

12LSM-200DC	<i>Solar, RV, Deep Cycle LifePO4 Battery</i>

RECHARGEABLE LITHIUM IRON PHOSPHATE BATTERY SPECIFICATION

Model No.: 12LSM-200DC (12.8V/200Ah)

1. Scope

This specification is applied to the LiFePO4 12.8V/200Ah battery pack

2. SPECIFICATION

Model No.	12LSM-200DC
Nominal Voltage	12.8V
Nominal Capacity @ 0.2C	200Ah
Watt-Hour	2560Wh
Dimensions	
Length	523mm
Width	235mm
Height	222mm
Weight	Approx. 27.5Kg
Internal Resistance	≤40mΩ @ 50% SOC
Recommended Charge Current	40A
BMS Maximum Charge Current	150A
Charge Cut-off Voltage	14.6V
BMS Maximum Continuous Discharge Current	150A
Peak Discharge Current	300A (3S)
Discharge Cut-off Voltage	10.0V
Expected Cycle Life	Residual capacity is more than 80% of initial capacity after 2,000 cycles at 25°C, 1C
Self Discharge	<3% per month
Cell Type	Cylindrical 32700, 4S34P
Operating Temperature	
Charge	0 - +55 °C
Discharge	-20 - +60 °C
Storage	-5 - +35 °C

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Humidity	RH≤85%
Housing Material	ABS
Enclosure Protection	IP56
Terminal Type	Threaded insert
Thread size	M8

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3. Performance And Test Conditions

3.1 Standard Test Conditions

Test should be conducted with new batteries within one week after shipment from our factory and the batteries shall not be cycled more than five times before the test. Unless otherwise specified, test and measurement shall be done under temperature of $20\pm 5^{\circ}\text{C}$ and relative humidity of 45~85%. If it is judged that the test results are not affected by such conditions, the tests may be conducted at temperature 15~30°C and humidity 25~85%RH.

3.2 Measuring Instrument or Apparatus

3.2.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

3.2.2 Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance more than $10\text{k}\Omega/\text{V}$

3.2.3 Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω .

3.2.4 Impedance Meter

Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter).

3.3 Standard Charge/Discharge)

3.3.1 Standard Charge : 0.2C

Charging shall consist of charging at a 0.2C constant current rate until the battery reaches 14.6V. The battery shall then be charged at constant voltage of 14.6 volts while tapering the charge current. Charging shall be terminated when the charging current has tapered to 0.05CA. Charge time: Approx 7.0h, The battery shall demonstrate no permanent degradation when charged between 0 °C and 45 °C.

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3.3.2 Standard Discharge : 0.2C

Battery shall be discharged at a constant current of 0.2C to 10V @ 20° ± 5C

3.3.3 If no otherwise specified, the rest time between charging and discharging is 30min.

3.4 Appearance

There shall be no such defect as crack, rust, leakage, which may adversely affect commercial value of battery.

4. Handling of battery

4.1 Please read and follow the handling instructions before use. Improper use may cause heat, fire, rupture, damage or capacity deterioration of the battery. Warranty does not apply for to any accidents caused by the usage without following handling instructions:

Warning

Battery must be far away from heat source, high voltage, and no exposed in sunshine for long time;

Never throw the battery into water or fire;

Never reverse positive and negative terminals when use the battery;

Never connect the positive and negative terminals of battery with metal;

Never knock, throw or trample the battery;

Never disassemble the battery without manufacturer's permission and guidance;

Never mixed the battery of different manufacturers, types or models.

Tips

Keep the battery against high temperature. Otherwise it will cause battery heat, get into fire or lose some functions and reduce the life;

After discharge, recharge it within 15 days;

Use the original or recommended charger for this battery

If the battery leaks and get into the eyes or skin, do not wipe, instead, rinse it with clean water and see doctor immediately;

Do not use the battery when there exist abnormal conditions such as odour, discoloration, noise, leakage, serious deformation, etc.

Keep away from children or pets.

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5. Period of Warranty

The period of warranty is 30 months from the date of shipment. A replacement will be given in case of battery with proven defects due to manufacturing process instead of the customer abuse and misuse.

6. Storing the Batteries

The batteries should be stored at room temperature, charged to about 30% to 50% of capacity.

It is recommended that batteries be charged every two months to prevent over-discharge.

