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# PACK并联保护器说明书

## Specification of shunt current limiting module

### 1. 概述 Overview

PACK并联保护器是针对我司锂电池保护板为PACK并联专门研发的一款配件，它能够在PACK并联时，限制PACK之间因内阻和电压不同产生的互充大电流，有效保证电芯和保护板的安全。

Parallel current limiting module is specially developed for PACK parallel connection of Lithium battery Protection Board. It can limit the large current between PACK due to internal resistance and voltage difference when PACK is parallel connected, effectively ensure the safety of the cell and the protection plate.

### 2. 特点 Characteristics

- ❖ 安装便捷
- ❖ 绝缘性好，电流稳定，安全性高
- ❖ 具有超高可靠性测试
- ❖ 外壳精美大方，全封闭设计，可防水、防尘、防潮、防挤压等保护功能
- ❖ Easy installation
- ❖ Good insulation, stable current, high safety
- ❖ Ultra-high reliability testing
- ❖ The shell is exquisite and generous, full-enclosed design, waterproof, dust proof, moisture-proof, extrusion-proof and other protective functions

### 3. 主要技术指示 Main technical instructions

外型尺寸 External Dimension: 174.4*66.5*43.8mm
限流Current limiting: 15A
开启条件: 达到充电过流二级保护或内置开启电流 Open conditions: charging over current secondary protection or built-in open current
解除条件: 放电 Release Condition: release
工作温度 Operating temperature: -20~70°C

