

# SH5K

Residential Energy Storage System



## Reliable

- Integrate high frequency isolation battery charge and discharge circuit, 48V battery voltage, Max charge and discharge current 65A
- Protection rate at IP65
- Off-grid emergency output, output capacity of 3000w in battery mode



## Intelligent Design

- Off-grid emergency output function, output capacity of 3000w in battery mode,
- active and reactive power function
- Communication via RS485/Ethernet/Wi-Fi/CAN



## Integrated Design

- Integrated EMS system and DI/DO port
- Compatible to both lithium and lead acid battery



### Input Side Data

Max. PV input power	6500W
Max. PV input voltage	600V
Startup voltage	125V
Nominal input voltage	360V
MPP voltage range	125~560V
MPP voltage range for nominal power	260~520V
No. of MPPTs	2
Max. number of PV strings per MPPT	1/1
Max. PV input current	20A(10A/10A)
Max. current for input connector	12A
Short-circuit current of PV input	

### Protection

Anti-islanding protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
DC switch(solar)	Optional
DC fuse	No
Overvoltage protection	III

### Battery Side Data

Battery type	Li-battery / Lead-acid battery
Battery voltage	48V(32-70V)
Max charge/discharge current	65A/65A

### Backup Data

Nominal voltage	230Vac $\pm$ 2%
Total harmonic factor output voltage	4%(full load)
Frequency range	50Hz $\pm$ 0.2%
Switch time to emergency mode	10s
Power factor	0.8 overexcited ~0.8 underexcited
Max. output power	5kW/5kVA
Max. output power(battery)	3kW/5kVA

### STB5K(Backup box)

Max input/output current	25A
Nominal AC voltage	230-240Vac
AC voltage range	196-264Vac
Operating ambient temperature range	-25~60°C
Power consumption	<8VA/2W

### Output Side Data

Nominal AC output power	4990W
Nominal AC output current	21.6A
Max. AC output apparent power	5000VA
Max. AC output current	21.7A
Nominal AC voltage	230Vac
AC voltage range	180~276Vac (May vary as per corresponding country's grid standard)
Nominal grid frequency	50Hz
Grid frequency range	45~55Hz (May vary as per corresponding country's grid standard)
THD	<3 % (Nominal power)
DC current injection	<0.5 %In
Power factor	>0.99@default value at nominal power, (adj. 0.8 overexcited ~0.8 underexcited)

### Mechanical Data

Dimensions ( WxHxD )	447x510x150mm
Mounting method	Wall bracket
Weight	20kg

### System Data

Max. efficiency	>97.8%
Max. European efficiency	>97.2%
Max. charge/discharge efficiency	>94.0%
Isolation method(solar)	Transformerless
Isolation method(battery)	HF
Ingress protection rating	IP65
Night power consumption	<1W
Noise emission	30dB
Operating ambient temperature range	-25~60( >45( derating)
Allowable relative humidity range	0-100% non-condensation
Cooling method	Natural convection
Max. operating altitude	4000m(>2000m derating)
Display	Graphic LCD
Communication	2xRS485,Wifi(optional),CAN,NET
Analogue inputs	PT1000
Power management	1xDigital Output
Earth alarm	1xDigital Output /Email/ Buzzer inside
DC connection type	MC4
AC connection type	Clamping yoke connector
Certification	AS4777,AS/NZS3100,IEC 62109-1,IEC62109-2,IEC 62619,IEC 62040,EN 61000-6-2/-3

### System Diagram

