

高清数字视频显微镜 HD DIGITAL VIDEO MICROSCOPE



K-300DP

用户手册
USER'S MANUAL

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1.产品用途

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这是一款全新设计的独家数字视频显微镜。其功能包括摄像机绘图、视频显示、图形测量、视频记录、，它不仅适用于手机维修，也适用于珠宝焊接和更精密的焊接工作。10-74倍的放大细节将以1080高清分辨率显示在11.6英寸屏幕上。该显微镜的图形测量功能将帮助您解决更多问题。

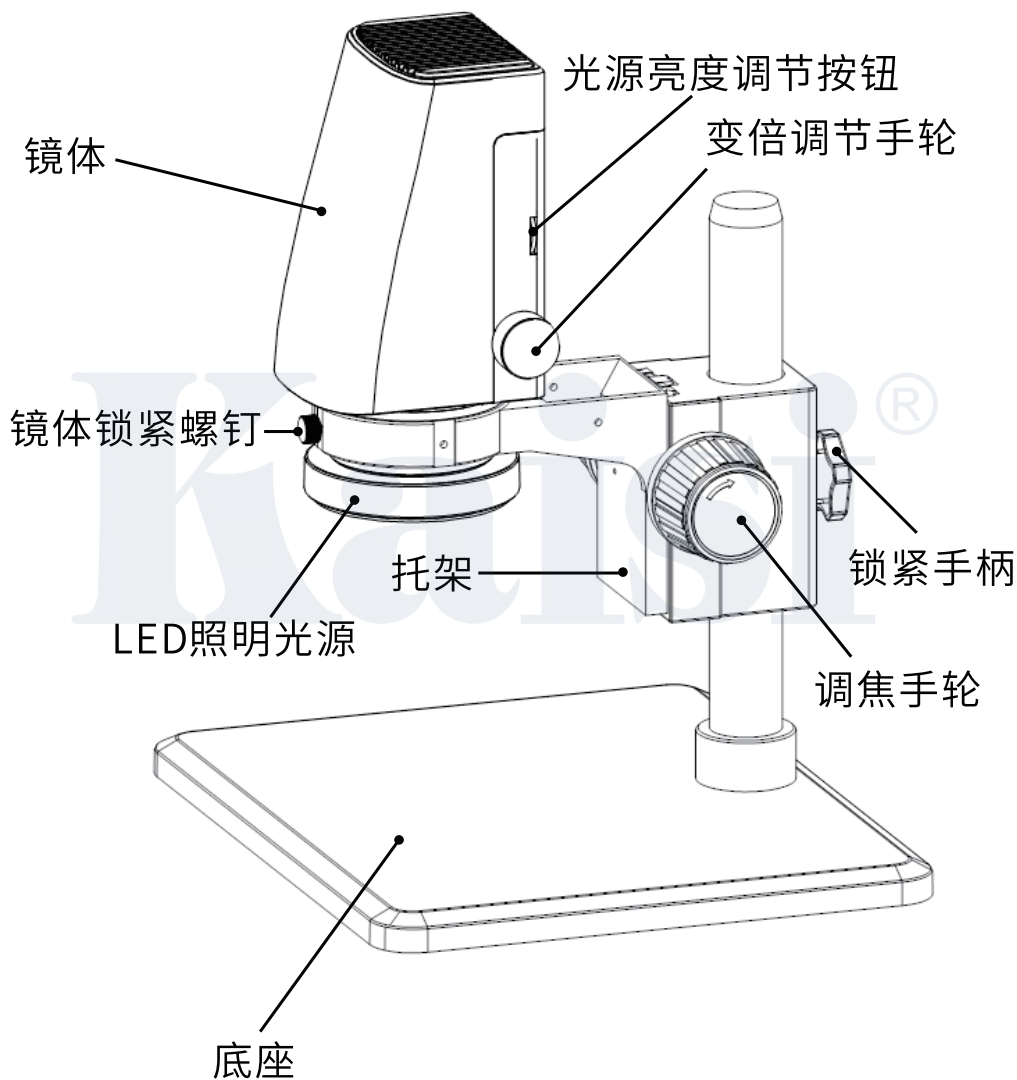
K-300DP是一种智能数字显微镜。由于配件众多，它可以在许多领域使用。除其他外，它在以下领域也很有用：工业、生命科学、矿物学、昆虫谷仓、植物学、犯罪实验室、教育等。由于它的简单性，它的使用很容易学习。

2.性能

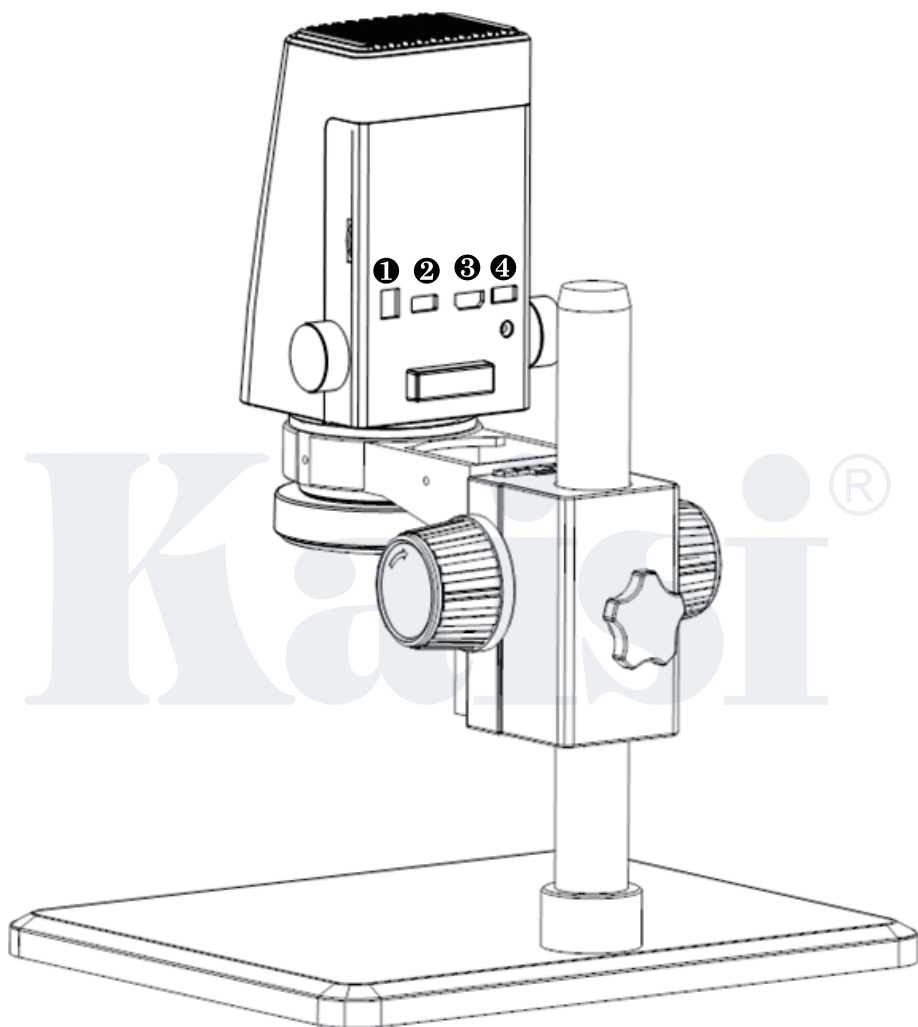
- 1、人机工程学设计，减轻操作人员的工作压力感，屏幕正前方40cm放置，角度可调节，更是简约化无线鼠标操作。
- 2、产线简便化设计，CCD，LCD显示屏，LED照明，一体式内置设计。
- 3、更清晰的光学观察效果，高清显示，分辨率达到1080P。
- 4、强大的软件操作，可以测量，存储，拍照，比对。
- 5、放大倍数：标准配置为0.28X---2X。

