

**KoPa<sup>®</sup>**

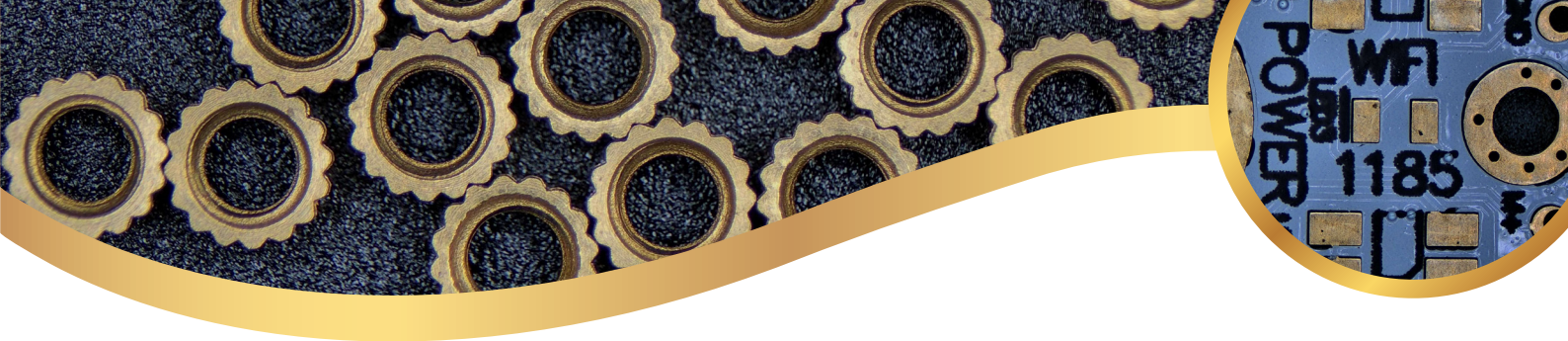
# 4K Zoom Video Microscope




CE210T Series **Option B**

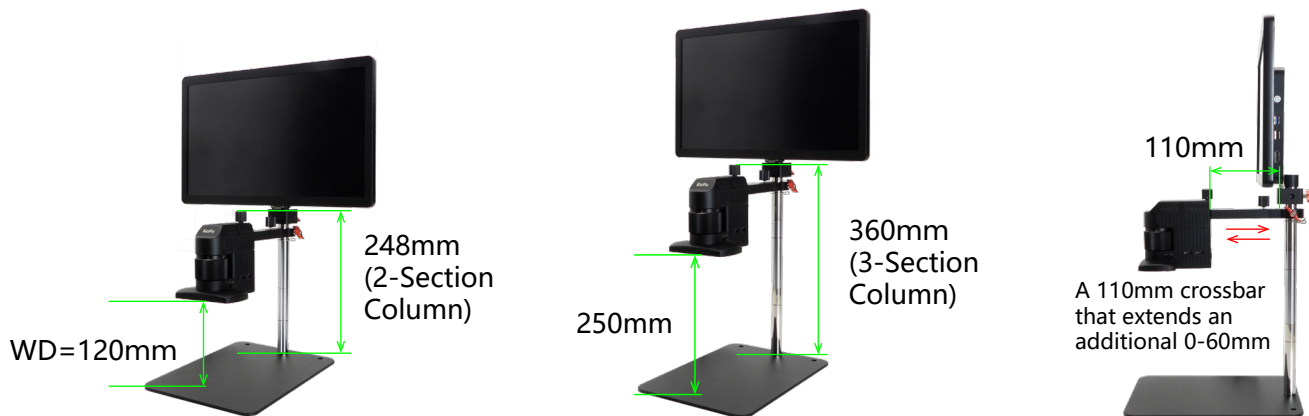
Model: CE210T Category: BJ-08





## 01 Compact footprint, generous workspace

 Flexibly adapts to your task. The standard 3-section column and an extendable crossbar create a versatile workspace.




