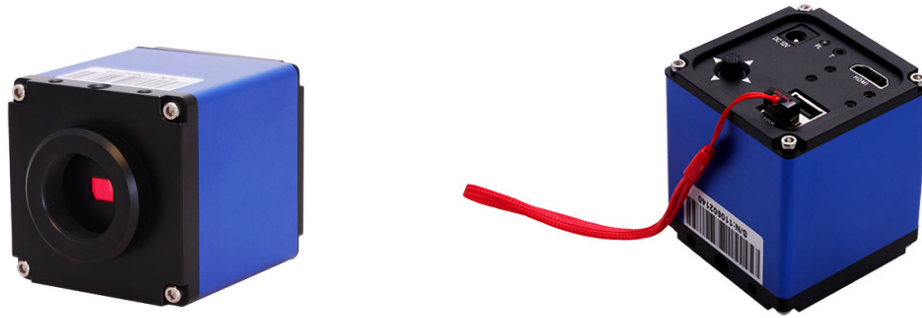




26100-254 HDMI 1080P Color Camera with Built in Measurement Software



Package Contents:

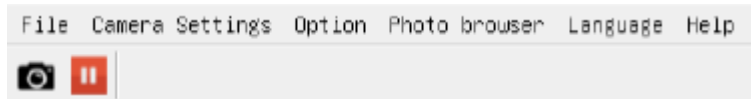
1. HDMI Cable for connecting the camera to an LCD monitor with an HDMI input.
2. 12 V DC power supply
3. Wireless USB Mouse
4. Calibration Scale
5. Remote Switch
6. 8 GB USB Flash Drive

Camera Setup

1. Unscrew the protective cap from the camera and screw camera onto the lens with a C-mount or microscope with a trinocular port with a C-mount. In some cases when using a microscope system an adapter with a C-mount may be required.
2. Connect the camera to an LCD monitor with an HDMI input using the cable provided. We recommend using a display with a resolution of 1080p and above 21.5" in size.
3. Insert the wireless mouse USB receiver.
4. Connect the Remote switch if required
5. Connect the power supply
6. Turn on the LCD monitor and ensure that the input mode is HDMI. You should see an image on the screen. Focus if necessary.

Setting up the Software for Measurement

1. Click on File in top left hand corner



Save As Menu will appear:

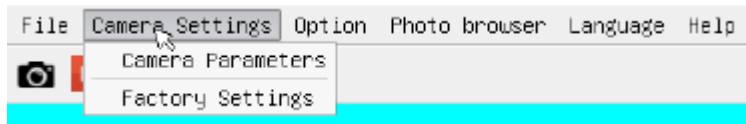


In this menu you have the following options:-

- A. Default file name prefix is IMG. You can change this if necessary
- B. Change image format from bmp to jpg
- C. Save images with data or without data

Make the necessary changes and click OK

2. Next Click on Camera Settings and select Camera Parameters:



In this menu you have the options to change:

- A. Luminance
- B. Contrast
- C. RGB Values
- D. High Dynamic Range
- E. SE value, suggested default is 1. Increasing this value will increase sharpness of the image
- F. Auto Exposure
- G. Auto Exposure and Auto White Balance

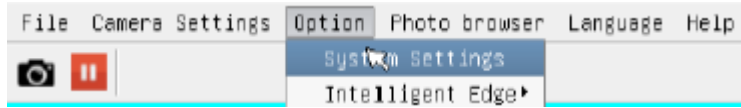
To white balance the camera place a white sheet of paper under your lens and click on AWB. Camera is now white balanced. Click OK

Auto Exposure (AE) will enable the camera to automatically correct based on lighting conditions. Click OK after selecting AE

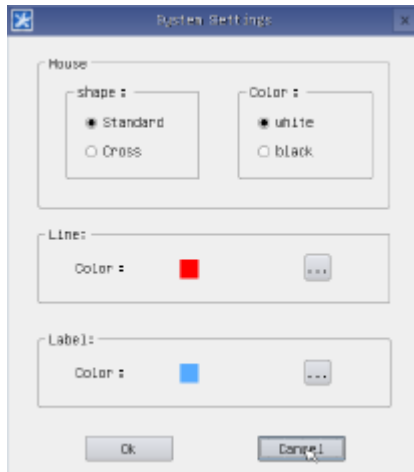
3. Factory Settings

For returning back to default factory settings

4. System Settings

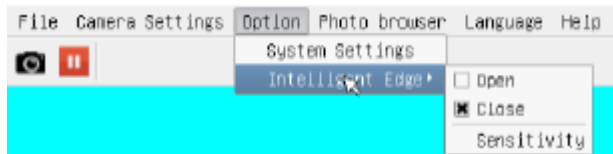


This menu allows you to select the following options:



- A. Type of mouse pointer, standard arrow or Cross Hair
- B. Color of mouse pointer, black or white
- C. Line color
- D. Text color

5. Edge Detection (Intelligent Edge Finder)



Software has an intelligent edge detection tool built in for finding boundaries of objects within images. It works by detecting the discontinuities in brightness.

- A. Click on open to select edge detection
- B. Click on close to stop edge detection
- C. You can select the sensitivity of the tool. Increasing the sensitivity will allow software to be more sensitive to pixel contrast.

We recommend that for accurate measurement that the edge detection tool be turned on

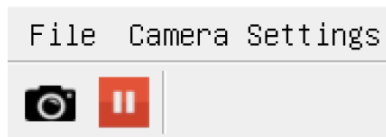
6. Photo Browser

Clicking on the photo browser will open a box with images saved on the USB flash drive, if any. Double clicking on the image will expand the image to full screen.

