



**PM200 Series
Inputting Type
Liquid Level
Transmitter**



Robu PM200 Series Inputting Type Liquid Level Transmitter Instruction Manual

[Home](#) » [Robu](#) » Robu PM200 Series Inputting Type Liquid Level Transmitter Instruction Manual 

Contents

- 1 [Robu PM200 Series Inputting Type Liquid Level Transmitter](#)
- 2 [Product Information](#)
- 3 [Product Usage Instructions](#)
- 4 [FAQ](#)
- 5 [Product instruction](#)
- 6 [Function features](#)
- 7 [Product dimension](#)
- 8 [Equipment installation instruction](#)
- 9 [Device configuration before use](#)
- 10 [Communication protocol](#)
- 11 [Common problems and solutions](#)
- 12 [Contact information](#)
- 13 [Documents / Resources](#)
 - 13.1 [References](#)
- 14 [Related Posts](#)



Robu PM200 Series Inputting Type Liquid Level Transmitter



Product Information

Specifications

- DC power supply(default)
- Maximum power consumption: 0.2W
- Transmitter circuit operating temperature and humidity: -20~80°C
- Overload capacity: real-time value = 0.101 meter
- Protection level: IP68
- OD dimension
- DC 10-30V, typical 24V

Product Usage Instructions

Installation

Ensure the transmitter is installed vertically, tilted, or horizontally in the tank or groove without impurities blocking the probe part.

Power Supply Connection

Strictly follow the wiring instructions provided to connect to the power supply to avoid damaging the amplifier circuit.

Handling and Care

Avoid disassembling the product, prevent collision or falls, and do not touch the sensor diaphragm with sharp objects to prevent core damage.

FAQ

- **Q: What is the maximum communication distance for RS485 signal output?**
 - A: The farthest communication distance for RS485 signal output can reach up to 2000 meters.
- **Q: Can the transmitter be submerged in water?**

- A: Yes, the transmitter can be soaked in water all year round due to the high-quality air cable used in its design.
- **Q: What is the default DC power supply range for the transmitter?**
- A: The default DC power supply range is DC 10-30V, with a typical voltage of 24V.

Product instruction

Product Overview

The front-end protective cap of PM200 series inputting type liquid level can not only protect the sensor diaphragm, but also to make liquid contact with the diaphragm smoothly, what else, waterproof wire and shell be sealing connected, the snorkel in cable connect to the outside world, internal structure with anti-condensation design. Built-in miniature signal processing circuit for remote transmission. It has good stability and reliability. The product is adopted imported diffused silicon chips and low power ADI professional chips combined with microprocessor technology, PM200 series inputting type liquid level transmitter have RS485 communication function, with small size, high precision, light weight, wide range coverage. It is suitable for all industries that need precise measurement of fluid pressure places, and is widely used in industrial process control, petroleum, agriculture, irrigation, Internet of things and other industries. It can be widely used for liquid level measurement and controlling in water plants, sewage treatment plants, urban water supply, high-rise pools, Wells, geothermal Wells, mines, industrial pools, oil pools, hydrogeology, reservoirs, rivers, oceans and other fields.

Function features

- Reverse polarity protection and instantaneous over-current and over-voltage protection, meet EMI protection requirements;
- Adopt high quality air cable, can be soaked in water all year round;
- Strong overload and anti-interference ability, economic, practical and stable;
- Adopted the core automatic correction algorithm, can effectively prevent the value fluctuation caused by water surface fluctuation;
- The slope-type liquid guide hole can effectively prevent silt impurities from entering, and can also prevent impact;
- Diffused silicon piezoresistive sensor;
- Probe inputting type measurement method, easy to install;
- Multiple protection structure design, high protection ability;
- Selection of anti-corrosion stainless steel material, suitable for a variety of occasions;
- RS485 signal output, the farthest communication distance can up to 2000 meters
- 10~30V wide voltage input.

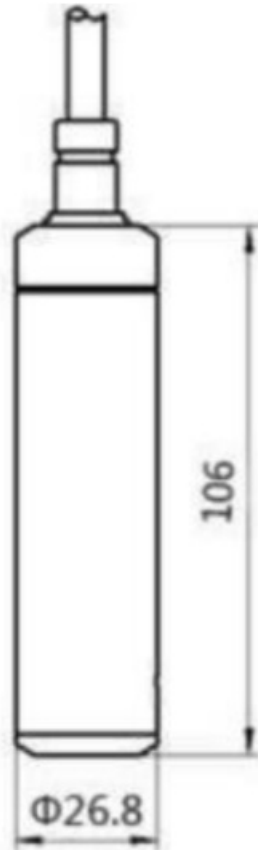
Main technical parameters

DC power supply(default)	DC 10-30V, typical 24V
Maximum power consumption	0.2W
Transmitter circuit operating temperature and humidity	-20~80°C
Overload capacity	<1.5 times of range
Protection level	IP68
OD dimension	Φ26.8mm
Measuring Media	Stainless steel non-corrosive oil, water, etc. (long time measurement should be ≤60°C)
Sampling time	≤1s
Long-term stability	±0.2%FS/year

Product model

RK-					Company code
	PM200-				Inputting type liquid level transmitter
		01~99-			Range(99 represent the customized range, other values are the meters of range)
			N01-		485 communication(ModBus-RTU protocol)
				A05	0.5 grade precision(default), can also choose 0.2 grade precision(A02) and 0.1 grade precision(A01)

Product dimension



Equipment installation instruction

Inspection before installation

Equipment list:

- 1pc general inputting type liquid level gauge
- Certificate of conformity, warranty card

Wiring instruction

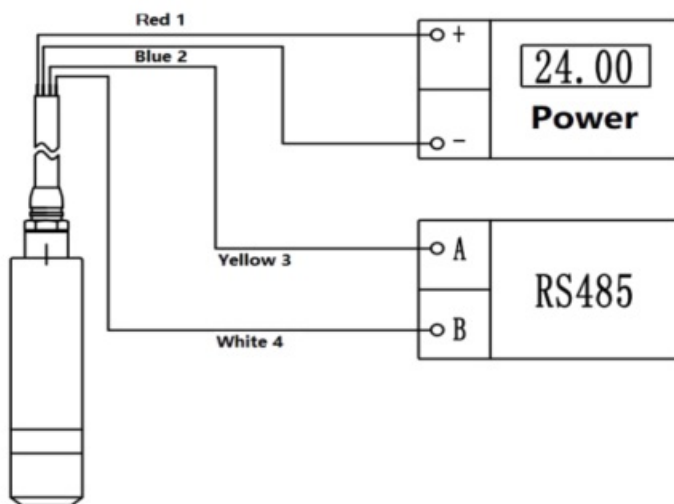
- Red cable: 24VDC V +
- Blue cable: 24VDC VYellow
- cable: RS485 output A
- White cable: RS485 output B

Or:

- Brown cable: 24VDC V+
- Black cable: 24VDC VYellow:
- RS485 output A
- Blue: RS485 output B

Special Instructions:

1. There are certain standard requirements for 485 field wiring, for details, please see the information in package <485 equipment field Wiring Manual>.
2. When a device is connected to the 485 bus, ensure that the addresses of multiple devices are not the same.



Device configuration before use

Software selection

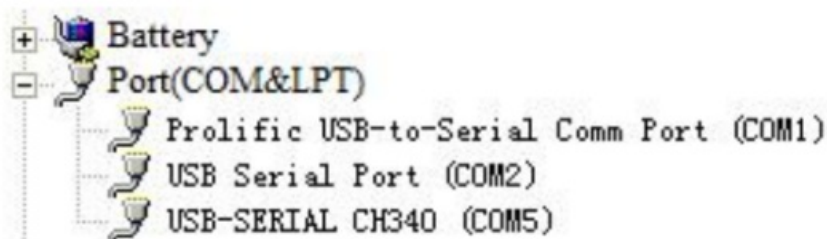
Open the document package, select “Debugging software” — “485 parameter configuration software”, find



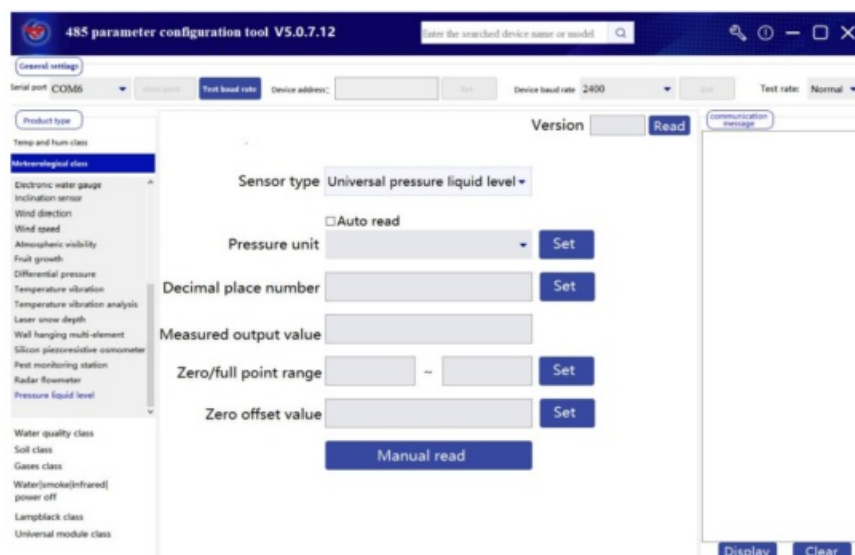
and just open it.

Parameter setting

1. Select the correct COM port (View COM port in “My computer-Properties-Device Manager-Ports”). Below image lists several kinds of 485 transmitter driver name.



2. Connect only one device and power it on. Click the test baud rate of the software. The software will test the baud rate and address of the current device, default baud rate is 4800bit/s, default address is 0x01.
3. You can modify the address and baud rate as required, you can also query the current function status of the device at the same time.
4. If the test is not successful, recheck the device wiring and 485 driver installation status.



Communication protocol

Communication basic parameters

Encode	8-bit binary
Data bit	8-bit
Parity check bit	—
Stop bit	1-bit
Error checking	CRC(Redundant cyclic codes)
Baud rate	1200~115200 can be set, default is 4800

Data frame format definition

Adopt ModBus-RTU communication protocol, format are listed as below:

- Time for initial structure ≥ 4 bytes
- Address code=1 byte
- Function code=1 byte
- Data area=N bytes
- Error check=16 bit CRC code
- Time to end structure ≥ 4 bytes
- Address code: The address of the transmitter, which is unique in the communication network (factory default 0x01).
- Function code: The instruction function indication issued by the host. This transmitter uses
- function codes 0x03 (read register data) and 0x06 (write single register data) Data area: The data area is specific communication data, please note that the 16bits data high byte in front!

CRC code: two-byte Check digit.

Host inquiry frame structure:

Address code	Function code	Register Start Address	Register length	Check code low bit	Check code high bit
1byte	1byte	2bytes	2bytes	1byte	1byte

Slave answer frame structure

Address code	Address code	Address code	Address code	Address code	Address code	Address code
1byte	1byte	1byte	1byte	1byte	1byte	1byte

Register address

Register address	PLC or configuration address	Content	Support function code
0002 H	40003	Unit type 9 represent m 10 represent cm 11 represent mm	0x03/0x04
0003H	40004	Decimal place number	0x03/0x04
0004H	40005	Measurement output value	0x03/0x04
0005H	40006	Sensor range zero point	0x03/0x04/0x06
0006H	40007	Sensor range full point	0x03/0x04/0x06
000CH	40013	Offset value	0x03/0x04/0x06

Communication protocol examples and explanations

Read the real-time value of 0x01 device address.

Inquiry frame (hexadecimal)

Host inquiry frame structure:

Address code	Function code	Register Start Address	Register length	Check code low bit	Check code high bit
1byte	1byte	2bytes	2bytes	1byte	1byte

Slave answer frame structure:

Address code	Function code	Effective Bytes	Data area 1	Second data area	Nth data area	Check Code
1byte	1byte	1byte	2bytes	2bytes	2bytes	2bytes

Actual real-time value calculation:

Real-time value:0065 H(hexadecimal)= 101 => real-time value = 0.101 meter

Matters need attention

- Our products are equipped with instructions and certificates, which have technical parameters among them, please check carefully, so as not to use wrong.
- The transmitter can be installed vertically, tilted or horizontally in the tank or groove, be ensured that impurities such as sediment are not buried or blocked in the transmitter probe part.
- When connecting to the power supply, the connection should be strictly in accordance with the wiring instructions of our company, wiring error will cause damage to the amplifier circuit.
- This product is a precision instrument, do not disassemble at will, strictly prevent collision, fall, do not touch the sensor diaphragm with sharp objects or other foreign bodies, which will resulting in core damage.
- When the medium fluctuates greatly, measures should be taken to fix the transmitter probe part, such as adding a counterweight to the transmitter.
- The air guide cable has a key atmospheric compensation effect, when assemble it, should avoid to lock it tightly or too sharp angle bending, to prevent the airway obstruction. The air guide pipe outlet should face down, to prevent rain blockage. Need to prevent wear, punctured, scratched wire during usage, if such problems caused equipment failure, need to return the device to our company for repairing and treatment, the cost is at your own expense.
- Any problems occurs during installation process, please contact us. Do not open without authorization for maintenance, wiring errors, sensor diaphragm damage and other human factors are not within the scope of warranty.

Common problems and solutions

The device cannot be connected to a PLC or computer

Possible reasons:

1. The computer has multiple COM ports, and the selected port is incorrect.
2. The device address is incorrect, or there are devices with duplicate addresses (ex-factory default is all 1).
3. Baud rate, check mode, data bit, stop bit error.
4. The 485 bus is disconnected, or wires A and B are connected in reverse.
5. If there are too many devices or the wiring is too long, power should be supplied to the nearby area, with a 485 booster and a 120 Ω terminal resistor added.
6. USB to 485 driver does not installed or damaged.

Contact information

- Shandong Renke Control Technology Co., Ltd.
- 10th Floor, East Block, No.8 buildings, Shuntai Plaza, High-tech Zone, Jinan City, Shandong
- Province, China
- Post code:250101

- Phone:400-085-5807
- Fax:(86)0531-67805165
- Website:www.renkeer.com
- Cloud platform address: en.0531yun.com




Document history

- V1.0 Document establishment
- V2.0 Revise the maximum power consumption; revise the register address content
- V2.1 Revise the equipment installation wiring description
- V2.2 Revise the register content

www.renkeer.com

Documents / Resources

	<p>Robu PM200 Series Inputting Type Liquid Level Transmitter [pdf] Instruction Manual PM200 Series Inputting Type Liquid Level Transmitter, PM200 Series, Inputting Type Liquid Level Transmitter, Liquid Level Transmitter, Level Transmitter, Transmitter</p>
---	---

References

- [Environmental Monitoring Platform](#)
- [Weather sensors, Industrial temperature and humidity sensors, Best gas sensors manufacturer](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.