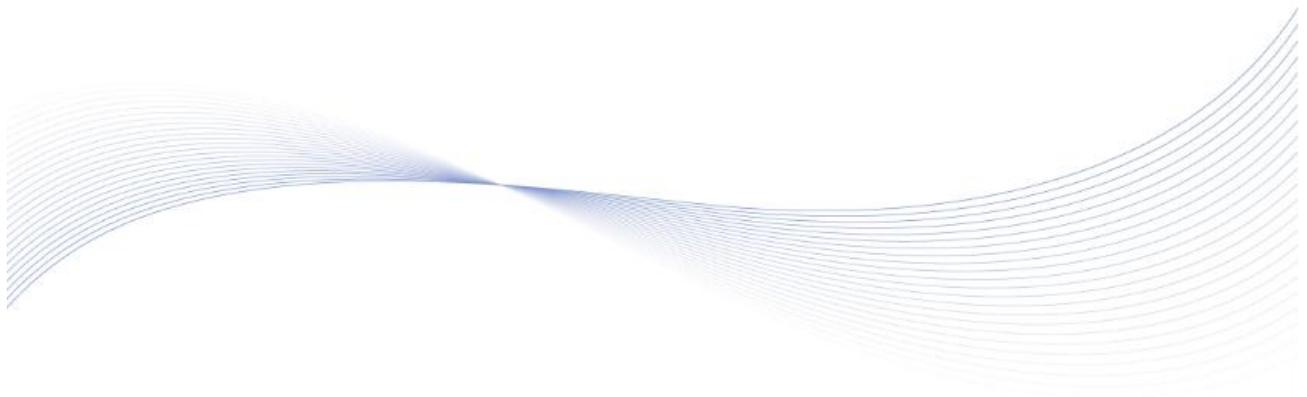




BCM4CAN
CHARGER CONTROLLER
CAN COMMUNICATION PROTOCOL



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Table 1 Software Version

Date	Version	Content
2023-06-28	1.0	Original release.

1. MESSAGE AND DATA

1.1. DATA FIELD

Table 2 Monitoring Data Field (Send)

ID (Address)		Item	Description	Bytes	
0x1800F000 Data	Data1	Charging Status	0: Standby 1: Trickle Charging 2: Fast Charging 3: Boost Charge 4: Float Charging	1Bytes	
	Data2	Stop		1 for active	1bit
		Aux. Input Port Status		1 for active	1bit
		BOOST Status		1 for active	1bit
		Reserved		1 for active	1bit
		Reserved		1 for active	1bit
		Reserved		1 for active	1bit
		Reserved		1 for active	1bit
		Reserved		1 for active	1bit
	Data3	Mains Failure		1 for active	1bit
		Charging Failure		1 for active	1bit
		Battery Detection Enable		1 for active	1bit
		Battery Temp. High Warning		1 for active	1bit
		Battery Voltage Low Warning		1 for active	1bit
Reserved			1 for active	1bit	
Reserved			1 for active	1bit	
Reserved			1 for active	1bit	
0x1800F100 Data	Data1	Output Voltage	Unsigned (*100)	2Bytes	
	Data3	Charging Current	Unsigned (*100)	2Bytes	
	Data5	Battery Voltage	Unsigned (*100)	2Bytes	
	Data7	Common Input Voltage	Unsigned (*100)	2Bytes	
0x1800F200 Data	Data1	Battery Temp.	Unsigned (*1)	2Bytes	
	Data3	Battery Temp. Sensor Resistance	Unsigned (*10)	2Bytes	
	Data5	Mains Voltage	Unsigned(*1)	2Bytes	
	Data7	Mains Current	Unsigned (*100)	2Bytes	

NOTE: Send a frame of data every 100ms, a total of 3 frames of data. It takes 0.3s to send.

1.2. MESSAGE PARSING

Table 3 Parsing Description

Output Voltage	0x1800F100	0V	5.0V	10.0V	15.0V	20.0V	25.0V	Inactive
		00 00	F4 01	E8 03	DC 05	D0 07	C4 09	FF FF
		01 02	03 04 05 06 07 08	10mV/bit increments, calculate from 0V				
Charging Current	0x1800F100	0A	2.0A	4.0A	6.0A	15.0A	20.0A	Inactive
		00 00	C8 00	90 01	58 02	DC 05	D0 07	FF FF
		01 02	03 04 05 06 07 08	10mA/bit increment, calculate from 0A				
Battery Voltage	0x1800F100	0 V	5.0V	10.0V	15.0V	20.0V	25.0V	Inactive
		00 00	F4 01	E8 03	DC 05	D0 07	C4 09	FF FF
		01 02 03 04	05 06 07 08	10mV/bit increment, calculate from 0V				
Common Input Voltage	0x1800F100	0V	5.0V	10.0V	15.0V	20.0V	25.0V	Inactive
		00 00	F4 01	E8 03	DC 05	D0 07	C4 09	FF FF
		01 02 03 04 05 06	07 08	10mV/bit increment, calculate from 0V				
Battery Temp.	0x1800F200	-40°C	-20°C	0°C	20°C	40°C	100°C	Open
		00 00	14 00	28 00	3C 00	50 00	8C 00	7F FF
		01 02	03 04 05 06 07 08	1°C/bit increment, calculate from -40°C				
Battery Temp. Sensor Resistance	0x1800F200	0Ω	500Ω	1000Ω	1500Ω	2000Ω	2500Ω	Open
		00 00	F4 01	E8 03	DC 05	D0 07	C4 09	FF FF
		01 02	03 04 05 06 07 08	1Ω increment, calculate from 0Ω, data range				
Mains Voltage	0x1800F200	0V	20V	50V	100V	150V	200V	Inactive
		00 00	14 00	32 00	64 00	96 00	C8 00	FF FF
		01 02 03 04	05 06 07 08	1V increment, calculate from 0V				
Mains Current	0x1800F200	0A	0.5A	1A	5A	8A	10A	Inactive
		00 00	32 00	64 00	F4 01	20 03	E8 03	FF FF
		01 02 03 04 05 06	07 08	10mA/bit increment, calculate from 0A				

Example:

If need to get battery voltage, it is known that battery voltage ID is 0x1800F100, corresponding data bytes are Data5, Data6 by checking table 2.

Corresponding table 3:

When battery voltage is 25V, controller will send 0x1800F100 01 02 03 04 C4 09 07 08;

If need to get temperature, it is known that battery voltage ID is 0x1800F200, corresponding data bytes are Data1, Data2 by checking table 2.

Corresponding table 3:

When battery temperature is 20°C, controller will send 0x1800F200 3C 00 03 04 05 06 07 08.