WNT Data Sheet

Customer name	Dongguan DALY Electronics Co., Ltd			
Customer model	DL-WNT			
Customer Number				
product model	DL-WNT			
edition	1.0			
date	2022-04-15			
List of accessories	Item number	Name	Model	Quantity
	1	Motherboard		1
	2	Motherboard interface Port		1
	3	NTC line		6
	4	Communication line		2
	5	RS485 Upper computer line		1
	6	BMS Motherboard		
	7			

configuration table

Function	Storage	☐Non ☐storage of 500 Line ☐storage _____ Line
	Display	☐ Non ☑ Chinese intelligent ☑ English intelligent ☐_____
	Contact	☐Non ☑Yes
		1. K1 closing condition: closed when there is a fault or protection; (default logic) 2. K2 closing condition: close when there is a low battery alarm; (default logic)
	Is there a 120Ω terminal resistor	☐Non ☑Yes

	Weak current switch	☑Non ☑Yes	
	Buzzer	☑Non ☐Yes	
	Positioning function	☑Non ☐Yes	
	Sampling socket	☑Vertical type ☐Horizontal type	
	Special Function	1	
		2	
		3	
communication	Communication Port	☑ RS232 ☐ RS485 ☑Parallel doubleRS485 ☐UART ☑ Parallel double CAN	
	Upgrade method	☑ RS232 ☑ RS485 ☑ CAN	
	Communication protocol	☑DALY standard communication protocol ☑PYLON CAN protocol ☑Growatt 485 Protocol ☑Growatt CAN Protocol ☑SRNE 485 Protocol ☑Voltronic Power 485 Protocol ☑GoodWe CAN Protocol ☑SOFAR SOLAR 485 Protocol ☑Schneider CAN Protocol	

File Change Summary

date	version	revision note	produc	authoriz
2022-4-15	1.0	Undetermined	Luo Li	Yan

Content

Introduction

Introduction With the wide application of Lifepo4 battery in the household energy storage industry, high performance, high cost performance and multi-functional requirements are also put forward for the battery management system. This product is a universal interface board specially designed for household energy storage batteries, which can be widely used in household energy storage projects.

Features

- Serial communication function
- Integrated serial port IC
- High voltage accuracy (≤20mV)
- High current accuracy (≤2%@FS)
- 4-channel battery temperature detection (≤2℃)
- SOC estimation function
- Have a variety of sleep and wake up methods
- Low power consumption
- Dual RS485 communication
- Parameter adjustable setting
- LED status indication function
- Adjustable over current protection

Environmental requirements

Item	Parameter	Unit
Operating temperature	- 20 ~ 75	℃
Storage temperature	- 20 ~ 75	℃
Operating temperature	10 ~ 85	%RH
Storage temperature	10 ~ 85	%RH

LED instructions

Table 1 LED working status indication

state	normal/alarm/ protect	ON/ OFF	RUN	ALM	Battery indicator LED						Directions
		●	●	●	●	●	●	●	●	●	
shutdown	Hibernate	Off	Off	Off	Off	Off	Off	Off	Off	Off	Annihilate
Standby	Normal	on	flash 1	Off	According to the battery indicator						Standby mode
	Alert	on	flash 1	flash 3							Module low voltage
Charge	Normal	on	on	Off	According to the battery indicator (battery indication maximum LED flashes 2)						The highest power LED flashes (flashing 2), and the ALM does not flash when the overcharge alarm occurs
	Alert	on	on	闪3							
	Over voltage protection	on	on	Off	on	on	on	on	on	on	If there is no utility power, the indicator turns to standby state
	Temperature, over current, short circuit, reverse connection, fail-safe	on	Off	on	Off	Off	Off	Off	Off	Off	Stop charge
Discharge	Normal	on	flash 3	Off	According to the battery indicator						
	Alert	on	flash	flash							

			3	3							
	Under voltage protection	on	Off	Off	Off	Off	Off	Off	Off	Off	Stop discharge
	Temperature, over current, short circuit, reverse connection, fail-safe	on	Off	on	Off	Off	Off	Off	Off	Off	Stop discharge
invalid		Off	Off	on	Off	Off	Off	Off	Off	Off	Stop charging and discharging

