

Residential Hybrid Single Phase Inverter



FLEXIBLE APPLICATION

- Convenient for new installation and retrofit
- Compatible with both lithium-ion and lead-acid batteries
- Energy trading ready with 3rd-party EMS to maximise ROI

SAFE AND RELIABLE

- Built-in surge arresters and residual current protection
- Durable finish with high anti-corrosion enclosure

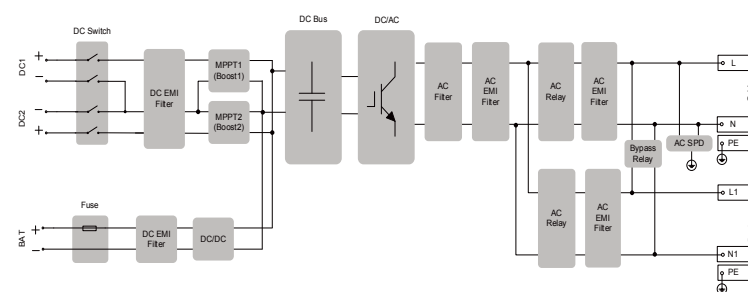
SMART MANAGEMENT

- High self-consumption with optimised built-in EMS
- Free online monitoring to enhance energy management for end user, installer and retailer
- Remote firmware update and customisable settings

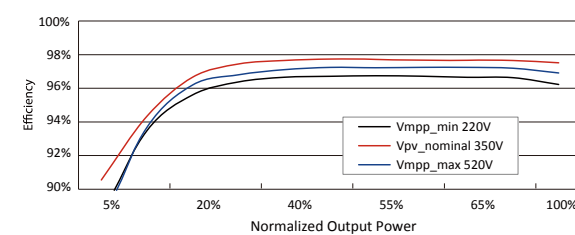
EASY INSTALLATION

- Cleaner and simpler install with EPS built-in to inverter
- Custom-fit mounting plate with built-in level
- Fast and easy commissioning via front panel LCD or App

CIRCUIT DIAGRAM



EFFICIENCY CURVE (SH10RT)



Type designation	SH5K-30	
DC Input Data		
Max. PV input power	6500 W	
Max. PV input voltage	600 V	
Startup voltage	125 V	
Nominal input voltage	350 V	
MPP voltage range	125 V – 560 V	
MPP voltage range for nominal power	240 V – 520 V	
No. of MPPTs	2	
Max. number of PV strings per MPPT	1 / 1	
Max. PV input current	22 A (11 A / 11 A)	
Max. current for input connector	12 A	
Short-circuit current of PV input	24 A (12 A / 12 A)	
AC Input and Output Data		
Nominal AC output power	5000 W ^{*1}	
Nominal AC output current	22.7 A ^{*2}	
Max. AC output apparent power	5000 VA	
Max. AC output current	22.7 A ^{*2}	
Max. AC input power	8000 W	
Max. AC input current	36.4 A ^{*3}	
Nominal AC voltage	220 Vac / 230 Vac / 240 Vac	
AC voltage range	176 Vac~276 Vac	
Nominal grid frequency	50 Hz / 60 Hz	
Grid frequency range	45~55 Hz / 55~65 Hz (this may vary with grid standards)	
THD (Total Harmonic Distortion)	<3 % (of nominal power)	
DC current injection	<0.5 % (of nominal current)	
Power factor	>0.99 at default value at nominal power (adj. 0.8 overexcited / leading to 0.8 underexcited / lagging)	
Protection		
Anti-islanding protection	Yes	
AC short circuit protection	Yes	
Leakage current protection	Yes	
DC switch (solar)	Optional	
DC fuse (battery)	Yes	
Overvoltage Category	III [MAIN], II [PV] [BATTERY]	
Battery Data		
Battery type	Li-ion battery / Lead-acid battery	
Battery voltage	48 V (32 V~70 V)	
Max. charge / discharge current	65 A / 65 A	
System Data		
Max. efficiency	> 97.7 %	
Max. European efficiency	> 97.1 %	
Max. charge / discharge efficiency	> 94.0 %	
Isolation method (solar)	Transformerless	
Isolation method (battery)	HF	
Ingress protection rating	IP65	
Operating ambient temperature range	-25 °C~60 °C (>45 °C derating)	
Relative humidity range	0%~100%	
Cooling method	Natural convection	
Max. operating altitude	2000m	
Display	Graphic LCD	
Communication	2 × RS485, Wi-Fi, CAN, Ethernet	
Power management	1 × Digital Output	
Earth alarm	Email, buzzer inside	
PV connection type	MC4	
AC connection type	Clamping yoke connector	
Certification	AS4777, IEC 62109-1, IEC62109-2, IEC62477-1, IEC 62040-1, EN 61000-6-1/-3, ABNT NBR 16149: 2013 ABNT NBR 16150: 2013	
Mechanical Data		
Dimensions (W * H * D)	457 mm * 515 mm * 170 mm	
Mounting method	Wall-mounting bracket	
Weight	22 kg	

Backup Data	
Nominal voltage	220 Vac / 230 Vac / 240 Vac (±2 %)
Total harmonic factor output voltage	2 % (full resistive load)
Frequency range	50 Hz / 60 Hz (±0.2 %)
Switch time to emergency mode	<20 ms
Power factor	0.8 overexcited / leading to 0.8 underexcited / lagging
Backup nominal AC output power	3000 W / 3000 VA
Max. output power	5000W / 5000 VA
Max. output power (battery)	3000 W / 3000 VA
Peak output power, Duration	6000 VA, 10S

*1: AS4777 : 4990 W, 4990 VA
*2: AS4777 : 21.7 A
*3: AS4777 : 34.8 A