

## MODEL : HBD-500-1000

### BATTERY ENERGY STORAGE



#### Design Standards

HBD® is a new range of secure integrated Battery Energy storage system . This mobile and modular solution includes batteries, PCS, HVAC, fire protection and auxiliary components, External PV power and AC generator are available for option. HBD® is mainly developed for no emission and low noise, Reduce the dependence on grid 、 Improve power supply quality and Ensure the power consumption of emergency load.

#### Benefits

- Integrated installation, convenient storage and transportation;
- Simple operation and easy maintenance;
- Power and Capacity can be expanded, meet different user needs;
- No emission and Low Noise;
- High Safe and reliable;



ISO9001:2015  
Quality system certified



ISO14001  
System certified



OHSAS18001  
System certified



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#### General Specification

|                             |                  |
|-----------------------------|------------------|
| Model                       | HBD-500-1000     |
| Rated Output Power@25℃      | 500kW            |
| Rated Output Voltage        | 400V@50Hz,3ph.   |
| Battery Storage Capacity    | 1066kWh          |
| Loading Dimension(L*W*H)    | 6058*2438*2591mm |
| Weight                      | 18.5 T           |
| Loading Capacity of 40'HC   | ---              |
| Operating Temperature Range | -10~50℃          |

### Battery

|                              |                    |
|------------------------------|--------------------|
| Type                         | LFP(LiFePO4)       |
| Total Energy                 | 1066kWh            |
| Rated Capacity               | 280Ah              |
| Rated Voltage                | 761.6 VDC (14S17P) |
| Charger / Discharger Current | 140 A(0.5C)        |
| DOD                          | 90%                |
| Cyclic Life                  | 4000(0.5C@80%DOD)  |

### Inverter&Charger

#### DC (battery)

|                       |              |
|-----------------------|--------------|
| Battery Voltage Range | 500 – 850VDC |
| Max.Current (DC)      | 1128A        |

#### AC (on-grid)

|                        |                     |
|------------------------|---------------------|
| Max.Output Power       | 550KVA              |
| Rated Power            | 500kW               |
| Rated Voltage          | 400Vac              |
| AC Input Voltage Range | 320 - 460Vac        |
| Rated Frequency Range  | 50/60Hz(±5Hz)       |
| PF                     | 1 lagging~1 leading |
| AC Connection          | 3W+N+PE             |

#### AC (off-grid)

|                      |  |
|----------------------|--|
| Rated Voltage        | 400Vac                                 |
| Frequency            | 50/60Hz                                |
| Overload Capacity    | 110%                                   |
| THDU                 | <1% linear ; <5% non-linear            |
| Max. Efficiency      | 97.5%                                  |
| Protection Degree    | IP21                                   |
| Self-consumption     | 10W                                    |
| Transformer          | Yes                                    |
| On/off Grid Transfer | Manual (default) ; Automatic(Optional) |
| Display              | Touch screen LCD                       |
| Communication Port   | RS485 / CAN / RJ45                     |
| Certificates         | CE、TUV                                 |

### HVAC

|                          |                           |
|--------------------------|---------------------------|
| Cooling type             | HVAC                      |
| Qty.                     | 2pcs                      |
| Operation Mode           | Refrigeration and heating |
| Cryogen                  | R134a                     |
| Applicable Ambient Temp. | -40~55℃                   |
| Protection Degree        | IP55                      |
| Rated Voltage            | 220Vac ± 10%              |
| Rated Frequency          | 50/60Hz                   |

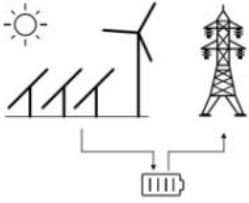
### Fire Protection

|                             |                                |
|-----------------------------|--------------------------------|
| Type                        | Gas fire fighting system FM200 |
| Gas Purity                  | >99.6%                         |
| Extinguishing Concentration | >9%                            |
| Discharge Time              | <10s                           |
| Backup power                | Yes                            |
| Rated Voltage               | 220~240Vac                     |
| Rated Frequency             | 50/60Hz                        |
| Working ambient Temperature | -60~50℃                        |

### EMS

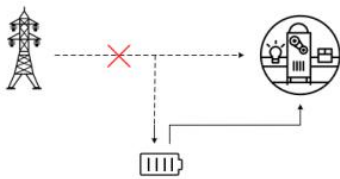
|                     |  |
|---------------------|--|
| Display and Monitor | Local screen/APP/Web   |
| UPS Capacity        | 3000VA   |
| Function            | Energy management and coordinated control of energy storage system |
| Rated Voltage       | 220Vac ± 10%   |
| Rated Frequency     | 50/60Hz  |

## Application



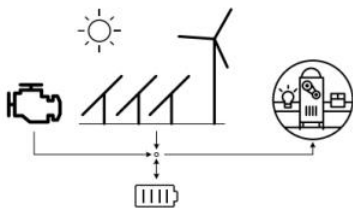
Customer Self Supply

When the PV power is greater than the load power, the excess will charge the battery ;  
 When the PV power is less than the load power, PCS immediately supplies power with the photovoltaic for load ;  
 When PV power cannot be generated, PCS will supply power to the load independently;  
 When Battery SOC is lower than protection value, Auto-switch to grid-power , take load and charger battery ;



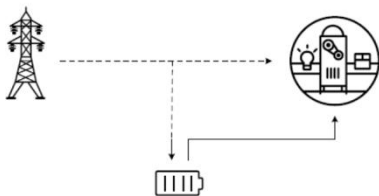
Backup power

The load is usually powered by the grid  
 HBD ESS will powered the load within 20ms while mains power failure;



Micro-Grid

PV power , energy storage and diesel engine form a small microgrid to bring electricity to areas without electricity.  
 PV power supplied at daytime ;  
 HBD ESS power supplied at nighttime;  
 DG power supplied at cloudy and rainy weather;



Load-Shifting

For areas with peak & valley price difference;  
 The peak price period HBD ESS discharge to the load ;  
 The valley price period Grid power charger for HBD ESS ;






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