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Manual of High Voltage BMS

16S-128S- Slave BMS

珠海希望电子科技有限公司

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1 概述 Brief

1.1 目的 Purpose

本文主要针对珠海市希望电子科技有限公司出品的 BMS 电池管理系统 16S 一体机版本进行原理架构描述、功能特性和各模块接口规格及使用应用场景进行详细介绍。

This chapter mainly describe the principle structure , features of the 16s-128s high voltage version of the BMS battery management system, which is produced by TOPBMS , and the application of the module interface and the use of the application scenario.

1.2 功能简介

TOPBMS can monitor and control the battery cell voltage, total battery voltage, battery cell temperature, charge and discharge current and other parameters of the lithium battery system in real time and with high precision, and carry out rapid analysis and processing, and provide the corresponding lithium battery overcharge, over-discharge, over-current, over-temperature, short circuit and other protection mechanisms to ensure the safe and reliable operation of the lithium battery system. Extend the life of lithium batteries.

1.2 产品主要技术指标 Data Sheet of Slave BMS

Item		Description
Power supply for BMS		18-120V
System power		工作模式：<10ma;休眠模式：<1ma;停机模式：<50UA
How to active bms		External passive switching(default self-locking switch)
One slave can take		5S～16S
One slave can take		2 NTC
Cell Voltage	Measurement Range	0～5V, lithium ion battery/Lifepo4 Battery/LTO battery
	Measurement Error	≤±0.1%
Total Voltage	Measure Range	20～120V
	Measuring Tolerance	≤±0.2%
Charge/Discharge	Measure Range	Shunt used
	Measuring Tolerance	±1 %
Temperature	Measure Range	-40～125℃
	Measuring Tolerance	±1℃
SOC Estimation		≤5 %
Balancing		Balancing current 80mA
RELAYS		12v drived
Communication		2 ways of CANbus 2.0 1 way of RS485
Working Temp	WorKing Temp	-30～105℃
	Operating environment	10～90 %RH,不结露，无腐蚀性气体
	Altitude	≤4500m

