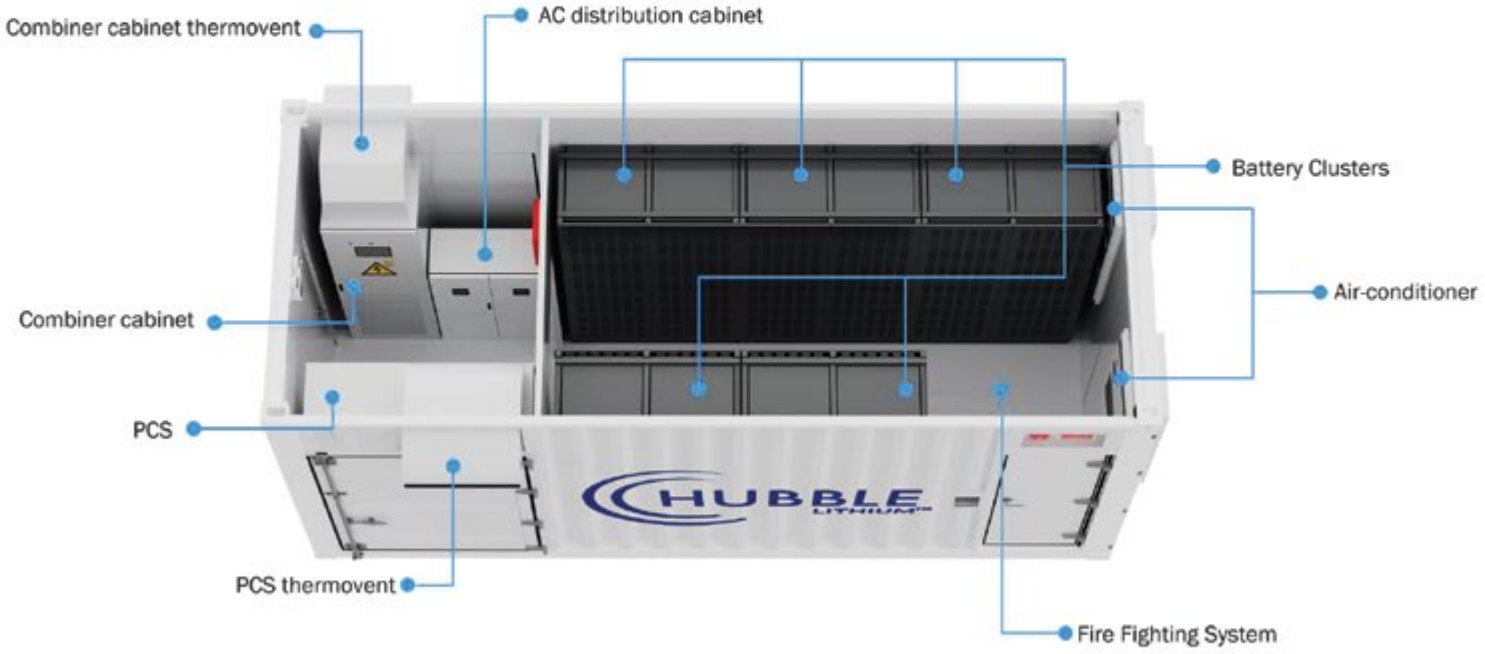
# 860KWH

## ENERGY STORAGE SYSTEM

### 20 FT COMMERCIAL & INDUSTRIAL BESS

HUBBLE LITHIUM™

# TECHNICAL
## SPECIFICATIONS

| 860KWH ENERGY STORAGE SYSTEM PARAMETER | |
|---|---|
| Battery Configuration | 60S1P (15*4 Modules) |
| ESS Battery Voltage and Capacity | 768V 1120Ah (280Ah*4P) |
| ESS Battery Rated Energy | 860KWH (215kWh*4P) |
| Energy Storage System Voltage Range | 600-876V |
| Energy Storage System Dimension | 20 Ft. Container |
| Working Temperature Range | -30 to 60°C |
| Storage Temperature Range | -40 to 70°C |
| Operating Humidity Range | 0 to 95% without Condensation |
| Max. Working Altitude | 3000 m |
| Installation Environment Requirements | Outdoor Installation |
| | Forced Air Cooling, Industrial Air Conditioner (9,3KW*2) |
| BESS Fire Supression | Supported (Heptafluoropropane) |
| Auxiliary Power Supply | 220Vac, ≤4.2KW |
| BESS Communication Interface | CAN/RS485/RS232 |
| ESS Communication Protocol | Modbus TCP |
| BESS Protection Level | IP55 |
| EMC Level Requirements | Class A |
| DC Side Lightning Protection Level | Type II |
| **STANDARD** | |
| Environment | RoHS6 |
| Certification | UN 38.3, IEC 62619, NB/T 42091-2016, GBT 34131-2017, GB/T 36276-2018, GB 51048-2014, NB-T 31016-2011, GB 4208-2008, NBT 33014-2014, DL/T 614-2007, GB 14048.1-2006, GB/T 17626, DL/T 621-1997 |
| **CELL PARAMETER** | |
| Battery Dimension | 72mm(D)*174mm(W)*207mm(H) |
| Nominal Capacity | 280Ah @0.5C 25 °C |
| Nominal Voltage | 3.20V @0.5C, 25 °C |
| Operating Voltage Range | 2.50V-3.65V |
| Continuous Charge Rate | 0.5C 25°C |
| Continuous Discharge Rate | 0.5C 25°C |
| Pulse Discharge Rate | 1C 25°C, ≤3min |
| Cycle Life | 6000 Cycles @0.5C, 25 80%DoD |
| **BATTERY MODULE PARAMETER** | |
| Battery Module Dimension | 550mm(W)*750mm(D)*270mm(H) |
| Nominal Capacity | 280Ah@0.5C, 25°C |
| Nominal Voltage | 51.2V (16 Cells) |
| Working Voltage Range | 44.8V-58.4V |
| Continuous Charge Rate | 0.5C@25°C |
| Continuous Discharge Rate | 0.5C@25°C |
| Weight | 115KG |
| Energy | 14.336kWh |
| Max. Continuous Charge Rate | 0.5C@25°C |
| Max. Continuous Discharge Rate | 0.5C@25°C |
| Insulation Standards | Insulation Resistance of Battery Housing > 1GΩ (1000VDC) |
| Withstand Voltage Standard | 3840VDC, no Breakdown or Flashover Occurring |
| Max. Charge Voltage of a Single Cell | 3.65V |
| Min. Discharge Voltage of a Single Cell | 2.5V |
| Instantaneous Max. Discharge Current | 180A@5S |
| Instantaneous Max. Charge Current | 180A@5S |
| High Temperature Protection during Charge | ≥ 45°C |
| High Temperature Protection during Discharge | ≥ 50°C |
| Low Temperature Protection during Charge | ≤ 0°C |
| Low Temperature Protection during Discharge | ≤-20°C |
| Cycle Times | ≥ 6000 Cycle |
| Application Environment | Indoor, Dry, Constant Temperature |
| Waterproof Grade | IP21 |
| Working temperature Range (°C) | Charge 0°C to 45°C |
| | Discharge to 50°C |
| Storage Temperature Range (°C) | -30°C to 45°C |
| Storage Environment Humidity (RH) | 5% to 95% |

