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CAN	1	Pylontech CANBUS 2018
	2	Growatt BMS CAN-Bus-protocol-low-voltage-V1.08 ()
	3	LV BMS (CAN) Family EN_V1.5 (GoodWe)
	4	Luxpowertek Battery CAN Protocol_2021 ()
	5	PV1800F-CAN 1.04.04 (Mercer)
	6	victron energy canbus_bms_protocol ()
	7	GINLONG CAN LV V1.0-2019.12.28 ()
	8	BMS CAN-Bus-protocol-low-voltage-V1.05 (Shangke)
	9	MEGAREVO CAN INVERTER LV V1.1
	10	SMA CAN 2.0 ()
	11	Schneider CAN ()
	12	STUDER CAN V1.02-2018.06.14 ()
485	1	RS485-protocol-pylon-low-voltage-V3.5 (Paineng)
	2	Growatt_BMS_RS485_Protocol_1xSxxP_ESS_Rev2.01 (Growatt)
	3	Voltronic Inverter BMS 485 Communication protocol 20200325 (JMY)
	4	Deye 485
	5	Luxpowertek Battery 485 Protocol ()
	6	WOW RS485 Modbus V1.3 ()
	7	Schneider 485 V2.0.pdf ()
	8	Eaton 485 ()
	9	MUST 485 ()
	10	
	11	
	12	
	13	
	14	
	15	

1、

16-

/

SOH

SOC

RS

485,

2、

2.1,

± 15

0 ~ 45

2.2,

MOS

NTC

4

, 1

1

± 2

10K

2.3,

$\pm 2\%$.

2.4,

2.5,

SOC

± 5%.

2.6,

2.7,

2.8,

6 , 4
SOC , 1
, 1

2.9,

BMS

24

30S, BMS

2.10,

CAN/RS485-

R485-

RS232-

2.11,

RS485.

1、

RS485 -

;