3.各部件名称

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K-300DP



① 电源适配器接口

③ HDMI高清线接口

② USB鼠标U盘接口

④ USB鼠标U盘接口

4.相机匹配装置

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后端匹配：

带HDMI可支持1080P@60Hz或1080P@50Hz显示器。

5.相机安装说明

- 1、用 HDMI 线完成显示器与相机的连接。
- 2、连接鼠标。
- 3、请使用本公司提供的电源为相机供电。

6.菜单界面

(1)控制界面

(2)测量界面

控制

曝光模式

亮度

增益

快门

自动曝光

手动曝光

白平衡

红

绿

蓝

自动白平衡

手动白平衡

功能

对比度

锐度

饱和度

电子放大

拍照路径

命名规则

保存图元

倒置

翻转

宽动态

50/60

黑白

重置

版本号

2.3.7

测量

辅助工具

测量工具

标定

标定

default

mm

扫描数据

自定义模板

名字

default

显示列表

导出数据

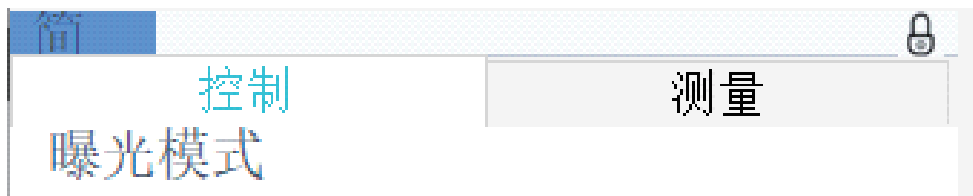
序号	项目	结果
----	----	----

7.控制界面详解

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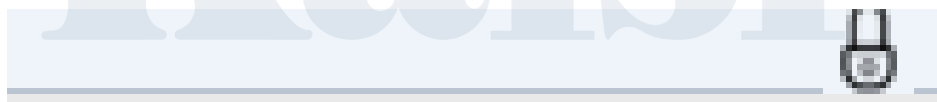
(7.1) 语言模式

鼠标点击菜单左上角可选择语言模式,有简体中文、英文、繁体、日文和俄语可供选择。

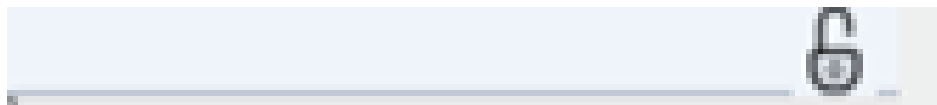


(7.2) 锁定菜单

鼠标点击菜单右上角的锁图标可切换菜单显示状态



“封锁”时为菜单一直显示



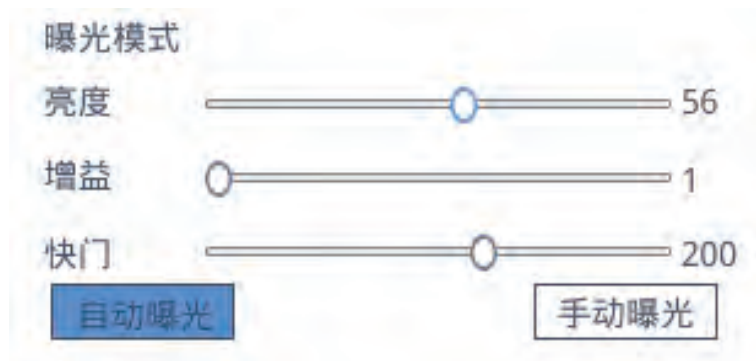
“打开”时鼠标移至左上区域菜单显示

移出左上区域菜单隐藏

(7.3) 曝光模式

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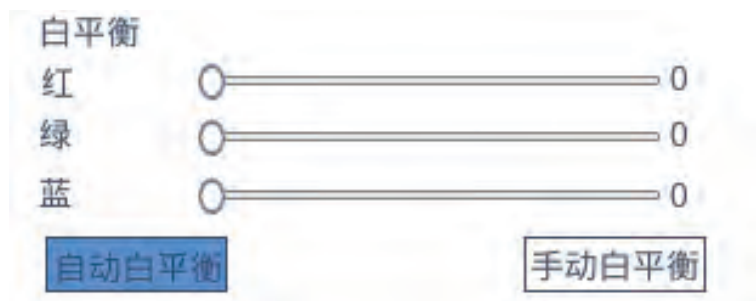
曝光模式:自动\手动



勾选“自动”曝光时,可拉动“亮度”进度条,调节亮度;勾选“手动”曝光时,可拉动“增益”进度条,调节增益,可拉动“快门”进度条,调节快门;重置默认自动曝光。

(7.4) 白平衡

白平衡:自动\手动



自动白平衡:在不同色温条件下实现自动白平衡;手动白平衡:可拉动“红绿蓝”进度条,调节“红绿蓝”色值。

(7.5) 功能

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功能:对比度\锐度\饱和度\电子放大



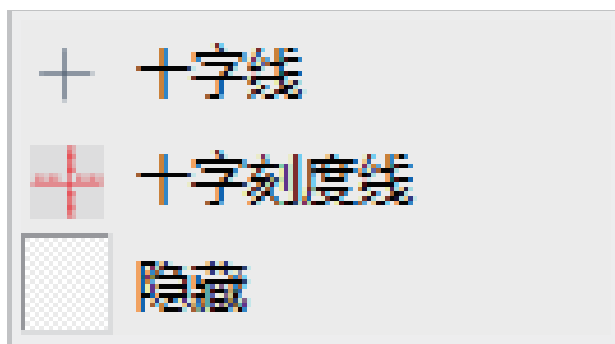
对比度:0-15 数值可调节,重置默认数值 0;

锐度:0-15 可调节,重置默认数值 4;

饱和度:0-254 数值可调节,重置默认数值 128;

电子放大:1-6 可调节,重置默认数值 1.0;

(7.6) 十字线工具

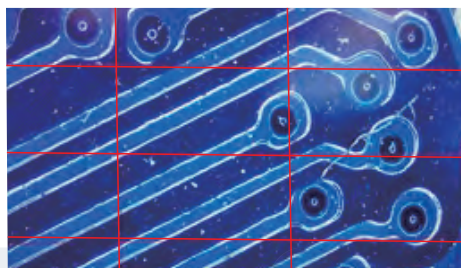


- 1、点击十字线工具 **+**, 选择“十字线”, 显示十字线设置横纵线数量, 设置完成后, 选择“显示”则图像显示区显示所设置十字线, 选择“删除”则不显示十字线。

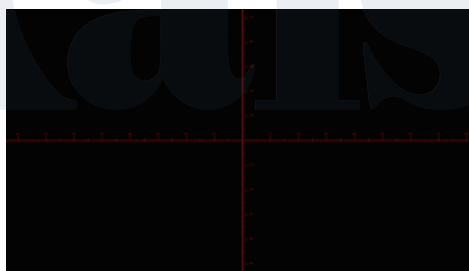
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设置横纵线数量



