

Battery Energy Storage Systems (BESS) – Utility - ICE 500KW - 1028 kWh



PRODUCT FEATURES



Comprehensive Safety Protection Solution

Electrical Safety: High-voltage cabinet features triple protection: soft start, short-circuit protection, and remote ON/OFF switching.

Thermal Safety: Liquid cooling system maintains $\leq 3^{\circ}\text{C}$ temperature difference between cells, extending lifespan by 30%.

Fire Safety: Dedicated Novec 1230 fire extinguishing agent + three-stage detection and execution unit, with suppression response < 10 seconds.



Highly Reliable Battery Energy Storage System

Cell-Level: 314Ah high-capacity LiFePO4 cells, with cycle life $\geq 6,000$ cycles.

System-Level: 4 clusters in parallel \times 16 packs in series \times 16 cells, scalable to 1MWh-level capacity. **Management-Level:** Dual BMU + BCMU management with real-time monitoring of 2,000+ cell parameters.



Intelligent Synergistic Energy Management Platform

Multi-Energy Complementary Control: Integrates PV, storage, and grid inputs via the EMS for intelligent dispatch and optimal power allocation.

Bidirectional Conversion Technology: The PCS achieves high-efficiency AC-DC conversion, supporting millisecond-level seamless transition between grid-tied and off-grid modes.

Comprehensive Monitoring & O&M: Dual-channel local + remote communication enables full-parameter visual management via mobile/PC.



Flexible Grid-Forming & Emergency Power Support

Multi-Mode Operation: STS transfer switch ensures critical load power supply within 20ms.

Emergency Power Supply: Redundant dual-path auxiliary power design guarantees uninterrupted control system operation.

Rapid Deployment: Containerized design supports plug-and-play on-site installation, reducing construction costs by 40%.

PRODUCT PARAMETERS

| | | | |
|---|-----------------------|-----------------------|--|
| Cell type | LFP 314Ah | Hybrid Switching time | < 20 ms |
| Rated Charge and Discharge C rate | 0.5C | THDi | < 3% (when it represents rated power) |
| Battery Pack capacity and configuration | 16.077kWh / IP16s | Power factor | >0.99 (When it represents rated power) |
| Total Battery Capacity | 1028 kWh | THDu | < 3% (linear load) |
| Accessed PV Power | 1440 kW (120 kW x 12) | Weight | <20T |
| Rated Output Voltage | 400 V | Dimensions (L*D*H) | 6058x 2438 x2896mm |
| Rated Output Frequency | 50/60Hz | Operating temperature | -30°C ~ +50°C (derating above 40°C) |
| AC Rated Power | 500 kW | Protection level | IP54 (container) |
| Rated Current | 722 A | Cooling concept | Air Cooling |

PRODUCT SPECIFICATIONS

| | |
|---|---|
| Model | ICE 500KW – 1028 kWh |
| DC side parameters | |
| Battery capacity | 1028 kWh |
| System Configuration | 1P16S |
| Battery Pack Configuration | 16.077 kWh |
| Cell type | LFP 314Ah |
| Battery Voltage Range | 716.8 V to 921.6 V |
| Pack protection level | IP54 (container) |
| Rated charge / discharge rate | 0.5 C |
| Number of temperature monitoring points | 512 |
| PV DC Side | |
| Input Branches Number | 8 channels (optional 2 PV MPPT controllers per cluster) |
| Rated current | 168A x 8 channels |
| Rated power | 120 kW x 8 channels |
| PCS AC Side (On Grid) | |
| AC rated power | 500 kW |
| AC maximum power | 550 kW |
| Rated current | 722A |
| THDi | <3 % |
| DC component | < 0.5 % LPN |
| System voltage format | 3W + N + PE |
| Voltage range | 360 Vac ~ 440Vac |
| Frequency range | 45 ~ 55 Hz |
| Power factor | 1~1 |
| PCS DC Side (Off Grid) | |
| Rated output power | 500 kW |
| Rated output voltage | 400 V |
| Rated output frequency | 50 / 60 Hz |
| THDu | <1 % linear, <5% non linear |
| Overload capacity | 110 % overload for 10 minutes |

| | |
|--|-------------------------------------|
| (Contd) | |
| System Parameters | |
| Cycle count | 8000 cts (0.5P, 25±2°C, @70%SOH) |
| Factory SOC settings | 30 % - 50 % |
| Maximum system efficiency | ≥97.5% |
| Battery cell cooling method | Air cooling |
| Noise | <70 dB |
| Communication Interface | 4G / WiFi / Ethernet |
| Operating temperature range | -30°C ~ +55°C (derating above 40°C) |
| Operating humidity range | 0%~95%RH, no condensation |
| Protection level | Container IP54 |
| Fire Protection system | Aerosol |
| Display screen | LCD touch |
| Product dimensions (WxDxH) | 6058 * 2438 * 2896 mm |
| Equipment Weight | <26T |
| Distribution and switching time | |
| Bypass maintenance switch | 1250 A |
| DC switch | 1250 A |
| Load switch | 1250 A |
| Grid switch | 1250 A |
| STS unit | 1155 A / 800 kW |
| STS switching time | <20 ms |
| Diesel Generator | |
| Grid feedback input | 220 Vac |
| Diesel engine drive output | Dry contact |