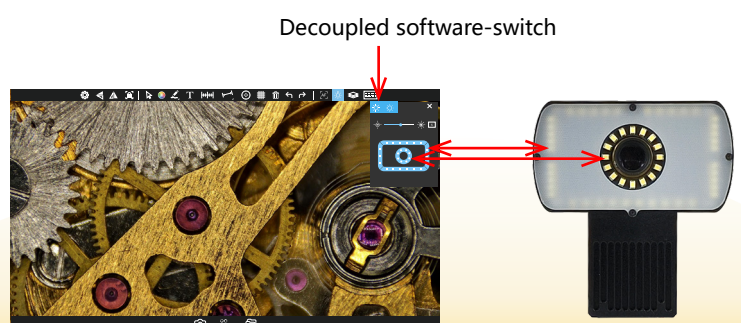
## 02 Delivers 4K 60Hz video through either HDMI 2.0

**4K** Powered by a Sony IMX678 (1/1.8" ) sensor, it ensures precise color reproduction with ultra-low lag; the camera auto-adapts to output natively to 4K or 1080p displays.



## 04 Advanced illumination system

 Control everything with software: adjust brightness, switch between four independent zones, and toggle diffused/near-coaxial light. Experience vibrant, accurate color (CRI $\geq$ 95, R9 $\geq$ 92, 6500K color temperature) that reduces eye strain, powered by long-life 20,000+ hour LEDs.



## ● Near-coaxial light

Power	< 1.3W
Input voltage	DC 5V
Dimming method	Dedicated LED driver IC with DC dimming
Center illuminance	390–1790 Lx (at WD 120mm)
LED quantity	16 pcs narrow-angle high-brightness LEDs
Color temperature	6500K
Adjustment method	Software-switch

## ● Quad-zone diffused lighting

Power	< 2W
Input voltage	DC 5V
Dimming method	Dedicated LED driver IC with DC dimming
Center illuminance	190~5230Lx (at WD120mm)
LED quantity	40 pcs wide-angle high-brightness LEDs
Color temperature	6500K
Adjustment method	software-switch

\*Combined maximum illuminance (Near-coaxial + Quad-zone diffused): 7100 Lx.

### 05 Precision rear Fine-focus



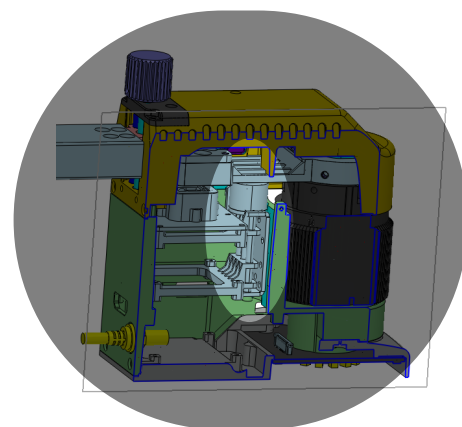
A gentle turn of the rear knob provides 15mm of smooth micro-adjustment, capturing fine sample details with accuracy and ease.



### 06 Steady, silent, strong



Featuring a precision stepper motor that runs quietly and smoothly without compromise, enabling you to tackle high-frequency tasks efficiently and consistently.



### 06 Specifications

#### ● Optical Specifications

Optical Magnification	Working Distance (WD)	Camera Field of View (L × W)
0.3-1.8X	120mm	26.5×14.9mm (at 0.3X)
		4.2×2.4mm (at 1.8X)

\*Total system magnification (on 27" 4K display): 23–140X (optical + display pixel array, i.e., displayed length / actual object length)

## ● Camera Specifications

Physical Resolution	8.3MP
Sensor Model	SONY IMX678 CMOS
Exposure Mode	Rolling shutter
Max. Resolution	3840×2160 (8,294,400 pixels)
ISO Sensitivity	Equivalent to 100–12800
Sensor Size	1/1.8"
Pixel Size	2μm×2μm
Spectral Response	380-650nm
Exposure Control	Real-time auto / manual
Exposure Time	10us~10s
White Balance	Real-time auto / manual (R/B adjust)
Preview Resolution	3840×2160 60fps
Power Input	DC 5V 3A
A/D Bit Depth	12bit
OSD and Software	OSD: <i>KoPa View</i> Software for Windows systems: <i>KoPa Capture Pro</i>