2 产品数模及接口定义 Product &Interface

2.1 Product(Slavebms)
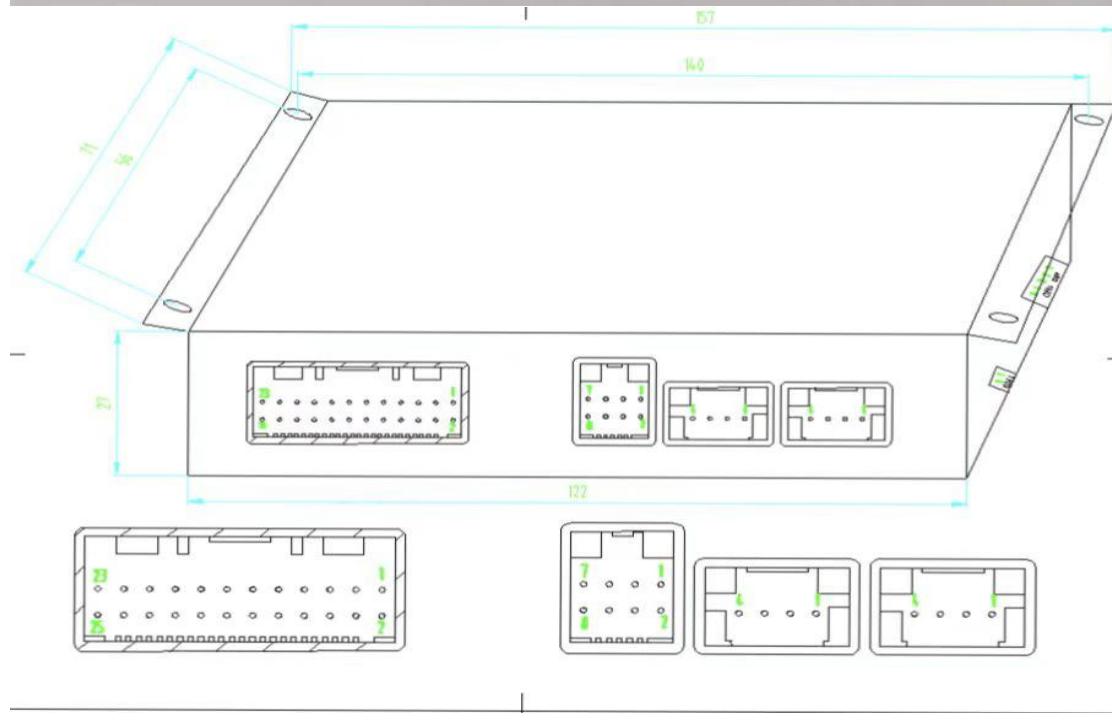
2.2 Slave bms　Interface

2.2.1 Interface Descriptionn of　LA Port
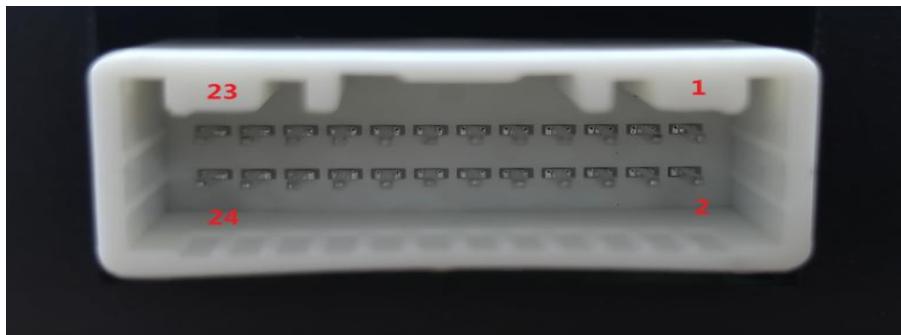
Pin No	Interface	Pin definition	
1	GND	Minus OF NTC 1	
2	T1	Plus OF NTC 1	
3	GND	Minus OF NTC 2	
4	T2	Plus OF NTC 1	
5	B-	Total Minus of the entire batteries	
6	B1-	Minus of the 1st cell	
7	B1+	Plus of the 1st cell	
8	B2+	Plus of the 2nd cell	
9	B3+	Plus of the 3rd cell	
10	B4+	Plus of the 4th cell	
11	B5+	Plus of the 5th cell	
12	B6+	Plus of the 6th cell	
13	B7+	Plus of the 7th cell	
14	B8+	Plus of the 8th cell	
15	B9+	Plus of the 9th cell	
16	B10+	Plus of the 10th cell	
17	B11+	Plus of the 11th cell	
18	B12+	Plus of the 12th cell	
19	B13+	Plus of the 13th cell	
20	B14+	Plus of the 14th cell	
21	B15+	Plus of the 15th cell	
22	B16+	Plus of the 16th cell	
23	B+	Total Plus of the entire batteries	
24	No connection	No connection	