2、

RS485,

CAN/RS485

2.12,

excel

2.13,

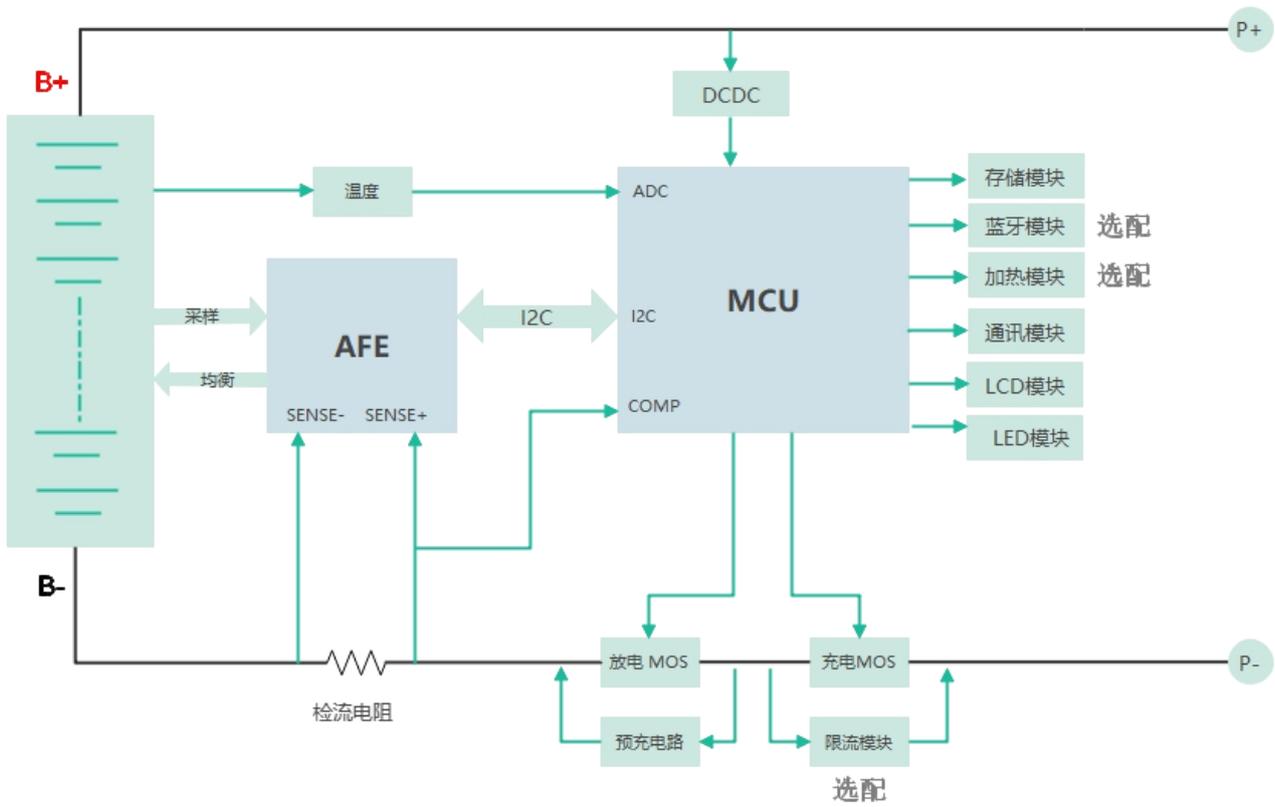
2.14,

2.15,

$3WuF \pm 20\%$.

8 24

3、



4、

				Unit
	41	59	48	
	30	60	54	
	-20	70	25	°C
()	<40			
	<200			
: 25				

5、
5.1、

1		3.6	
		3.65	
		1.0	
		3.38	
		> 1A	
2		2.9	
		2.8	
		1.0	
		3.0	
3		56.8	
		57.6	
		1.0	
		54.08	
		> 1A	
4		47.2	
		45.6	
		1.0	
		48	
5		105	

			110	
			1.0	
			1	
			> 1A	
6	1	1	105	
		1	110	
		1	1.0	
	1		1	
			> 1A	
7	2	2	150	
	2		1	
			> 1A	
8			$\geq 350A$	

9		MOS	90°C		
			105°C		
			85°C		
10			5°C		
			-10°C		
			-8°C		
			50°C		
			60°C		
			50°C		
			-15°C		
			-20°C		
			-15°C		
			55°C		
			65°C		
			55°C		

11			-15°C		
			-20°C		
			-15°C		
			65°C		
			70°C		
			65°C		
12			3400		
			30		
13			SOC < 5%		
			100AH		
			100AH		
14			> 1		
15			> 56		
			< 2		

:

5.2,

5.2.1,

BMS

MOSFET

5.2.2,

BMS

5.2.3,

, BMS

: 1,

; 2,

; 3.

