Coolmay®
Automation expert

L02-2LC Weighing Module

Operation instructions



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Part 1 Product Overview

L02-2LC weighing module, with 2-way weighing function, is designed to meet various industrial automation weighing needs. Its compact structure and efficient performance make it an ideal choice for many industrial applications. L02-2LC weighing module not only provides high-precision weight measurement, but also has excellent stability and reliability, ensuring excellent performance in various environments.

The module uses advanced microprocessor technology and supports multiple communication protocols, including but not limited to the modbus RTU protocol, which facilitates seamless connection with various industrial control systems. In addition, the L02-2LC weighing module is also easy to integrate and maintain. Its modular design simplifies the installation process, and users can quickly integrate it into existing industrial automation systems. At the same time, the modular structure also makes subsequent maintenance and troubleshooting more convenient, greatly reducing maintenance costs and time. Whether it is for the deployment of new projects or the upgrade of old systems, the L02-2LC weighing module can provide efficient and reliable solutions.

Technical parameters:

Technical indicators	**illustrate**
Dimensions	88*75*32mm
Installation	35mm rail installation
Operating voltage	DC24V
AD resolution	24-bit
Weighing module output rate	6.25, 12.5, 25, 50, 100, 200 times/second optional (default 50)
Analog input range	DC 0-39mV (sensor 7.8mV/V)
Non-linear accuracy	0.01%F • S
Conversion speed	73-100Hz
Communication	RS485 serial communication
Communication parameters (default)	9600,8,N,1 (adjustable as needed)
Work Environment	-20 ～ 60 ℃ , relative humidity 10% ～ 85%, non-condensing
Storage environment	-40 ～ 80 ℃ , relative humidity 10% ～ 85%, non-condensing

Part 2 Hardware Introduction

2.1 Front Interface Introduction

Power Terminals
FG
0V
24V

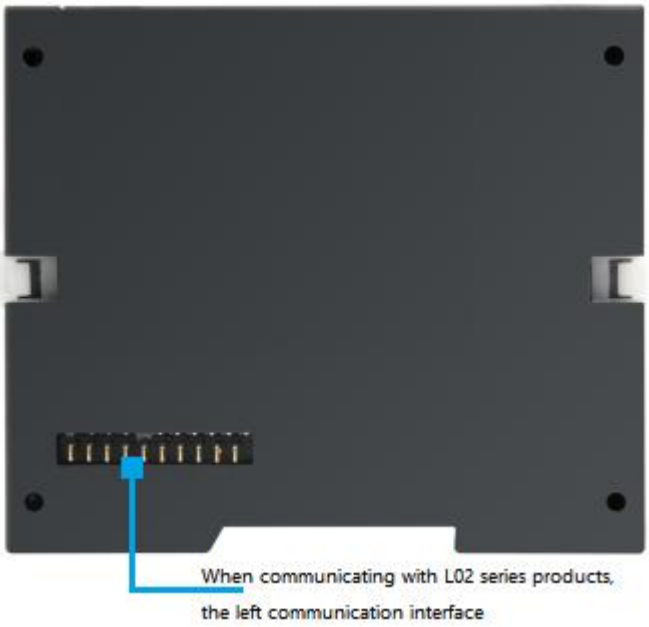


Sensor signal line*2	
Silkscreen	Function
RE+	Feedback+
RE-	feedback-
S+	Signal+
S-	Signal-
E+	Incentive+
E-	excitation-

RS485	
B	458-
A	485+

Dip switch	Function	Remark
A3-A0	Modbus slave address setting	Please see the text for detailed settings
B1-B0	Baud rate setting	