| SINGLE CLUSTER ESS PARAMETERS (240S1P) | |
|---|---|
| Dimension | 2200mm(H)*1530mm(W)*700mm(D) |
| Nominal Capacity | 280Ah@0.5C, 25°C |
| Nominal Voltage | 768V (240 Cells) |
| Energy | 215.04kWh |
| Working Voltage Range | 600-876V |
| Working Charge Rate | 0.5C@25°C |
| Continuous Discharge Rate | 0.5C@25°C |
| Weight | =2200KG |
| **BATTERY CLUSTER BMS SYSTEM PARAMETERS** | |
| Working Power Supply | DC 24V ±5% |
| Cluster Voltage Collection Range | 0-1000V |
| Cluster Voltage Collection Accuracy | ≤±0.2%FSR |
| Current Collection Range | 0-± 500A (CAN Communication Hall) |
| Current Acquisition Accuracy | ≤±1% |
| Temperature Acquisition Accuracy | ±3°C |
| Balanced Current | 2A |
| SoC Estimation | ≤10% |
| Protection | Short Circuit, Overcharge, Over-Discharge, Over Temperature |
| Communication Interface | CAN/RS485/RS232 |
| **PCS TECHNICAL PARAMETER (SINGLE PCS MODULE 60KW, WITH A MAX. OF 4 PARALLELS)** | |
| Max Rated Power | 240kW |
| **DC PARAMETERS** | |
| Max. Voltage [Vd.c] | 1000 |
| Rated Voltage [Vd.c] | 800 |
| Voltage Range [Vd.c] | 680-1000 |
| Max. Charge/Discharge Current [Ad.c] | 88 |
| **AC ON-GRID PARAMETERS** | |
| Max. Input Apparent Power [kVa] | 60 |
| Max. Input Active Power [kW] | 60 |
| Rated Input Voltage [Va.c] | 230/400, 3P+N+PE |
| Max. Continuous Input Current [Aa.c] | 86 |
| Rated Input Frequency [Hz] | 50 |
| Power Factor | 0.8cap-0.8ind |
| **AC OFF-GRID PARAMETERS** | |
| Rated Output Voltage [Va.c] | 230/400, 3P+N+PE |
| Rated Output Frequency [Hz] | 50/60 |
| Max. Continuous Output Current [Aa.c] | 86 |
| Max. Output Active Power [kW] | 60 |
| Max. Output Apparent Power [kVa] | 60 |
| Unbalanced Load Capacity | 100% |
| Overload Capacity | 1.1 times: 10min @ ambient temperature of 35°C; 1.2 times: 1min |
| **GENERAL PARAMETERS** | |
| Working Temperature Range [°C] | -30 to 60 (>45 Derating) |
| Protection Level | IP20 |
| Working Altitude [m] | 3000 |
| Max. Efficiency | 98.50% |
| AC/DC Start Function | Yes |
| Weight [kg] | 30 |
| Battery BMS Communication Interface | CAN, RS485 |
| Superior Monitoring Communication Interface | Ethernet, RS485 (One Way Each) |
| Superior Monitoring Communication Protocol | Modbus TCP/Modbus RTU |

## HIGH EFFICIENCY 97.6%

Cooling system ensures higher efficiency and longer battery life cycle

## VARIOUS APPLICATION SOLUTIONS

Variety of applications are supported such as peak-shift, peak-cut, frequency regulation etc.

## EASY INSTALLATION

Highly integrated ESS for easy transportation and O&M. All pre-assembled, no battery module handling on site

## SAFETY AND RELIABILITY

Multi-level battery protection layers formed by discreet standalone systems offer impeccable safety