

C Mount Auto Focus Industrial Camera User Manual V1.0



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Contents

1	Camera matching device	4
2	Camera installation instructions.....	4
3	Menu interface	5
3.1	Control interface	5
3.2	Measurement interface.....	6
4	Detailed control interface	7
4.1	Language mode	7
4.2	Lock menu	7
4.3	Focus mode	7
4.4	AF ROI(Auto Focus Region of Interest).....	8
4.5	Exposure	9
4.6	White balance.....	9
4.7	Function.....	10
4.8	Crosshair tool.....	10
4.9	Photograph.....	12
4.9.1	Photograph operation	12
4.9.2	Photo path	13
4.9.3	Photo format	13
4.9.4	Photo naming rules	13
4.10	Recording.....	14
4.11	Open picture.....	15
4.12	Compare pictures	17
4.13	Time setting.....	18
4.14	Freeze	19
4.15	Save Graphics	19
4.16	Flip/ Mirror	19
4.17	HDR.....	19

4.18	FBL	20
4.19	Anti-screen flicker.....	20
4.20	Black and White mode	20
4.21	Default	20
4.22	VersionNumber	20
5	Detailed measurement interface	20
5.1	Assist Tool.....	21
5.1.1	Color settings.....	21
5.1.2	Measurement mode.....	21
5.1.3	Edge Detection	22
5.2	Measurement Tool.....	22
5.3	Scan Data.....	22
5.4	Custom template.....	22
5.5	Measurement operation	23
5.5.1	Calibration	23
5.5.2	Measuring.....	24
5.5.3	Select measurement data.....	26
5.5.4	Selected graph.....	27
5.5.5	Detailed data	27
5.5.6	Mark Tool.....	28

1 Camera matching device

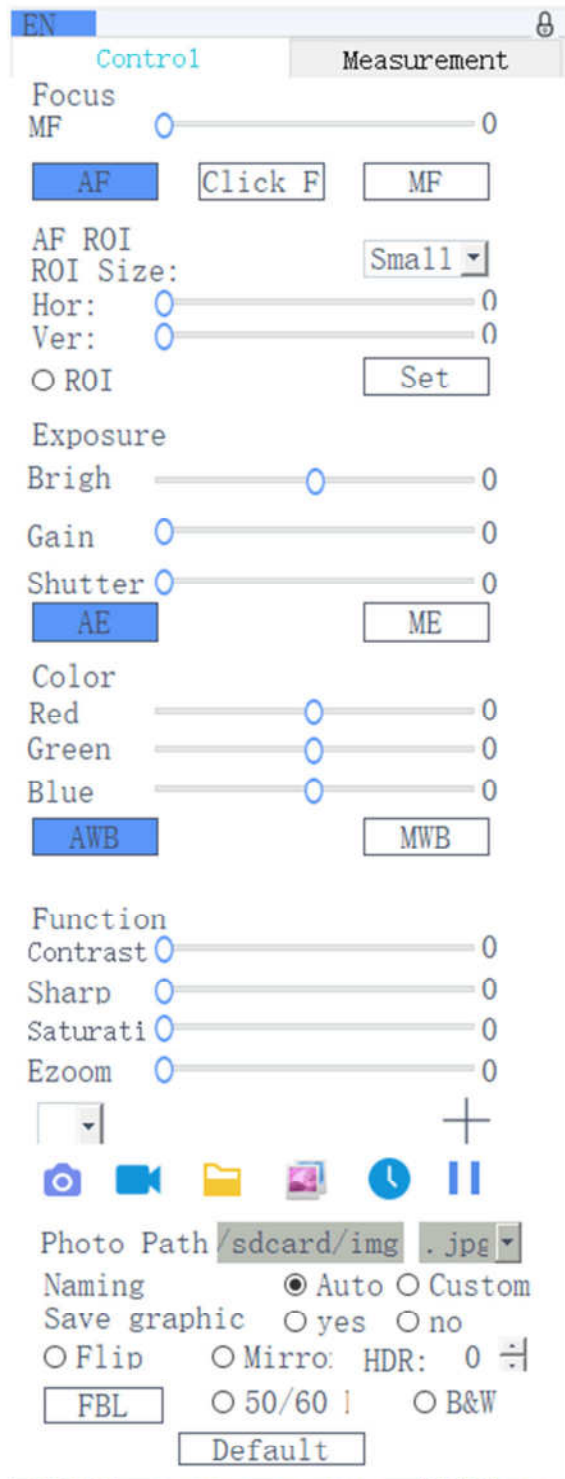
1. Front-end matching: C-mount microscope or C-mount lens
2. Backend matching: With HDMI and support 1080P @ 60Hz or 1080P @ 50Hz display

