



# Product Solution

Edition: V1.0

Release date: 2021/10-14

Customer :

Battery model name: 12V100Ah-34135216-4S1P-A0

Applicable Products :

Doc.No: Spec-Pack-3185

## Customer approval

Comment :

Customer's signature/ Date : \_\_\_\_\_

| Approved | Checked | Prepared |
|----------|---------|----------|
|          |         |          |





# catalog

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## 1. Scope :

This specification is applicable to rechargeable battery pack products designed and developed by Atlas company

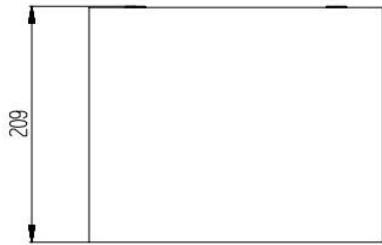
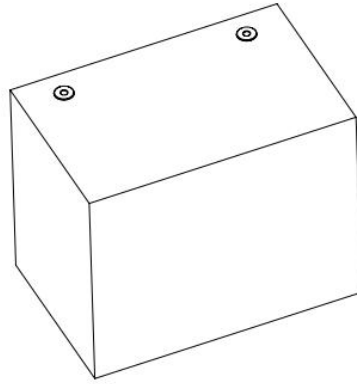
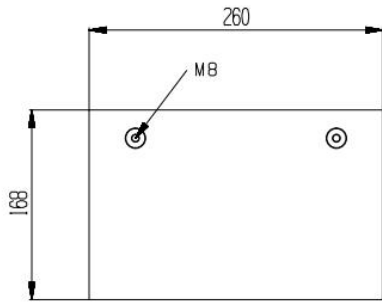
## 2. Normal performance:

| NO. | Item                        | General Parameter |         | Remark   |
|-----|-----------------------------|-------------------|---------|--|
|     |                             | Typical           | Minimum |  |
| 1   | Combination method          | 4S1P              |         | LiFePO4  |
| 2   | *Rated Capacity             | 100Ah             | 98Ah    | 0.2C,@25°C<br>0.2C,@25°C   |
| 3   | Nominal Voltage             | 12.8V             |         |  |
| 4   | Factory SOC                 | 30~60%            |         |  |
| 5   | Voltage at end of Discharge | 8V                |         | Discharge Cut-off Voltage  |
| 6   | Charging mode (CC-CV)       | MAX 14.6V         |         |  |
| 7   | *Internal Impedance         | ≤30mΩ             |         | Internal resistance measured at AC 1KHz after 50% charge<br>The measure must uses the new batteries that within one week after shipment and cycles less than 5 times |
| 8   | Standard charge current     | 20A               |         | Charge time : Approx 6h  |
|     | Limiting current            | /                 |         |  |
| 9   | Standard discharge          | 20A               |         |  |
| 10  | Maximum Charge Current      | 100A              |         |  |
| 11  | Maximum Discharge Current   | 100A              |         |  |

Package

|    |                              |  |   |
|----|------------------------------|--|---|
| 12 | Operation Temperature Range  | Charge: 0~45°C<br>Discharge: -20~60°C  | Bare Cell<br>60±25%R.H.                           |
| 13 | Storage Temperature Range    | Less than 12 months : -10~35°C<br>less than 3 months: -10~45°C<br>Less than 7 day : -20~65°C | 60±25%R.H.<br>at the shipment state               |
| 14 | *Dimensions                  | 260*168*209mm  |   |
| 15 | *Weight                      | 12kg   |   |
| 16 | Volumetric specific energy   | 140WH/L  |   |
| 17 | Gravimetric specific energy  | 106.7WH/KG   |   |
| 18 | Communication mode           | /  |   |
| 19 | Battery software version     | /  |   |
| 21 | *Maximum series number       | 4PCS   | Please refer to 6.2/6.4 parameters for serial use |
| 22 | *Maximum number of parallels | 4PCS   | Please refer to 6.3/6.4 parameters for serial use |