7. Language

Choose between English or Chinese

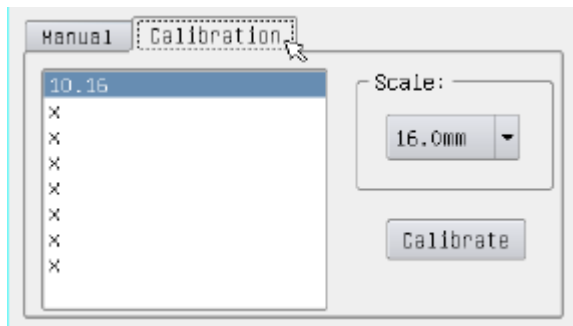
8. Camera & Freeze Button



Click on the camera button to save images to the USB flash drive. You can also use the remote switch to capture images

Click on the red button to freeze the image. We recommend that you freeze the image for accurate measurement.

Calibrating the software for measurement



1. Click on the calibration tab
2. Place the calibration scale under the lens and bring into focus so that the edges of the circles are sharp.
3. Select the size of circle you are using for calibration, e.g. 5mm
4. Click on Calibrate, a warning message will appear, stating all data will be deleted. Click Yes
5. Select three points on the circle edge of the circle, roughly equidistance apart. As you select look at the magnifying window, the cross hair will turn to red once the edge of the circle has been detected. Select 3 points and the software will draw a line around the edge. The line will match the circumference of the circle, if not repeat.
6. Double click on the x, beneath the calibration tab and name your calibration e.g. Cal1, or 5MM, Set 1

You have now successfully calibrated your lens or microscope system.

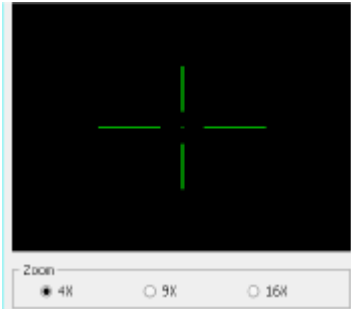
To ensure that your calibration is correct, click on the manual tab, select the circle tool. Select the circle on the scale you would like to measure, and repeat step 5

Recommendation for accurate measurement

We recommend that you use a detented lens system or a microscope with click stops for accurate repeatable measurements.

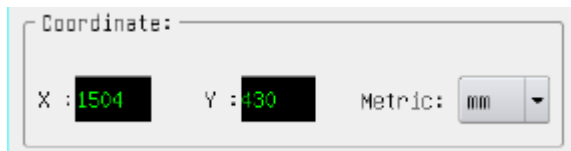
Software Features

1. Magnifying Window



In this window the software will digitally magnify the area you are observing, ie around the mouse pointer by 4x, 9x and 16x. This is particularly helpful when you need to see minute features or for edge detection. Cross hair will turn red when an edge has been detected.

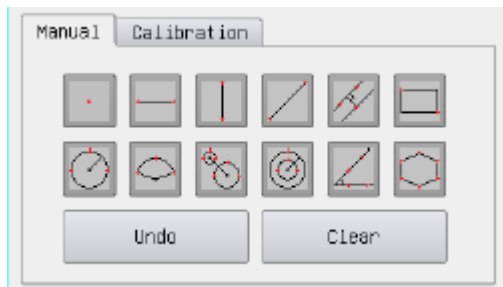
2. XY coordinates



This window will give you the XY coordinates of the mouse pointer.

You can also select the following units for measurement, namely mm, uM, inches and mil

3. Manual Tab



Use this tool XY coordinate data



Horizontal line measurement tool for horizontal distance between two points. It simply computes the horizontal distance between two points



Vertical line measurement tool, same as the horizontal distance tool, but will compute vertical distance between two points



Line measurement tool. Mark 2 points, system will draw a straight line and report distance data



Parallel line measurement tool. Select two points to draw a straight line, and then select the third point. System will draw a parallel line to the first line and will report the distance between the two parallel lines.



Select two point to measure a rectangle's length and perimeter



Select 3 points to measure a circle's radius, diameter and area



Select 3 points to draw a circle, then select another 3 points to draw another circle, the system will automatically connect the two center points and display the distance between the two centers



Select 3 points to draw an arc and measure the arc in degrees



Select 3 points to draw the first circle, another 3 points to draw another circle and the system will automatically provide the distance from the center



Select four points to draw two lines. Degrees will be displayed for the inside angle, as well as the outside supplementary angle



Select up to 10 points to measure a polygon's perimeter. Click the right mouse button to draw the last point. System will automatically connect all the points from the first to the last (max 10) to form a closed polygon.

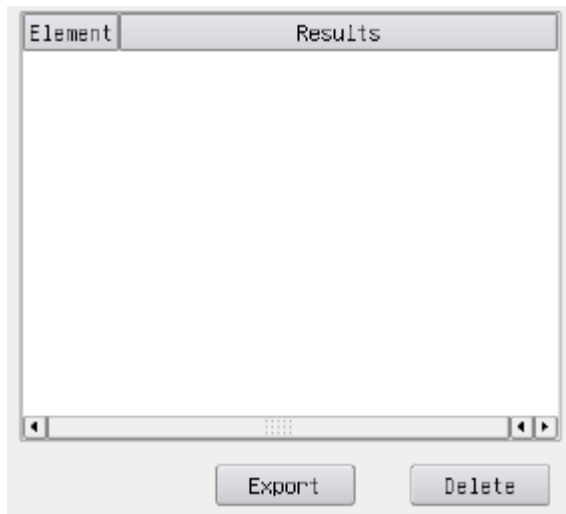


Click the undo button to delete the last operation



Click the "Clear" button to clear all data from the screen

Measurement Results



All measurement data will be displayed in the above box. Clicking on the export button will save the data to the USB flash drive.

Clicking on the delete button will clear the data.

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