2 Camera installation instructions

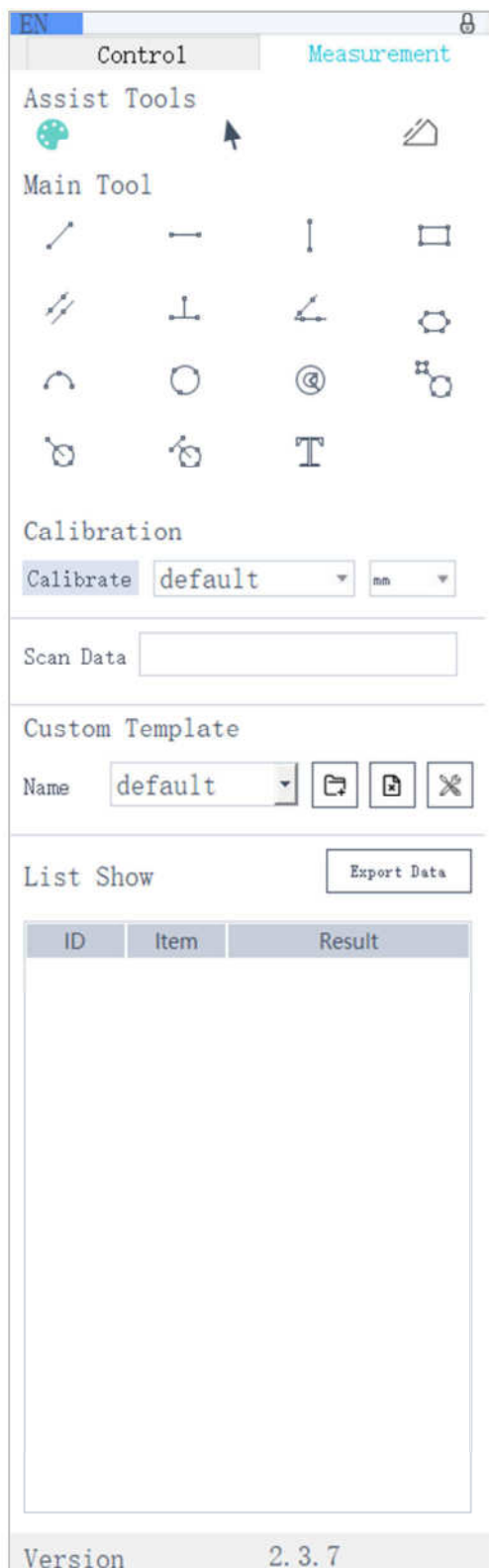
1. Connect industrial to C mount lens
2. Connect the monitor and industrial camera with HDMI cable
3. Connect mouse
4. Please use the power adapter provided by our company to power the camera

3 Menu interface

3.1 Control interface



3.2 Measurement interface



The screenshot shows the Measurement interface of the software. It features a top navigation bar with 'Control' and 'Measurement' tabs. Below this, there are sections for 'Assist Tools' (with a home icon), 'Main Tool' (with various measurement tool icons), 'Calibration' (with a 'Calibrate' button and dropdowns for 'default' and 'mm'), 'Scan Data' (with an input field), 'Custom Template' (with a 'Name' dropdown set to 'default' and icons for save, load, and delete), and 'List Show' (with an 'Export Data' button). At the bottom, a 'Version' section displays '2.3.7'.

ID	Item	Result
----	------	--------

4 Detailed control interface

4.1 Language mode



Click the upper left corner of the menu to select the language mode. Simplified Chinese, English, Traditional, and Japanese are available

4.2 Lock menu

Click the lock icon in the upper right corner of the menu to switch the menu display status



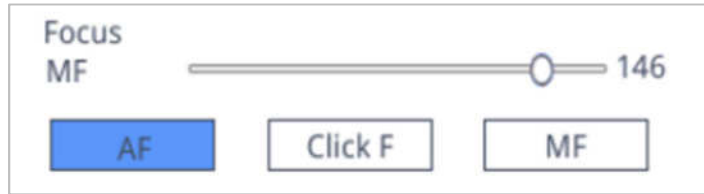
Always show menu when "blocked"



When "Open", move the mouse to the upper left area menu display, move out of the upper left area menu to hide

4.3 Focus mode

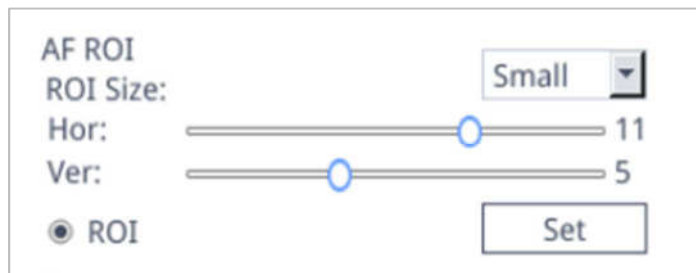
Focus mode: Auto \ One-button \ Manual



Click "AF" , the program judges the image blur to automatically focus again; Click "Click F" , you can achieve an automatic focus by clicking the mouse, and click again to focus on different focal planes. Click "MF" , pull the focus progress bar, and the focus value can be adjusted. In manual mode, place the mouse on the focus progress bar and scroll the mouse wheel to adjust the focus position.

