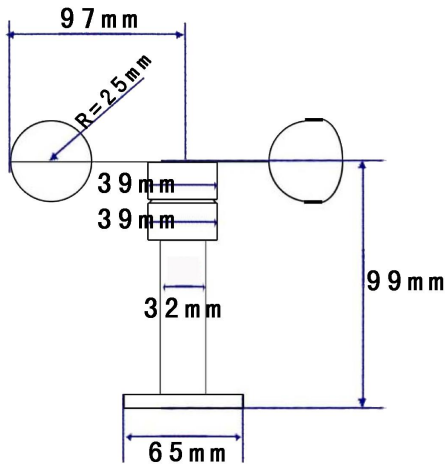
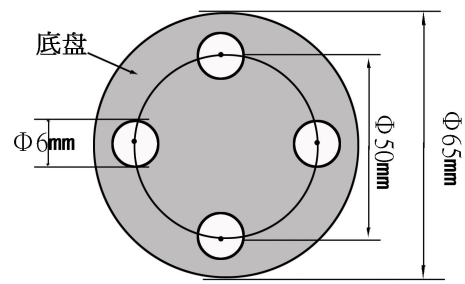
QS-FS Wind sensor

⊙Exterior specification

Compact and lightweight, easy to carry and assembly, three cup design concept can effectively obtain external environmental information





⊙Texture of material

Mainly uses the high quality polymer carbon fiber as raw material, has excellent corrosion resistance, anti erosion and other characteristics, to ensure the long-term use of instruments not rust, at the same time with the smooth internal sliding bearing system, to ensure the accuracy of the information collection.

⊙Application scope

The utility model can be widely applied to the measurement of the wind speed in the greenhouse, the environmental protection, the meteorological station, the ship, the wharf, the culture and the like。

⊙Functional characteristics

- ◆ Small size, easy to carry, easy installation
- ◆ High measuring accuracy, wide range, good stability
- ◆ Reasonable structural design, good appearance quality
- ◆ The linearity of the data information is good, the signal transmission distance is long, and the ability to resist external interference is strong

⊙Fixed mode

The flange mounting method, threaded flange connection enables the direction sensor fittings firmly fixed on the lower flange on the chassis with 65mm, four were mounting holes in the circumferential Phi 6m

m Phi 50mm on the use of bolts securely fixed on the bracket, the

whole set of instrument is maintained at an optimum level,

To ensure the accuracy of the wind direction data, flange connection is easy to use, can withstand greater pressure

⊙technical parameter

- Precision：±1m/s
- Start wind：0.2 m/s
  - ▲ Voltage output type

    Range：0~32. 4 m/s

    Supply voltage：7V~24 V　DC

    output signal：0.4~2V　or　0~5 V 、 1~5 V

    Wind speed value = (output voltage -0.4) /1.6*32.4
  - ▲ Current output type

    Range：0~32. 4 m/s

    Supply voltage：12V~24V　DC

    output signal：4~20 mA

    Load capacity：≤200 Ω

    Wind speed = (output current -4) /16*32.4
  - ▲ Pulse output type

    Range：0~60 m/s

    output signal：Pulse (0.88m/s per pulse)

    Supply voltage：5V~24V　DC

    Type 485

    Range：0~32. 4 m/s

Supply voltage：12V~24V　DC

Communication protocol: the wind speed sensor adopts the standard Modbus communication protocol，

Can be used to read the wind speed number 03 (Note:station number 2 default)

Send data command format：

02 03 00 00 00 01 84 39

02：Equipment station number

03： Command number, used in standard Modbus protocol to read data from memory

00　00：Read data start address，Wind speed value in memory 0000 Start address。

00　01：Read the number of data, the wind speed value in the memory of a data space, Modbus, a data space occupies 2 bytes of space。

84　39：CRCCheck value

Receive command format parsing：

02 03 02 01 45 3C 27

02：Equipment station number。

03：Command number

02：Return data length

01　45：Return wind speed value，In Modbus, the high 8 bits of data are in the first place, and the lower 8 bits in the behind， so （Wind speed value = wind return value /10, wind speed return value =0145， According to the actual value of the user can calculate the value of wind speed, where the figures are 16）。

3C　27：CRC check value。

Set station number protocol：

sent：00　10　10　00　00　00　02　00　05　CRC

00　　：Set station number can only use 00 stations

10　　：Write command

10　00：Write register start address

00　01：Write register number, fixed can not change

02　　：Byte write

00　05：Station No.

CRC　：CRCcheck

Receive：00　10　10　00　00　01　CRC

00　　：Set station number can only use 00 stations

10　　：Write command

10　00：Write register start address

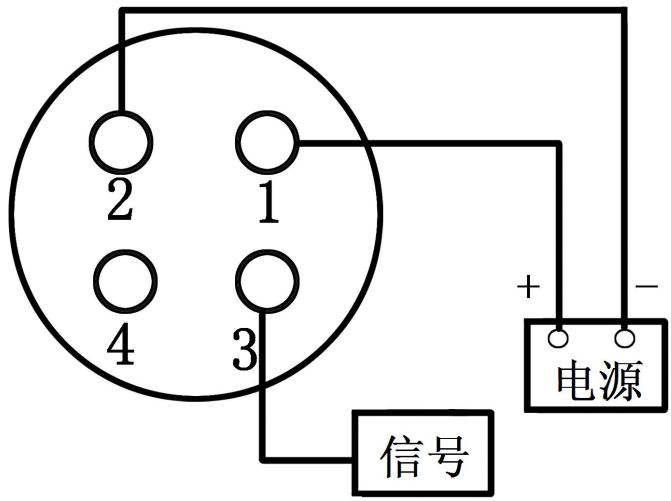
00　01：Write register number, fixed can not change

CRC　：CRCcheck

Appendix: CRC check function

```
int  CRC_Check(char *m_Data,short m_Size)
{
    int i0,i1;
    char CRC16Lo,CRC16Hi;     //CRC 寄存器
    char SaveHi,SaveLo;
    CRC16Lo = 0xFF;
    CRC16Hi = 0XFF;
    for(i0=0;i0<m_Size;i0++)
    {
        CRC16Lo = CRC16Lo ^ *(m_Data+i0);          //每一个数据与 CRC 寄存器进行异或
        for(i1=0;i1<8;i1++)
        {
            SaveHi = CRC16Hi;
            SaveLo = CRC16Lo;
            CRC16Hi >>=1;                          //高位右移一位
            CRC16Lo >>=1;                          //低位右移一位
            if((SaveHi & 1) == 1)                  //如果高位字节最后一位为 1
           {
                CRC16Lo |=0x80;                   //则低位字节右移后前面补 1
            }
           if((SaveLo & 1) == 1)                  //如果 LSB 为 1，则与多项式码进行异或
           {
                CRC16Hi ^=0XA0;
                CRC16Lo ^=1;
           }
        }
    }
    return ( CRC16Hi << 8 )| CRC16Lo;
}
```

⊙Signal output diagram



⊙Line color definition

Voltage current and pulse type connection definition

Name	External line		
Power	Red	Or	Brown
Ground	Blue		Black
Sign	Yellow		Blue

Type 485 connection definition

Name	External line
Power	Brown
485-A	blue
485-B	gray
Ground	black