

Serial Port User Manual

V1.0

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1 Overview

1.1 Key Updates

Version	Updated Date	Modification
1.0	2024.08.26	Initial Draft

Table 1-1 Key Updates

1.2 Camera Devices

SS4000 series: cameras can be set up for serial port based on the Web or EasyVS.

1.3 Software Tools

UART Assistant: It can communicate with the camera by using the serial port.

2 Overall Configuration

The overall configuration for serial port between the camera device and the software tool is shown in Figure 2-1 and Figure 2-2:

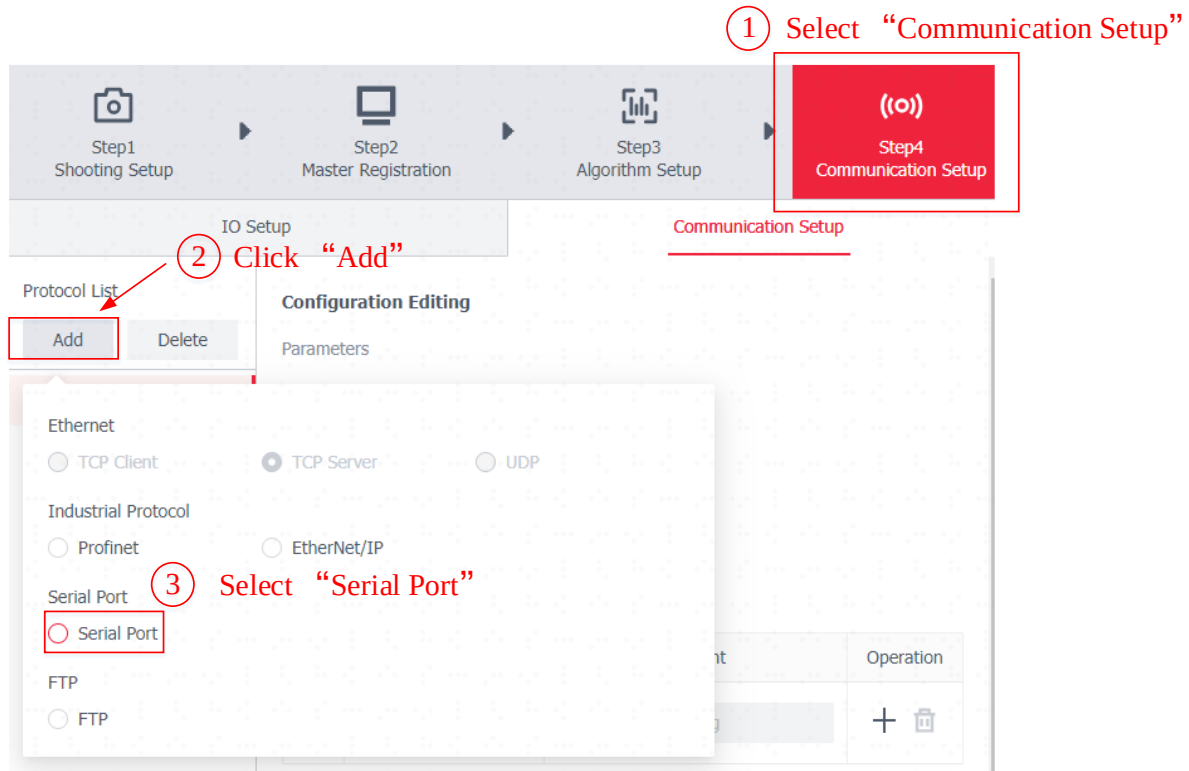


Figure 2-1 Add Serial Port

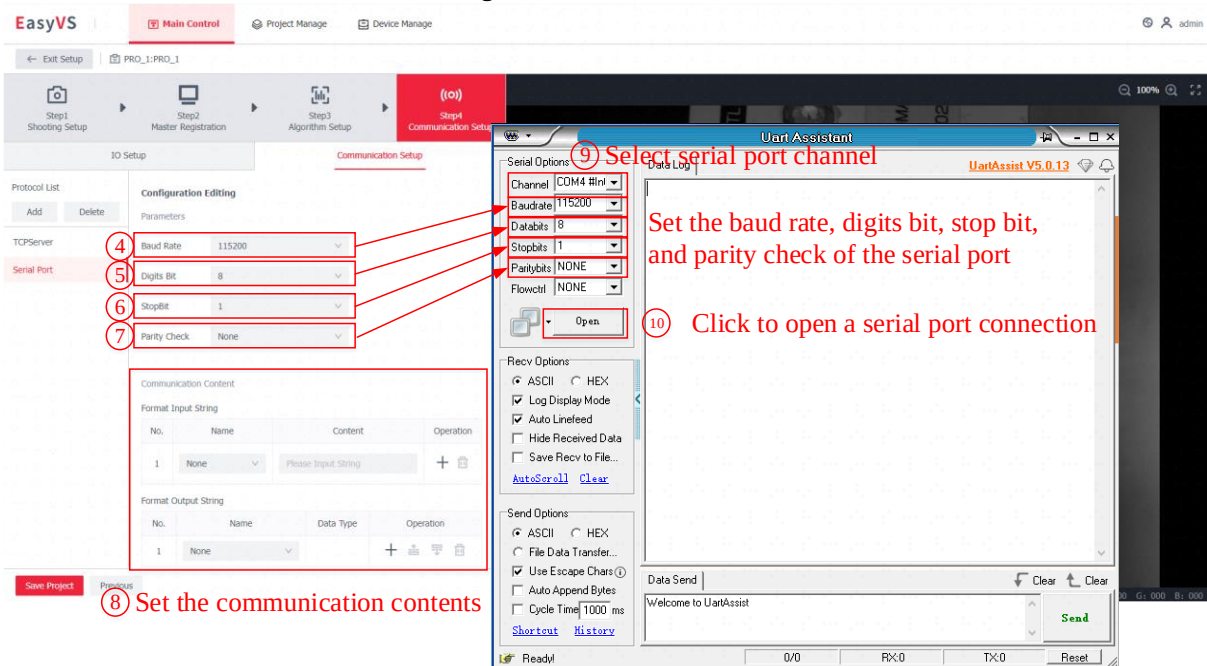


Figure 2-2 Overall Configuration for Serial Port

The overall configuration steps are as follows:

- 1 Select "Communication Setup";

-
- ② Click “Add”;
 - ③ Select “Serial Port”;
 - ④ Configure the baud rate, ⑤ digital bits, ⑥ stop bits, and ⑦ parity check for the camera and UART Assistant;
 - ⑧ Set the input and output formats of the communication contents;
 - ⑨ Select serial port channel in the UART Assistant;
 - ⑩ Click the open button to start serial port communication.

