# 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

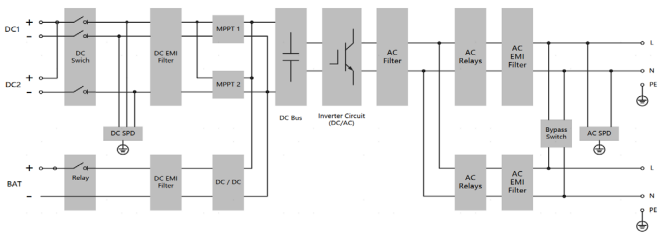
### USER FRIENDLY SETUP

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

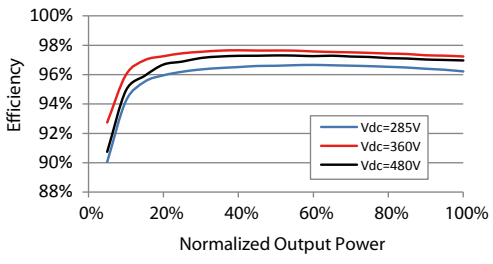
### SMART MANAGEMENT

- 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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| 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 mm²) / Evo2 Compatible (Battery, Max.6 mm²) | | | | |
| AC connection type | Plug and Play (Grid Max.16mm², Backup Max.6mm²) | | | | |
| 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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