# Handheld CR-H620-B Series
# (Wireless Model) Quick Start Guide

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## About This Product

This product is only eligible for after-sales service and warranty service in the country or region where it was purchased.

## About This Manual

This manual serves only as a guide for some related products.  In case of any discrepancies with the actual product, the actual product shall prevail. Due to product version upgrades or other reasons, Superisys may update this manual. If you need the latest version of the manual, please contact our sales personnel. Unless otherwise agreed, Superisys makes no express or implied representations or warranties regarding this document.

## Preface

The purpose of this manual is to ensure that users can correctly understand and use the product, thereby avoiding potential hazards or product damage caused by incorrect operation. Before using this product, please carefully read this product manual and keep it properly for future reference.

## Overview

This manual applies to industrial wired handheld barcode readers.

## Manual Purpose

By reading this manual, users can understand the product's installation method and covered functions, guiding you through the installation and use of the product.

## Target Audience

This user manual is intended for technical or engineering personnel in the machine vision industry who use this product.

## After-sales technical support

Please contact our authorized distributor at first; Should you encounter more complex technical issues or require specialized support, feel free to reach out to us directly www.superisys.com .

# 1. Safety Usage Guidelines

Please read and follow these safety precautions before installing, operating, or maintaining the equipment.

## 1.1 Safety Statement

1. To ensure personal and equipment safety, please follow all safety precautions indicated on the equipment and in the manual during installation, operation, and maintenance.
2. This equipment should be used in an environment that meets the design specifications. Otherwise, it may cause malfunctions. Functional abnormalities or component damage caused by failure to comply with relevant regulations are not covered by the equipment's quality guarantee.
3. Our company will not assume any legal responsibility for personal safety accidents or property losses caused by improper operation of the equipment.

## 1.2 Safety Precautions

### Warning

1. During product installation and use, you must strictly comply with all electrical safety regulations of the country and region of use.
2. Please strictly follow the installation method described in this guide to ensure that the equipment is securely fixed.

3. Do not install indoor products in environments where they may be exposed to water or other liquids. Moisture exposure may cause fire and electric shock hazards!

4. If the product emits smoke, produces an unusual odor, or makes unusual noises, immediately turn off the power and unplug the power cord, and contact your dealer or service center.

5. Please be sure to use a power adapter provided by a reputable manufacturer. The power adapter must meet the safety power limit requirements (LPS). Please refer to the product's technical specifications for specific requirements.

6. The equipment's plug or socket is the power disconnection device; do not obstruct it to facilitate easy plugging and unplugging.

7. Ensure that the power is disconnected before performing any wiring, disassembly, or other operations. Do not operate the equipment while it is powered on, otherwise there is a risk of electric shock!

8. During installation, maintenance, and debugging, direct viewing of this product may cause harm to the eyes. Protective measures such as safety glasses should be worn during operation.

9. Do not point the lens at strong light sources (such as lighting, sunlight, or laser beams), otherwise it will damage the image sensor.

10. If the product is not working properly, please contact the nearest service center. Do not disassemble or modify the product in any way. (The company will not be responsible for problems caused by unauthorized modifications or repairs).

11. Please strictly follow relevant national regulations and standards for product disposal to avoid environmental pollution and property damage.

**Note:**

1. Before unpacking, please check if the product packaging is intact and free from damage, dampness, moisture, or deformation.

2. Please store and transport the product according to the specified storage and transportation conditions. The storage temperature and humidity should meet the requirements.

3. Do not use the product in extremely hot, cold, dusty, corrosive, or high-humidity environments. Refer to the product's specifications for specific temperature and humidity requirements.

4. Do not place the device near open flame sources, such as lit candles.

# 2. Product Introduction – CR-H620 Wireless Handheld Barcode Scanner

## 2.1 Features

Combines traditional and AI algorithms for efficient and accurate barcode scanning. One-click intelligent learning significantly improves performance and stability, enabling instant reading of similar barcodes.

Multi-light source illumination system provides red dot light, blue dot light, and red diffuse light, meeting various complex scanning needs for different materials (such as reflective surfaces), shapes (such as curved surfaces), and barcode colors/backgrounds.

User-friendly design with a built-in high-performance motor vibrator and high-definition display screen, comprehensively enhancing the scanning experience.

Equipped with self-developed PC software and configuration codes for device management and rapid parameter configuration.

## 2.2 Product appearance

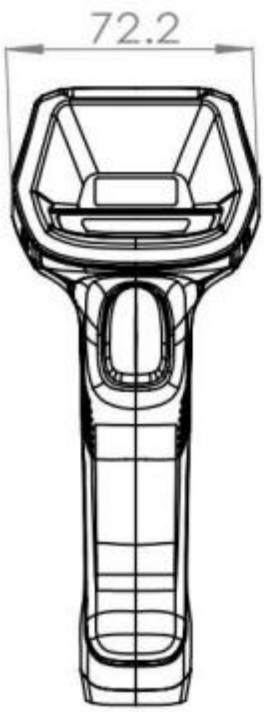


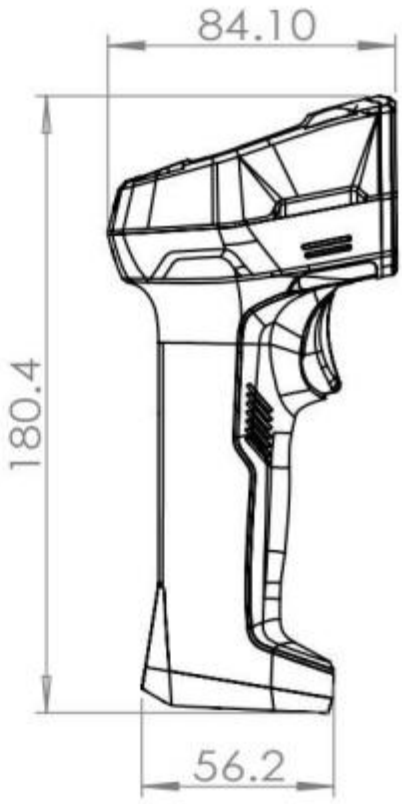

| No. | Name | describe |
|---|---|---|
| 1 | Barcode reader<br>Power indicator light | • The indicator light shows the battery level of the barcode reader:<br>Red light: below 30% battery; Yellow light: 30%-70% battery; Green light: above 70% battery.<br>• The indicator light stays on when not charging.<br>• The indicator light flashes when charging. |
| 2 | Barcode reader<br>Communication indicator light | • Indicates the communication status between the barcode reader and the base.<br>• A blue light indicates a Bluetooth connection; a red light indicates no Bluetooth connection. |

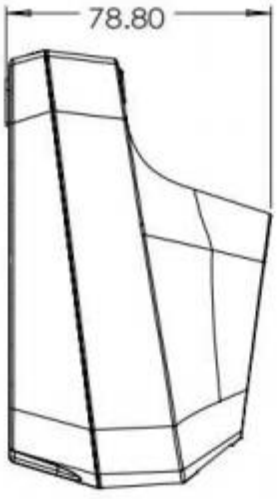
| | | |
|---|---|---|
| **3** | OLED | • Barcode reader operating mode<br>• Display decoded content |
| **4** | Indicator lights/buttons | • RGB decoding indicator light<br>• Press and hold to turn off the barcode reader |
| **5** | Read window | • Image sensor • Lens<br>• Laser sight |
| **6** | fill light | • Direct light source<br>• Switchable between direct red light, direct blue light, and uniform red light |
| **7** | trigger | • Trigger decoding<br>• Long press to open the barcode reader |
| **8** | buzzer | • Device sound prompts |
| **9** | vibrator | • Device vibration alert |
| **10** | Base buttons | • Short press for 1 second to page the barcode reader.<br>• Long press for 3 seconds to disconnect the Bluetooth connection with the barcode reader. |
| **11** | Base<br>Power indicator | • Power is on but not communicating with the PC (red light)<br>• Power is on and communicating with the PC (green light) |
| **12** | Base<br>Communication indicator light | • When the barcode scanner is not in the base, the Bluetooth connection indicator is blue when connected and red when not connected.<br>• When the barcode scanner is in the base, the green light flashes during charging and remains steadily lit when charging is complete. |
| **13** | Bluetooth pairing code | • The barcode scanner scans the Bluetooth pairing code to establish a Bluetooth connection with the base station. |
| **14** | Communication cable tray | • Connect the cable that communicates with the PC. |
| **15** | Power cable tray | • Connect to a DC 12-24V power supply; connecting to this power supply enables fast charging. |