3 Camera Devices Setup

3.1 Communication Setup

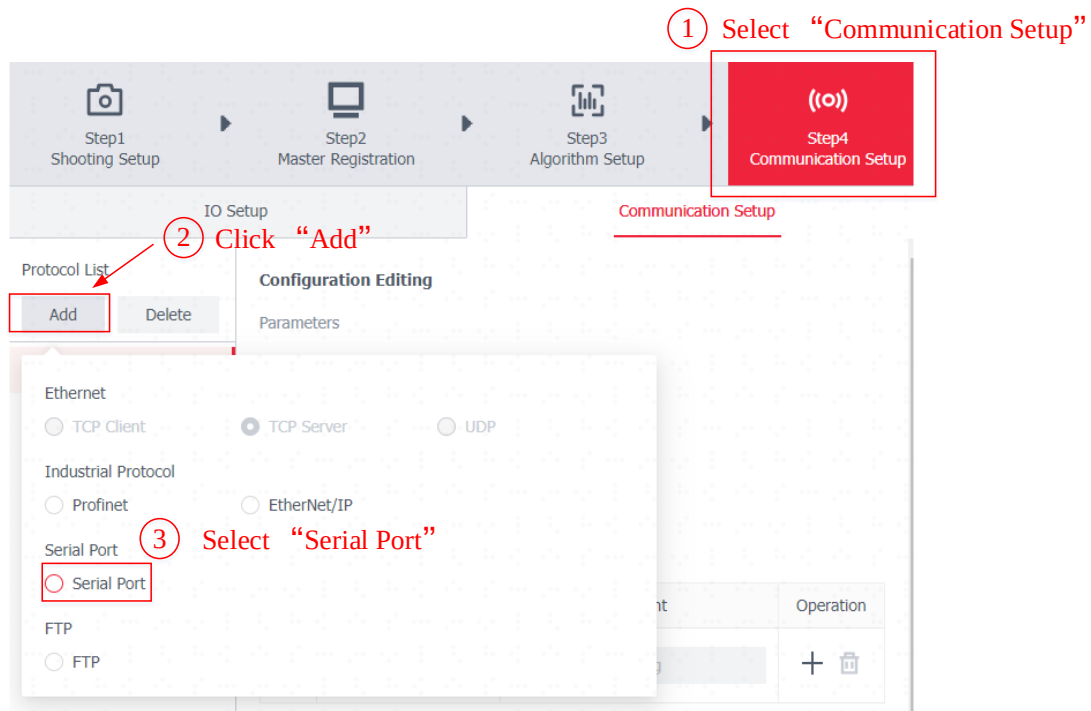


Figure 3-1 Add Serial Port

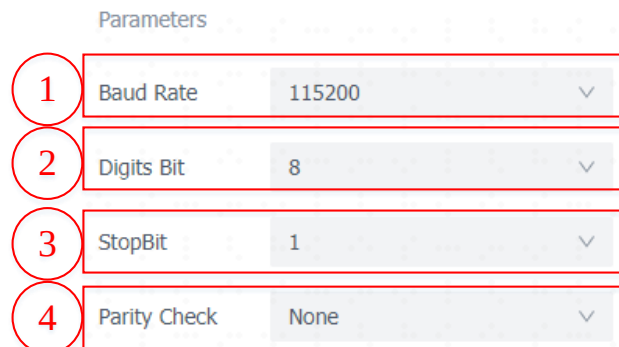


Figure 3-2 Set the Parameters

Number	Elements	Explanation
①	Baud Rate	Serial transfer rate, supports 115200, 57600, 38400, 19200, 9600.
②	Digits Bit	Number of valid data bits, supports 7-bit and 8-bit transmission.
③	Stop Bit	Stop bit length, supports 1bit and 2bit.
④	Parity Check	Set parity mode, support none, odd and even parity check.

