Wind Speed Sensor User Guide

Overview

The wind speed sensor is an industrial-grade probe with high integration. The data is sent from the internal chip of the sensor to the computer through the modbus-rs485 interface, and realize real-time monitoring of multiple field environments.

Use case scenarios

This product is widely used in greenhouse, environmental protection, weather station, construction machinery, aquaculture and other environmental wind speed measurement.

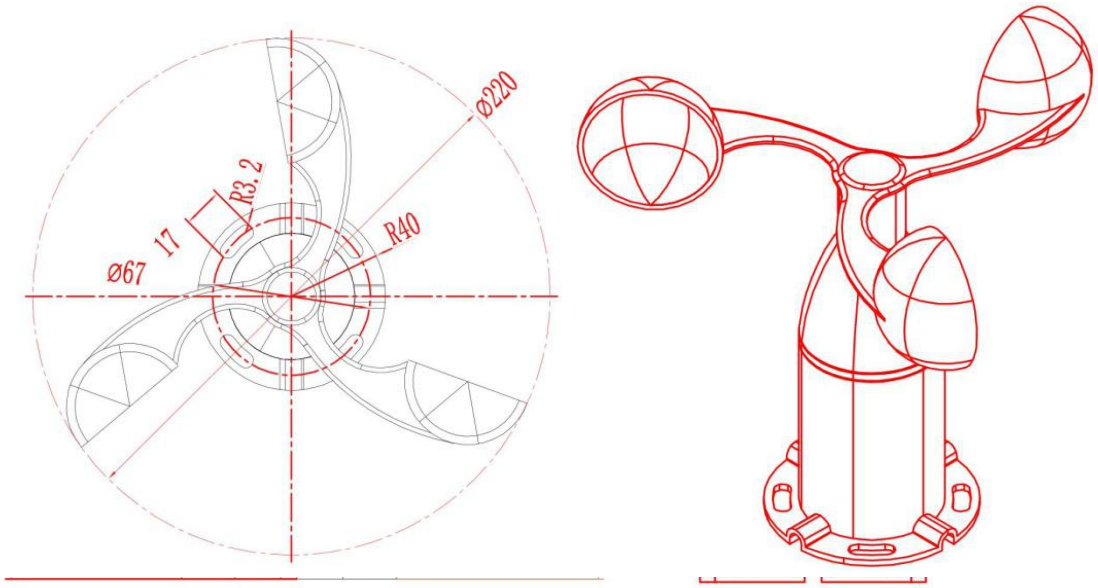
Features

1. The sensor is small in size and easy to setup.
2. High measurement accuracy and fast response speed.
3. High performance, high data transmission efficiency.

Main Parameters	
Measurement Range	0～30m/s
Accuracy	±（0.3+0.03V）m/s，V means Wind Speed
Output Interface	RS485
Working Voltage	12V-24VDC
Stabilization Time	＜1 Second
Response Time	＜1 Second
Operation Temperature	- 30℃～80℃
Cable Length	3 meters

Impedance requirements for current signals				
Working Voltage	9V	12V	20V	24V
Resistance-Maximum	125Ω	250Ω	500Ω	＞500Ω

Dimension



Communication Protocol

RS485 Interface（Default Address01）：

Standard RS485 protocol, Baud rate: 9600; Check bit: none; Data bit: 8; Stop bit: 1

1、Change the address,（for example: change the address of a transmitter from 1 to 2，Master→Slave）

Address	Function Code	Reserved 1	Reserved 2	Reserved 3	New Address	CRC16 LSB	CRC16 MSB
0X20	0X06	0X00	0X00	0X00	0X02	0X08	0X0B

If the transmitter receives correctly, the following data is returned，Slave→Master

Address	Function Code	Data Length	Reserved 1	New Address	CRC16 LSB	CRC16 MSB
0X20	0X06	0X02	0X00	0X02	0X39	0X49

2、Query Data

Query the data of transmitter (address: 1) (Wind Speed, Wind Scale), Master → slave

Address	Function Code	Starting Address MSB	Starting Address LSB	Register Length MSB	Register Length LSB	CRC16 LSB	CRC16 MSB
0X20	0X04	0X00	0X00	0X00	0X02	0XC4	0X0B

If the transmitter receives correctly, the following data is returned,

Slave→Master

Address	Function Code	Data Length	Register 0 Data MSB	Register 0 Data LSB	CRC16 LSB	CRC16 MSB
0X20	0X04	0X04	0X00	0X24	0XFA	0X39
			Wind Speed m/s			

Data representation method:

A. Wind Speed: ÷10 after converting the data into decimal data

B, wind Scale: convert data to decimal system

The above data indicate that the wind speed is 3.6 m/s and the wind scale is 3

Wind Scale

https://en.wikipedia.org/wiki/Beaufort_scale