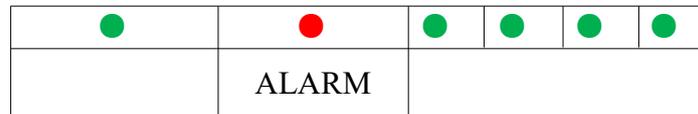
5.3,

5.3.1,

1 1

, 1

, 4



5.3.2,

		L4	L3	L2	L1	L4	L3	L2	L1
		●	●	●	●	●	●	●	●
(%)	0~25%								
	26~50%								
	51~75%								
	76~100%								

5.3.3,

		●	●	●	●	●	●	
		1						
		1						5%
				(2, ALM
				2)				
		3						
		3						

5.3.4,

1	0,25	3.75
2	0.5	0.5
3	0.5	1.5

6、

6.1、

， BMS ， BMS

， BMS

6.2、

6.2.1、

， BMS

6.2.2、

， BMS

6.3、

6.3.1、

， BMS

30

6.3.2、

， BMS

30

6.4、

BMS

BMS

14 24

6.5,

, BMS

, BMS

6.6,

BMS 4

6.6.1,

NTC

, BMS

. BMS

BMS

6.6.2,

NTC

, BMS

. BMS

, BMS

6.6.3,

NTC

, BMS

, BMS

NTC

MOS

, BMS

MOS, BMS

6.7,

BMS

BMS

6.8,

,

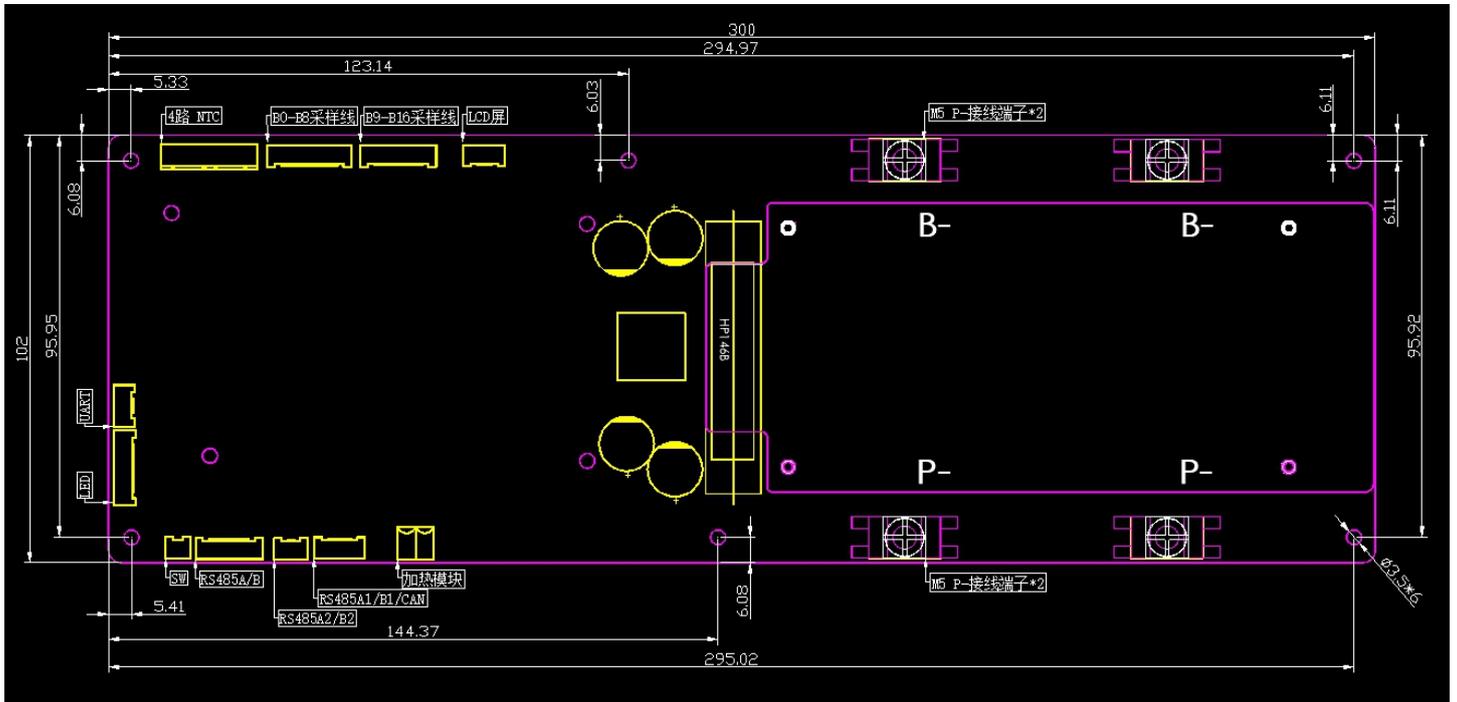
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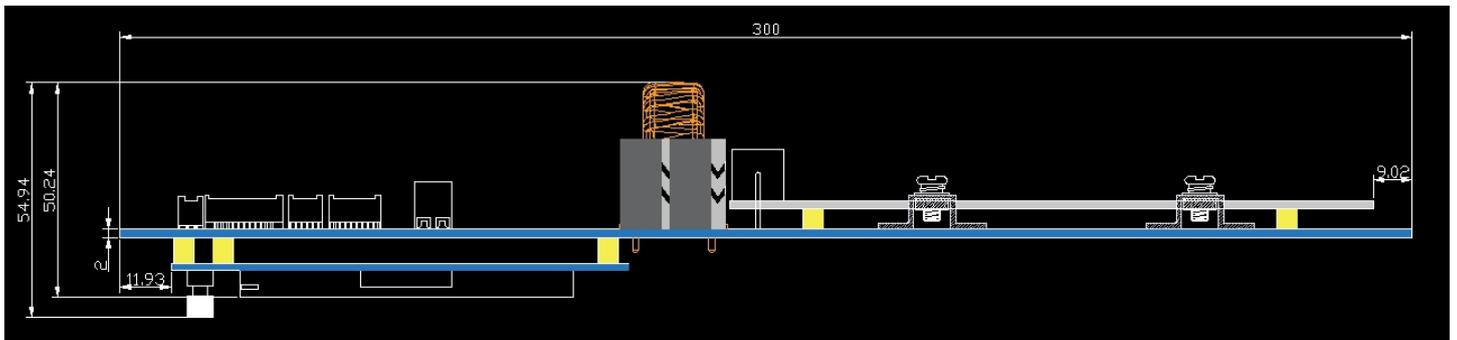
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7、

