

## SLPO48-150(LiFePO<sub>4</sub> 48V150AH Battery)

### General Information

SLPO series is a LiFePO<sub>4</sub>(lithium iron phosphate)battery pack for communications standby application. The battery pack adopts the advanced LiFePO<sub>4</sub> battery technology with the advantages of long cycle life, small size, lightweight, safety and environmental protection, and also has a strong environmental adaptability. It is ideal for harsh outdoor environments.

The battery pack integrates a smart battery management and monitoring module, support for remote centralized monitoring and remote battery management and maintenance, to satisfy the demands of unattended. Therefore, the SLPO series can fully meet the backup power supply requirements of the access network equipment, mobile communication equipment, transmission equipment, micro base station, and microwave communication equipment.



### Key Features

#### ※ **Super long cycle life**

Over 3000 cycles @ 80%~90%DOD @ 25°C~40°C can be circularly used.(Depends on temperature condition)

#### ※ **Communication port**

Many different communication interfaces including 3 of dry contacts, RS232 and RS485, which can meet requirement of several packages to connect in parallel.

#### ※ **Fast charge capability**

Very fast charging capability up to 50A.

#### ※ **Low self discharge**

<1% per month @ 20°C.

#### ※ **Long Life**

12 years design life @ 40°C.

#### ※ **Completely maintenance-free**

Completely Maintenance-free throughout battery lifetime saves OPEX for the users.

#### ※ **Intelligent Integrated Battery Manage System(BMS)**

Built-in BMS automatically protects internal cells from over-charge, over-discharge, over-temperature, short-circuit, etc. Ensure battery safety and reliability. Equalize and balance each cell. Prolong battery life. SOC-DOD-SOH reporting/setting device events, battery parameters, and storage, intelligent monitor, remote measure, remote communication, remote control.

#### ※ **LCD status and alarm indication**

#### ※ **In compliance with standard**

UN38.3, CE, IEC.

#### ※ **High safety & stable performance**

No explosion and no fire under collision. No risk of leakage.

#### ※ **Green environmental material**

Eco-friendly and nonpolluting, no acids or no hazardous and noxious substances (including lead, cadmium, mercury).

### Application

§ UPS and Backup System  
§ Telecommunication Base Station  
§ Marine Transport and Fishing

§ Transmission and Distribution Backup  
§ Wind Generator and Solar Power Energy Storage

§ Military Equipment  
§ Electric Vehicles

## Battery Group Specification

|             |                                                                     |                                                                                                   |
|-------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Cell</b> | <b>Model</b>                                                        | G009                                                                                              |
|             | <b>Capacity (0.5C)</b>                                              | 150Ah                                                                                             |
|             | <b>Rated Voltage</b>                                                | 3.2V                                                                                              |
|             | <b>Typical Impedance</b>                                            | ≤0.5mΩ                                                                                            |
|             | <b>Battery Material</b>                                             | LiFePO <sub>4</sub>                                                                               |
| <b>BMS</b>  | <b>Single Cell Over-charge Cut-off Voltage</b>                      | 3.75V                                                                                             |
|             | <b>Over-charge Release Voltage</b>                                  | 3.45V                                                                                             |
|             | <b>Single Cell Under-discharge Cut-off Voltage</b>                  | 2.5V                                                                                              |
|             | <b>Discharge Release Voltage</b>                                    | 2.8V                                                                                              |
|             | <b>Over-discharge Cut-off Current</b>                               | >100A                                                                                             |
|             | <b>Over-discharge Cut-off Current Delay</b>                         | 3s                                                                                                |
|             | <b>Short-circuit Protection</b>                                     | >200A                                                                                             |
|             | <b>Condition for the Recovery of Over-current and Short-circuit</b> | <1ms<br>Delayed 5s recovery                                                                       |
|             | <b>Balance Current</b>                                              | 80mA                                                                                              |
|             | <b>Balance Condition</b>                                            | 3.5V                                                                                              |
|             | <b>Communication Proctol</b>                                        | RS485/CAN/RS232                                                                                   |
| <b>Pack</b> | <b>Combination Method</b>                                           | 15S1P                                                                                             |
|             | <b>Nominal Capacity</b>                                             | 150Ah                                                                                             |
|             | <b>Nominal Voltage</b>                                              | 48V                                                                                               |
|             | <b>Max. Charge Voltage</b>                                          | 54V                                                                                               |
|             | <b>Discharge Cut-off voltage</b>                                    | 40.5V                                                                                             |
|             | <b>Max. Charge Current</b>                                          | 100A                                                                                              |
|             | <b>Max. Discharge Current</b>                                       | 100A                                                                                              |
|             | <b>Standard Charging Current</b>                                    | 50A                                                                                               |
|             | <b>Standard Discharge Current</b>                                   | 50A                                                                                               |
|             | <b>Pack Impedance Standard</b>                                      | ≤100mΩ                                                                                            |
|             | <b>Weight (Approx.)</b>                                             | 66kg                                                                                              |
|             | <b>Max.Dimension (L*W*H)</b>                                        | 483*600*176mm                                                                                     |
|             | <b>Cycle Life</b>                                                   | 3000 time @0.5C, 80%~90% Capacity @ 25°C~40°C                                                     |
|             | <b>Operating temperature</b>                                        | Charge temperature 0°C~45°C<br>Discharge temperature -20°C~60°C<br>Storage temperature -20°C~45°C |