(1)显示十字线



(2)十字刻度线

1)在测量模式下,按住左键,可以拖动十字线。

双击单条十字线,可设置其颜色和位置,可居中和删除。

2)点击十字线工具,选择“**+**十字刻度线”,图像区显示十字刻

3)点击设置十字线颜色工具 ,下拉可设置十字线颜色,颜色设置后,再次画十字线才起效,之前画的十字线颜色不改变。

(7.7) 拍照

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拍照操作

- 1) 插上U盘几秒钟后，显示屏右上角显示U盘插入成功图标，这时可以点击拍照



- 2) 点击“拍照”图标，画面中心将显示图标，约3秒钟后图标消失，图片自动保存至U盘的 /mnt/sdcard/img 文件夹中。

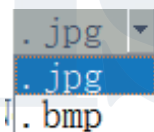
前缀

“命名规则”为“自动”时，可添加文件名的前缀，文件以“前缀+序号”命名并保存。

前缀

拍照格式

点击拍照格式下拉选择拍照格式，有.jpg 或 .bmp 两种格式可选择。



拍照命名规格

选择“自动”，文件按序号自动命名；选择“自定义”，则需输入名称保存。

命名规则

☒ 自动 ☐ 自定义

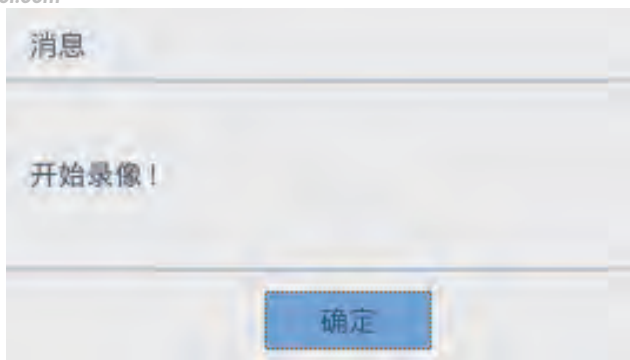
输入文件名称:

确定

取消

(7.8) 录像

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点击“录像”图标，界面提示“开始录像”，点击“确定”开始录像

录像过程中，屏幕右下角显示录像中图标闪烁



再次点击“录像”图标，界面提示“停止录像”，点击“确定”停止录像。

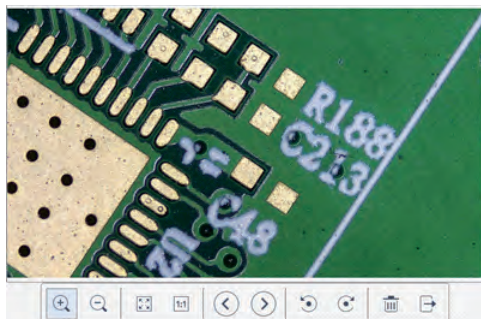
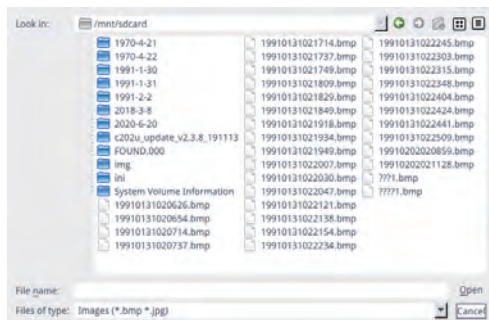
注：录像视频按日期命名，自动保存在 U 盘中，格式为 .H264，单次录像最大为 2 小时左右，大小为 4G 左右，超过 2 小时自动停止录像。建议使用“Potplayer”或“者暴风影音”软件打开录像视频。

(7.9) 打开图片

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点击“打开图片”  图标，界面弹出选择图片界面

选定打开的图片，弹出打开图片界面

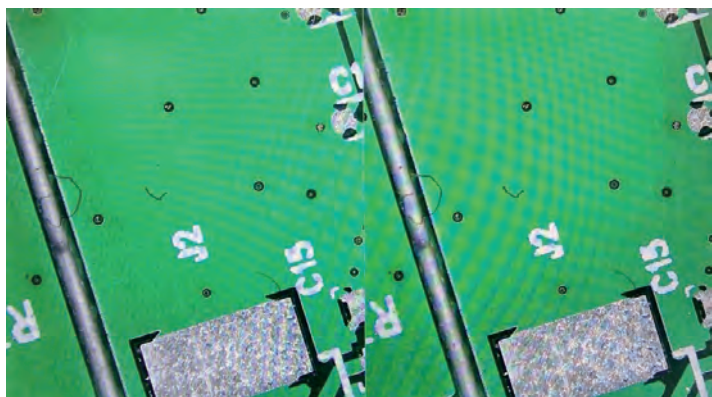
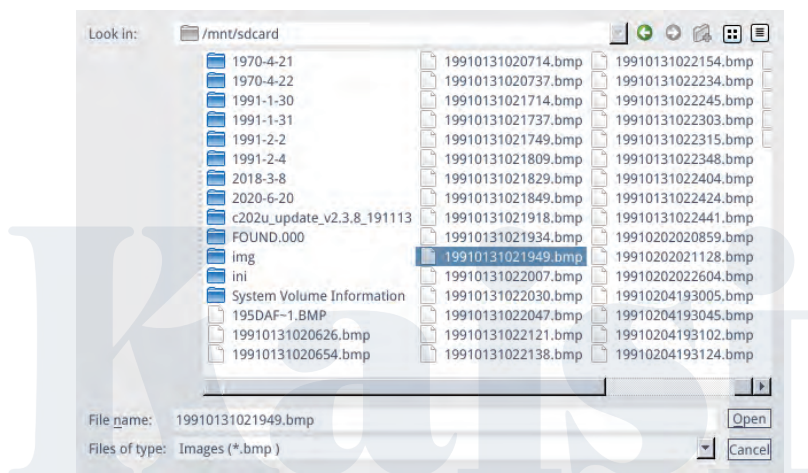


- 1、点击“缩放”  工具，可以放大缩小图片
- 2、点击“全屏”  工具，图片界面显示整张图片；
- 3、点击“1:1”  工具，图片界面显示图片局部，按住鼠标左键可以移动图片位置；
- 4、点击“翻阅”  工具，可浏览上下张图片；
- 5、点击“旋转”  工具，可顺时针或逆时针改变图片方向；
- 6、点击“删除”  工具，可删除当前图片；
- 7、点击“返回”  工具，可关闭当前图片界面。

(7.10) 比较图片

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- 1、点击“比较图片” 图标，界面弹出选择图片界面
- 2、选定对比的图片，弹出对比图片界面，屏幕左边为实时视频界面，右边为选定的图片；
- 3、再次点击“比较图片” 可关闭比较图片。



实时视频界面

对比的图片

(7.11) 冻结

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点击“冻结”图标, 可将当前图像界面冻结, 图像窗口静止不变, 方便观察被测物体; 冻结后, 图标变为  冻结状态, 点击  图标, 恢复到实时显示界面。

(7.12) 保存图元

保存图元

☐ 是 ☐ 否

勾选‘是’时, 拍照图片中保存上层测量画线, ‘否’则不保存画线。

(7.13) 倒置/翻转

☐ 倒置

☐ 翻转

勾选倒置: 屏幕上的视频垂直方向同实际相反; 勾选翻转, 屏幕上的视频水平方向同实际相反。

(7.14) 宽动态

宽动态 1



宽动态: 0-3可调节, 重置默认数值1。

(7.15) 抗屏闪

☐ 50/60 HZ

勾选后达到抗屏闪的效果。

(7.16) 黑白模式

☐ 黑白

勾选后为黑白模式, 默认为彩色模式

(7.17) 重置

点击重置, 各类参数恢复到出厂设置。

重置

(7.18) 版本号

版本号

2. 3. 7

可查看当前软件版本号。

8.测量界面详解

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点击测量工具可进行测量操作;测量操作完成后,如需显示菜单,在菜单锁为“锁定”  的情况下,在图像区单击鼠标右键后,即可出现菜单;在菜单锁为“打开”  的情况下,图像区单击鼠标右键后,再将鼠标移至菜单区,才能显示菜单。