7.1、

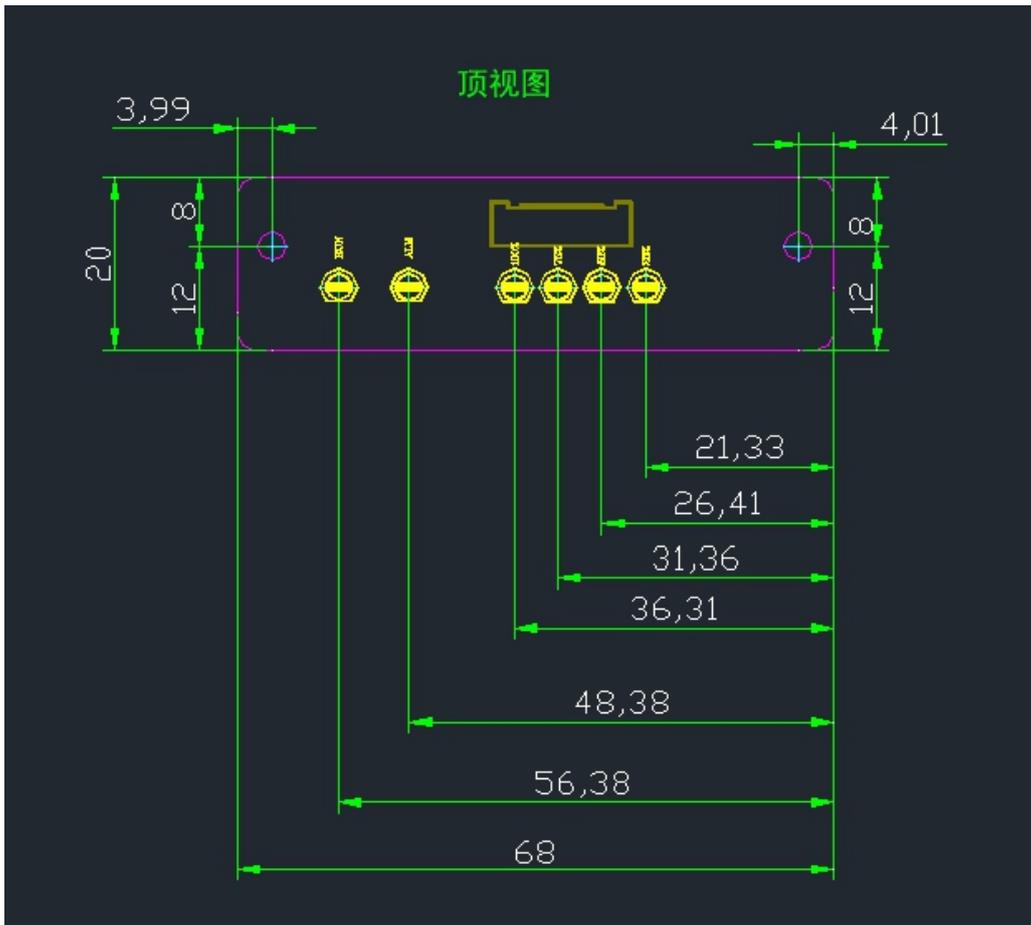


()

