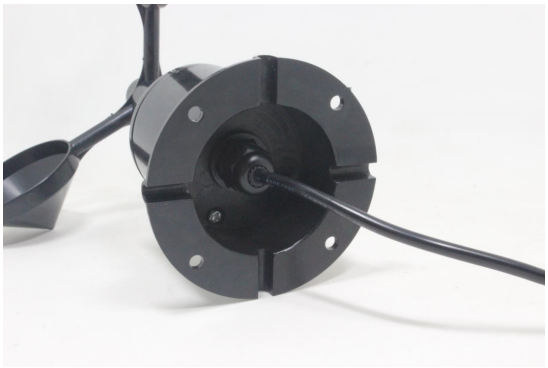
# FS01
# Wind speed transmitter
# Instruction Manual (Analog Type)

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# 1. product description

## 1.1 product description

FS01 wind speed transmitter, small and light, easy to carry and assemble. The three-cup design concept can effectively obtain wind speed information. The shell is made of polycarbonate composite material, which has good anti-corrosion and anti-corrosion characteristics. To ensure that the transmitter is used for a long time without rusting phenomenon, and at the same time, with the internal smooth bearing system to ensure the accuracy of information collection, and use voltage signals (0-5V, 0-3V, 0-2.5V, 1-5V) Perform data output. It is widely used in wind speed measurement in greenhouses, environmental protection, weather stations, ships, wharves, breeding and other environments.

## 1.2 Features

- Range: 0-30m/s (0-70m/s can be customized), resolution 0.1m/s
- 5V power supply, anti-reverse connection protection, anti-overvoltage protection function
- Anti-electromagnetic interference treatment
- Using the bottom outlet method, completely eliminate the aging problem of the rubber pad of the aviation plug, and it is still waterproof after long-term use
- Using high-performance imported bearings, low rotation resistance, accurate measurement
- Polycarbonate shell, high mechanical strength, high hardness, corrosion resistance, no rust, and long-term use outdoors
- The structure and weight of the equipment are carefully designed and distributed, with small moment of inertia and sensitive response
- Can be applied to four-wire and three-wire connection at the same time.

## 1.3 Main Specifications

| | | |
|---|---|---|
| DC power supply (default) | 5V DC | |
| Maximum power consumption | 0.12W | |
| Resolution | 0.1m/s | |
| Precision | ±（0.2+0.03V）m/s V represents wind speed | |
| Transmitter circuit operating temperature | -20℃~+60℃, 0%RH~80%RH | |
| Measuring range | Default 0~30m/s (0-70m/s can be customized) | |
| Dynamic response time | ≤1s | |
| output signal | Voltage output | 0-5V, 0-3V, 0-2.5V, 1-5V optional |
| load capacity | Output resistance≤250Ω | |

# 2. product model

| | | |
|---|---|---|
| FS01- | | 5V power supply polycarbonate wind speed transmitter |
| | V05 | 0～5V voltage output |
| | V03 | 0~3V voltage output |
| | V025 | 0~2.5V voltage output |
| | V15 | 1~5V voltage output |

# 3. Equipment installation instructions

## 3.1 Equipment installation instructions Check before equipment installation

■Transmitter equipment 1

■4 mounting screws

■Qualification certificate, warranty card, calibration report, etc.

## 3.2 wiring

### 3.2.1: Power wiring

5V DC power input. It has anti-connection protection and anti-overvoltage protection functions.

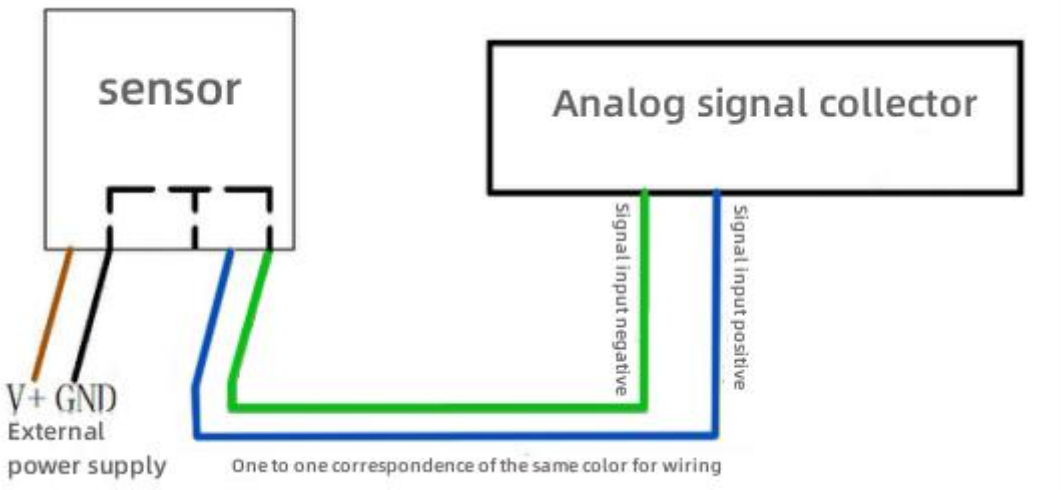
### 3.2.2: Output interface wiring

Adapt to the three-wire system and the four-wire system at the same time.