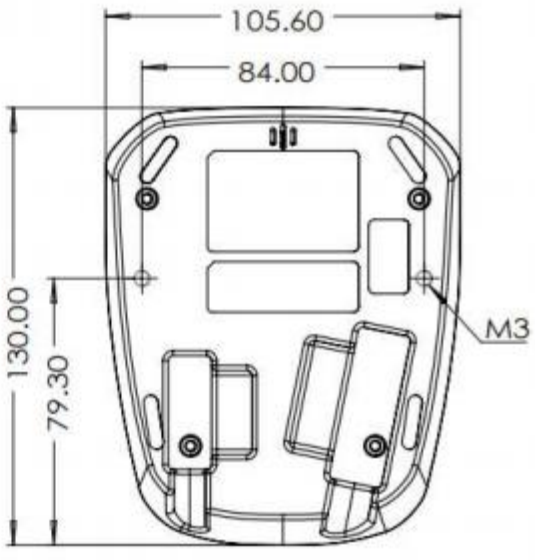
# 3. Preparation

## 3.1 Installation and fixing



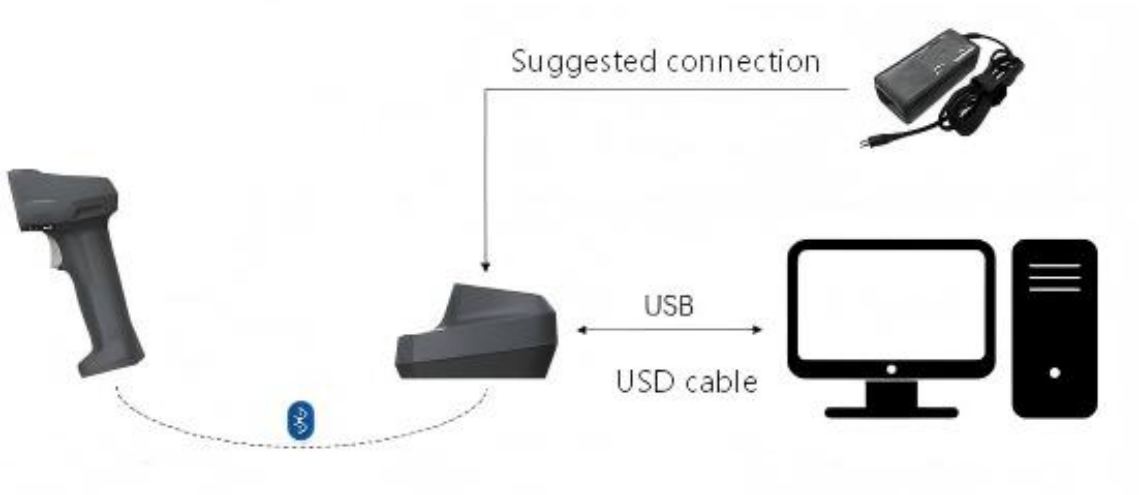



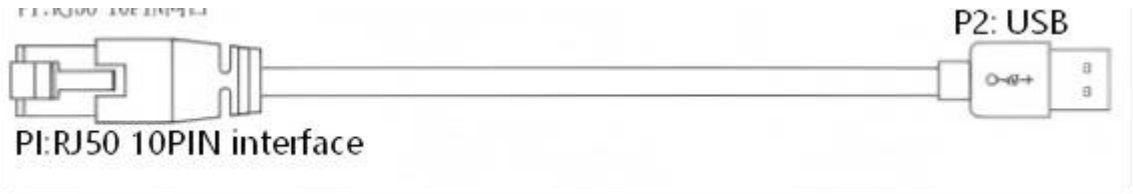



# 3.2 Electrical wiring

## 3.2.1 Wireless device connection - USB version




**CR-H620-BASE-BT-01-U Base connection method**




**CR-H620-BASE-BT-01-U Base connection method**

● The device connects to a host computer via USB. It can be powered and communicate using only the 5V USB power supply;

● When using a 12-24V power adapter, the barcode reader charges faster.

| Type | Interface 1 | Interface 2 | Communicaiton Protocol | Power supply method |
|---|---|---|---|---|
| U type | RJ50 | USB+DC (Power port) | USB （HID/CDC） | USB 5V/ DC 12~24V unnecessary.) |

# 3.3 Wireless Model Function Description

## 3.3.1 Base Station Connection

● When the base station is not connected, the barcode reader connects to the base station after scanning the QR code on the base station; when the base station is connected, long-press the base station button to disconnect other barcode readers, and then the barcode reader scans the QR code on the base station to connect.

## 3.3.2 Bluetooth Out of Range

● When the barcode reader moves out of range, the Bluetooth connection is disconnected; when it re-enters the range, the Bluetooth reconnects.

## 3.3.3 Base Station Button

● Paging: Short-press the base station button to locate the barcode reader. The barcode reader's buzzer beeps for 1 second on and 1 second off, cycling 3 times, with one cycle every 10 seconds. Paging can be stopped by pressing the barcode reader trigger or short-pressing the base station button again.
● Disconnection: Long-press the base station button for 3 seconds to disconnect all currently connected barcode readers. Barcode readers disconnected by the base station button will not automatically reconnect.

## 3.3.4 Standby/Shutdown

● Standby Mode: If the barcode reader trigger is not pressed within the set standby time, the barcode reader enters standby mode. The standby time can be set; setting the time to 0 means it will never enter standby mode. The OLED display turns off in

standby mode. Pressing the trigger once will wake it from standby mode. It does not enter standby mode while charging.

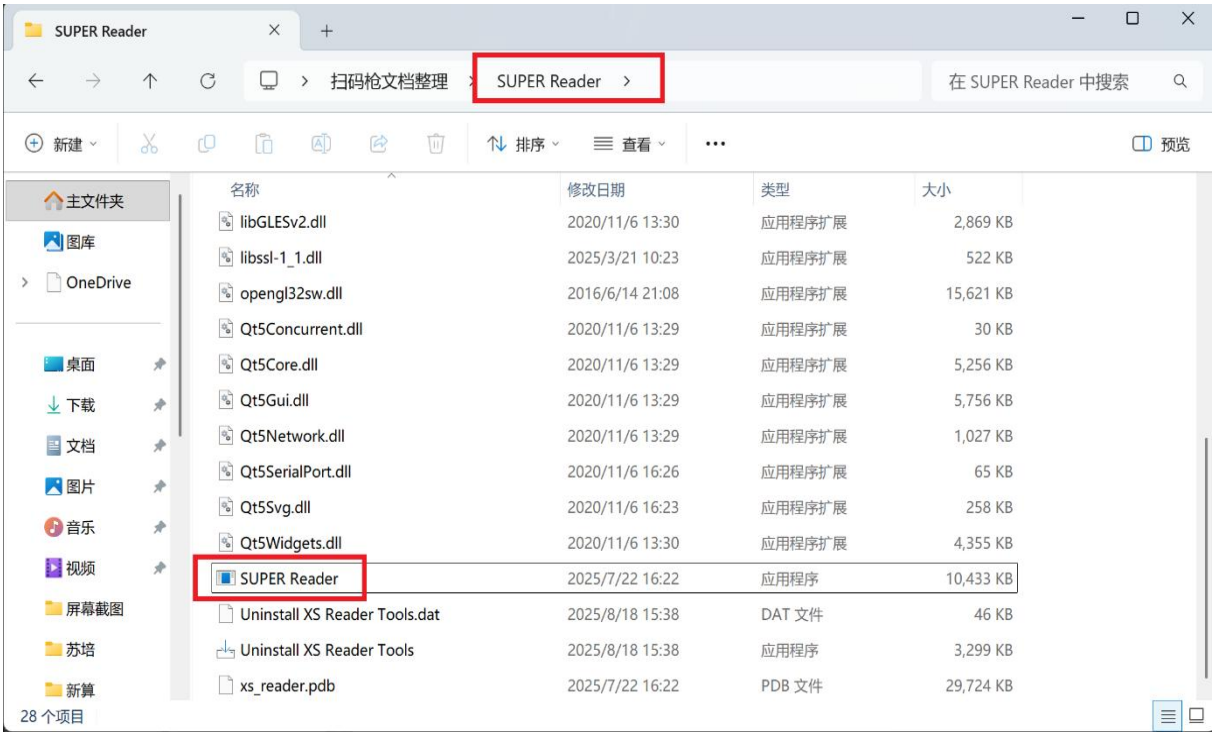
● Shutdown Mode: After the barcode reader enters standby mode, if the trigger is still not pressed within the shutdown time, it enters shutdown mode. The shutdown time can be set; setting the time to 0 means it will never enter shutdown mode.

● Power On/Off: Long-press the UI button for 2.5 seconds to power off, and long-press the trigger for 2.5 seconds to power on. Note: Standby time/shutdown time can be set via configuration codes.

## 3.4 Software Installation and Operation

### 3.4.1 Install the driver software.

Unzip the SUPER READER software, then click on the Super Reader app and follow the steps to complete the installation.