Table 3-1 Parameters Explanation

3.2 Content Setup

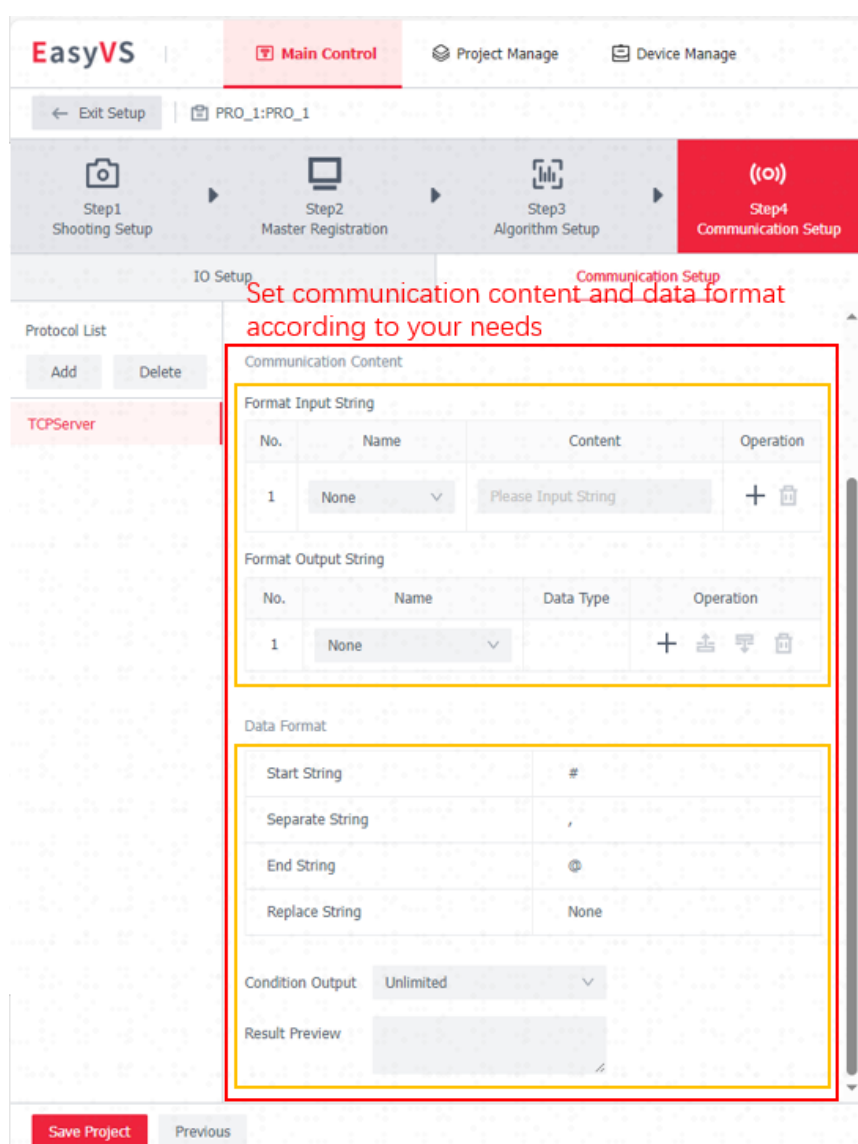


Figure 3-3 Camera Communication Content and Data Format Settings

3.2.1 Configuration for Format Input String

The strings sent from the tool side to the camera side can control the camera's operating status.

