



SLR Series

Distance Measuring Sensor

Manual



Thank you for using our company's products. This manual explains the usage and safety matters of the products.

- ◆ Please read this manual carefully and pay attention to safety during use.
- ◆ Please keep this manual and put it in a suitable place for reference at any time.

Guangdong Hinson Technology Co., Ltd.

Version declaration

Add or subtract information	Time
Published	2025.07.03
Modify the sensor APD reception voltage	2025.07.25

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1 Safety Precautions

1.1 Attention to applicable environment



Visible particles in steam, smoke, dust and air may cause the sensor to misjudge or even become unusable;

Qualified technicians need to be regularly arranged to check whether the sensor is connected and installed correctly;

The maximum service life of the sensor is 10 years, after which it must be replaced, otherwise it may not meet the required performance requirements;

Sensors should be inspected and cleaned regularly;

This product is only allowed to be used within specified limits and specified technical parameters and operating conditions at any time.

1.2 Pay attention to the wiring environment



Do not connect the power supply reversely or connect it to a voltage higher than the specified maximum working voltage, otherwise the sensor will be damaged;

If the power supply is lower than the minimum working voltage, the sensor will not work or work abnormally;

Please follow the instructions in the manual for wiring, otherwise the sensor may not be able to detect the input signal correctly;

Do not connect the device to the output signal terminal to exceed the load capacity of the sensor, otherwise it will cause sensor failure.

1.3 Note on debugging environment



Only qualified and authorized personnel are allowed to connect, install, commission and set up laser distance sensors;

Confirm that the peripheral equipment associated with the sensor is in a reliable stop operation state;

Confirm that the debugger is in a safe position;

Confirm that other people or objects are outside the range of the device.

2 Functional introduction

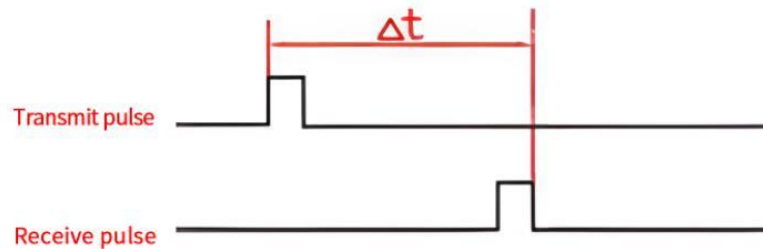
2.1 Parameter specifications

Parameters/Model	SLR10-11000
Performance	
Detection distance	0.05m-6m (Reflectivity 10%)
	0.05m-10m (Reflectivity 90%)
Spot diameter	Less than 11mm (10m)
Detect objects	Natural things
Sampling rate	1K
Repeat accuracy	± 10mm
Optical ranging principle	TOF
Absolute accuracy	± 20mm
Measure resolution	1mm
Wavelength	660nm
Laser Type	Non-human eye safety laser
Data interface	
Version 485	485ModBus
Electrical/Mechanical	
Operating voltage	DC10 - 30V
Power consumption	<0.6W
Light source	660nm visible light
Button A	Used to set IO_01
Button B	Used to set IO_00
PWR	Power indicator light
SSC	Signal indicator light
Product size	42mm*38mm*20.5mm
Housing material	Plastic
Case color	Red
Fastening type	Through hole installation
Environmental	
Ambient temperature for use	-20℃-50℃
Ambient humidity for use	5%~80% (No condensation)
Test/Standard	
Protection level	IP65

2.2 Functions

2.2.1 Detection principle

SLR distance measuring sensor operates based on the laser time-of-flight (TOF) measurement principle. Under an extremely high synchronous clock, the laser is emitted at uniform time intervals. When the laser beam encounters an object, it is reflected back. After the laser scanning sensor receives the reflected beam, it calculates the distance from the laser scanning sensor to the obstacle through the time difference Δt between emission and reception.



$$S = v * \frac{\Delta t}{2}$$

S : Measured distance
 v : Laser flying speed
 Δt : Time difference

2.2.2 Application scenarios

SLR distance measuring sensors can be used to conduct contactless distance measurements on objects, and their application scenarios are very widespread in industrial automation: In industrial automation scenarios such as production lines and conveyor belts, infrared ranging sensors can be used to measure and detect objects' distances and position, so that robots or other automation equipment can operate accurately. Collision protection between AGV and forklift, range detection of the robot's working range, is used to accurately calculate the distance between objects, obstacles, walls or ground around the robot.

3 Preparation

3.1 Packing list

*Please confirm whether the product name and model on the external label of the product packaging box are consistent with what you purchased;

*Determine the product name and model through the external label of the product;

*Please confirm whether the following items are complete after unpacking. If not, please contact our company;

Name	Model	Quantity	Describe
Distance measuring sensor	SLR10-1xxxx	1	Sensor Unit
Hinson configuration software		1	Software for configuring and debugging sensors
Sensor Certificate		1	Sensor factory qualified certificate

3.2 Debugging tool

Auxiliary debugging requires the following software and hardware

Software Tools	Software Hinson version 1.5.5 or above
Power supply	DC24V power supply

3.3 Model Rules

SLR 10 - 1 XX XX

SLR: Product type identification;

10: Effective output distance;

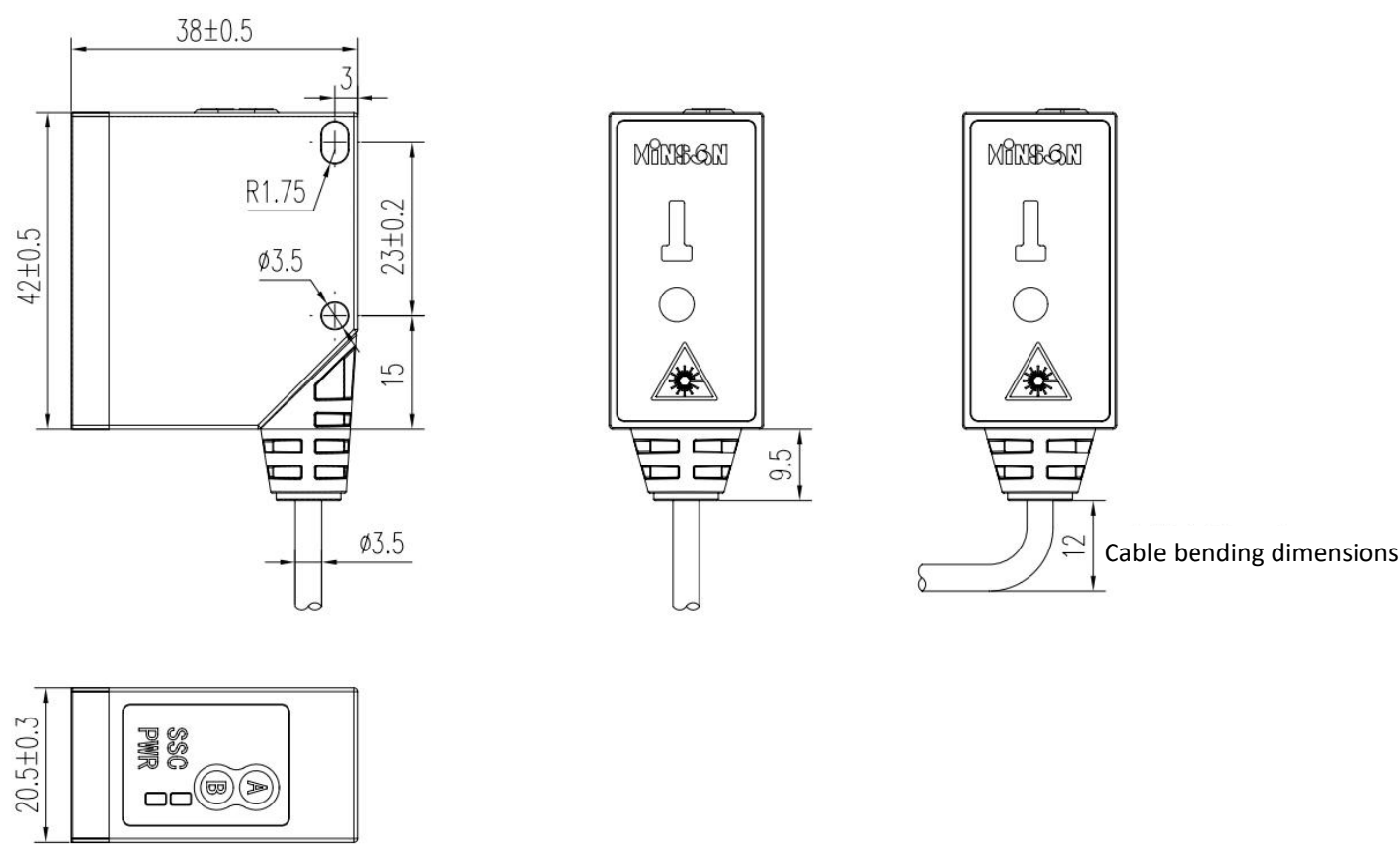
1: Output type;