### 3.4.2 PC Environment Setup

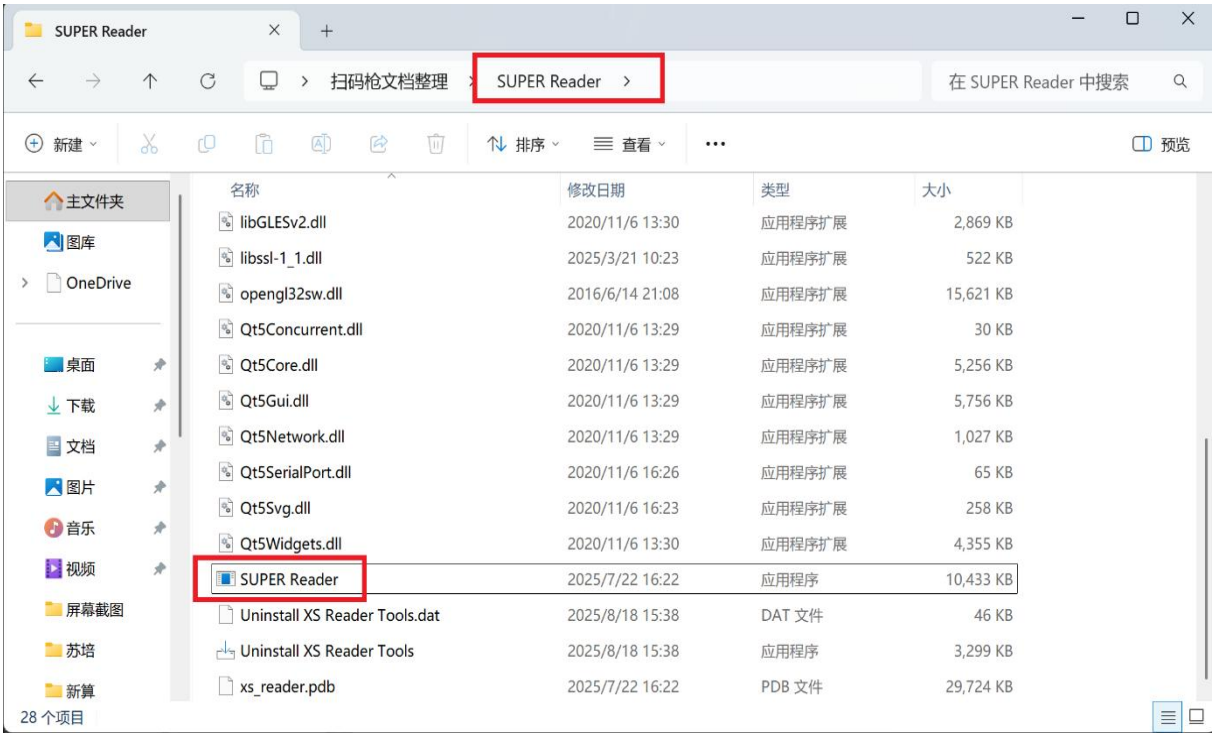
To ensure the proper functioning of the client software and the stability of data transmission,  USB devices require verification of proper USB driver installation.
For USB devices: When connecting the device via the PC's USB interface, the Windows system will automatically detect the new hardware device and install the USB driver. After installation, you can check if the driver was successfully installed through Control Panel > Device Manager > Ports (COM and LPT), as shown below:



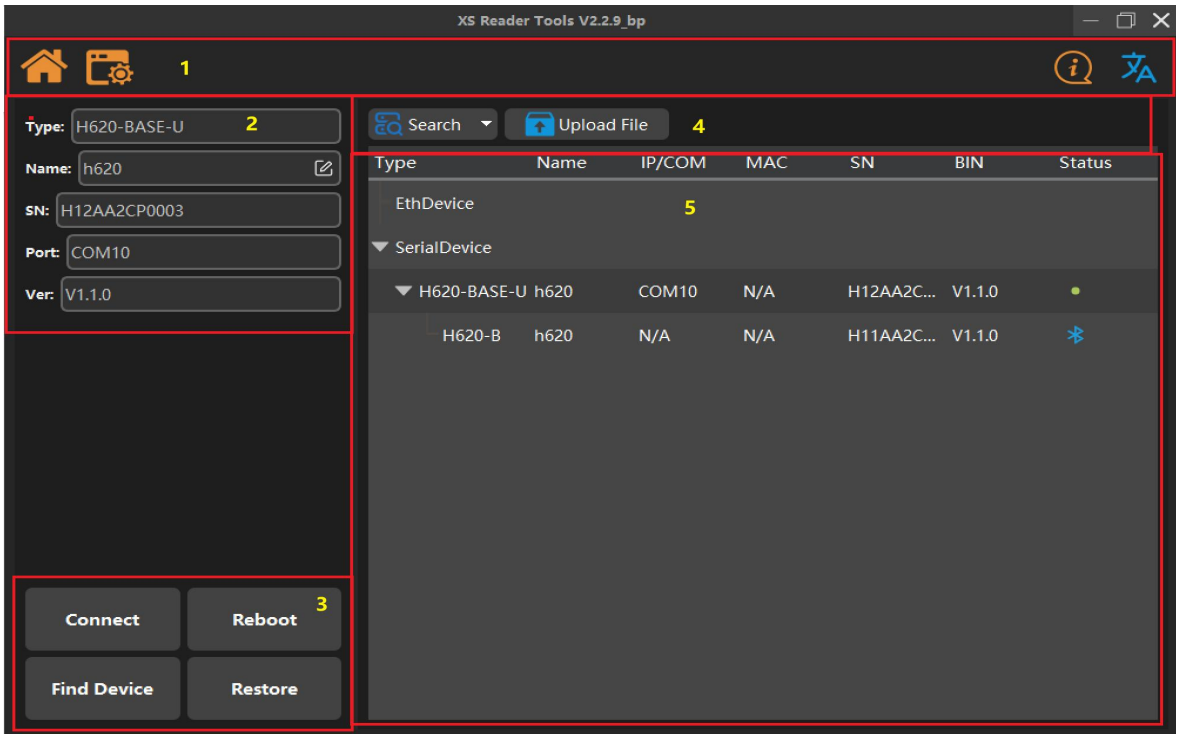

# 4. Device functions

## 4.1 Connect devices

As shown in the image, running the barcode scanner and connection the Super reader  software.




Open the software as shown in the image below:



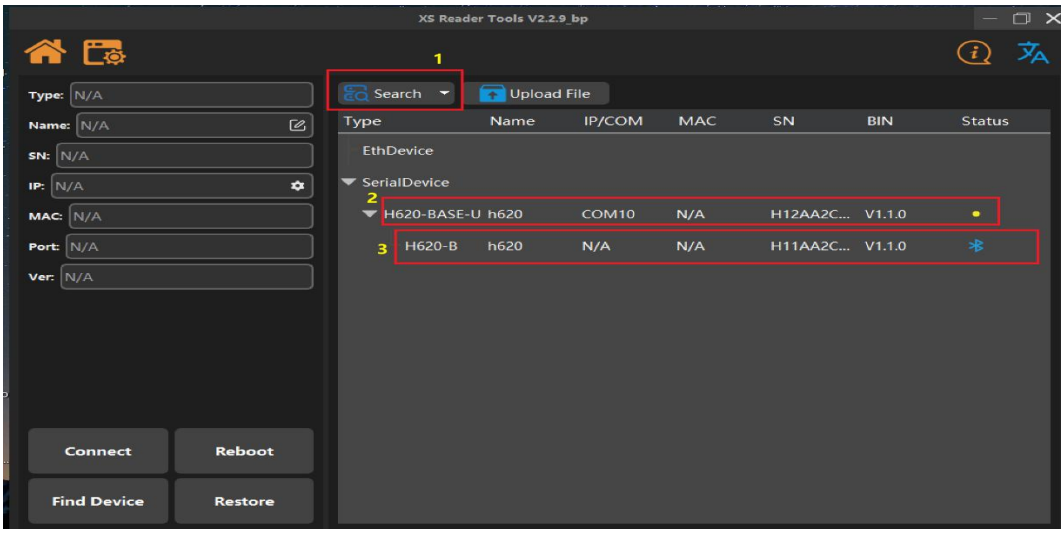
| Sr.no. | Name | Function |
|---|---|---|
| 1 | Software menu bar | It allows you to switch between the main interface and the device configuration interface, obtain information from the host computer, switch between Chinese and English, and more. |
| 2 | Device Information Panel | You can obtain the device type, name, serial number, IP address, and firmware version. |
| 3 | Device operation bar | You can perform operations such as connecting, restarting, and restoring factory settings on the device. |
| 4 | Device function bar | You can search for devices and upgrade them. |
| 5 | Device list column | The searched devices can be displayed. If a Bluetooth-connected handheld scanner is placed in the charging cradle after being powered on, the connection status of the handheld scanner will be displayed. |

- **The image below shows how to connect the barcode scanner:**

1) Search for the connected USB barcode scanner device;

2) The barcode scanner base will be searched;