### 3.2.3: Electrical wiring

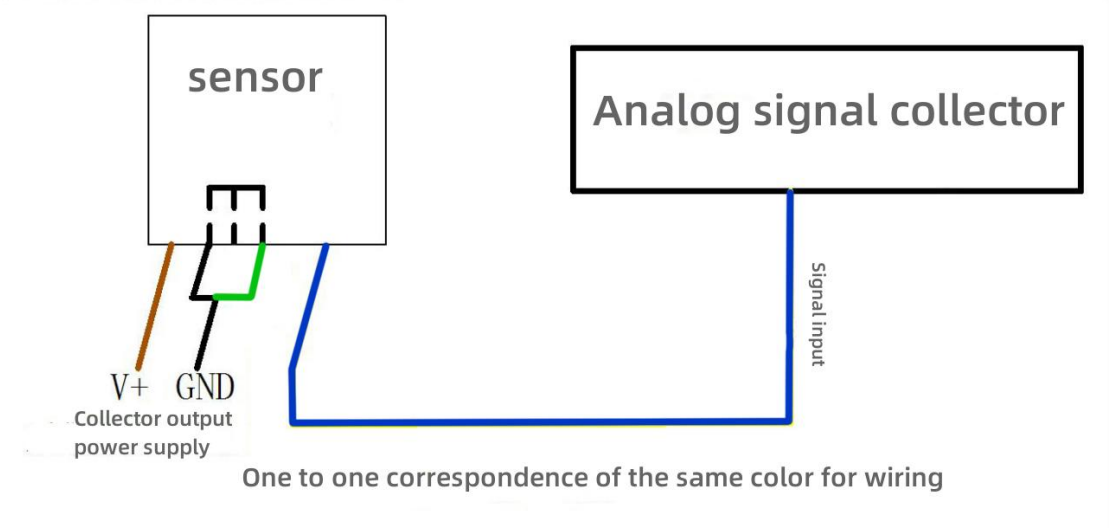
| | Thread color | Description |
|---|---|---|
| Electrical wiring power supply | brown | Power is positive |
| | black | Power negative |
| Output | blue | Wind speed signal is positive |
| | green | Wind speed signal negative |

## 3.3Wiring example




**Example of connection method: schematic diagram of four-wire**

**connection**




**Schematic diagram of three-wire connection**

## 3.4Installation method

Flange installation is adopted. The threaded flange connection makes the lower pipe fitting of the wind speed sensor firmly fixed on the flange. The chassis is Ø65mm. Four mounting holes of Ø6mm are opened on the circumference of Ø47.1mm, and the bolts are used to fix it tightly. The bracket keeps the whole set of instruments at the best level to ensure the accuracy of wind speed data. The flange connection is easy to use and can withstand greater pressure.


## 3.5Precautions

1. Users are not allowed to disassemble by themselves, let alone touch the sensor core, so as not to cause damage to the product.

2. Keep away from high-power interference equipment as far as possible to avoid inaccurate measurement, such as inverters, motors, etc., when installing or disassembling the transmitter, you must first disconnect the power supply. Water in the transmitter can cause irreversible changes.

3. Prevent chemical reagents, oil, dust, etc. from directly invading the sensor, do not use it for a long time under condensation and extreme temperature environments, and prevent thermal shock

# 4. Calculation method

## 4.1Voltage output signal conversion calculation

The range is 0~30m/s. Take 0-5V output as an example. When the output signal is 2V, calculate the current wind speed. The span of the wind speed range is 30m/s, expressed by a 5V voltage signal, 30m/s/5V=6m/s/V, that is, every 1V change in voltage corresponds to a wind speed change of 6m/s. The measured value is 2V-0V=2V. 2V*6/m/s/V=12m/s. The current wind speed is 12m/s.

# 5. Common problems and solutions

## Trouble phenomenon: no output or output error

possible reason:

1) The PLC calculation error is caused by the error corresponding to the range. Please refer to the technical indicators in the first part of the range.
2) The wiring method is wrong or the wiring sequence is wrong.
3) The power supply voltage is incorrect (the voltage exceeds 5V or the voltage is reversed).
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