(1) Name

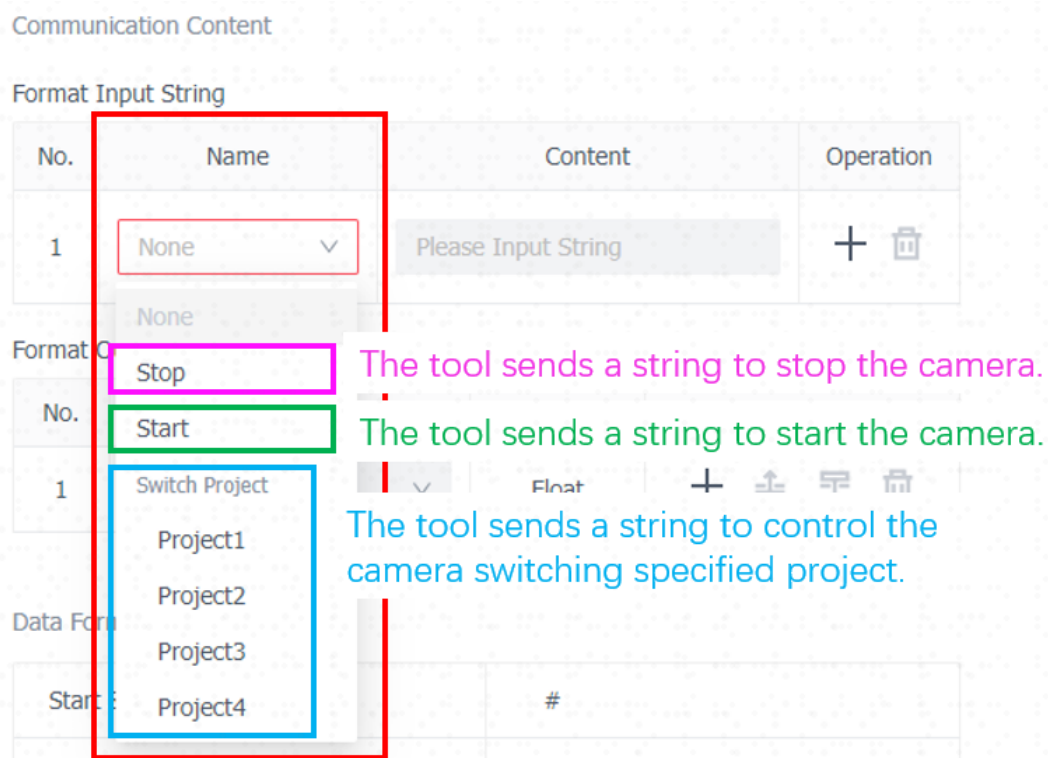


Figure 3-4 Name of Format Output String

(2) Content

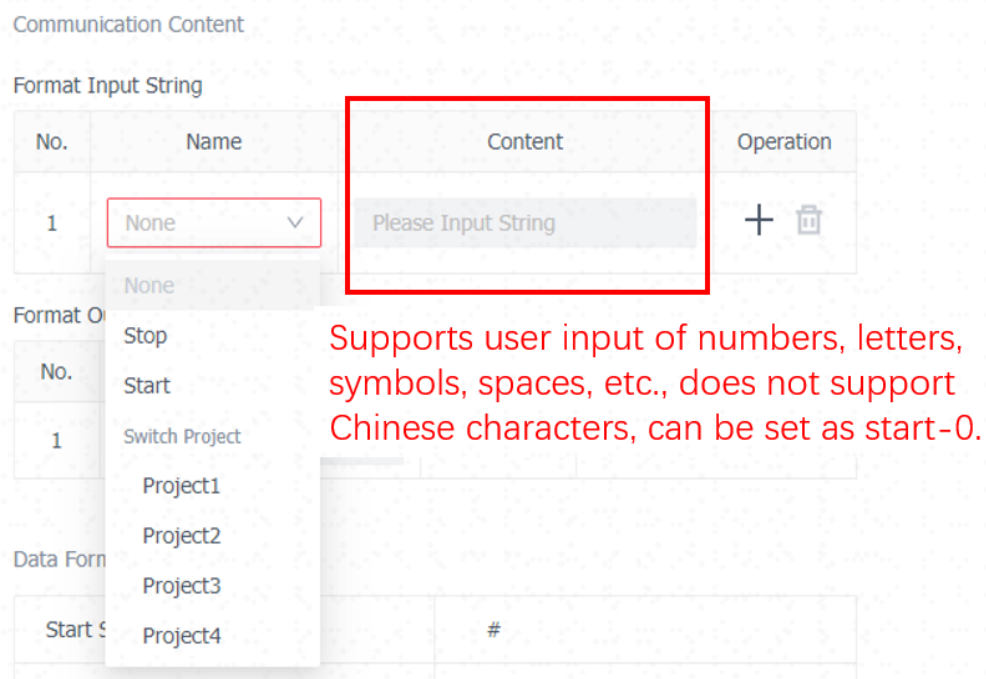


Figure 3-5 Content of Format Output String

(3) Operation

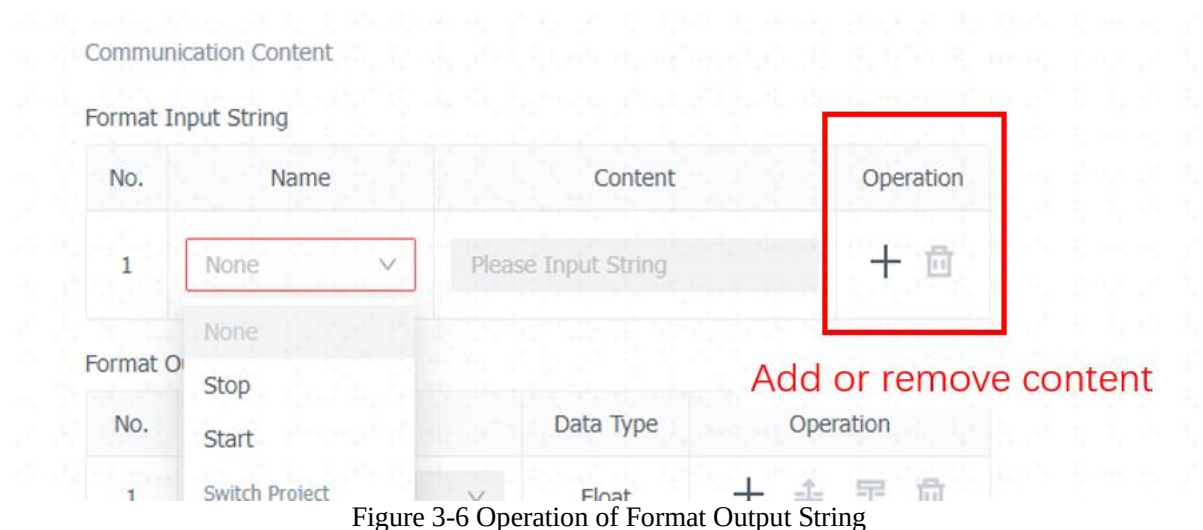


Figure 3-6 Operation of Format Output String

3.2.2 Configuration for Format Output String

Configuring the strings output by the camera side to the tool side, which can display the operator's running result.

