

东莞市达锂电子有限公司



Dongguan

Daly

Electronics

Co.,Ltd

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			



Edit with the Docs app

Make tweaks, leave comments, and share with others to edit at the same time.

storage ____ Line

English intelligent ____

NO THANKS

GET THE APP

n: closed when there is a fault or

Function	2. K2 closing condition: close when there is a low battery alarm; (default logic)	
	Is there a 120Ω terminal resistor	<input type="checkbox"/> Non <input checked="" type="checkbox"/> Yes
	Weak current switch	<input checked="" type="checkbox"/> Non <input checked="" type="checkbox"/> Yes
	Buzzer	<input checked="" type="checkbox"/> Non <input type="checkbox"/> Yes
	Positioning function	<input checked="" type="checkbox"/> Non <input type="checkbox"/> Yes
	Sampling socket	<input checked="" type="checkbox"/> Vertical type <input type="checkbox"/> Horizontal type
	Special Function	1
2		
3		

communication	Communication Port	<input checked="" type="checkbox"/> RS232 <input type="checkbox"/> RS485 <input checked="" type="checkbox"/> Parallel double RS485 <input type="checkbox"/> UART <input checked="" type="checkbox"/> Parallel double CAN
	Upgrade method	<input checked="" type="checkbox"/> RS232 <input checked="" type="checkbox"/> RS485 <input checked="" type="checkbox"/> CAN
	Communication protocol	<input checked="" type="checkbox"/> DALY standard communication protocol <input checked="" type="checkbox"/> PYLON CAN protocol <input checked="" type="checkbox"/> Growatt 485 Protocol <input checked="" type="checkbox"/> Growatt CAN Protocol <input checked="" type="checkbox"/> SRNE 485 Protocol <input checked="" type="checkbox"/> Voltronic Power 485 Protocol <input checked="" type="checkbox"/> GoodWe CAN Protocol <input checked="" type="checkbox"/> SOFAR SOLAR 485 Protocol <input checked="" type="checkbox"/> Schneider CAN Protocol

File Change Summary

date	version number	revision note	producer	authorizer
2022-4-15	1.0	Undetermined	Luo Li	Yan lianhong

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• 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

<input type="checkbox"/> Serial communication function	<input type="checkbox"/> <input type="checkbox"/> Have a variety of sleep and wake up methods
<input type="checkbox"/> <input type="checkbox"/> Integrated serial port IC	<input type="checkbox"/> <input type="checkbox"/> Low power consumption
<input type="checkbox"/> <input type="checkbox"/> High voltage accuracy ($\leq 20\text{mV}$)	<input type="checkbox"/> <input type="checkbox"/> Dual RS485 communication
<input type="checkbox"/> <input type="checkbox"/> High current accuracy ($\leq 2\%@\text{FS}$)	<input type="checkbox"/> <input type="checkbox"/> Parameter adjustable setting
<input type="checkbox"/> <input type="checkbox"/> 4-channel battery temperature detection ($\leq 2^\circ\text{C}$)	<input type="checkbox"/> <input type="checkbox"/> LED status indication function
<input type="checkbox"/> <input type="checkbox"/> SOC estimation function	<input type="checkbox"/> <input type="checkbox"/> Adjustable over current protection

• Environmental requirements

Item	Parameter	Unit
Operating temperature	-20~75	°C
Storage temperature	-20~75	°C
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	Off	Annihilate
Standby	Normal	on	flash 1	Off	According to the battery indicator						Standby mode	
	Alert	on	flash 1	flash 3							Module low voltage	
	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	
	Alert	on	on	閃3								

Charge											overcharge alarm occurs
	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 3	flash 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●	
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~	Off	flash	on	on	on	on	Off	on	on	on	on	on	

83.0%	off	2	off	off	off	off	off	off	off	off	off	off	off
83.0~ 100%	flash 2	on	on	on	on	on	on	on	on	on	on	on	on

Operation indicator ●	on	flash (flash 3)
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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

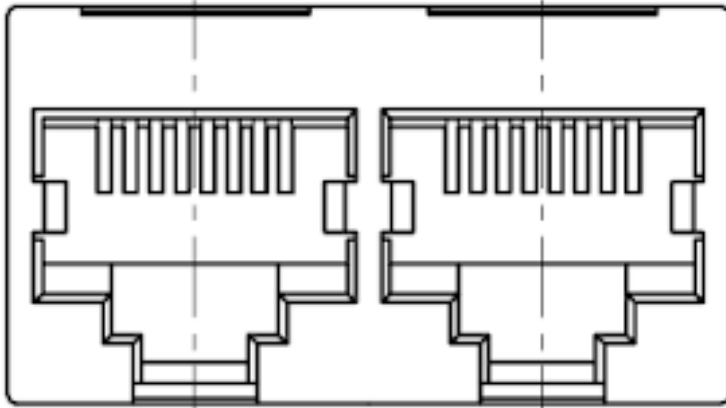
When the PACK's are used in parallel, different PACK's can be distinguished by setting the address through the DIP switch on the interface board. It is necessary to avoid setting the same address. Refer to the following table for the definition of the BMS DIP switch.