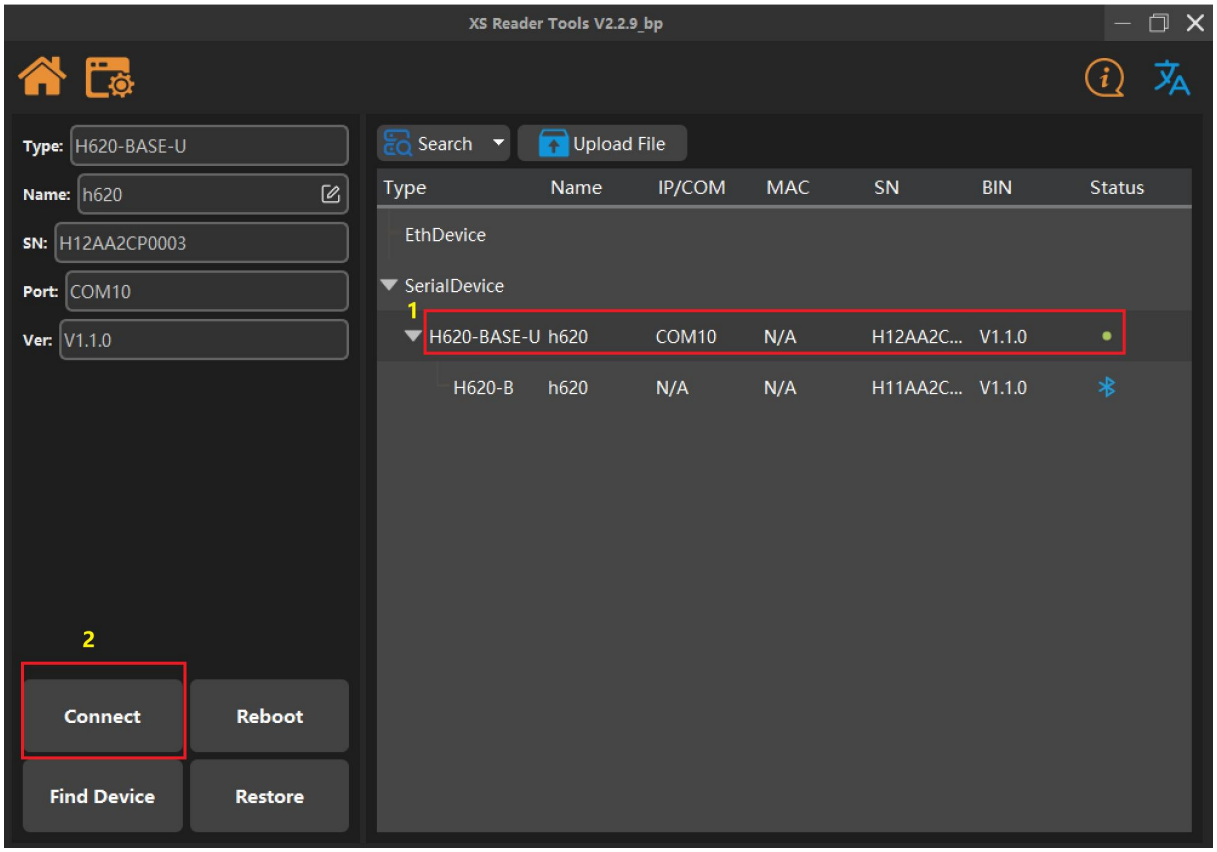
3) The Bluetooth-connected scanner will be detected. (If the Bluetooth barcode scanner is not detected, please press and hold the trigger for 2.5 s to turn it on and place it in the base; it will connect automatically.)



- **Following image show that how to connect the base and the handheld device:**

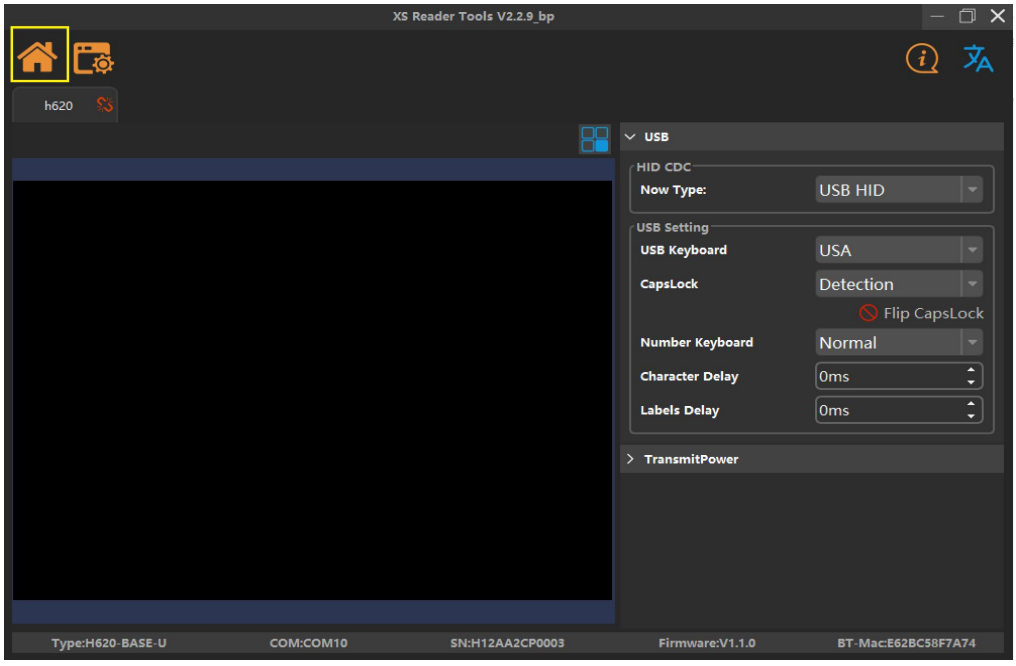
1) First, select the base;

2) Then, click Connect.

