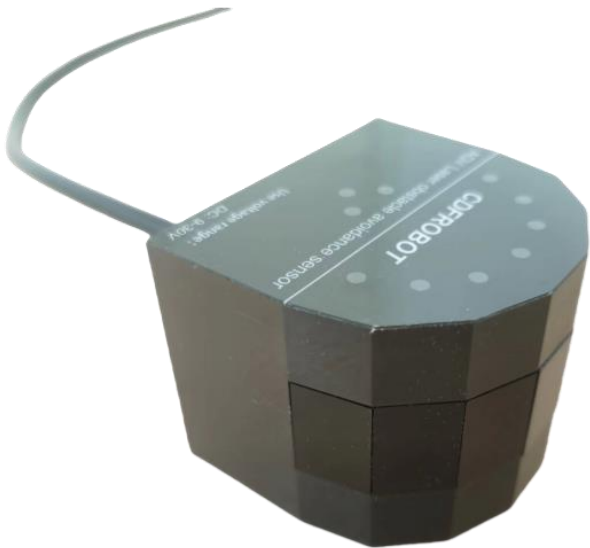


CCF-LAS5Series Laser Obstacle Avoidance Sensor Instructions

ModbusCommunication protocol output

This manual is applicable to the following sensor models:CCF-LAS5-4M



1 . Product Introduction:

7 High sensitivity laser probe;

Support detection distance output through serial port;

Support baud rate setting;

Support free setting of device address;

Power status indicator light display;

Working status indicator light display;

Signal output status display;

Industrial-grade three-proof design, wide voltage, low power consumption;

2 . Electrical parameter description:

Supply voltage:DC 9 — 3 0 V;

Maximum current consumption: 1 0 0 mA;

Output interface:RS485interface,Modbus-RTUprotocol;

Effective detection distance: 1 -400CM;

Horizontal detection angle: less than or equal to 1 8 0 degrees;

Vertical detection angle: less than or equal to 1 5 degrees;

Recommended installation height: greater than 1 0 MM;

It is recommended to install it at an elevation angle

Response speed: 3 0 ms;

Operating temperature range: -40°C — +85°C;

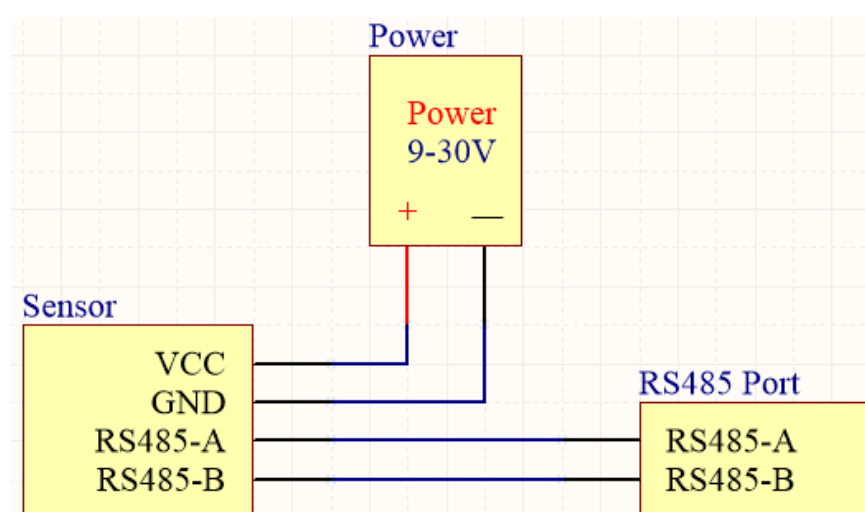
Working humidity: 1 0 % - 9 0 % relative humidity;

3 . Interface definition:

To avoid induction

RS485接线定义:

