



RS-FX-*

Wind direction transmitter Instruction Manual (Analog)

Document version: V2.1





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1. product description

1.1 product description

RS-FX- * wind direction transmitter, compact and lightweight, easy to carry and assemble. The new design concept can effectively obtain the wind direction information. The housing is made of high-quality aluminum alloy profile, and the exterior is plated and sprayed with plastic. Features such as erosion can ensure long-term rust-free use of the transmitter. Colleagues cooperate with the internal smooth bearing system to ensure the accuracy of information collection, and use traditional analog signals (4-20mA, 0-10V, 0- 5V) for data output. It is widely used in wind direction measurement in greenhouses, environmental protection, weather stations, ships, terminals, breeding and other environments.

1.2 Features

- 1.Range: 8 directions
2. Anti-electromagnetic interference treatment
3. Imported high-performance bearings, small rotation resistance and accurate measurement
- 4.All-aluminum housing, high mechanical strength, high hardness, corrosion resistance, no rust, can be used outdoors for a long time
5. The equipment structure and weight are carefully designed and distributed, the moment of inertia is small, and the response is sensitive
6. It can be applied to both four-wire system and three-wire system.

1.3Main Specifications

DC powered (default)	10~30V DC	
Maximum power consumption	Current output	1.2W
	Voltage output	1.2W
Transmitter circuit operating temperature	-40℃~+60℃ , 0%RH~80%RH	
Measuring range	8 directions	
Dynamic response time	≤0.5s	
output signal	Current output	4~20mA
	Voltage output	0~5V/0~10V
load capacity	Voltage output	Output resistance≤250 Ω
	Current output	≤600 Ω



2. product model

RS-			Company code
	FX-		Wind direction 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. Qualification certificate, warranty card, wiring instructions, 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 supply can be used.

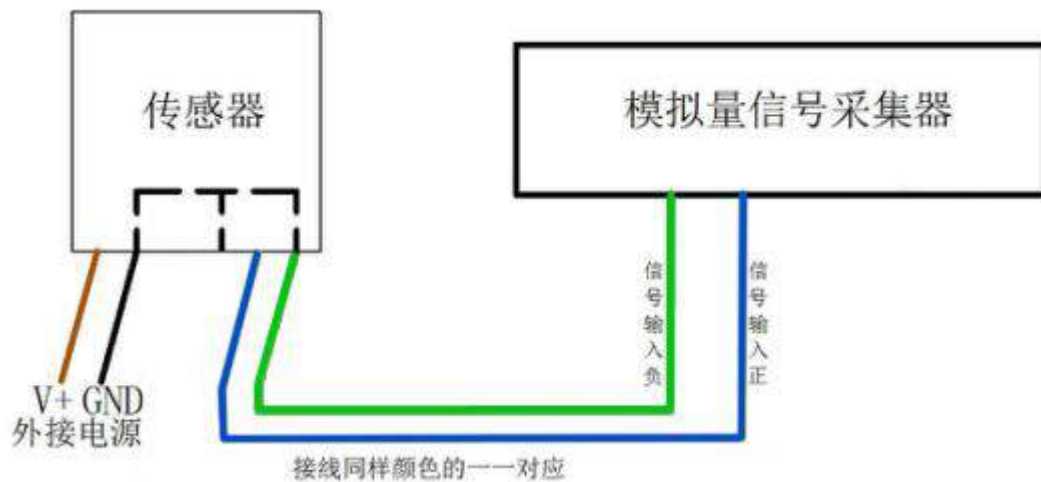
3.2.2: Output interface wiring

Adapt to both three-wire and four-wire.

