INSIZE

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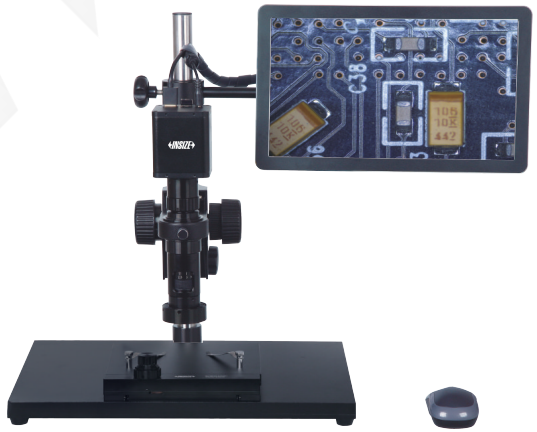


5303-AF103
AUTO FOCUS MEASURING MICROSCOPES (WITH DISPLAY)

V1

INSIZE

Camera matching device

Backend Matching: Supported with HDMI 1080P@60Hz or 1080P@50Hz Monitor.
Can connect computer
Processor: Intel (R) Core (TM) i3-3220 CPU @3.30GHz 3.30GHz and above
Install Memory (RAM): 2.00 Gb and above
Front end matching: C-port microscope or C-port lens
Connect mouse
Please use the DC5V power supply provided by our company to power the product

SPECIFICATION

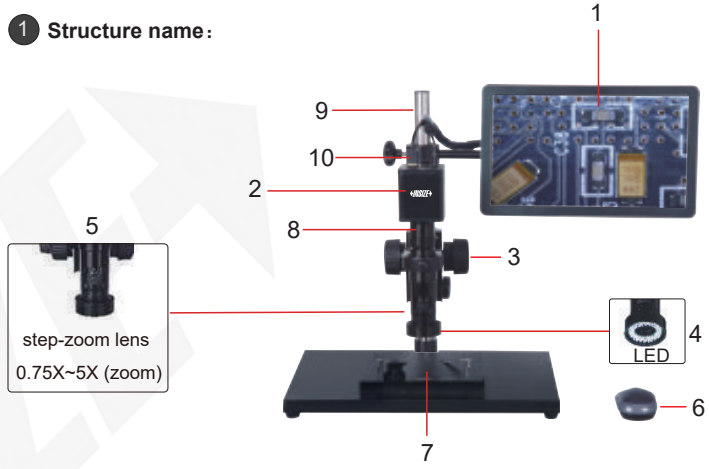
Magnification	20X~123X
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920x1080
Frame	60fps
Output port	HDMI
Power supply	Power adapte
Dimension(Height)	480mm
Weight	5.6kg

Magnification、Focus and view field

Auxiliary Objective	Specification	camera adapter	
		0. 5X(included)	1X(optional)
1X (included)	Magnification	20~123X	40~246X
	Focus	48~84mm	48~84mm
	View field	13×7~2.2×1mm	6.5×3.5~1.1×0.5mm
2X (optional)	Magnification	40~246X	80~492X
	Focus	24~42mm	24~42mm
	View field	6.5×3.5~1.1×0.5mm	3.3×1.8~0.6×0.3mm

Structure introduction

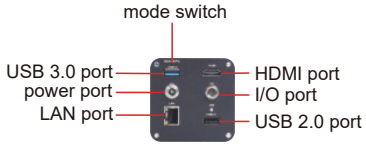
1 Structure name：



5303-AF103

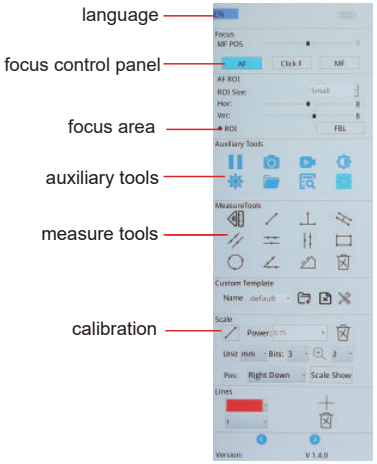
1. High-definitionscreen: 13.3" LCD
2. Camare: 1/2.8" CMOS sensor, Pixel: 2M
3. Fine focus knob
4. LED
5. Zoom lens: 0. 75-5X
6. Mouse
7.X-Y metal stage
8.Camera lens interface
9.Bracket (Included)
10.HDMI port.