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7. Photo for reference



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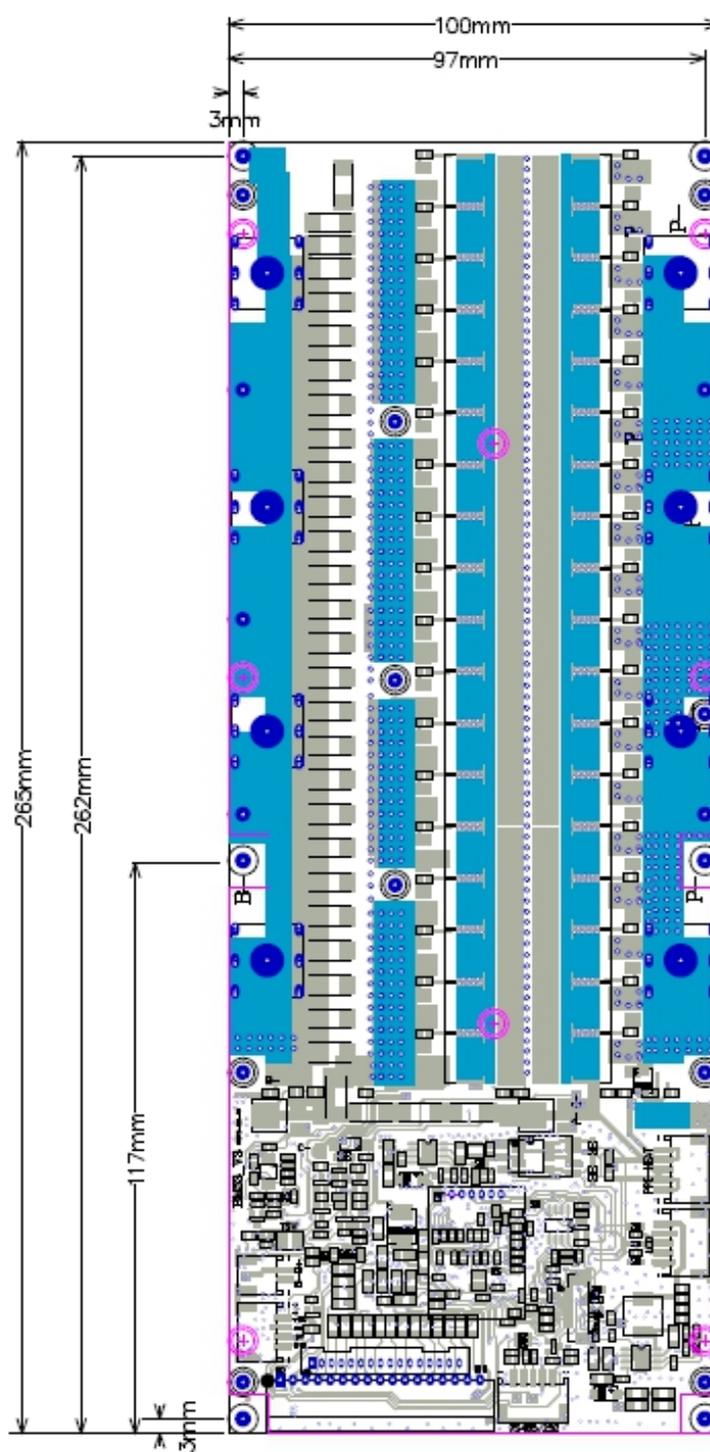
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8. Battery Management System

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Size:



Electrical characteristics

Item	Content	Standard
Over charge	Over charge detection voltage	3.65 V

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Protection	Over charge detection delay time	2 S C
	Over charge release voltage	3.55V
Over discharge protection	Over discharge detection voltage	2.5V
	Over discharge detection delay time	3 S
	Over discharge release voltage	2.9 V
Charge Over current protection	Charge Over current detection current	160 A
	Charge Over current detection delay time	1 S
Discharge Over current Protection1	Discharge Over current detection current1	170 A
	Discharge Over current detection delay time1	9 S
Discharge Over current Protection2	Discharge Over current detection current2	300 A
	Discharge Over current detection delay time2	3 S
Short protection	Short protection detection delay time	150 u S
	Detection condition	The battery short circuit
	Short release condition	REMOVE LOAD
Interior resistance	Main loop electrify resistance	1.5mOhm
Current consumption	Current consume in normal operation	2.5mA Type
Current consumption	Current consume in sleep operation	20 uA Type
charge high temperature protection		65 °C
charge high temperature protection recovery		55°C
Charge low temperature protection		-2 °C
Charge low temperature protection Recovery		2 °C
Discharge high temperature protection		65 °C

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Discharge high temperature protection recovery		55°C
Discharge low temperature protection		-40°C
Discharge low temperature protection Recovery		-35 °C
Balanced open voltage		3.45V
Balance current		20mA Expandable external balance plate up to 3A
Rated discharge current		150A