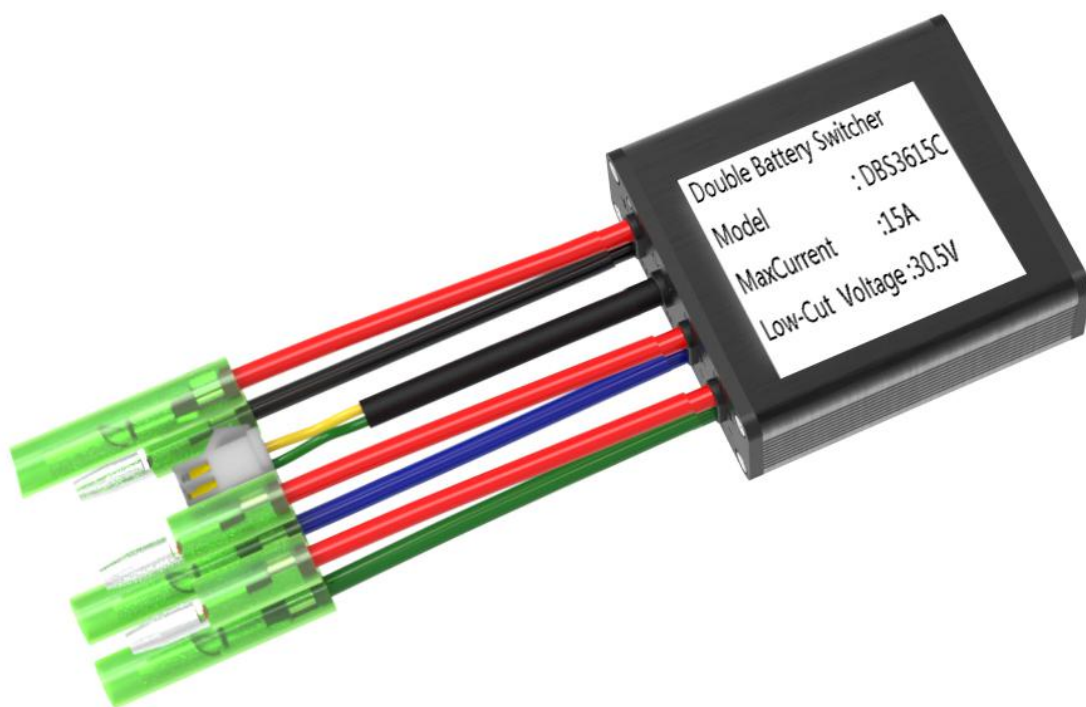# DBSxx 系列 双电池自动切换模块

DBSxx Series

Double Battery Pack Switcher

User guide

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1 重要提示

● 感谢您使用我们的双电池自动切换模块，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，或者请联系您的供应商。

● 每一个双电池切换模块是根据您的电池技术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：双电切换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 Pack Switcher, 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 Pack Switch 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 during discharging .

● **Notice:**   You have to provide the technical parameters related with your battery as details before ordering

2 产品说明 Description

　　双电均衡放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；

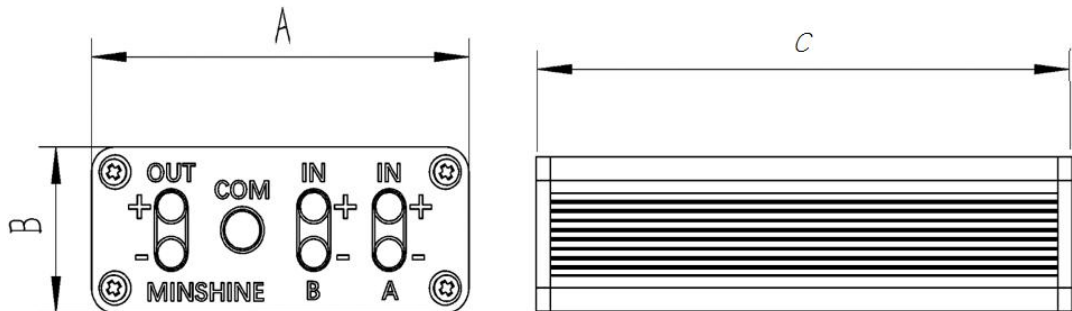　　当其中的一组电池放电完毕，电压低于设定电压时，自动切换到另一组电池继续放电。当两组电池均低于设定电压后，输出全部关闭。

　　Double Battery Pack Switcher 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 . switch to another battery pack automatically to power your bike again when one battery power become empty while riding.

　　Module will stop power output when voltage low than low-cut voltage to protect the battery.
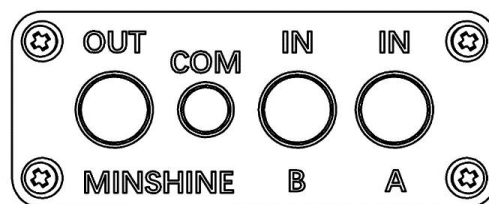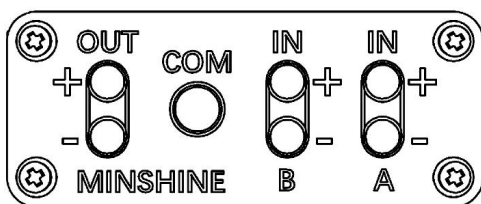
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3 技术参数表 Datasheet

Model	Max Current(a)	Nominal Voltage Of battery pack	Switch Point(V)	Size A*B*C	Material of case	Static power consumption
DBS-2415	15	24V	21	45x18.5x30	Alloy	Less than 6ma
DBS-3615		36V	30			
DBS-4815		48V	39			
DBS-2420	20	24V	21	45x18.5x49	Alloy	
DBS-3620		36V	30			
DBS-4820		48V	39			
DBS-2430	30	24V	21	45x18.5x60	Alloy	
DBS-3630		36V	30			
DBS-4830		48V	39			
DBS-2440	40	24V	21	45x18.5x71	Alloy	
DBS-3640		36V	30			
DBS-4840		48V	39			
Temperature: -20℃to60℃ Waterproof: Full fill glue						

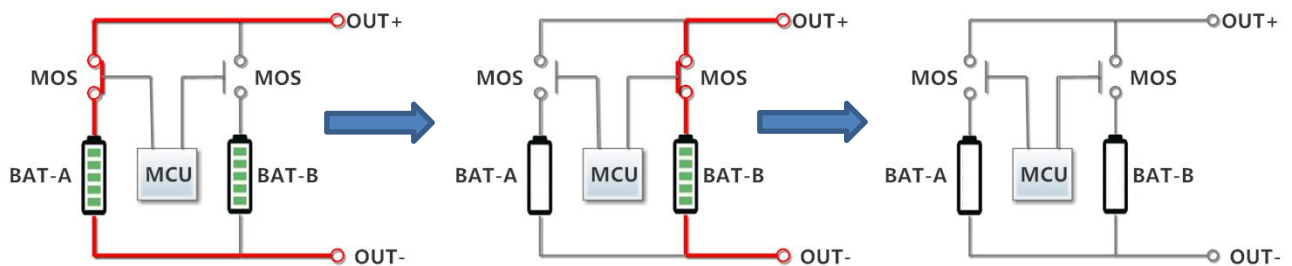| Name	Define
OUT	Connect with controller 控制器电源线
COM	UART interface 控制器通讯线
IN-A	Connect with Battery Pack A 电池组 A
IN-B	Connect with Battery Pack B 电池组 B

(Normal cable cover)   (Waterproof cable cover)

4 工作过程描述 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. 电池组 A 放电直到电压低于设定切换点，自动切换到电池组 B 继续放电.
   Switch to BAT-B automatically when the voltage of BAT-A is low than switch point.

4. 当两个电池组全部放电完毕后，模块停止放电。
   Stop power output when the voltage of both batteries are low than low-cut point.

(Auto switch loop)

5 通讯 Communication

本模块具有 UART 通信接口，可以发送两组电池的电压，以及工作状态，并实时显示在仪表上。（UART 通信接口是选配件）。

UART communication interface is an option, this module can send the voltage of each battery by UART and show on display screen.

电池状态显示