❷ Camera structure：



◆ Mode switch: ON is HDMI mode, OFF is PC mode

❸ Software for LCD(INCLUDED)



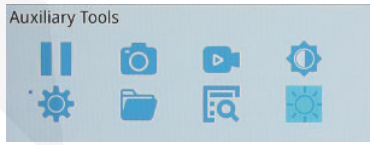
◆ U Disk Recognition: When a U disk is inserted, the U disk indicator light in the upper right corner of the software will turn on. Ensure the U disk format is FAT32/NTFS.

Users can set the U disk to FAT32/NTFS file format by formatting it

◆ Language Settings: Chinese / Russian / English / Traditional Chinese

◆ Focus Modes: Auto Focus, One-Click Focus, and Manual Focus
auto focus: focuses on the entire scene. the camera performs focusing on the whole frame.
one-click focus: check the focus frame to focus on a selected area.
manual focus: click to center the motor, then manually adjust the focusing handwheel to focus on a specific position.

◆ Auxiliary tools



1.Freeze:click the ❚❚ to freeze the currnt image interface,the image windows is static and unchanged to observe the measured object, click ❚❚ the icon becomes ▷ click ▷ again to return the real-time display interface
2.Taking a photo: click the icon capture the current interface. the photo-taking method is in
3.Recording: click the icon start recording, then click the icon again to stop recording.
4. White Balance: click the icon place a sheet of A4 white paper or a pure white target on the stage, then click (the icon) to complete the setup.

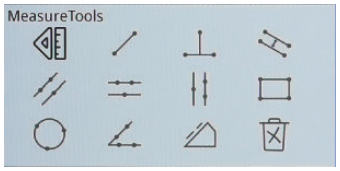
5.Settings: click the icon
photo settings: set two naming methods: manual naming and automatic naming.
video settings: set two naming methods: manual naming and automatic naming.
camera settings: camera parameters can be set
Red Gain: 1-4095 Green Gain: 1-4095 Blue Gain: 1-4095
Saturation: 0-255 Contrast: 0-100 Sharpness: 0-15
Gamma Value: 1-170
Anti-Glare: 0-255
White Balance (AWB): One-Touch White Balance / Manual
Automatic Exposure (AE): Auto / Manual
Mirror: On / Off
Flip: On / Off
Black and White: On / Off
Purple Fringe Reduction: On / Off
50/60Hz: On / Off

6.Document

open the images, videos, and data saved by the camera. you can copy, cut, delete, and rename the saved images and videos. you can view the name and size of the saved data; the actual data can be opened and viewed on a PC.

7.Data the data list

◆ Measurement Tools: include a variety of measurement tools, with functions such as line, point-line perpendicularity, parallel lines, three-point parallel lines, four-point rectangle, three-point circle, and angle.



Measurement Mode: click this function to disable the focus mode; click again to unlock it.

Auto Edge Detection: click this function, and the system will automatically capture the boundary.

◆ Custom Template:

1.use the measurement function to capture primitives

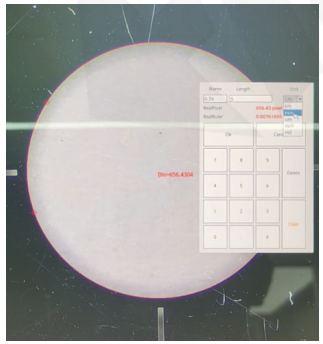
2.Click the interface pops up a window asking "convert primitives to template?", and clicking "OK" will create a new template. a new interface will then appear, with a "Name" field to name the template, along with icon options including "save as", "save primitives", and "cancel".

3. Delete and modify custom templates.

◆ Calibration:

select either circle calibration or H-type calibration take circle calibration as an example: select circle calibration, then select the circles on the calibration plate and draw the circles. next, enter the relevant information:current magnification (e.g., the current lens magnification is 0.75X);

actual diameter value, with the unit: mm. calibrate each magnification in sequence. after the calibration is completed, select the corresponding magnification file under the current magnification.

