

3.3.2The output value of the wind direction sensor corresponds to the position of the wind direction

0x000ERS485 output data definition

True north: 0x000F	North-northeast: 0x0000
Northeast: 0x0001	East Northeast: 0x0002
True east: 0x0003	East southeast: 0x0004
Southeast: 0x0005	South by Southeast: 0x0006
True South: 0x0007	South by Southwest: 0x0008
Southwest: 0x0009	West Southwest: 0x000A
West: 0x000B	West to Northwest: 0x000C
Northwest: 0x000D	Northwest: 0x000E

3.4Notes

Please check whether the packaging is intact, and check whether the transmitter model and specifications are consistent with the product you purchased; if you have any questions, please contact our company as soon as possible.

Please confirm before use: whether the output voltage of the power supply is correct; the positive and negative connections of the power supply and the positive and negative connections of the product; and read the product manual or consult our company. Any error in the wiring will cause irreversible damage to the transmitter.

3.2 Warranty and after-sales

The warranty clauses follow the sensor after-sales clauses of Electronic Technology Co., Ltd., two years for the sensor host circuit part, one year for gas-sensitive probes, and three months for accessories (housing/plugs/cables, etc.)

485 wind direction sensor user's Guide

3001-FX

Ver1.0

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Chapter 1 Product Introduction

1.1 product description

The JXBS-3001-FS series wind direction sensor is small and light, easy to carry and assemble. The three-cup design concept can effectively obtain external environmental information. The shell is made of high-quality aluminum alloy profiles, and the exterior is electroplated and sprayed, which has good anti-corrosion, Anti-corrosion and other characteristics can ensure that the instrument is free from rusting in long-term use, and at the same time, with the smooth internal bearing system to ensure the accuracy of information collection. It is widely used in wind direction measurement in greenhouses, environmental protection, weather stations, ships, docks, and breeding.

1.2 Main parameters

parameter	Technical index
Wind direction measurement range	16positions
Wind direction measurement accuracy	1positions
Response time	Less than 5 seconds
Baud rate	9600

Communicati
on port RS485

Power supply 12V-24V DC

Power <1W

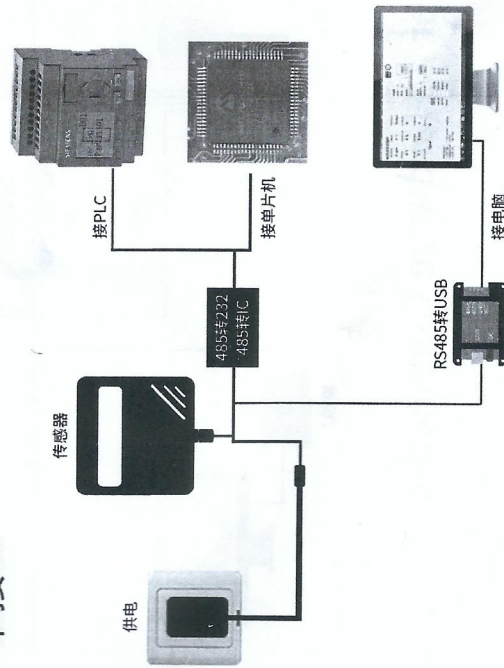
Operating temperature -30-80℃

Working humidity 0-100%RH (15-95%RH)