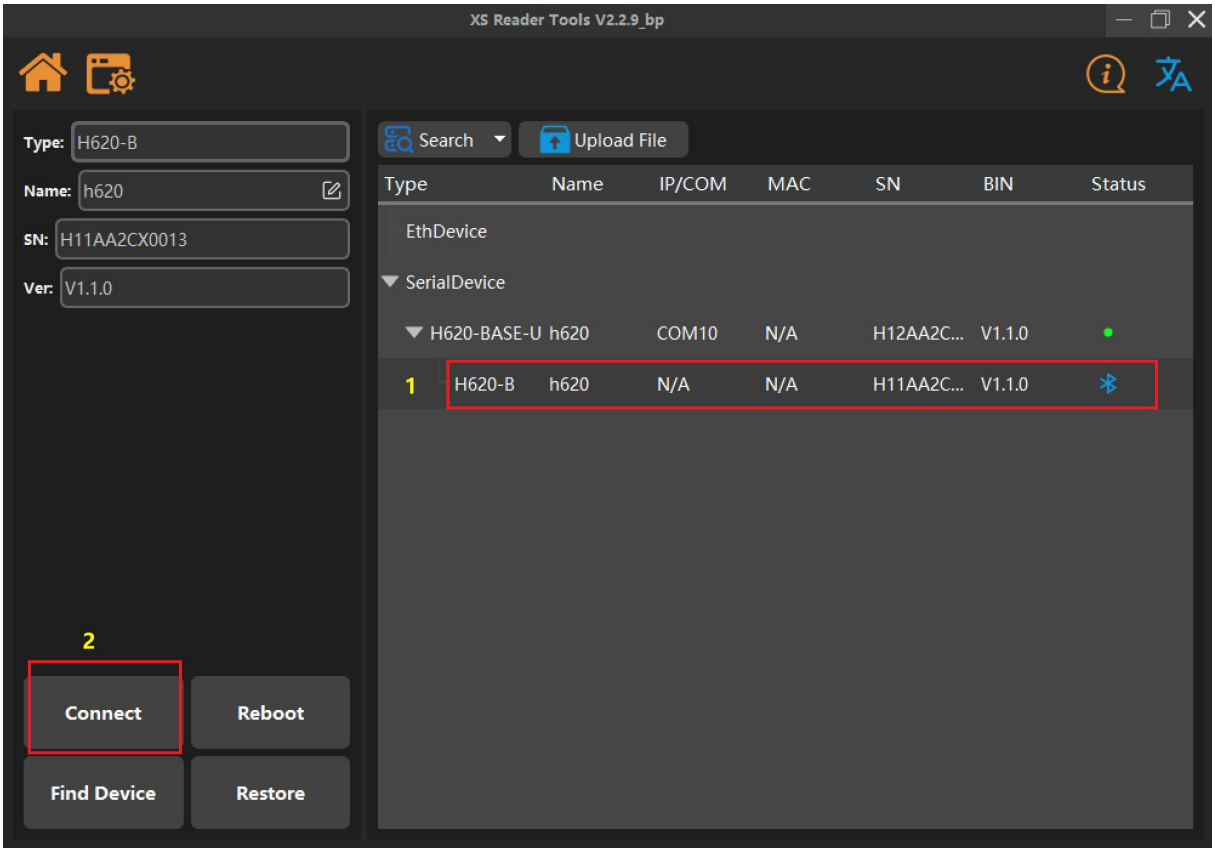


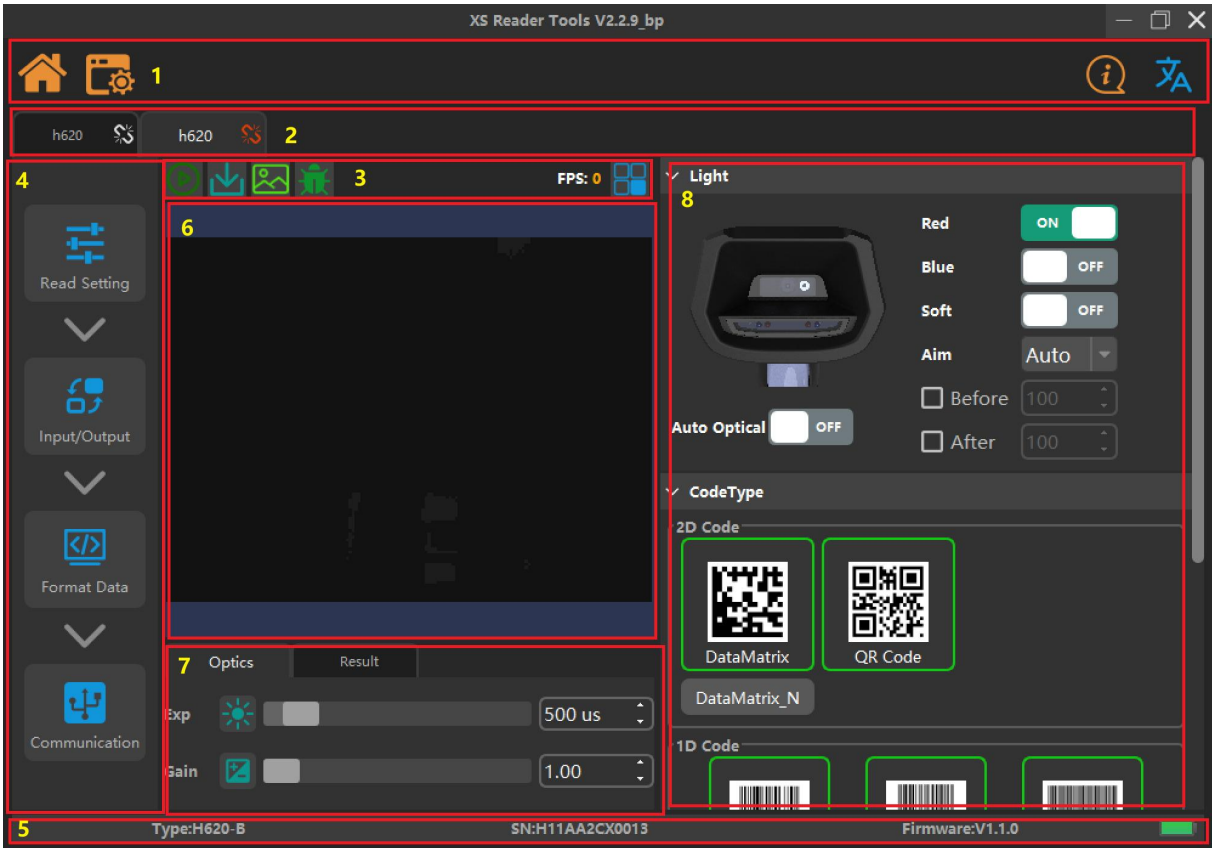

- **The base connection is successful, as shown below.:**

1) After connecting the base, click the "Return" button in the yellow box;



2) Then select the connected handheld gun to enter the configuration interface.

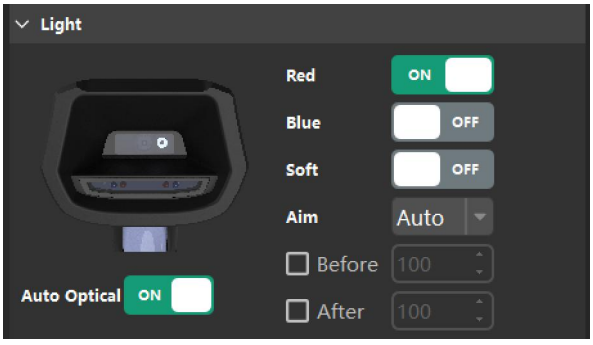


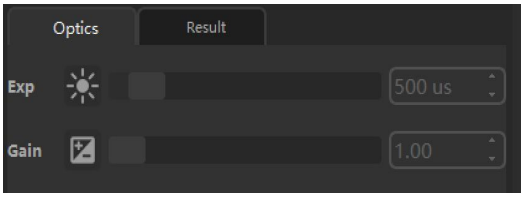



| Sr.No. | Name | Function |
|---|---|---|
| 1 | Software menu bar | It allows you to switch between the main interface and the device settings interface, obtain information from the host computer, and switch between Chinese and English languages, etc. |
| 2 | Device switching bar | You can switch between the devices to configure them. |
| 3 | Software function bar | It can trigger/stop barcode reading, download images, enable/disable image transmission, and export configuration. |
| 4 | Equipment Project List | You can configure four items: device read settings, input/output, data formatting, and communication settings. |
| 5 | Device Information Panel | You can obtain information such as the device model, port number, IP address, MAC address, and firmware version. |
| 6 | Device preview window | It allows real-time preview of the images currently being captured by the device and the results of the algorithm processing. |
| 7 | Device exposure gain / Readout results recorded | Clicking "Camera Adjustment" allows you to adjust the exposure time and gain of the device under manual exposure; clicking "Read Results" allows you to view the device's reading results record. |
| 8 | Device Configuration Panel | You can perform relevant configuration operations on the device. |

# 4.2 Reading Settings

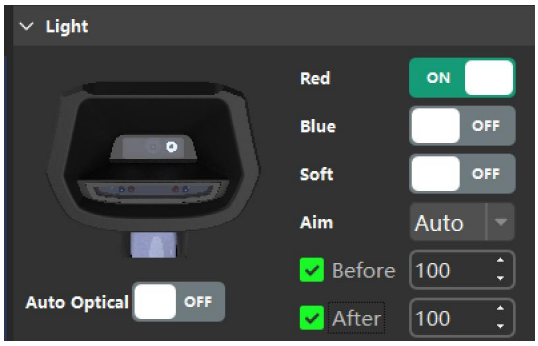
## 4.2.1 Exposure and Gain Settings

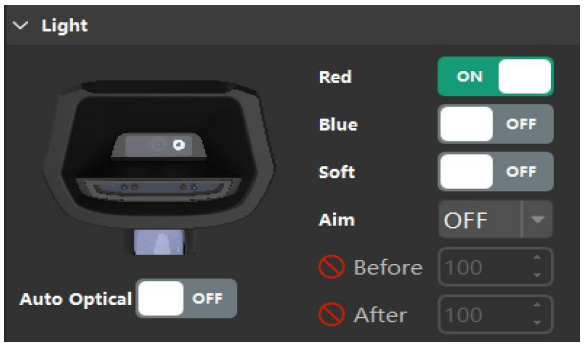


Exposure and gain have both automatic and manual modes. In automatic mode, the device automatically adjusts the exposure and gain based on the part being measured; in manual mode, the device operates according to the set exposure and gain values. The exposure range is 1000~5000 us, and the gain range is 1~15.

## 4.2.2 Gunsight Settings

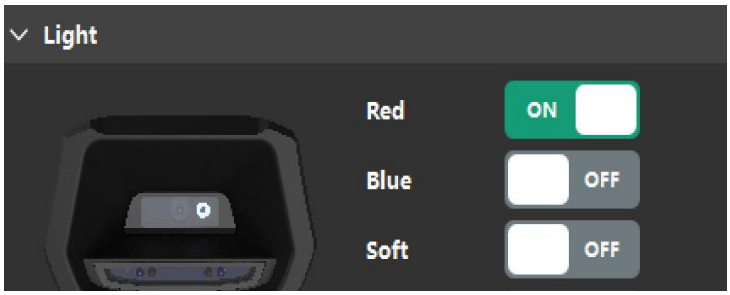



When the aiming reticle is activated, you can set the "Pre-decoding Delay" and "Post-decoding Delay." The delay time is adjustable in milliseconds (ms). The "Pre-decoding Delay" refers to the time delay between the aiming reticle being activated and the device turning on the flash for decoding; the "Post-decoding Delay" refers to the time delay between the completion of decoding and the aiming reticle turning off. Both are designed to facilitate user positioning.

## 4.2.3 Light source settings

You can choose one of the following light sources: red direct light, blue direct light, or uniform red light, or you can turn off all light sources.




## 4.2.4 Encoding settings

- Clicking on "DataMatrix_N" enables the DM_N function. Check the green arrow to activate this function and select the number of digits for the DM code. With this function enabled,

the decoding capability for DM codes will be greatly improved, but it will only decode DM codes with the specified number of digits.

- Clicking the arrow next to Code128 allows you to choose whether to enable the GS1-128 code function.

