

charging demand message of BMS and charger  
 BMS: CAN bus communication specification

The Communication specifications:

Data link layer should follow the principle of bus communication rate: 250Kbps

The provisions of data link layer mainly refer to The relevant provisions of can2.0b and J1939.

The 29-bit identifier of CAN extension frame is used and redefined. The following is The assignment table of 29 identifiers.

IDENTIFIER11BITS											SRR	IDE	IDENTIFIER EXTENSION18BITS																	
PRIORITY			R	DP	PDU FORMAT (PF)						SRR	IDE	PF		PDU SPECIFIC (PS)								SOURCE ADDRESS (SA)							
3	2	1	1	1	8	7	6	5	4	3			2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1
28	27	26	25	24	23	22	21	20	19	18			17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Among them, the priority is 3 bits, which can have 8 priority; R is usually fixed at 0; DP is now fixed at 0; 8-bit PF is the code of the message; Of the eight

PS is the target address or group extension; The 8-bit SA is The source address of sending this message. Holds the each node connected to the network has a name and address that identifies the function of the node and mediates the address, Which is used for data communication of the node each node has at least one function, and there may be multiple nodes with the same function, or one node with multiple functions

CAN network address assignment table:

CAN bus node address is obtained from J1939 standard.

Name of The node	SOURCE ADDRESS (SA)
Motor controller (MCU)	239 (0 xef)
Battery management system (BMS)	244 (0 xf4)
Charger control system (CCS)	229 (0 xe5)
Broadcast address (BCA)	80 (0 x50)

Message format:

Report 1: (ID: 0 x1806e5f4)

OUT	IN	ID				Cycle (ms)
BMS	CCS	P	R	DP	PF	1000
		6	0	0	6	
Data						
location	Data name					
BYTE1	Maximum allowable charging terminal voltage high byte		0.1V/bit offset: 0 example: Vset =3201, corresponding voltage is 320.1v			
BYTE2	Maximum allowable charging terminal voltage low byte					
BYTE3	Maximum allowed charging current high byte		0.1A/bit offset: 0 example: Iset =582, corresponding current is 58.2a			
BYTE4	Maximum allowed charging current low byte					
BYTE5	control		0: the charger starts charging.1: battery protection, charger off output.			
BYTE6	keep					
BYTE7	keep					
BYTE8	keep					

Report 2: (ID: 0x18FF50E5)

OUT	IN	ID				Cycle (ms)
CCS	BCA	P	R	DP	PF	1000
		6	0	0	0XFF	
data						
Location	Data Name					
BYTE1	Output voltage high byte		0.1V/bit offset: 0 example: Vout =3201, corresponding voltage is 320.1v			
BYTE2	Output voltage low byte					
BYTE3	Output current high byte		0.1A/bit offset: 0 example: Iout =582, corresponding current is 58.2a. Maximum BIT representation Symbol, 0 for charge, 1 for discharge.			
BYTE4	Output current low byte					
BYTE5	STATUS flag					
BYTE6	keep					
BYTE7	keep					
BYTE8	keep					

Status	Logo	Describe
Bit0	Hardware failure	0: normal.1: hardware failure
Bit1	Charger temperature	0: normal.1: Overtemperature protection of charger
Bit2	Input voltage	0: normal input voltage.1: the input voltage is wrong, and the charger stops working
Bit3	Start state	0: the charger detects that the battery voltage enters the starting state.1: off.(used to prevent backconnection of battery)
Bit4	Communicate status	0: normal communication.1: communication receive timeout
Bit5		
Bit6		
Bit7		

### Way to work

- 1) **BMS sends control information (message 1) to the charger at fixed intervals of 1S. After receiving the information, the charger works according to the voltage and current Settings of message data.** If the message is not received within 5 seconds, the communication error state will be entered and the output will be closed.
- 2) The charger sends broadcast information (message 2) every 1S, and the display instrument can display the state of the charger according to the information.
- 3) The charger has a 12V power supply