## 2.2.2   Interface Descriptionn of   LB Port

Definition of RS485 PORT
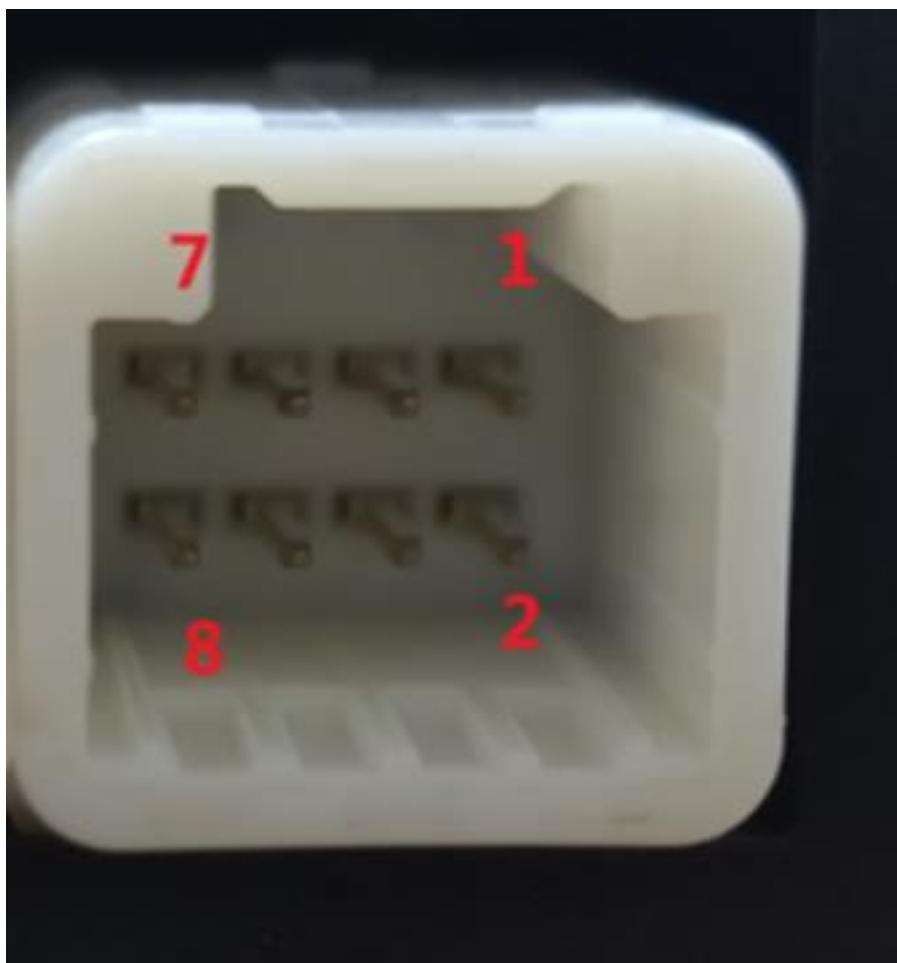
No	Interface	Pin Definition
1	UCC	3.3V
2	485B	485B
3	485A	485A
4	VSS	GND
5	5V	5V
6	B	485B
7	A	485A
8	GND	GROUND

2.2.3 Interface Descriptionn of LC Port (CAN port-1)connected to master/slave
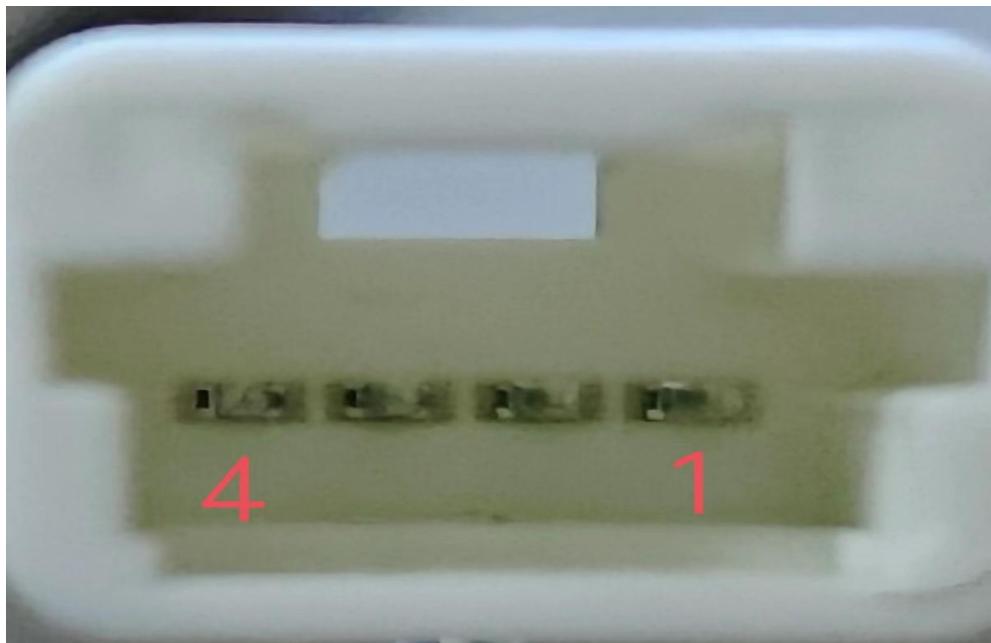
PIN No	Interface	接线定义
1	CANH	CAN-H
2	CANL	CAN-L
3	J+5V	Plus of 5V
4	J-5V	Minus of 5V

