

# 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 |
|--------------------------------------|----------------|--|----------------|
| <b>Solar Input</b>                   |                |  |                |
| 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  |                |
| <b>Battery Input</b>                 |                |  |                |
| Battery Type                         |                | LiFePO <sub>4</sub>  |                |
| Charging Battery Voltage             |                | 40-60V   |                |
| Max. Charge/discharge Current        | 50/80A         | 100A   | 100A           |
| Charging Strategy for Li-ion Battery |                | Depend on the BMS  |                |
| <b>AC Output(Grid)</b>               |                |  |                |
| Nominal AC Output Power              | 3,680W         | 5,000W <sup>1</sup>  | 6,000W         |
| Nominal AC Voltage                   |                | 230Vac   |                |
| AC Grid Frequency Range              |                | 50/60Hz±5Hz  |                |
| Max. Output Current                  | 16A            | 22A <sup>2</sup>   | 25A            |
| THDi                                 |                | <3%  |                |
| <b>AC Output(Off Grid)</b>           |                |  |                |
| 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)   |                |
| <b>Efficiency</b>                    |                |  |                |
| Max. Efficiency                      |                | 97.60%   |                |
| European Efficiency                  |                | 97.00%   |                |
| <b>General Specifications</b>        |                |  |                |
| 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   |                |
| <b>Protection</b>                    |                |  |                |
| Safety                               |                | Anti-islanding, Over Current, DC Reverse Polarity, String Fault, AC/DC Surge, Insulation, Short Circuit, DC Switch |                |
| <b>Certificates</b>                  |                |  |                |
| 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 <sup>3</sup>                                       |
| 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 |
|--------------------------------|--|-------------------------------------|-----------------|
| <b>Solar Input</b>             |  |                                     |                 |
| Max. Continuous PV Input Power | 16kW   | 20kW                                | 20kW            |
| Max. PV Voltage                |  | 1,100V                              |                 |
| MPPT Voltage Range             |  | 140V-1,000V                         |                 |
| Start Voltage                  |  | 200V <sup>1</sup>                   |                 |
| Max. PV Current                |  | 15A                                 |                 |
| Max. Short Circuit Current     |  | 20A                                 |                 |
| Strings Per MPP Tracker        |  | 1                                   |                 |
| No. of MPP Trackers            |  | 2                                   |                 |
| <b>Battery Input</b>           |  |                                     |                 |
| Battery Type                   |  | LiFePO <sub>4</sub>                 |                 |
| Charging Battery Voltage       |  | 44-58V                              |                 |
| Max. Charge/discharge Current  | 160A   | 160A/200A                           | 160A/200A       |
| <b>AC Output(Grid)</b>         |  |                                     |                 |
| 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%                                 |                 |
| <b>AC Output(Off Grid)</b>     |  |                                     |                 |
| 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 <sup>2</sup>  |                 |
| Output THDv(@Linear Load)      |  | <2%(linear load)                    |                 |
| <b>Efficiency</b>              |  |                                     |                 |
| Max. Efficiency                |  | 97.60%                              |                 |
| European Efficiency            |  | 97.00%                              |                 |
| <b>General Specifications</b>  |  |                                     |                 |
| 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                |                 |
| <b>Protection</b>              |  |                                     |                 |
| Safety                         | Anti-islanding, Over Current, DC Reverse Polarity, String Fault, AC/DC Surge, Insulation, Short Circuit          |                                     |                 |
| <b>Certificates</b>            |  |                                     |                 |
| Standards                      | IEC62109/61000/61727/62116/50549/60529, VDE4105/0124/0126, UNE217001/217002, G98, CEI, PTPIREE, 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 <sup>3</sup>                                       |
| 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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