

Generating Superior Solutions for Energy and More.

KSTAR
Powering the Future

BluE-S Series Residential ESS

Single Phase / All-in-one Hybrid System / 3.68–6 kW

Save Your Energy Bill

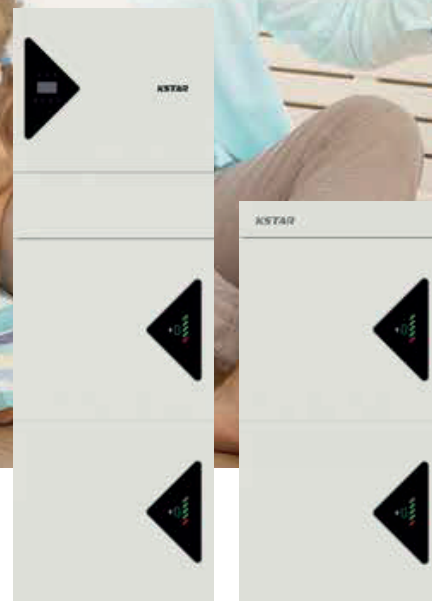
- ▶ Optimized Time-of-use Profile
- ▶ 10000 Cycles Lifespan
- ▶ VPP Ready

Whole Home Energy Solution

- ▶ Support On-grid and Off-grid Switching
- ▶ AC-coupling or DC-coupling System
- ▶ Backup Power Support

Comprehensive Safety

- ▶ Alarm and Protection
- ▶ Online Monitoring
- ▶ Compliant with Global Grid Standards



Battery Model		BluE-PACK 5.1	
Physical		Operation	
Battery Type	LFP (LiFePO4)	Max. Charge/Discharge Current	50 A / 80 A
Weight	54 kg	Rated DC power	4096 W
Dimensions (W x H x D)	540 x 490 x 240 mm	Max. Charge/Discharge Power	2825 W / 4096 W
IP Protection	IP 65	Operating Temperature Range	-10 to 50°C (Charging); -10 to 50°C (Discharging) ¹⁾
Warranty	5 Year Product Warranty 10 Year Performance Warranty	Humidity	0 - 95% (No condensation)
Electrical		BMS	
Energy Capacity	5.12 kWh	Modules Connection	Max. 4
Usable Capacity	4.6 kWh	Capacity	100 ~ 400 Ah
Depth of Discharge (DoD)	90%	Power Consumption	< 2 W
Nominal Voltage	51.2 V	Communication	CAN & RS-485
DC Circuit Breaker	125 A	Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Operating Voltage Range	44.8 ~ 56.5 V	Certificate	
Internal Resistance	< 20 mΩ	Safety(Cell)	Pack: IEC/EN 62619; UN 38.3 Cell: IEC/EN 62619; UN 38.3; UL 1973
Cycle Life	10000 cycle		

*Maximum 4 battery pack in parallel.

1) The operating temperature parameters only apply to battery pack models with heating function. For battery pack models without heating function, the operating temperature range will be: 0 to 50°C(Charging), -10 to 50°C (Discharging).

2) Minimum voltage for inverter to start power output.

3) Nominal AC output power is 4999 W for Australia and 4600 W for Germany and South Africa.

4) Max. AC apparent power is 3680 VA for the UK.

5) Max. AC apparent power is 4999 VA for Australia, 5000 VA for Belgium and 4600 VA for Germany and South Africa.

6) Maximum output current is 21.7 A for Australia and 20 A for Germany and South Africa.