## ● Image Output Formats & Resolutions

	4K display (HDMI)	1080p display (HDMI)	Computer (USB)
Live view	3840x2160 P60	1920x1080 P60	At H264 format: 3840x2160@60, 2880x2160@60, 2592x1944@60, 1920x1080@60, 1600x1200@60, 1024x768@60 At MJPG format: 3840x2160@30, 2880x2160@45, 2592x1936@50, 1920x1088@60, 1600x1200@60, 1024x768@60
Photo capture	Resolution: 3840x2160 Format: JPG	Resolution: 1920x1080 Format: JPG	Resolution (H264 or MJPG) : 3840x2160, 2880x2160, 2592x1944, 1920x1080, 1600x1200, 1024x768 Format: PG/BMP/PNG/TIFF
Video recording	Resolution: 3840x2160 Frame rate: 30fps File format: MP4 Video format: H264	Resolution: 1920x1080 Frame rate: 30fps File format: MP4 Video format: H264	Video recording resolution (at H264 or MJPG) : 1920x1080(16:9) /1600x1200(4:3) /1024x768(4:3) Video frame rate: Approx.30fps Video format: MP4 or AVI



## 07

## 15.6-inch 4K Display

### ● Experience Ultra-Crisp Visuals

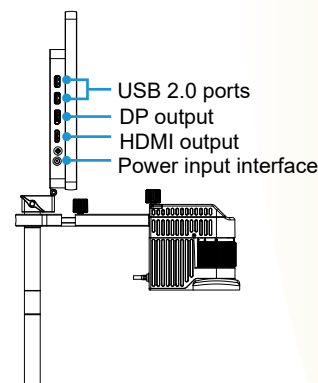
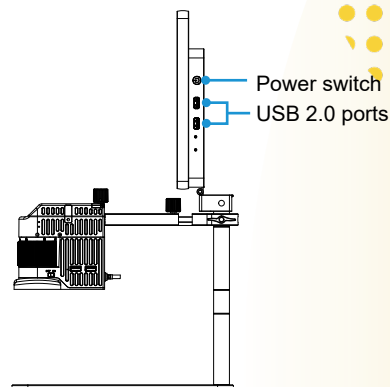
This monitor features a sharp 3840×2160 4K resolution for extraordinary detail. With 100% Adobe RGB color gamut coverage, it accurately reproduces critical hues and delivers exceptional color accuracy.

### ● Versatile Connectivity

Equipped with HDMI, DisplayPort, and USB 2.0 ports, it supports USB-powered microscope operation, streamlining workflow and enhancing convenience.

### ● Ergonomic Design for All-Day Comfort

The height-adjustable stand is built with ergonomics in mind, ensuring a comfortable viewing experience during extended use.



### ● 15.6-inch Display Specifications

Pixel Quantity	3840 (horizontal) × 2160 (vertical)
Pixel Arrangement	RGB vertical stripe
Color Gamut	100% Adobe RGB (Equivalent to 135%sRGB)
Color Gamut Coverage	100% Adobe RGB
Number of Colors	16.7M (8Bit)
Surface Treatment	Anti-glare
Surface Hardness	3H
Viewing Angles	Horizontal 170°, Vertical 170°
Contrast Ratio	1500: 1
Brightness	1000 cd/m <sup>2</sup> (5-point average)

## 08

## Accessories

### ● Standard Accessories

①USB wired mouse



②HDMI cable (400mm)



③Power adapter (DC 12V 5A )



④Extension columns×2  
(120 mm each)