2.2 Introduction to the left interface

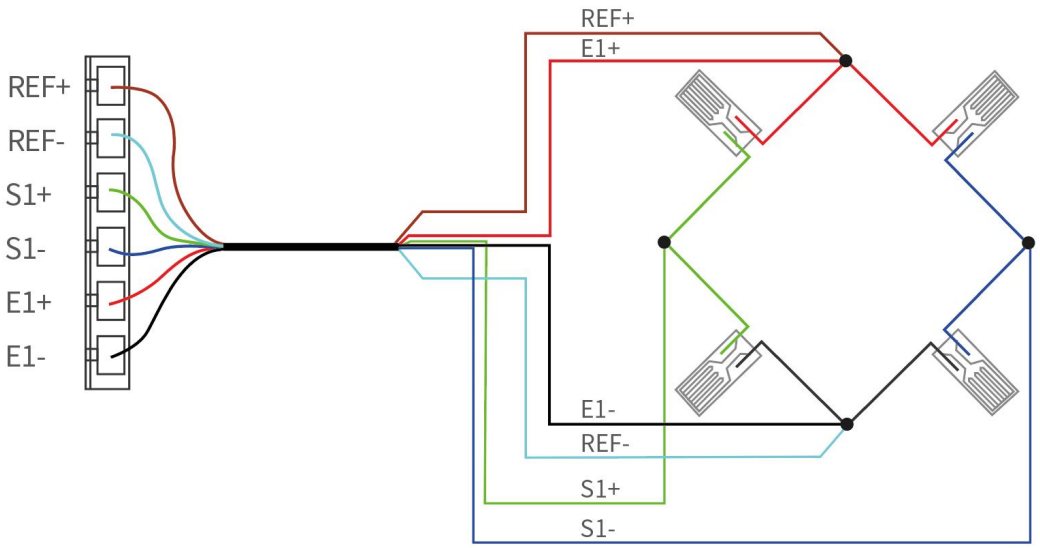


2.3 Right side interface introduction



Part 3 Communication Parameters and Wiring Introduction

3.1 Sensor Wiring



Six-wire load cell connection diagram

The six-wire sensor has a total of 6 connecting wires. For specific connections, see the connection diagram and the terminal description below.

Silkscreen	Function
REF+	Feedback+
REF-	feedback-
S 1 +	Signal+
S 1 -	Signal-
E 1 +	Incentive+
E 1 -	excitation-

3.2 Modbus address setting A3-A0

This weighing module can be used in two ways, it can be used with the L02 host or with other products.

3.2.1 Use with L02 host

When used with the L02 host, the power line, 485 communication line, Modbus address and baud rate of this weighing module are all internally powered and communicated with the L02 host. Therefore, the silk screen A\B\FG\0V\24V\A0-A3\B0-B1 do not need to be connected. When used with the L02 host, the method for reading weighing module data is the same as that for L02 series analog modules.

The D8055 register is a self-identifying analog input word number (i.e. the number of analog channels), and the address is automatically allocated in sequence by the L02 host. The extended register read value is shown in the following table.

Serial number	Register reading value
AD0	R23700
AD1	R23701
AD2	R23702
AD3	R23703
...	...
AD 49	R23749

Note that the analog input of weighing is read as 32 bits, so each weighing channel occupies two registers.

For example:

If L02M32R+L02-2LC is used, the two-way input weighing data of L02-2LC will be read at R23700 and R23702.

If L02M32R+L02-4AD+L02-2LC is used, the two-way input weighing data of L02-2LC will be read at R23704 and R23706.

Before using it with the L02 host, you need to use the [2LC weighing module parameter setting software] to set the weighing coefficient of the module. For software usage and setting steps, please refer to Section 4 of this manual.

3.2.2 Communicate with other products via RS-485

When used with other products, the weighing sensor line, 485 signal line, and 24V power line of this module all need external wiring. The Modbus address and baud rate need to be set through the dip switch. The silkscreen explanation of this weighing module is shown in the following table.

Silkscreen	Functional Description	Remark	
RE1+	Feedback +	The first weighing sensor signal line	Six-wire system: The six signal wires of the weighing sensor are connected one by one
RE1-	feedback-		
E1+	Incentive+		
E 1 -	excitation-		

S1+	Signal+		according to their functions. Four-wire system: the feedback line and the signal line are connected one by one, the excitation + and feedback + are short-circuited, and the excitation - and feedback - are short-circuited.
S1-	Signal-		
RE2+	Feedback +	The second weighing sensor signal line	
RE2-	feedback-		
E2+	Incentive+		
E2-	excitation-		
S2+	Signal+		
S2-	Signal-		
B	485-	RS485 communication line	
A	485+		
A0	Modbus address setting switch	For detailed settings, see the following table.	
A1			
A2			
A3			
B0	Baud rate setting switch	For detailed settings, see the following table.	
B1			
FG	24V power ground wire, optional	DC24V power supply (top 3P terminal)	
0V	0V power line		
24V	24V power cable		

Modbus address setting: DIP switches A0-A3 are address setting switches, as shown in the following table.

A3A2A1A0	**Modbus slave address**
0000	1
0001	2
0010	3
0011	4
0100	5
0101	6
0110	7
0111	8
1000	9
1001	10
1010	11
1011	12

1100	13
1101	14
1110	15
1111	16

Baud rate setting: Dip switch B0-B1 is for baud rate setting, as shown in the following table.

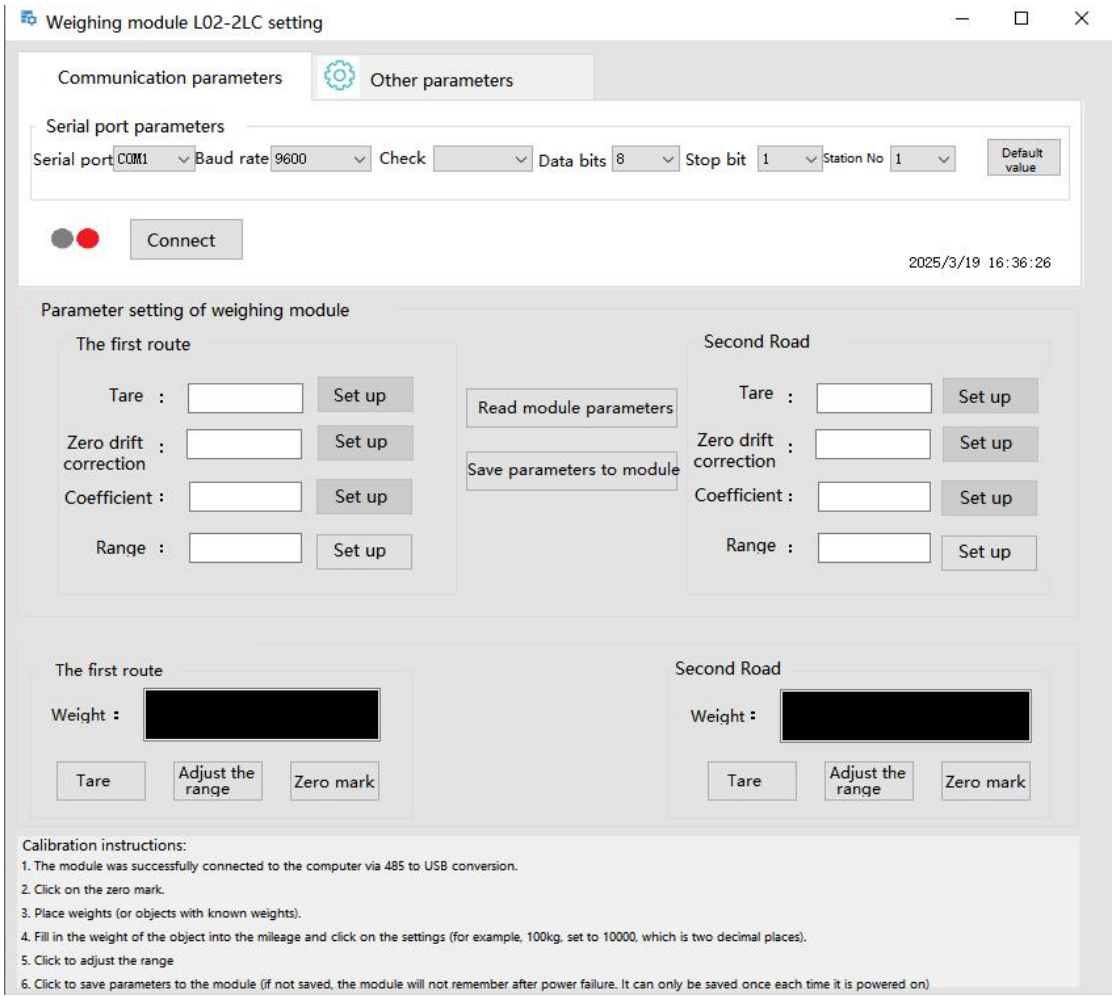
B1B0	**Baud rate**
00	9600
01	19200
10	38400
11	115200

Parameter reading

Parameter address	**Location**	**Functional Description**	**Remark**
4x90-91	First Road	Tare weight (32 bits)	Each power-on = 0
4x92-93	Second Road		Each power-on = 0
4x100	First Road	coefficient	Power failure retention
4x101	Second Road		Power failure retention
4x104-105	First Road	Zero drift correction (32 bits)	Power failure retention
4x106-107	Second Road		Power failure retention
4x110-111	First Road	Range (32 bits)	Power failure retention
4x112-113	Second Road		Power failure retention
4x280-281	First Road	Weight (32 bits)	
4x282-283	Second Road		
0x303	First Road	Zero point	OFF->ON
0x304	Second Road		
0x305	First Road	Adjust the range	OFF->ON
0x306	Second Road		
0x307	First Road	Peeling	OFF->ON
0x308	Second Road		
0X300	One and two routes	When OFF->ON, 4x100-4x107 data is saved in the module	

Part 4 L02-2LC weighing module parameter setting software

This setting software is only used to set the weighing coefficient, so it is not packaged for installation. Find the executable file L02-2LC.exe and double-click to open it. The setting interface is as shown below



Setup steps:

1. Successfully connect 2LC to the computer via RS485;

2. Connect the signal line of the weighing sensor to REF+REF-E+E-S+S- of 2LC one by one;

3. Set the module A3-A0 Modbus slave address and B1B0 baud rate, refer to the slave address and baud rate introduction in section 3.2;

4. Power on the module;

5. Click the [Connect] button to connect the computer to 2LC. When the connection is successful, the button will display [Connected] and the two indicator lights on the left will flash.

6. At the corresponding sensor channel, click the [Zero] button to set the sensor reading of

the corresponding channel to 0;

7. Place the weight or material of known weight on the weighing sensor;

8. Fill in the weight of the item at the scale (do not fill in the unit);

9. Click the [Set] button to write the range parameters into the module;

10. Click the [Adjust Range] button, and the module will calculate the weighing coefficient of the weighing sensor;

11. Click the [Save Parameters to Module] button. The range, coefficient and other information are saved in the module. (Note: Each time the module is powered on, only the first save is valid. For example, the first save is valid when the module is powered on. The second, third, etc. operations are invalid.)

12. Setting completed,

The module can be used together with a weighing sensor. When communicating with a non-L02 host, refer to section 3.2.2 for data reading.

If the module is connected to the L02 host, the data in the corresponding R register can be directly read during weighing. For specific registers, refer to Section 3.2.1.

Attachment version change record

date	Changed version	Changes
2025-03	V25.31	◆ Modify Section 1 to Product Overview ◆ Modification 2.1 Front interface introduction ◆ Modify 3.1 sensor wiring to 6-wire wiring ◆ Modify Section 4 L02-2LC weighing module parameter setting software