2.2.4 Interface Descriptionn of LD Port (CAN port-2)connected to master/slave
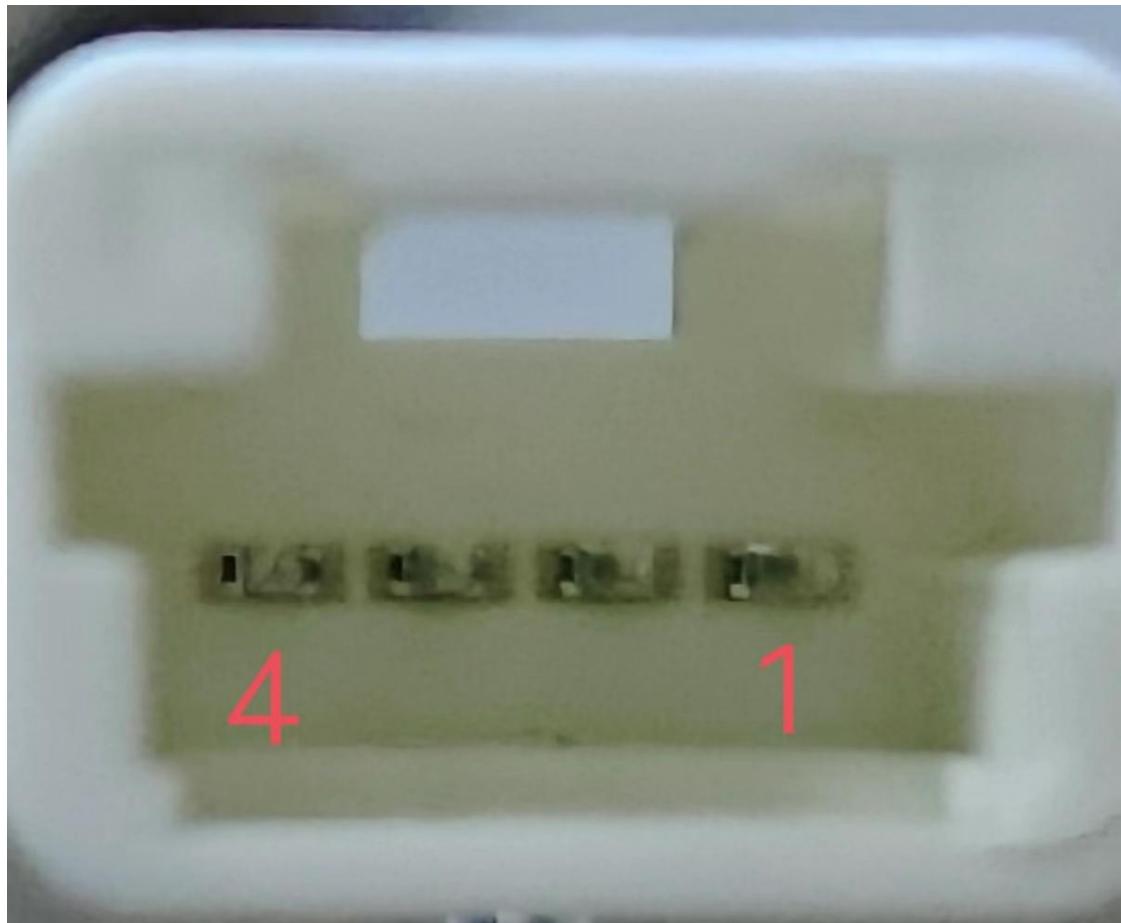
PIN No	Interface	接线定义
1	CANH	CAN-H
2	CANL	CAN-L
3	J+5V	Plus of 5V
4	J-5V	Minus of 5V

　　根据不同的实际应用场景，BMS 的电控部分有不同的接法，具体使用之前务必和技术对接好，否则滥用或损坏板子或者电池组，甚至造成安全性事件的发生。

　　According to different actual application scenarios, the electronic control part of the BMS has different connections. Before the specific use, Please be sure to check with the technology, otherwise abuse or damage the board or battery pack, and even cause security events.
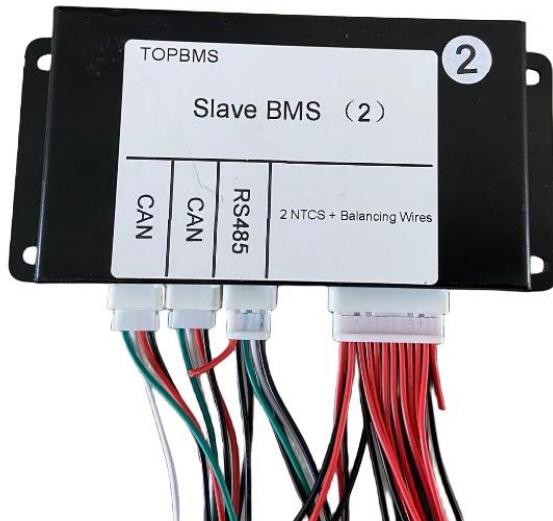
3 接线要点说明 **Points for Attention**