XX: Wire connection method and line length;

XX: Custom bit, default standard version;

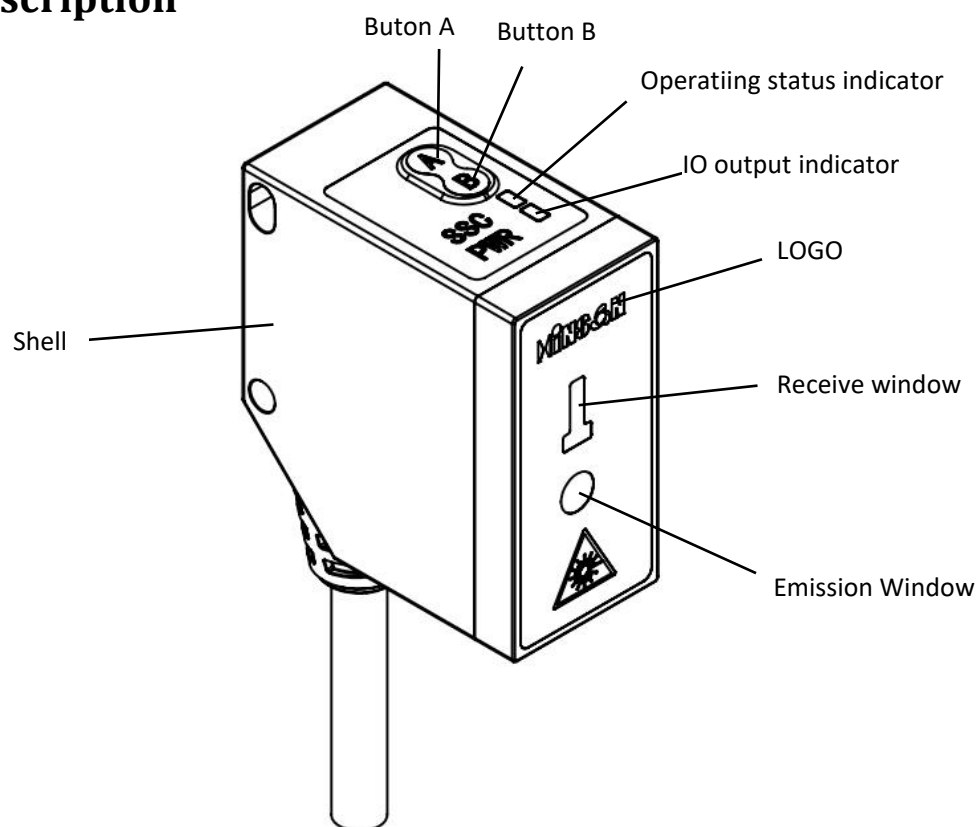
4 Installation

4.1 Dimension parameter

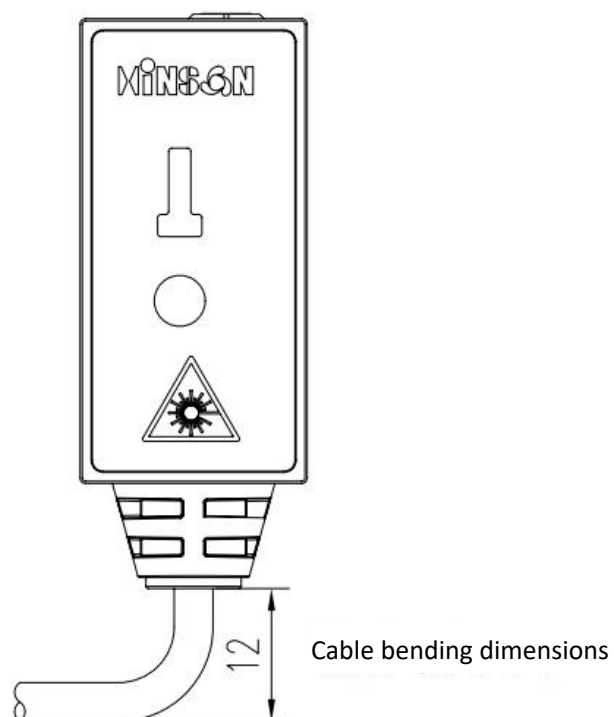


Unit: mm

4.2 Parts description



4.3 Installation requirements

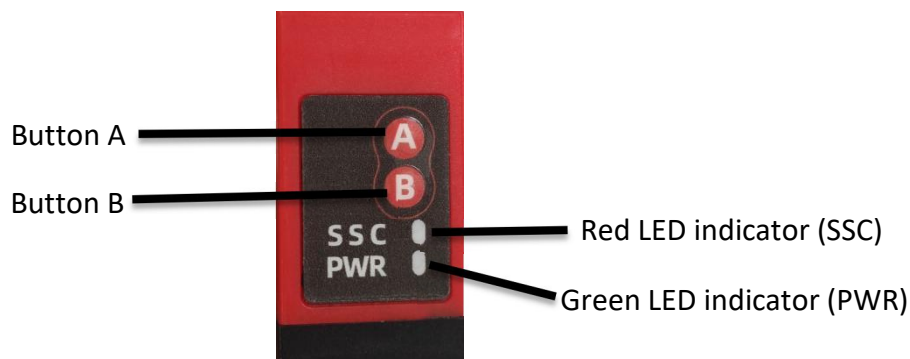


Reserved space for cables;

4.4 Indicator light and buttons

The equipment housing is equipped with the following indicators and operating controls:

- Two control buttons
- Green LED: Operate status (PWR)
- Red LED: IO output indicator (SSC)



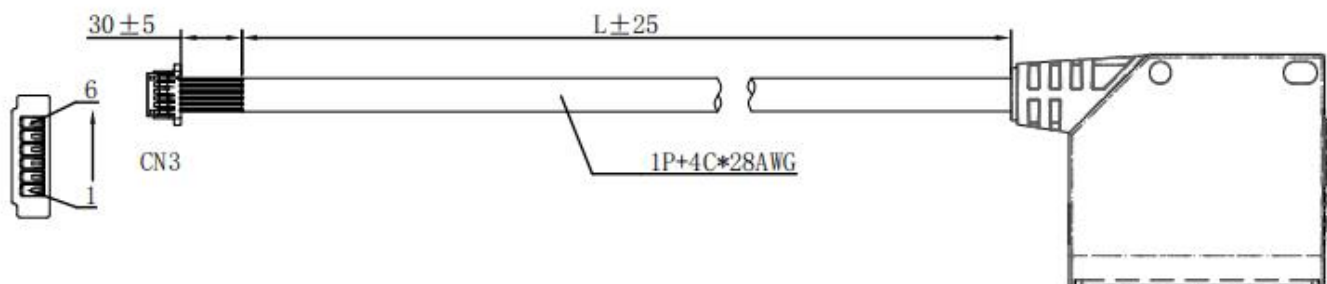
LED		Operation Instructions	Fault, operation instructions
1	Green LED	PWR Power Indicator light	Always on: Means the sensor is working normally
			Flashing: Means the sensor is working abnormally
			Off: Means the sensor is not powered on or is not working properly
2	Red LED	SSC IO Output Indicator	Off: Detection distance is not in the set trigger interval
			Always on: Detection distance is in the set trigger interval
3	Button A	Set minimum distance button	Press and hold for 2s, wait until the green indicator light flashes once, and the record is successful. Press Button A to set the protection area point control IO_01 output ON: The sensor measurement distance is greater than the setting protection area point IO_01 has an output OFF: The sensor measurement distance is less than the setting protection area point IO_01 without output
4	Button B	Set maximum distance button	Press and hold for 2s, wait until the green indicator light flashes once, and the record is successful. Press Button B to set the protection area point control IO_00 output ON: The sensor measurement distance is less than the setting protection area point IO_00 and there is an output OFF: The sensor measurement distance is greater than the setting protection area point IO_00 without output
5	A+B	Factory reset successful	Press and hold for 8s at the same time (it needs to be powered back after restoring the factory settings) Green LED flash 1 time
6	A+B	Save Settings	Press and hold for 3s at the same time Green LED flash 1 time

