Model 485 wind speed sensor an instruction manual

JXBS-3001-FS

Ver1.0

威海精讯畅通电子科技有限公司

Weihai JXCT Electronics Co., Ltd.

Chapter 1 product introduction

1.1 Product overview

Jxbs-3001-fs series wind speed sensor is small and light in appearance, easy to carry and assemble. The three cup design concept can effectively obtain the external environment information. The shell is made of high-quality polycarbonate material, and the internal smooth bearing system ensures the accuracy of information collection. It is widely used in greenhouse, environmental protection, weather stations, ships, docks, aquaculture and other environment wind speed measurement.
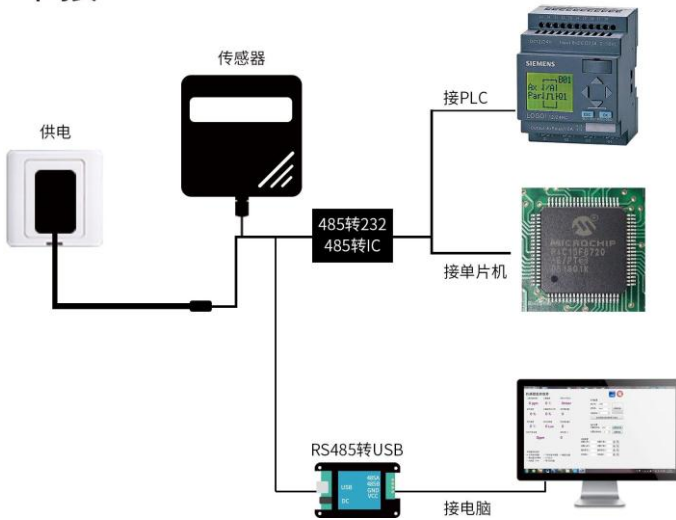
1.2 Main parameter

Parameter	Technical index
Wind speed measurement range	0-30m/s
Wind speed measurement accuracy	±1m/s
response time	less than5seconds
Baud rate	9600
Communication port	RS485
Power supply	12V-24V DC
consume power	<1W
Operating temperature	-30-80℃

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

1.3 system framework

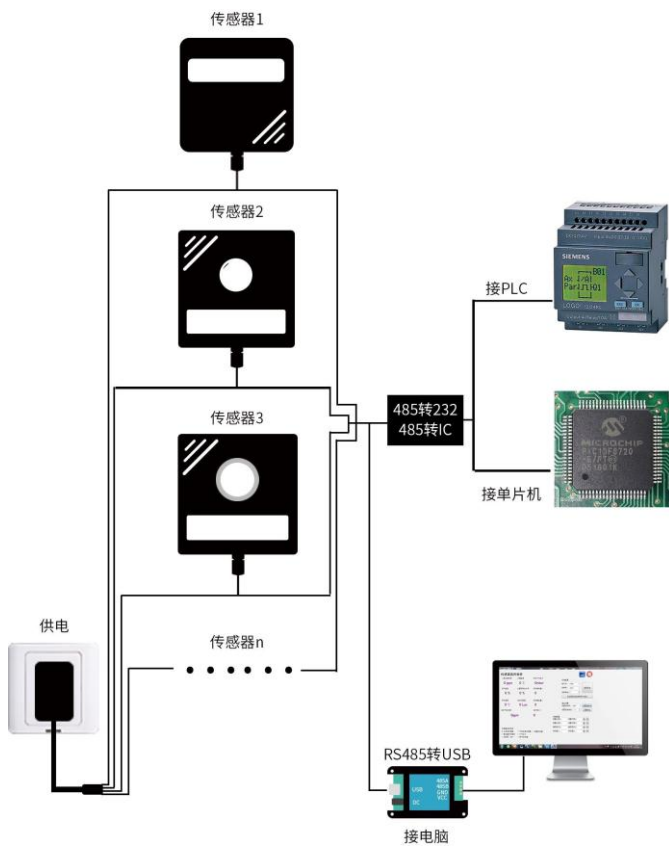# diagram

多接

传感器1

传感器2

传感器3

接PLC

485转232
485转IC

接单片机

供电

传感器n

RS485转USB

接电脑

Chapter 2 hardware connection

2.1 inspection before equipment installation

Please check the equipment list before installing the equipment:

Name	number
High precision sensor	1 set
Wind speed 485 line	1 wire
12V waterproof power supply	1(optional)
USB to 485 device	1(optional)
Warranty card / certificate	1 copy

2.1.1 wiring：

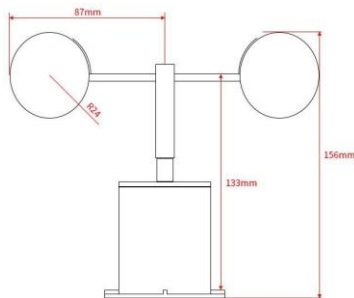|	Line colour	Note
Power supply	Red	Positive power
	Black	Negative power
Communications	Yellow	485A
		485B
	Green	

Factory default to provide 0.6 meters long wire, customers can extend wire or sequential wiring as needed.

2.2 Installation mode

Using flange installation, threaded flange connection makes the lower pipe fittings of wind speed sensor firmly fixed on flange, four mounting holes are opened on the circumference of chassis, and bolts are used to fasten them tightly to the support. Ensure the accuracy of wind direction data, flange connection easy to use, can withstand greater pressure.
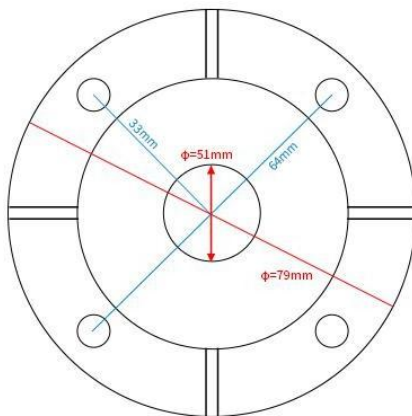
2.2.1 fixation

The sensor size is shown

below:

Main Drawing

Dimensions

Base dimensions

According to the size of the sensor, you can install the sensor to the right position 。

Chapter 3 Communications Agreements

3.1 Basic communication parameters

Parameters	Content
Code	8-bit binary
Data bits	8-bit
parity bit	No
Stop position	1 bit
Error calibration	Error calibration
baud rate	2400bps/4800bps/9600 bps Available, factory default is 9600 bps
Code	8 Bit binary

3.2 Data frame format definition

Adopt the Modbus-RTU protocol as follows:

Initial structure >=4 bytes time

Address =1 byte

Function =1 byte

Data =N bytes

Error check =16-bit CRC code

End structure >=4 bytes of time

Address code: the address of the transmitter, unique in the inquiry network (factory default 0 x01).

Function code: the host sends the instruction function prompt, this transmitter only uses the function code 0 x03(reads the memory data).

Data area: data area is a specific query area, note that 16 bits data high byte before

CRC code: two-byte check code.

Question frame

Address code	Functional code	Functional code	Register length	Check low bit	theCheck the high bit
1 bytes	1 bytes	2 bytes	2 bytes	1 bytes	1 bytes

Response frames

Address code	Functional code	Number of valid bytes	Data area I	Second Area	Data N data area
1bytes	1bytes	1bytes	2bytes	2bytes	2bytes

3.3 Register address

Register address	PLC Configuration Address	content	Operation
0000H	40001	Wind speed（0.1m/s）	Read only
0100H	40101	Device address(0-252)	Read and write
0101H	40102	baud rate (2400/4800/9600)	Read and write

3.4 Examples of communication protocols and explanations

3.4.1 read the wind speed value x01 device address 0

Question frame

Address code	Functional code	Starting address	Data length	Check the low bit	Check the high bit
0x01	0x03	0x00,0x00	0x00,0x01	0x84	0x0A

Answer frame (e.g. reading wind speed2.3 m/s)

Address code	Functional code	Number of valid bytes	Wind speed	Low Checking code	High Checking code
0x01	0x03	0x02	0x00 0x17	0xB8	0x41

Wind speed:

0017H(hexadecimal)=23=> wind speed =2.3 m/s

3.5 Notes:

Please check that the package is in good condition and check that the transmitter model and specifications are in accordance with the products you choose. If you have any questions, please contact us as soon as possible.

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

3.6 Quality Assurance and After-sale

Quality assurance terms follow Weihai Jingxun unblocked Electronic Technology Co., Ltd. Sensor after-sale terms, for sensor mainframe circuit part of the warranty for two years, gas sensor quality assurance for one year, accessories (shell / plug / cable, etc.) warranty for three months.