Table 2 Description of capacity indication

state			Charge					Discharge					
capacity indicator		L6●	L5●	L4●	L3●	L2●	L1●	L6●	L5●	L4●	L3●	L2●	L1●
SOC（%）	0～16.6%	Off	Off	Off	Off	Off	flash 2	Off	Off	Off	Off	Off	on
	16.6～33.2%	Off	Off	Off	Off	flash 2	on	Off	Off	Off	Off	on	on
	33.2～49.8%	Off	Off	Off	flash 2	on	on	Off	Off	Off	on	on	on
	49.8～66.4%	Off	Off	flash 2	on	on	on	Off	Off	on	on	on	on
	66.4～83.0%	Off	flash 2	on	on	on	on	Off	on	on	on	on	on
	83.0～100%	flash 2	on	on	on	on	on	on	on	on	on	on	on
Operation indicator●		on						flash (flash 3)					

Table 3 LED flashing description

flashing method	on	off
Flash 1	0.25S	3.75S
Flash 2	0.5S	0.5S
Flash 3	0.5S	1.5S

● Button Description

● Hibernate and wake up

Hibernate

The interface board itself does not have a sleep function. If the BMS sleeps, the interface board will shut down.

Wake up

A single press of the activation button will activate.

● Communication Instructions

RS232 communication

The RS232 interface can be connected to the upper computer, and the default baud rate is 9600bps.CAN

CAN communication, RS485 communication

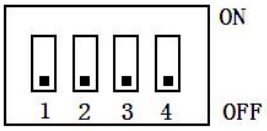
The default communication rate of CAN is 500K, which can be connected to the upper computer;

The default communication rate of RS485 is 9600, which can be connected to the upper computer;

CAN and RS485 are dual parallel communication interfaces, which support parallel communication of multiple batteries. When CAN is the host, RS485 is used in parallel, and when RS485 is the host, CAN is in parallel. In both cases, you need to flash the corresponding program.

● DIP switch settings

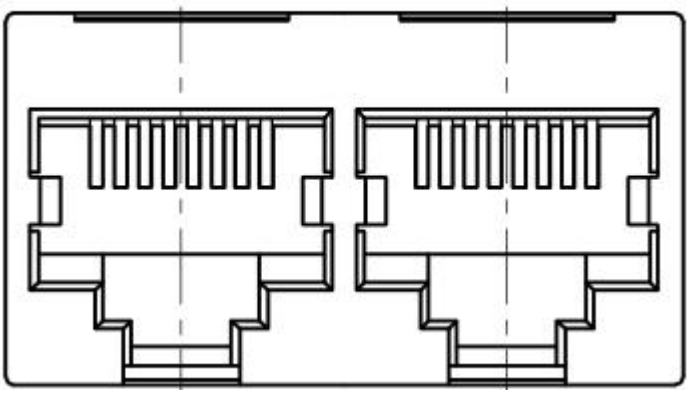
When the PACK's are used in parallel, different PACK's can be distinguished by setting the address through the DIP switch on the interface board. It is necessary to avoid setting the same address. Refer to the following table for the definition of the BMS DIP switch.



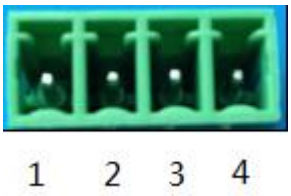
Address	DIP switch position			
	#1	#2	#3	#4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