4.4 AF ROI(Auto Focus Region of Interest)

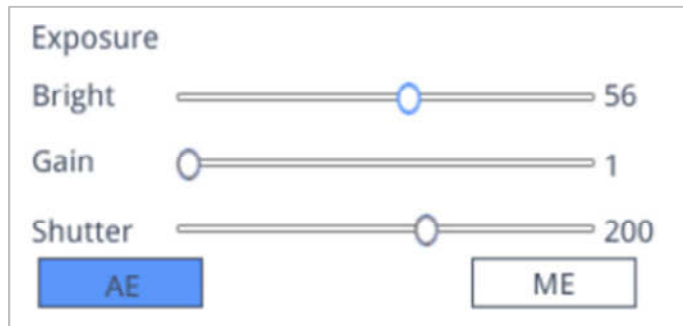
AF ROI: ROI Size \ Focus position \ ROI



After checking the "ROI", the size of the region can be selected; Drag the progress bar to adjust the horizontal or vertical position of the focus frame; ROI: In auto focus mode, click "ROI", the image display area displays the focus frame; After changing the area size or focus position, click "Set" to save setting.

4.5 Exposure

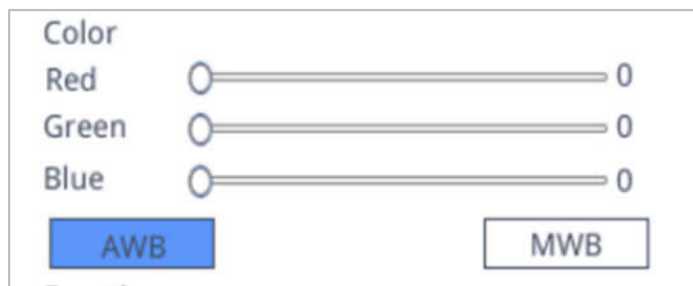
Exposure: Auto \ Manual



When click "AE" , you can drag the "Bright" progress bar to adjust the brightness.; When "ME" is click, the "Gain" progress bar can be pulled to adjust the gain, Pull the "Shutter" progress bar to adjust the shutter; Reset default auto exposure.

4.6 White balance

White Balance: Auto \ Manual



AWB: automatic white balance can be achieved under different color temperatures; MWB: You can pull the "Red Green Blue" progress bar to adjust the "Red Green Blue" color value

4.7 Function

Function: Contrast\Sharp\Saturation\Ezoom



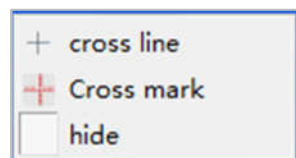
Contrast: 0-15 value adjustable, Reset the default value 0;


Sharp: 0-15 value adjustable, Reset the default value 4;

Saturation: 0-254 value adjustable, Reset the default value 128;

Ezoom: 0-50 value adjustable, Reset the default value 0.

4.8 Crosshair tool

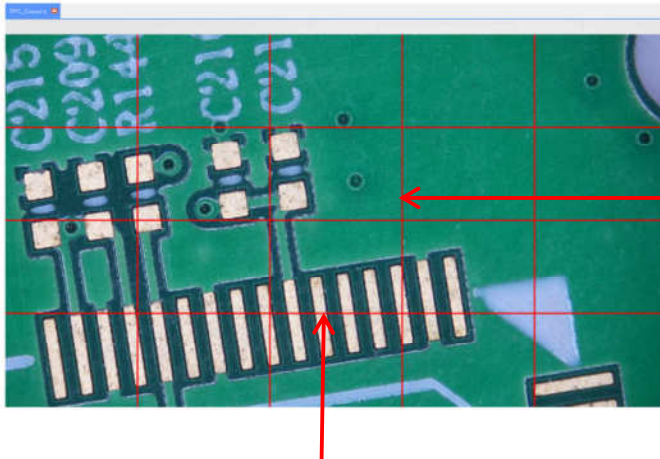


- 1、Click Crosshair tool , Select "cross line", Display crosshairs to set the number of horizontal and vertical lines. After the setting is complete, select "Display" to display the set crosshairs in the image display area, and select "Delete" to not display crosshairs.

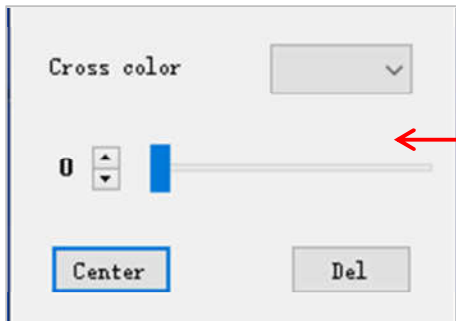


Set the number of horizontal and vertical lines

Display crosshairs:

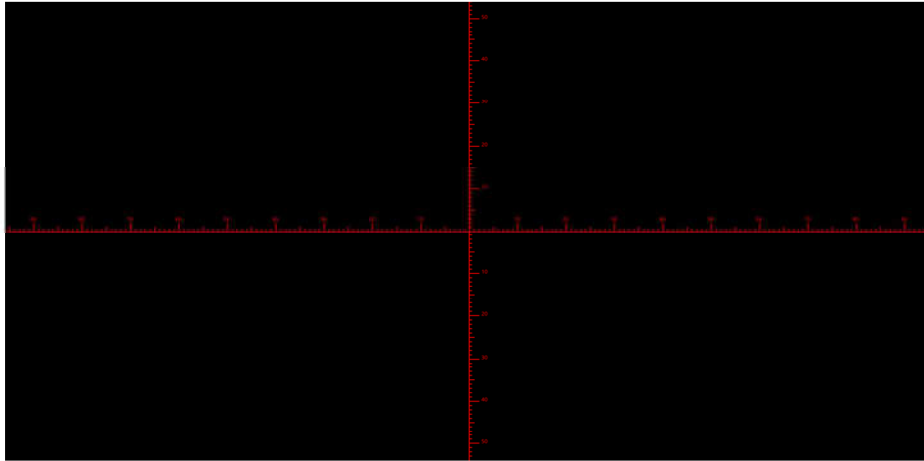



Hold the left button, you can drag the crosshairs. Note: Do not press and hold at the intersection of the horizontal and vertical lines.