### 4. 功能说明 Function description

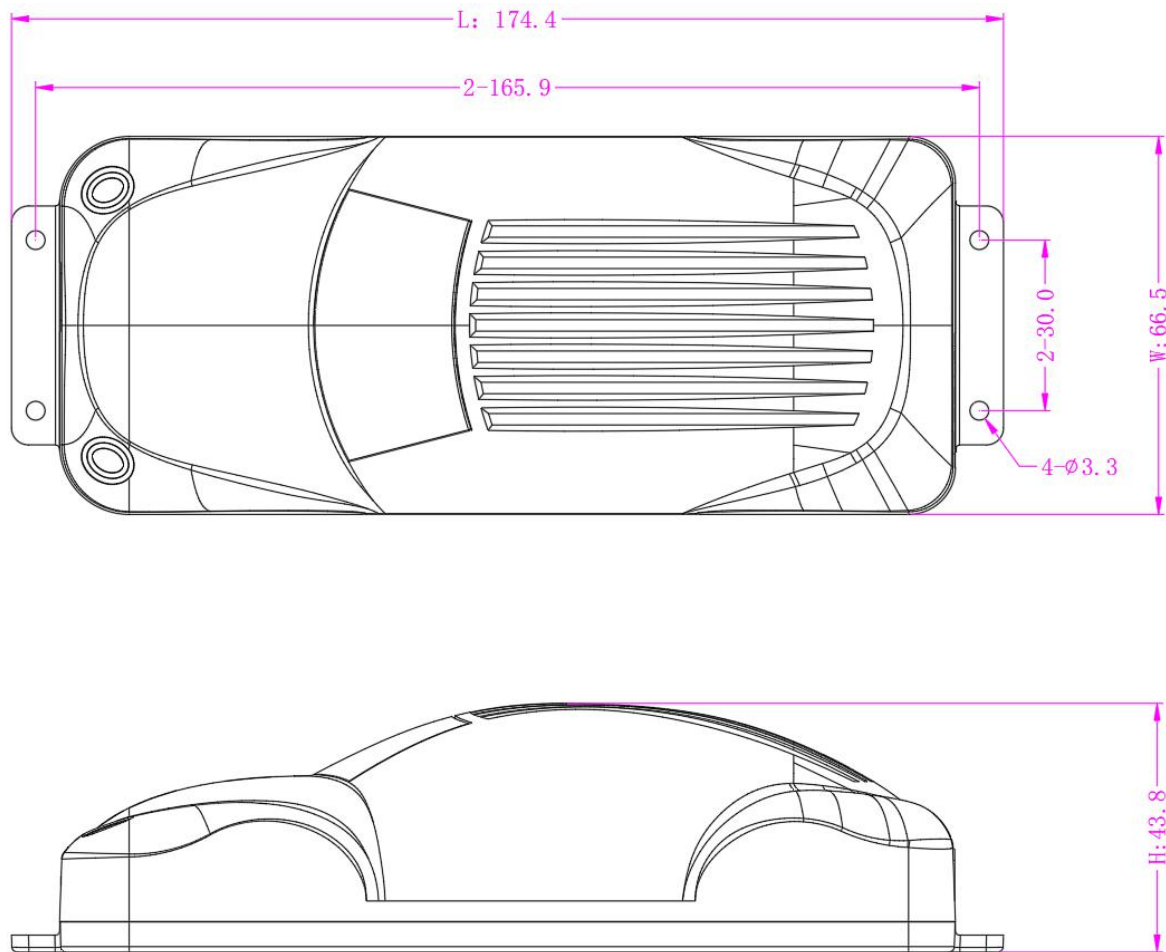
4.1. 防止PACK并联时，因内阻和电压不同产生大电流互充

4.2. 限制额定充电电流，有效保护大电流的保护板和电池

1.In case of parallel connection, different pressure difference causes charge between battery packs

2.Limit the rated charging current, effectively protect the high current protection board and battery

## 5. 尺寸图 Dimensional drawing



### 5.1.主要线材说明Main wire description

线材名称Line name	默认规格Default specification	
	小电流BMS (100A及以下)	大电流BMS (120A及以上)
B-P-线Output Line	3135 10AWG L=200mm	3135 10AWG L=250mm
B+线Output Line	3135 14AWG L=450mm	3135 14AWG L=600mm
通讯线Communication Line	2芯线 L=300mm	

## 6. PACK并联保护板接线图Pack parallel connection BMS Wiring Diagram

6. 1. PACK并联保护板由保护板+并联保护器两部分组成，即每个需要并联的PACK内必须包含这两者；

6. 2、其中保护板详细接线方式查看保护板规格书；

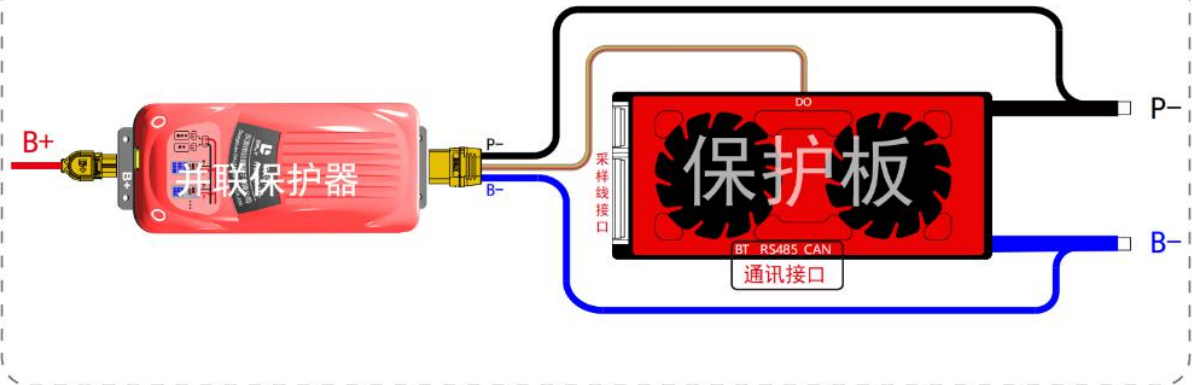
6. 3、每个PACK内部保护板与并联保护器连接方式如下图：

6.3.1 Pack Parallel Protection Board by the protection board + parallel module of two parts, that is, each need to parallel PACK must contain these two parts

6.3.2which protect board detailed wiring to check the protection board specifications;

6.3.3Each PACK internal guard panel is connected to the parallel module in the following manner:

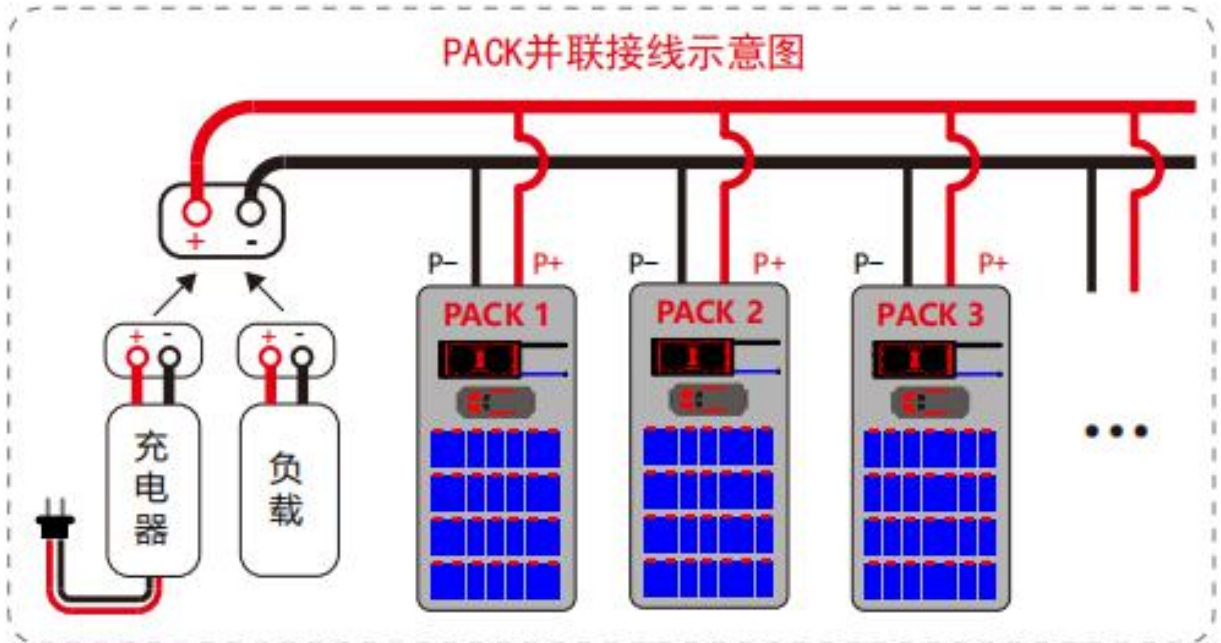
### PACK内 保护板+并联保护器 接线图



6. 4多个PACK之间并联方式如下图:

Multiple packs are connected in parallel as shown below:

### PACK并联接线示意图



6.5接线注意事项: Wiring matters needing attention

1. 保护板组装完成后, 在并联保护器连接保护板时, 需先接并联P-线到BMS的C-, 再接B-, 然后接B+, 最后再接控制信号线

After the assembly of BMS is completed, when the parallel protector is connected with the protective plate, it is necessary to connect the p-line to the C-OF BMS, then to B-, then to B + , and finally to the control signal line

2. 线焊好接插头, 再连接并联保护器时需先接并联模块的B-/P-插头, 再接B+插头, 然后再接控制信号线

The B-/p-plug of the parallel module should be connected first, then the B + Plug, and then the control signal wire should be connected

3. 请严格按照接线顺序操作, 如接线先后顺序弄反, 会导致PACK并联保护板损坏。

Please strictly in accordance with the wiring sequence operation, such as wiring sequence reversed, will lead to PACK parallel protection board damage.

## 6. 6使用注意事项：BMS与并联保护器必须配套使用，不可混用

CAUTION: BMS and shunt protector must be used together and not intermixed

## 7. 保修Warranty

本公司生产的PACK并联保护板，质保一年；人为因素导致损坏的，有偿维修

The company's production of parallel PACK module, we guarantee 3 years warranty in quality, if the damage is caused by human improper operation, we will conduct repair with charge