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Hybrid Inverter Model	BluE-S 3680D-M1	BluE-S 5000D-M1	BluE-S 6000D-M1
PV Input			
Recommended Max. PV Array Input Power @STC	5.5 kWp	7.5 kWp	9 kWp
Max. DC Voltage	580 V		
Nominal Voltage	400 V		
MPPT Voltage Range	80 V ~ 560 V		
Start Voltage ²⁾	150 V		
Number of MPPT Tracker	2		
Strings per MPPT Tracker	1		
Max. Input Current per MPPT	15 A		
Max. Short-circuit Current per MPPT	18 A		
AC Output (Grid)			
Nominal AC Output Power	3680 W	5000 W ³⁾	6000 W
Max. AC Apparent Power	7360 VA ⁴⁾	7360 VA ⁵⁾	7360 VA
Max. AC Output Power	3680 W	5000 W ³⁾	6000 W
Nominal AC Voltage	230 Vac		
AC Grid Frequency Range	50 / 60 Hz ±5Hz		
Max. Output Current	16 A	22 A ⁶⁾	25 A
Max. Input Current	32 A		
Power Factor (cosΦ)	0.8 leading - 0.8 lagging		
THDi	< 3%		
Battery Input			
Battery Type	LFP (LiFePO4)		
Nominal Battery Voltage	48 V		
Charging Voltage Range	40 ~ 60 V		
Max. Charging Current	50 A	100 A	100 A
Max. Discharging Current	80 A	100 A	100 A
Battery Capacity	100 ~ 400 Ah		
Charging Strategy for Li-ion Battery	Depend on the BMS		
AC Output (Backup)			
Max. Output Apparent Power	4000 VA	5000 VA	5000 VA
Peak Output Apparent Power	6900 VA 10sec		
Max. Output Current	16 A	20 A	20 A
Nominal Output Voltage	230 V		
Nominal Output Frequency	50 / 60Hz		
Output THDv (@Linear Load)	< 3% (Linear Load)		
Efficiency			
Max. PV Efficiency	97.6%		
Euro. PV Efficiency	97.0%		
Protection			
DC Switch	Bipolar DC Switch (125 A / Pole)		
Anti-islanding Protection	Yes		
Output Over Current Protection	Yes		
DC Reverse Polarity Protection	Yes		
String Fault Detection	Yes		
AC / DC Surge Protection	DC Type II; AC Type III		
Insulation Detection	Yes		
AC Short Circuit Protection	Yes		
General Specifications			
Dimensions (W x H x D)	540 x 590 x 240 mm		
Weight	32 kg		
Operating Temperature Range	-25°C ~+ 60°C		
Noise (dB)	< 25		
Cooling Type	Natural Convection		
Max. Operating Altitude	2000 m		
Operating Humidity	0 ~ 95% (No Condensation)		
IP Class	IP65		
Topology	Battery Isolation		
Communication	RS-485 / CAN 2.0 / WIFI / 4G		
Display	LCD / APP		
Certification & Standard	IEC/EN 62109-1&2; IEC/EN 61000-6-1; IEC/EN 61000-6-2; EN 61000-6-3; IEC/EN 61000-6-4; IEC/EN 61000-3-11; EN 61000-3-12; IEC 60529; IEC 60068; IEC 61683; IEC 62116; IEC 61727; EN 50549-1; AS 4777.2; NRS 097; VDE-AR-N-4105; CEI 0-21; G98/G99; C10/11		

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BluE-S Series Residential ESS NEW

Three Phase / All-in-one Hybrid System / 4-6 kW

Save Your Energy Bill

- ▶ Optimized Time-of-use Profile
- ▶ 10000 Cycles Lifespan
- ▶ VPP Ready

Whole Home Energy Solution

- ▶ Support On-grid and Off-grid Switching
- ▶ AC-coupling or DC-coupling System
- ▶ Optional Generator Connection

Comprehensive Safety

- ▶ Alarm and Protection
- ▶ Online Monitoring
- ▶ Compliant with Global Grid Standards



Battery Model		BluE-PACK 5.1	
Physical		Operation	
Battery type	LFP (LiFePO4)	Max. Charge/Discharge Current	50 A / 80 A
Weight	54 kg	Rated DC power	4096 W
Dimensions (W x H x D)	540 x 490 x 240 mm	Max. Charge/Discharge Power	2825 W / 4096 W
IP Protection	IP65	Operating Temperature Range	-10 to 50°C (Charging); -10 to 50°C (Discharging) ¹⁾
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	Humidity	0 - 95% (No condensation)
Electrical		BMS	
Energy Capacity	5.12 kWh	Modules Connection	Max. 4
Usable Capacity	4.6 kWh	Capacity	100 / 200 / 300 / 400 Ah
Depth of Discharge (DoD)	90%	Power Consumption	< 2 W
Nominal Voltage	51.2 V	Communication	CAN & RS-485
DC Circuit Breaker	125 A	Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Operating Voltage Range	44.8 ~ 56.5 V	Certificate	
Internal Resistance	< 20mΩ	Safety(Cell)	Pack: IEC/EN 62619; UN 38.3 Cell: IEC/EN 62619; UN 38.3; UL 1973
Cycle Life	10000 cycle		

