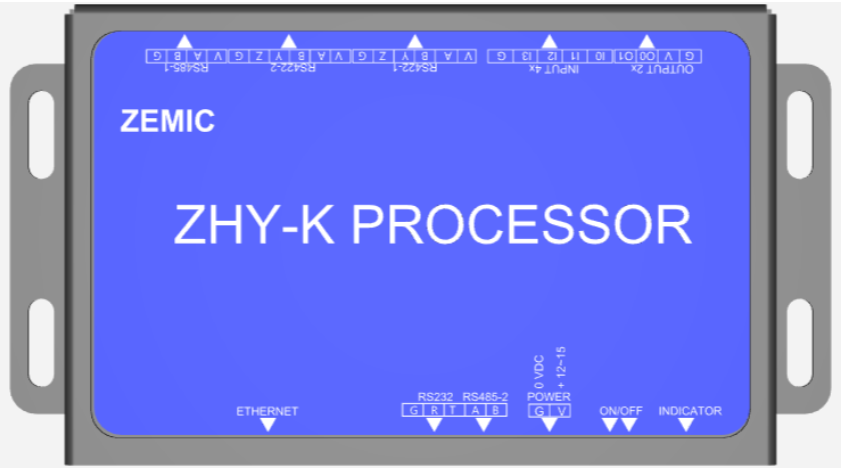


ZHY-K Processor

OIS Test Software

User Instructions

V1.73

Table of Contents

1. Foreword

Run the software please according to Figure 1.1.Show in Figure 1.1.

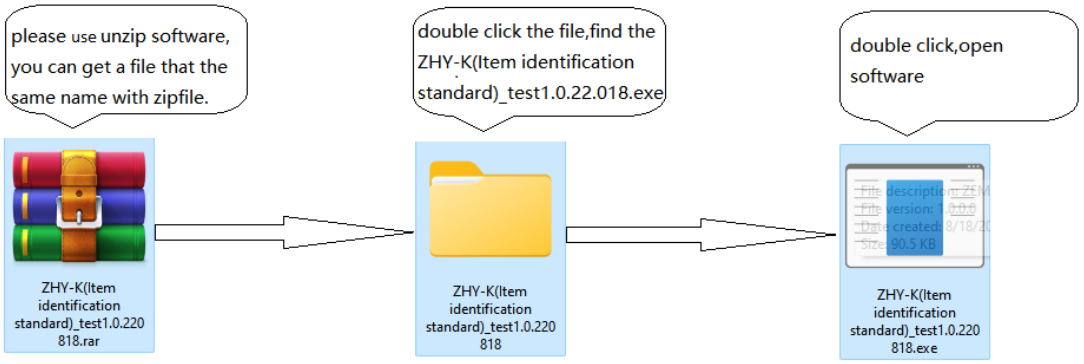


Figure 1.1 the step of running the software

After opening the software, the software User Interface displays as shown in Figure 1.2.

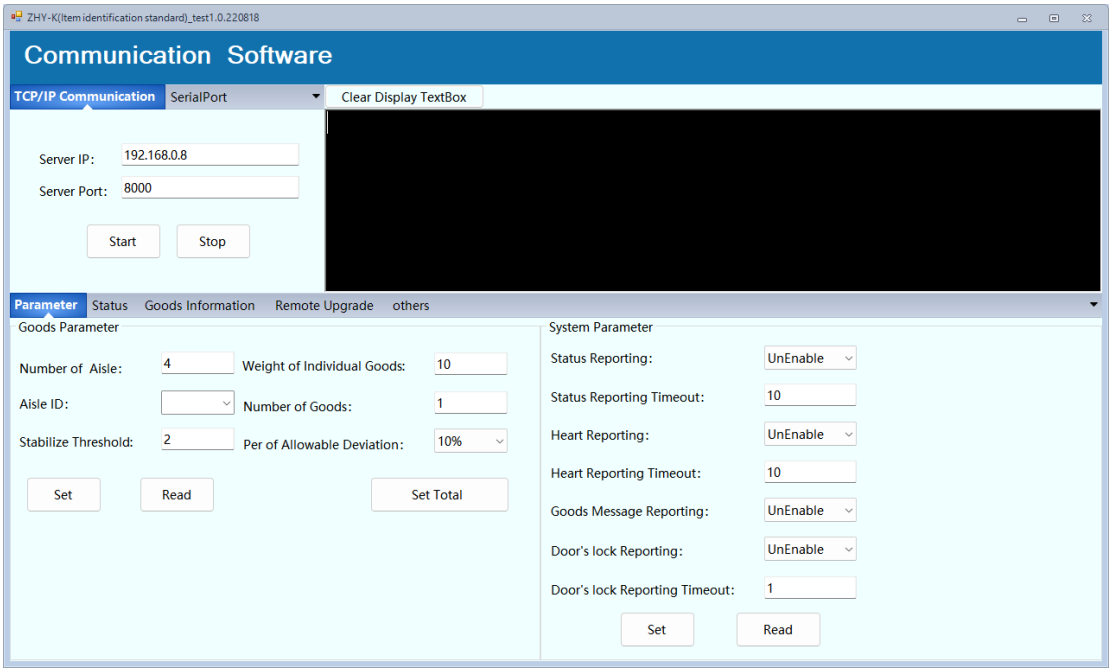


Figure 1.2 the software UI

The software was developed for equipment that can receive the ZHY-K data handling, which connect up only one device that can read or set the device's information, and can help users check the device is yes or no. If you want to use the software, you should choose the right communication method and make the necessary preparations.
Please read the detailed Communication Instruction as described below.

2. Communication Instruction

You can use TCP/IP or Serial Port to communicate with the ZHY-K Processor.

Choosing the different method of communication, users need to make some difference in preparation.

2.1 TCP/IP Communication

To begin TCP/IP Communication, find server IP and server port.
Find server IP address(ipv4) through computer(server) Ethernet IP configuration and use our network tool software to change it by setting ‘remote IP’ and click save button (Figure 2.1).
Find the server port in ‘remote port’ of our network tool USER-TCP232-M4 or USER -M0.
Note:
1.Change computer IP or ZHY-K IP if the IP address is not in same LAN segment as ZHY-K device. The ZHY-K device default IP value is 192.168.0.8. ZHY-K IP(module static IP) can be set in our network tool USER-TCP232-M4 or USER -M0.
2.Change remote port if the port is occupied or forbidden by other application. The remote port can be set in our network tool USER-TCP232-M4 or USER -M0.

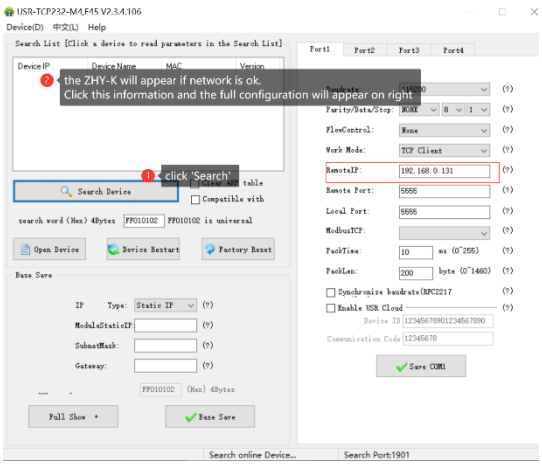


Figure 2.1 Set server IP

Input the server IP and server port in the TextBox(Shown in Figure 2.2). If all parameters are OK and you should connect server computer to the ZHY-K device with a CAT-5E network cable. The detailed information is shown in Figures 2.1 & 2.2.

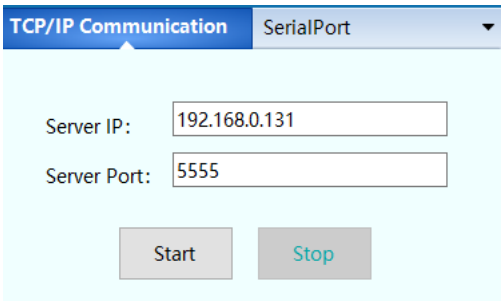


Figure 2.2 Input TCP/IP Information

2.2 Serial Port Communication

If users choose SerialPort Communication, they need to choose Serial Port Name (i.e. COM1, COM2, etc.) form the ComboBox. Shown in Figure 2.3.

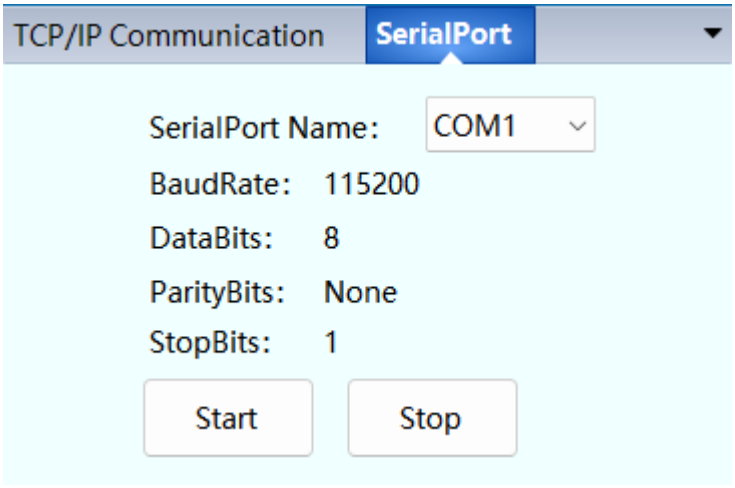


Figure 2.3 Choose SerialPort Named

3. Display Information

During the use of software, a message window is shown as in Figure 3.1. It will display result information to remind users that operation is successful or failed. While the window is open, you can click the Button 'Clear Display TextBox' to clear the message(s) in this window.

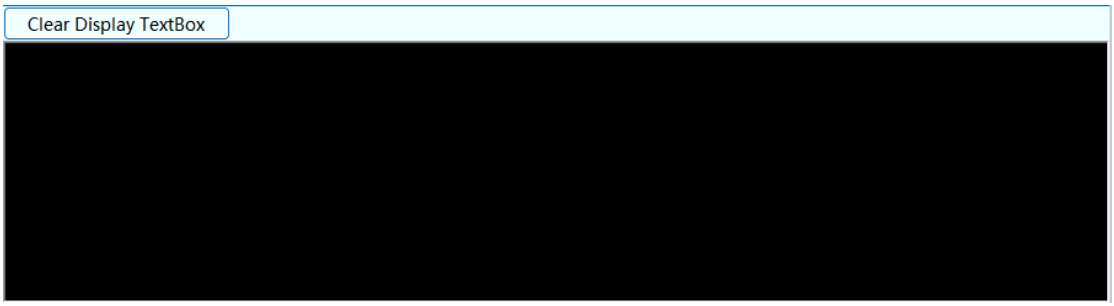


Figure 3.1 Display Information Area

4. Function Model Instruction

The main functions of the software are divided into five parts: Parameter, Status, Good Information, Remote Upgrade, Others. See Figure 4.1 below.

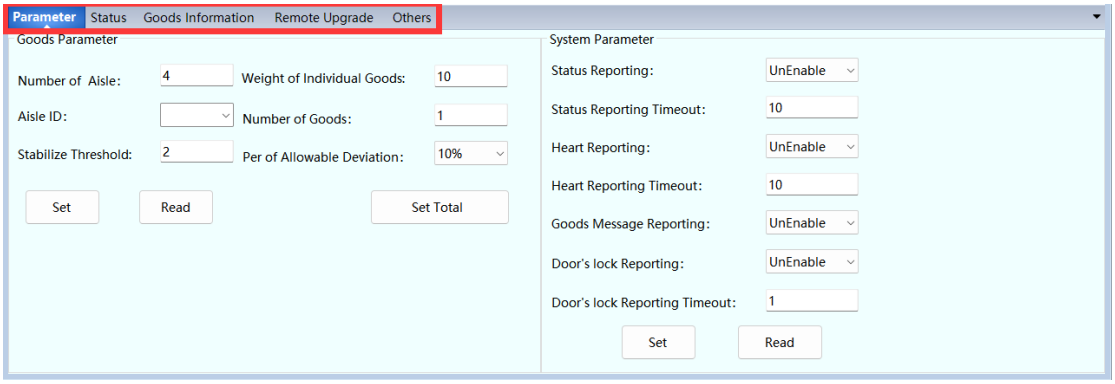


Figure 4.1 The main function area

4.1 Parameter

Parameter sub-menu contains two parts: one is Goods Parameter and another is System Parameter. As Shown in Figure 4.2.

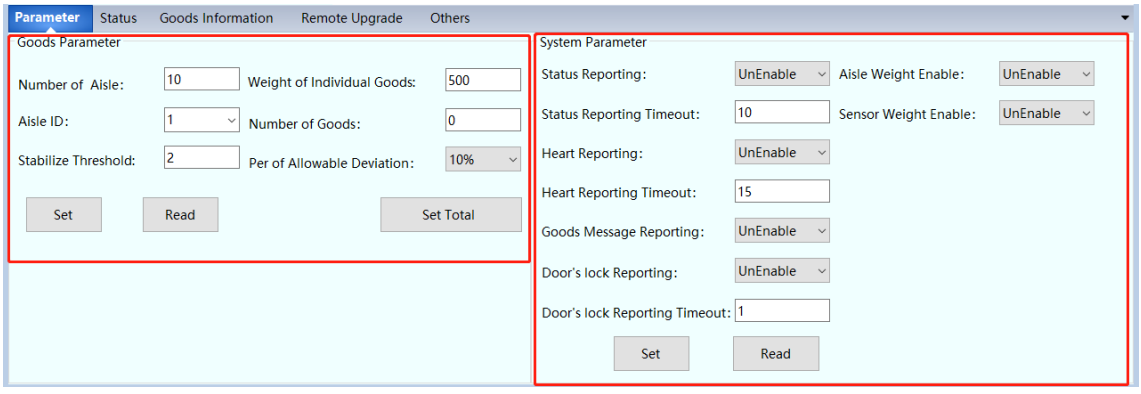


Figure 4.2 The software UI of the Parameter

4.1.1 Goods Parameter

Goods Parameter as shown in Figure 4.3, here user can set single aisle parameters or total aisle parameters, and read the total parameters.

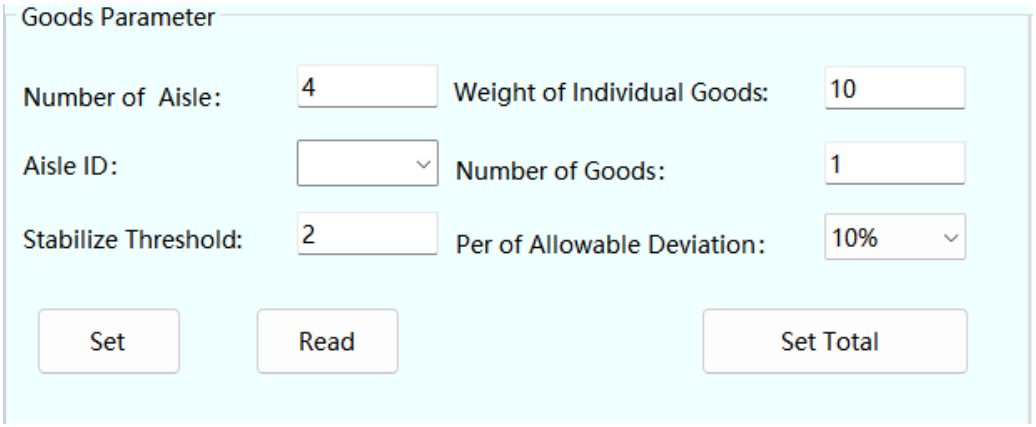


Figure 4.3 Goods Parameter UI

Before set Goods Parameter, user need read Goods Parameter. If user clicked the Button of Read, the software can send and received the message according to the communicating protocol.

Table 4.1 The Button of Read send detail message

Start	ID	Length	Command Type	Command Code	Data		CS	Over
0x02	0x00	0x04 0x00	Q	P	0x03	0x00	CS	0x03

Table 4.2 The Button of Read received detail message

Start	ID	Length	Command Type	Command Code	Data		CS	Over
0x02	0x81	0xLL 0xHH	Q	P	0x03	**Table 4.3**	CS	0x03

Table 4.3 The detail Data

Number	Name	Data Type	Instruction
1	Number of Aisle	byte	≤32;default 4
2	Aisle ID	byte	
3	Weight of Individual Goods	ushort	≥10;default 10
4	Number of Goods	ushort	
5	Per of allowable Deviation	byte	0~5:3%,5%,10%,20%,30%,50%; default 2 (10%)
6	Stabilize Threshold	byte	≥2;default 2

The parameter introductions:

1) Number of Aisle: the number of aisle displayed in multiple aisle parameter setting mode. Keep it '0' in single aisle parameter mode.

2) Aisle ID: the aisle number to be set. The value is less than the location number;

3) Weight of Individual Goods: the unit weight of the goods to be placed in the location. The value is ≥ 10. The unit for this value is 1 gram.

4) Number of Goods: this value is generally filled in as 0 during parameter setting;

5) Per of allowable Deviation: the code range is as shown in Table 4.3. It represents the allowable deviation range of single weight of goods when calculating the quantity of goods. For example, if the single weight is 500g and the code 2, which means allowable deviation percentage is 10%, 500 ± (500 * 10%) will be calculated as a goods when calculating the quantity of goods;

6) Stabilize Threshold: this parameter indicates that the quantity of goods will be calculated when the change of cargo space weight is less than this value. The unit for this value is 1 gram.

A) To read the goods information, click 'Read' button as shown in Figure 4.4.

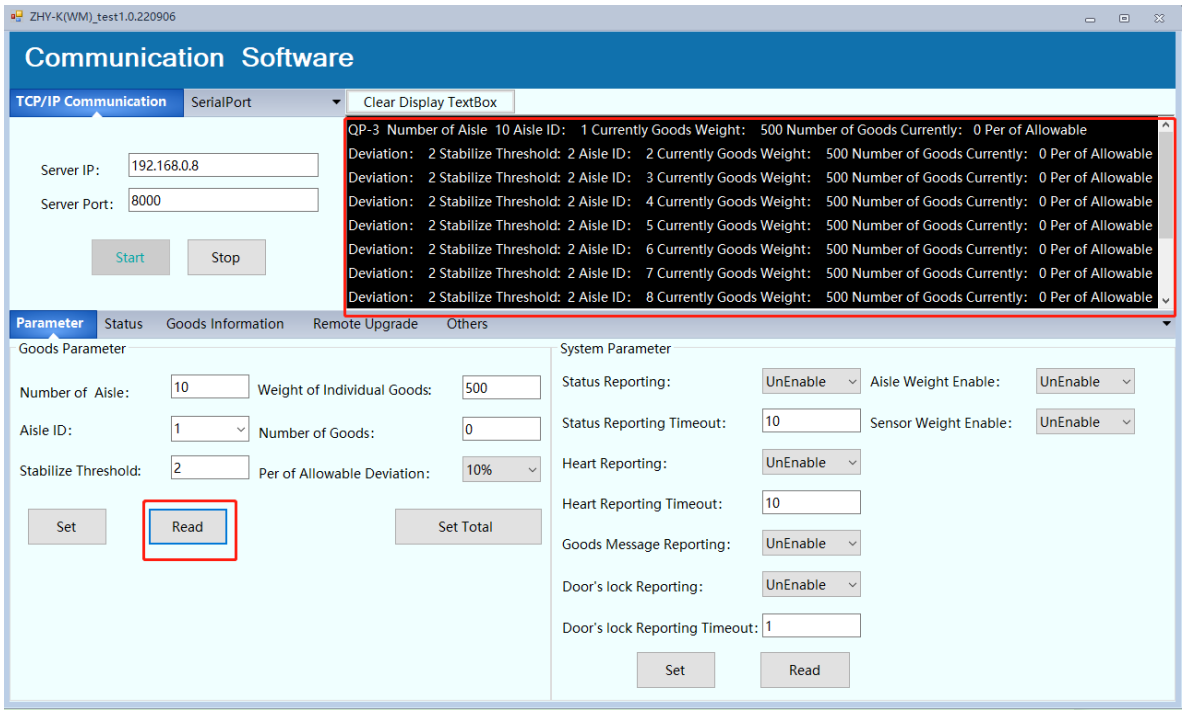


Figure 4.4 Read Button message

B) To set single channel goods parameters, input all parameters value mentioned in the table below and click Set button as shown in Figure 4.5.

Goods Parameters input value list

Parameters item	Input Range	Error Message
Number of aisle	0 *Other value than above will cause an error message*	The number of freight lanes is wrong!
Aisle ID	Choose aisle ID from option list.	
Stabilize Threshold	Number ≥2 *Other value than above will cause error message*	The judgment threshold is wrong!
Weight of individual Goods	Number ≥10 *Other value than above will cause error message*	The weight of the cargo is wrong!
Number of Goods	The actual number of goods on aisle	
Per of Allowable Deviation	Choose percentage from option list	

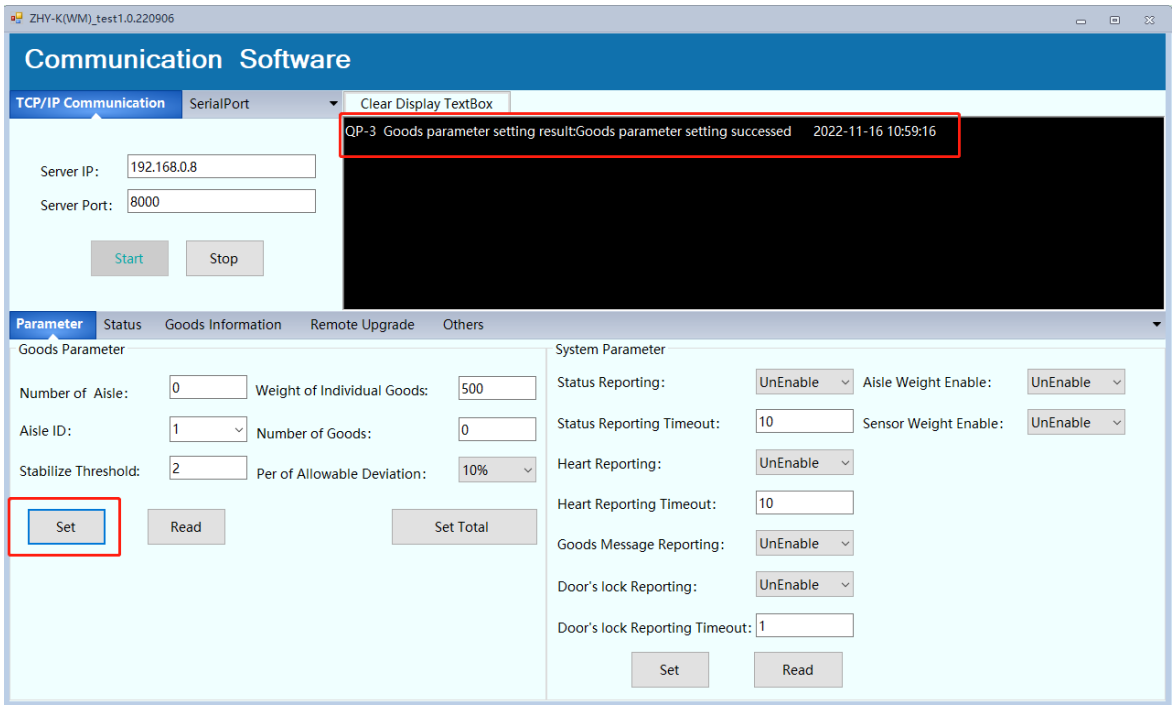


Figure 4.5 Set single aisle UI

C) To set multiple channels goods parameters, click the 'Set Total' button to open the window of multiple aisle Cargo Parameter and input the parameter that you need. Then click 'Set' in Configuration Multiple Goods Parameters as shown in Figure 4.6. The result will be shown in the message display window as in Figure 4.7.

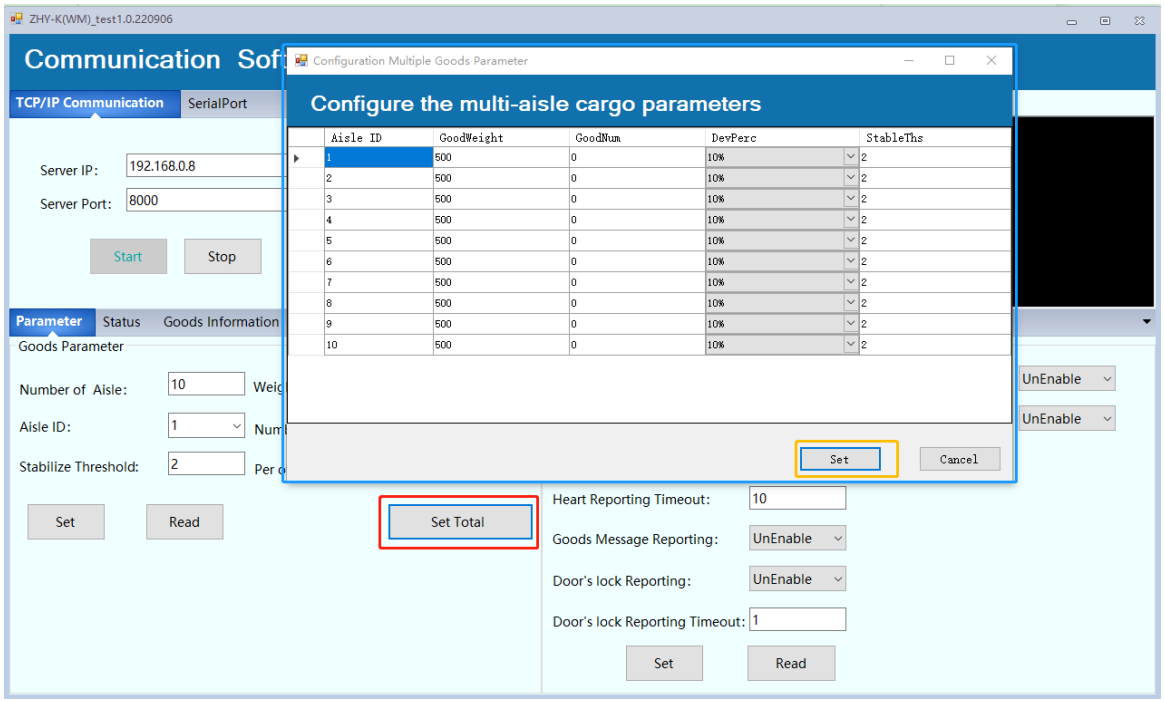


Figure 4.6 Set multiple aisle UI

If the set is successful, the result will be shown in 'Display Textbox' window as Figure 4.7.

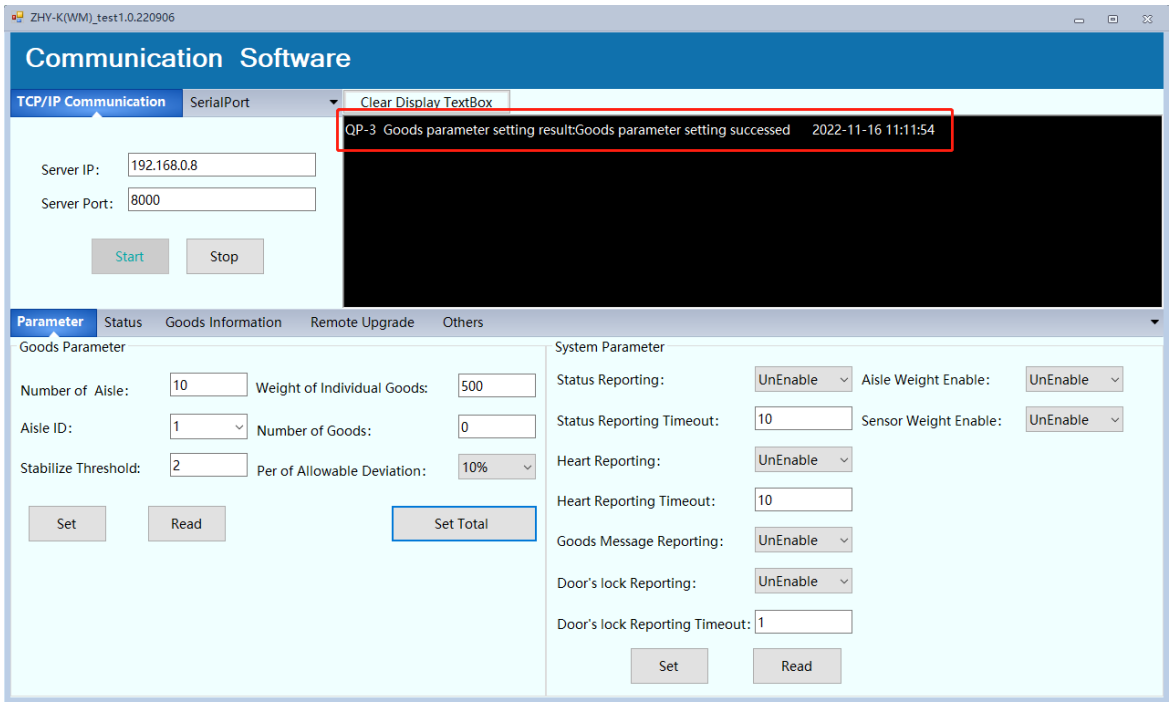


Figure 4.7 Set multiple aisle received message UI

4.1.2 System Parameter

The below Figure 4.8 is System Parameter Set and Read interface.

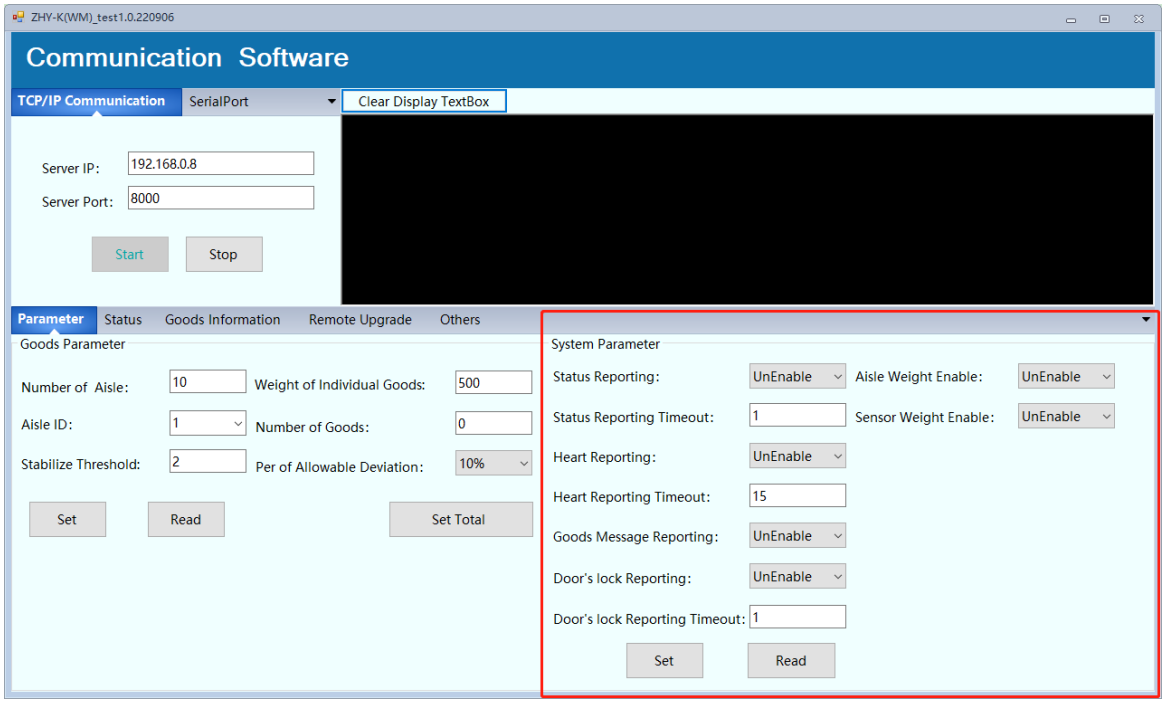


Figure 4.8 System Parameter

If you want to know the system parameters, click the 'Read' Button. As shown in Figure 4.9.

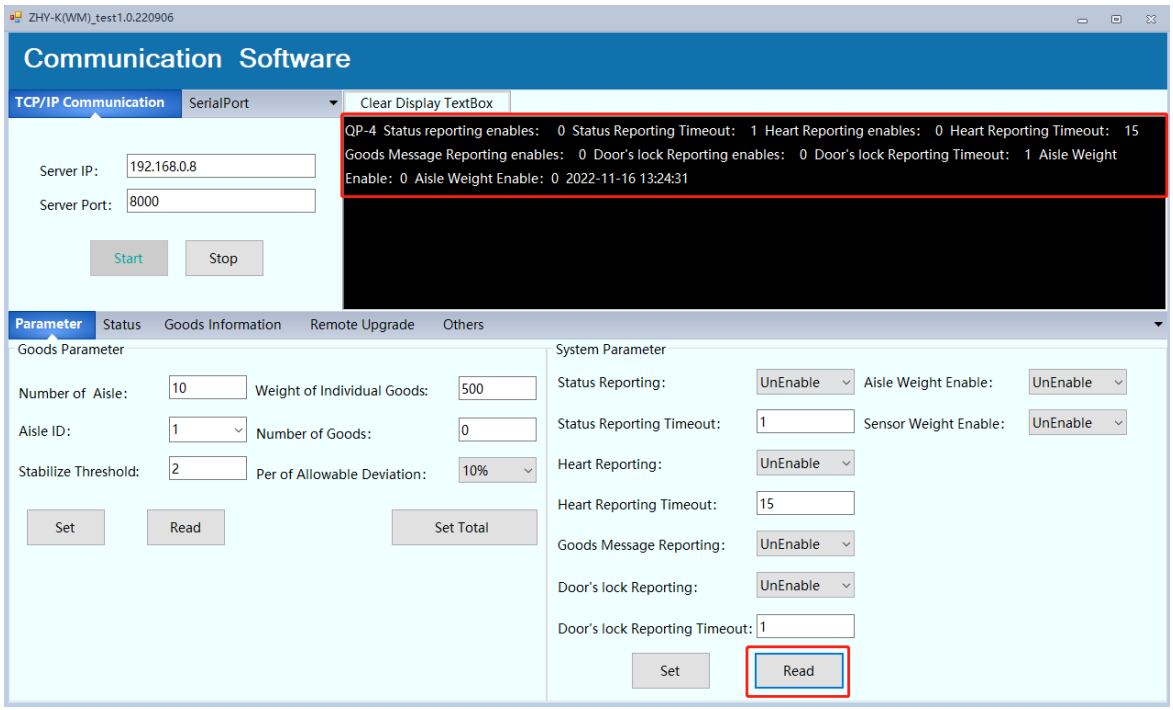


Figure 4.9 Read System Parameter received message UI

If setting the system parameters. please click the 'Set' Button. As Shown in Figure 4.10.

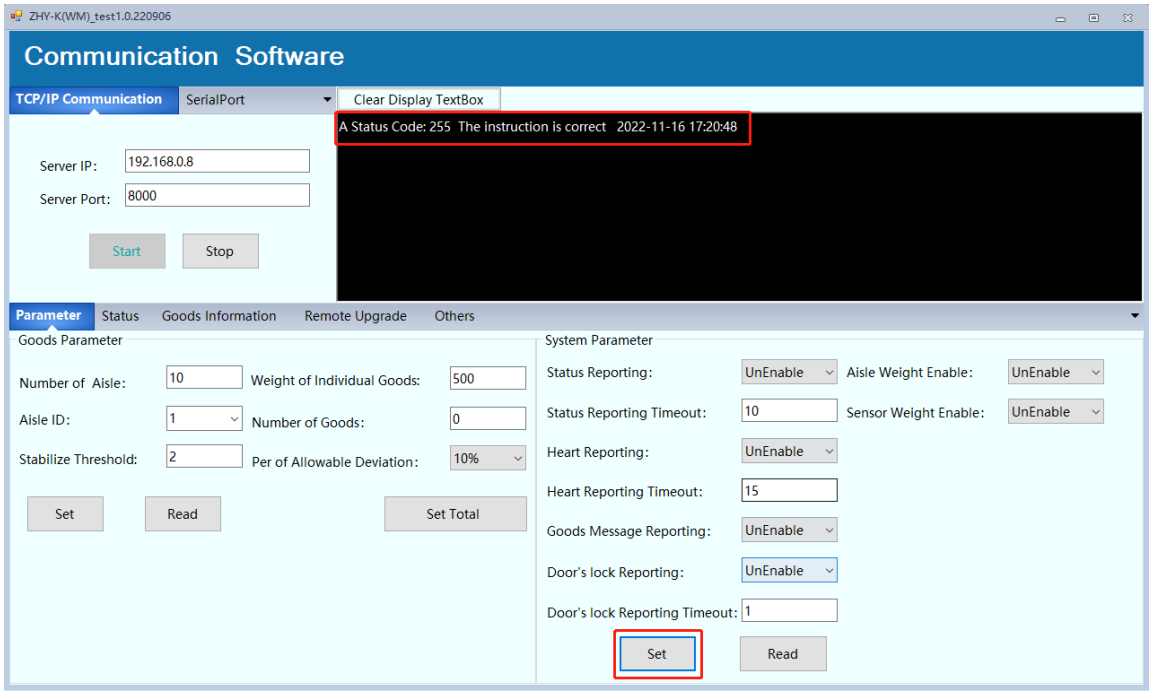


Figure 4.10 Set System Parameter received message UI

Table 4-1 Introduction for parameter in System Parameter panel

Parameter Item	Description	Range	Error Message
Status reporting	Enable or disable status reporting	Enable, UnEnable(default value)	
Status reporting timeout	The time interval for status reporting	10~60, default value: 10 *Other values than above will cause error message*	Status reporting interval is incorrect!
Heart reporting	Enable or disable heart reporting	Enable, UnEnable(default value)	
Heart reporting timeout	The time interval for heart reporting	10~60, default value: 15 *Other values than above will cause error message*	Incorrect heartbeat reporting interval
Goods Message Reporting	Enable or disable goods message reporting	Enable, UnEnable(default value)	
Door's lock Reporting	Enable or disable Door lock Reporting	Enable, UnEnable(default value)	
Door's lock Reporting Timeout	The time interval for door lock reporting	1~5,default value: 1 *Other values than above will cause error message*	The door lock status reporting interval is incorrect!
Aisle Weight Enable	Enable or disable aisle weight reporting	Enable, UnEnable(default value)	
Sensor Weight Enable	Enable or disable sensor weight reporting	Enable, UnEnable(default value)	

4.2 Status

The Status sub-menu contains two parts: one is Unit Status and another is Gate Lock Status. As shown in Figure 4.11 below.

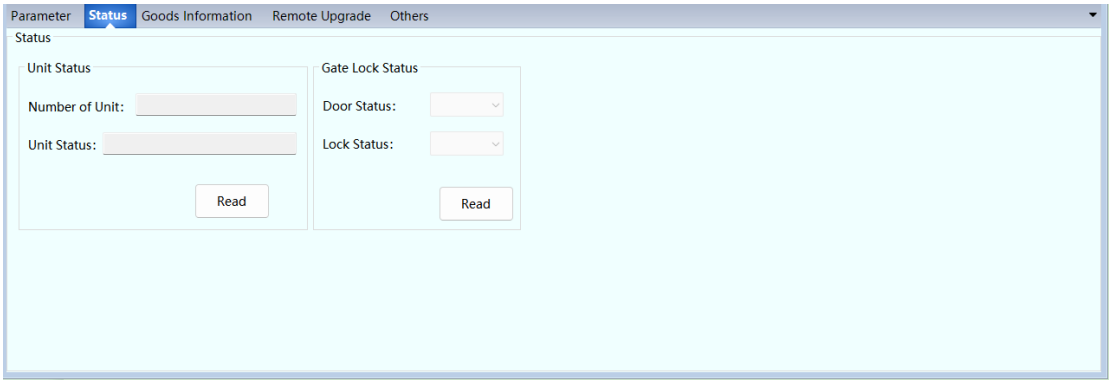


Figure 4.11 Status

4.2.1 Unit Status

If you want to know the unit status, please click the 'Read' Button. Shown in Figure 4.12.

No.	Parameter items	Explanation
1	Number of Unit	The number of units connected with processor
2	Uint Status	Communication Status of each unit.

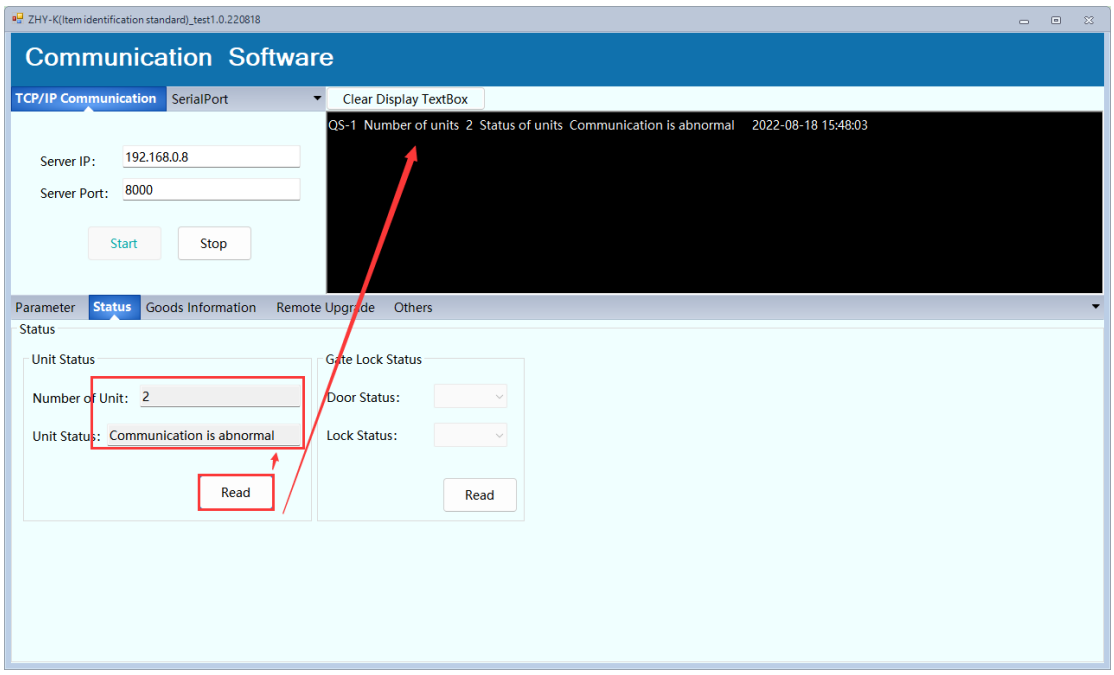


Figure 4.12 Read Unit Status

4.2.2 Gate Lock Status

The Gate Lock status is for gate status and lock status. The introduction of them is as below table.

Gate and Lock Status Introduction

No	Parameter Items	Explanation
1	Door Status	The current status of gate: close/open
2	Lock Status	The current status of lock: locked/unlocked/abnormal

If you want to know the Gate Lock Status, please click the 'Read' Button.

Shown in Figure 4.13.

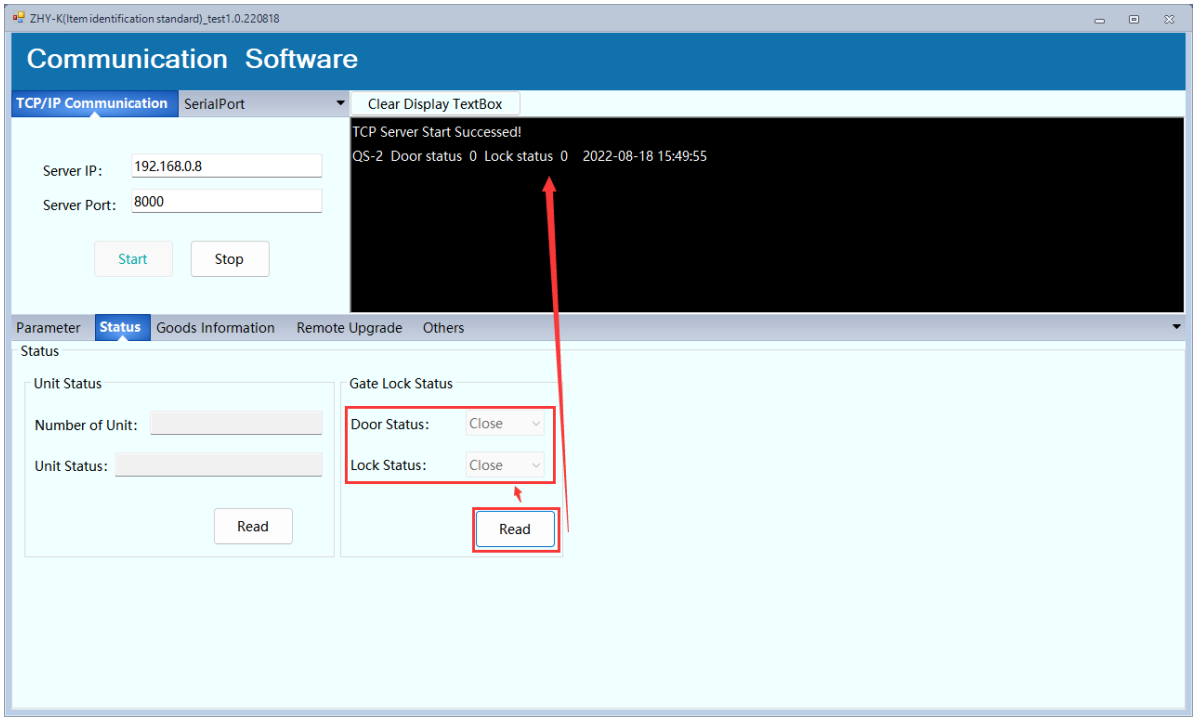


Figure 4.13 Read Gate Lock Status

4.3 Goods Information

Goods information is used for reading aisle ID, current goods weight and number on this aisle, goods weight and number from last time and warning status. See details in below table.

Introduction of Goods Information Parameter items

No.	Parameter items	Explanation
1	Aisle ID	The ID of the aisle you want to read
2	Currently Goods Weight	The current goods weight on the aisle
3	Number of Goods Currently	The current goods number on the aisle
4	Last Goods Weight	The goods weight on the aisle before last storing
5	Number of Goods Last	The goods number on the aisle before last storing
6	Currently Alarm Status	Warning status of current aisle

If you want to know the Goods Information, Select the Aisle ID first and please click 'Read' Button. As shown in Figure 4.14.

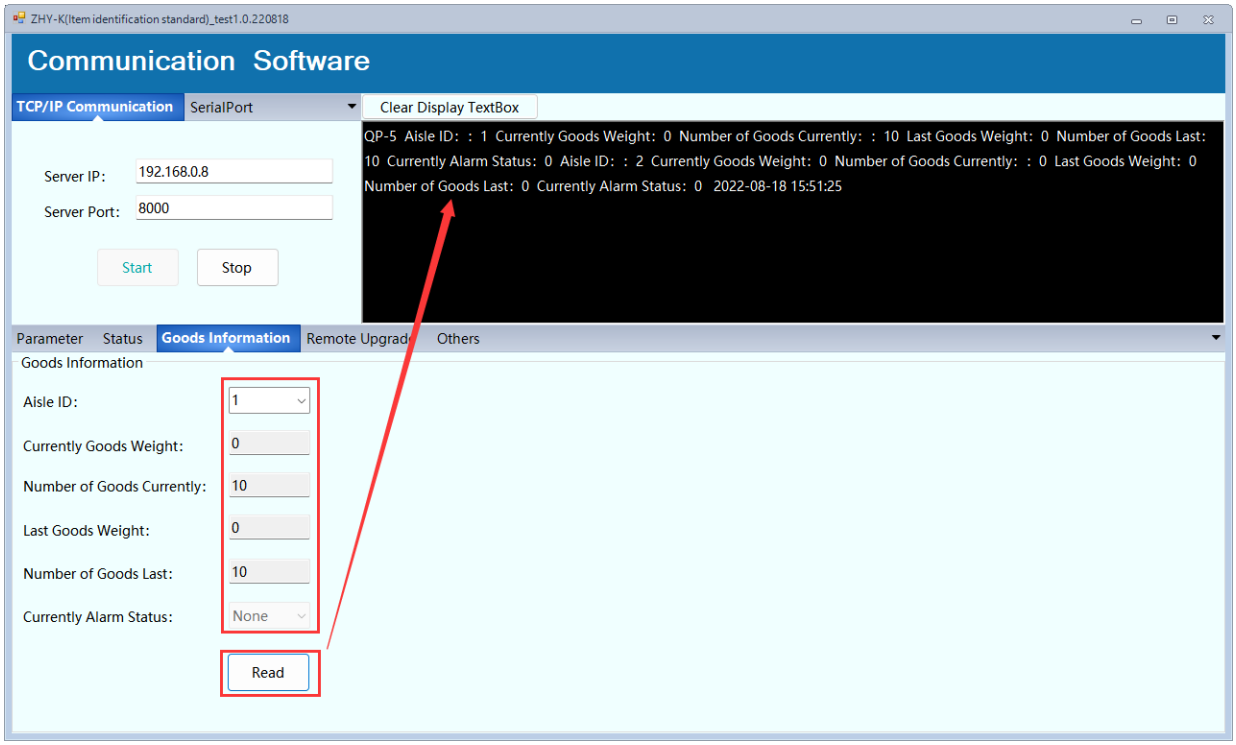


Figure 4.14 Read Goods Information

4.4 Remote Upgrade

4.4.1 Read Version

If you want to know the current version of the embedded software, you can click the Read Button. Shown in Figure 4.15.

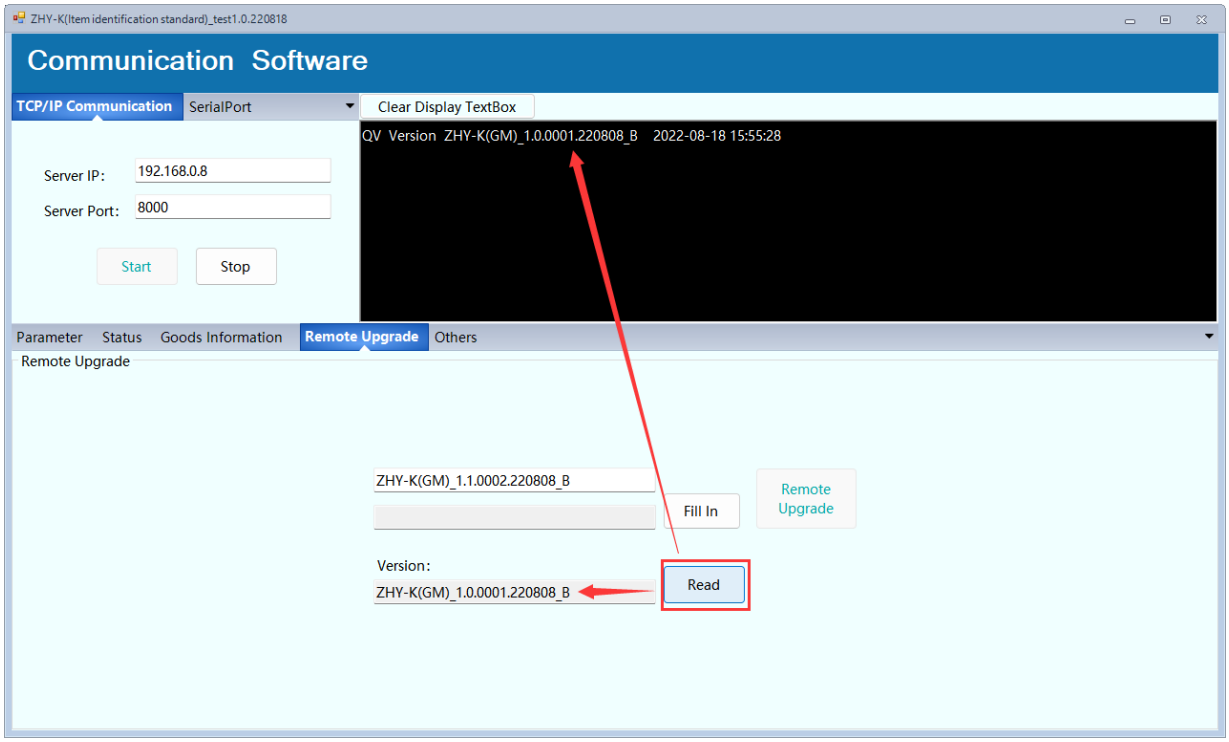


Figure 4.15 Read Version received message UI

4.4.2 Remote Upgrade(Only available for TCP/IP mode)

Before remote upgrade,

(1) first you must input the version in TextBox1. As shown in Figure 4.16;

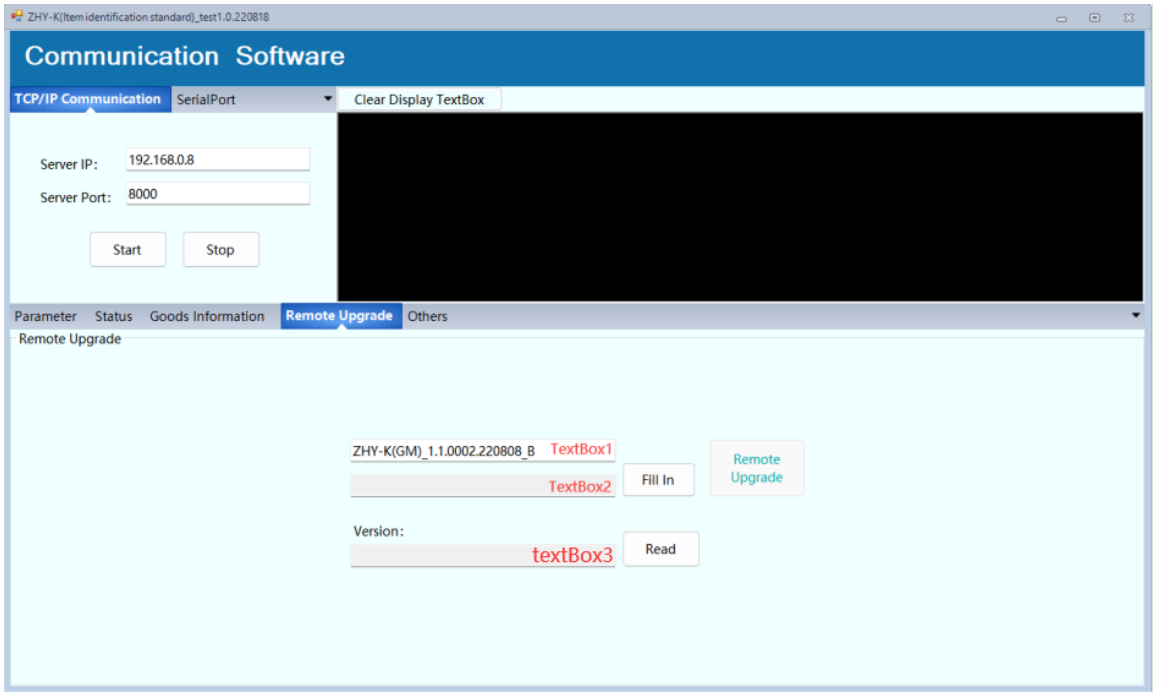


Figure 4.16 Input Version message UI

(2) secondly; click the Fill In Button to fill in the file that you necessary, while the file's name can display in the TextBox2, as shown in Figures 4.17 & Figure 4.18;

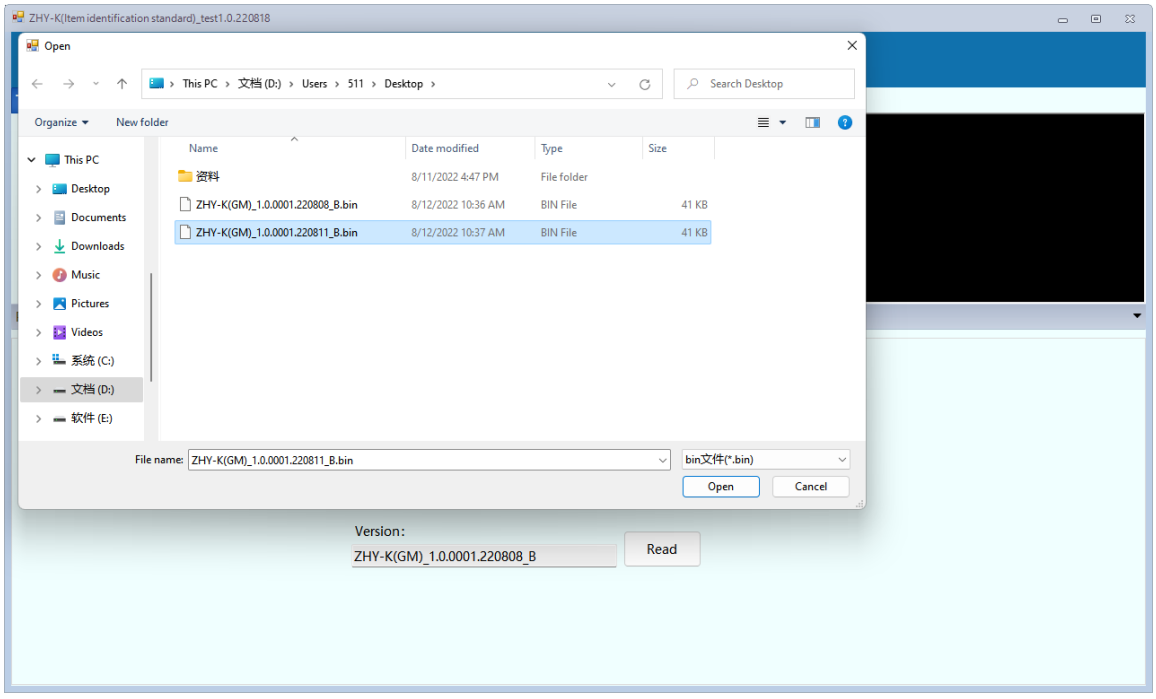


Figure 4.17 Load File select UI

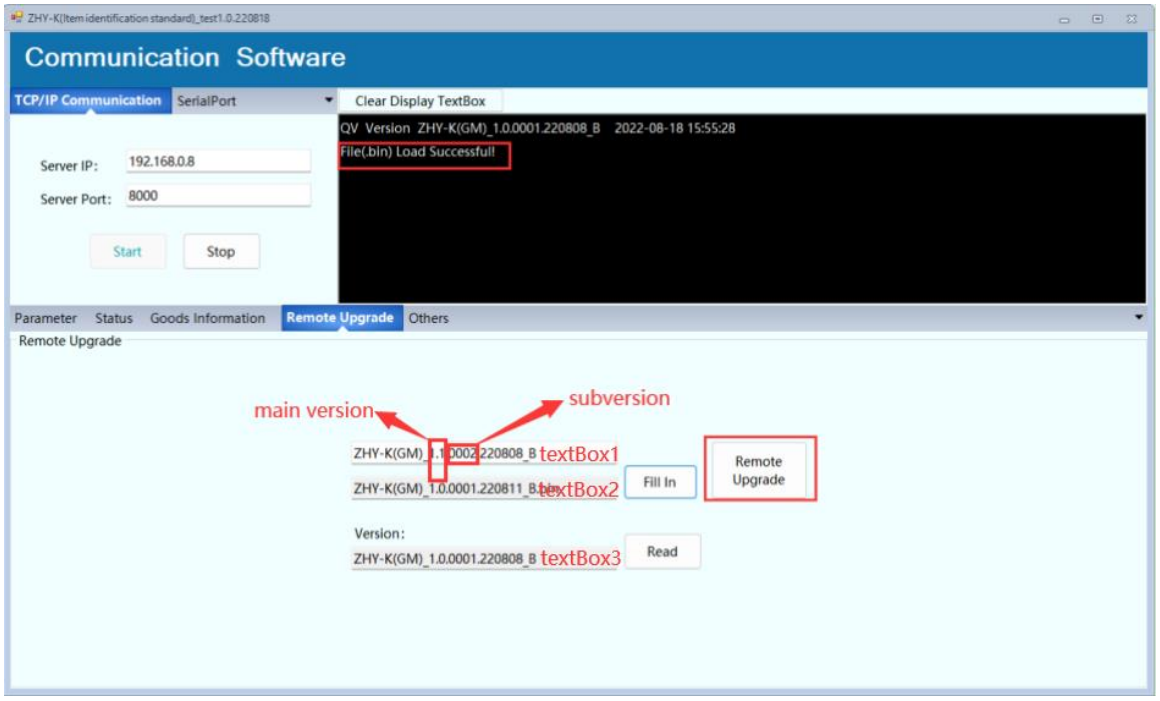
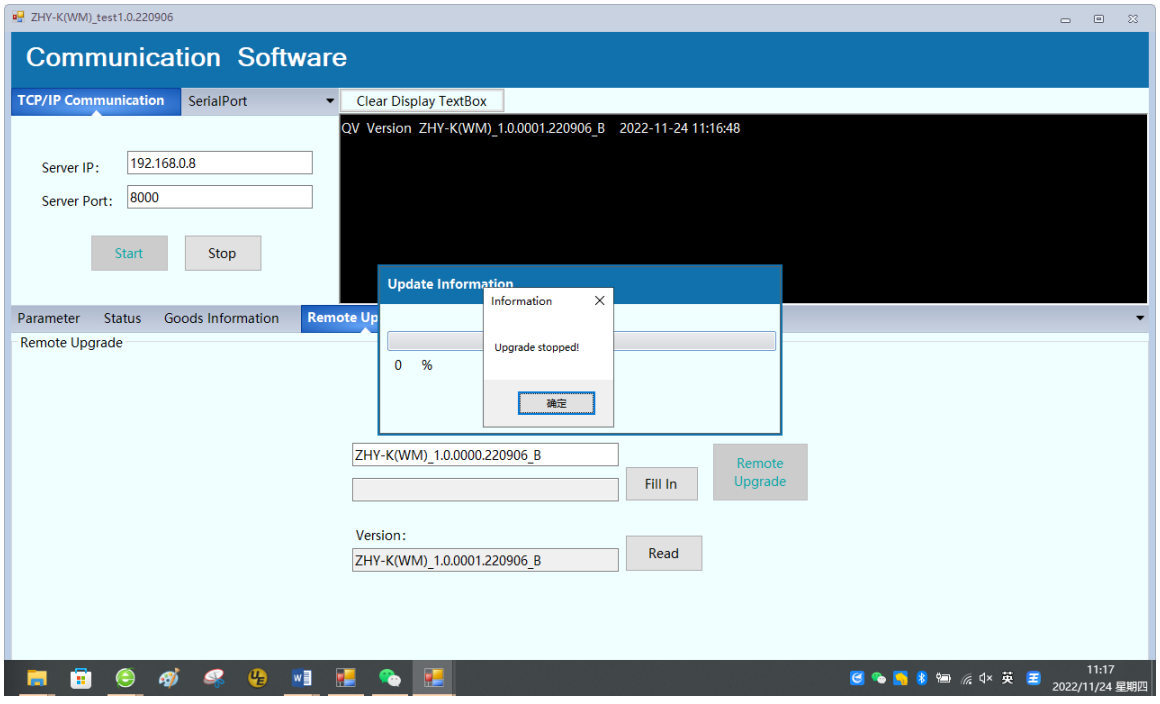


Figure 4.18 Load File received message UI

Note: the version of inputting (TextBox1) must larger than version that you read(TexBox3).

Take ZHY-K(GM)_1.1.0002.220811_B for example. 1.1 is main version, 0002 is subversion, the software will compare main version and subversion with current version from the device.

If it's smaller than current version of the device, the update will be stopped and error message will appear as shown in below pictures.



(3) **Click the 'Remote Upgrade' Button and the software UI shows the Message Box that displays the update progress before the remote upgrade is finished completely.**

Detailed operation shown in Figures 4.19 and Figure 4.20.

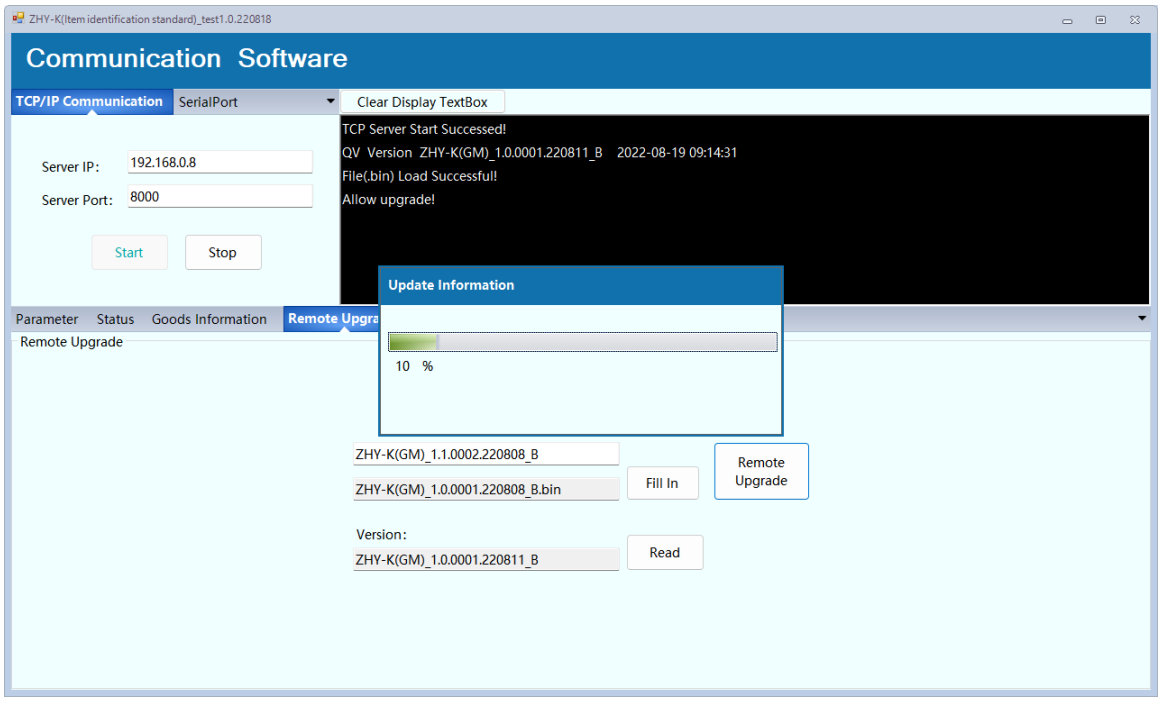


Figure 4.19 Remote Upgrading UI

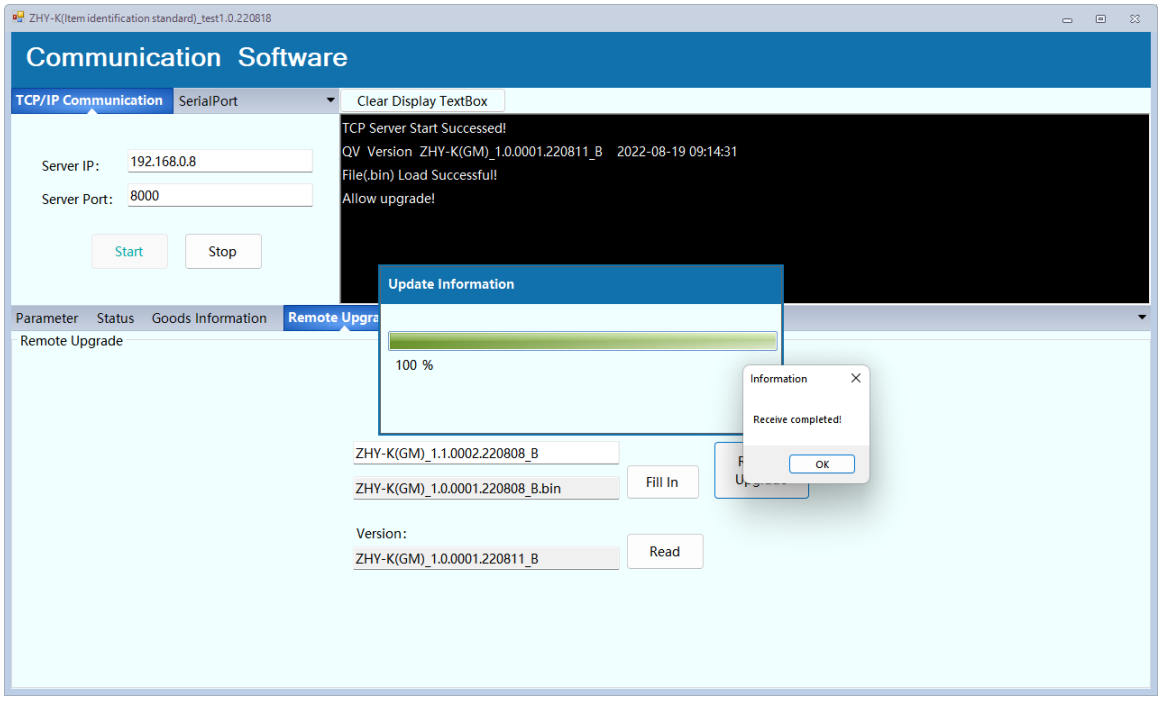


Figure 4.20 Remote Upgrade completed UI

(4) After the Remote Upgrade has Completed, you should click ‘Read’ version.

If the version that you read is same as you input, remote upgrade is successful; if not, remote upgrade has failed. And the Remote Upgrade Button is unEnabled.

As shown in Figures 4.21 & Figure 4.22.

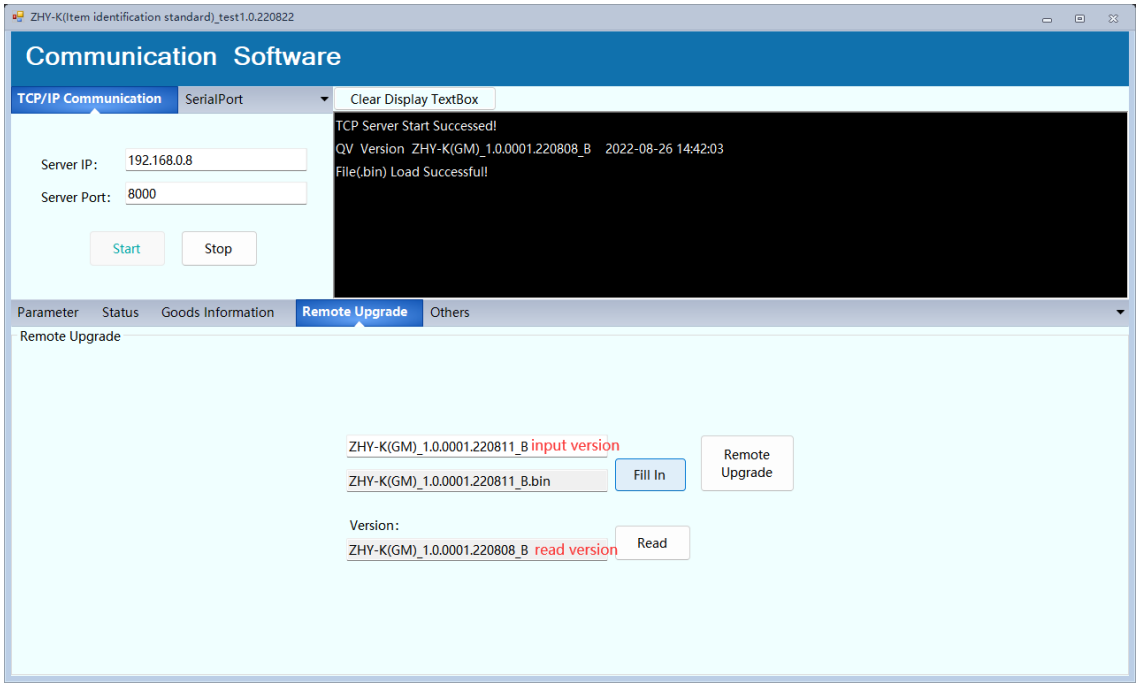


Figure 4.21 Judging if upgrade successful or failed

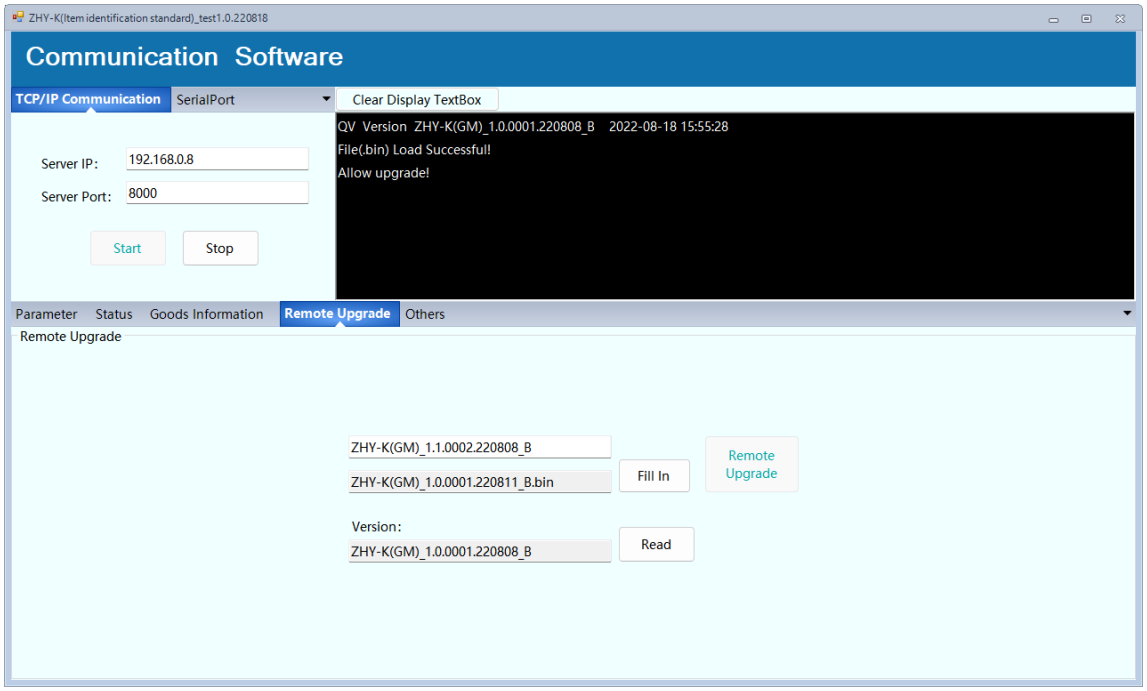


Figure 4.22 complete and successful UI

4.5 Others

4.5.1 Correct Number Of Goods In Aisle

To correct the number of goods in the aisle, fill in the existing number in Aisle ID and corrected Number of Goods input box as shown in Figure 4.23, then click 'Set' Button.

Introduction of Parameter items

No.	Parameter Items	Explanation
1	Aisle ID	the ID of the aisle you want to set
2	Number of Goods	The current number of goods on the aisle you want to correct

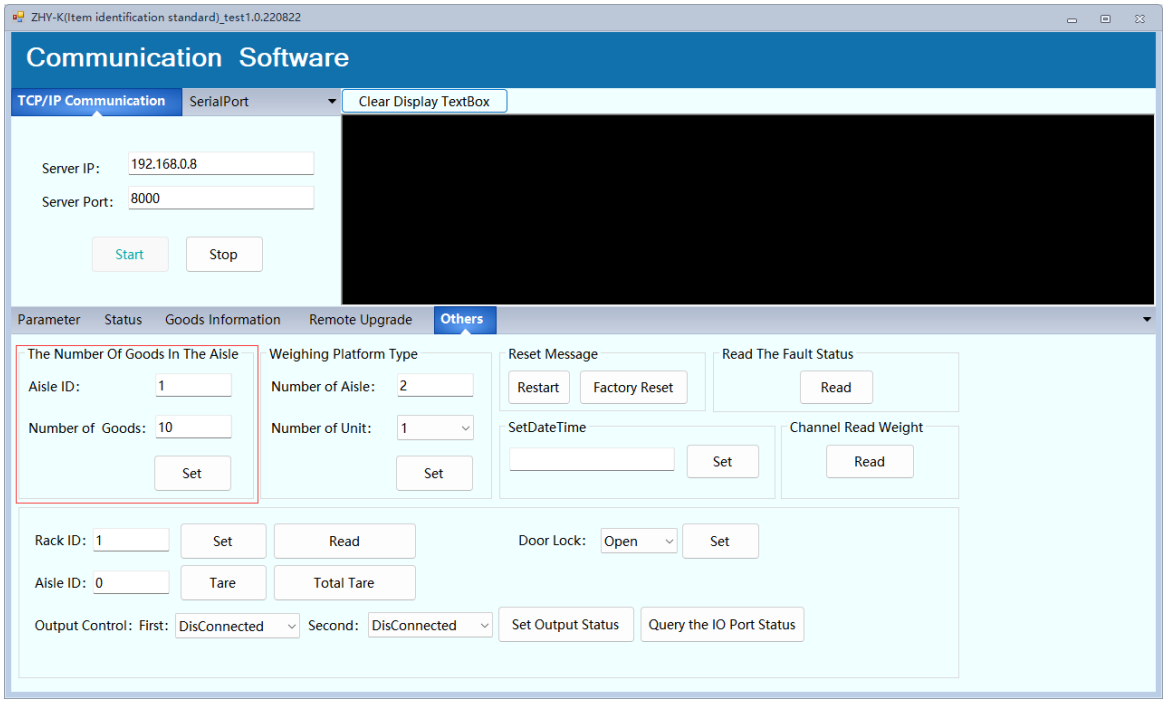


Figure 4.23 Set The Number Of Goods In The Aisle

4.5.2 Set Aisle configuration

This is for aisle configuration changing. The aisle configuration includes two parameters: aisle number and sensing unit number. Sensing unit number is the number of sensors each aisle contains. For weighing platform, there are multiple sensing unit in each aisle.

To set aisle configuration, click the 'Set' Button and before setting, you must fill in Number of Aisle and Number of Unit. Shown in Figure 4.24.

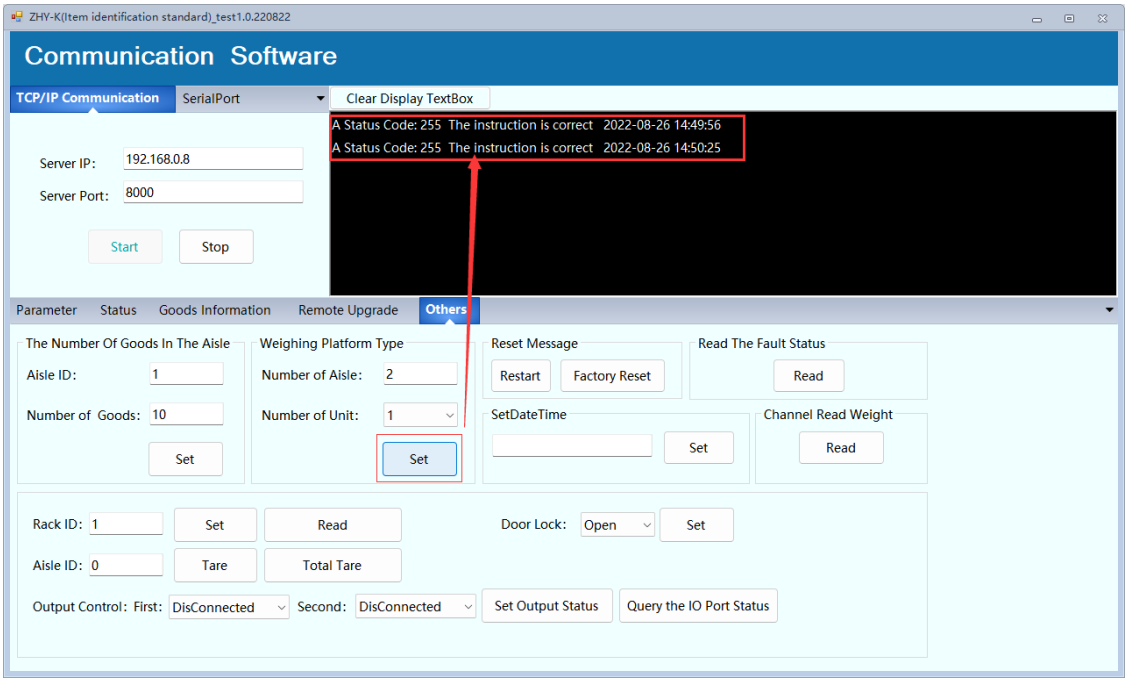


Figure 4.24 Set Aisle Configuration

4.5.3 Read The Fault Status

This is for checking the working status of important function modules of the device, such as system, RTC, W25Q, addressing and sensors. More details can be found in the Communication protocol inquiry failure log.

If you want to know the read the fault status, please click Read Button. Shown in Figure 4.25.

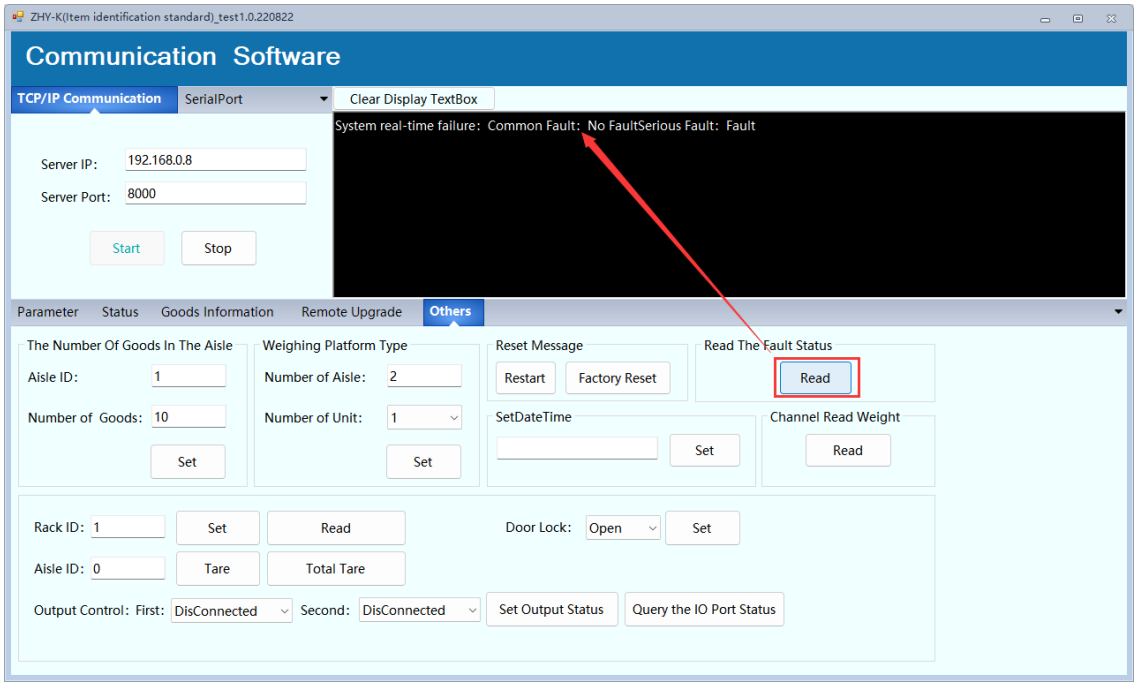


Figure 4.25 Read The Fault Status

4.5.4 Rack ID

This is for Rack information recording.

To set or read rack ID of processor, input number in rack ID textbox and click ‘Set’ Button or ‘Read’ Button as shown in Figure 4.26 & Figure 4.27.

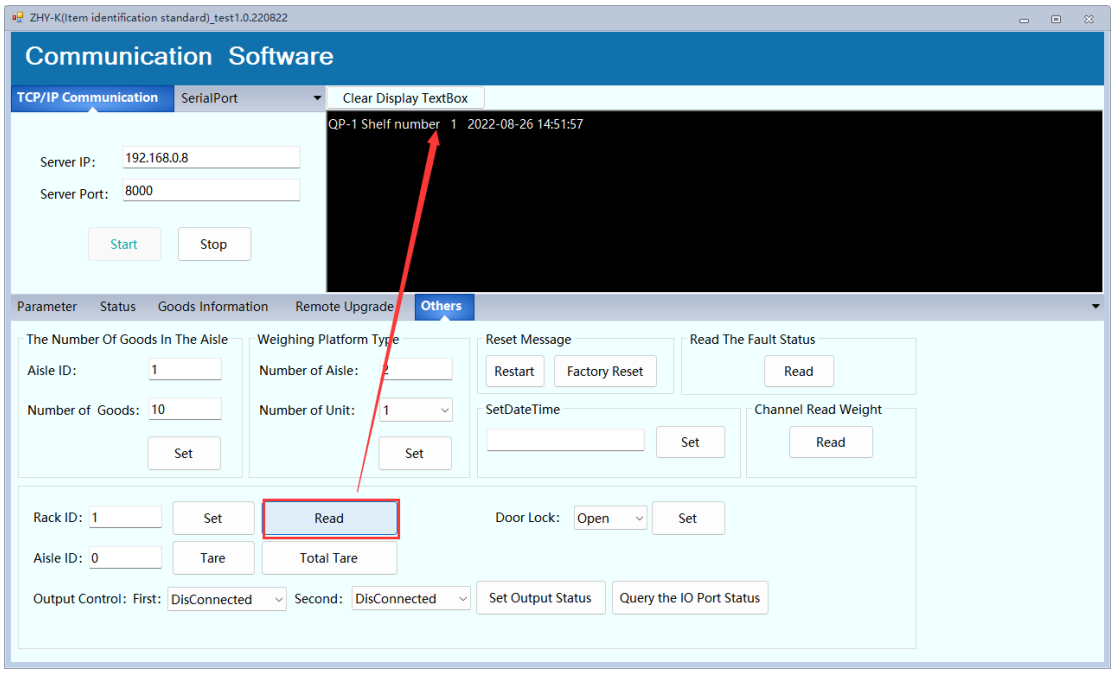


Figure 4.26 Read Rack ID received message UI

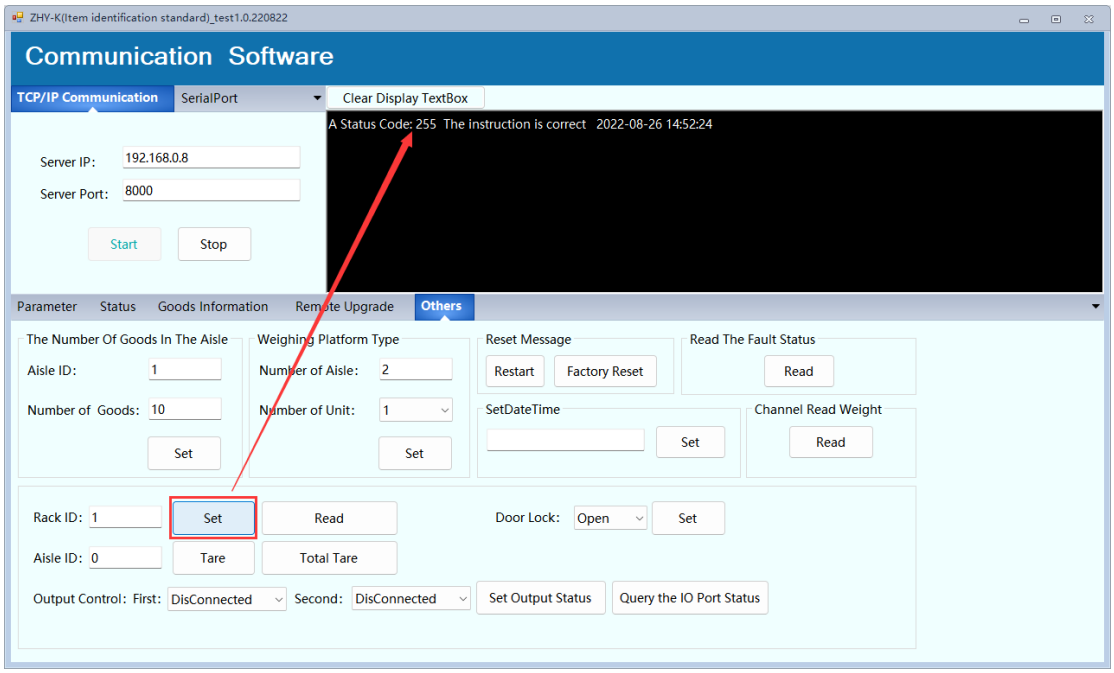


Figure 4.27 Set Rack ID received message UI

4.5.5 Tare for Aisle ID

To tare for single aisle scale, fill number in Aisle ID textbox and click net Weight Button as shown in Figure 4.29. To tare for every aisle, input 0 in textbox and click 'Total Tare' Button as shown in Figure 4.28.

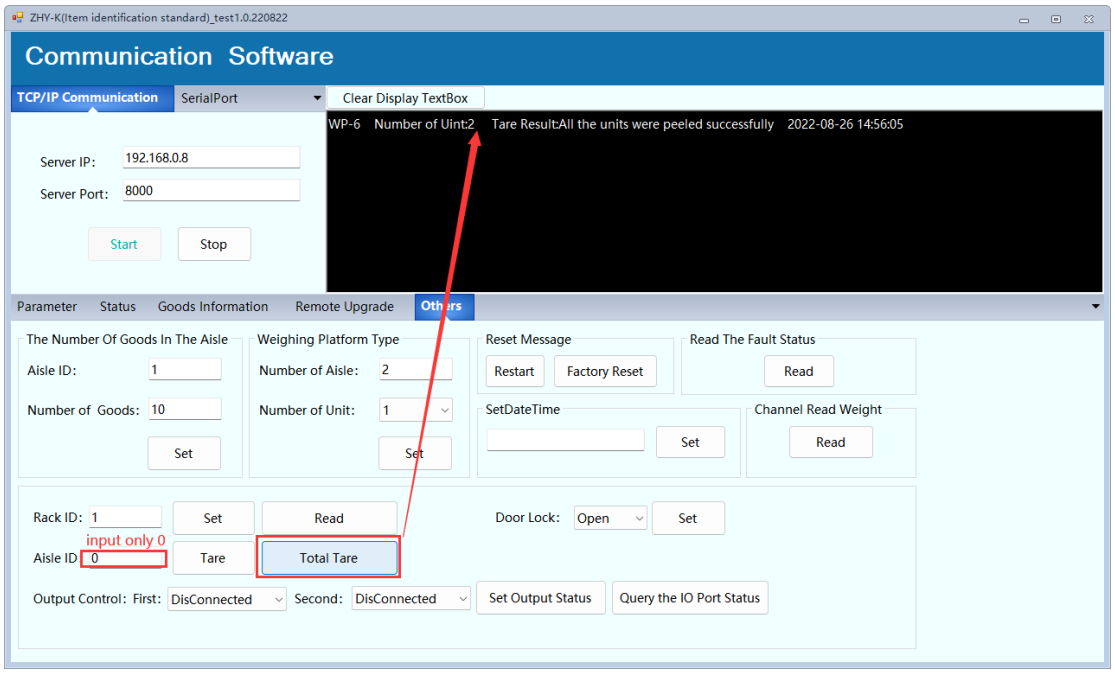


Figure 4.28 Total Net Weight received message UI

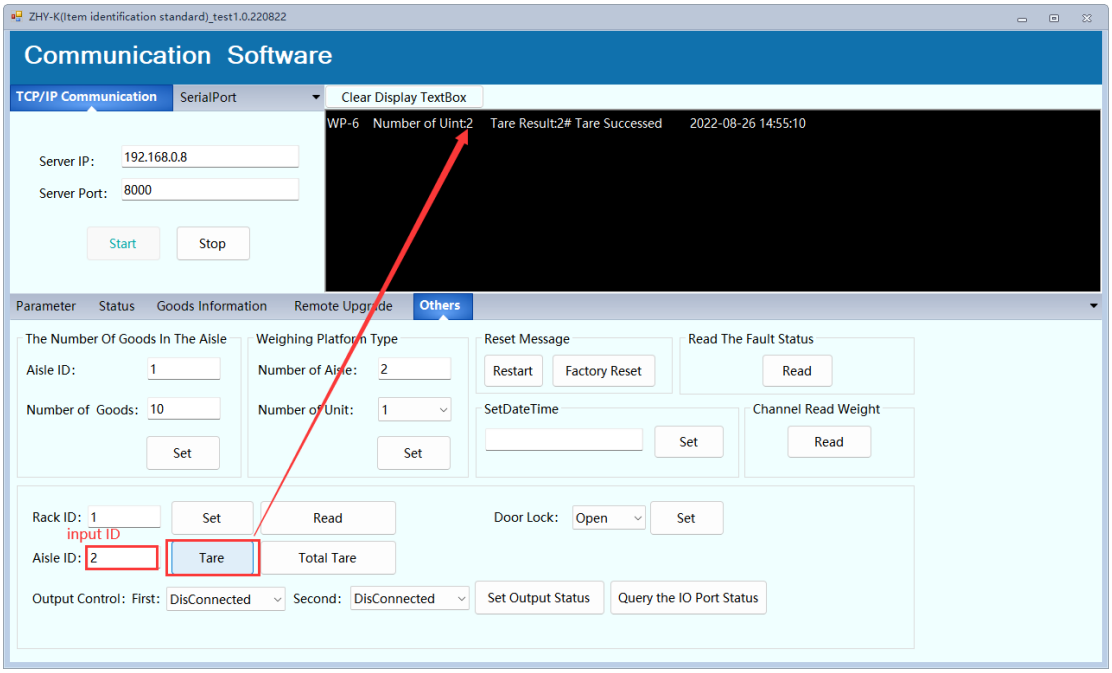
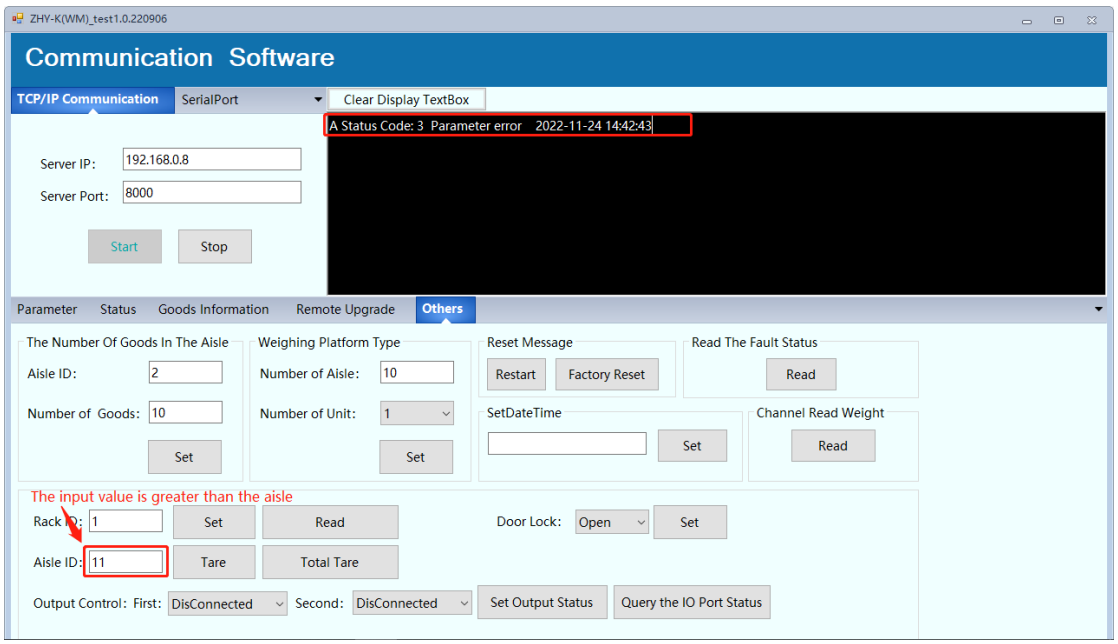


Figure 4.29 Single Net Weight received message UI

Note: The aisle ID can't be bigger than total aisle number. If the aisle ID is bigger than total aisle number, the error message will show in Display TextBox, as pictured below.



Failure message

4.5.6 Output and input Control

To open or close output ports, select the first output status and the second output status from the “Connected” or “Disconnected” in ComboBox, then click the ‘Set Output Status’ Button as shown in Figure 4.30, & Figure 4.31.

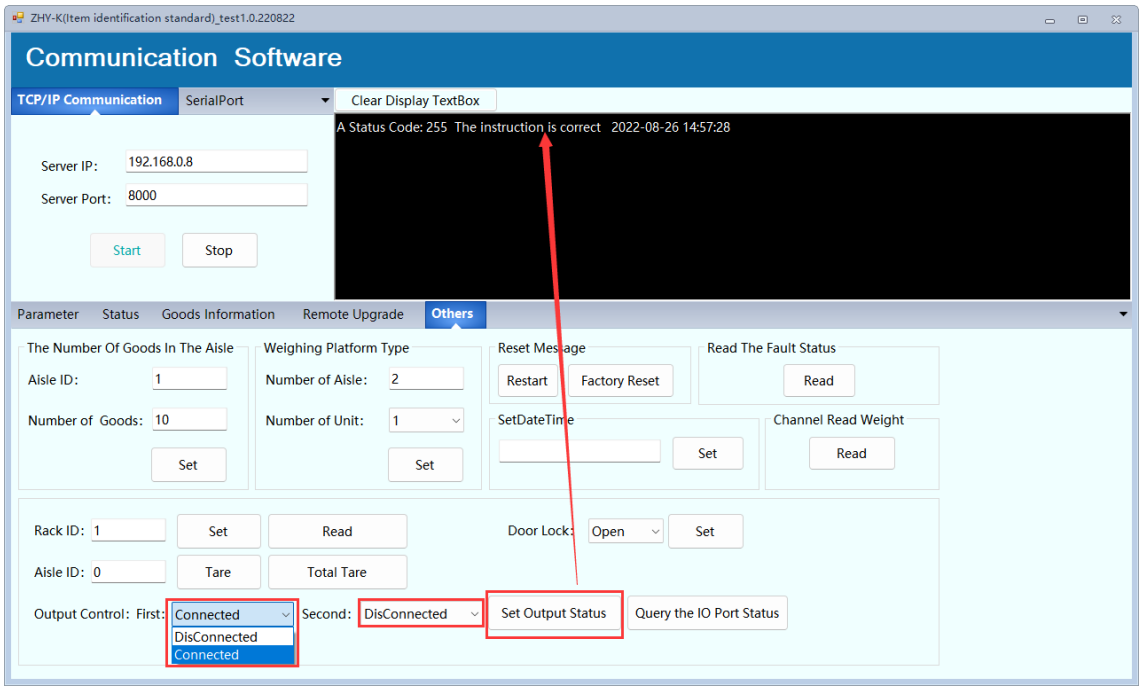


Figure 4.30 Set Output Status and received message

To know the input's/output's status, click 'Query the IO Port Status' Button and the result information will be shown in the message display window. The parameter in message is as below.

Output and Input Status table

No.	Item	Parameter Specification
1	1# Input status is	Low(0), high(1)
2	2# Input status is	Low(0), high(1)
3	3# Input status is	Low(0), high(1)
4	4# Input status is	Low(0), high(1)
5	1# Output status is	Low(0), high(1)
6	1# Output status is	Low(0), high(1)

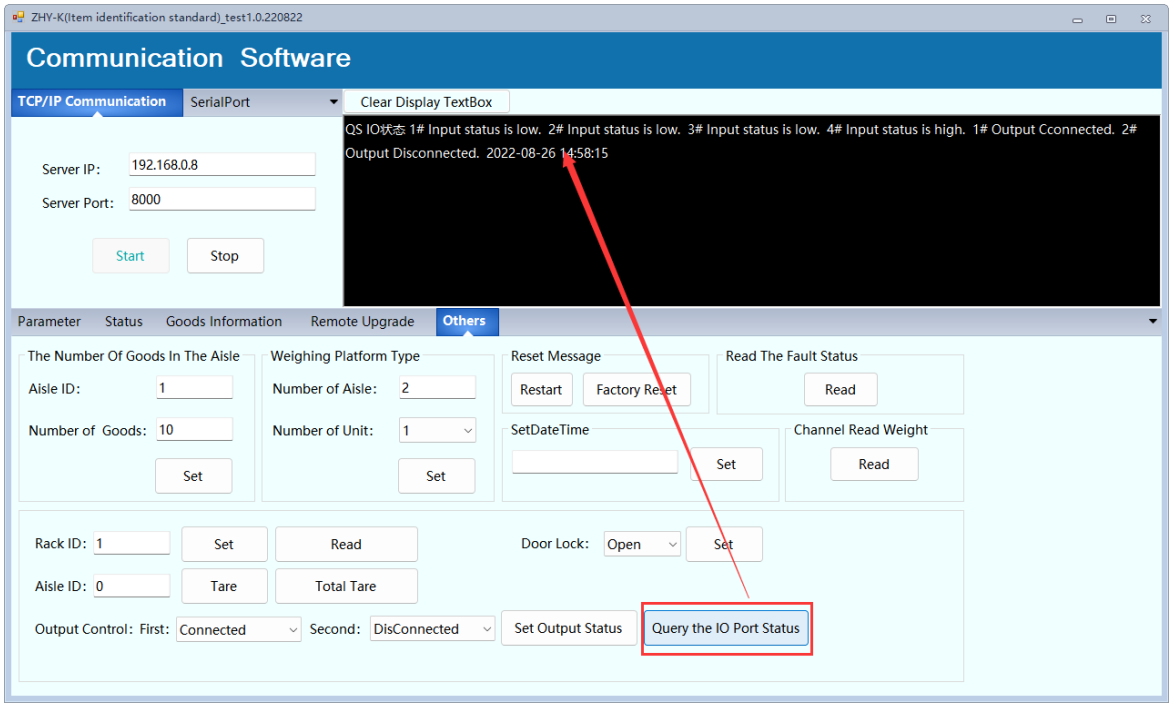


Figure 4.31 Query the input Status received message UI

4.5.7 Set Door Lock

If you want to set the door lock status, you can select the suitable status first, and then click the 'Set' Button. Shown in Figure 4.32.

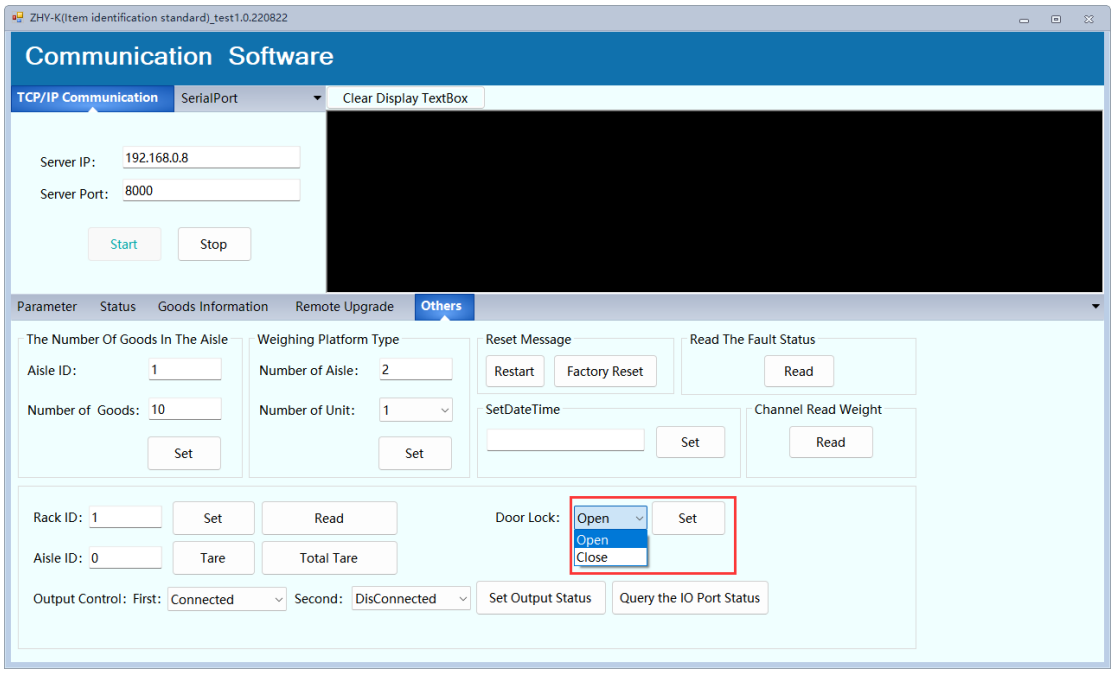


Figure 4.32 Set Door Lock

4.5.8 Set Datetime

If you want to adjust the RTC time, you can click Set Button. Shown in Figure 4.33.

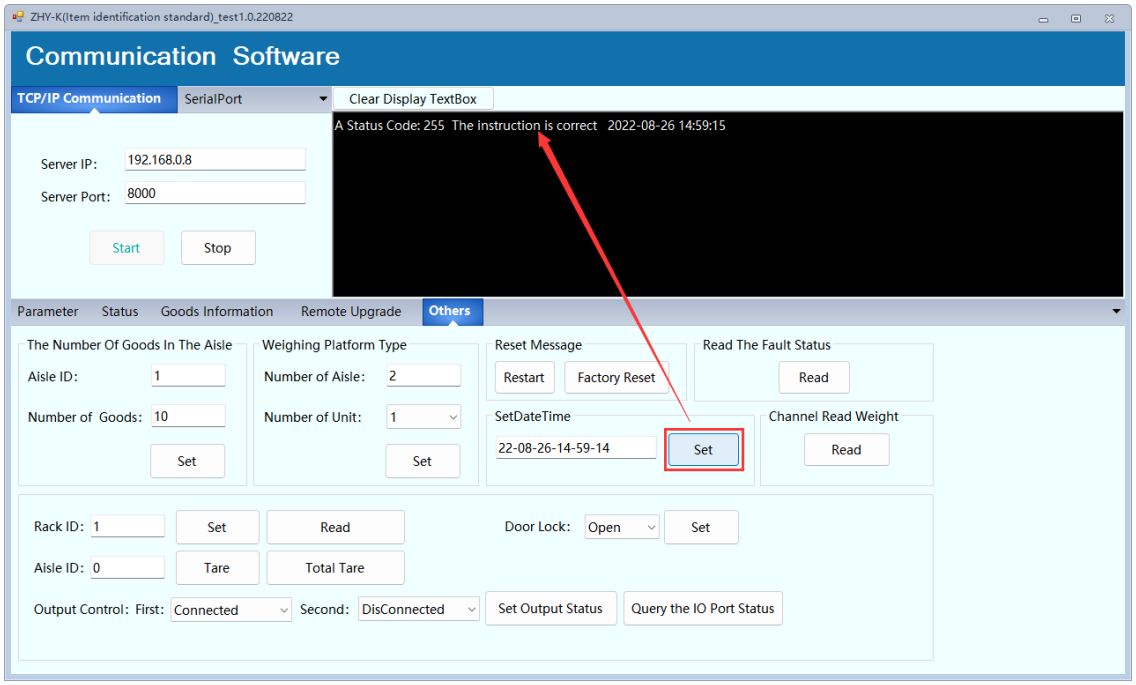


Figure 4.33 Set Datetime

4.5.9 Reset Message

If you want to restart device, you can click the Restart Button. Shown in Figure 4.34. The device will restart.

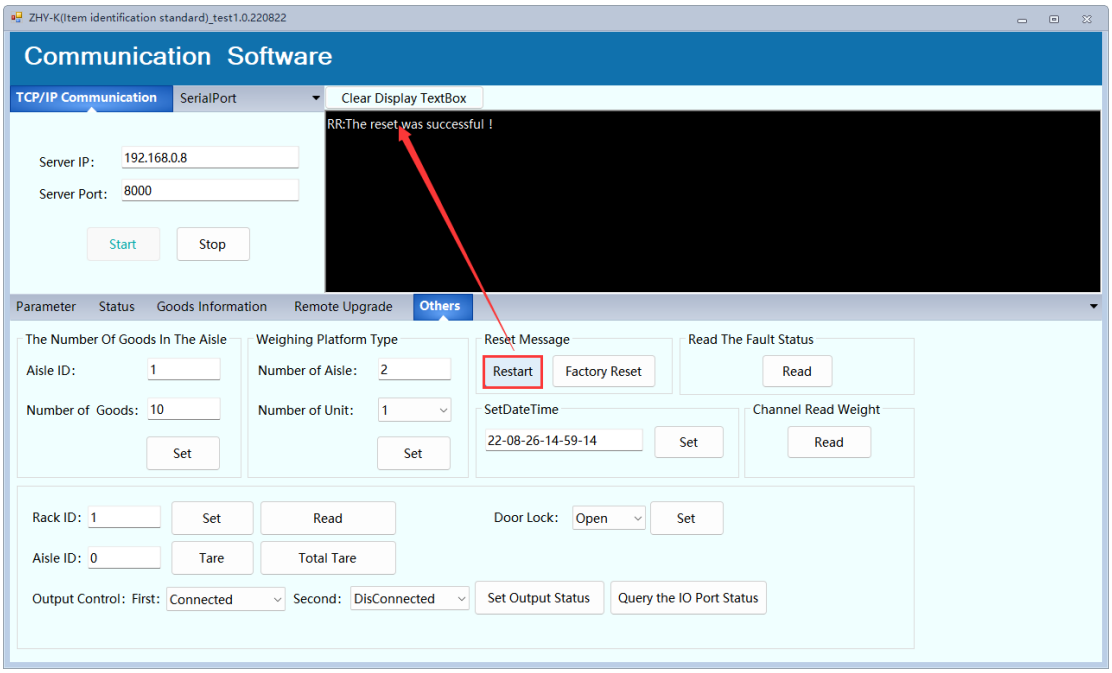


Figure 4.34 Reset Received message UI

To restore factory setting, click 'Factory Reset' Button as shown in Figure 4.35.

All parameters will be restored to factory default values.

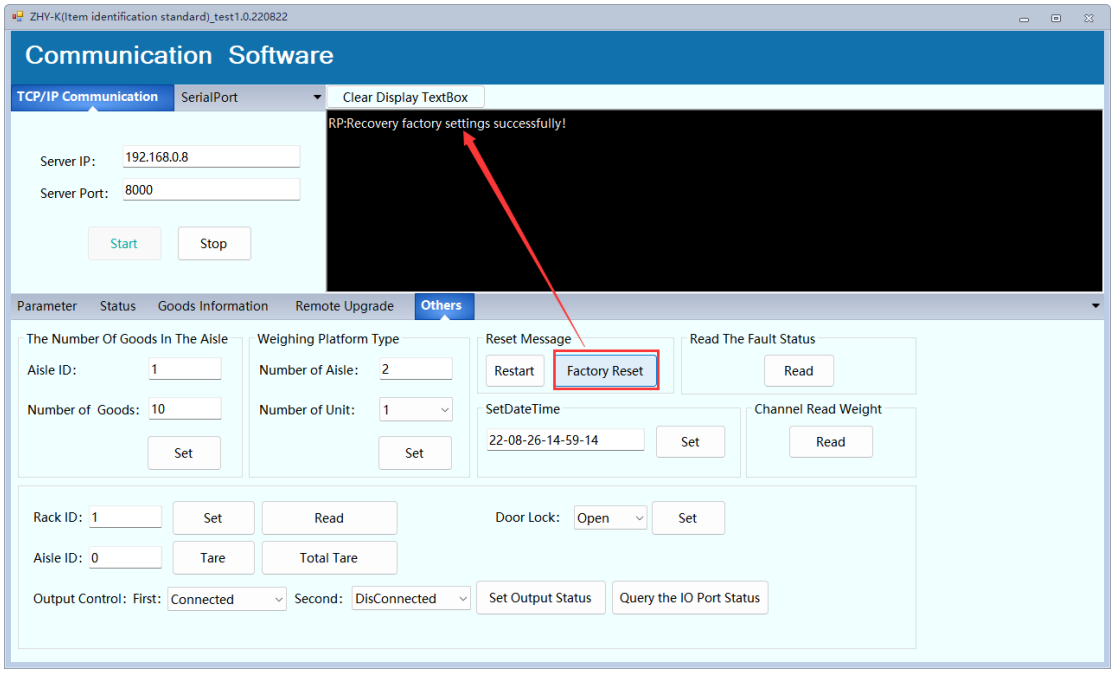


Figure 4.35 Factory Restart Received message UI

4.5.10 Channel Read Weight

If you want to know the Read Weight of each aisle, click the 'Read' Button. Shown in Figure 4.36.

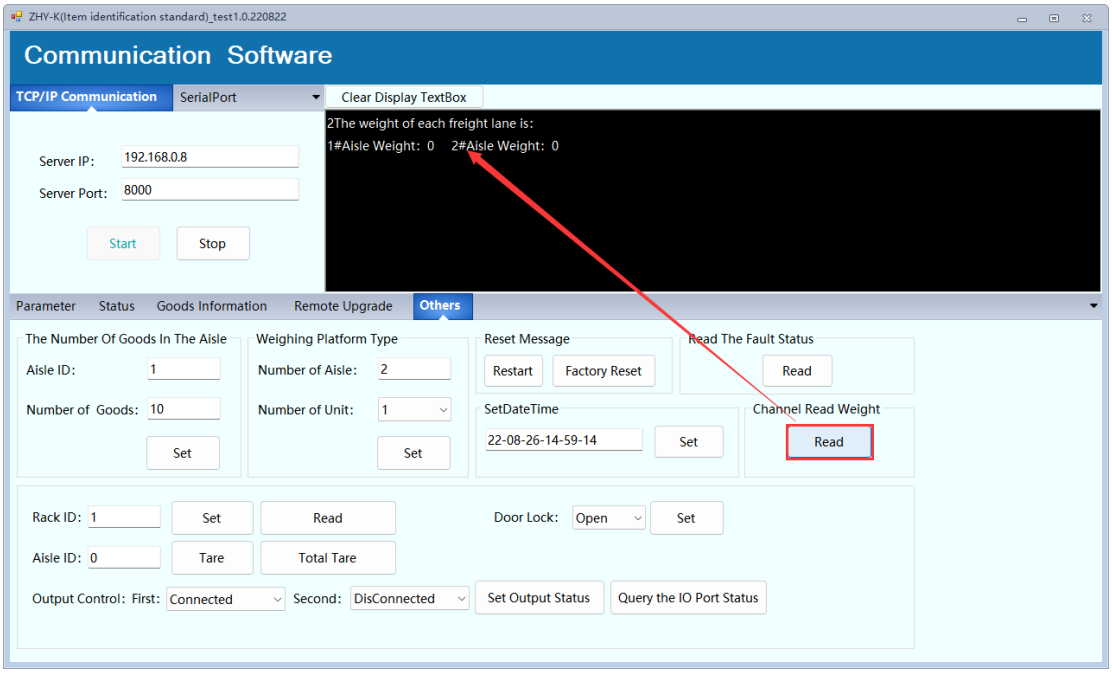


Figure 4.36 Channel Read Weight