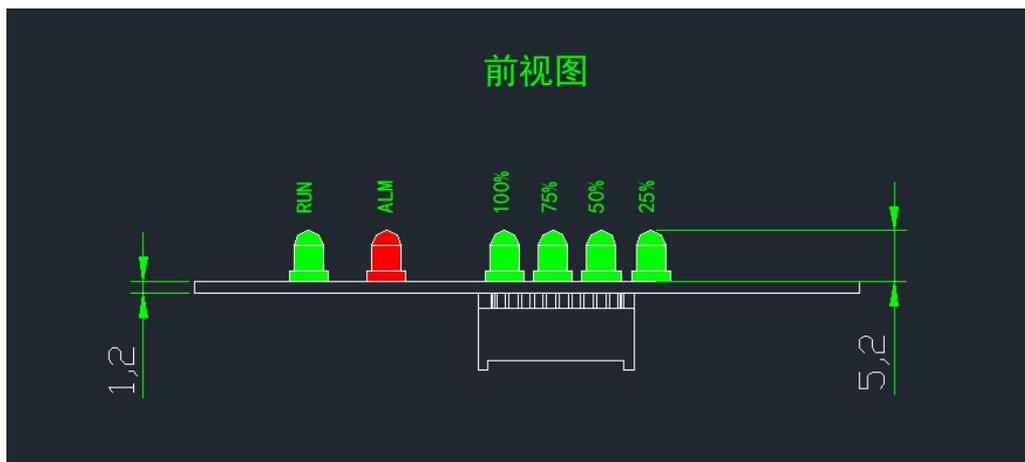


()

7.2,

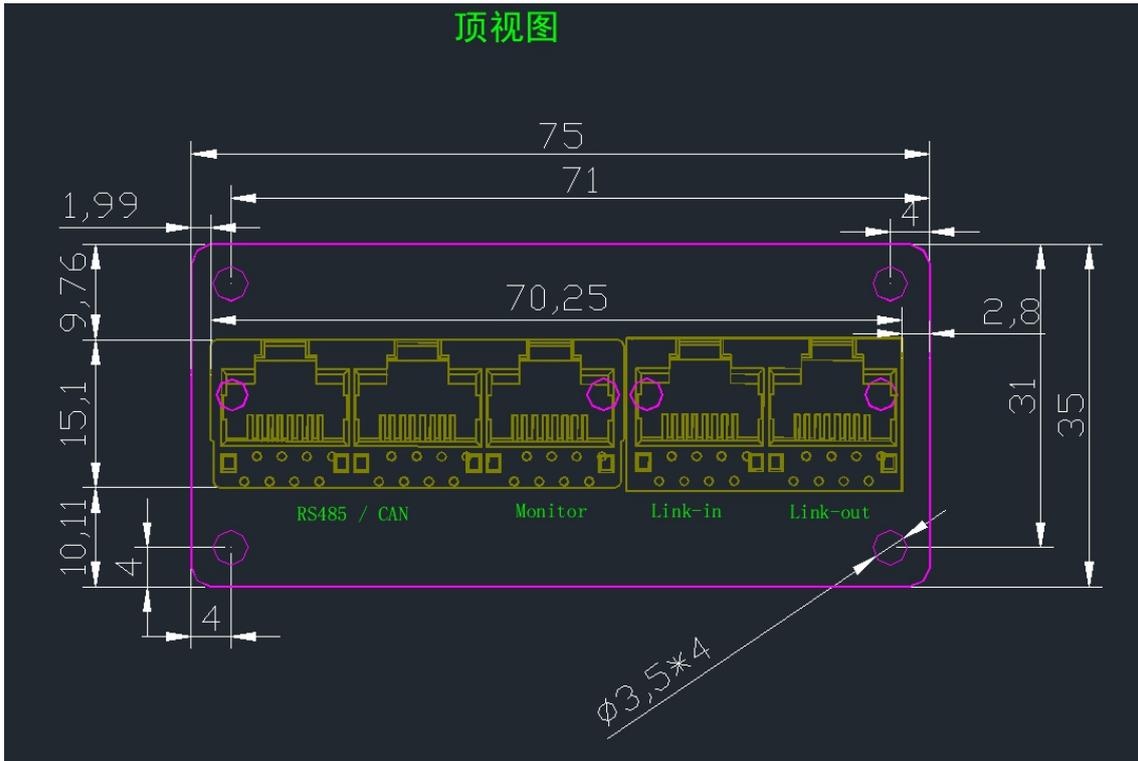


()