Double-click a single crosshair to set its color and position, center and delete

2、Click Crosshair tool , Slect“Cross Mark”, Image area display cross tick marks



3、Click Crosshair tool  , Select“Hide”, All cross lines or cross tick marks will be hidden in the image area.

4、Click on the set crosshair color tool  , Pull down to set the crosshair color. After the color is set, draw the crosshair again to take effect, the color of the crosshair drawn before does not change


4.9 Photograph

4.9.1 Photograph operation

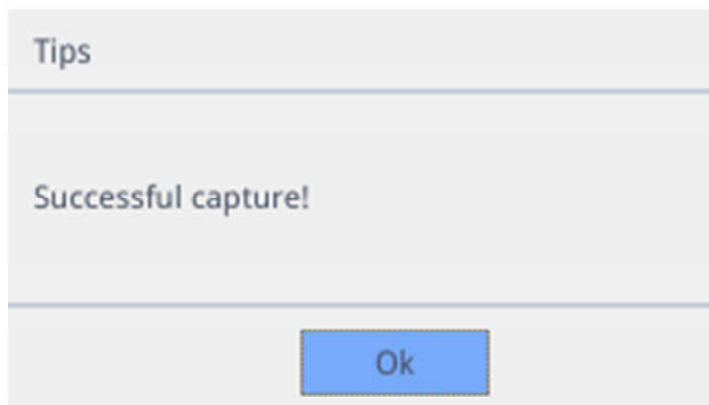
First confirm whether the U disk is inserted successfully



After inserting the USB flash drive for a few seconds, the icon of the successful insertion of the USB flash drive is displayed in the upper right corner of the display. At this time, you can click to take a photo

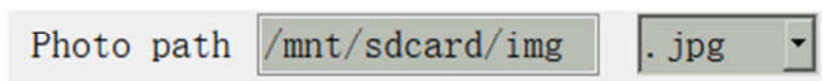
click on the "photo"  icon, After about 3 seconds, it prompts "successful

capture", click "OK" Pictures are automatically saved in a fixed path on the USB flash drive.



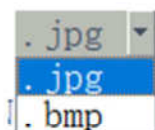
4.9.2 Photo path

The photo save path is the fixed path of the camera, and it is saved in the /mnt /sdcard /img folder of the U disk



4.9.3 Photo format

Click on the photo format drop-down to select the photo format. There are two formats to choose from: .jpg/.bmp.

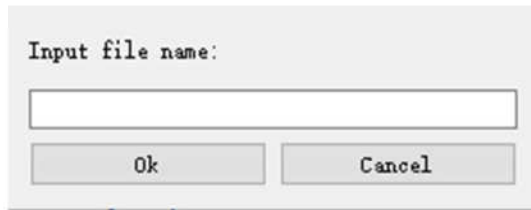


4.9.4 Photo naming rules




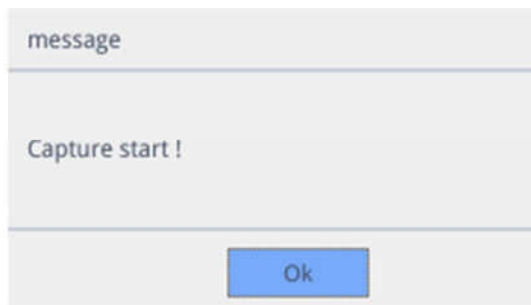
Select "auto" to name the photo according to the time, select "custom" to enter


a name to save.




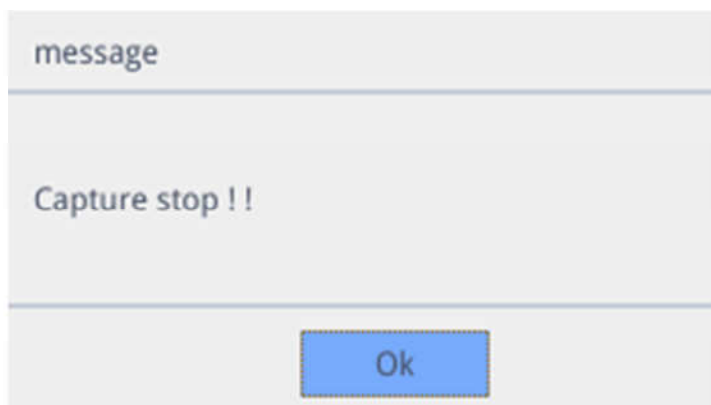
4.10 Recording

Click on "record"  icon, The interface prompts "Capture Start ", click "OK" to start recording;




During recording, the icon in the lower right corner of the screen flashes during recording  ;