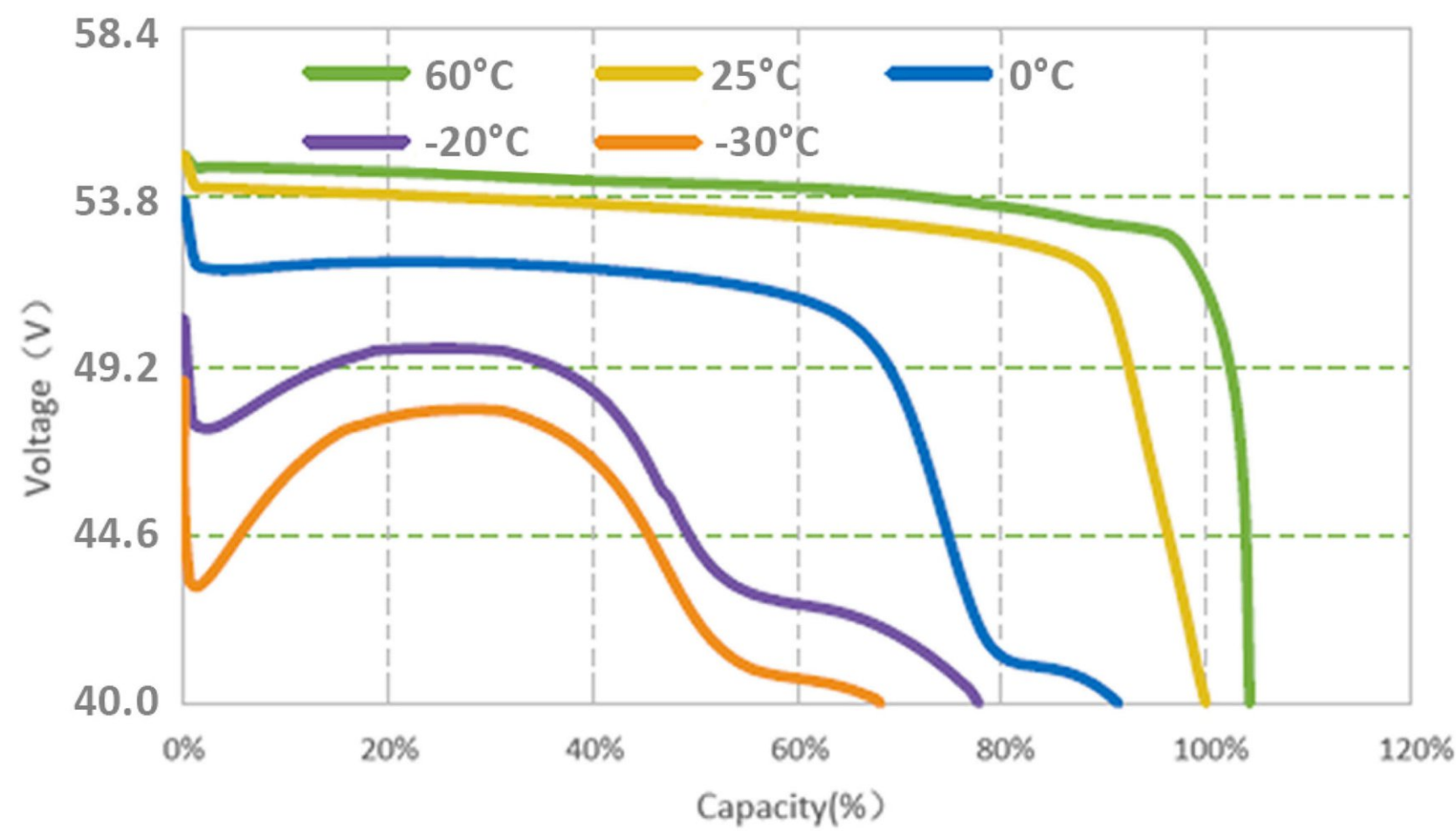
### Cell - Constant Current Discharge (Amperes at 25°C/77°F)