(8.1)辅助工具

1) 颜色设置

点击“颜色设置”  图标,弹出设置界面



设置线段的宽度和颜色

设置标签的字体大小和颜色

2) 边沿检测

点击“边缘检测”  图标,选中后图标变为蓝色  ,测量图片时,实现自动寻边。

3) 测量工具

 直线  水平线  垂直线  矩形  平行线

 垂直  角度  多边形  弧线  圆

 同心圆  双圆  线圆  垂线圆  标注

(8.2) 辅助工具

此功能需使用扫描枪。

扫描枪扫描条形码后, 扫描数据框显示扫描后的数据, U盘中自动保存以此数据命名的文件夹, 图片保存在此文件夹中。



(8.3) 自定义模板

- 1、在图像区画好图元后, 点击“新建”图标, 界面弹出“是否将图元转换为模板”窗口, 点击“确定”可建立一个新的模板;



- 2、在名字窗口输入名字后, 点击“保存”图标,保存该模板。
- 3、点击“删除”图标, 可删除该模板;
- 4、点击“修改”图标, 可对该模板进行修改, 再次点击“保存”图标, 则保存修改后的模板, 点击“返回”图标, 则不保存修改的模板。

(8.4)测量操作

1)标定

- 1、点击点击标定工具下拉,可选择直线标定、H型标定或者圆标定;
 - 2、拖动标线与定标尺的刻线对齐,输入镜头倍率数值、刻线间实际长度,选择单位,完成定标。
- ★删除标定:点击下拉标定列表,选择要删除的标定组,点击删除图标,即可删除该组标定。



77, 22mm  (点击删除图标,即可删除该组标定)

测量工具包含了各种线迹测量,根据具体应用可先选择适合的标定及单位

77, 22mm  ←下拉标定列表,选择标定

再选择合适的工具,进行测量;测量时,只需鼠标点选测量的锚点即可,点选完毕放开鼠标后,测量数据显示在测量数据列表区。

序号	项目	结果
1	Circle	Rad=136.400pixel CLen=857.027pixel Area=58449.156pixel

(测量数据列表)

测量完成后,可将测量数据列表中的数据导出,点击“导出数据”,数据将自动保存在U盘中的.csv文件中,用户可输入文件名。

输入文件名称:

★删除测量数据:在测量数据列表,选中要删除数据,单击鼠标右键,会提示删除一组数据,或者删除所有数据,根据需要进行选择。

删除

删除所有

3) 选择测量数据

1、鼠标左键单击测量数据列表中的数据,被选中图元数据灰色阴影显示,图像显示区被选中的图元颜色变为设置颜色的反色。

序号	项目	结果
1	Rect	Wid=3.131mm Hei=2.167mm CLen=10.596mm Area=6.785mm ²
2	Circle	Rad=0.568mm CLen=3.566mm Area=1.014mm ²
3	Circle	Rad=3.520mm CLen=22.115mm Area=38.926mm ²

选中测量数据列表中的数据,图像颜色变为设置颜色的反色

2、鼠标左键双击测量数据列表中的数据,被选中图元数据会弹出对话框,可修改线的颜色和线宽,以及锁定被选中的图元,锁定的图元不可再进行操作。



4) 选择图元

在图像区域双击图元,会弹出对话框,可修改线的颜色和线宽,以及锁定被选中的图元,锁定的图元不可再进行操作。

5) 详细数据

鼠标左键双击“显示列表”显示列表 图标,弹出详细数据对话框,可查看当前所有测量详细数据。

	名称	距离	角度	高度	宽度	深度	面积	体积	半径
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

6) 标注工具

点击“标注”图标，在图像区画出需要标注的位置，在弹出窗口中输入注释内容，按“确定”完成标注。



9.配置图表

光学放大倍数	标准配置:0.28X---2X, 连续变倍
目镜	0.4X(标配), 1X
物镜	0.7X---5X连续变倍, 物镜变倍比1:7 (定档变倍)
工作距离	100mm
调焦机构	φ76mm孔径托架
照明	自带LED环形灯, 可选配各种LED环形灯
相机	1/2CCD, 200万像素, 自带测量软件
相机外接口类型	2个USB, 1个HDMI, 1个DC12V输入端口
底座	B11立柱式大平板底座, 可选配各种类型的体视机架
附件	一根HDMI高清线, 一个适配器, 一个鼠标

视频显微镜的实际放大倍数是物镜光学放大倍数和数字放大倍数决定。
总放大倍数 = 光学放大倍数 × (电脑屏幕的对角线 × 25.4 / CCD的靶面尺寸)
其中CCD靶面尺寸: 1/4"=4, 1/3"=6, 1/2"=8。

10. 注意事项

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10-1 操作

- 1、不应让部件直接暴露在阳光下,应放置在干燥、清洁的环境中,避免高温和剧烈振动。
- 2、显微镜是一种精密仪器,应小心轻放,在运输过程中避免冲击和碰撞。
- 3、为了不影响像的清晰度,避免污物或手指印留在镜片表面。
- 4、不能用相反方向转动左右变焦手轮,否则会发生故障。

10-2 维护和保养

- 1、所有的镜片都应保持清洁。若有细小灰尘,可用吹气球吹去或棉纱轻轻抹去;若有油迹和手指印,可用蘸有少量比例为3:7的乙醇乙醚混合液的棉纱轻轻抹去。
- 2、不能用有机溶剂去擦拭显微镜的其余表面,特别是塑料制品的表面,应用中性洗涤剂进行清洁。
- 3、不应自行拆装显微镜,以免使显微镜性能受到影响。
- 4、为保持显微镜的性能,建议进行定期检查(详情可与就近的代理商联系)。

1.PRODUCT USE

www.kaisitool.com

This is a newly designed exclusive digital video microscope. Its functions include camera drawing, video display, graphic measurement, video recording, etc. it is not only suitable for mobile phone maintenance, but also suitable for jewelry welding and more precise welding. 10-74x magnification details will be displayed on the 11.6-inch screen at 1080 HD resolution. The pattern measurement function of the microscope will help you solve more problems.