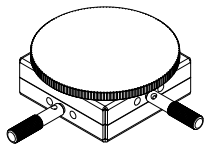
## ● Optional Accessories

### ① Precision polarization module

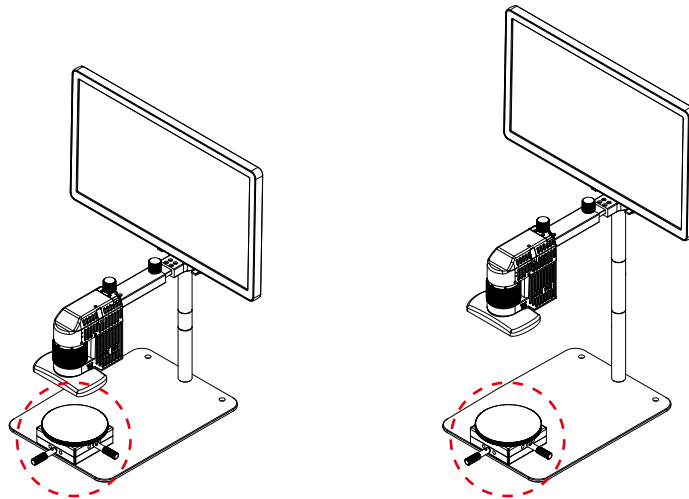
A compact unit featuring a 1000:1 extinction ratio with adjustable polarization angle.



### ② XY stage

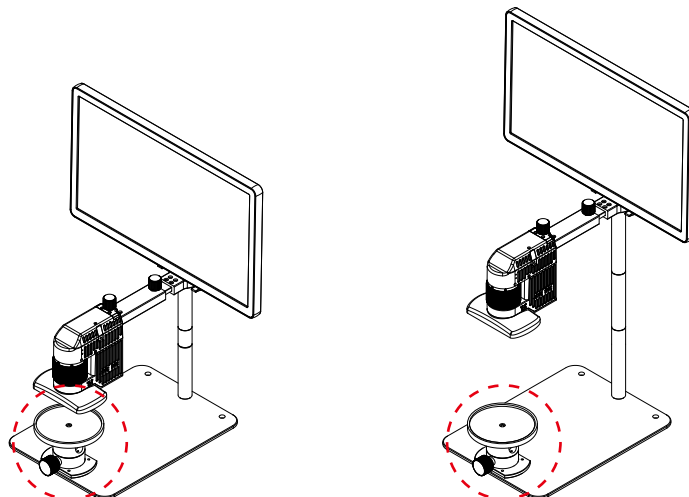
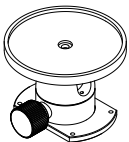


Effective Travel Range:  
X=25mm  
Y=25mm



Installation schematic

### ③ Gimbal mount





Installation schematic

\*Note: XY mobile platform with universal adjustment base TBD.



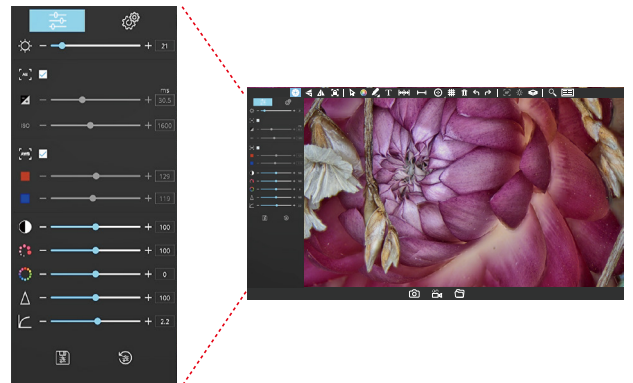
## 01 True-to-Life Color with Advanced Image Controls

This core imaging system works in unison with the sensor and processing chip, translating complex capabilities into intuitive, adjustable settings for precise image optimization.

- |   |  |
|---|--|
|  Target luminance |  Hue        |
|  Exposure         |  Saturation |
|  Gain             |  Sharpness  |
|  White Balance    |  Gamma      |
|  Contrast        |  |

Quick Controls:

- Restore all factory defaults
- Reset individual parameters
- Save custom image profiles



## 02 Smart focus, precision assured

### Manual focus

Scroll the mouse wheel to focus effortlessly on complex surfaces—uneven, reflective, or multi-layered (e.g., solder joints, coatings, fine cracks).

