communication protocol

Basic communication settings

Baud rate 9600, Data bit 8bit, Stop bit 1, Check digit None.

CRC16 Calculation description

Communication Protocol CRC Algorithm Description

1) The CRC calculation data is the start code to the data, and the stop code does not participate in the calculation. When the check code transmitted least significant bit first.

2.) CRC16 calculation step:

Preset a 16-bit register to a hexadecimal number FFFF (all 1s),

The register is called the CRC register.

Compare the first 8 bits of data with the lower 8 bits of the 16-bit CRC register and place the result in the CRC register;

3) Move the contents of the register one bit to the right (to the lowest bit L SB direction), fill the highest bit MSB with 0 , and check the least significant bit;

4) If the least significant L SB is 0, repeat step 3 (shift again);

If the least significant bit L SB is 1, the CRC register is XORed with the polynomial code A001 Hex (1010 0000 0000 0001);

5) Repeat steps 3 and 4 until you shift 8 times to the right so that the entire 8-bit data is processed.

6) Repeat steps 2 through 5 for the next 8-bit data processing; until all bytes are processed.

7) The final CRC register content is the CRC code.

It must be noted that when the CRC register value is placed in a message, its high and low bytes must be swapped. When a 16-bit CRC (two 8-bit bytes) is transmitted in the message, the low byte will be transmitted first, followed by the high byte.