Max. AC power from grid	10000 VA	12000 VA	13000 VA
Rated AC output power	3000 W	4999 W	6000 W
Max. AC output apparent power	3000 VA	4999 VA	6000 VA
Rated. AC output apparent power	3000 VA	4999 VA	6000 VA
Rated AC output current (at 230V)	13.1 A	21.7 A	26.1 A
Max. AC output current	13.7 A	22.8 A	27.3 A
Rated AC voltage		230 V	
AC voltage range		154 - 276V	
Rated grid frequency		50 Hz / 60 Hz	
Grid frequency range		45 - 55 Hz / 55 – 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 [4]		6000 W	
Max. output current for backup load [5]		27.3 A	
Backup Data (off-grid mode)			
Rated voltage		230 V	
Rated frequency		50 Hz / 60 Hz (± 0.2 %)	
THDV(@Linear load)		< 2 %	
Backup switch time		< 10 ms	
Rated output power	3000 W / 3000 VA	4999 W / 4999 VA	6000 W / 6000 VA
Peak output power		8400 VA , 10 s	
Efficiency			
Max. efficiency / European efficiency	97.4 % / 97.0 %	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	
Battery input reverse polarity protection		Yes	
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		4000m	
Noise (typical)		< 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, Max.6mm²) / Evo2 Compatible (Battery, Max.6mm²)	
AC connection type [6]		Plug and Play (Grid Max.16mm², Backup Max.6mm²) [7]	
Grid compliance		IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 62477-1, AS/NZS 4777.2:2020	
Country of manufacture		China	

[1] Input voltage exceeding the MPPT operating voltage range triggers inverter protection.

[2] Please refer to the user manual for the full load MPPT voltage range.

[3] Depending on the connected battery.

[4] Please refer to the user manual and modify the settings based on actual load power.

[5] Calculated based on 220V grid voltage.

[6] AC Connector brand is Phoenix Contact and compatible brand. Country code needs to be set before grid connection.

[7] "Plug and Play" indicates the installation method only. The actual electrical connections are all permanent connections.

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