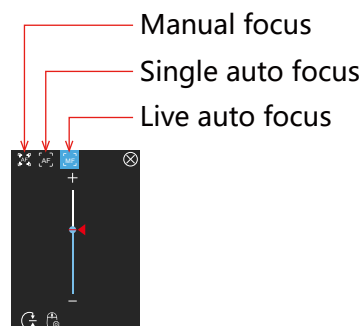
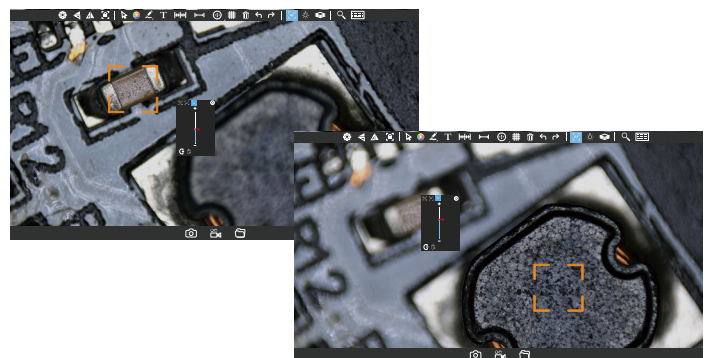
Mouse sensitivity is 6 level adjustable to suit different needs.

### Single auto focus

Click the area you want to observe. The motor automatically searches until the sharpest focus is achieved at that location.

### Live auto focus

Similar to Single Auto-Focus, click the target area and the motor begins searching. If the image changes, it instantly retriggers a focus cycle quickly locking onto clear imaging and significantly reducing inspection time.



## 03

## Soft-Touch lighting control, detail perfected

## Software-controlled illumination

The CE210T series features a quad-zone lighting system, with all light sources (near-coaxial and diffused) fully adjustable via the *KoPa View*.

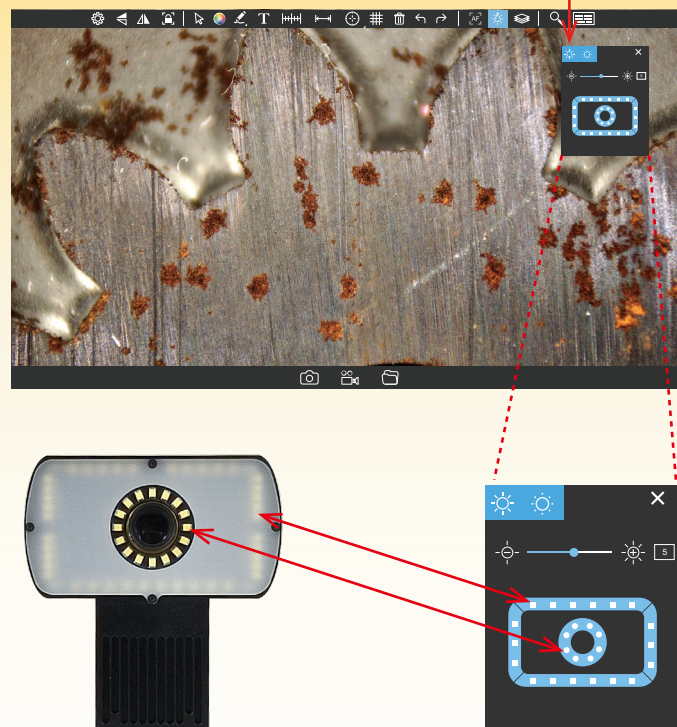
## Flexible zoning

Each of the four zones can be independently adjusted. Mix and match brightness across different areas to reveal multilayer details of your sample.

## 30 step brightness adjustment

Whether dealing with highly reflective or low reflectance materials, optimize imaging with soft-switch dimming across 30 precise brightness levels.

Decoupled software-switch



## 04

## Smart Interaction, Efficient &amp; Reliable

## Intelligent Presets

Preoptimized image parameters for common scenarios—minimal adjustment needed for ideal results.

