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# 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





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**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 ± 2%                       |
| Total harmonic factor output voltage | 4%(full load)                     |
| Frequency range                      | 50Hz ± 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**

