



## SLIMLINE LiFePO4 BATTERY USER MANUAL



MODEL NO.: DC120LFP-MP

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION AND MAINTENANCE,  
FOLLOW ALL PROVIDED WARNING & CAUTION, AND KEEP IT FOR FUTURE REFERENCE.

V1.1

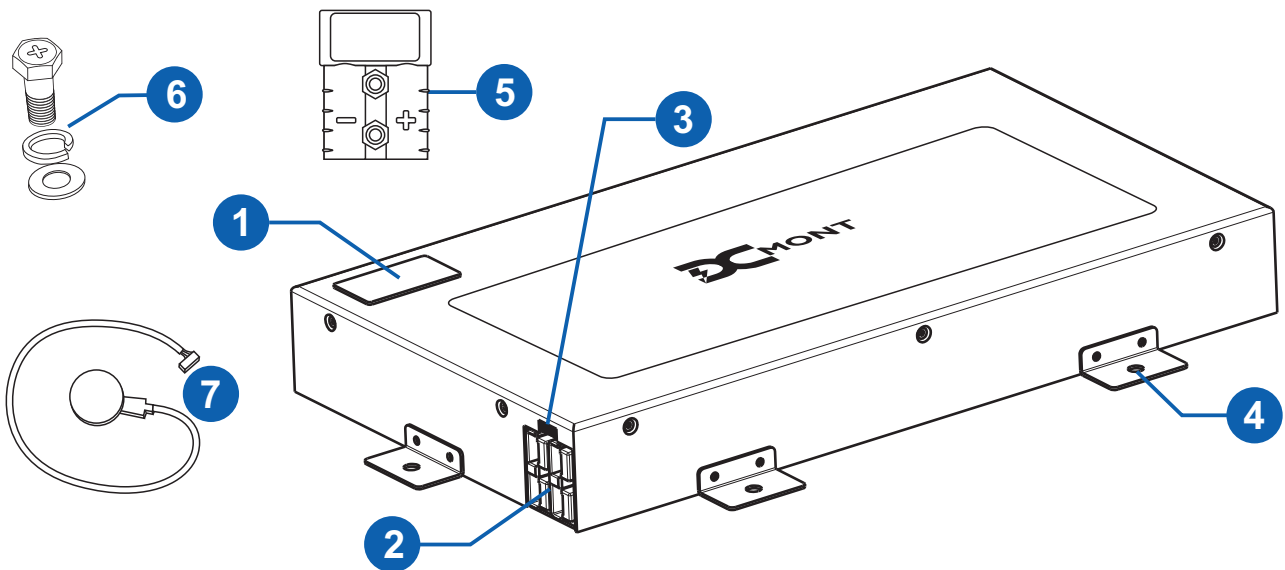
## ***WARNING & CAUTION***

- This battery should be installed only by qualified personnel following safe electrical work practices.
- ALWAYS use batteries under the same brand with equal capacity & voltage. It is not recommended to mix batteries of a different age. You can connect up to 2 batteries in parallel and 2 batteries in series. Connect batteries in parallel before connecting in series.
- Always wear eye protection, gloves and mask when working with the battery. Also remove any metal / conductive jewelry.
- This battery should be installed on flat and level floor. And there should be NO flammable or explosive materials with minimal dust and dirt.
- NEVER touch the exposed electrolyte, and NEVER open or dismantle the lithium iron phosphate battery if the battery casing is damaged. Flush with plenty of clean water and seek medical assistance in case your skin or eyes contact with it.
- Use caution to eliminate the risk of dropping a metal tool on the battery. It could spark or short circuit the battery and cause an explosion.
- NEVER open or disassemble the battery.
- DO NOT allow water to enter the battery.
- NEVER smoke or allow a heat source, spark or flame near the battery.
- Use a type D, foam or CO2 fire extinguisher in case of fire.
- Avoid mechanical shock and DO NOT pierce, hammer or step on the battery.
- NEVER solder battery terminals.
- This battery should be charged with a charger whose parameters meet requirements of its technical specifications. If charged after the lithium iron phosphate battery was discharged below the discharge cut-off voltage, or when it is damaged, this LiFePO<sub>4</sub> battery can release a harmful mixture of gasses.
- Make sure the battery is COMPLETELY dry before use or reactivation to prevent a safety hazard.
- Regularly check if there is any damaged cable or loose connection.
- It is recommended to use 8AWG or thicker cables, cables no thinner than 6AWG are preferential when the distance is over 3m.