1、应在所有插头都不插在板子上时候，接好相关线束。

1. All related   wiring harness should be connected when all plugs are not inserted in the board.

2、确认接线无误后，在开关 KEY 断开情况下，依次插入 LA 、LB、LC,LD 接口。

2. After confirming the connection, insert LA, LB, LC, and LD ports in sequence when the switch KEY is off.
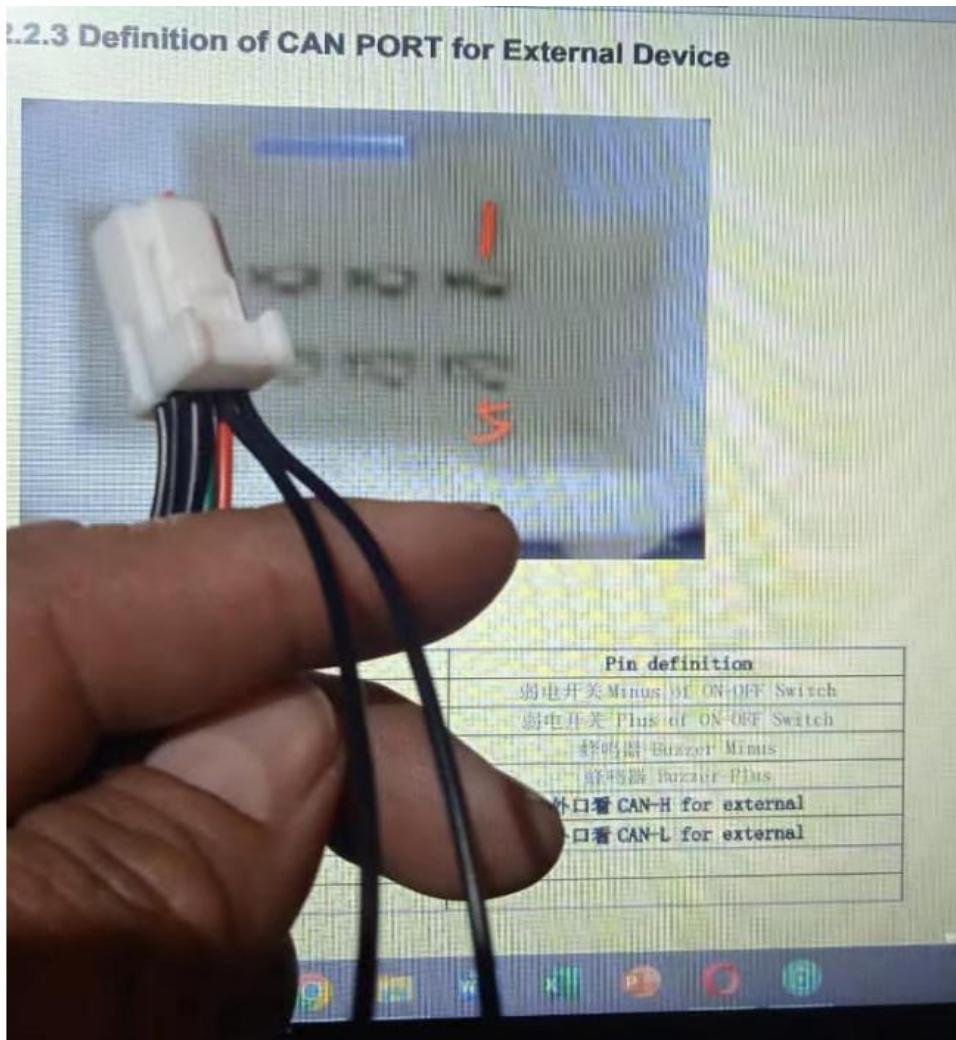
3、连接上位机软件或者蓝牙 APP 查看或者修改参数

3. Connect bms to   PC or Bluetooth APP to check   or modify parameters