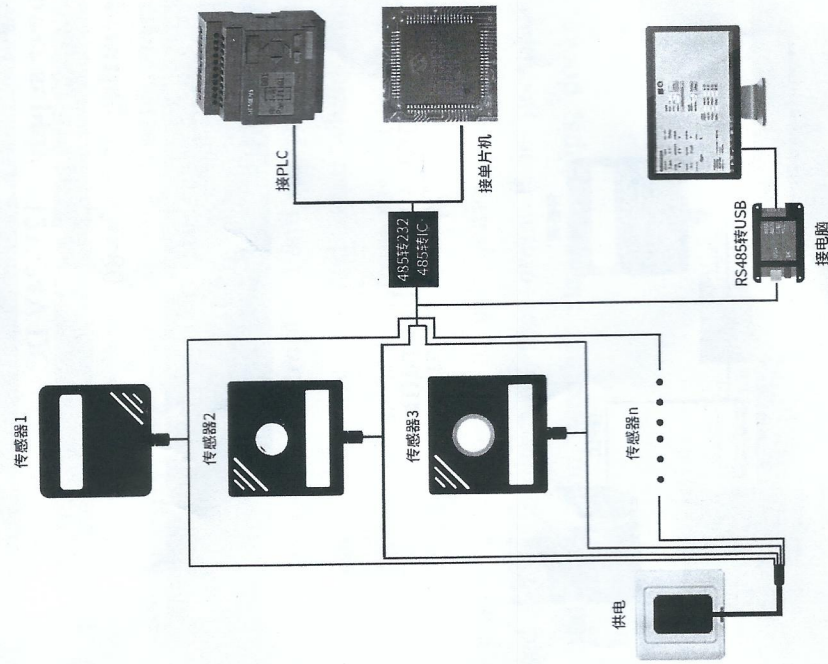
environment

1.3 System framework diagram

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Chapter 2 Hardware Connection

2.1 Inspection before equipment installation

Please check the equipment list before installing the

equipment:

name	Quantity
High precision sensor	1set
Wind direction 485 line	1 piece
12V waterproof power supply (Optional)	1set
USB to 485 device (Optional)	1set
Warranty card /certificate	1 serving

2.1.1 Wiring mode

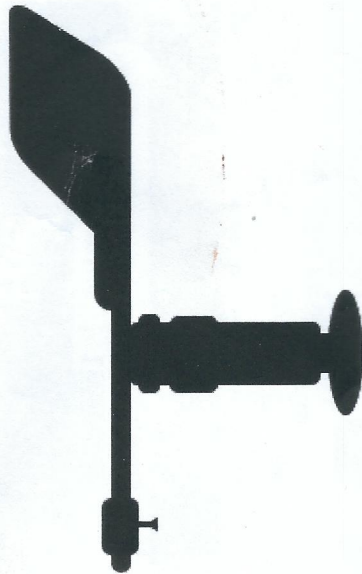
ratio blue 485B
n

The factory default provides 0.6 meters long wire, customers can extend the wire as needed or wire in order.

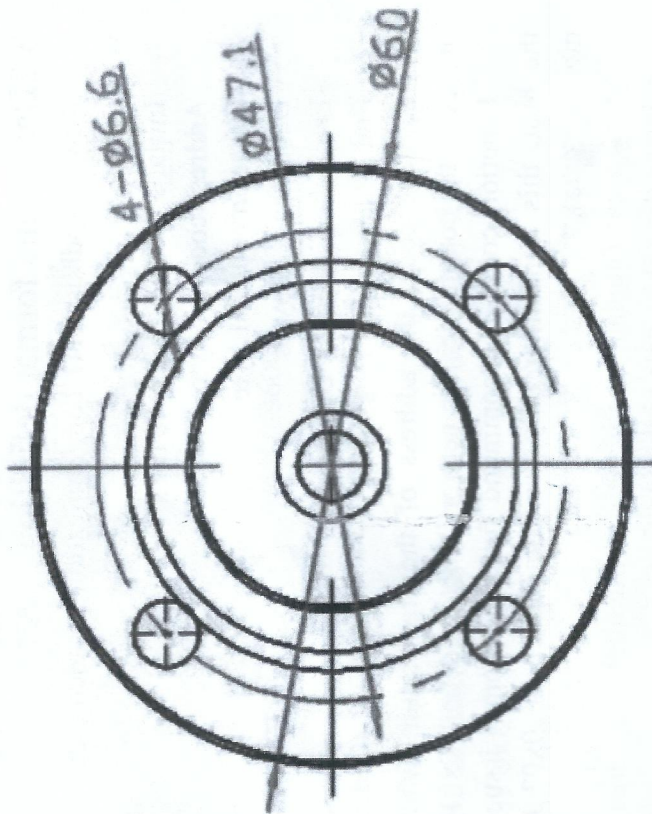
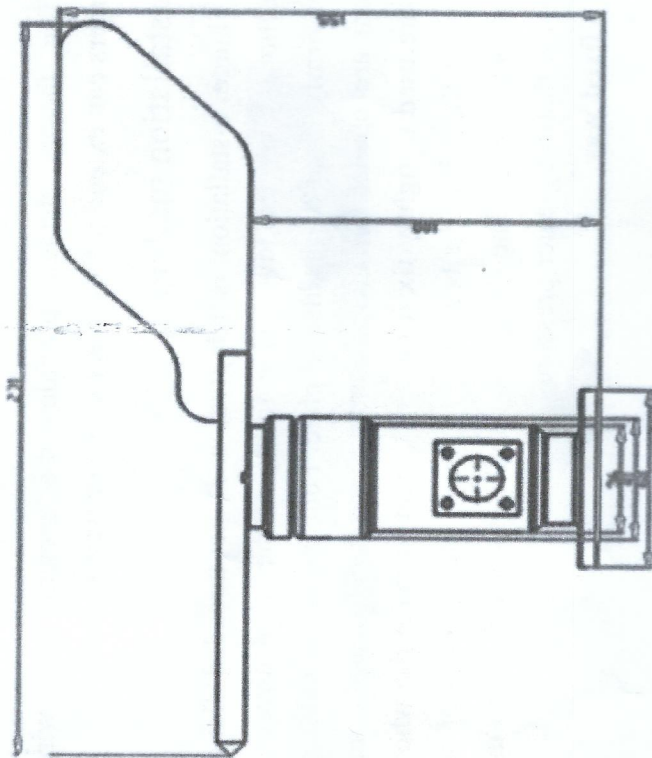
2.2 Installation method