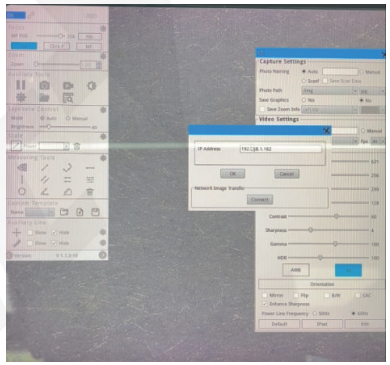


4 Introduction to computer software functions (included)

4-1.Introduction to computer measurement software：

◆ connect to PC

network connection: set the camera-side IP address. for example, set the network segment to: 192.168.1.182, then set the PC-side IP address to: 192.168.1.183



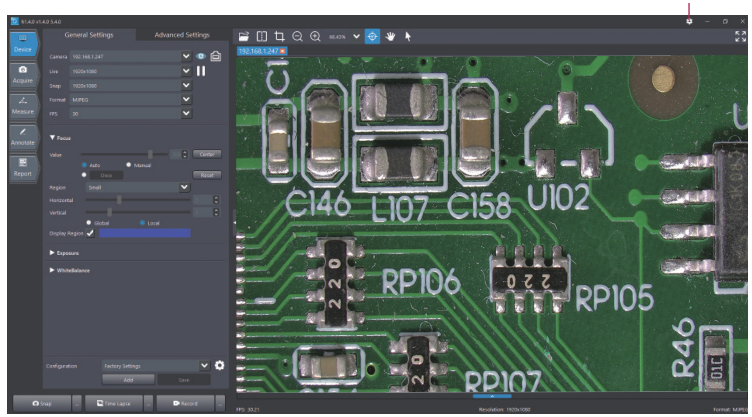
USB connection:

use a USB 3.0 cable. connect one end to the camera and the other end to the USB 3.0 port on the PC.

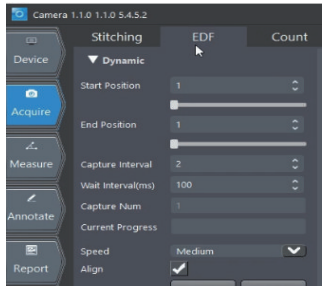
at the same time, switch the mode switch from HDMI back to PC.

click software is shown in the figure below

settings



- ◆ click "settings"to set language
- ◆ focus modes: auto focus, manual focus, one-click focus, area focus
- ◆ the total vertical movement range of the sensor in the camera is 16 mm. click "center" and the sensor will move to the middle position.
- ◆ click "Acquire", select the EDF tool, and click on different focal planes in the image display area respectively with the mouse.

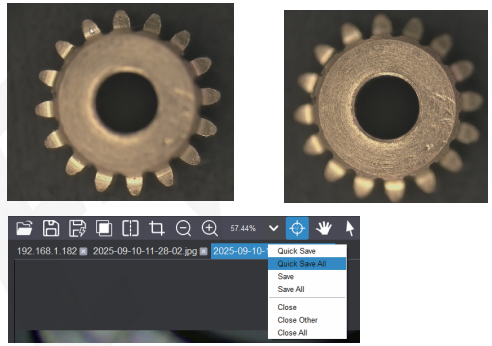


1. automatically generate
   Note: change the focus mode to manual focus.
   set the starting position until the initial position is clear; you can adjust it by scrolling the mouse wheel slightly.

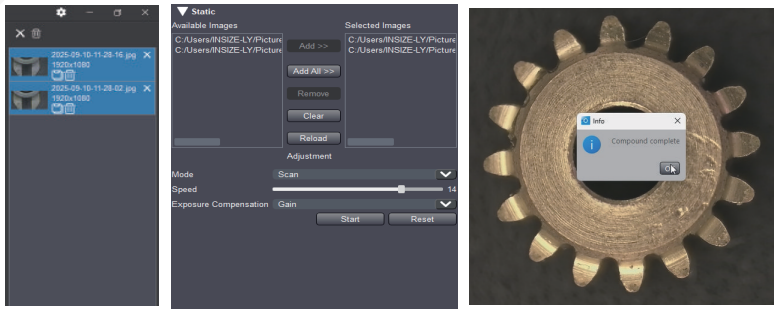
   set the end position until the end position is clear; slight adjustments can be made by scrolling the mouse wheel.

   click "Start" for automatic synthesis; the generated image can be saved.