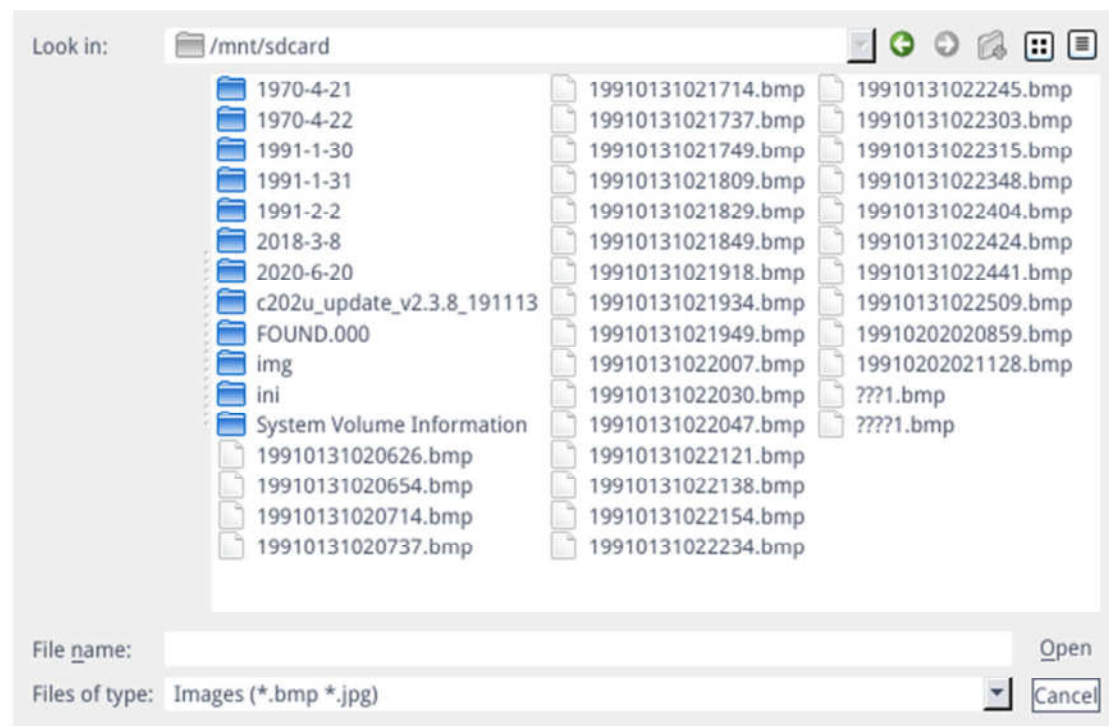
Click on "Record"  icon again, The interface prompts "Capture Stop ", click "OK" to stop recording



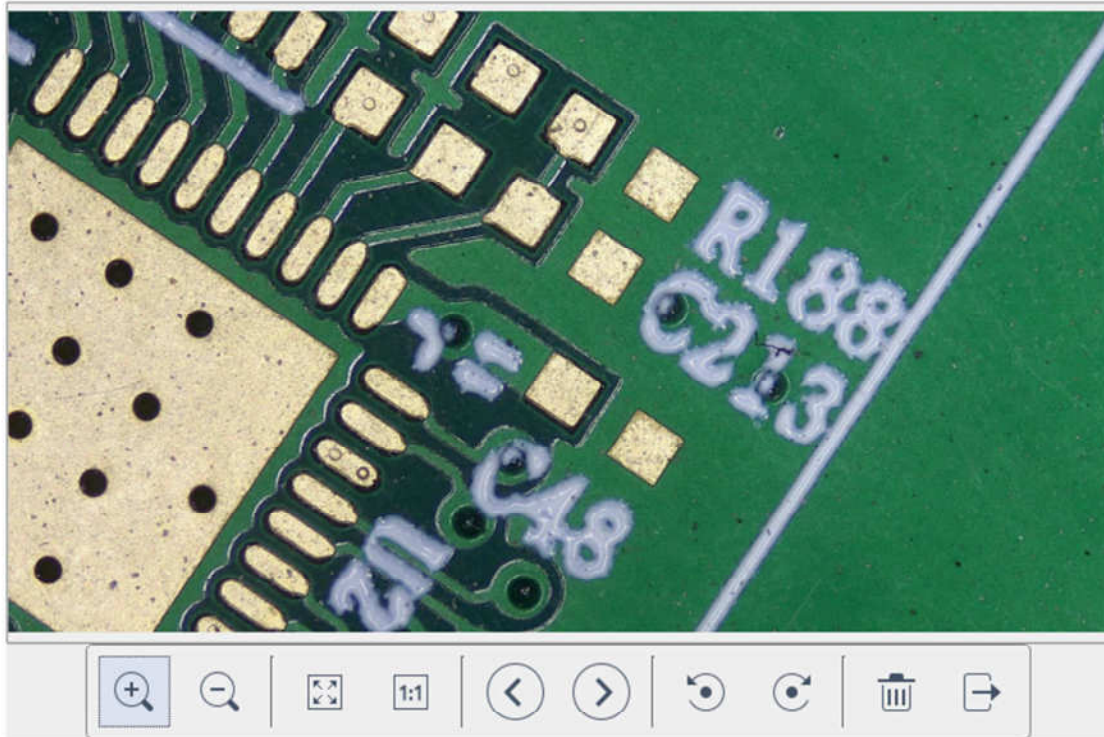
Remark: The recorded videos are named according to the date, and are automatically saved in the U disk with the format of .H264. The maximum length of a single recording is about 2 hours and the size is about 4G. If it exceeds 2 hours, it will automatically stop recording