(1) Name

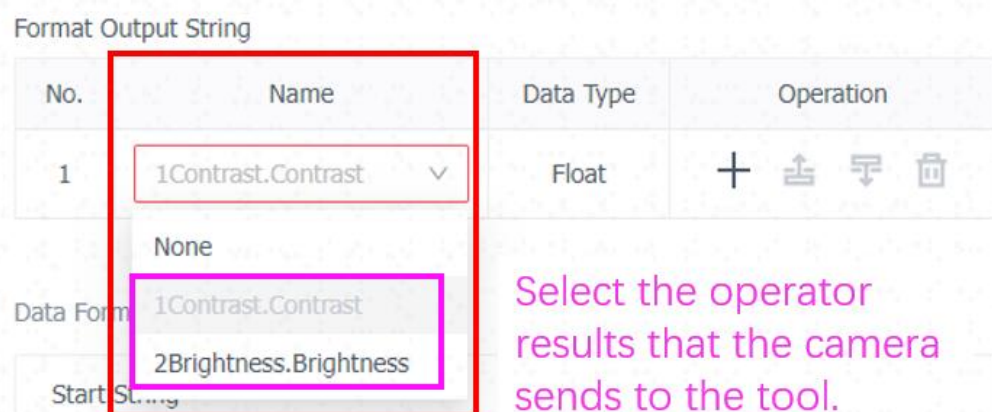


Figure 3-7 Name of Format Output String

(2) Data Type

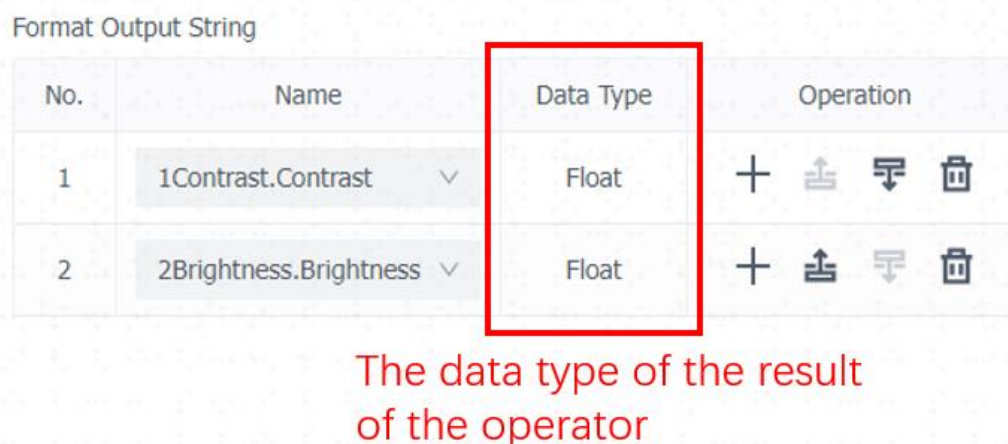


Figure 3-8 Data Type of Format Output String

(3) Operation

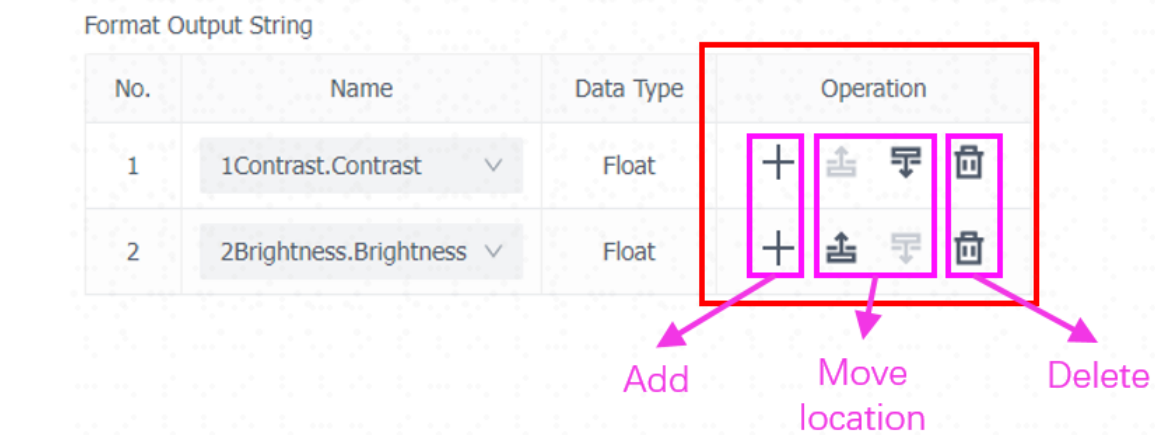


Figure 3-9 Operation of Format Output String

3.2.3 Configuration for Data Format

Includes the start string, delimiter string, end string, missing value replacement, supports user input of numbers, letters, symbols, spaces, etc., does not support Chinese characters.