| Time    | 1h  | 2h | 4h   | 6h | 8h   | 10h |
|---------|-----|----|------|----|------|-----|
| Current | 150 | 75 | 37.5 | 25 | 18.7 | 15  |

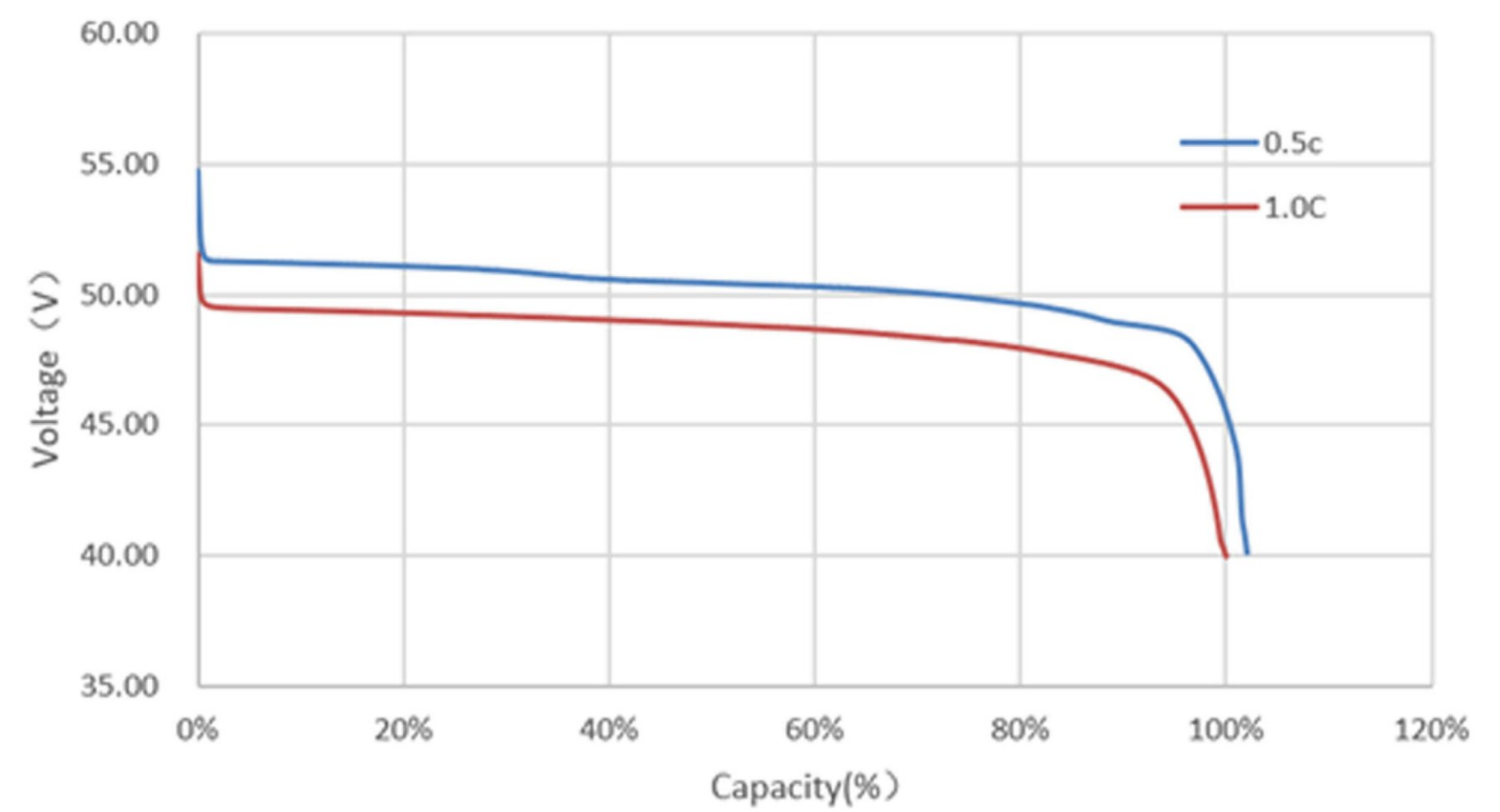
### Cell - Constant Power Discharge (Watts per cell at 25°C/77°F)

| Time | 1h  | 2h  | 4h  | 6h | 8h   | 10h |
|------|-----|-----|-----|----|------|-----|
| Watt | 480 | 240 | 120 | 80 | 59.8 | 48  |

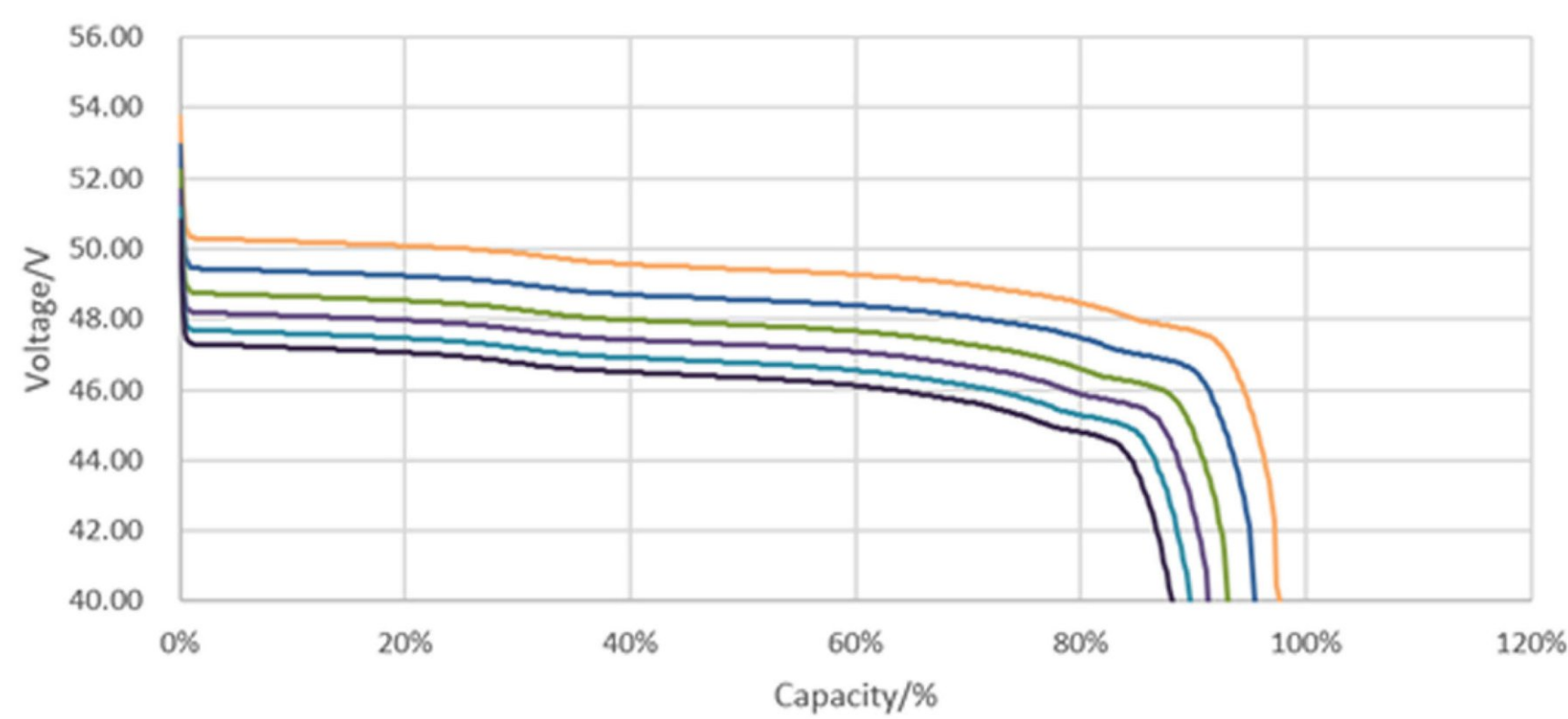
## 0.5C discharge curve at different temperatures (0.5C standard charge)