2. Image Synthesis
   Note: change the focus mode to Auto Focus (AF), and use Area Focus.
   focus on the initial position and the end position respectively, and save the images.

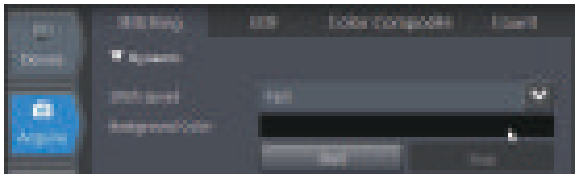


   move the images to the synthesis area, click "Add All", and then click "Start" to complete the synthesis.



- ◆ click "Acquire", select the Stitching tool: After achieving clear focus, switch to Manual Focus (MF).
  set both white balance and exposure to manual exposure mode, then adjust the light source properly.
  click "Start", adjust the stitching speed: the moving speed should be kept constant, and the direction of image movement should be kept basically horizontal and vertical click "Stop" to complete the image stitching.

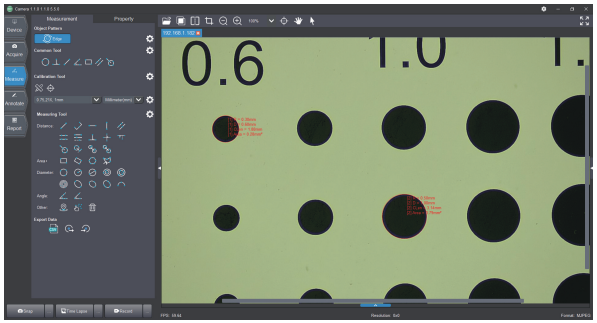
1. Automatically Generate



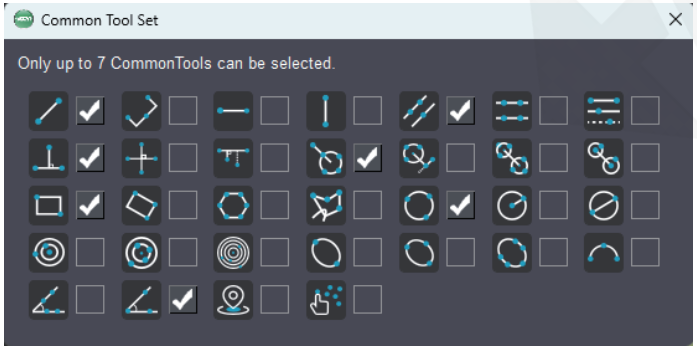
2.Image Stitching

the method is the same as EDF synthesis: take photos of different positions of the workpiece, move them to the image stitching area, click "Add All", and then click "Start" to complete the stitching.

◆ Measure

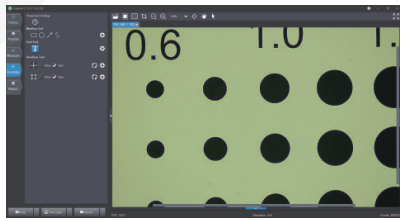


1. Object Mode: smart edge - finding, automatic edge - snapping
2. Common Tools: basic measuring tools, which can be added by clicking the "Settings" button.

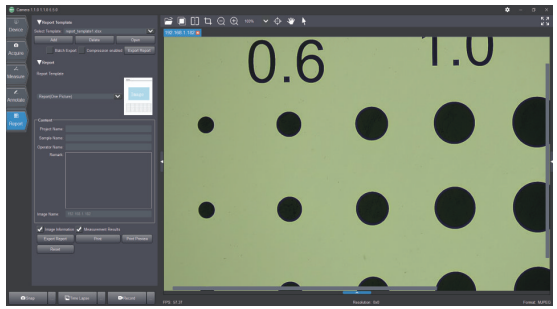


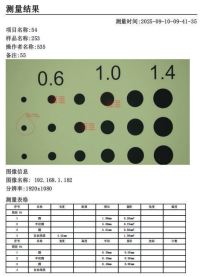
3. Calibration:the same as the camera software calibration
4. Measure tools: measurement data can be categorized (or: classified) as needed, and can be exported in CSV format.

◆ Annotate: watermark setting, marking tool, test tool, auxiliary tool



◆ Report: fill in the relevant content according to the report template, and the report can be exported.

