



24V 80AH

Specifications



Parameters

| Items | Parameter |
|---|---------------------------------|
| Battery Type | LiFePO4 |
| Rated Voltage | 24V |
| Cells Brand | A123 Systems |
| Rated Capacity | 80Ah |
| Energy | 2048Wh |
| Internal Resistance | ≤6mΩ |
| Limited Charge Voltage | 29.2±0.2V |
| Floating Charge Voltage | 28.2±0.2V |
| Charge Method | CC/CV |
| Discharge Cut-off Voltage | 20.0V |
| Charge Current | 80A (Customizable) |
| Continuous Discharge Current | 80A (Customizable) |
| Cold Cranking Amps | 160A (Peak) |
| Depth of Discharge | 100%DOD (adjustable) |
| Cycle Life | > 6000 cycles |
| Communication functions | Bluetooth/RS485 Optional |
| Temperature protection | Available |
| Auto heating function | Optional |
| Built in Battery Management System | Internal |
| Automatic Short Circuit Protection | Instant |
| Automatic Reverse Polarity Protection | Instant |
| Internal Cell Thermal Safety Fuse | Yes |
| Flame Retardant Electrolyte | Yes |
| Automatic Internal Cell Balancing | Yes |
| Automatic Fault Recovery | Yes |
| Explosion Proof Stainless Steel Cells | Yes |
| Dimension | 21 x 8.25 x 9in (533*210*229mm) |
| Weight | 43lbs (20kg) |
| Charge Temperature Range | 32 ~ 167°F (0 ~ 75°C) |
| Discharge Temperature Range | -4 ~ 167°F (-20 ~ 75°C) |
| Recommended Operating Temperature | 32 ~ 122°F (0 ~ 50°C) |
| Self-Discharge Rate (Residual Capacity) | 2.5%/years |
| Series Connection | Customized |
| Paralell Connection | Up to 16S |
| Warranty | 4 Years |

Built-in BMS

| Item | Test Item | Criterion |
|---------------------------|--|------------------------|
| Voltage | Charging Voltage | DC:29.2V CC/CV |
| | Balance voltage for single cell | 3.50±0.025V |
| Current | Balance voltage for single cell | 35±5mA |
| | Current consumption | ≤50μA |
| | Maximal continuous charging current | 80A |
| | Rated continuous discharging current | 80A (Peak 160A) |
| Over charge Protection | Over charge detection voltage for single cell | 3.65V±0.025V |
| | Over charge detection delay time | 0.7S–1.3S |
| | Over charge release voltage for single cell | 3.550±0.05V |
| Over discharge Protection | Over discharge detection voltage for single cell | 2.50V±0.07V |
| | Over discharge detection delay time | 1.6±0.5S |
| | Over discharge release voltage for single cell | 3.00±0.75V |
| Over current Protection | Over current detection current | 200±50A |
| | Over current detection delay time | 1.6±0.5S |
| | Release condition | Cut load |
| Short Protection | Detection condition | Exterior short circuit |
| | Detection delay time | 230uS–500uS |
| | Release condition | Cut load |
| Resistance | Protection circuitry (MOSFET) | ≤60mΩ |
| Communication | RS485/Bluetooth | Optional |
| Temperature | Operating Temperature Range | -40~+185°F (-40~+85°C) |
| | Storage Temperature Range | -40~+185°F (-40~+85°C) |

Safety Performance

| Item | Test Methods | Standard |
|----------------------------|--|-----------------------------|
| Overcharge performance | After the standard battery is charged, the initial state of the battery is measured. When the battery status is normal, the current is charged to 10.0V at 3C current, and then the constant voltage is charged to the current of 0.01C. Observe the appearance of the battery changes. | Do not fire, do not explode |
| Over discharge performance | After the battery is charged, measure the initial state of the battery and discharge it to 0 V at 0.5C when the battery status is normal. Observe the battery appearance changes. | Do not fire, do not explode |
| External short circuit | After the battery is charged, the initial state of the battery is measured and the positive and negative poles (the total resistance of the line is not more than 50mΩ) are directly shortened in the explosion proof hood. When the battery temperature drops below the peak temperature by about 50°F (10°C), the test ends. Observe the battery temperature and appearance changes. | Do not fire, do not explode |
| Hot abuse | Measure the initial state of the battery, the battery standard charge, placed in the oven, the temperature (41±35.6°F / 5 ± 2°C) / min rate rose to 266 ± 35.6°F (130 ± 2°C) and heat 30min. Observe the battery appearance changes. | Do not fire, do not explode |
| Fall | Test the initial capacity of the battery, the standard charge, the initial state of the battery, the test battery from the height (lowest point height) to 1m vertical position, the horizontal direction of free fall to the concrete floor, asked to fall 2 times. | Do not fire, do not explode |
| Heavy impact | A steel rod with a diameter of 0.622 in (15.8 mm) was placed in the middle of the fully charged battery; then the weight of 22.04 lb (10 kg) was dropped from the height of 39.37 in (1.0 m) to the upper part of the battery. | Do not fire, do not explode |
| Extrusion test | The batteries were placed between the two extruded surfaces of the extrusion apparatus, the cylindrical cores were parallel to the extrusion surface, gradually increasing the pressure to 13 kN, maintaining the pressure for 1 min. | Do not fire, do not explode |