红: 6-30V
 黑: GND
 绿: RS485-B
 黄: RS485-A

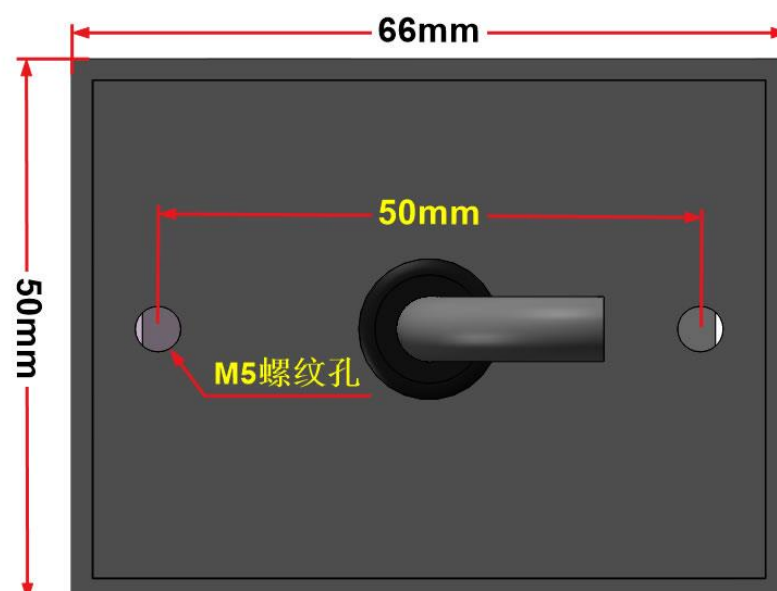
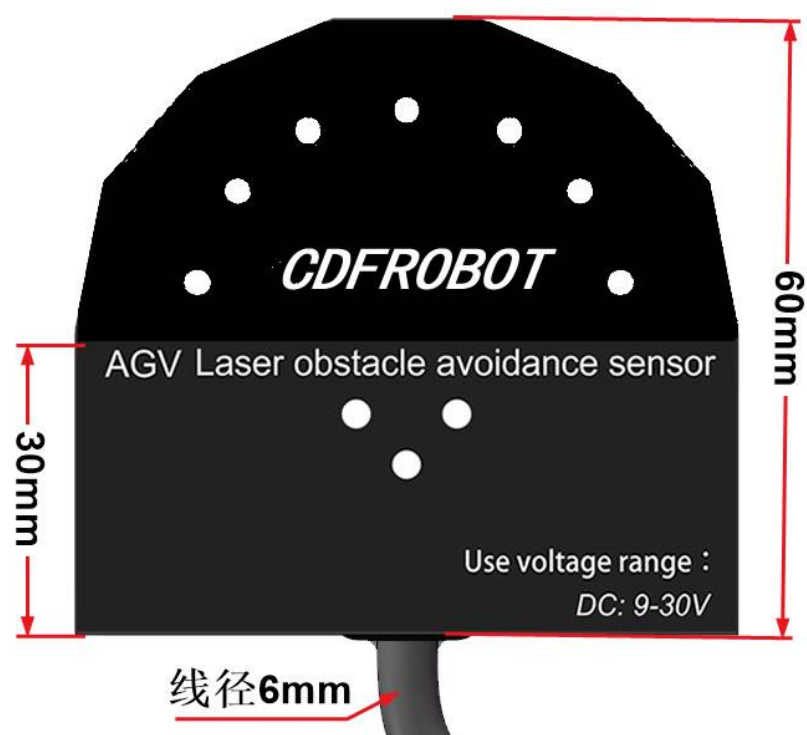
**4 . Product electrical connection:****5 . Indicator Light Description:**