()

7.3,

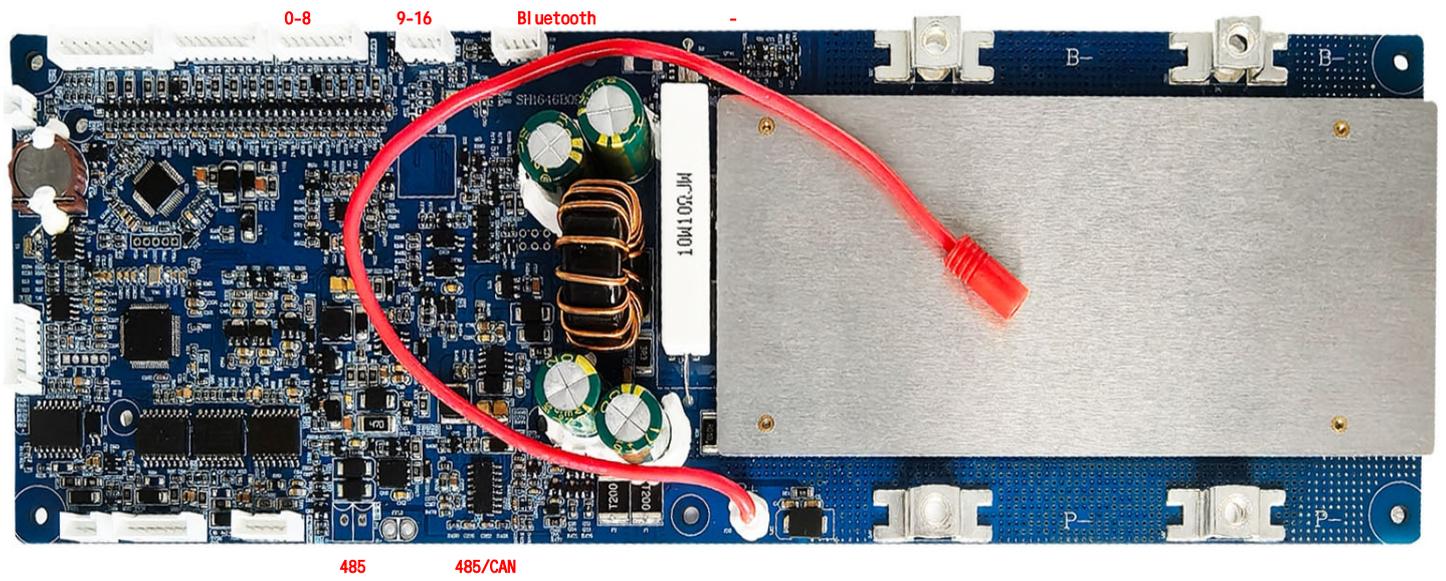


()



()