5 Ports and conveyor lines

5.1 Transmission line parameters

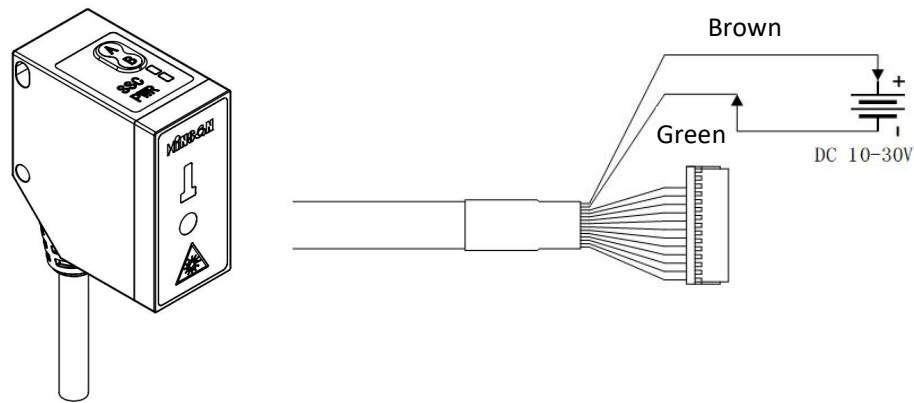
IO and power connection ports:

Function	IO, Power Supply, RS485
Number of pins	6 pins
Corresponding wire model	FT10001-F2H



Terminal	Serial number	Symbol	Color	Function description
CN3	Pin1	485_B	Pink	485 Communication
	Pin2	485_A	Yellow	485 Communication
	Pin3	Y01	Grey	IO output
	Pin4	Y00	White	IO output
	Pin5	-VIN	Green	Power Negative
	Pin6	+VIN	Brown	Power Positive

5.2 Power supply wiring



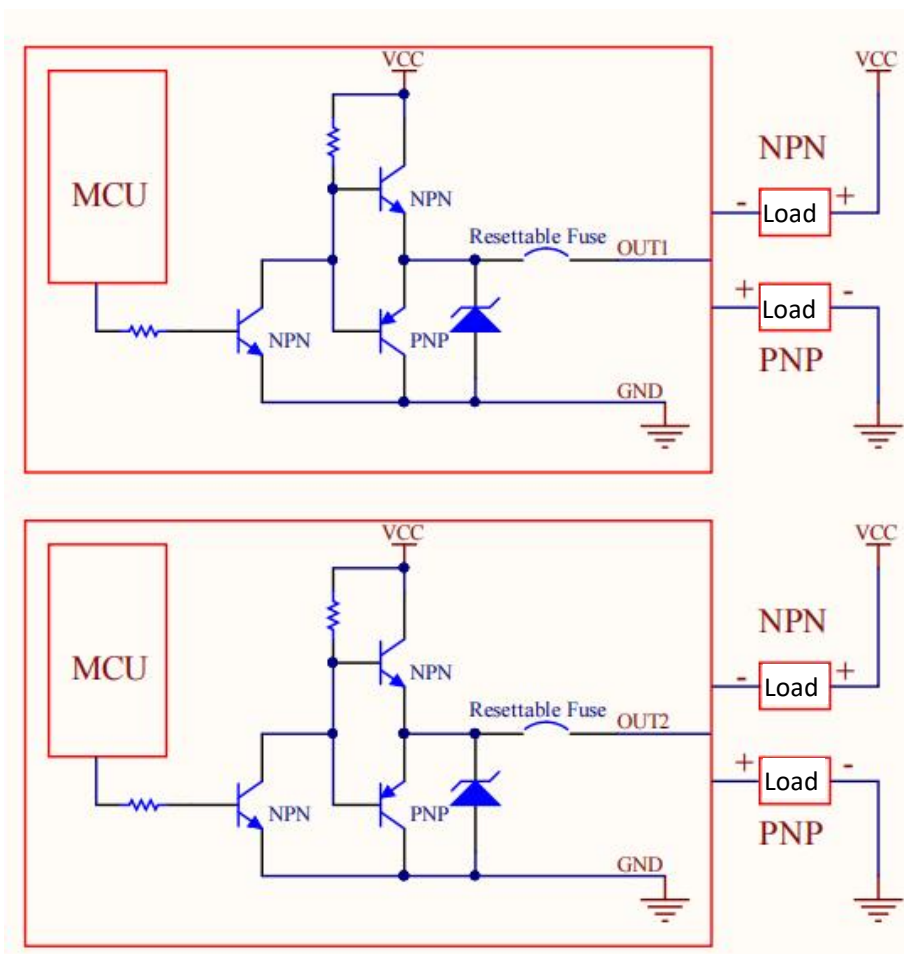
Note: The factory port is cut off directly, which will not affect the warranty;

Power requirements:

Voltage range: DC 10-30V power supply capacity greater than 1A;

5.3 Switch output

Using push-pull output, NPN and PNP transistors cooperate to achieve compatible driving for NPN and PNP types. The specific details are shown in the figure below:



6 Communication protocol

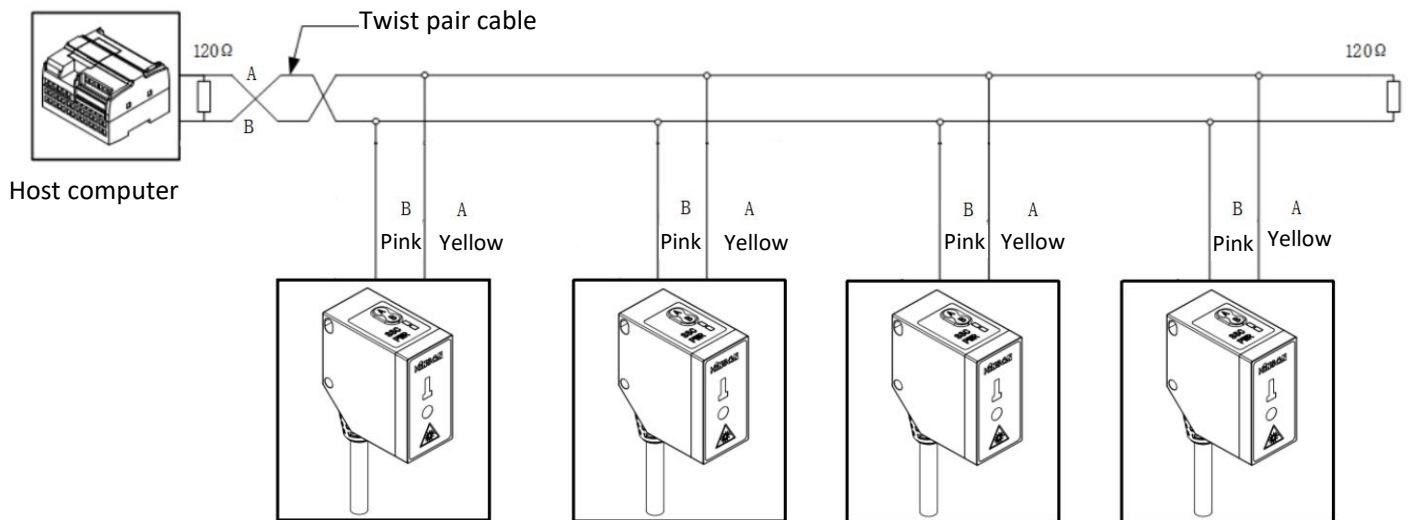
6.1 Illustrate

The sensor uses a communication connection method to the host computer, and the communication method supports 485ModBus and CANOPen. The sensor can work in two data output states, and the upper computer obtains information according to the needs.

