

Aiko Residential ESS

All in One Storage System



Safe & Reliable

- CATL LFP battery
- Seamless on & off grid switch
- Zero feed current in off-grid mode

Flexible

- Modular from 5kWh to 40kWh

Convenient

- All-in-one, easier installation
- Indoor & outdoor scenario

Intelligent

- All-around monitoring & control
- Economic via smart algorithms

Inverter Model	AE-HBD-3KTL-S1	AE-HBD-5KTL-S1	AE-HBD-6KTL-S1
Solar Input			
Max. PV Voltage		580V	
MPPT Voltage Range		80V-560V	
Start Voltage		150V	
Max. PV Current		15A	
Max. Short Circuit Current		18A	
Strings Per MPP Tracker		1	
No. of MPP Trackers		2	
Battery Input			
Battery Type		LiFePO ₄	
Charging Battery Voltage		40-60V	
Max. Charge/discharge Current	50/80A	100A	100A
Charging Strategy for Li-ion Battery		Depend on the BMS	
AC Output(Grid)			
Nominal AC Output Power	3,680W	5,000W ¹	6,000W
Nominal AC Voltage		230Vac	
AC Grid Frequency Range		50/60Hz±5Hz	
Max. Output Current	16A	22A ²	25A
THDi		<3%	
AC Output(Off Grid)			
Max. Output Apparent Power	4,000VA	5,000VA	5,000VA
Peak Output Apparent Power		6,900VA 10sec	
Nominal Output Voltage		230V	
Nominal Output Frequency		50/60Hz	
Max. Output Current	16A	20A	25A
Power Factor		0.8leading-0.8lagging	
Output THDv (@Linear Load)		<2%(linear load)	
Efficiency			
Max. Efficiency		97.60%	
European Efficiency		97.00%	
General Specifications			
Dimension W x H x D/ Weight		540*590*240mm/32kg	
Operating Temperature Range		-25°C~+60°C	
Noise Emission		<25dB	
Max. Operation Altitude		2,000m	
Operation Humidity		0~95%(No Condensation)	
IP Class		IP65(indoor & outdoor installation)	
Display		LCD/APP	
Communication		RS485/CAN2.0/WIFI/4G	
Protection			
Safety		Anti-islanding, Over Current, DC Reverse Polarity, String Fault, AC/DC Surge, Insulation, Short Circuit, DC Switch	
Certificates			
Standards		IEC62109/61000/61727/62116/50549/60529, VDE4105/0124/0126, UNE217001/217002, C10/11, G98/99, CEI, NC RfG, NTS V2.1	

Battery Model	AE-NBP-5K1-S1
Cell Type	LFP 100Ah(CATL)
Energy Capacity	5.12kWh
Depth of Discharge(DoD)	90%
Nominal Voltage	51.2V
Operating Voltage Range	44.8-56.5V
Max. Charge Current	50A
Max. Discharge Current	80A
Life Cycle	10,000 cycles ³
Dimension W x H x D/ Weight	540*490*240mm/54kg
Warranty	10 Years
Operating Temperature Range	-10 to 50°C charging/-10 to 50°C discharging
Humidity	0~95%(No condensation)
Communication	CAN & RS485
Scalability	Max. 5(in parallel)
Certificates	IEC 62040/62619/61000/63056/60529, VDE2510-50, UN38.3, DGM, MSDS

*1. Nominal AC output power is 4,999W for Australia and 4,600W for Germany and South Africa.

*2. Maximum output current is 21.7A for Australia and 20A for Germany and South Africa.

*3. Test conditions: 90% depth of discharge(DoD), 0.2C rate charge & discharge at 25°C.

Inverter Model	AE-HBD-8KTL-S1	AE-HBD-10KTL-S1	AE-HBD-12KTL-S1
Solar Input			
Max. Continuous PV Input Power	16kW	20kW	20kW
Max. PV Voltage		1,100V	
MPPT Voltage Range		140V-1,000V	
Start Voltage		200V ¹	
Max. PV Current		15A	
Max. Short Circuit Current		20A	
Strings Per MPP Tracker		1	
No. of MPP Trackers		2	
Battery Input			
Battery Type		LiFePO ₄	
Charging Battery Voltage		44-58V	
Max. Charge/discharge Current	160A	160A/200A	160A/200A
AC Output(Grid)			
Nominal AC Output Power	8kW	10kW	12kW
Nominal AC Voltage		400Vac	
AC Grid Frequency Range		50/60Hz±5Hz	
Max. Output Current	12.8A	16A	19.2A
THDi		<3%	
AC Output(Off Grid)			
Nominal AC Output Power	7.36kW	9.2kW	9.2kW
Max. Output Power	8kVA	10kVA	10kVA
Nominal Output Voltage		400V	
Nominal Output Frequency		50/60Hz	
Max. Output Current	11.6A	14.5A	14.5A
Power Factor		0.8leading-0.8lagging ²	
Output THDv(@Linear Load)		<2%(linear load)	
Efficiency			
Max. Efficiency		97.60%	
European Efficiency		97.00%	
General Specifications			
Dimension W x H x D/ Weight		540*980*240mm/49kg	
Operating Temperature Range		-25°C~+60°C	
Noise Emission		<25dB	
Max. Operation Altitude		2,000m	
Operation Humidity		0~95%(No Condensation)	
IP Class		IP65(indoor & outdoor installation)	
Display		LCD/APP	
Communication		RS485/CAN2.0/WIFI/4G	
Protection			
Safety	Anti-islanding, Over Current, DC Reverse Polarity, String Fault, AC/DC Surge, Insulation, Short Circuit		
Certificates			
Standards	IEC62109/61000/61727/62116/50549/60529, VDE4105/0124/0126, UNE217001/217002, G98, CEI, PTPIREE, NC RfG, NTS V2.1		

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Energy Capacity	5.12kWh
Depth of Discharge(DoD)	90%
Nominal Voltage	51.2V
Operating Voltage Range	44.8-56.5V
Max. Charge Current	50A
Max. Discharge Current	80A
Life Cycle	10,000 cycles ³
Dimension W x H x D/ Weight	540*490*240mm/54kg
Warranty	10 Years
Operating Temperature Range	-10 to 50°C charging/-10 to 50°C discharging
Humidity	0~95%(No condensation)
Communication	CAN & RS485
Scalability	Max. 8(in parallel)
Certificates	IEC 62040/62619/61000/63056/60529, VDE2510-50, UN38.3, DGM, MSDS

*1. Minimum voltage for inverter to start power output.

*2. 0.95leading-0.95lagging for Germany.

*3. Test conditions: 90% depth of discharge(DoD), 0.2C rate charge & discharge at 25°C.

*Aiko Energy reserves right to update the specification without notice



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