RY-FSX Wind Speed and Direction Sensor

RY-FSX Wind Speed and Direction Sensor measures wind speed and direction at the same time, and adopts digital output interface. The wind cup adopts the structure of three wind cups, which is made of PC material, which has high strength and good starting; the cup body has better balance after dynamic balance processing. The built-in signal processing unit can output the corresponding wind speed signal according to user needs, and the wind direction adopts the design concept of large wind vane The external environment information can be effectively obtained. The shell is made of ASA material, which has good anti-corrosion and anti-corrosion characteristics, which can ensure that the instrument is free from rust in long-term use. At the same time, it is matched with the internal smooth bearing system to ensure the accuracy of information collection.

Features

※ Wind Speed range:：0-60m/s,Resolution:0.28m/s（Corresponding number of pulses）

※ Wind direction range：0-359.9°

※ Anti-electromagnetic interference treatment

※ Using high-performance imported bearings, low rotation resistance, accurate measurement

※ ASA shell, high mechanical strength, high hardness, does not change color, can be used outdoors for a long time

※ The structure and weight of the equipment are carefully designed and distributed, with small moment of inertia and sensitive response

※ Output：RS485(ModBusRTU)

Technical Data

Wind Speed	
Measuring Range	0-60m/s
Monitoring principle	Hall principle
Accuracy	±(0.3±0.03V) m/s
Resolution	0.3 m/S
Starting wind speed	≤0.6m/s
Wind Direction	
Measuring Range	0-360°
Monitoring principle	Hall principle
Accuracy	±3°
Resolution	0.1°
Starting wind speed	≤0.8m/s
Response time	＜1S
Power Supply	DC12V-DC24V
Power consumption	≤200mW

Ambient temperature	-20-80℃
Ambient humidity	0-100 %RH
Output	RS485（ModBusRTU）

Size

Installation method

MODBUS RTU communication protocol

The sensor defaults to serial communication, parameters: 9600, n, 8, 1.

The default address of the sensor is 0xFF.

  1. Read data command

Send：FF 03 00 00 00 02 D1 D5

FF	03	00　00	00　02	D1　D5
Sensor address	Function code	Register start address	Number of registers	CRC16 check bit

Reply：FF 03 04 01 60 03 84 E4 8D

FF	03	04	01 60	03 84	E4 8D
Sensor address	Function code	Data length	Wind speed data	Wind direction data	CRC16 check bit

Data Analysis：

0x0160 = 0x01 * 256 + 0x60= 352。

Wind speed = 352/100 =3.52 m/s。

0x0384 = 0x03 * 256 + 0x84=900。

Wind direction = 900/10 =90.0°

2.Read sensor address command

Send：00 03 00 00 00 01 85 DB

00	03	00 00	00 01	85 DB
Reserved address	Function code	Register address	Number of registers	CRC16 check bit

Reply：00 03 02 00 FF C5 C4

00	03	02	00 FF	C5 C4
Reserved address	Function code	Data length	Address data	CRC16 check bit

The address data is 0x00FF, which means the sensor address is 0xFF, and the current

sensor address range is 0x01-0xFF, where 0xFF is the default address.

3.Modify sensor address command (change to 0x01)

Send：00 06 00 00 00 01 49 DB

00	06	00 00	00 01	49 DB
Reserved address	Function code	Register address	Sensor new address	CRC16 check bit

Reply：00 06 00 00 00 01 49 DB

00	06	00 00	00 01	49 DB
Reserved address	Function code	Register address	Sensor new address	CRC16 check bit

The reply is the same as the data sent, indicating that the address has been modified successfully, and the current sensor address is 0x01.