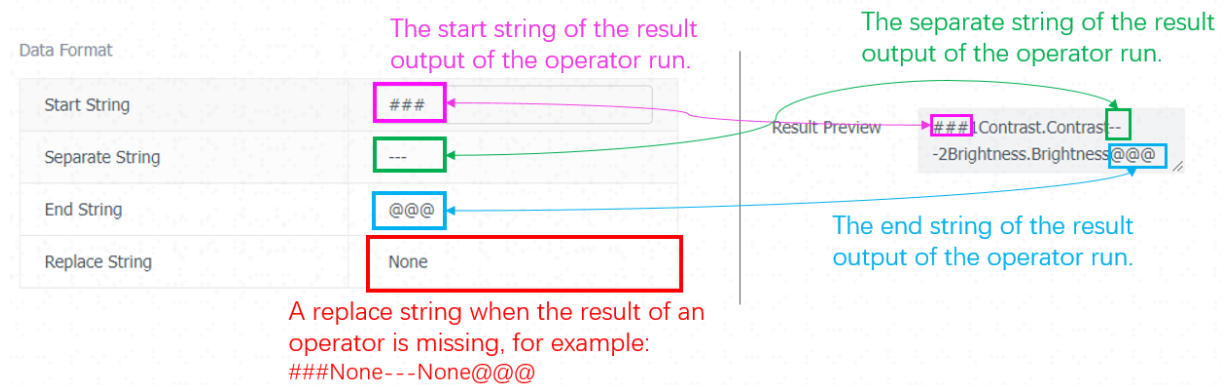


Figure 3-10 Configuration for Data Format

3.2.4 Configuration for Condition Output

When the set output conditions are met, the camera side outputs the operator's running result to the tool side. The supported output conditions include unlimited, project OK, project NG, operator specific result OK, and operator specific result NG.

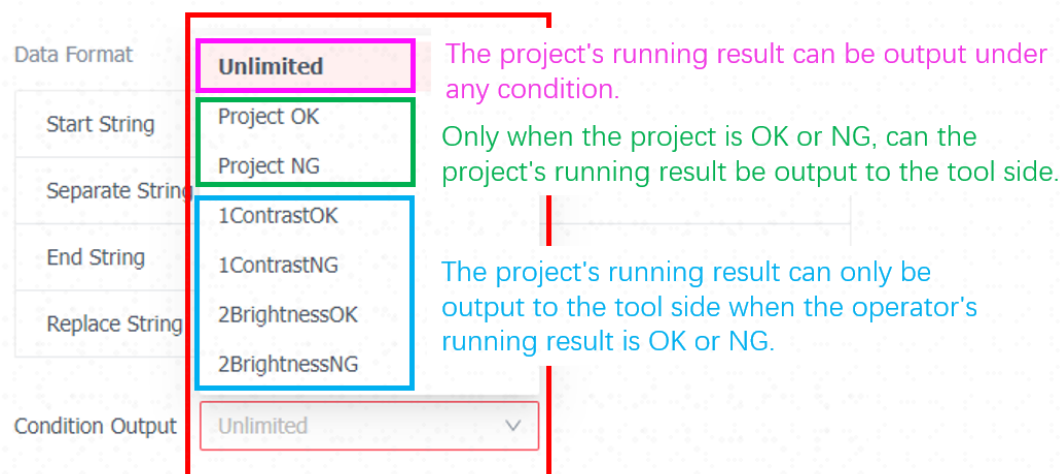


Figure 3-11 Configuration for Condition Output

3.2.5 Result Preview

Based on the above configuration, the output format of project's running result can be previewed for output from the camera side to the tool side.

Result Preview

```
###1Contrast.Contrast--
-2Brightness.Brightness@@@
```

Figure 3-12 Result Preview

4 Tools Configuration

(1) Open UART Assistant (or other communication software that supports serial port protocol).