Interface definition

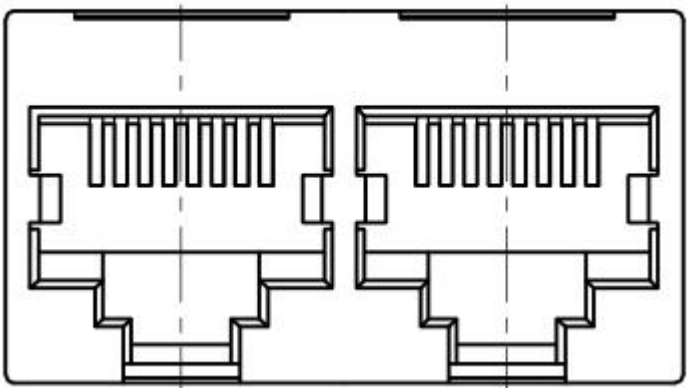
Interface diagram



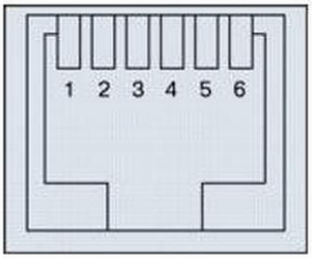
CAN communication port



contact



Rs485 communication port



RS232 communication interface

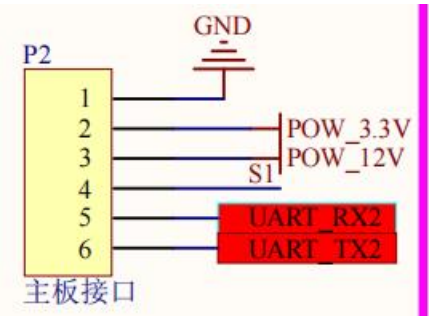
RS232--Using 6P6C vertical RJ11 socket	
RJ11 pin	Definition Description
2	NC
3	TX (single board)
4	RX(single board)
5	GND

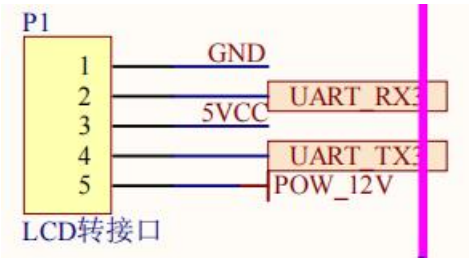
CAN--use 8P8C vertical RJ45 socket		CAN--use 8P8C vertical RJ45 socket	
RJ45:Pin	Definition Description	RJ45 引脚	Definition Description
1、8	NC	9	CANH
2、7	NC	10	CANL
3、6	GND	11、14	GND
4	CANL	12	CANL
5	CANH	13	CANH
		15、16	NC

CAN communication port

RS485--use 8P8C vertical RJ45 socket		RS485--use 8P8C vertical RJ45 socket	
RJ45 Pin	Definition Description	RJ45 Pin	Definition Description
1、8	RS485-B	9、16	RS485-B
2、7	RS485-A	10、15	RS485-A
3、6	GND	11、14	GND
4、5	NC	12、13	NC