4.11 Open picture

Click on “open”  icon, The interface pops up to select the picture interface


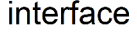


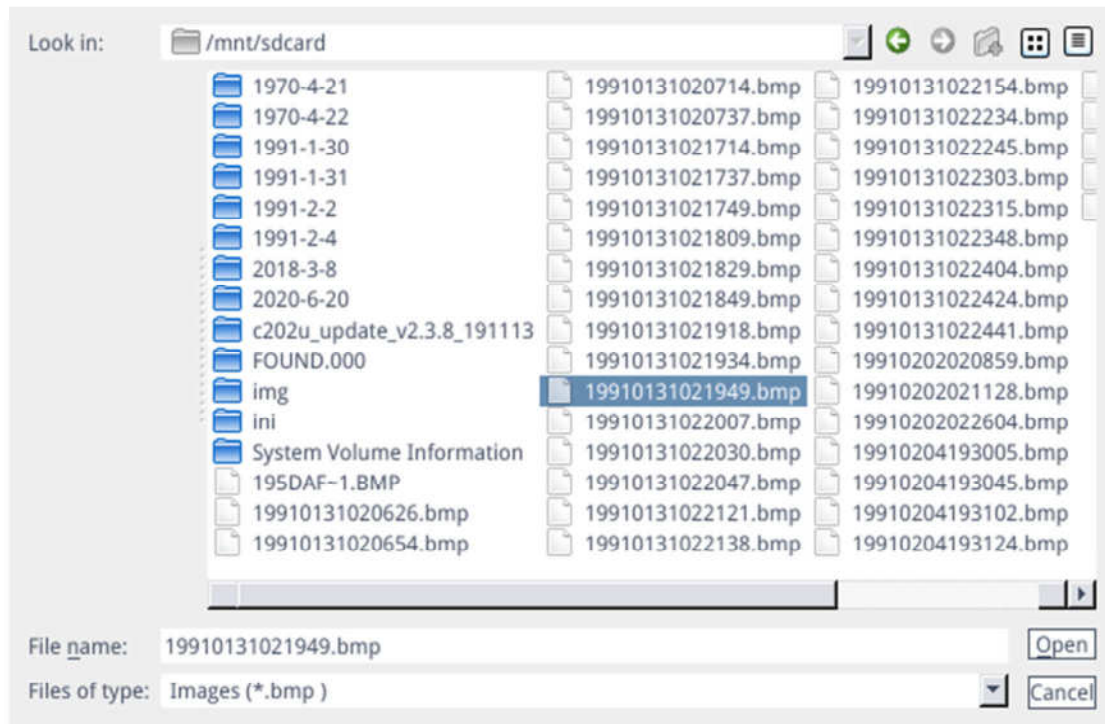
Select the picture you want and pop up the picture interface



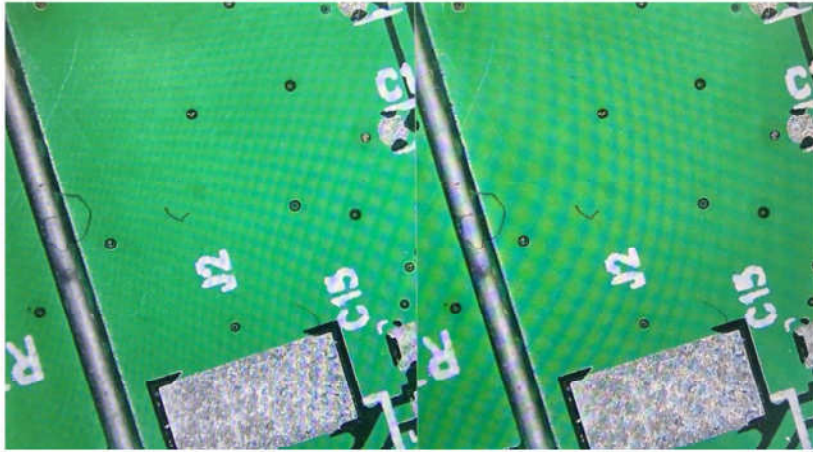
- 1、Click the“ scaling”   tool, Can zoom in and out of pictures
- 2、Click the“Full Screen”  tool, the picture interface displays the entire picture;
- 3、Click“1:1”  tool, The picture interface displays part of the picture. Press and hold the left mouse button to move the picture position,
- 4、Click“Browse”   tool, browse the previous and next pictures;
- 5、Click“Rotate”   tool, Can change the picture direction clockwise or counterclockwise;
- 6、Click“Delete”  tool, Delete current picture;
- 7、Click“Return”  tool, close the current picture interface.