## ***BATTERY MAINTENANCE & STORAGE***

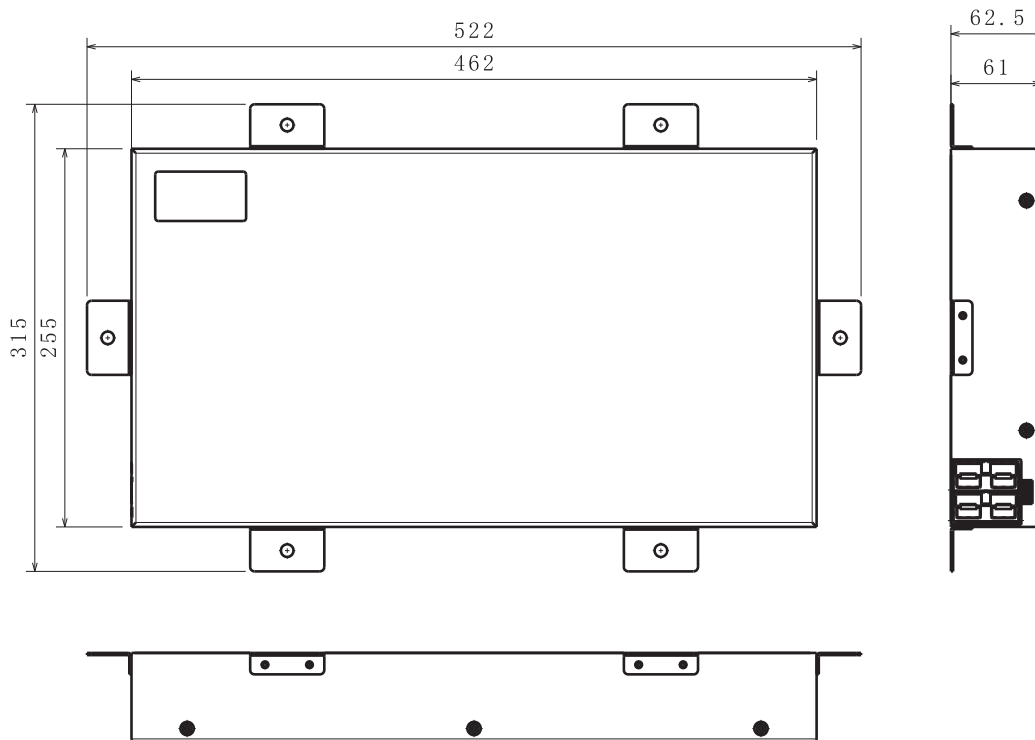
- The battery should be stored in a well ventilated and dry area in temperatures between -20°C and 70°C.
- Avoid sharp impacts or extreme pressure.
- Avoid condensation caused by temperature changes during storage. Failure to do so can lead to corrosion, rust and internal battery failure.
- Regularly check if the battery is clean, dry and free of corrosion.
- Make sure all equipment is connected and there is no potential parasitic loads which may discharge your battery.
- Charge your battery at least once every 3 months to prevent over-discharge.
- Fully charge your battery before it is to be used.
- Use a damp cloth or non-metallic brush to clean the battery. Make sure there is no charging load or source before cleaning.
- Make sure that your battery is COMPLETELY dry before reactivating.

## IDENTIFICATION OF PARTS & ACCESSORIES



- |                             |                                      |
|-----------------------------|--------------------------------------|
| 1. Voltage Meter            | 5. 120A Anderson Style Connectors x2 |
| 2. Anderson Style Plugs x2  | 6. M8*12 x6, M4*12 x12               |
| 3. Bluetooth Module Port x1 | 7. Bluetooth Module x1               |
| 4. Mounting Bracket x6      |                                      |

## DIMENSIONS



## INSTALLATION

This DC MONT battery is designed to fit where other batteries can't thanks to its slimline design. You can slide it behind a seat, on a wall or at the back of a canopy.

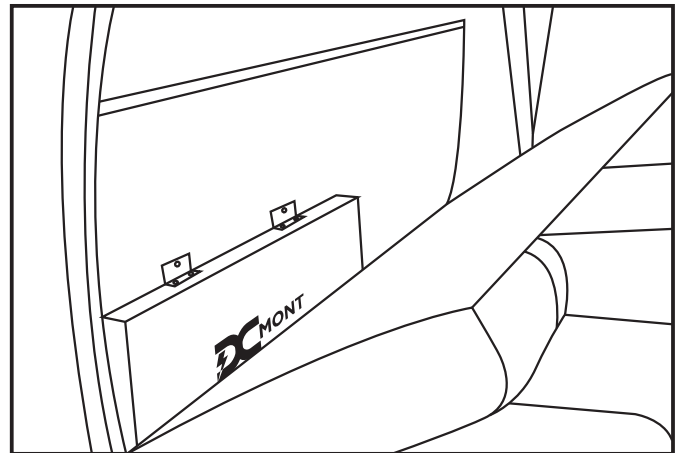


Figure 1a-Behind the seat

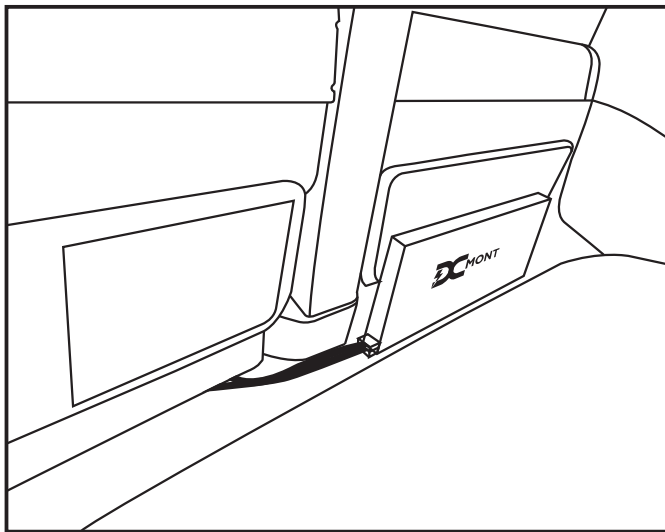


Figure 1b-Strapped at the back of a 4x4

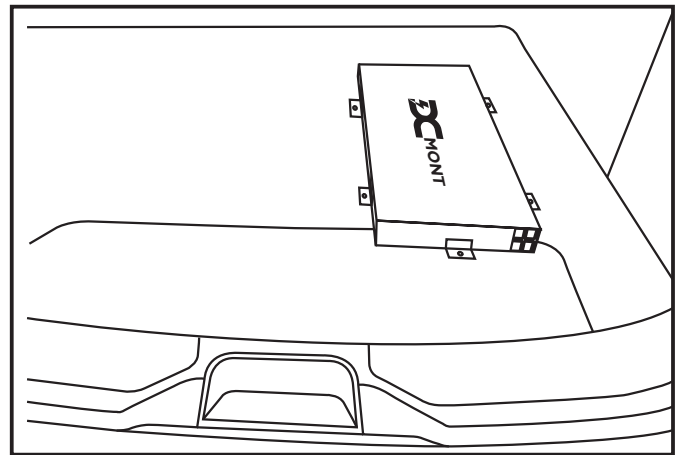


Figure 1c-Back of 4x4

Make sure the battery is properly strapped down or securely fixed in place before operating your vehicle.

## SERIAL AND PARALLEL BATTERY CONFIGURATIONS

### Series Connection:

Please connect the DC MONT batteries in series as shown with cables of the same type and specification. (see Figure 1.)

**Note:** When the batteries need charging, disconnect the series connection and charge your batteries separately before connecting them in series again. A battery connected in series will have lower volume than its standard capacity.

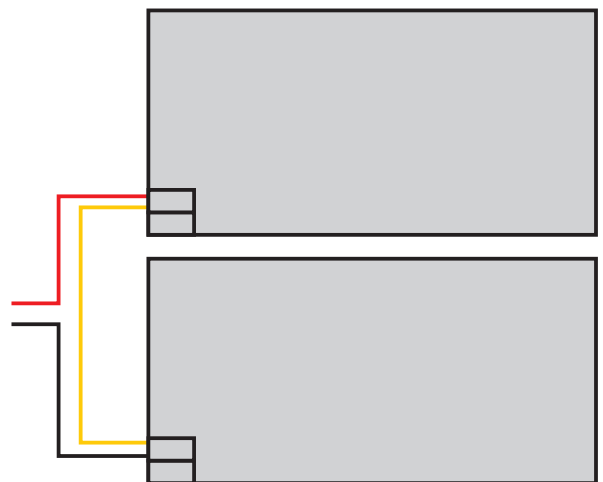


Figure 1.

### Parallel Connection:

Please connect the DC MONT batteries in parallel as shown with thicker cable to prevent damages caused by over-current. (see Figure 2.)

**Note:** 2\*8AWG; 2\*6AWG (>3m) or 4AWG cables are recommended.

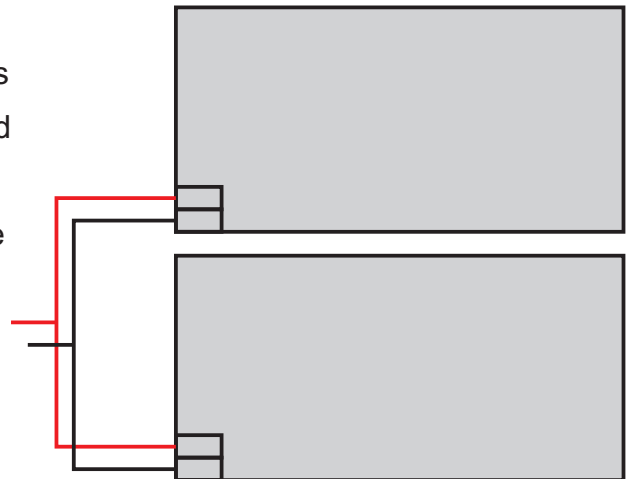


Figure 2.

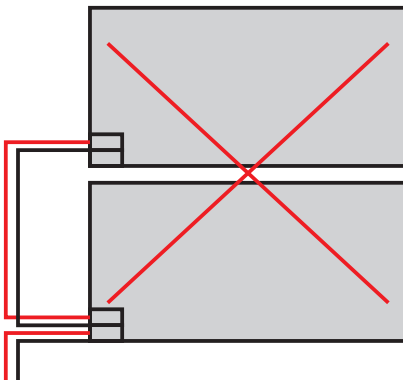


Figure 3.

**The example of parallel connection shown below is strictly prohibited.(see Figure 3.)**

### Series & Parallel Connection:

Please connect the DC MONT batteries in series & parallel as shown.(see Figure 4.)

**Note:** Connect batteries in parallel before connecting in series.

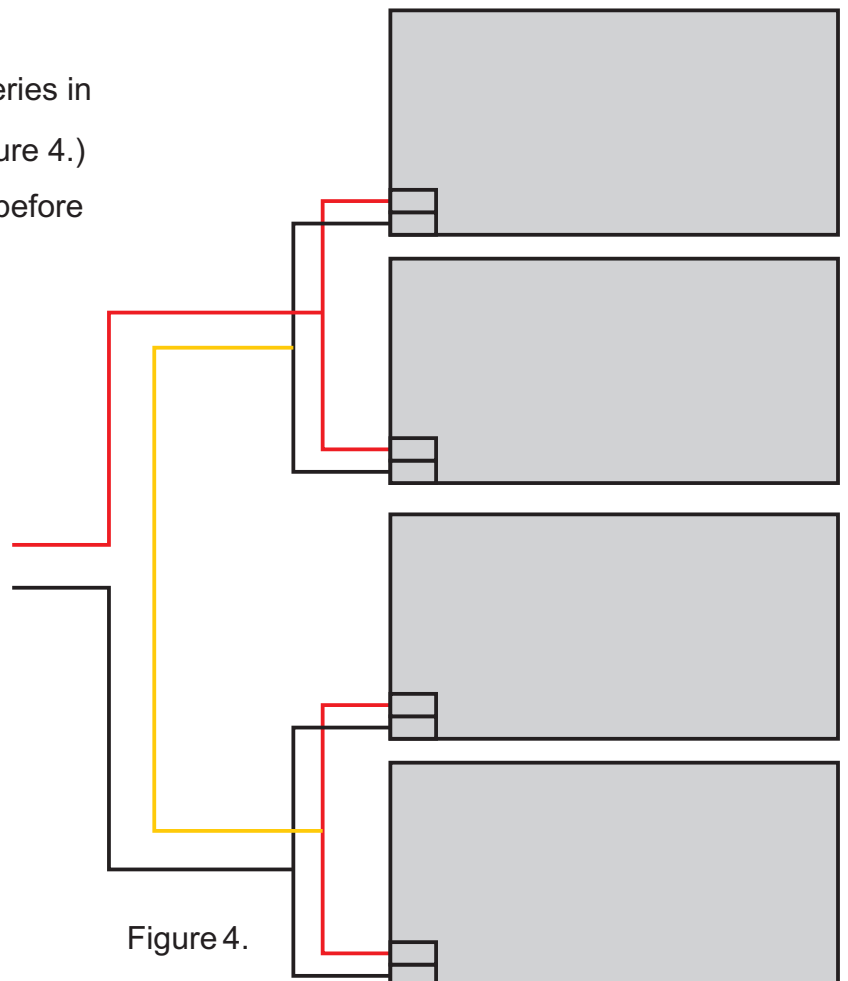


Figure 4.

## ***MOUNTING & ORIENTATION***

The battery can be mounted flat or on its side in any orientation, except on its side with the voltage meter at the bottom, as in this configuration the internal cells will be upside down. (see Figure 4.)

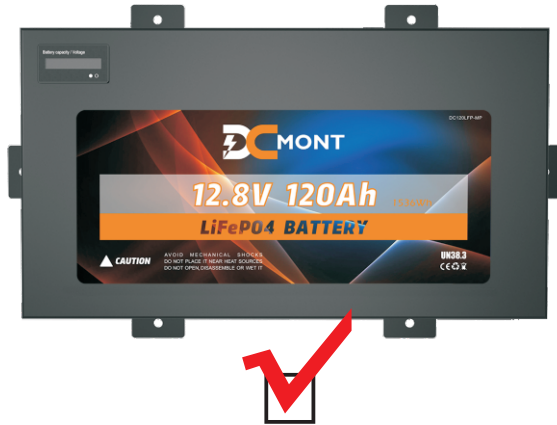


Figure 4.

- When mounting the battery, ensure that no electronic components or wires of your vehicle will be drilled or penetrated inadvertently. Otherwise, it may result in potential threats to your safety.
- Use **ONLY** the existing mounting holes with screws of proper lengths to mount the battery.
- Make sure the battery is mounted tightly.

## DOWNLOADING APP

- The Android version of the APP “SMART BMS” is available in the Android Application Center.
- For IOS version, search “SMART BMS” in App store.
- After downloading and installing, the following “SMART BMS” icon will appear on the phone.(see Figure 5. )



Figure 5.

## OPERATION

- Plug the Bluetooth module into the battery.
- Press the ON/OFF switch to turn on the module.
- Enter the APP interface, you can see the corresponding Bluetooth serial number. The serial number is the same as the serial number posted on Bluetooth. (see Figure 6. )
- Click the Bluetooth serial number to enter the real-time status interface.
- You can see the real-time voltage, current, the percentage of battery capacity remaining, the MOS state of charging and discharging, whether the balance is on, etc. (see Figure 7. )
- Enter the parameter settings interface, you can see five major sections:

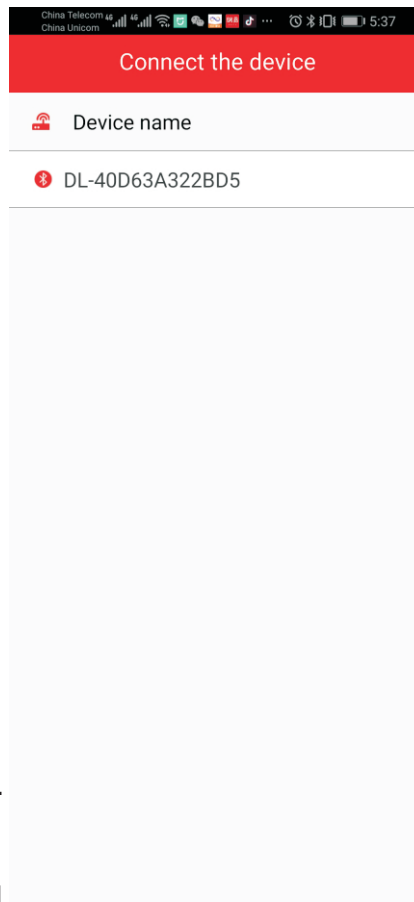


Figure 6.

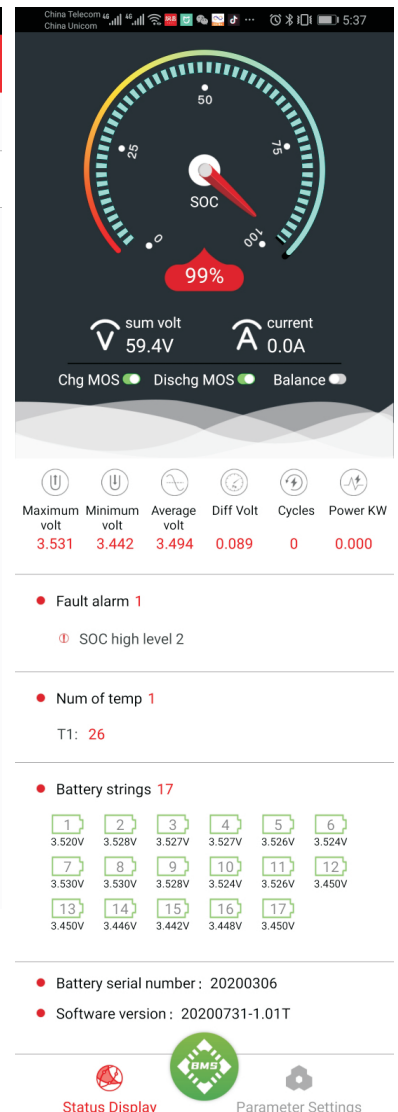


Figure 7.

- ① Protection parameters
- ② Cell characteristics
- ③ Collect board settings
- ④ Temp protection
- ⑤ Put to control

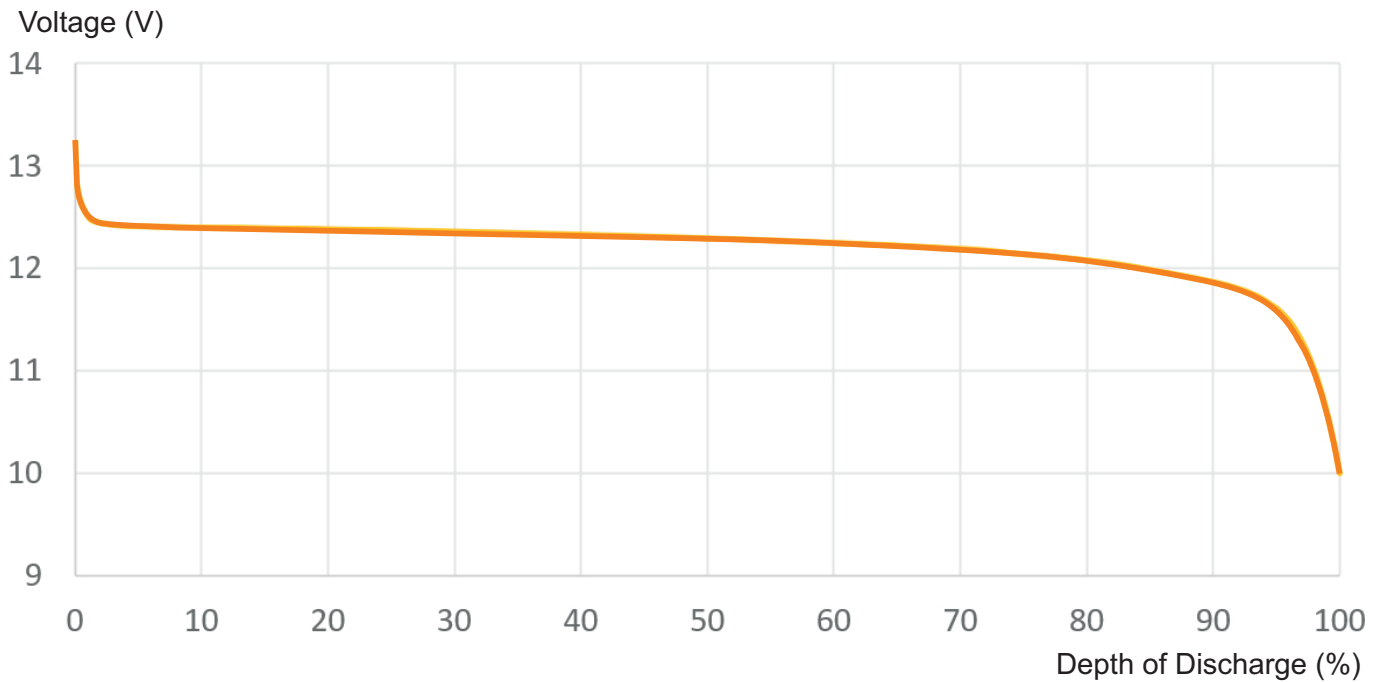
Note: To ensure the stability of the data, it is not recommended for non-professionals to set these parameters. To set parameters, you need to enter the initial security password 123456.

## PARAMETERS

Model	DC120LFP-MP
Rated Voltage:	12.8V
Rated Capacity:	120Ah
Rated Energy:	1,536Wh
Maximum Charge Current:	50A
Maximum Continuous Discharge Current:	100A
Maximum Pulse Discharge Current:	200A(≤7S)
Discharge Cut-off Voltage:	10V
Charge Voltage:	14.6V
Life Cycle:	2,000 Cycles
Internal Resistance (Fully Charged@ 25°C) :	≤10mΩ
Self-Discharge:	2% per Month
Thermal Management:	Nature Cooling
Operating Humidity:	≤90%R.H.
Optimal Charge/Discharge/Storage Temp:	-20~70°C
Series Connection:	2S
Parallel Connection:	2P
Connectors:	2 x 120A Anderson Plug Inputs/Outputs
Case Material:	Aluminum
Bolt Type:	6 x Hexagon Head, 12 Pan Head
Bolt Material:	Carbon Steel
Dimensions:	522 x 315 x 62.5mm
Weight:	11.5kg
<b>BLUETOOTH MODULE</b>	
Communication Range:	10m (With No Obstacles)
Cable Length:	450mm
Dimensions:	∅ 37 x 7mm
Weight:	7g
Operation Temperature:	-40~85°C



## DISCHARGE CURVE At 1C, 25 °C



## TROUBLESHOOTING

Please refer to the following instructions or contact us for professional help in case of any problem during operation.

PROBLEM	SUGGESTED SOLUTION
Overcharge	Disconnect your battery from charging for recovery.
Over-current /short circuit protection	Disconnect your battery, and activate it with LiFePO4 battery charger if it recovers abnormally.
Over-discharge	Output will be automatically cut off by built-in BMS. You are recommended to activate it with LiFePO4 battery charger.
Temperature beyond normal ranges	The battery will be automatically disconnected from the load by built-in BMS. Allow it to cool down or warm up to room temperatures, and activate it with LiFePO4 battery charger if it recovers abnormally.

**Note:** It is highly likely that your battery is damaged if it cannot be activated by the charger.



### **What is Covered?**

DC MONT warrants that this SLIMLINE LiFePO4 battery will operate free from defects in material and workmanship under normal use during the Warranty Period of 2 Years. This Limited Warranty is to the original purchaser of the product and is not transferable to any other person or entity.

Within the Warranty Period, DC MONT will either replace the product or provide you with a refund at our discretion provided that the fault is found to have been caused by a design or manufacturing defect under normal use and maintenance.

### **What is not Covered?**

Each of the product has a built-in battery management system (BMS) designed to cut off power to prevent damage to the cells or electronics if it senses any of the following conditions: over-charge or over-discharge, over voltage, under voltage, over current while charging or discharging and under or over temperature. The user is responsible to manage battery use so the BMS protection system is not operating as a regulator controlled by the above mentioned protective functions. Damage caused by repetitive BMS protection cycling is considered abuse and is not covered.

This Limited Warranty does not cover product failure related to damages caused by abuse or negligence, tampering, non-adherence to DC MONT guidelines or from any of the following: loose terminal bolts, corroded hardware, failure to properly install and connect the battery, failure to properly charge and maintain the battery, breakage or damage from collision, fire, water, freezing, damage from extreme heat or cold, improper storage, reverse polarity connection, short circuit of the battery terminals.

This Limited Warranty does not cover repair, maintenance, and adjustment to the product required for reasons of neglect, misuse, accident, modification, improper environment (including lack of proper temperature or humidity), unusual physical or electrical stress or interference, failure of lightning, fire, or acts of God.

### **Warranty Disclaimer**

DC MONT makes no representations or warranties regarding the product other than those expressly stated in this Limited Warranty. The foregoing Limited Warranties are exclusive and in lieu of all other express and implied warranties whatsoever. DC MONT specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.

To the maximum extent permitted by applicable law, DC MONT shall not be liable for any damages whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this product. In any case, DC MONT's entire liability under any provision of this warranty shall be limited to the amount actually paid by you for the product. Because some jurisdictions do not allow the exclusion of limitation of liability for consequential or incidental damages, the above limitation may not apply to you.