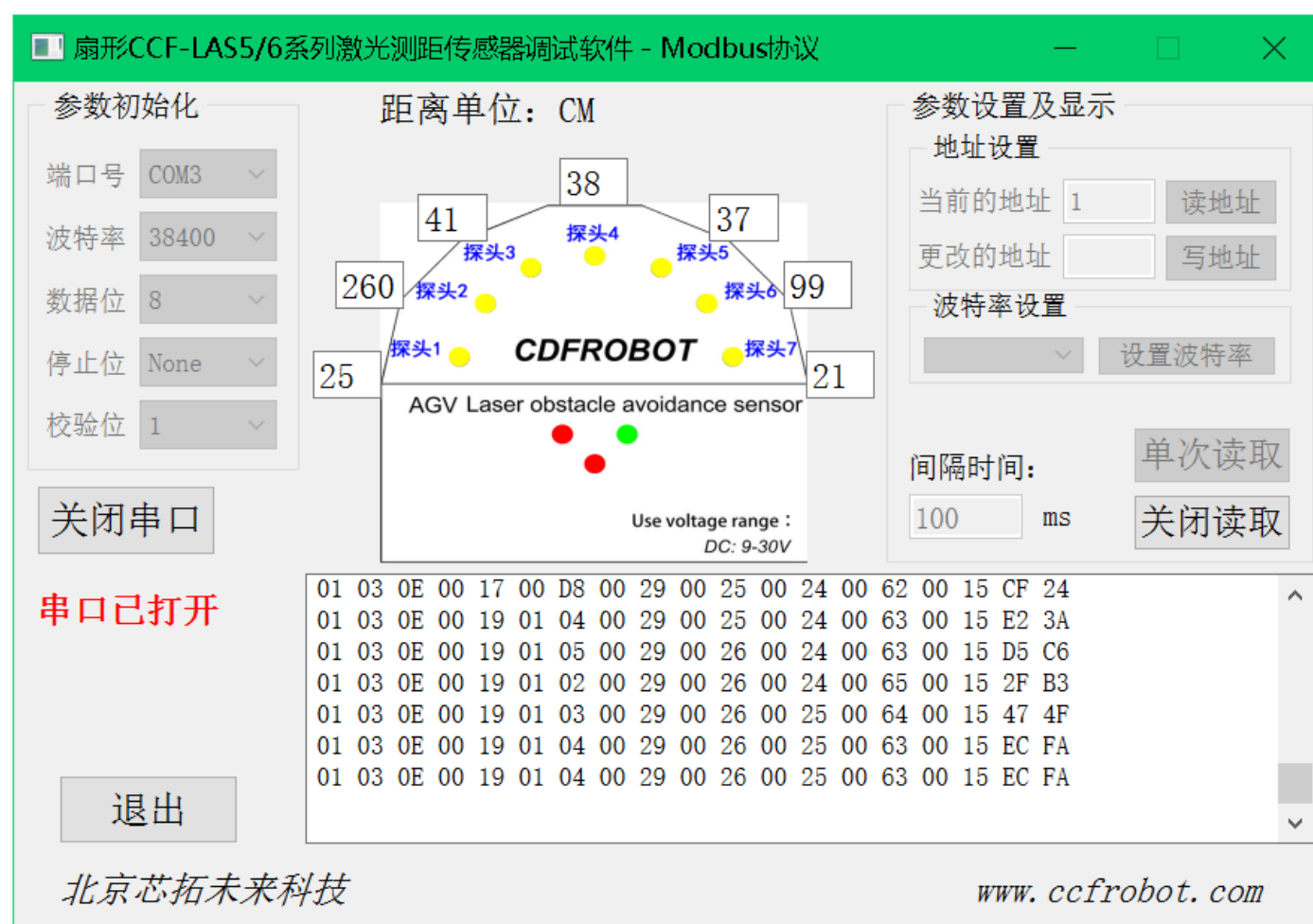
serial number 1 -7: Respectively 1 No. to 7 The indicator light of the probe working status flashes once

Indicates that the corresponding probe measures the distance once;

serial number 8 and 9 :none;

serial number 1 0 :Power indicator light;

**6 . Size description:****7 . Instructions for using the host computer setting software:**



- Parameter initialization: default as shown in the figure;
- Open serial port/Close serial port: Select the correct comSlogan, you can open the serial port normally, otherwise an error will be reported; plug and unplug USB Serial Port
Before opening the line, close the serial port first;
- Current address: Click the Read Address button to display the current address of the sensor (**The physical address of the sensor, as Slave address of the slave**);
- Change the address: first enter the address number to be set, then click Write Address to change the sensor address (**Sensor Physical address, used as slave address of slave machine**);
- Baud rate setting: Select the baud rate you want to set and click the Set Baud Rate button to change the baud rate of the sensor (**Heavy After power-on, a new baud rate is required for communication**);
- Single distance reading: Click once, the sensor returns one distance data;
- Continuous Read: Click once, the host computer will continuously send distance reading instructions to the sensor at the input interval time, and transmit
The sensor returns distance data upon receiving the command;
- Input interval: Set the interval time for continuous reading (**unit:ms**);
- 1 Probe distance value: real-time display 1 The distance value of the probe, unit:CM;
- 2 Probe distance value: real-time display 2 The distance value of the probe, unit:CM;
- 3 Probe distance value: real-time display 3 The distance value of the probe, unit:CM;
- 4 Probe distance value: real-time display 4 The distance value of the probe, unit:CM;
- 5 Probe distance value: real-time display 5 The distance value of the probe, unit:CM;
- 6 Probe distance value: real-time display 6 The distance value of the probe, unit:CM;
- 7 Probe distance value: real-time display 7 The distance value of the probe, unit:CM;
- **Note: After all the above functions are set successfully, the sensor will automatically save the latest settings after powering on again;**

8 . Communication format and communication protocol description:

1 . Communication format: (8 data bits, 1 stop bit, no parity, default rate 9 6 0 0)