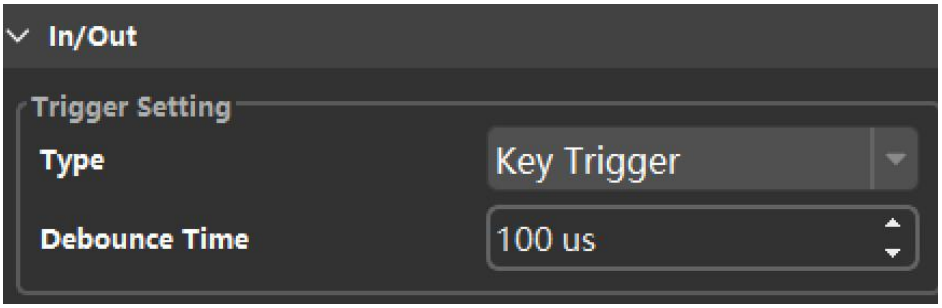



# 4.3 Input and Output Settings

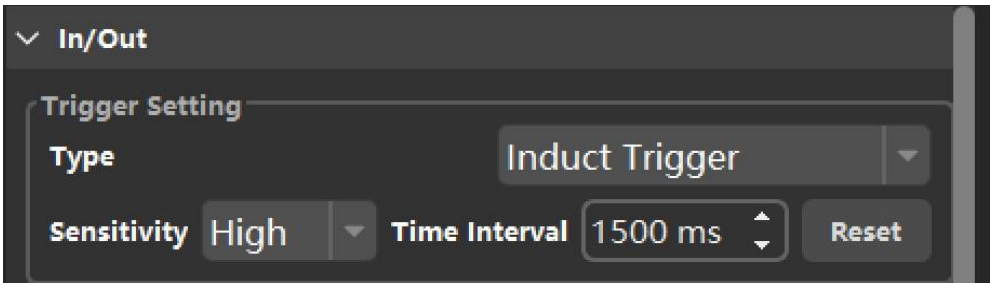
## 4.3.1 Triggering Method

1) If this trigger method is selected, decoding will be triggered by the trigger button. Debounce time can be set.

2) If this trigger method is selected, you can choose between standard reading mode, automatic reading mode, long-press continuous mode, automatic continuous mode, and batch reading mode.




1) If this mode is selected, decoding is triggered when the part being tested approaches the device. Sensitivity and interval time can be set. Sensitivity refers to the distance at which the part triggers decoding, and can be set to high, medium, or low; the interval time refers to the time interval between two decoding actions.
2) To select proximity triggering, the device needs to be placed in position (ensuring the area around the window is clear) before performing an adaptive operation to ensure the reading distance. When the device performs proximity triggering adaptation, the decoding indicator light will remain lit in indigo blue for 3 seconds. In proximity mode, restarting the device will also perform an adaptive operation.
3) If this trigger method is selected, the standard reading mode can be chosen. The H620 uses a photoelectric proximity sensor for proximity triggering, therefore it can only detect objects approaching the device, not moving objects.



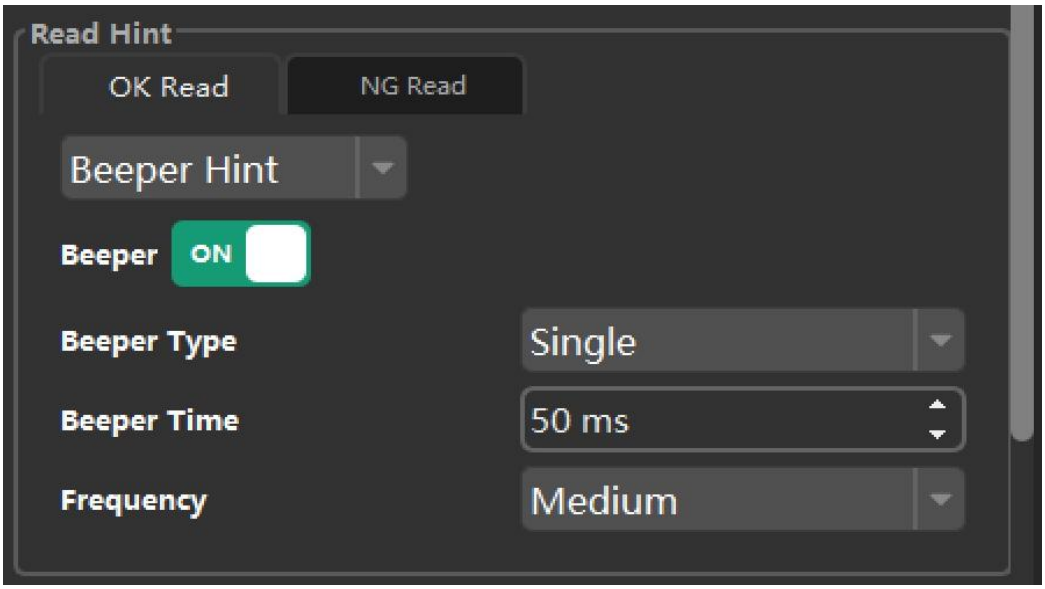

## 4.3.2 Reading Modes

- **Standard Reading Mode:** When the trigger is pulled, the barcode reader starts reading. If the reading is successful, it enters the reading success prompt, sends the barcode information, and ends the reading; if the trigger is released before a successful read, it enters the reading failure prompt, sends an "reading error" message, and ends the reading. The aimer starts working when reading begins and turns off when reading ends (except for the aimer activation delay).

- **Automatic Reading Mode:** After the trigger is pulled and released, the barcode reader starts reading. If a barcode is read within the specified time, it enters the reading success prompt, sends the barcode information, and ends the reading; if no barcode is read within the specified time, it enters the reading failure prompt, sends an "reading error" message, and ends the reading. The aimer starts working when reading begins and turns off when reading ends (except for the aimer activation delay).
- **Manual Continuous Mode:** While the trigger is pulled and held down, the scanner continuously reads barcodes multiple times. Each successful barcode read triggers a reading success prompt and sends the barcode information. Releasing the trigger ends the reading. The aimer starts working when reading begins and turns off when reading ends (except for the aimer activation delay).
- **Automatic Continuous Mode:** After the trigger is pulled and released, the barcode reader enters the reading mode, and each successful barcode read triggers a reading success prompt and sends the barcode information. Pressing and releasing the trigger again ends the reading. The aimer starts working when reading begins and turns off when reading ends (except for the aimer activation delay).
- **Batch Reading Mode:** After the trigger is pulled, the barcode reader starts reading. Each successful barcode read triggers a reading success prompt and sends the barcode information. Releasing the trigger ends the reading. Duplicate barcodes are not output during reading. The number of reads and the reading time can be set. Reading ends when the number of decoded barcodes reaches the set number or the decoding time exceeds the reading time. The aimer starts working when reading begins and turns off when reading ends (except for the aimer activation delay).
- **Read Delay:** The read delay function can be turned on or off. When the read delay is enabled, the same barcode will not be output within the set time. However, if the barcode content changes, scanning the previously scanned barcode is allowed. For example, if the first scanned barcode is "abcd," then "abcd" cannot be output again within the set time. But if the next scanned code is "efgh," then "abcd" can be scanned again the next time, and so on.

## 4.3.2 Notification Method Settings

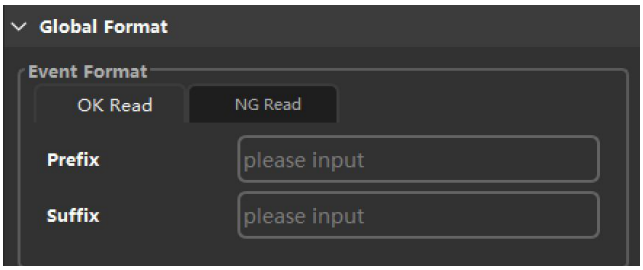
You can set the status of the buzzer, vibrator, and decoding indicator light for both successful and unsuccessful decoding.

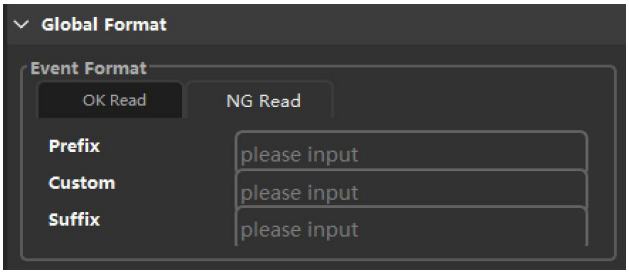



# 4.4 Formatting Data

## 4.4.1 Event Format

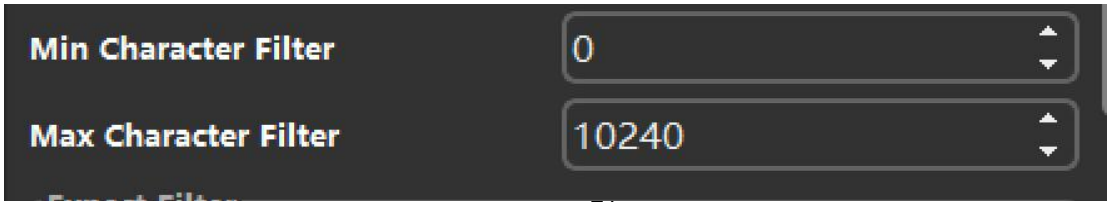
As shown in the following image, the "Read Successful" event allows you to set prefixes and suffixes for the entire result field. The "Read Failed" event, in addition to setting prefixes and suffixes for the result field, also allows you to set a custom string corresponding to the event. Each field in the event format supports input using control character escape sequences, such as "\x02" representing "<STX>", "\x03" representing "<ETX>", "\r" representing "<CR>", and "\n" representing "<LF>", etc.  The backslash character itself is represented by "\\".