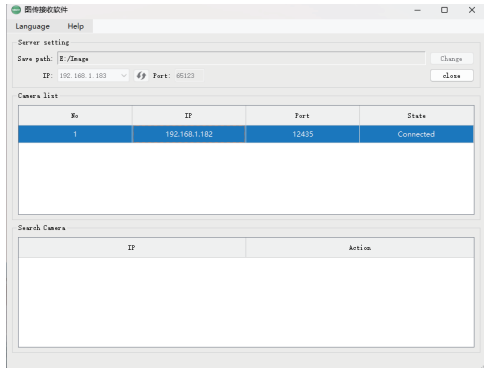




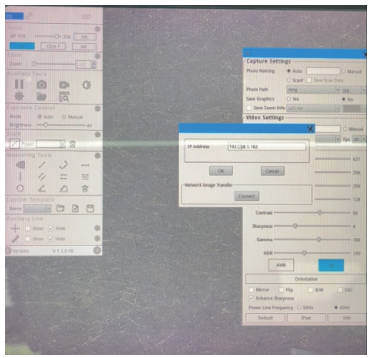
◆ photo shooting, continuous shooting, and video recording functions

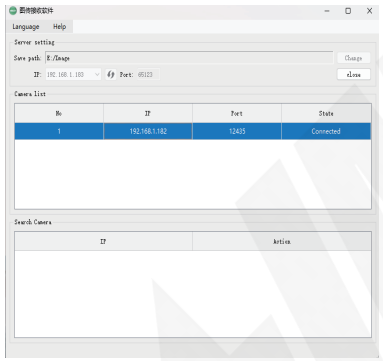
4-2. Image Transmission Software: click

1. set the photo transmission path properly, select the IP address of the computer , and click "Start"

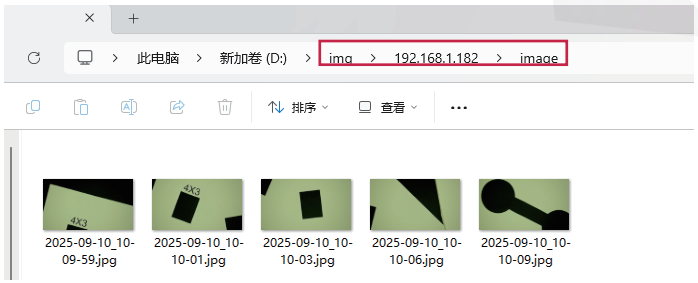


2.open the camera software, click "Settings", then select "IP Settings". check the computer IP address (192.168.1.183), and click " Connection".





3.on the camera software, click "snap", then open the save path folder (named after the IP address).open the "image" folder and check the image transmission files.



Attention

- To avoid danger or damage incurred to the lens, do not touch the lens or sensor directly with your fingers.
- To avoid failure or electric shock hazard and so on, do not disassemble or modify the internal structure of the device.
- Do not plug in or unplug the anything port when hands are wet.
- If the lens or sensor is dirty or damp, you should better use dry and non-linen fabric or professional lens tissue to wipe them. To avoid scratches on the surface, do not touch the lens with your fingers. Wipe the lens or sensor lightly.
- The products are not specifically designed for an outdoor use. Do not expose it to outdoor environment without any protection. Excessive temperature and humidity will damage the lens. Please avoid using the product under the following environment: high temperature or high humidity environment, places with direct sunlight, dirt or vibration and places near heat source.
- Please use and store in the following environment:
  Operating temperature: 0°C~ 40°C
  Storage temperature: -20°C~ 60°C
  Operating Humidity: 30~80% RH
  Storage Humidity: 10~60%RH
- If any foreign matter, water or liquid enter into the device by accident, disconnect the power cable immediately. Please send it to the maintenance center and do not use the hair dryer to dry it by yourself.
- To avoid electric shock by accident, please power o ffmicroscope before you move your computer or laptop.
- The cleanliness of the device lens will directly affect clarity degree of contents from the computer screen during preview. Problems like various circles or spots on the screen may mostly be incurred by dirt on the lens. When cleaning, please use professional lens tissue or other professional detergent to clear the dirt on the lens.
- Please do the confocal adjustment after changing camera adapter or auxiliary objective