(2) Select the serial port channel. Set its baud rate, data bits, stop bits, and parity bits.

Note: it needs to correspond to the one filled in by the camera.



Figure 4-1 Protocol Configuration

(3) User interface description

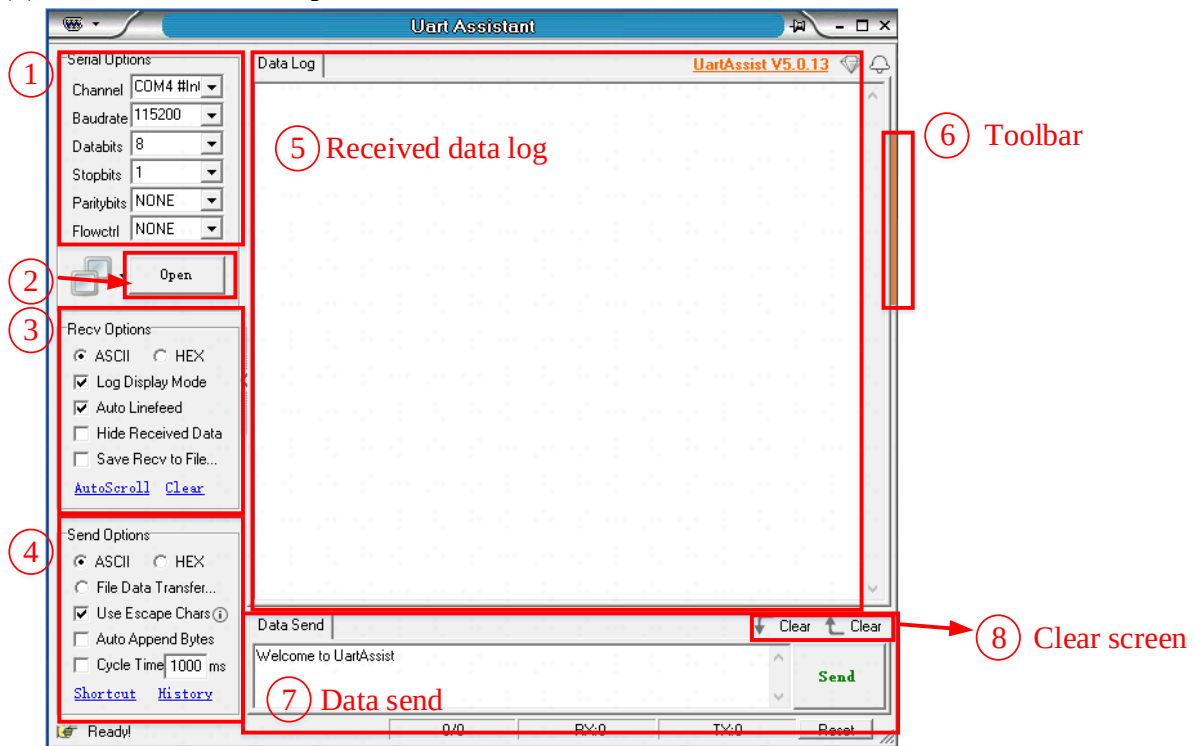


Figure 4-2 UART Assistant UI Description

① Serial options; ② Open connection; ③ Receive options; ④ Send options; ⑤ Data log;
⑥ Toolbar; ⑦ Data send; ⑧ Clear screen.

5 Examples of Data Formats Configuration

Figure 5-1 and Figure 5-2 gives an example of serial port configuration:

Communication Content

Format Input String

No.	Name	Content	Operation
1	Stop	stop	+
2	Start	start	+
3	Project1	p1	+
4	Project4	p4	+

Figure 5-1 Serial Port Format Input Example

Format Output String

No.	Name	Data Type	Operation
1	4GrayscaleArea.Num	Integer	+
2	3-1DataCode.Version	Integer	+

Data Format

Start String	##
Separate String	,
End String	@@
Replace String	None

Condition Output 3DataCodeNG

Result Preview ##4GrayscaleArea.Num,|3-1DataCode.Version@@

Figure 5-2 Serial Port Format Output Example

Since the camera does not recognize the QR code here, it sends out the data. The actual data received is:

##35845, |None@@

Figure 5-3 Received Data