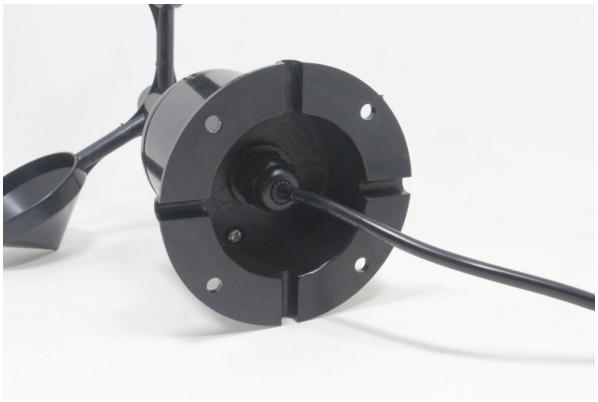
FS03
Wind speed transmitter
Instruction Manual (Analog)



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1. product description

1.1 product description

FS03 wind speed transmitter, compact and lightweight, easy to carry and assemble. The three cup design concept can effectively obtain wind speed information. The housing is made of polycarbonate composite material, which has good characteristics of anti-corrosion and erosion, which can guarantee The transmitter has been used for a long time without rust, and at the same time, it cooperates with the smooth bearing system to ensure the accuracy of information collection. It also uses traditional analog signals (4-20mA, 0-10V, 0-5V) for data output. It is widely used for wind speed measurement in greenhouses, environmental protection, weather stations, ships, terminals, breeding and other environments.

1.2 Features

1. Range: 0-30m / s (can be customized 0-70m / s), resolution 0.1m / s
2. Anti-electromagnetic interference treatment
3. The bottom outlet method is used to completely eliminate the aging problem of the rubber pad of the aviation plug, and it is still waterproof for long-term use.
4. Using high-performance imported bearings, small rotation resistance and accurate measurement
5. Polycarbonate shell, high mechanical strength, high hardness, corrosion resistance, no rust can be used outdoors for a long time
6. The equipment structure and weight are carefully designed and distributed, the moment of inertia is small, and the response is sensitive
7. It can be applied to both four-wire system and three-wire system.

1.3 Main Specifications

DC powered (default)	10~30V DC	
Maximum power consumption	Current output	1.2W
	Voltage output	1.2W
Resolution	0.1m/s	
Precision	±0.3m/s	
Transmitter circuit operating temperature	-20℃~+60℃，0%RH~80%RH	
Measuring range	Default 0 ~ 30m / s (can be customized 0-70m / s)	

Dynamic response time	≤1s	
output signal	Current output	4~20mA
	Voltage output	0~5V/0~10V
load capacity	Voltage output	Output resistance
	Current output	≤600Ω
Starting wind speed	Default 0.5m/s, high-precision bearings can be selected, upgrade to 0.2m/s	

2.product model

FS03-			Wind speed transmitter
	I20-		4 ～ 20 mA current output
	V05-		0 ～ 5V voltage output
	V10-		0 ～ 10V voltage output

3. Equipment installation instructions

3.1 Check before equipment installation

1.Transmitter equipment

2.4 mounting screws

3. Certificate of conformity, warranty card, calibration report, etc.

3.2 Wiring

3.2.1: Power wiring

Wide voltage 10 ~ 30V DC power input. For 0-10V output type equipment, only 24V power can be used.

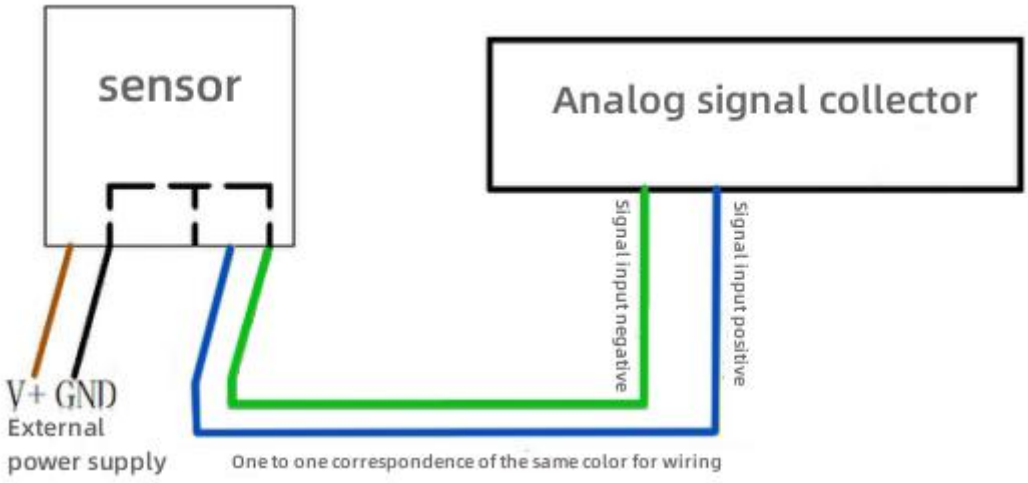
3.2.2: Output interface wiring

Adapt to both three-wire and four-wire systems.