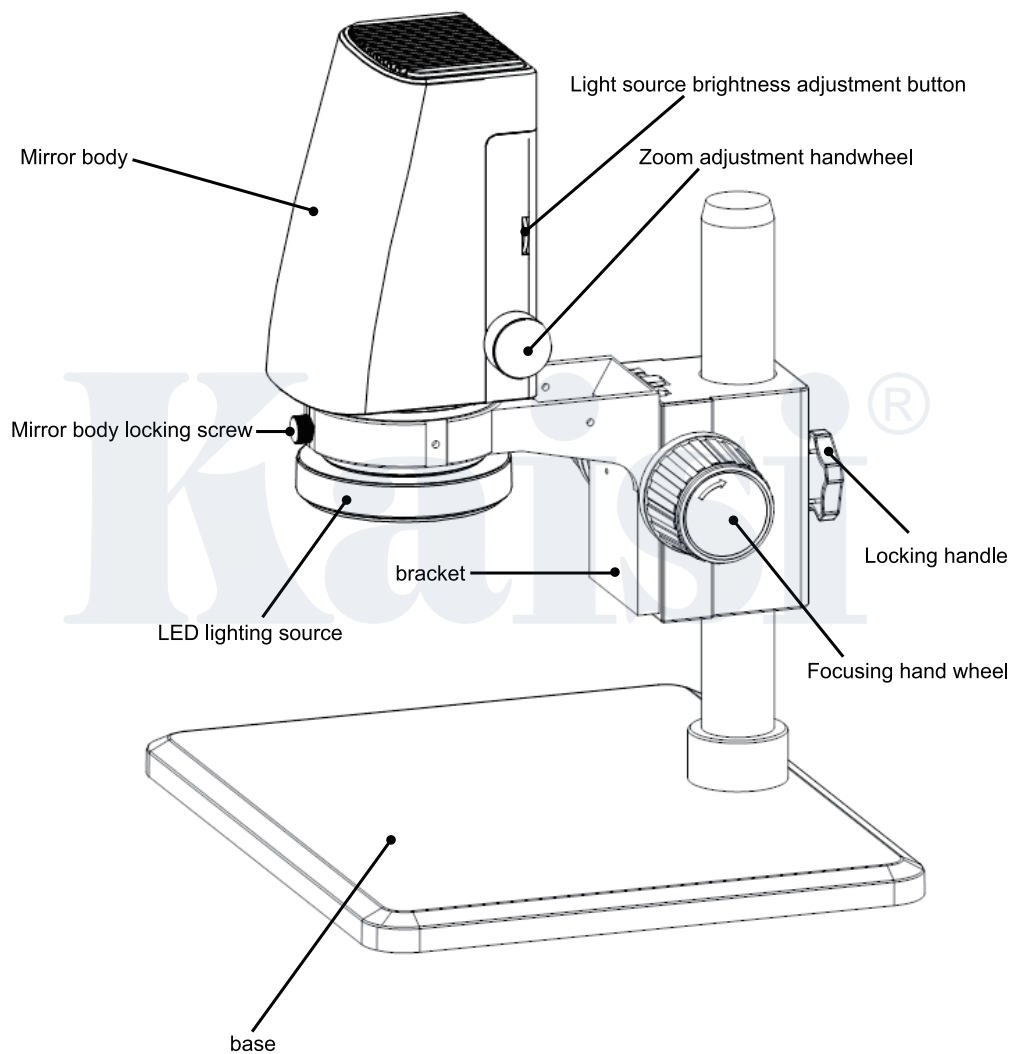
K-300dp is an intelligent digital microscope. Due to the large number of accessories, it can be used in many fields. Among other things, it is also useful in the following fields: industry, life sciences, mineralogy, insect barns, botany, crime laboratories, education, etc. Because of its simplicity, its use is easy to learn.

2.PERFORMANCE

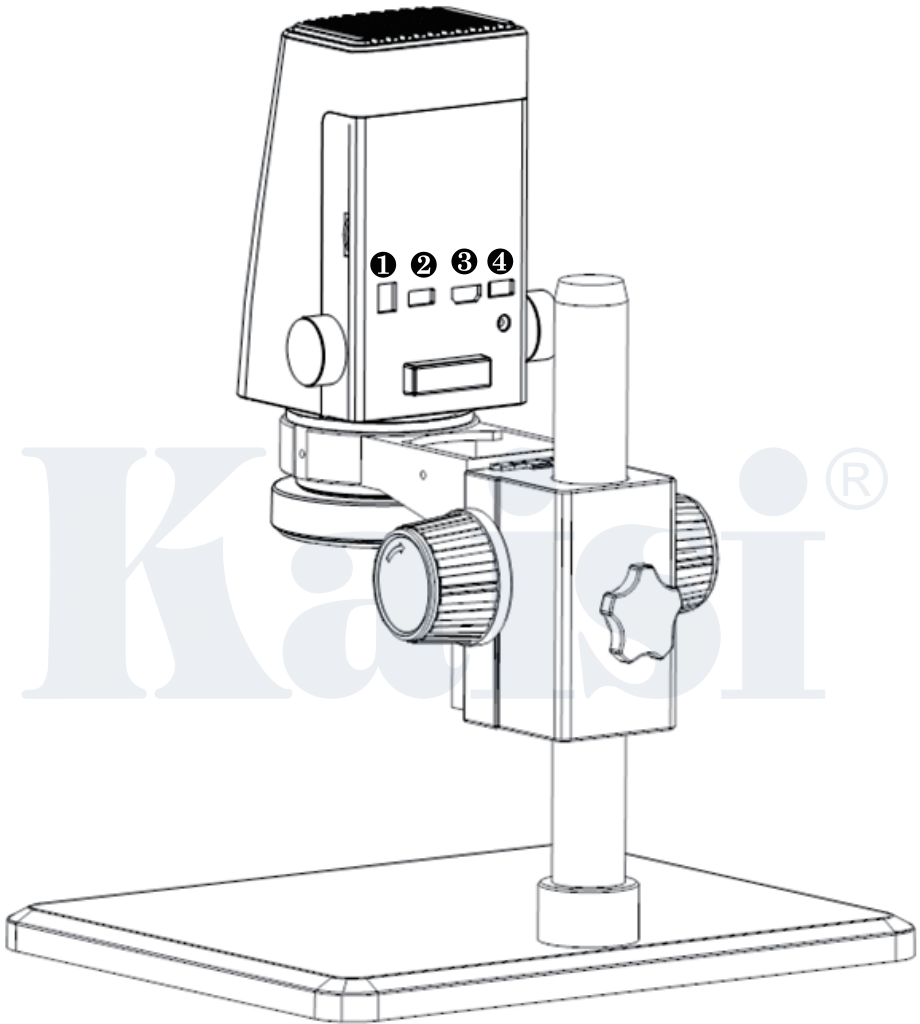
1. Ergonomic design reduces the working pressure of operators. The screen is placed 40cm in front of the screen, and the angle is adjustable. It is also a simplified wireless mouse operation.
2. Simple design of production line, CCD, LCD display, LED lighting, Integrated built-in design.
3. Clearer optical observation effect, high-definition display, resolution up to 1080p.
4. Powerful software operation, can measure, store, take photos, compare.
5. Magnification: 0.28x --- 2x for standard configuration.

3. NAME OF EACH COMPONENT

www.kaisitool.com



K-300DP



1 Power adapter interface

3 HDMI HD cable interface

2 USB Mouse USB stick interface

4 USB Mouse USB stick interface

4. CAMERA MATCHING DEVICE

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Back end matching:

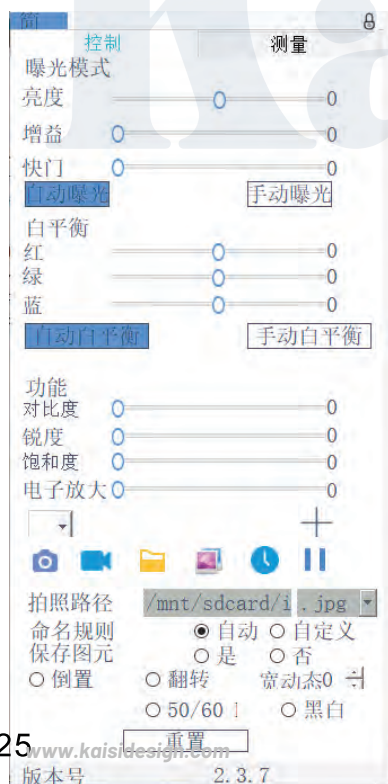
With HDMI support 1080P@60Hz or 1080P@50Hz monitor.