Word explanation

The host computer: It is the client device and the sensor directly controls the end. Generally, it is PLC, microcontroller or industrial control machine equipment, etc.;

6.2 RS485 Wiring



- 1) Use twisted pair cable;
- 2) A 120 ohm terminal resistor must be connected;
- 3) Port 485 is a non-isolated port;

6.3 RS485-MODNUS protocol

6.3.1 Communication specifications

Before communication, it is necessary to set the basic parameters of the serial port. The following parameters are the basis for establishing communication.

	Parameters	Default settings
Communication mode	Single master/multiple slaves	
Working mode	MODBUS RTU mode	RTU Mode
Receive/send mode	Half-duplex communication mode	
Communication ID	1-127 configurable	127
Communication rate	9600bps, 19200bps, 38400bps, 576000bps, 115200bps	115200bps
Data bit	8 bits	8 bits
Parity bit	No parity; Odd parity; Even parity	No parity
Stop bit	1 bit; 2 bits	1 bit

6.3.2 Master-slave communication sequence

The communication mode of MODBUS protocol is single master/multiple slaves.

Unicast mode

The master station sends inquiries to one slave station.

Execute processing from the station and reply with a response.

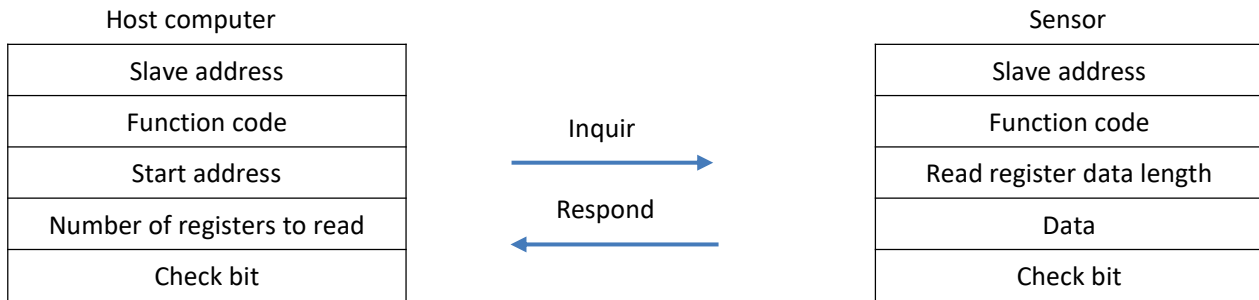


6.3.3 Data structures

When debugging modbus with sensors, it is recommended to connect the RS485 port of the host computer to PC in advance through the USB to RS485 cable. Analyze directly from modbus raw data.

According to the modbus protocol, write and read correspond to different function codes and data formats. On the PC side, the following format data needs to be detected, and you can confirm that the modbus setting on the host computer side is correct.

6.3.4 Read input register data format



◆ Inquiry information structure

Slave address	Function code	Start address	Number of registers to read	Check bit
1Byte	1Byte	2Byte	2Byte	2Byte

- **Slave address**

The specified slave address, the slave sensor address set after configuring the software;

- **Function code**

The read function code information supported by the sensor is as follows:

Function code	Function
0x04	Read input register data

- **Start address**

The register start address read from the driver, starting from 1000;

- **Number of registers read**

The number of registers read starting from the start address.

- **Check bit**

Communication check bit;

◆ Response information structure

After receiving the inquiry information, the slave station responds with the following response data:

Slave address code	Function code	Read register data length	Date	Check bit
1 Byte	1 Byte	1 Byte	(Number of read registers)*2 Byte	2 Byte

- **Slave address code**

The specified slave address, the slave sensor address set by the configuration software;

- **Function code**

The read function code information supported by the sensor is as follows:

Function code	Function
0x04	Read data from input register

- **Read register data length**

The length of the register data that the host computer needs to read;

- **Data**

The data of the register that the host computer needs to read, since one register is 2Byte, the length of this segment of data is the number of read registers * 2 Byte;

- **Check digit**

Communication check digit.

Connect the sensor, upper computer and computer terminal through RS485. The sensor and upper computer can establish modbus communication, and then you can receive data sent by the upper computer and sensor on the computer.

The host computer inquiry for hexadecimal data:

0x01	0x04	0x03 0xE8(1000)	0x00 0x08	0x71 0xBC
Slave address code	Function code	Starting address	Read the number of registers	Check bit
1Byte	1Byte	2Byte	2Byte	2Byte

The sensor responds to hexadecimal data:

Starting address

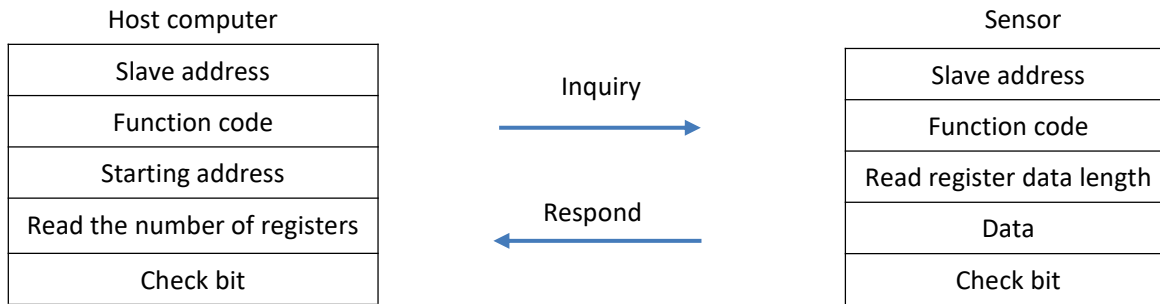
01 04 10 **00 00** 00 00 00 00 00 00 00 00 00 00 00 00 00 00 55 2C

0x01	0x04	0x10(16)	8 Register data	0x55 0x2C
Slave address code	Function code	Data length	Data	Check bit
1Byte	1Byte	1Byte	16Byte	2Byte

Data

	Data (16Byte)							
Data	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00
Corresponding registers	1000	1001	1002	1003	1004	1005	1006	1007

6.3.5 Read and hold register data format



◆ Inquiry information structure

Slave address	Function code	Starting address	Number of registers to read	Check bit
1Byte	1Byte	2Byte	2Byte	2Byte

- **Slave address**

The specified slave address, the slave sensor address set after configuring the software;

- **Function code**

The read function code information supported by the sensor is as follows:

Function code	Function
0x03	Read the hold register data

- **Start address**

The register start address read from the driver, starting from 2000;

- **Number of registers read**

The number of registers read starting from the start address.

- **Check bit**

Communication check bit;

◆ Response information structure

After receiving the inquiry information, the slave station responds with the following response data:

Slave address code	Function code	Read register data length	Date	Check bit
1 Byte	1 Byte	1 Byte	(Number of read registers)*2 Byte	2 Byte

- **Slave address code**

The specified slave address, the slave sensor address set by the configuration software;

- **Function code**

The read function code information supported by the sensor is as follows:

Function code	Function
0x03	Read the hold register data

- **Read register data length**

The length of the register data that the host computer needs to read;

- **Data**

The data of the register that the host computer needs to read, since one register is 2Byte, the length of this segment of data is the number of read registers * 2 Byte;

- **Check digit**

Communication check digit.