4.12 Compare pictures

Click the “compare picture”  icon, and the interface pops out to select the picture 




Select the picture you want to compare, pop up the comparison picture interface, the left side of the screen is the real-time video interface, and the right side is the selected picture



Realtime picture

Compare picture

Click "compare picture"  icon again, closed Compare picture function

Remark: Compare pictures, only pictures in .bmp format are supported

4.13 Time setting

Click "Time setting"  icon, Pop-up time setting interface

System Settings

Time

1991/1/31 1:12:19

31 Jan 1991

01:12:18




Edit Time

Save Time

Close

Click "Edit Time", you can click the date drop-down box to set the date; select the hour, minute, and second to modify the time. After each time is set, you need to click "Save Time" to save successfully. Click the "Close" to close the time setting interface.

4.14 Freeze

Click "Freeze"  icon, The current image interface can be frozen, and the image window remains static, which makes it easy to observe the measured object; After freezing, The icon become , Click  icon, restore to the real-time display interface.

4.15 Save Graphics

Save graphic yes no

When "Yes" is checked, the upper measurement line is saved in the picture, while "No" is not saved

4.16 Flip/ Mirror

Flip Mirror

Check Flip: the vertical direction of the video on the screen is the opposite of the actual; check Mirror, the horizontal direction of the video on the screen is the opposite of the actual.

4.17 HDR

HDR: 0 

HDR: 0-3 value adjustable, Reset the default value 1.

4.18 FBL

The sensor in the camera moves up and down for 16mm, Click“FBL”



, sensor moves to the middle position.

4.19 Anti-screen flicker

50/60 HZ

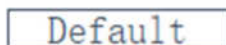
Anti-screen flicker effect is achieved after ticking

4.20 Black and White mode

B&W

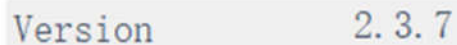
Checked for black and white mode, default is color mode

4.21 Default



Click“Default”to restore various parameters to factory settings.

4.22 VersionNumber



You can view the current software version number.


5 Detailed measurement interface

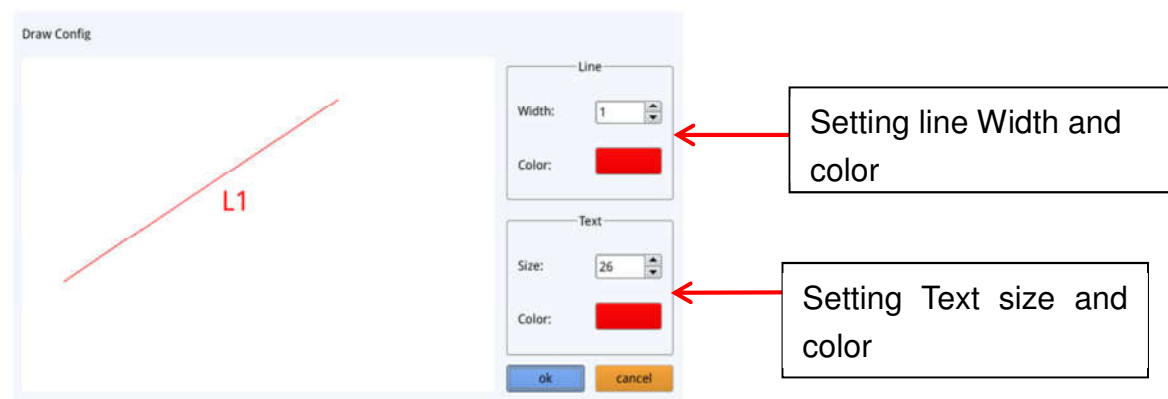
Click Measurement to carry out the measurement operation ; After the

measurement operation is completed, if you want to display the menu, click the right mouse button in the image area and move the mouse to the menu area to display the menu.



5.1 Assist Tool

5.1.1 Color settings



Click "color setting"  icon, Pop-up setting interface



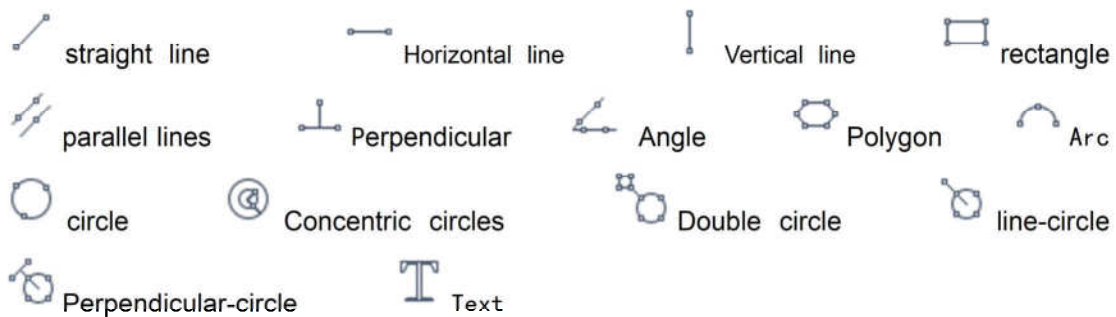
5.1.2 Measurement mode

After operating the measurement, the measurement mode  automatically becomes selected, and the program automatically enters the measurement mode. The focus mode and focus area can no longer be operated. You must click the measurement mode  again with the left mouse button to operate the focus mode and focus area.

5.1.3 Edge Detection

Click "Edge Detection"  icon, When selected, the icon turns blue ,
When measuring a picture, it will automatically find the edge.