## 4.4.2 Character Length Filtering

Character length settings



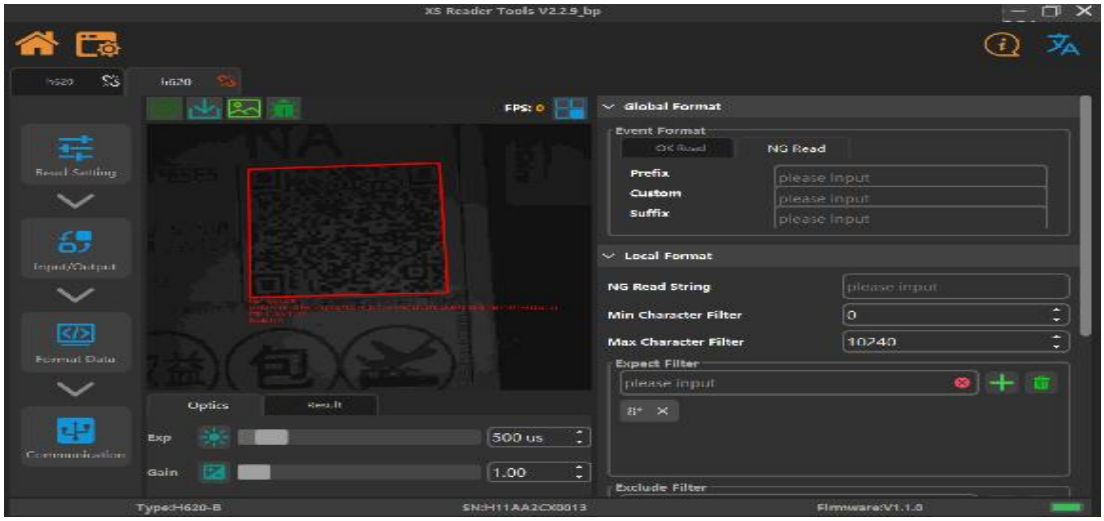
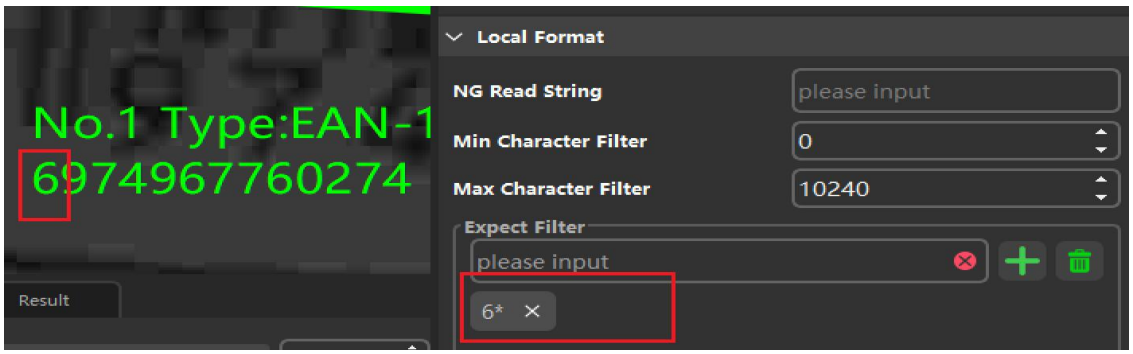



Diagram illustrating the situation when the decoding result does not match the expected character length.

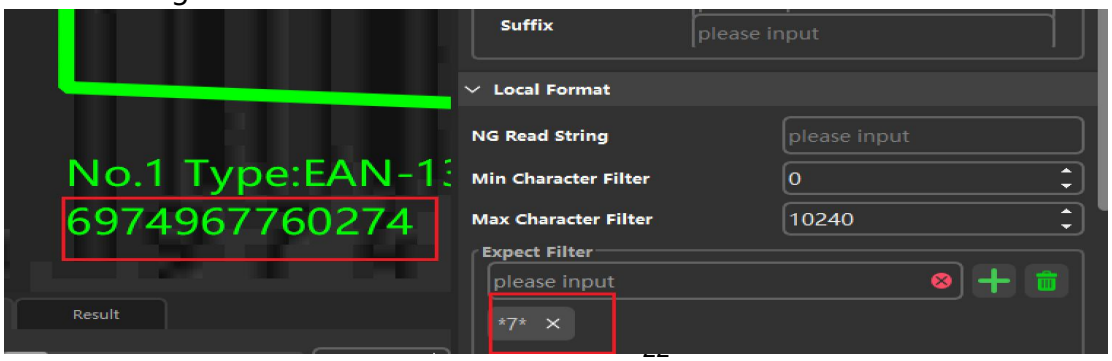
As shown in the image above, if the decoded result length is less than the minimum number of characters or greater than the maximum number of characters, the barcode will be filtered out. Filtered barcodes will be displayed with a red result box in the settings software, and a corresponding message will be shown in the reading result display area.

## 4.4.3 Predictive Filtering

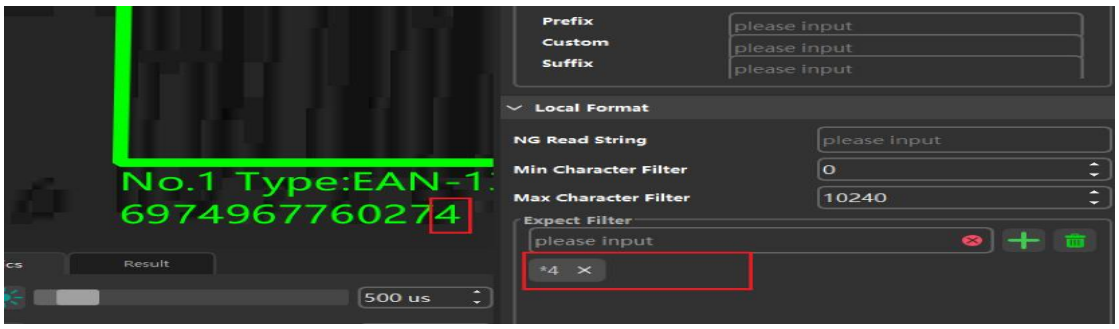
The decoded result starts with the character "6".



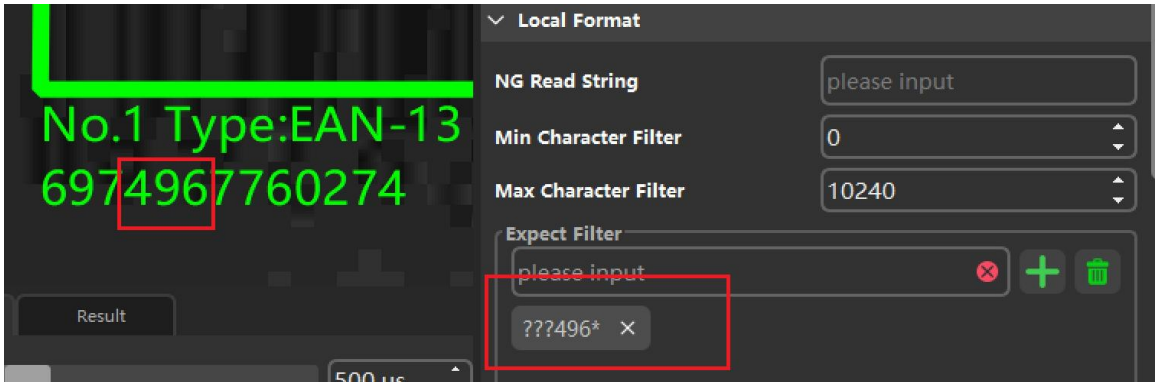

The decoding result contains the character "7".



The decoded result ends with the character "4".




The decoded result characters in positions 4 to 6 are "496".

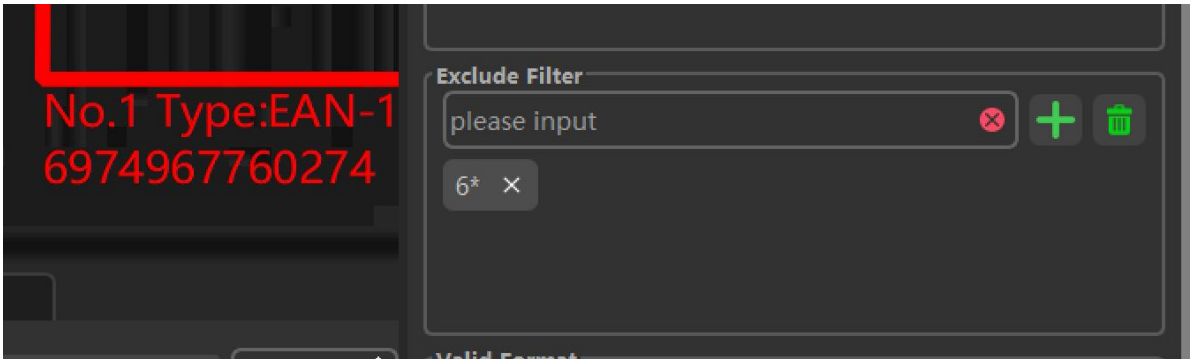



Expected filtering considers a decoded result valid only if it matches one of the expected filter formats; otherwise, it will be filtered out. Filtered barcodes will be displayed in a red result box in the settings software, and a corresponding prompt will be shown in the reading result display area.