Connect the sensor, upper computer and computer terminal through RS485. The sensor and upper computer can establish modbus communication, and then you can receive data sent by the upper computer and sensor on the computer.

The host computer inquiry for hexadecimal data:

0x01	0x03	0x07 0xD0(2000)	0x00 0x08	0x44 0x81
Slave address code	Function code	Starting address	Read the number of registers	Check bit
1Byte	1Byte	2Byte	2Byte	2Byte

The sensor responds to hexadecimal data:

Starting address

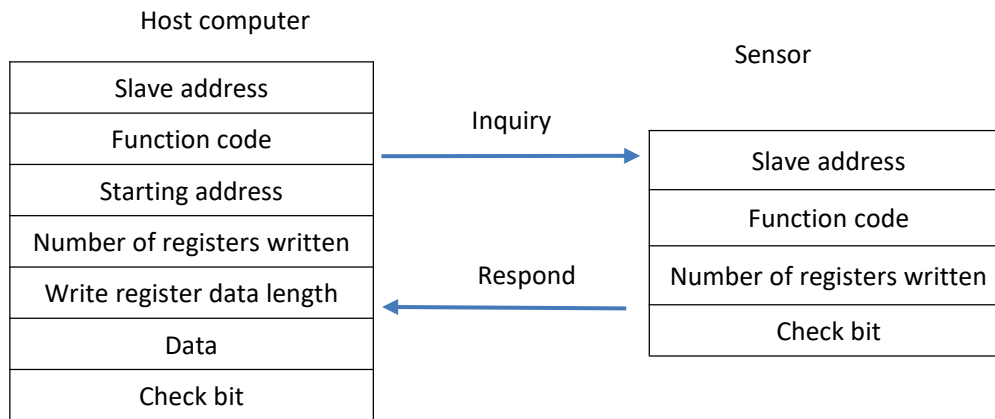
01 03 10 **00 00** 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 E4 59

0x01	0x03	0x10(16)	8 Register data	0xE4 0x59
Slave address code	Function code	Data length	Data	Check bit
1Byte	1Byte	1Byte	16Byte	2Byte

Data

	Data (16Byte)							
Data	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00	0x00 0x00
Corresponding registers	2000	2001	2002	2003	2004	2005	2006	2007

6.3.6 Write to hold register data format



◆ Inquiry information structure

Slave address code	Function code	Start address	Write register data length	Data length	Date	Check bit
1 Byte	1 Byte	2Byte	1 Byte	1Byte	(Number of write registers)*2 Byte	2 Byte

- **Slave address**

The write function code information supported by the sensor is as follows:

- **Function code**

The write function code information supported by the sensor is as follows:

Function code	Function
0x10	Write the hold register data

- **Start address**

The register start address write from the driver, starting from 2000;

- **Number of registers write**

The number of registers write starting from the start address.

- **Data length**

The length of the data written to the register, the number of the registers written to the registers * 2 numbers;

- **Data**

The data that needs to be written from the starting address is the number of write registers *2Byte;

- **Check bit**

Communication check bit;

◆ Response information structure

After receiving the inquiry information, the slave station responds with the following response data:

Slave address code	Function code	Start address	Number of write registers	Check bits
1 Byte	1 Byte	2 Byte	2 Byte	2 Byte

- **Slave address code**

The specified slave address, the slave sensor address set by the configuration software;

- **Function code**

The write function code information supported by the sensor is as follows:

Function code	Function
0x10	Write to hold register data

- **Start address**

Start address of the sensor write to the hold register, starting from 2000;

- **Number of registers written**

The number of registers that start writing data from the start address;

- **Check bit**

Communication check digit;

Connect the sensor, upper computer and computer terminal through RS485. The sensor and host computer can establish modbus communication, and then you can receive data sent by the upper computer and sensor on the computer.

The host computer inquiry for hexadecimal data:

Start address

01 10 07 D0 00 08 10 **00 00** 00 00 00 00 00 00 00 00 00 00 00 00 00 00 BC F8

0x01	0x10	0x07 0xD0(2000)	0x00 0x08	0x10	Data in 8 registers	0xBC 0xF8
Slave address code	Function code	Start address	Write register data length	Data length	Date	Check bit
1 Byte	1 Byte	2Byte	1 Byte	1Byte	16 Byte	2 Byte

The sensor responds to hexadecimal data:

0x01	0x10(16)	0x07 0xD0(2000)	0x00 0x08	0xC1 0x42
Slave address code	Function code	Starting address	Number of write registers	Check bit
1Byte	1Byte	2Byte	2Byte	2Byte

Important Tips

Since RS485 communication cannot be sent and accepted simultaneously, it is recommended that the communication interval be controlled between 30-50ms during communication timing. And continue to send the next time after confirming that the last send is completed.

6.3.7 Register address function

Keep register—function code 03

Register address	Data	Data content
2000		Control the sensor to restart, single write, and cannot be continuously written; Write 0x8008. After the write is successful, the feedback value becomes 0xA00A, the sensor restarts, and the setting parameters take effect; Write 0x8558, After the write is successful, the feedback value becomes 0xA00A, and enters the software IAP upgrade;
2001		Save parameters, write them in a single time, and cannot be continuously written; Write to 0x8008, and after the write is successful, the feedback value becomes 0xA00A;
2002		485 Communication address 1-127;
2003		485 Communication baud rate; 0:9600; 1:19200; 2:38400; 3:57600; 4:115200;
2004		485 Check bit 0: No verification (default) 1: Even verification 2: Odd verification
2005		Stop position 0: 1 stop bit (default) 1: 2 stops
2006		CANBUS baud rate 0:125K; 1:250K; 2:500K; 3: 1000K; (default)
2007		Crosstalk filtering mode control; 00: Turn off mode; 01: Turn on mode; (default)
2008		Crosstalk filter points; 3-8; factory value; 5 (default)

2009		Number of measurements; 1-1000, control the number of single-point measurements, output the average value according to the number of measurements, and the number of measurements will affect the measurement frequency. When set to 1, the output measurement result period is 1KHz; When set to 10, the output measurement result period is 100Hz;
2010		IO output enable
2011		Button B controls the output distance value, close range IO_00 has output, long range IO_00 has no output;
2012		Button A controls the output distance value, with long distance IO_01 output, and close distance IO_01 without output;
2013		Measurement output filter type: 00: Raw data 01: Average filter (default) 02: Kalman filter 03: Complementary filter

Input register—function code 04

Register address	Data	Illustrate
1000		Measurement distance output, unit mm; Target distance value: 0-10000mm;
1001		Detect intensity value; The echo intensity output of the target object is detected; 1-7000, 0 is not detected;
1002		Output port output enable status; 01: Open 00: Close
1003		IO_00 Output Status 00: No output 01: Trigger output
1004		IO_01 Output status 00: No output 01: Trigger output
1005		Not used
1006		Not used
1007		Not used
1008		Not used
1009		Product Code: 37
1010		Hardware version
1011		Firmware version
1012		Serial number
1013		Production year
1014		Production month
1015		Production date
1016		Sensor Error Status 00: The sensor is normal 01: Sensor error
1017		Sensor temperature value: -40℃-100℃
1018		Sensor APD receive voltage: 25V

6.4 RS485 Serial port debugging

6.4.1 Preparation for debugging

6.4.1.1 Software Preparation

Name: Modbus poll software

Software introduction: Modbus host emulator, used to test and debug Modbus slave devices. This software supports ModbusRTU, ASCII, TCP/IP. Used to help developers test and simulate Modbus slave devices or other Modbus protocols. It supports multi-document interfaces, multiple slave devices/data domains can be monitored simultaneously. Each window simply sets the slave device ID, function, address, size and polling interval. You can read and write registers and coils from any window. If you want to change a separate register, simply double-click on this value. Or you can change multiple registers/coil values. Provides various formats of data, such as floating point, double precision, and long integer (can be exchanged in sequence).

