

Serial port (USB) to CAN protocol definition

The baud rate of the serial port is 2000000, 8 bit data bits, 1 bit stop bits, and no checksum.

CAN default baud rate is 250kbsp, extended frame

Transmit receive data format

	Definition					
Packet header	0xaa					
Typ	0xc0: TYPE bit5(frame type,:0- standard frame (frame ID 2 bytes), 1 extended frames (frame ID 4 bytes) bit4(Frame format,: 0- data frame, 1 remote frame) Bit0~3 Frame data length (0~8)					
Frame ID	Extended frame	1~8 bit	(BYTE1)	Standard frame	1~8 bit	(BYTE1)
		9~16 bit	(BYTE2)		9~11 bit	(BYTE2)
		17~24 bit	(BYTE3)			
		25~29 bit	(BYTE4)			
Frame data (frame data may be 0~8 data)	CAN sends or accepts data 1					
	CAN sends or accepts data2					
	CAN sends or accepts data3					
	CAN sends or accepts data4					
	CAN sends or accepts data5					
	CAN sends or accepts data6					
	CAN sends or accepts data7					
	CAN sends or accepts data8					
End code	0x55					

Sample description (standard frame):

1. For example, send the CAN standard frame ID to 0x123, and the corresponding data as 0x11

0x22 0x33 0x44 0x55 0x66 0x77 0x88

Then the serial port sends data format to

AA C8 23 01 11 22 33 44 55 66 77 88 55

The following is an explanation

AA Packet header

C8 Bit5 is 0 standard frame, bit4 is 0, data frame bit0~3 is 8, data length is 8, sending 8 bytes

23 01 For the frame ID 0x123

11 22 33 44 55 66 77 88 Send frame data for CAN

55 End code

For example, the serial port is received:

AA C8 23 01 11 22 33 44 55 66 77 88 55

The received CAN is the standard frame, ID is 0x123, the corresponding data is 11 22 33 44 55 66 77 88, 8 bytes, and the resolution is the same as above

2. For example, send CAN standard frame ID to 0x103, and the corresponding data is 0x 11 0x22

Then the serial port sends data format to:

AA C2 03 01 11 22 55

The following is an explanation:

AA Packet header

C2 bit5 is 0 standard frame, bit4 is 0, data frame bit0~3 is 2, data length is 2, sending 2 bytes

03 01 For the frame ID 0x103

11 22 Send frame data for CAN

55 End code

For example, the virtual serial port is received:

AA C2 03 01 11 22 55

The received CAN is the standard frame, ID is 0x0103, the corresponding data is 11 22, 2 bytes, and the resolution is the same as above

Sample description (extended frame):

1. For example, the CAN extended frame ID is 0x1234567, and the corresponding data is 0x11, 0x22, 0x33, 0x44, 0x55, 0x66, 0x77, 0x88

Then the serial port sends data format to:

AA E8 67 45 23 01 11 22 33 44 55 66 77 88 55

The following is an explanation:

AA Packet header

E8 Bit5 is 1, extended frame bit4 is 0, data frame bit0~3 is 8, data length is 8, sending 8 bytes

67 45 23 01 For the frame ID 0x1234567

11 22 33 44 55 66 77 88 Send CAN frame data

55 End code

For example, the serial port is received:

AA E8 67 45 23 01 11 22 33 44 55 66 77 88 55

The accepted CAN is an extended frame, ID is 0x1234567, and the corresponding data is 11 22 33 44 55 66 77 88, 8 bytes, parsed as above

2. For example, the CAN extended frame ID is 0x1033021, and the corresponding data is 0x 11 0x22:

Then the serial port sends data format to:

AA E2 21 30 03 01 11 22 55

The following is an explanation:

AA Packet header

E2 Bit5 is 0, extended frame bit4 is 0, data frame bit0~3 is 2, data length is 2, sending 2 bytes

21 30 03 01 For the frame ID 0x1033021

11 22 Send CAN frame data

55 End code

For example, the serial port is received

AA E2 21 30 03 01 11 22 55

The accepted CAN is an extended frame, ID is 0x1033021, and the corresponding data is 11 22, 2 bytes, parsed as above