5. CAMERA INSTALLATION INSTRUCTIONS

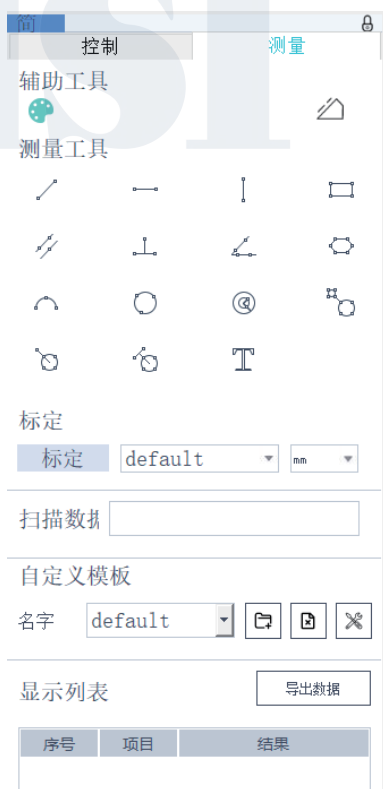
1. Connect the monitor to the camera with HDMI cable.
2. Connect the mouse.
3. Please use the power supply provided by our company to power the camera.

6. MENU INTERFACE

1. CONTROL INTERFACE



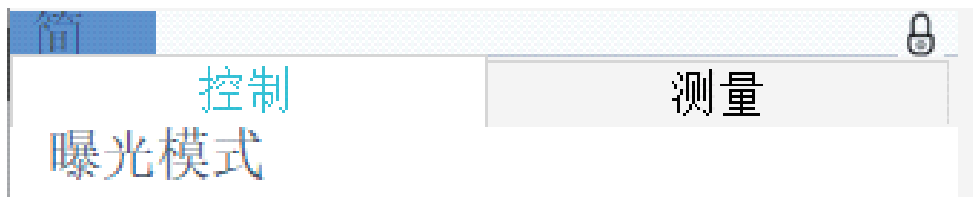
2. MEASUREMENT INTERFACE



7.DETAILED EXPLANATION OF CONTROL INTERFACE

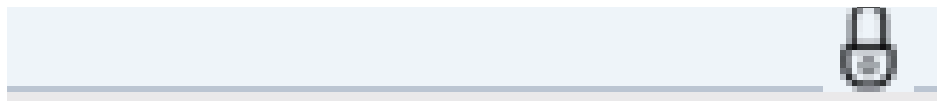
1.LANGUAGE MODEL

Click the upper left corner of the menu to select the language mode, which can be selected from simplified Chinese, English, traditional, Japanese and Russian.

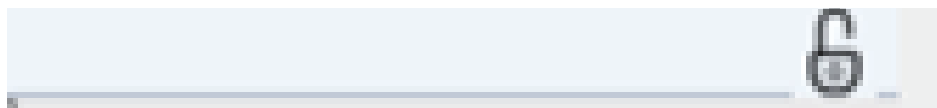


2.LOCK MENU

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



The menu is always displayed when "blocked"

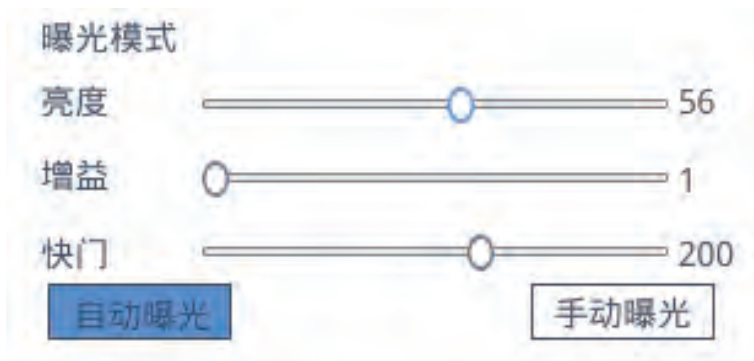


"Open" when the mouse moves to the upper left area, the menu is displayed Move out of the upper left area and hide the menu

3.EXPOSURE MODE

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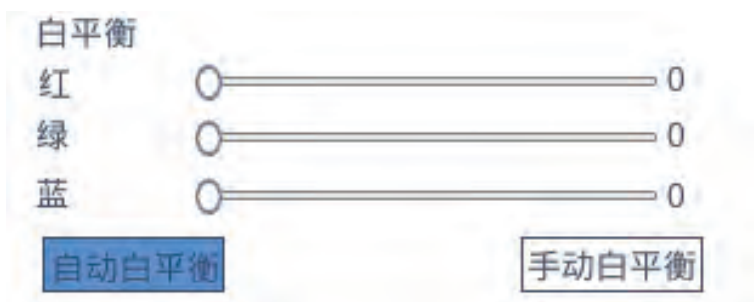
Exposure mode: Auto \ manual



When "auto" exposure is checked, the "Brightness" progress bar can be pulled to adjust the brightness; When "manual" exposure is checked, the "gain" progress bar can be pulled to adjust the gain, and the "shutter" progress bar can be pulled to adjust the shutter; Reset default auto exposure.

4.WHITE BALANCE

White balance: automatic \ manual



Automatic white balance: realize automatic white balance under different color temperature conditions; Manual white balance: pull the "red, green and blue" progress bar to adjust the "red, green and blue" color value.

5.FUNCTION

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Functions: contrast \ sharpness \ saturation \ electronic amplification



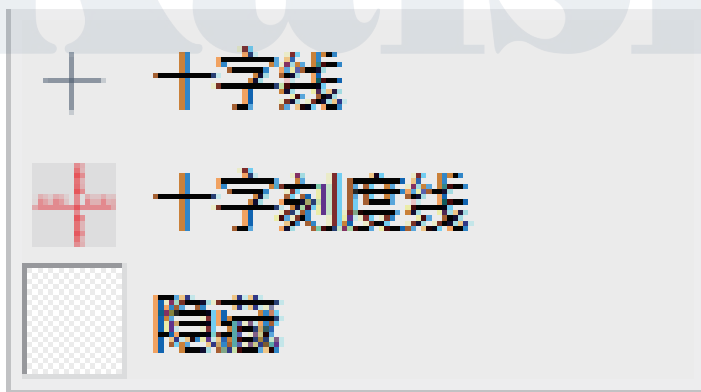
Contrast: 0-15, adjustable, reset the default value of 0;

Sharpness: 0-15 adjustable, reset the default value of 4;

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

Electronic amplification: 1-6 adjustable, reset the default value of 1.0;

6.CROSSHAIR TOOL

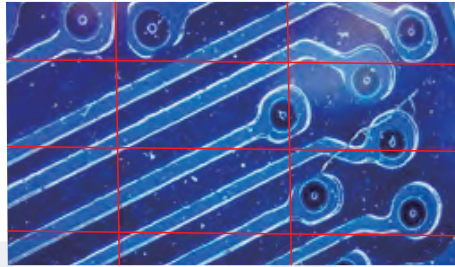


1. Click the crosshair tool  Select "crosshairs" to display crosshairs, and set the number of horizontal and vertical lines. After setting, select "display" to display the set crosshairs in the image display area, and select "delete" to not display the crosshairs.

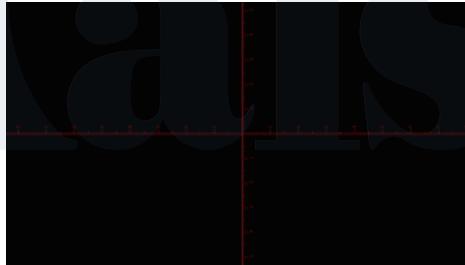
水平线 根

垂直线 根

SETS THE NUMBER OF HORIZONTAL AND VERTICAL LINES



1).SHOW CROSSHAIRS



2).CROSS TICK MARK

- 1) In measurement mode, press and hold the left key to drag the crosshair. Double click a single crosshair to set its color and position, center and delete it.
- 2) Click the crosshair tool and select  "Cross tick mark ", the image area displays cross engraving
- 3) Click the set crosshair color tool  Drop down to set the cross hair color. After the color is set, it takes effect to draw the cross hair again. The color of the cross hair drawn before does not change.