Modbus Poll software official website download address: <https://www.modbustools.com/>

6.4.1.2 Hardware preparation

Serial port cable: USB to RS485 port cable.

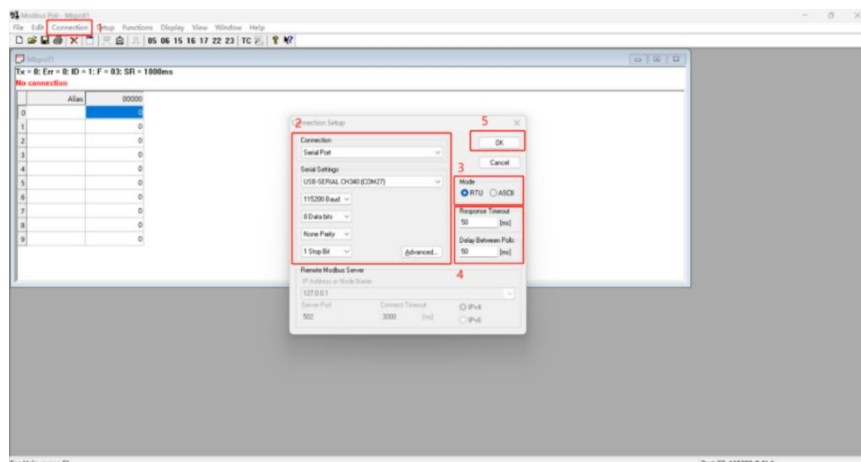
Computer requirements: Computers with Windows 7 system and above.

Wiring instructions: Connect the RS485 port to the PC in advance through the USB to RS485 cable, connect the sensor Pin 485_A (yellow wire), connect the sensor Pin 485_B (pink wire), and the Modbus poll software performs modbus communication debugging with the sensor.

6.4.1.3 Modbus poll software serial port settings

Open the Modbus poll software and set the RS485 serial port parameters. As shown in the picture

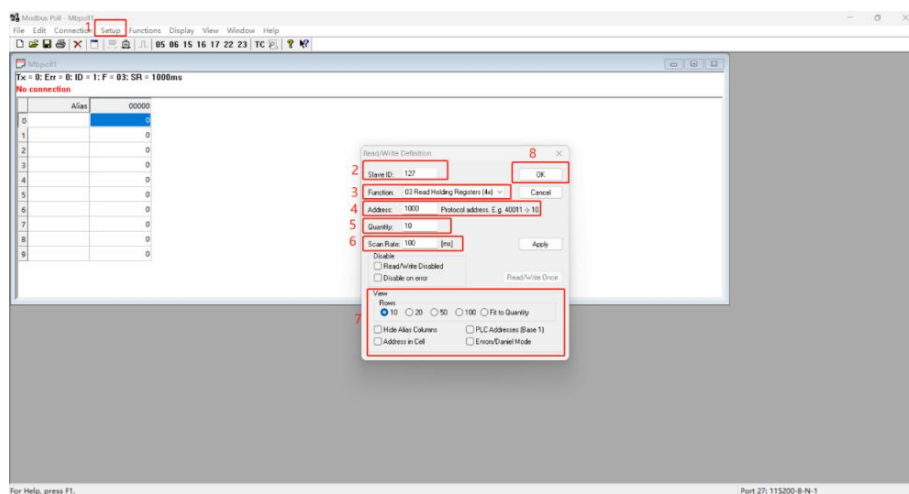
1. Click Connect->connect of the Modbus poll software;
2. Connection selects Serial Port serial communication, SerialSetting selects the port number of RS485, 115200Baud, 8Data bits, None Parity, 1 Stop Bit;
3. Select RTU mode in Mode;
4. Response Timeout sensor reply timeout time select 50ms. Delay Between Polls serial port polling is 50ms;
5. Click OK to confirm the serial port selection settings;



6.4.1.4 Modbus poll software communication protocol settings

After completing the serial port parameter setting, set the communication protocol between the software and the sensor, as shown in the figure

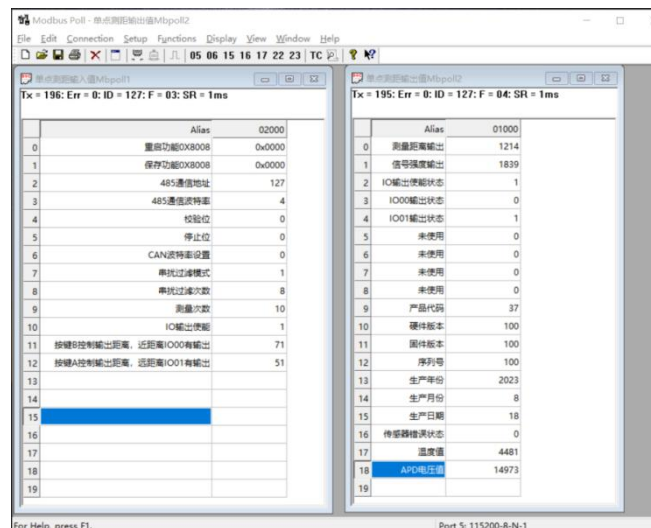
1. Click Setup->Read/Write Definition of the Modbus poll software;
2. Select the sensor address to 127 (the sensor default address);
3. Select the corresponding function code of the communication protocol register, and here it is selected as 03 (03-write to hold register, 04-read input register);
4. Select the register start address, here is 1000;
5. Select the number of read registers, and here you select it as 10;
6. Select the serial port sending frequency, here it is 100ms;
7. View-Rows selects the number of rows per column of the table, and here it selects it as 10 rows;
8. Click OK to confirm the software communication protocol settings;



6.4.2 Modbus poll software interface optimization

Complete the serial port parameter setting and communication protocol setting, you can edit the software interface field optimization display interface, as shown in the figure

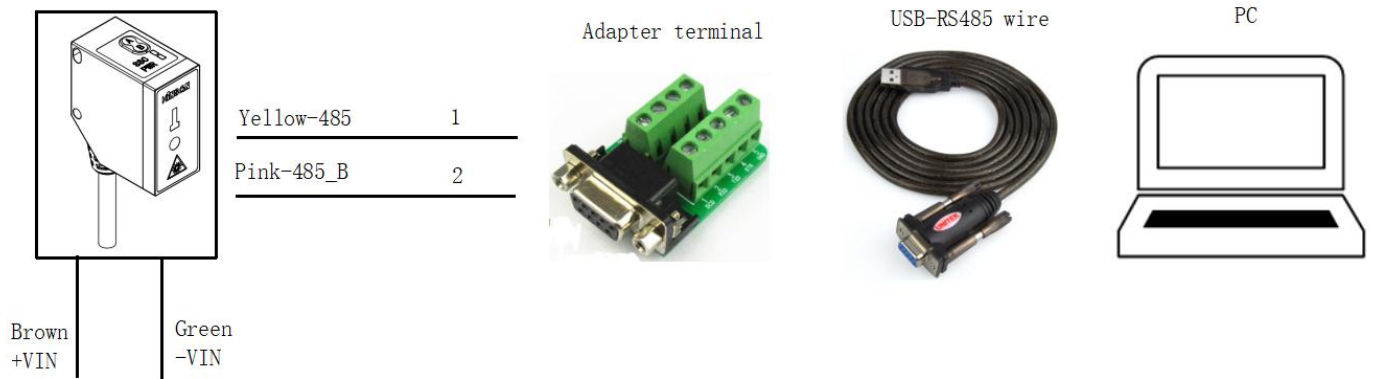
The editing interface is optimized to the following effect. According to the actual communication protocol content (fifth point), click to connect the sensor to actually display the sensor data.