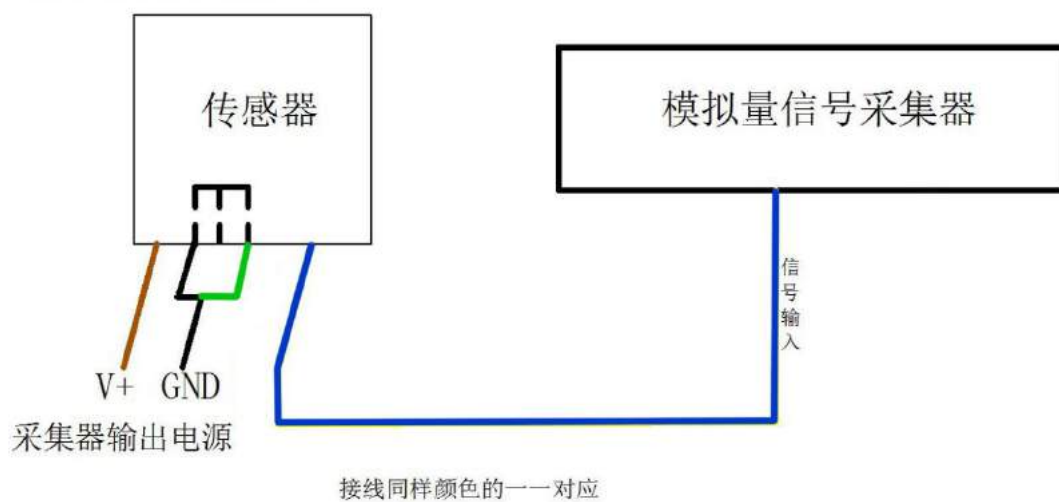
3.2.3: Electrical wiring

	Thread color	Description
power supply	brown	Power supply
	black	Negative power
Output	blue	Positive wind direction signal
	green	Negative wind direction signal

3.3 Examples of wiring methods



Four-wire system connection diagram



Three-wire connection method

3.4 Installation method

It adopts flange installation and threaded flange connection to firmly fix the lower pipe of the wind direction sensor to the flange. The chassis is $\text{Ø}65\text{mm}$. Four $\text{Ø}6\text{mm}$ mounting holes are opened on the circumference of $\text{Ø}47.1\text{mm}$. Use bolts to fix it tightly on the flange. The bracket keeps the entire set of instruments at the optimal level to ensure the accuracy of the wind direction data. The flange connection is easy to use and can withstand large pressures.



3.5 Precautions

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

4-20mA output comparison table		0-10V output comparison table		0-5V output comparison table	
output value (mA)	Corresponding wind direction	Output value (V)	Corresponding wind direction	Output value (V)	Corresponding wind direction
≈4	North wind	≈0	North wind	≈0	North wind
≈6.2857	Northeast wind	≈1.4286	Northeast wind	≈0.7143	Northeast wind
≈8.5714	Dongfeng	≈2.8571	Dongfeng	≈1.4286	Dongfeng
≈10.8571	Southeast wind	≈4.2857	Southeast wind	≈2.1429	Southeast wind
≈13.1429	south wind	≈5.7143	south wind	≈2.8571	south wind
≈15.4286	Southwest wind	≈7.1429	Southwest wind	≈3.5714	Southwest wind
≈17.7143	Westerly	≈8.5714	Westerly	≈4.2857	Westerly
≈20	Northwest wind	≈10	Northwest wind	≈5	Northwest wind

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. Contact

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Web QR:



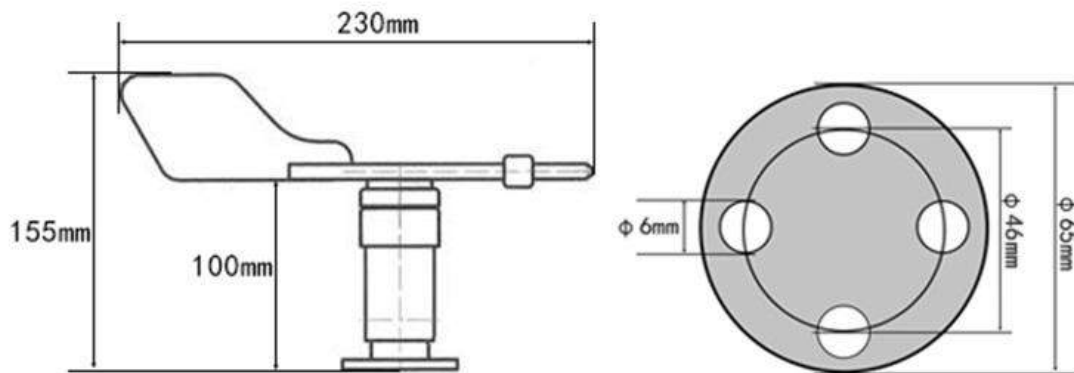
7. Document history

V1.0 document creation.

V2.0 documentation update.

V2.1 Corrected mounting hole size.

8. Dimensions



Attachment: On-site drilling instructions