### 3. Product dimension drawing:



#### 4. BMS/PCM Parameters:

| NO | Indicator item                          |   | Windows default | Delay     | Optional | Remarks |
|----|---|---|-----------------|-----------|----------|---------|
| 1  | Cell Over voltage Protection            | Cell overcharge protection voltage            | 3900mV          | 0.8-1.5S  |          |         |
|    |   | Cell overcharge protection Relief voltage     | 3600mV          | /         |          |         |
| 2  | Cell Under voltage Protection           | Cell Under voltage Protection voltage         | 2000mV          | 0.08-0.2S |          |         |
|    |   | Cell Undercharge protection Relief voltage    | 2300mV          | /         |          |         |
| 3  | Overcurrent in charge Protection        | Overcurrent in charge Protection current      | /               | /         |          |         |
|    |   | Discharge of charging over current protection | /               | /         |          |         |
| 4  | Overcurrent in Discharge Protection     | Overcurrent in Discharge Protection current   | /               | /         | /        |         |
|    |   | 1 st Level Overcurrent Discharge              | 700A            | 0.25-0.3S | /        |         |
|    |   | 2 st Level Overcurrent Discharge              | /               | /         | /        |         |
| 5  | Short circuit protection                | Short circuit protection current              | /               | /         | /        |         |
| 6  | Overtemperature in Charge Protection    | Over temperature Protection(Battery)          | 65°C            | /         | /        |         |
|    |   | Over temperature release                      | 45°C            | /         | /        |         |
| 7  | Lowtemperature in Charge Protection     | Low temperature Protection(Battery)           | /               | /         | /        |         |
|    |   | Low temperature release                       | /               | /         | /        |         |
| 8  | Overtemperature in Discharge Protection | Over temperature Protection(Battery)          | 65°C            | /         | /        |         |
|    |   | Over temperature release                      | 45°C            | /         | /        |         |
| 9  | Low temperature in Discharge Protection | Low temperature Protection(Battery)           | /               | /         | /        |         |
|    |   | Low temperature release                       | /               | /         | /        |         |
| 10 | Balance function                        | Balanced opening voltage                      | 3600mV          |           | /        |         |
|    |   | Balanced current                              | 124mA           |           | /        |         |
| 11 | Bluetooth function                      | Bluetooth                                     |                 |           |          |         |

## 5. Instructions

- 5.1. Please read the product manual and battery surface label carefully before use.
- 5.2. At most 4 batteries are allowed to be connected in series. Please connect them in series according to the following parameters:  
Static voltage differences  $\leq 40\text{mv}$ , SOC  $\leq 5\%$ , internal resistance differences  $\leq 2\text{m}\Omega$ .  
**If the series connection is not in accordance with this parameter, the battery capacity will be insufficient, or the protection board will be damaged. Seriously affect the battery life.**
- 5.3. In principle, parallel connection is not allowed, but if it needs to be used in parallel, a maximum of 4 sets are allowed to be connected in parallel, and the parallel connection shall be carried out according to the following parameters:  
Static voltage differences  $\leq 200\text{mv}$ , SOC  $\leq 5\%$ , internal resistance differences  $\leq 2\text{m}\Omega$ .  
**If the parallel connection is not in accordance with this parameter, the protection board will be seriously damaged. Seriously affect the battery life. After parallel connection, the total capacity is subject to the lowest monomer capacity**
- 5.4. Parallel connection and series connection are allowed.
- 5.5. Different material chemical systems, different batches of batteries and design technical parameters can not be assembled and used together.
- 5.6. The battery pack shall be stored at room temperature and charged to 40% - 60% of the electricity.  
In order to prevent over discharge, it is recommended to charge every 3 months.
- 5.7. The battery pack shall be used under the specified conditions, and the performance of the battery stored for More than one year is not guaranteed.
- 5.8. During use, keep away from heat source and high voltage, avoid children playing with the battery, and do not beat the battery.

## 6. Disclaimers:

Please read the product specification, operation manual and precautions carefully before use. Understand the use method and application scope of the product; if the product use method is wrong, the circuit connection is wrong or the input power supply is used, and the load function parameters are inconsistent with the performance parameters indicated in the product specification, it is improper use. The product, load and peripheral connectors are damaged due to improper use. The company does not assume any responsibility.

Any matters not mentioned in this specification shall be determined by both parties through negotiation.