7 Operation of host computer software

7.1 Device connection

7.1.1 Connection

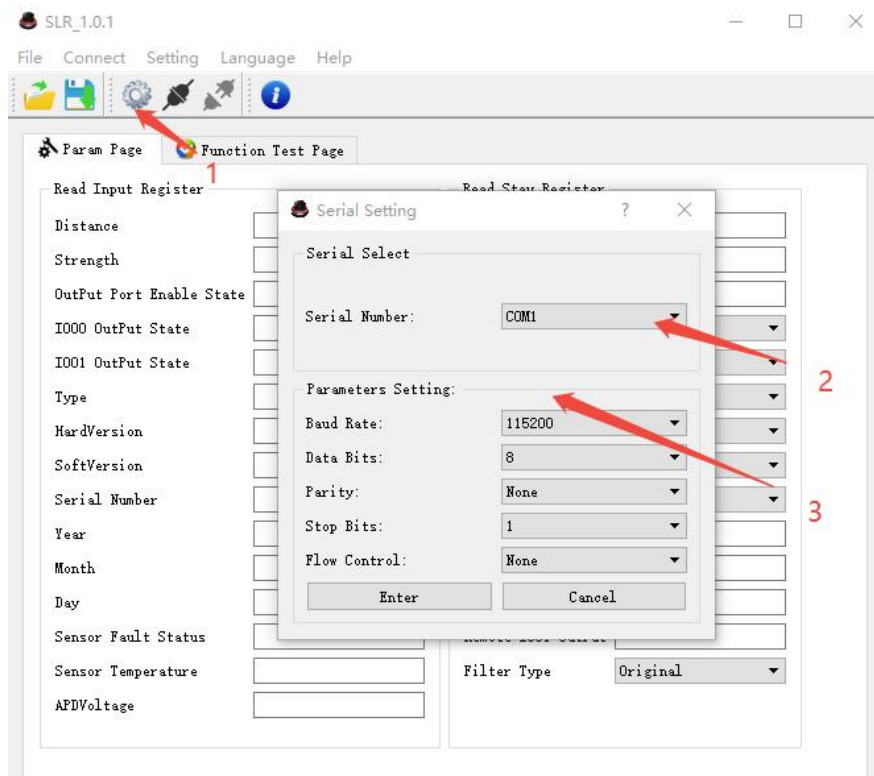


The host computers 1 and 2 are connected to sensors 485_A and 485_B;

7.1.2 Serial port settings

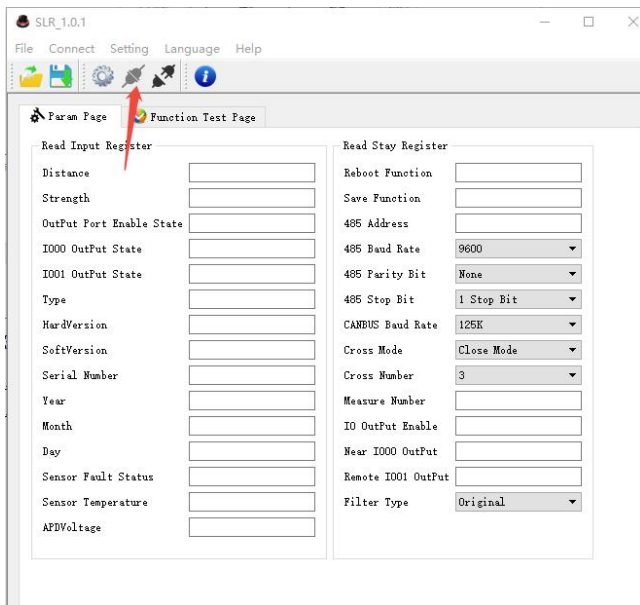
1. Click on the serial port settings;
2. Select the corresponding serial number;
3. Configuration parameters (default value);

Note: The parameters need to be consistent with the sensor settings;

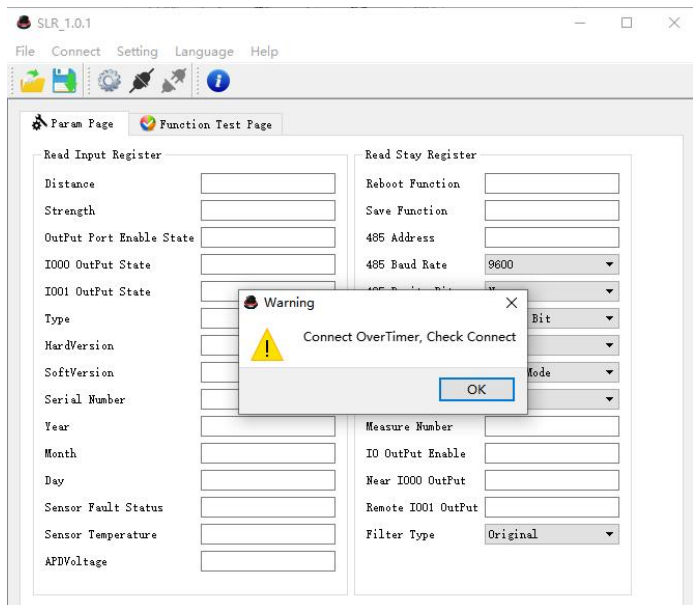


7.1.3 Connect and disconnect

Connect the device to read the sensor data. After the connection is successful, start uploading data from the sensor. If the device is not connected, a serial port opening warning will be displayed. After prompting a warning, troubleshoot according to the fault status.



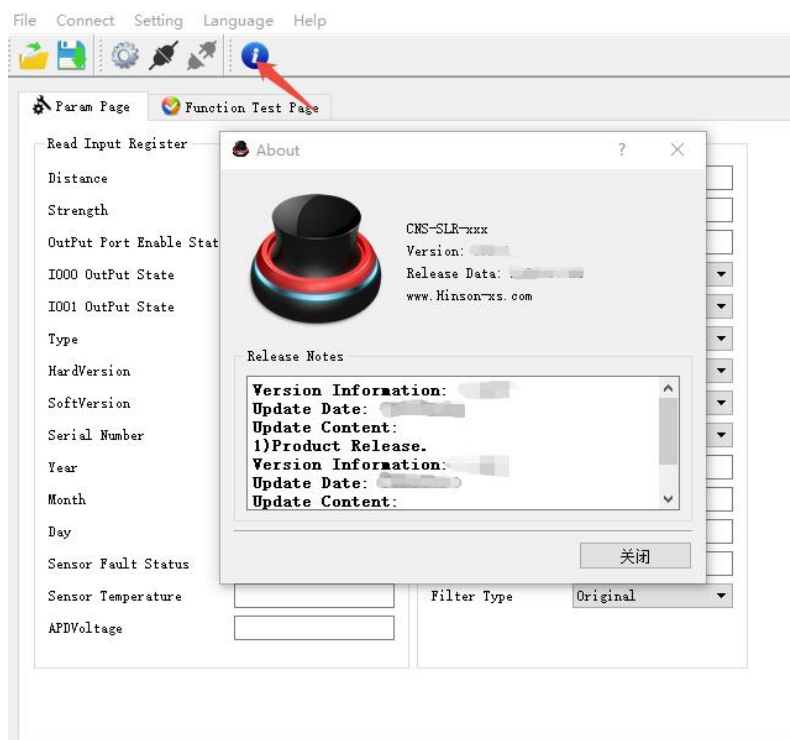
Sensor connection successfully displays data



Not connected to the device

7.1.4 Sensor firmware version

After connecting to the sensor, click the version get the current sensor version number and the firmware version information of the current sensor by clicking the version get button.