7.PHOTOGRAPH

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PHOTOGRAPHING OPERATION

- 1) After inserting the USB flash disk for a few seconds, the USB flash disk insertion success icon is displayed in the upper right corner of the display screen. At this time, you can click to take photos 
- 2) Click "take pictures"  Icon will be displayed in the center of the screen  Icon, the icon disappears after about 3 seconds, and the picture is automatically saved to the / MNT / sdcard / img folder of USB flash disk.

PREFIX

When the "naming rule" is "automatic", you can add a prefix to the file name, and the file is named and saved with "prefix + sequence number".

前缀

PHOTO FORMAT

Click the photographing format drop-down to select the photographing format. There are. JPG or. BMP formats to choose from.

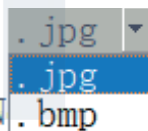


PHOTO NAMING SPECIFICATION

Select "automatic" and the file will be named automatically according to the serial number; If you select custom, you need to enter a name to save.

命名规则 ☒ 自动 ☐ 自定义

输入文件名称:

8.VIDEOTAPE

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Click "video"  Icon, the interface prompts "start recording", and click "OK" to start recording

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



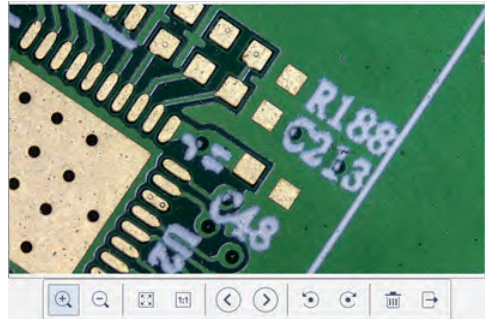
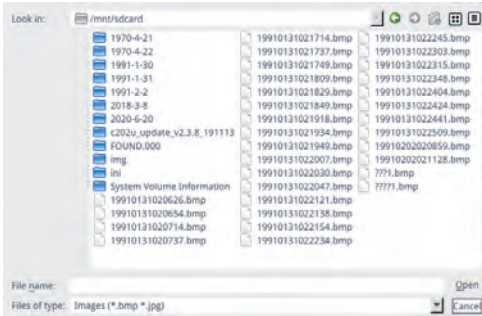
Click "video" again  Icon, the interface prompts "stop recording", click OK to stop recording.

Note: the recorded video is named according to the date and automatically saved in the USB flash disk. The format is. H264. The maximum recording time of a single video is about 2 hours, and the size is about 4G. If it exceeds 2 hours, the recording will be stopped automatically. It is recommended to use "potplayer" or "storm video" software to open the recorded video.

9.OPEN PICTURE

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Click "open picture"  Icon, and a picture selection interface pops up. Select the open picture and the open picture interface will pop up.

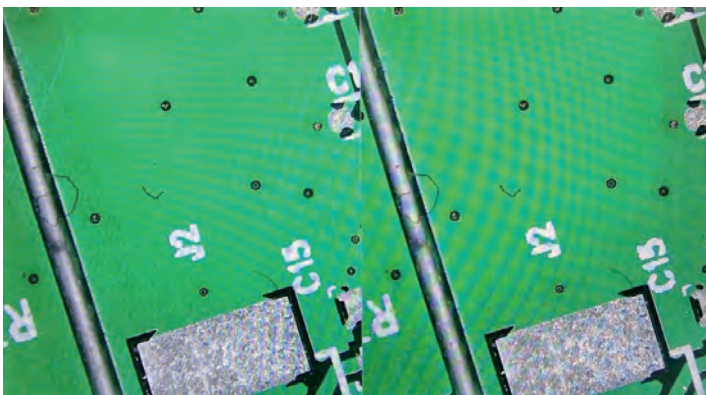
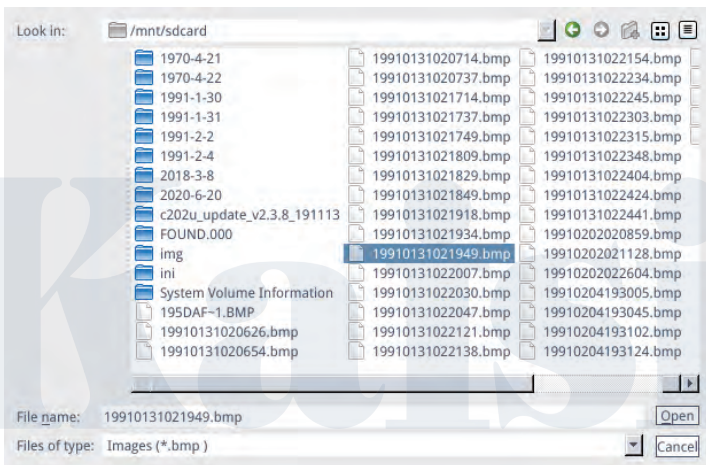


1. Click zoom  Tool to zoom in and out of the picture
2. Click "full screen"  Tool, the picture interface displays the whole picture;
3. Click "1:1"  Tool, the picture interface displays part of the picture. Press and hold the left mouse button to move the picture position;
4. Click "Browse"  Tool, you can browse up and down pictures;
5. Click rotate  Tool, which can change the picture direction clockwise or counterclockwise;
6. Click "delete"  Tool to delete the current picture;
7. Click "back"  Tool to close the current picture interface.

10.COMPARE PICTURES

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1. Click "compare pictures"  Icon, and a picture selection interface pops up
2. Select the comparison picture and the comparison picture interface will pop up. The left side of the screen is real-time videoInterface, the selected picture is on the right;
3. Click "compare pictures"  again You can turn off comparing ictures.



Real time video interface

Contrast picture

11.FROZEN

Click "freeze"  Icon to freeze the current image interface and keep the image window still. It is convenient to observe the measured object; When frozen, the icon changes to  Frozen status, click  Icon to restore to the real-time display interface.

12.SAVE ELEMENT

保存图元

☐ 是 ☐ 否

When "yes" is checked, the upper measurement line will be saved in the photo, "no" Line drawing is not saved.

13.INVERT / FLIP

☐ 倒置

☐ 翻转

Check invert: the vertical direction of the video on the screen is opposite to the actual direction; Check flip screen The horizontal direction of the video on the screen is opposite to the actual direction.

14.WIDE DYNAMIC

宽动态 1



Wide dynamic: 0-3 adjustable, reset the default value of 1.

15.ANTI SCREEN FLASH

☐ 50/60 HZ

Check it to achieve the effect of anti screen flicker.

16.BLACK AND WHITE MODE

When checked, it is black-and-white mode, and the default is color mode

☐ 黑白

16.RESET

Click Reset to restore various parameters to factory settings.

重置

17.VERSION NUMBER

版本号

2. 3. 7

You can view the current software version number.

8. DETAILED EXPLANATION OF MEASUREMENT INTERFACE

Click the measuring tool to carry out the measurement operation;
After the measurement operation is completed, if the menu needs to be displayed, lock it to "lock"  in the menu In case of, right-click in the image area to display the menu; Set the lock to "open"  in the menu Right click in the image area and move the mouse to the menu area to display the menu.