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Hybrid Inverter Model	E4KT	E5KT	E6KT
PV Input			
Recommended Max. PV Array Input Power @STC	8 kWp	10 kWp	12 kWp
Max. DC Voltage	1000 V		
Nominal Voltage	720 V		
MPPT Voltage Range	140 V ~ 950 V		
MPPT Voltage Range (Full Load)	200 V ~ 850 V	230V ~ 850 V	250 V ~ 850 V
Start Voltage ²⁾	200 V		
Number of MPPT	2		
Strings per MPPT	1		
Max. Input Current per MPPT	15A		
Max. Short-circuit Current per MPPT	20 A		
AC Output (Grid)			
Nominal AC Output Power	4 kW	5 kW	6 kW
Max. AC Apparent Power	4.4 kVA	5.5 kVA	6.6 kVA
Nominal AC Voltage	400 Vac		
AC Grid Frequency Range	50 / 60Hz ±5Hz		
Nominal Output Current	5.8 A	7.3 A	8.7 A
Max. Output Current	6.4 A	8 A	9.6 A
Power Factor (cosΦ)	0.8 leading - 0.8 lagging		
THDi	<3%		
Battery Input			
Battery Type	LFP (LiFePO4)		
Nominal Battery Voltage	51.2 V	51.2 V	51.2 V
Charging Voltage Range	44 ~ 58 V		
Max. Charging Current	80 A	100 A	100 A
Max. Discharging Current	80 A	100 A	120 A
Battery Capacity	100 / 200 / 300 / 400 Ah		
AC Output (Backup)			
Nominal AC Output Power	4 kW	5 kW	6 kW
Max. AC Output Power	4 kVA	5 kVA	6 kVA
Nominal Output Current	5.8 A	7.3A	8.7 A
Max. Output Current	5.8 A	7.3 A	8.7 A
Nominal Output Voltage	400 V		
Nominal Output Frequency	50 / 60Hz		
Output THDv (@Linear Load)	< 2% (Linear Load)		
Efficiency			
Max. PV Efficiency	97.60%		
Euro. PV Efficiency	97.00%		
Protection			
Anti-islanding Protection	Yes		
Output Over Current Protection	Yes		
DC Reverse Polarity Protection	Yes		
String Fault Detection	Yes		
AC / DC Surge Protection	DC Type II; AC Type III		
Insulation Detection	Yes		
AC Short Circuit Protection	Yes		
General Specifications			
Dimensions (W x H x D)	540 x 980 x 240 mm		
Weight	47 kg		
Operating Temperature Range	-25°C ~+ 60°C		
Cooling Type	Natural Convection		
Max. Operation Altitude	2000 m		
Operation Humidity	0 ~ 95% (No Condensation)		
IP Class	IP66		
Topology	Battery Isolation		
Communication	RS-485 / CAN2.0 / WIFI / 4G		
Display	LCD / APP		

1) The operating temperature parameters only apply to battery pack models equipped with heating function. For battery pack models without heating function, the operating temperature range will be: 0 to 50°C(Charging), -10 to 50°C (Discharging).

2) Minimum voltage for inverter to start power output.

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Comprehensive Safety

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- ▶ Online Monitoring
- ▶ Compliant with Global Grid Standards



Battery Model		BluE-PACK 5.1	
Physical		Operation	
Battery Type	LFP (LiFePO4)	Max. Charge/Discharge Current	50 A / 80 A
Weight	54 kg	Rated DC power	4096 W
Dimensions (W x H x D)	540 x 490 x 240 mm	Max. Charge/Discharge Power	2825 W / 4096 W
IP Protection	IP65	Operating Temperature Range	-10 to 50°C (Charging); -10 to 50°C (Discharging) ¹⁾
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	Humidity	0 - 95% (No condensation)
Electrical		BMS	
Energy Capacity	5.12 kWh	Modules Connection	Max. 8
Usable Capacity	4.6 kWh	Capacity	200 / 400 / 600 / 800 Ah
Depth of Discharge (DoD)	90%	Power Consumption	< 2 W
Nominal Voltage	51.2 V	Communication	CAN & RS-485
DC Circuit Breaker	125 A	Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Operating Voltage Range	44.8 ~ 56.5 V	Certificate	
Internal Resistance	< 20 mΩ	Safety(Cell)	Pack: IEC/EN 62619; UN 38.3 Cell: IEC/EN 62619; UN 38.3; UL 1973
Cycle Life	10000 cycle		