7.2 Read sensor parameters

7.2.1 Data display interface

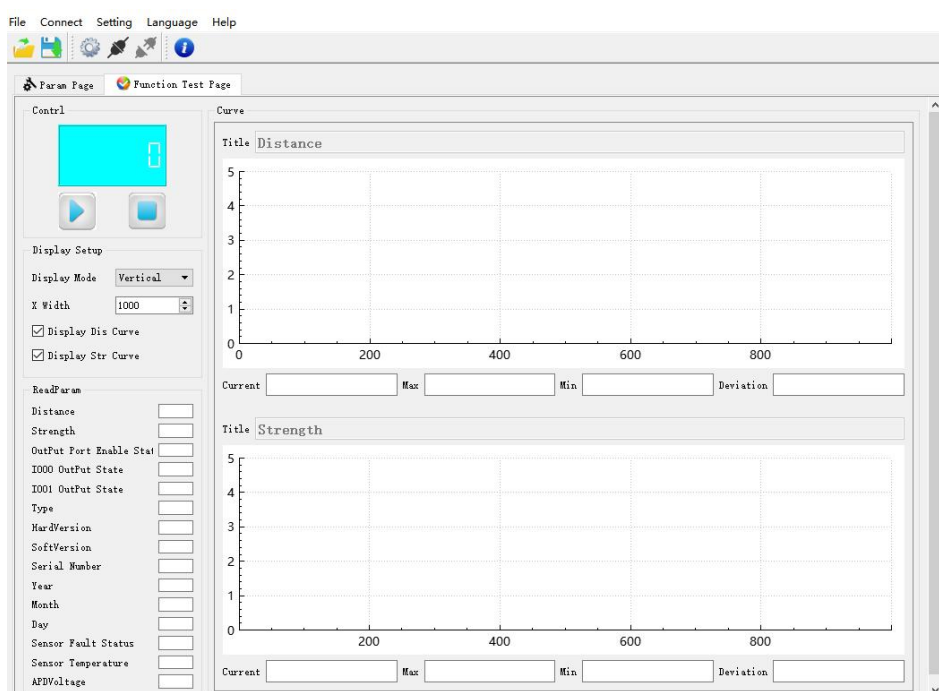
After successful connection, the output parameters and input parameters of the ranging sensor will be displayed;

The 'Param Page' displays the following parameters:

Read Input Register		Read Stay Register	
Distance	753	Reboot Function	0
Strength	2749	Save Function	0
OutPut Port Enable State	0	485 Address	127
I000 OutPut State	0	485 Baud Rate	9600
I001 OutPut State	0	485 Parity Bit	None
Type	37	485 Stop Bit	1 Stop Bit
HardVersion	100	CANBUS Baud Rate	125K
SoftVersion	100	Cross Mode	Close Mode
Serial Number	100	Cross Number	3
Year	2025	Measure Number	10
Month	4	IO OutPut Enable	0
Day	27	Near I000 OutPut	500
Sensor Fault Status	0	Remote I001 OutPut	1000
Sensor Temperature	38	Filter Type	Original
APDVoltage	25		

7.2.2 Functional testing interface

Display the distance and signal intensity curve chart measured by the sensor in real time, and dynamically draw the distance change trend and corresponding signal intensity;



7.3 Set button display

7.3.1 Set button A

1. Press and hold button A for 2s to set the area protection point, and hold AB for 3s to save the settings. After the settings are successful, the distance will be displayed on the data display page;

File Connect Setting Language Help

Param Page Function Test Page

Read Input Register	
Distance	157
Strength	3667
OutPut Port Enable State	1
IO00 OutPut State	0
IO01 OutPut State	0
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near IO00 OutPut	102
Remote IO01 OutPut	210
Filter Type	Original

2. When the sensor measurement distance is greater than the point where the protection area is set, IO_01 has an output;

File Connect Setting Language Help

Param Page Function Test Page

Read Input Register	
Distance	231
Strength	3667
OutPut Port Enable State	1
IO00 OutPut State	0
IO01 OutPut State	1
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near IO00 OutPut	102
Remote IO01 OutPut	210
Filter Type	Original

3. When the sensor measurement distance is less than the point where the protection area is set, IO_01 has no output;

Read Input Register	
Distance	144
Strength	3667
OutPut Port Enable State	1
I000 OutPut State	0
IO01 OutPut State	0
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near I000 OutPut	102
Remote IO01 OutPut	210
Filter Type	Original

7.3.2 Set button B

1. Press and hold button B for 2s to set the area protection point, and hold AB for 3s to save the settings. After the settings are successful, the distance will be displayed on the data display page;

Read Input Register	
Distance	157
Strength	3667
OutPut Port Enable State	1
I000 OutPut State	0
IO01 OutPut State	0
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near I000 OutPut	102
Remote IO01 OutPut	210
Filter Type	Original

2. When the sensor measurement distance is less than the set protection area point IO_00, there is an output;

The screenshot shows the 'Function Test Page' of a software application. It features two main sections: 'Read Input Register' on the left and 'Read Stay Register' on the right. The 'Read Input Register' section contains various parameters, with 'Distance' (41) and 'I000 OutPut State' (1) highlighted by red boxes. The 'Read Stay Register' section contains parameters for system configuration, with 'Near I000 OutPut' (102) highlighted by a red box.

Read Input Register	
Distance	41
Strength	3140
OutPut Port Enable State	1
I000 OutPut State	1
I001 OutPut State	0
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near I000 OutPut	102
Remote I001 OutPut	210
Filter Type	Original

3. When the sensor measurement distance is greater than the set protection area point IO_00, no output is available;

The screenshot shows the 'Function Test Page' of a software application, similar to the previous one. In this case, the 'Distance' is 157, and 'I000 OutPut State' is 0. The 'Near I000 OutPut' remains at 102. Red boxes highlight these three values.

Read Input Register	
Distance	157
Strength	3667
OutPut Port Enable State	1
I000 OutPut State	0
I001 OutPut State	0
Type	37
HardVersion	100
SoftVersion	100
Serial Number	100
Year	2025
Month	4
Day	27
Sensor Fault Status	0
Sensor Temperature	46
APDVoltage	25

Read Stay Register	
Reboot Function	0
Save Function	0
485 Address	127
485 Baud Rate	9600
485 Parity Bit	None
485 Stop Bit	1 Stop Bit
CANBUS Baud Rate	125K
Cross Mode	Close Mode
Cross Number	3
Measure Number	10
IO OutPut Enable	0
Near I000 OutPut	102
Remote I001 OutPut	210
Filter Type	Original

8 Troubleshooting

8.1 Fault status

The sensor prompts a fault through the green LED light in the sensor power state. The sensor will stop outputting the signal when the green LED is flashing.

Green LED light flashes	Sensor failure
Green LED light always on	Sensor is normal

8.2 Troubleshooting

When the sensor does not work properly, or the sensor status cannot be determined, troubleshoot and confirm according to the following procedures.

Fault	Solve
Unable to detect an object	Use configuration software to view and monitor the current channel status and drawn detection areas;
Output signal flashes	When flashing, it is overtemperature, and the temperature exceeds 80 degrees;

9 After-sales information

9.1 Warranty period

Hinson products provides a limited warranty. If the sensor cannot be used normally due to quality problems or design defects during the warranty period, we will provide free after-sales maintenance.

- Warranty period: 1 year from the date of sale.

9.2 Warranty coverage

If the product is within the warranty period and falls within the warranty conditions, we will repair or replace it free of charge.

- The warranty and after-sales service of this product are limited to mainland China;
- The product cannot be used normally due to unpacking during transportation;
- The product cannot work normally due to damage to its own components;
- The product cannot be used normally due to design defects;

9.3 Disclaimer

Please pay attention to the following conditions during the use of the product. We will not provide free after-sales and warranty.

- Failure to install the product correctly according to the instructions, resulting in product damage;
- Use the product in an unsuitable environment and conditions, resulting in product damage;
- Product damage caused by failure to operate in accordance with the product manual;
- Dismantling or repairing the product without the company's permission;
- Product damage caused by irresistible external forces such as natural disasters and fires.

9.4 Technical Support

Guangdong Hinson Technology Co., Ltd.

Tel: 0757-22218956 (8:30-17:30 on weekdays)

Website: www.hinson-xs.com

Email: hinson@hinson-xs.com

Technical support QQ: 2636178756