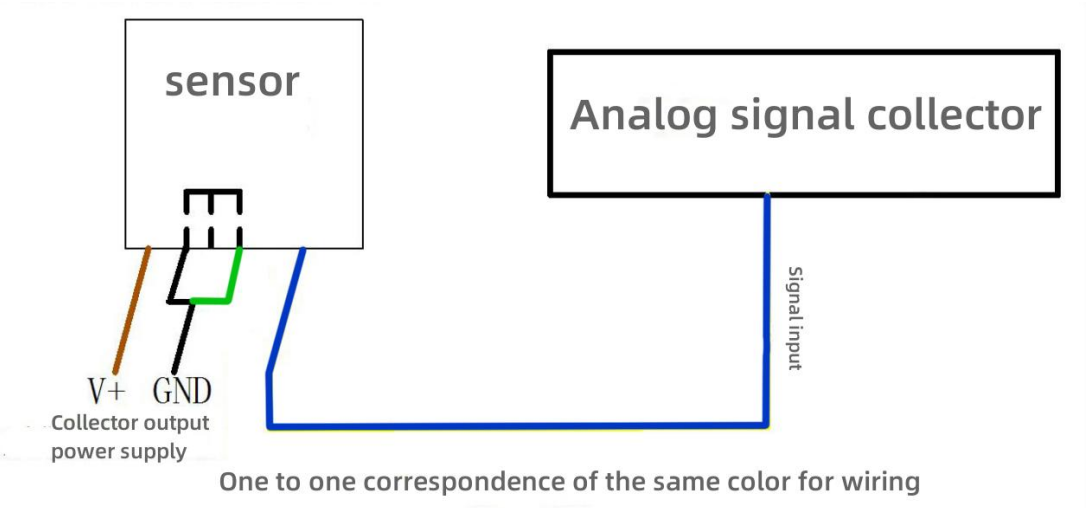
3.2.3: Electrical wiring

	Thread color	Description
power supply	brown	Power supply
	black	Negative power
Output	blue	Wind speed signal is positive
	green	Negative wind speed signal

3.3Examples of wiring methods



Four-wire system connection diagram



Three-wire connection method

3.4Installation method

Adopt flange mounting and threaded flange connection to firmly fix the lower pipe of the wind speed sensor to the flange. The chassis is Ø65mm. Four Ø6mm mounting holes are opened on the circumference of Ø47.1mm. Use bolts to fasten The bracket keeps the entire set of instruments at the optimal level to ensure the accuracy of the wind speed data. The flange connection is easy to use and can withstand large pressures.

3.5Precautions

1. The user is not allowed to dismantle by himself, nor touch the sensor core, so as not to cause damage to the product.

2. Try to stay away from high-power interference equipment to avoid inaccurate measurements, such as inverters, motors, etc. When installing and removing the transmitter, you must first disconnect the power supply. Water entering the transmitter can cause irreversible changes.

3. Prevent chemical reagent, oil, dust and other direct damage to the sensor, do not use it for a long time in the environment of condensation, extreme temperature, and prevent cold and heat shock.

4. Calculation method

4.1Calculation of current output signal conversion

The range is 0 ~ 30m / s, 4 ~ 20mA output. When the output signal is 12mA, the current wind speed is calculated. The span of the wind speed range is 30m / s, which is expressed by a 16mA current signal. 30m / s / 16mA = 1.875m / s / mA, that is, a change in current of 1mA and a change of wind speed of 1.875m / s. Then the measured value can be calculated from 12mA-4mA = 8mA.8mA * 1.875m / s / mA = 15m / s, then the current wind speed = 15m / s.

4.2Calculation of voltage type output signal conversion

The range is 0 ~ 30m / s. Taking the output of 0-10V as an example, when the output signal is 5V, the current wind speed is calculated. The span of the wind speed range is 30m / s, which is expressed by a 10V voltage signal, 30m / s / 10V = 3m / s / V, that is,

every 1V change in voltage corresponds to a 3m / s change in wind speed. The measured value is 5V-0V = 5V. 5V * 3 / m / s / V = 15m / s. The current wind speed is 15m / s.

5. Common problems and solutions

Symptom: No output or output error

possible reason:

1) PLC calculation error caused by incorrect range measurement. Please refer to the technical specifications in Part 1 for the measurement range.

2) The wiring method is incorrect or the wiring sequence is wrong.

3) The power supply voltage is incorrect (24V power supply for 0-10V models).

4) The distance between the transmitter and the collector is too long, causing signal disturbance.

5) The PLC acquisition port is damaged.

6) The equipment is damaged.

6. Dimensions