8、



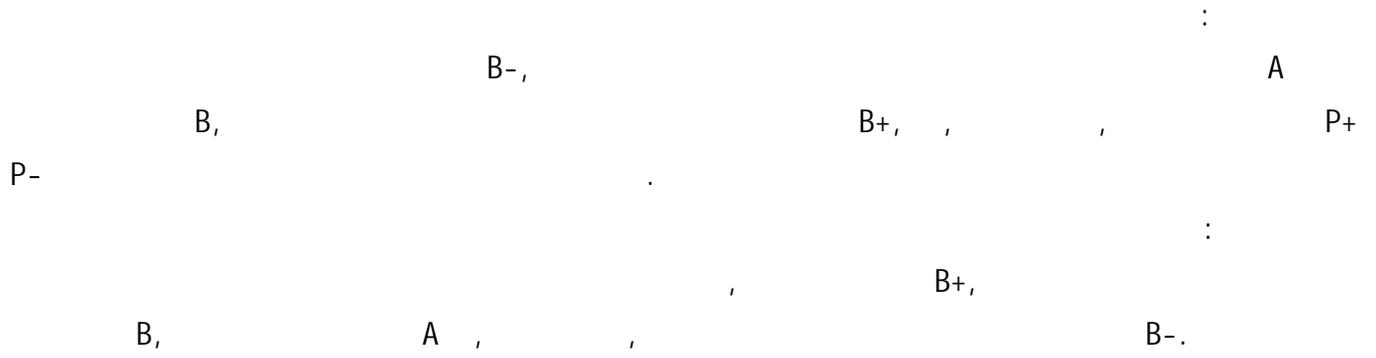
8.1,

(2. 0)			
J1			
	1	0	
	2	1	
	3	2	
	4	3	
	5	4	
	6	5	
	7	6	
	8	7	
	9	8	

(2. 0)			
J4			
	1	9	
	2	10	
	3	11	
	4	12	
	5	BT13	
	6	BT14	
	7	15	
	8	16	

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8.2,

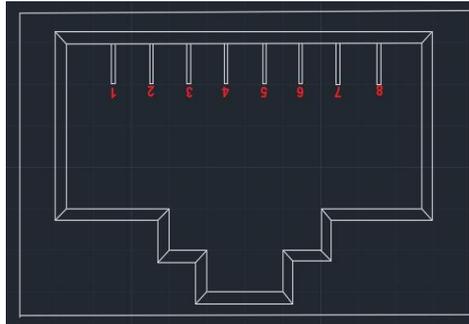


9、

9.1, CAN-

BMS CAN (1, 8P8C. CAN. RS485, PCS CAN.

CAN:



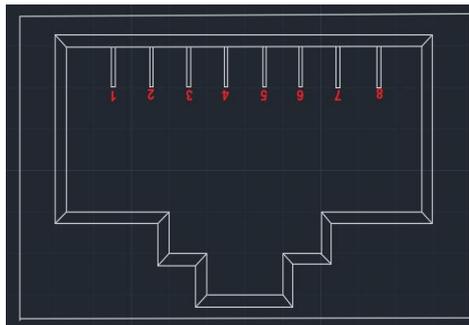
1、2、7、8	NC ()
4	CAN-H
5	CAN-L

9.2,

RS485

BMS RS485 (1, 9600 /). RS485 8P8C. RS485. RS485, PCS RS485.

RS485:



1、8	RS485-B
2、7	485-

3、6	
4、5	NC ()

21 24

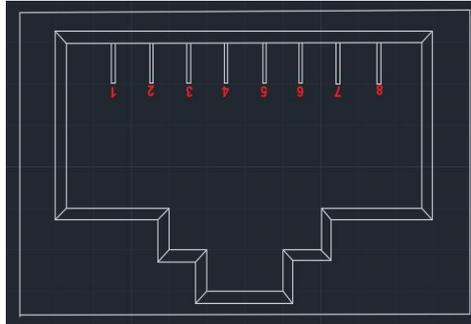
9.3, RS232

BMS

RS232,

8P8C.

485.



1、8	485-
2、7	RS485-B
3、6	
4、5	NC ()

: RS232 IC 485, 232 485

9.4,

RS485

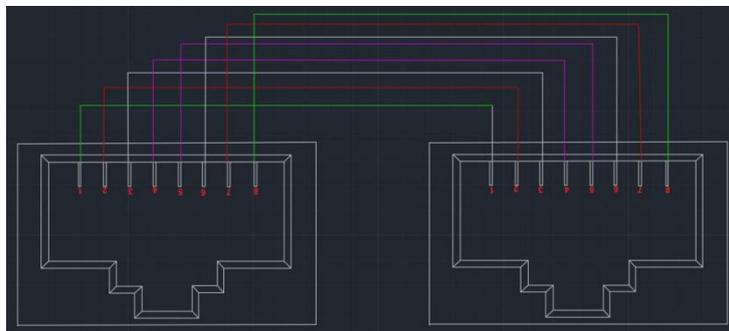
RS485

RS485/CAN

CAN.

RS485

RS485/



1、8	RS485-B	9、16	RS485-B
2、7	485-	10、15	485-
3、6		11、14	
4	UP_IN+	12	DN_OP+
5	UP_IN-	13	- -

9.5

:

DIP

1,

15

10.

BMS

85

BMS

BMS

BMS