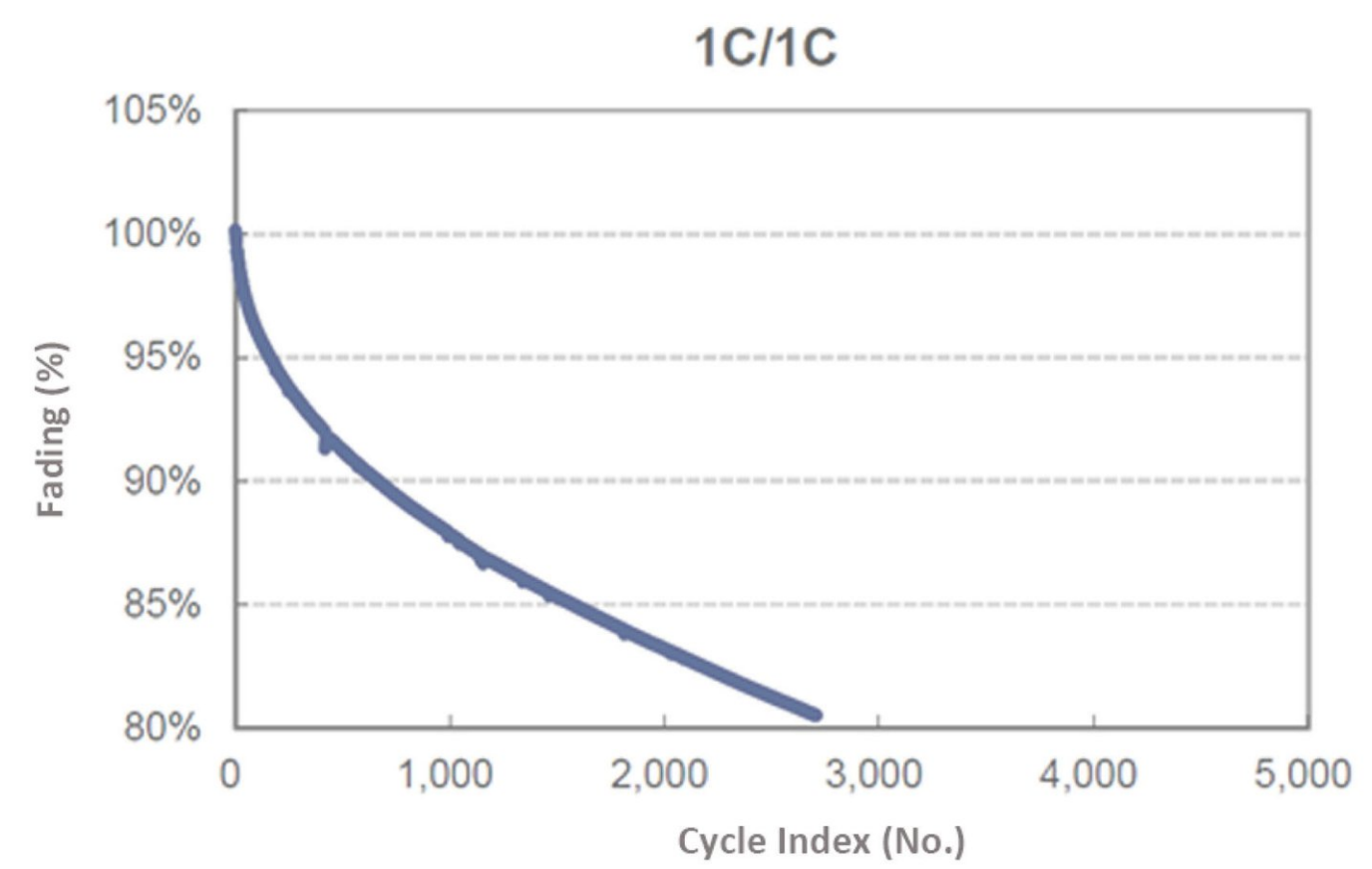
## Discharge curve at different rates (0.5C standard charge)



## 80% DOD discharge curve after different cycles (0.5C standard charge)



## 0.5C charge and discharge cycle curve



## Caution

- ※ Do not disassemble the system.
- ※ The system should be kept away from heat, fire and direct sunlight.
- ※ The system should be kept clean and dry.
- ※ Avoid short-circuit systems and avoid placing the battery where it can cause short circuits.
- ※ Avoid reverse connection, make sure the positive and negative poles of the battery are correct.
- ※ Place the system where children should not be exposed.