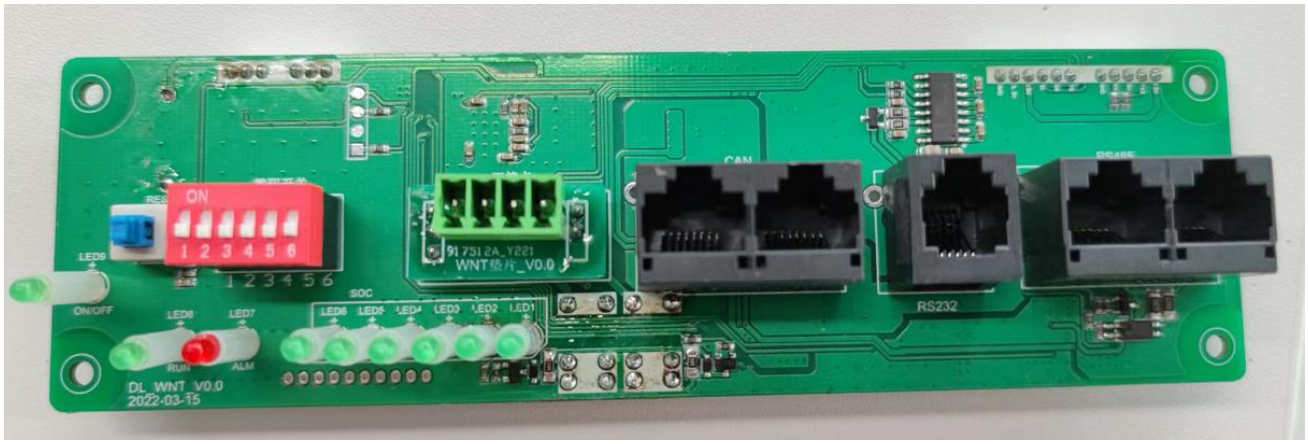
485 communication port

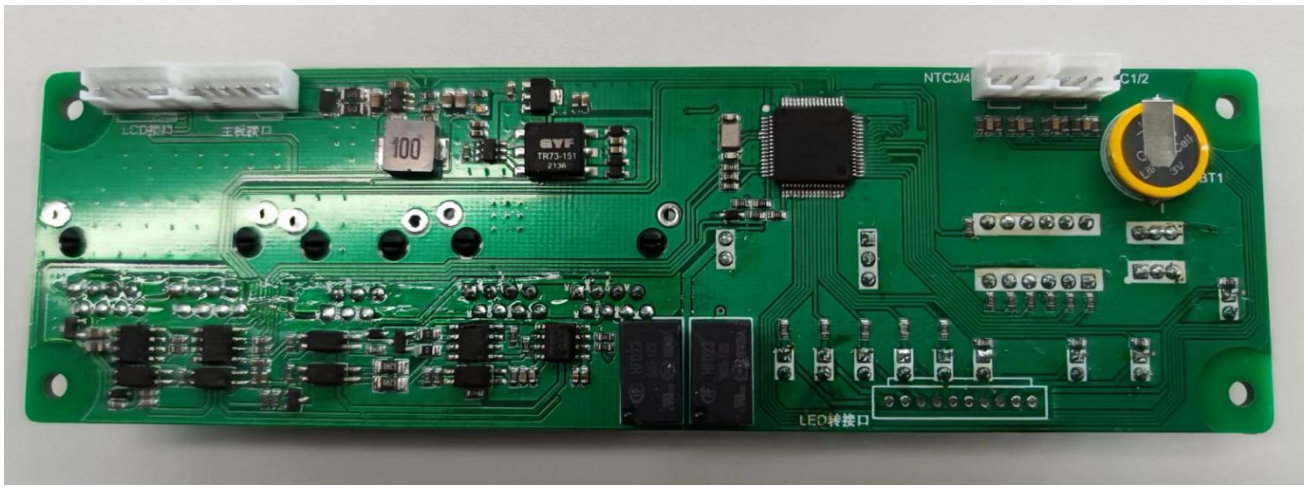


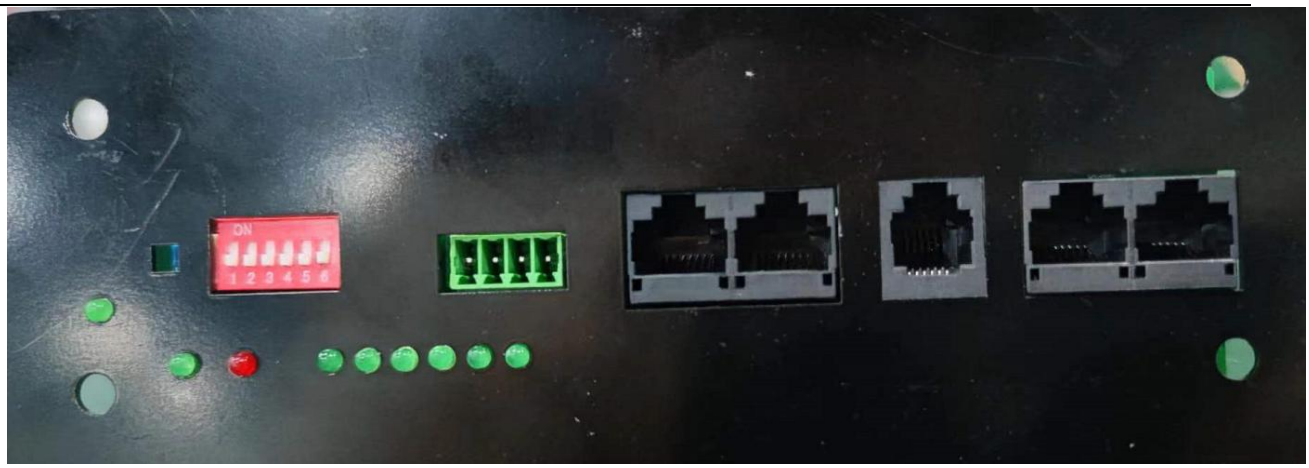


● Physical drawing and size drawing

Refer to the actual picture: (subject to the actual object)

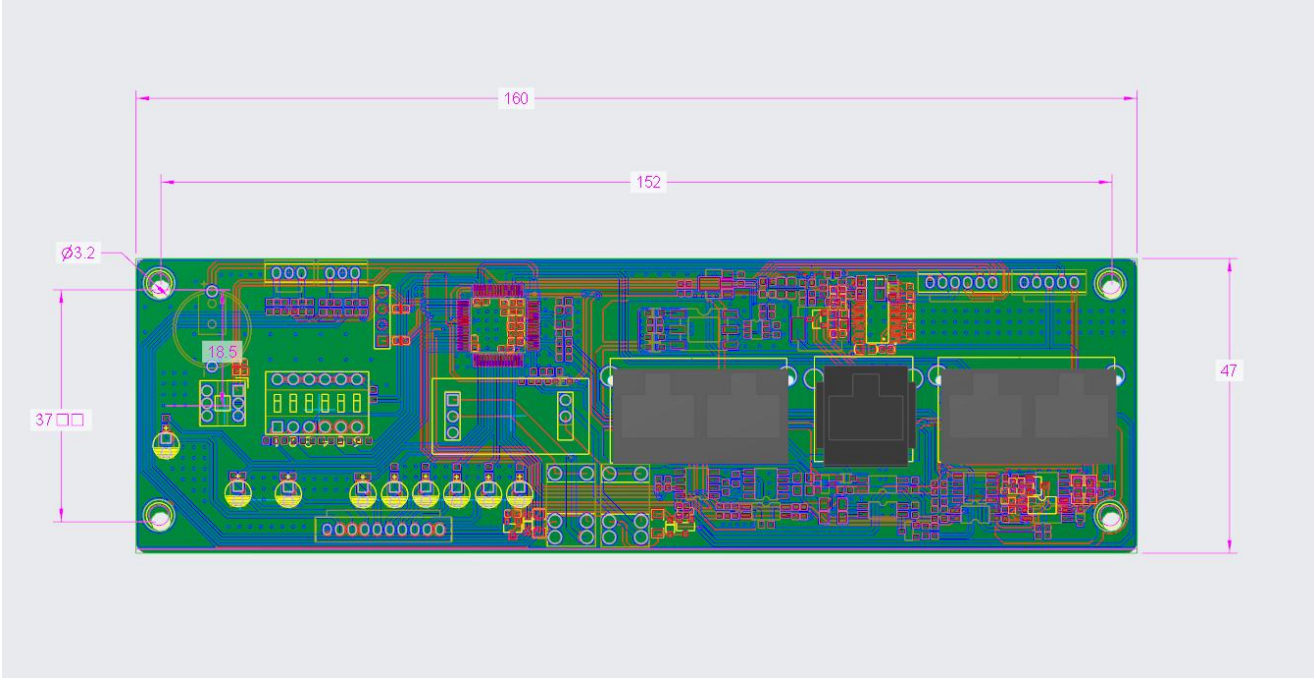






PCB board dimension drawing: (subject to the structure

drawing)



● Host computer description

●

The functions of the host computer V2.1.3 are mainly divided into six parts: data monitoring, parameter setting, parameter reading, engineering mode, historical alarm and BMS upgrade.

1. Analyze the data information sent by each module, and then display the voltage, temperature, configuration

value, etc.;

2. Configure information to each module through the host computer;

3. Calibration of production parameters;

4. BMS upgrade.