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

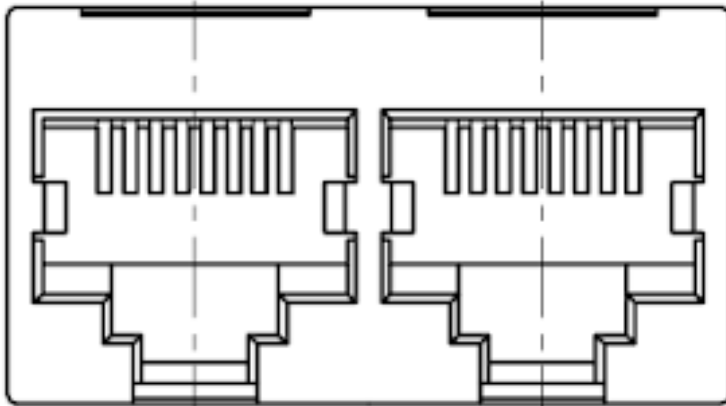


CAN communication port

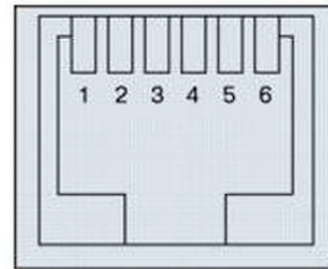


1 2 3 4

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

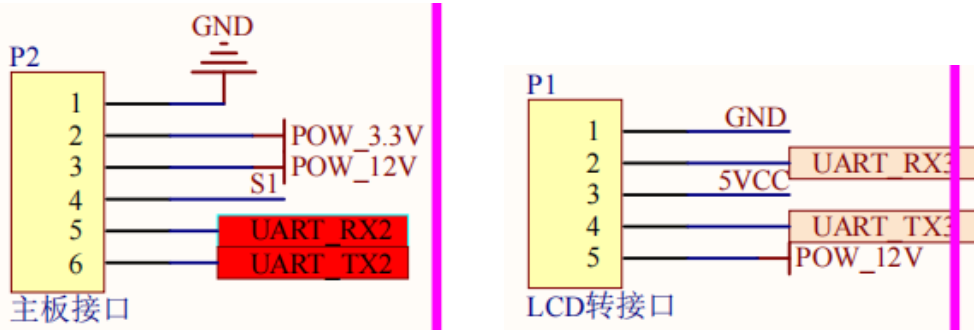
CAN--use 8P8C vertical RJ45 socket		CAN--use 8P8C vertical RJ45 socket	
RJ45:Pin	Definition Description	RJ45引脚	Definition Description

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



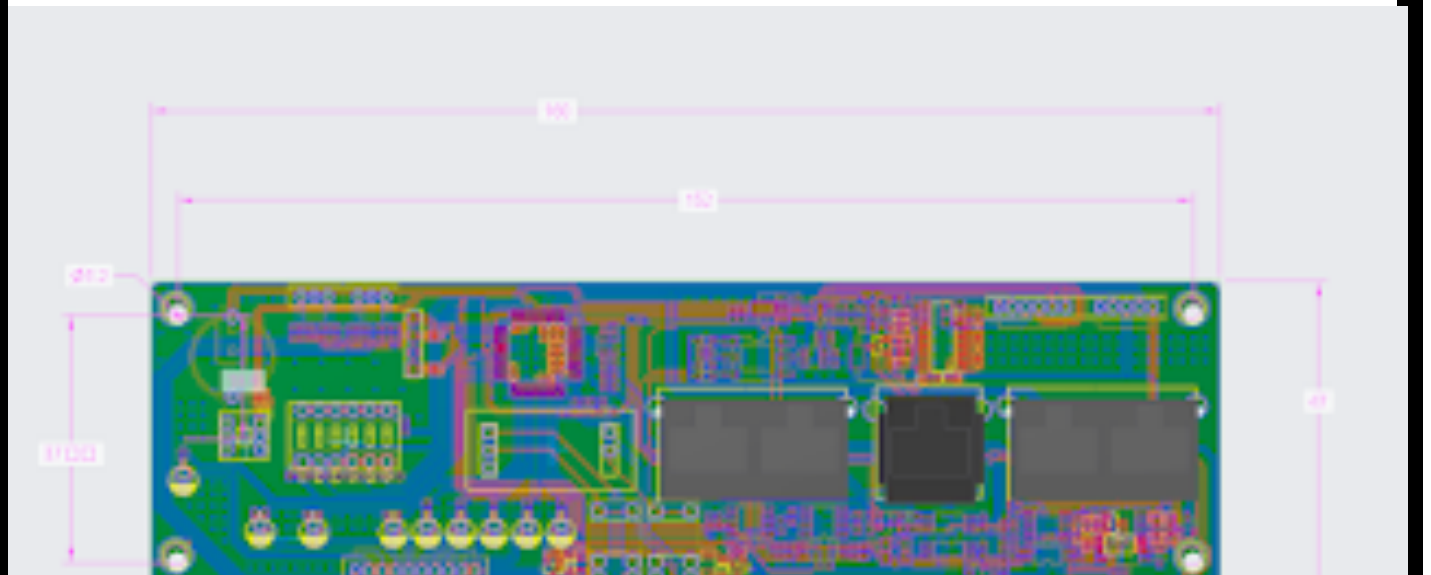
• Physical drawing and size drawing

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.

• Parallel system module

A parallel current limiting module specially developed for the PACK parallel connection of the 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 ensuring the safety of the cell and the protection plate.

Features