(8.1) AUXILIARY TOOLS

1.COLOR SETTING

Click "color settings"  Icon to pop up the setting interface



Sets the width and color of the line segment

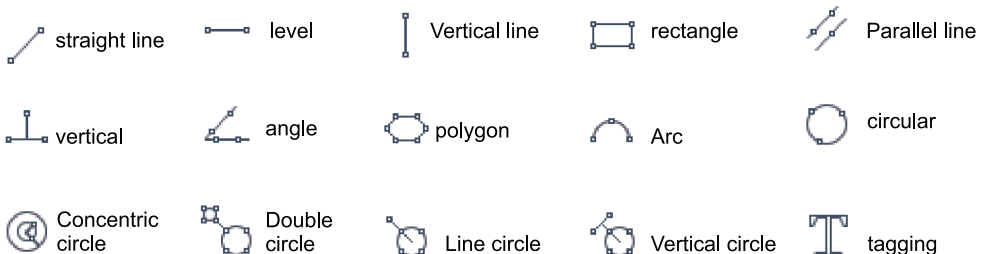
Sets the font of the labelSize and color

2.EDGE DETECTION

Click "edge detection"  Icon. When selected, the icon turns blue

 Automatic edge finding is realized when measuring pictures.

3.MEASURING TOOLS



(8.2) AUXILIARY TOOLS

This function requires the use of a scanning gun. After the scanning gun scans the barcode, the scanned data frame displays the scanned data. The USB flash disk automatically saves the folder named after this data, and the pictures are saved in this folder.



(8.3) CUSTOM TEMPLATE

1. After drawing the elements in the image area, click "new"  Icon, the interface pops up the "convert primitive to template" window, and click "OK" to create a new template;



2. In the name window  After entering the name, click the "save"  icon, Save the template.
3. Click the "delete" icon to delete the template;
4. Click "modify"  Icon, you can modify the template, and click "save"  again Icon, save the modified template and click "return"  Icon, the modified template is not saved.

(8.4) MEASUREMENT OPERATION

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1.CALIBRATION

- 1. Click the calibration tool drop-down to select straight-line calibration, H-type calibration or circle calibration;
 - 2. Drag the marking line to align with the marking line of the scale, enter the lens magnification value and the actual length between the marking lines, select the unit, and complete the calibration.
- ★ DELETE CALIBRATION: click the drop-down calibration list, select the calibration group to delete, and click the delete icon to delete the calibration group.



77, 22mm  ← click the delete icon to delete this group of calibrations

The measurement tools include various trace measurements, depending on the specific applicationThe appropriate calibration and unit can be selected first

77, 22mm  ← Pull down the calibration list and select calibration

Then select appropriate tools for measurement; During measurement, just click the measured anchor point with the mouse. After clicking and releasing the mouse, the measurement data will be displayed in the measurement data list area.

序号	项目	结果
1	Circle	Rad=136.400pixel CLen=857.027pixel Area=58449.156pixel

(Measurement data list)

After the measurement is completed, the data in the measurement data list can be exported. Click "export data", the data will be automatically saved in the. CSV file on the USB flash disk, and the user can enter the file name.

输入文件名称:

确定

取消

★ DELETE MEASUREMENT DATA: in the measurement data list, select the data to be deleted and click the right mouse button. You will be prompted to delete a group of data or delete all data. Select as needed.

删除

删除所有

3.SELECT MEASUREMENT DATA

1. Click the data in the measurement data list with the left mouse button, the selected entity data will be displayed in gray shadow, and the color of the selected entity in the image display area will change to the opposite color of the set color.

序号	项目	结果
1	Rect	Wid=3.131mm Hei=2.167mm CLen=10.596mm Area=6.785mm ²
2	Circle	Rad=0.568mm CLen=3.566mm Area=1.014mm ²
3	Circle	Rad=3.520mm CLen=22.115mm Area=38.926mm ²

Select the data in the measurement data list, and the image color changes to the opposite color of the set color

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

4.SELECT THE ELEMENT

Double click an element in the image area to open a dialog box. You can modify the color and linewidth of the line and lock the selected element. The locked element can no longer be operated.

5.DETAILED DATA

Double click display list with the left mouse button  Icon to pop up the detailed data dialog box, where you can view all current measurement detailed data.

	名称	数量	单位	面积	角度	直径	宽度	高度	半径
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

6.ANNOTATION TOOLS

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Click "label"  Icon, draw the position to be marked in the image area, enter the annotation content in the pop-up window, and press "OK" to complete the marking.



9.CONFIGURATION CHART

Optical magnification	Standard configuration: 0.28x — 2x, continuous zoom
Eyeiece	0.4x (standard), 1x
objective lense	0.7x — 5x continuous zoom, objective zoom ratio 1:7 (fixed gear zoom)
Working distance	100mm.
Focusing mechanism	Φ Bracket with 76mm bore
Lighting	With LED ring lamp, various LED ring lamps can be selected
Camera	1 / 2ccd, 2 megapixels, with measurement software
Camera external interface type	2 USB, 1 HDMI, 1 DC12V input port
Base	B11 column type large flat base can be equipped with various types of stereoscopic frames
enclosure	One HDMI cable, one adapter, one mouse

The actual magnification of the video microscope is determined by the optical magnification and digital magnification of the objective lens.Total magnification = optical magnification × (diagonal of computer screen) × 25.4/ccd (target size)The dimensions of CCD target surface: 1 / 4 ' = 4, 1 / 3 ' = 6, 1 / 2 ' = 8.

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10.MATTERS NEEDING ATTENTION

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10-1.OPERATION

1. The components shall not be directly exposed to the sun, but shall be placed in a dry and clean environment to avoid high temperature and violent vibration.
2. Microscope is a kind of precision instrument, which should be handled with care to avoid impact and collision during transportation.
3. In order not to affect the clarity of the image, avoid dirt or finger marks on the lens surface.
4. Do not turn the left and right zoom hand wheels in the opposite direction, otherwise failure will occur.

10-2.MAINTENANCE AND SERVICE

1. All lenses should be kept clean. If there is fine dust, it can be blown off with a balloon or gently wiped off with cotton yarn; If there are oil stains and finger marks, gently wipe them off with cotton yarn dipped in a small amount of ethanol ethylamine mixture in the ratio of 3:7.
2. Do not wipe the rest of the microscope surface with organic solvent, especially the surface of plastic products, and use neutral detergent for cleaning.
3. The microscope shall not be disassembled or assembled by itself to avoid affecting the performance of the microscope.
4. In order to maintain the performance of the microscope, regular inspection is recommended (for details, please contact the nearest agent).

7 故障处理

如果由于使用不熟悉,而使显微镜性能不能充分发挥,那么下表可以为您提供一些解决办法。

问 题	原 因	解 决 办 法
1、双像不重合	瞳距调节不正确	修正瞳距
	视度调节不正确	重新进行视度调整
	左、右目镜倍率不同	安装相同的目镜
2、视场内有脏东西	标本上有脏物	清洁标本
	目镜表面有脏物	清洁目镜
3、像不清晰	物镜表面有脏物	清洁物镜
4、变焦时像不清晰	视度调整不正确	重新进行视度调节
	调焦不正确	重新进行调焦
5、调焦手轮不灵活	调焦手轮锁得太紧	适当放松
6、在观察过程中,显微镜镜体自行下降,使像不清晰	调焦手轮太松	适当锁紧
7、观察目镜或摄影摄像的视场内有切割	拉杆移动未到位	将拉杆移动到位
8、当变焦时,视频监视器上图像不清晰	摄像焦深调节不当	利用摄像接筒上的调焦环重新进行摄像焦深调节
9、眼睛很容易疲劳	视度没有调节正确	正确调节视度
	照明亮度不合适	调整调光旋钮
10、开关接通时灯泡不亮	无电源	检查电源线的连接
	灯泡未插入	正确地插入
	灯泡坏了	更换
11、灯泡突然烧坏	使用了非指定的灯泡	用指定灯泡更换
	电压过高	控制电压(如使用稳压器)
12、照明亮度不够	使用了非指定的灯泡	用指定灯泡更换
	电压太低	增加电压
13、灯泡闪烁或不稳定	灯泡快要坏了	更换
	灯泡安装不稳定	检查并稳固地插入