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Hybrid Inverter Model	E8KT	E10KT	E12KT
PV String Input			
Recommended Max. PV Array Input Power @STC	16 kWp	20 kWp	20 kWp
Max. DC Voltage	1100 V		
Nominal Voltage	720 V		
MPPT Voltage Range	140 V ~ 1000 V		
MPPT Voltage Range (Full Load)	380 V ~ 850 V	420 V ~ 850 V	480 V ~ 850 V
Start Voltage ¹⁾	200 V		
Number of MPPT	2		
Strings per MPPT	1		
Max. Input Current per MPPT	15 A		
Max. Short-circuit Current per MPPT	20 A		
AC Output (Grid)			
Nominal AC Output Power	8 kW	10 kW	12 kW
Max. AC Apparent Power	8.8 kVA	11 kVA ²⁾	13.2 kVA
Nominal AC Voltage	400 Vac		
AC Grid Frequency Range	50 / 60Hz ±5Hz		
Nominal Output Current	11.6 A	14.5 A	17.4 A
Max. Output Current	12.8 A	16 A ²⁾	19.2 A
Power Factor (cosΦ)	0.8 leading - 0.8 lagging		
THDi	<3%		
Battery Input			
Battery Type	LFP (LiFePO4)		
Nominal Battery Voltage	51.2 V		
Charging Voltage Range	44 ~ 58 V		
Max. Charging Current	160 A		
Max. Discharging Current	160 A	200 A	200 A
Battery Capacity	200 / 400 / 600 / 800 Ah		
AC Output (Backup)			
Nominal AC Output Power	7.36 kW	9.2 kW	9.2 kW
Max. AC Output Power	8 kVA	10 kVA	10 kVA
Nominal Output Current	10.7 A	13.3 A	13.3 A
Max. Output Current	11.6 A	14.5 A	14.5 A
Nominal Output Voltage	400 V		
Nominal Output Frequency	50 / 60 Hz		
Output THDv (@Linear Load)	< 2% (Linear Load)		
Efficiency			
Max. PV Efficiency	97.60%		
Euro. PV Efficiency	97.00%		
Protection			
Anti-islanding Protection	Yes		
Output Over Current Protection	Yes		
DC Reverse Polarity Protection	Yes		
String Fault Detection	Yes		
DC / AC Surge Protection	DC Type II; AC Type III		
Insulation Detection	Yes		
AC Short Circuit Protection	Yes		
General Specifications			
Dimensions (W x H x D)	540 x 980 x 240 mm		
Weight	49 kg		
Operating Temperature Range	-25°C ~+ 60°C		
Cooling Type	Natural Convection		
Max. Operating Altitude	2000 m		
Operating Humidity	0 ~ 95% (No Condensation)		
IP Class	IP66		
Topology	Battery Isolation		
Communication	RS-485 / CAN 2.0 / WIFI / 4G		
Display	LCD / APP		
Certification & Standard	IEC/EN 62109-1&2; IEC/EN 61000-6-1; IEC/EN 61000-6-2; EN 61000-6-3; IEC/EN 61000-6-4; IEC/EN 61000-3-11; EN 61000-3-12; IEC 60529; IEC 60068; IEC 61683; IEC 62116; IEC 61727; EN 50549-1; VDE-AR-N 4105; C10/11; VDE 0126-1-1; CEI 0-21; NC Rfg; G98; EIFS; NTS&UNE 217001		

1) Minimum voltage for inverter to start power output.

2) According to the C10/11 of Synergrid, the maximum AC output power is 10 kVA and the maximum AC output current is 14.5A. The applicable hybrid inverter model is E10KTBE.