This product adopts standardModbus RTUCommunication protocol, this product supports 0 3 0 6 Function code, address: 1 ~ 2 5 4 Can be set (The factory default address is 1)

two, Host requests sensor data

For example: The host request address is 1 Sensor data (Must be operated in answer mode)

Host request: Send data as 0 1 0 3 0 0 0 2 0 0 0 7 A5 C8																			
0 1	0 3	0 0			0 2			0 0			0 7					A5	C8		
equipment address	achievement code	Starting register address high section Character			Starting register address low section Character			Number of registers read High Byte			The low byte of the register number to read					CRCL	CRCH		
Slave response: The returned data is 0 1 0 3 0 E 0 EF 1 5																			
0 1	0 3	0 E	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	EF	1 5
equipment address	achievement code	Storage Number of device	1 Number Probe distance Should byte High Word Low Word Festival	1 Number Probe distance High Word Low Word Festival	2 Number Probe distance High Word Low Word Festival	2 Number Probe distance High Word Low Word Festival	3 Number Probe distance High Word Low Word Festival	3 Number Probe distance High Word Low Word Festival	4 Number Probe distance High Word Low Word Festival	4 Number Probe distance High Word Low Word Festival	5 Number Probe distance High Word Low Word Festival	5 Number Probe distance High Word Low Word Festival	6 Number Probe distance High Word Low Word Festival	6 Number Probe distance High Word Low Word Festival	7 Number Probe distance High Word Low Word Festival	7 Number Probe distance High Word Low Word Festival	CRCL	CRCH	

3 . Address range 1 ~ 2 5 4 Can be set (The factory default address is 1) . The address modification needs to be powered on again to take effect.

After the address is modified, the new address is required for communication.

For example: Set the device address to 1 Sensor address 1 Change to address 2

Host request: Send data as 0 1 0 6 0 0 0 0 0 2 0 8 0 B(address 1 Change to 2)							
0 1	0 6	0 0	0 0	0 0	0 2	0 8	0 B
Equipment Location site	Function code	Preset register address high byte	Preset register address low bit byte	Place data high word Festival	Place data low word Festival	CRCL	CRCH
Slave response: The returned data is 0 1 0 6 0 0 0 0 0 2 0 8 0 B							
0 1	0 6	0 0	0 0	0 0	0 2	0 8	0 B
Equipment Location site	Function code	Preset register address high byte	Preset register address low bit byte	Place data high word Festival	Place data low word Festival	CRCL	CRCH

4 . When modifying the baud rate, you should first use the baud rate of the current module for communication. After the baud rate is modified, you need to power on the sensor again.

Currently supported 2 4 0 0 , 4 8 0 0 , 9 6 0 0 , 1 9 2 0 0 , 3 8 4 0 0 , 5 7 6 0 0 , 1 1 5 2 0 0 Baud rate,Module factory default baud

The rate is 3 8 4 0 0 ; 2 4 0 0 correspond 0 x0001; 4 8 0 0 correspond 0 x0002; 9 6 0 0 correspond 0 x0003; 1 9 2 0 0 correspond 0 x0004; 3 8 4 0 0 correspond 0 x0005; 5 7 6 0 0 correspond 0 x0006; 1 1 5 2 0 0 correspond 0 x0007;

For example: Set the device address to 1 The sensor baud rate is changed to 3 8 4 0 0 (3 8 4 0 0 correspond 0 x0005)

Host request: Send data as 0 1 0 6 0 0 0 1 0 0 0 5 1 8 0 9								
0 1	0 6	0 0		0 1	0 0	0 5	1 8	0 9
Device Address	Function code	Preset register address high word Festival	Preset register address bit word Festival	Place data high word Festival	Place data low word Festival	CRCL	CRCH	
Slave response: The returned data is 0 1 0 6 0 0 0 1 0 0 0 5 1 8 0 9								

0 1	0 6	0 0	0 1	0 0	0 5	1 8	0 9
Device Address	Function code	Preset register address high word Festival	Preset register address bit word Festival	Place data high word Festival	Place data low word Festival	CRCL	CRCH

9 . If you forget the address after setting it, you can use the unconditional query address command. This command is a special command.

The sensor and computer are connected separately.

Get the module's address information.

Frame format: Send

byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	CRCL	CRCH
FF	0 3	0 0	0 0	0 0	0 1	9 1	D4

return

byte 1	byte 2	byte 3	byte 4	byte 5	CRCL	CRCH
FF	0 3	0 2	0 0	ADDR	*	*

=====END=====