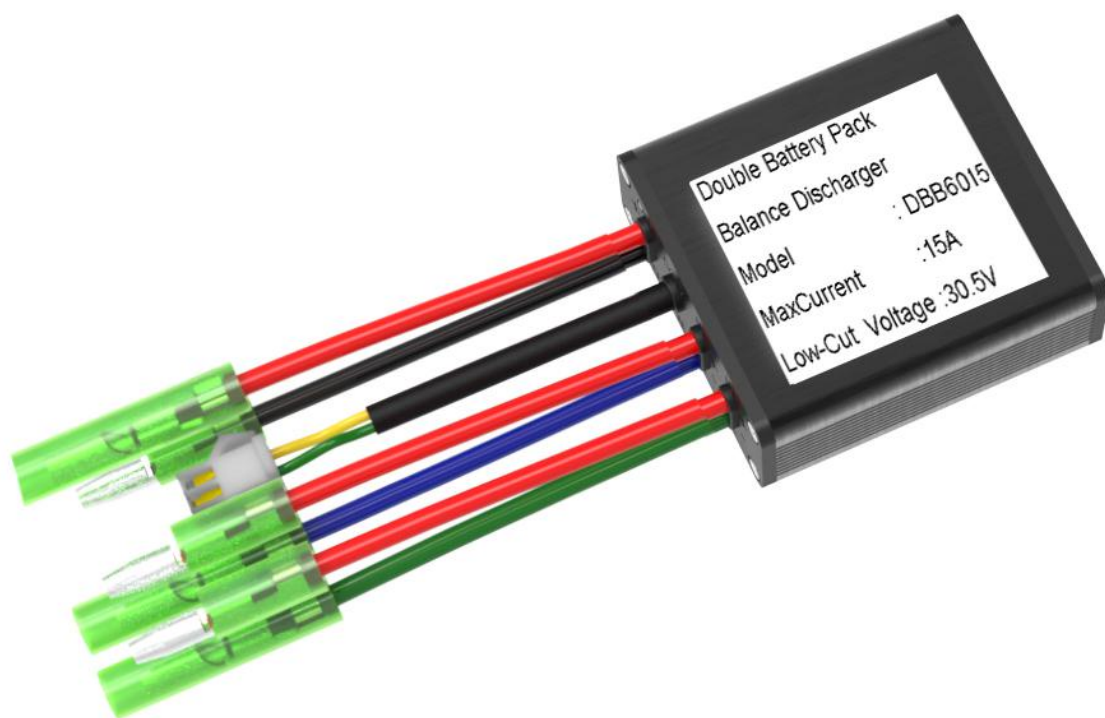# DBBxx 系列 双电池均衡放电模块

DBBxx   Series

Double Battery Pack

Balance Discharger

SuZhou Minshine electronic.co.,ltd

1 重要提示

- 感谢您使用我们的双电池切换模块，请仔细阅读本手册，如果您不能很好地理解，请不要将本模块和电池连接，请联系您的供应商。
- 每一个双电池模块是根据您的电池参数进行设计和制作的，因此，每个模块只能和具有相同技术参数的电池进行连接。**接入不同型号的电池可能会导致电池损坏**。
- **注意**：在安装过程中，需确保两个电池组的电源都已关闭，并且不能混淆正极和负极。
- **警告**：模块在工作时会发热，请不要用手触摸，否则容易引起烫伤。
- **提示**：在您准备订购本产品时，务必告知您的电池的相关技术参数。

- Thank You for Purchasing our Double Battery Balance Discharger, Read this manual carefully, Contact your supplier if you can not understand this instruction well.
- Make sure battery pack which connected with module has the same technical parameters you provided for us . unpredictable results can occur if you use the incompatible Double Battery Balance Discharger with your battery pack.
- **Attention:** DO NOT MIX ANDOE AND CATHODE connecter on Double Battery Pack Switcher , and ensure both two battery packs power is off before connecting.
- **Warning:** Do not touch it by your hand directly. it will become more hotter while working .
- **Notice:** You have to provide the technical parameters related with your battery as details before ordering.

2 产品说明 Description

双电模块可以管理装备在自行车上的两组电池组件，硬件架构采用 MCU+MOS 模式，模块采用低功耗设计，实时电池电压监测功能，电池在线检测功能；

模块可以根据两组电池的电压，自动调整每组电池的电流输出，使得两组电池同时均衡放电。

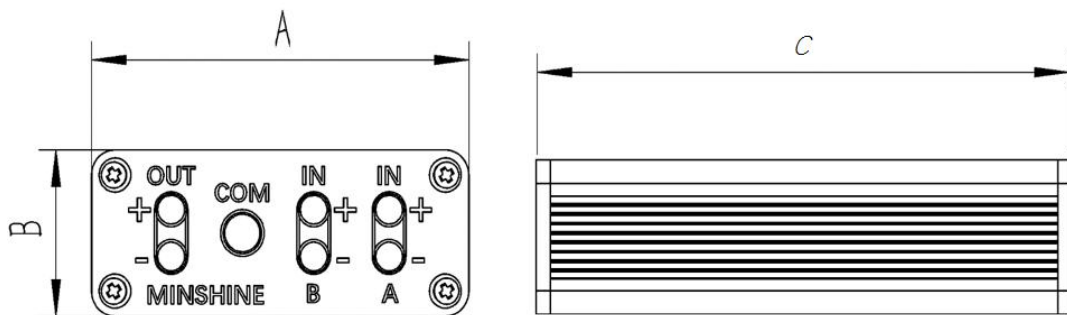模块的 *COM* 端口是多用途端口，可以根据用户需求，定制为通讯口或两组电池的充电口，当定制充电口时，可以在此端口接入一个充电器，对两个电池同时充电。

Double Battery Balance Discharger   can manage two battery packs which fixed on your bike, low power，Consumption design ,real-time detect the voltage of both two battery packs, Battery on-line check .

This module can make both two batteries to discharge together to power the ebike , it will auto compare the voltage of each battery and   adjust the current output for each *battery*.
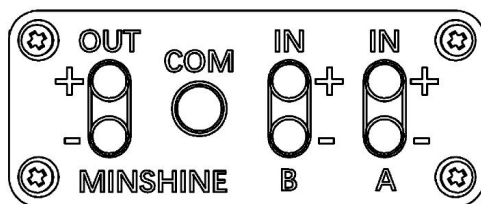
The COM port on module is a multipurpose port , it can be an Uart port or Battery Charging port ,its depend on user's wants;   it can charge both two batteries at the same time if it is a Battery Charging port.
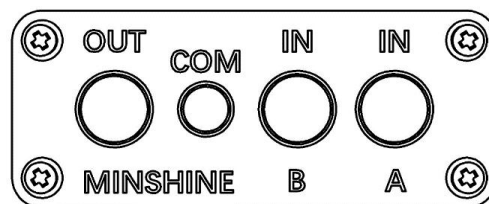
3 技术参数表 Datasheet

Model	Max Current(a)	Nominal Voltage Of battery(V)	Size A*B*C	Material of case	Static power consumption
DBB-6015	15	20V - 72V	45x18.5x30	Alloy	<2ma
DBB-6020	20	20V - 72V	45x18.5x49	Alloy	
DBB-6030	30	20V - 72V	45x18.5x60	Alloy	
DBB-6040	40	20V - 72V	45x18.5x71	Alloy	

Name	Define
OUT	Connect with controller 控制器电源线
COM	This is a multipurpose port. UART Port or Battery Charging port. Depend on customer's wants. 多用途端口，可以通讯或充电为口
IN-A	Connect with Battery Pack A 电池组 A
IN-B	Connect with Battery Pack B 电池组 B

(Normal cable cover)   (Waterproof cable cover)

4 功能描述 Working Process

1. MCU 自动监测两组电池的电压，并通过 UART 通讯口实时发送两组电池的电压值。
   MCU monitor voltage of both batteries in real time and send the volatage value by UART if UART interface is available

2. 电池在线检测功能，如果本模块只连接了一组电池，那么，本模块自动切换到该组电池并输出功率。
   Auto Battery on-line detecting. Switch to the battery and make power output if only one battery was connected with this module.

3. 放电过程中，如果两组电池电压不一致，那么首先使用电压高的电池进行放电，直到两组电池电压一致。
   If the voltage of two batteries is not same, one is lower and other is higher , module will use the battery with higher voltage to discharge first till two batteries voltage approaching similar

4. 当两组电池电压一致时，两组电池同时放电，总输出电流 $I_{out}=I_a+I_b$
   Two batteries will discharge together when two batteries voltage is similar.