

BlueSpark Series Residential ESS

Single Phase / All-in-one Hybrid System / 3.68-5 kW

High Performance & Safety

Up to 200% DC/AC ratio for maximum PV utilization and charging power
Powered by Tier-1 battery cell suppliers for long-term reliability
Optional AFCI for advanced arc-fault detection and enhanced fire protection

Smart Home Energy Ecosystem

Compatible with third-party EMS & VPP platforms
Supports Self-Consumption, Peak Shaving, Time-of-Use, and Battery Priority modes
SG-Ready for smart heat pump and flexible load control

Easy & Fast Installation

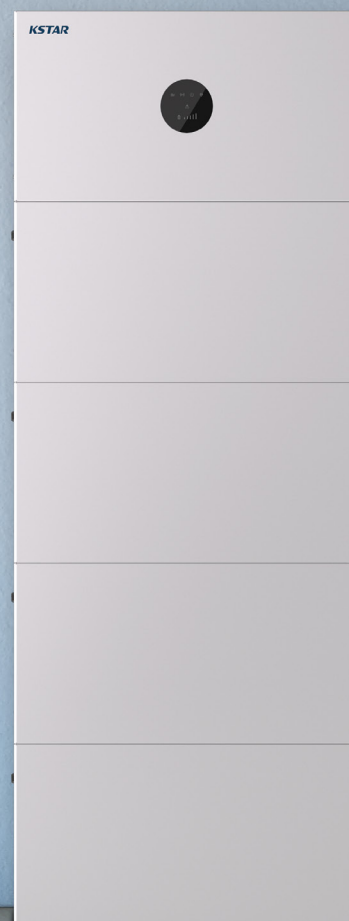
Modular stackable design, no internal wiring required
Compact, space-saving footprint for indoor or outdoor installation
IP66-rated enclosure for superior environmental protection
Human-safe low-voltage system architecture for residential use

Flexible System Expansion

Supports up to 4 units in parallel for on-grid and off-grid applications
Up to 8 battery packs per system for scalable capacity

Smart Operation & Maintenance

24/7 cloud monitoring via KSTAR SYNC platform
Fast commissioning through Bluetooth & Wi-Fi
Remote firmware upgrades for continuous performance optimization



Hybrid Inverter Model	E3.68KS-D22	E5KS-D22
PV Input		
Recommended Max. PV Array Input Power @STC	7.2 kW	10 kW
Max PV Voltage	500 V	
Nominal Voltage	360 V	
MPPT Voltage Range	120 ~ 480 V	
MPPT Voltage Range with Full Load	200 ~ 425 V	250 ~ 425 V
Start Voltage ¹⁾	120 V	
Number of MPPT Tracker	2	
String per MPPT Tracker	1	
Max. Input Current per MPPT	20 A	
Max. Short-Circuit Current per MPPT	25 A	
AC Output & Input (Grid)		
Max. AC Continuous Output Power	3680 W	5000 W
Max. AC Apparent Output Power	3680 VA	5000 VA
Max. Continuous Input Power	7360 W	9200 W
Nominal AC Voltage	230 Vac	
Normal Frequency	50 Hz / 60 Hz (±5 Hz)	
Normal Output Current	16 A	21.7 A
Max. Output Current	16.7 A	22.7 A
Max. Input Current	32 A	40 A
Power Factor (cos φ)	-0.8 (Lagging) ~ 0.8 (Leading)	
THDi	<3%	

Hybrid Inverter Model	E3.68KS-D22	E5KS-D22
AC Output (Backup)		
Normal AC Output Power	3680 W	5000 W
Rated AC Output Power	3680 VA	5000 VA
Max. Output Current	16 A	21.7 A
Normal Output Voltage	230 Vac	
Nominal Output Frequency	50 Hz / 60 Hz	
Output THDv (@Linear Load)	< 3% (Linear Load)	
Battery Input		
Battery Type	LFP (LiFePO4)	
Nominal Battery Voltage	48 V	
Charging Voltage Range	42 ~ 58 V	
Max. Charging / Discharging Current	80 A / 80 A	120 A / 120 A
Rated Charging / Discharging Power	3600 W / 3900 W	5000 W / 5400 W
Battery Capacity	100 ~ 400 Ah	
Efficiency		
Max. PV Efficiency	97.2 %	
Euro. Efficiency	95.9 %	96.4 %
Protection		
DC Switch	Integrated	
Anti-islanding Protection	Integrated	
Active Anti-islanding Method	Frequency Shift	
Residual Current Monitoring	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC / AC Surge Protection	DC Type II; AC Type III	
Overvoltage Category	II (DC side); III (AC side)	
Remote Shutdown	Integrated	
AFCI	Optional	
General Specifications		
Dimensions (W x H x D)	725 × 390 × 230 mm	
Weight	24.8 kg	25.5 kg
Operating Temperature Range	-25°C to +60°C (> 45°C derating)	
Cooling Type	Natural Convection	
Max. Operation Altitude	≤ 4000m	
Operation Humidity	0 ~ 95% (No Condensation)	
IP Class	IP66	
Protective Class	I	
Communication	RS-485 / 4G / Ethernet / Bluetooth / WIFI	
Topology	Isolated method(solar): non-isolated Isolated method(battery): Isolated	
Display	LED / APP / WEB	
Country of Manufacture	China	
Warranty	10 Years	
Certification & Standard	IEC/EN62109-1&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 61727; IEC 62116; IEC 60068; IEC 61683; EN 50549-1; EN 50549-10; VDE-AR-N 4105; G98/G99; NC RFG:2018; C10/C11; CEI-021; AS/NZS 4777.2	

1) Minimum voltage for inverter to start power output.