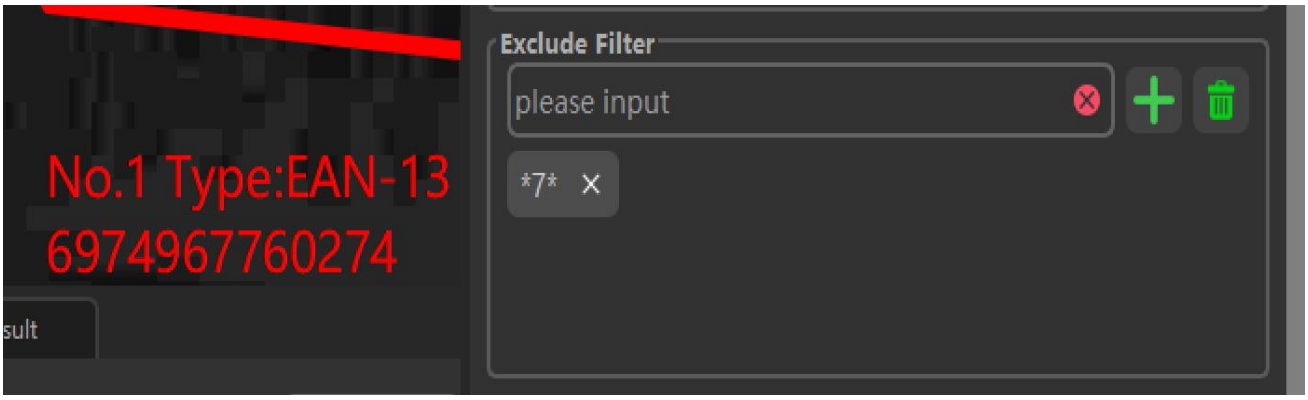
The wildcard "*" represents a string of variable length, including length 0; the placeholder "?" represents a fixed-length string placeholder, where one "?" represents one byte. As shown in the figure: "6*" represents decoded results starting with the character "6"; "*7*" represents decoded results containing the character "7"; "*4" represents decoded results ending with the character "4"; "???496*" represents decoded results where the 4th to 6th characters are "496".

### 4.4.4 Exclusionary Filtering

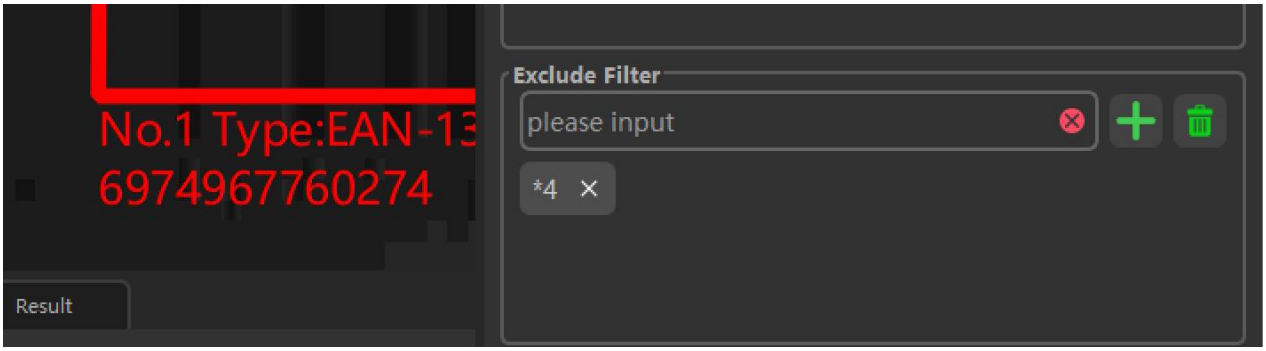
The decoded result starts with the character "6".



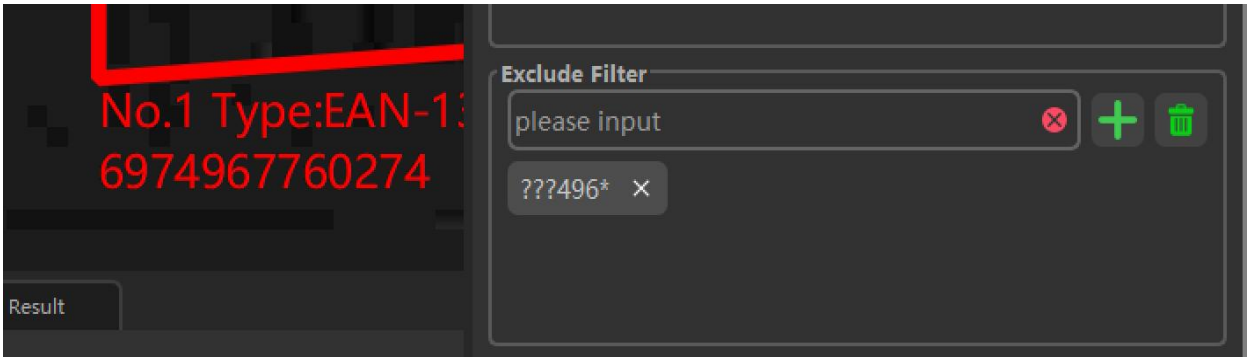

The decoding result contains the character "7".




The decoded result ends with the character "4".



The decoded result characters in positions 4 to 6 are "496".




Exclusion filtering considers a decoded result valid only if it does not match any of the exclusion filter formats; otherwise, the decoded result will be filtered out. Filtered barcodes will be displayed in a red result box in the settings software, and a corresponding prompt will be shown in the reading result display area. The wildcard character "*" represents a string of variable length, including length 0; the placeholder "?" represents a fixed-length string placeholder, where one "?" represents one byte. As shown in the figure: "6*" represents decoded results starting with the character "6"; "*7*" represents decoded results containing the character "7"; "*4" represents decoded results ending with the character "4"; "???496*" represents decoded results where the 4th to 6th characters are "496".

### 4.4.5 Effective Code Formatting

Effective code formatting configuration interface




Barcodes that pass character length filtering, expected pattern filtering, and exclusion filtering, and are successfully decoded, are considered valid codes. For valid codes, you can configure the output content after successful reading for this configuration group. Double-clicking a format symbol in the valid format list will insert the corresponding format symbol into the code format options box.

| Format specifier | Definition |
|---|---|
| <Code Content> | Decoded result original string |
| <Sub String> | Decoded result substring |
| <Custom String> | Custom string |
| <Symbol> | Encoding system |
| <Decode Time> | Decoding time unit: ms (milliseconds) |
| <Pos X> | Barcode center X-coordinate accuracy：0.1Pixel |
| <Pos Y> | Barcode center Y-coordinate accuracy：0.1Pixel |
| <CR> | Enter |
| <LF> | Line-break |

### 4.4.6 Base RS232 Communication Protocol

As shown in the figure, the baud rate, data bits, Check bits, and stop bits of the RS232 communication protocol can be configured.




- Base RS232 Communication Protocol Configuration Code

(1)RS232 baud rate settings

Set baud rate 4800

Set baud rate 19200

Set baud rate 9600

Set baud rate 38400



Set baud rate 57600



Set baud rate

## (2)Parity settings



The verification setting is invalid.



Set even parity



Set odd check

### (3) Stop bit setting



Set serial port stop bit 1



Set serial port stop bit 2

Note:

This feature is only available with firmware versions V1.0.7 and above for barcode scanners, V1.0.8 and above for USB docking stations, and V1.0.6 and above for ES docking stations.

## 4.4.7 Base TCP communication protocol

As shown in the figure, the TCP communication protocol, TCP server, and TCP client can be configured.

User port blocking range: [8886:8890].

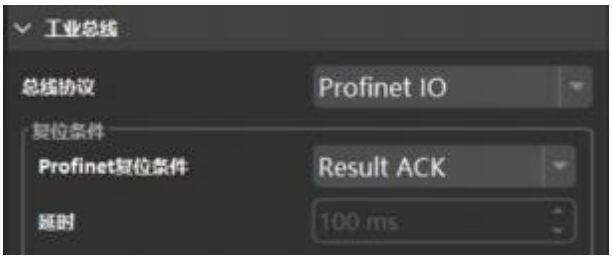



## 4.4.8 Base Bus Communication Protocol

### Ethernet/IP



## Profinet protocol:




## Modbus protocol:



**MELSEC :**


工业总线
总线协议
MELSEC
MELSEC协议使能
OFF
MELSEC IP
0 . 0 . 0 . 0
MELSEC 端口
5000
MELSEC帧类型
ASCII_3E
内存分配
结果区域起始地址(D区)
0
控制区域起始地址(Y区)
0
状态区域起始地址(X区)
0

# 5.Troubleshooting

If the scanner is not working properly, please perform the following checks first:

- Check if the data cable is properly connected to the scanner, including whether the data cable is securely connected and whether the original data cable is being used.
- Check if the barcode label is of good quality. The scanner may not be able to read wrinkled or severely damaged barcode labels.
- Check if the barcode type being scanned is enabled. If not, please enable reading of that barcode type.

If the scanner still does not work, please contact our agent or supplier or Superisys (Zhangqi@superisys.com.cn / jayne@superisys.com.cn)