Flange installation is adopted, and the threaded flange connection makes the lower pipe fitting of the wind direction sensor firmly fixed on the flange plate. Four mounting holes of $\Phi 6\text{mm}$ are opened on the circumference of the chassis, and bolts are used to tightly fix it on the bracket to make the whole instrument Keep it at the best level to ensure the accuracy of the wind direction data. The flange connection is convenient to use and can withstand greater pressure.

2.2.1 a fixed way



Thre ad colo r	Description
pow er supp ly	Power is positive
blac k	Power negative
Com muni ow	485A



Chapter 3 Communication Protocol

3.1 Basic communication parameters

parameter	content
coding	8-bit binary
Data bit	8-bit
Parity bit	无
Stop bit	1-bit
Wrong calibration	CRC lengthy cyclic code
Baud rate	2400bps/4800bps/9600 bps can be set, the factory default is 9600bps

3.2Data frame format definition

Adopt Modbus-RTU communication protocol, the format is as follows:

- Initial structure >= 4 byte time
- Address code = 1 byte
- Function code = 1 byte
- Data area = N bytes
- Error check = 16-bit CRC code
- End structure >= 4 bytes time

Address code: the address of the transmitter, which is unique in the communication network (factory default 0x01).
Function code: The command function prompt issued by the host, this transmitter only uses function code 0x03 (read memory data).

Data area: The data area is the specific query data area, pay attention to the 16bits data high byte first
CRC code: two-byte check code.

Interrogation frame

address	func	Register	Register	Check	Check
code	code	address	length	code	lowhigh
1byte	1byte	2byte	2byte	1byte	1byte
Replay func	Effective	Data area	Second	Nth data area	
frame on	bytes		data area		
address code					
1byte	1byte	1byte	2byte	2byte	2byte

1.4 Register address

Register	PLC	content	operati
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address	configu ration address	ng
0017H	40018	Wind direction (unit 1 Read only direction)
0100H	40101	Device address (0-252) Read and write
0101H	40102	Baud rate (2400/4800/9600) Read and write

3.3Communication protocol example and explanation

3.3.1Read the wind direction value of the device address 0x01

Interrogation frame

addr ss code	funct ion code	initial address	Data length	Check code low bit	Check code high
0x02	0x03	0x00,0x17	0x00,0x01	0x34	0x0E

Reply frame (for example, read the wind direction value is

3)

addr ss code	funct ion code	Effective bytes	Wind direction value	Check code low bit	Check code high
0x02	0x03	0x02	0x00 0x03	0xF8	0x45

Wind direction:

0003 H (hexadecimal) = 3 => wind direction = true east

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