

JB

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JB/T 11140-2011

**General requirements for lithium iron phosphate battery
modules**

磷酸亚铁锂蓄电池模块通用要求

(English Translation)

Issued on: May 18, 2011

Implemented on: August 1, 2011

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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1 Scope

This Standard specifies the terms and definitions, classification, basic parameters, technical requirements, inspection rules, markings, packaging, transportation and storage of lithium iron phosphate battery modules composed of lithium iron phosphate batteries equal to or greater than $6\text{ A} \cdot \text{h}$.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this document.

JB/T 11137-2011 General Requirement of Lithium-Ion Battery Assembly

JB/T 11139-2011 General Requirement of Lithium-Ion Manganese Oxide Battery Module

JB/T 11141-2011 General Requirement for Module Case of Lithium-Ion Battery

SJ/T 11364-2006 Marking for Control of Pollution Caused by Electronic Information Products

3 Terms and Definitions

For the purposes of this document, the terms and definitions given in JB/T 11137-2011 apply.

4.1 Classification

4.1.1

According to the battery type, it can be divided as follows:

--- Energy type lithium iron phosphate battery module (Code E);

--- 48/16: A battery module composed of 16 (16) batteries in series with a nominal voltage of 48 V (48);

--- 50/9: The rated discharge current is 50 A (50), and the maximum discharge current is 450 A (50 A x 9);

--- 4007: The battery module adopts a standard battery module case with a type code of 4007.

4.2.1 Type code

The type code of the lithium-ion battery module consists of four characters: The first character (M): Battery module identification code; The second character (F): Battery category, lithium iron phosphate battery; The third character (B): Battery type, see 4.1.1;

The fourth character (C): Function configuration of battery management system (BMS), see 4.1.2.

4.2.2 Rated power

The rated power is represented by three significant Arabic numerals, and the unit is kW · h.

When the rated power is less than 10 kW · h, retain 2 digits after decimal point, such as 9.85 kW · h;

When the rated power is greater than or equal to 10 kW · h, but less than 100 kW · h, retain 1 digit after decimal point, such as 13.7 kW · h;

When the rated power is greater than or equal to 100 kW · h, it is represented by a 3- digit integer, such as 143 kW · h.

4.2.3 Nominal voltage/the number of modules

The nominal voltage (U) of the battery modules that compose of the lithium-ion battery assembly, in V.

The number of battery modules (N) that compose of the lithium-ion battery assembly.

The nominal voltage of the battery assembly is equal to the algebraic sum of the nominal voltages of the modules.

4.2.4 Rated discharge current/peak discharge current multiple

The rated discharge current is the rated discharge current (I) of the lithium-ion battery The anode and cathode output connections of the lithium iron phosphate battery module shall comply with the provisions of 5.4.3 in JB/T 11139-2011.

5.4.4 Interface and protocol

The interface and protocol of the lithium iron phosphate battery module shall comply with the provisions of 5.4.4 in JB/T 11139-2011.

5.4.5.1 Compliance

The compliance of the interface and communication protocol of the lithium iron phosphate battery module shall comply with the provisions of 5.4.5.1 in JB/T 11139-2011.

5.4.5.2 Reliability

The reliability of the circuit interface, interface protocol, the communication interface and communication protocol of the lithium iron phosphate battery module shall comply with the provisions of 5.4.5.2 in JB/T 11139-2011.

5.4.5.3 Interconnection mark

The interconnection mark of the lithium iron phosphate battery module shall meet the requirements of 5.4.5.3 in JB/T 11139-2011.

5.4.6 Rated capacity

The battery cell that is used to form the lithium iron phosphate battery module is represented by capacity (in $A \cdot h$); and the rated capacity (in $A \cdot h$) shall comply with the provisions of 5.4.1.

5.4.7 Rated power

Lithium iron phosphate battery modules are represented by power (in $kW \cdot h$); and the actual power shall be greater than or equal to the rated power (in $kW \cdot h$).

The rated power of the lithium iron phosphate battery module shall comply with provisions of Appendix A.

5.4.8 Specific energy

The volume specific energy and weight specific energy of the lithium iron phosphate battery module shall comply with the provisions of the manufacturer's product technical documents.

5.4.11 Service life

The service life of lithium iron phosphate battery module is divided into standard cycle service life and working condition cycle service life.