5.2 Measurement Tool




5.3 Scan Data

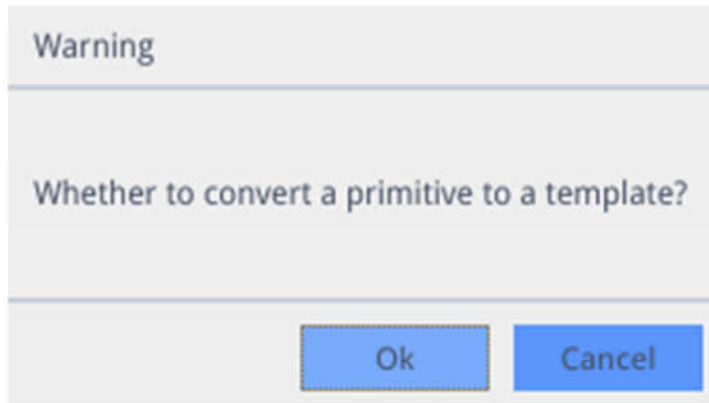
This function requires a scanner. After the scanner scans the barcode, the scanned data box displays the scanned data. A folder named after this data is automatically saved in the USB flash drive, and the picture is saved in this folder.


Scan Data


5.4 Custom template




After drawing the primitives in the image area, Click "New"  icon, and the window "whether Convert primitives to a template" pops up, and click "OK" to

create a new template;



After entering a name in the name window, click "save"  icon to save the template

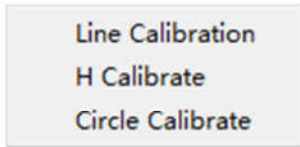
Click "Delete"  icon, Can delete this template;

Click "Edit"  icon to modify the template, click "save"  icon again, Save the modified template, Click "Back"  icon, will not save the modified template.

5.5 Measurement operation

5.5.1 Calibration

1. Click on the calibration tool drop down, Line Calibration, H calibrate or Circle Calibrate can be choose



2. Drag the marking line to align with the engraved line of the scale, input name and length, select the unit, and complete the calibration.

✦ **Delete calibration** : Click the drop-down calibration list, select the calibration group to be deleted, and click the delete icon to delete this group of calibrations.



5.5.2 Measuring

The measurement tool includes a variety of stitch measurements. Depending on the specific application, you can first select the appropriate calibration and

unit.

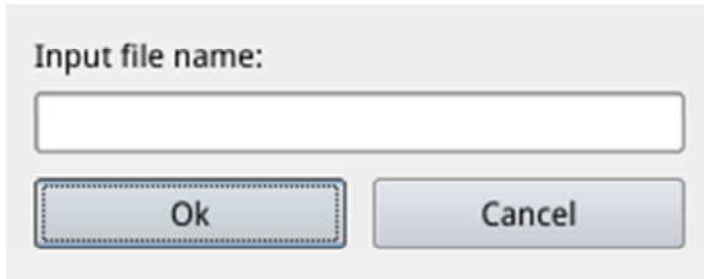
77, 22mm 

Then select the appropriate tool for measurement; when measuring, you only need to click the anchor point of the measurement. After you click and release the mouse, the measurement data is displayed in the measurement data list area.

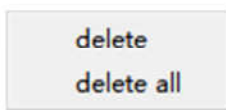
ID	Item	Result
1	Circle	Rad=136.400pixel CLen=857.027pixel Area=58449.156pixel

List of measurement data

After the measurement is completed, you can export the data in the measurement data list. Click “Export Data”, and the data will be automatically saved in the .csv file in the USB flash drive. The user can input the file name.

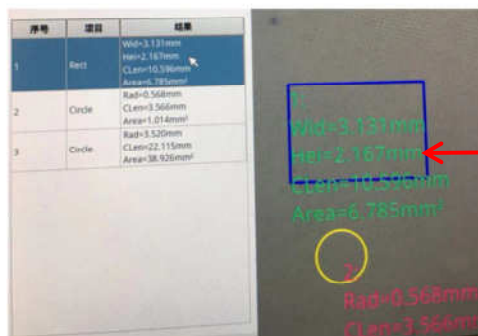


✦ **Delete measurement data:** In the measurement data list, select the data you want to delete, right-click, you will be prompted to delete a group of data, or delete all data, and select according to your needs.



5.5.3 Select measurement data

1、Click the data in the measurement data list with the left mouse button. The selected graph data is displayed in shades of gray. The color of the selected graph in the image display area becomes the reverse of the set color.



When the data in the measurement data list is selected, the image color becomes the inverse color of the set color

5.5.4 Selected graph

Double-click the data in the measurement data list with the left mouse button, and the selected graph data will pop up a dialog box. You can modify the color and line width of the line, and lock the selected graph. The locked graph can no longer be operated.




5.5.5 Detailed data

Double-click the “list Show”  icon with the left mouse button to pop up the detailed data dialog box to view all the current detailed measurement data.

	name	distance	perimeter	area	angle	radian	width	height	radius
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

5.5.6 Mark Tool

Click "Text"  icon, Draw the position to be marked in the image area, enter the comment content in the pop-up window, and click "OK" to complete the marking.

Please enter the comment content: