

BlueSpark Series Residential ESS

Three Phase / All-in-one Hybrid System / 4-12 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

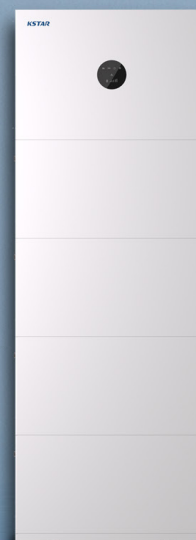
Modular stackable design, no internal wiring required
Compact, space-saving footprint for indoor or outdoor installation
IP66-rated enclosure for superior environmental protection
Human-safe low-voltage system architecture for residential use

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	E4KT-D22	E5KT-D22	E6KT-D22	E8KT-D22	E10KT-D22	E12KT-D22
PV Input						
Recommended Max. PV Array Input Power @STC	10 kW	11 kW	12 kW	16 kW	20 kW	22 kW
Max PV Voltage	1000 V					
Nominal Voltage	720 V					
MPPT Voltage Range	140 ~ 950 V					
MPPT Voltage Range with Full Load	200 ~ 800 V	230 ~ 800 V	250 ~ 800 V	290 ~ 800 V	320 ~ 800 V	350 ~ 800 V
Start Voltage ^①	200 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	4000 W	5000 W	6000 W	8000 W	10000 W	12000 W
Max. AC Apparent Output Power	4400 VA	5500 VA	6600 VA	8800 VA	11000 VA	13200 VA
Max. Continuous Input Power	10000 W	11000 W	12000 W	16000 W	20000 W	22000 W
Nominal AC Voltage	400 Vac					
Norminal Frequency	50 Hz / 60 Hz					
Norminal Output Current	5.8 A (RMS)	7.3 A (RMS)	8.7 A (RMS)	11.6 A (RMS)	14.5 A (RMS)	17.4 A (RMS)
Max. Output Current	13.1 A (RMS)	13.1 A (RMS)	13.1 A (RMS)	26.1 A (RMS)	26.1 A (RMS)	26.1 A (RMS)
Max. Input Current	21.0 A (RMS)	22.6 A (RMS)	22.6 A (RMS)	38.8 A (RMS)	42 A (RMS)	42 A (RMS)
Power Factor (cos φ)	-0.8 (Lagging) ~ 0.8 (Leading)					
THDi	<3%					

Hybrid Inverter Model	E4KT-D22	E5KT-D22	E6KT-D22	E8KT-D22	E10KT-D22	E12KT-D22
AC Output (Backup)						
Normal AC Output Power	4000 W	5000 W	6000 W	8000 W	10000 W	12000 W
Rated AC Output Power	4000 VA	5000 VA	6000 VA	8000 VA	10000 VA	12000 VA
Normal Output Current	5.8 A	7.3 A	8.7 A	11.6 A	14.5 A	17.4 A
Max. Output Current	13.1 A (RMS)	13.1 A (RMS)	13.1 A (RMS)	26.1 A (RMS)	26.1 A (RMS)	26.1 A (RMS)
Normal Output Voltage	400 Vac					
Nominal Output Frequency	50 Hz / 60 Hz					
Output THDv (@Linear Load)	2% (Linear Load)					
Battery Input						
Battery Type	LFP (LiFePO4)					
Nominal Battery Voltage	51.2 V					
Charging Voltage Range	44 ~ 58 V					
Max. Charging / Discharging Current	100 / 100 A	120 / 120 A	120 / 150A	160 / 200 A	200 / 240 A	200 / 240 A
Rated Charging / Discharging Power	4000 W	5000 W	6000 W	8000 W	10000 W	10000W / 12000W
Battery Capacity	100 ~ 800 Ah					
Efficiency						
Max. PV Efficiency	96.6 %			97.2 %		
Euro. Efficiency	94.5 %			95.5 %		
Protection						
DC Switch	Integrated					
Anti-islanding Protection	Integrated					
Active Anti-islanding Method	Frequency Shift					
Residual Current Monitoring	Integrated					
PV Reverse Polarity Protection	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 × 490 × 245 mm					
Weight	40 kg			43 kg		
Operating Temperature Range	-25°C to +60°C (> 40°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 / CAN2.0 / WIFI					
Topology	Isolated method(solar): non-isolated Isolated method(battery): Isolated					
Display	LED / WIFI+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; NC RfG:2018; C10/C11; AS/NZS 4777.2					