## Intuitive Icon based UI

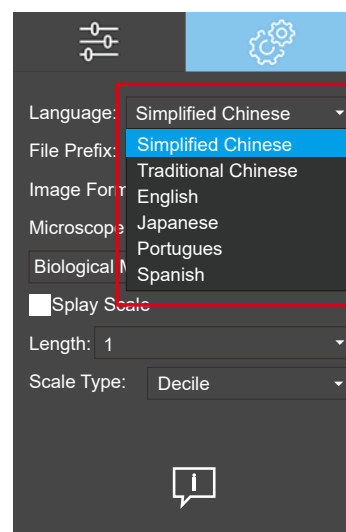
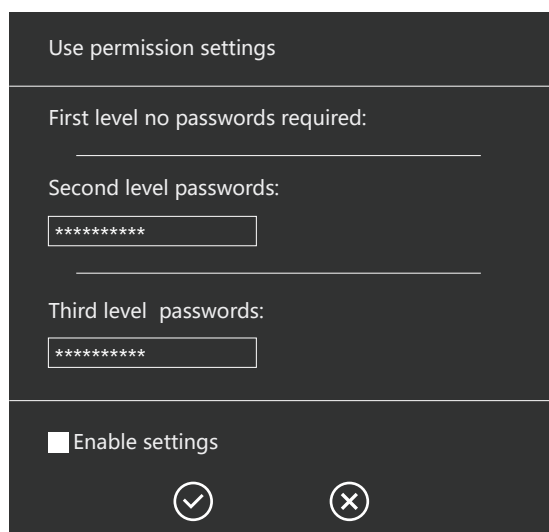
Functions are clear at a glance, making operation straightforward and easy to learn.

## Three Level Access Control

Prevents unintended changes (default password for Level 2: Set123).

## Multi Language Support

Switch instantly among Chinese, English, Japanese, Portuguese, Spanish, Russian, and more.





## 05 Focus Stacking (EDOF)

### Manual Focus Stacking

Scroll the mouse wheel to define the scanning range, capturing and merging multiple focus planes across your area of interest.

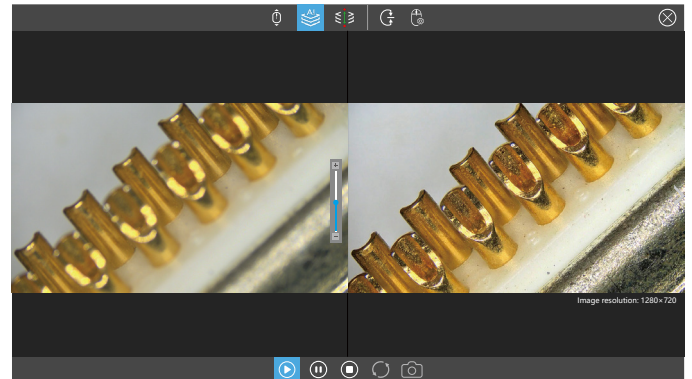
### Auto Focus Stacking

Automatically identifies the sharpest areas in each frame and performs scanning and fusion.

### Custom-Range Focus Stacking

Set the upper and lower limits of the motor travel, then scan and merge within this defined zone.

### Return to preset par-focal position



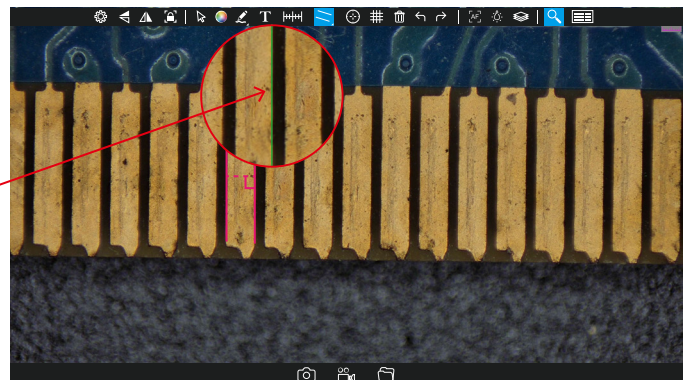
## 06 Auxiliary Tools

### Auto Edge Detection

Quickly identifies and locates the edges of the object under inspection.

### Magnifier

Locally zooms in to enhance visual detail. When using Auto Edge Detection, the magnifier helps users place measurement anchor points more accurately.

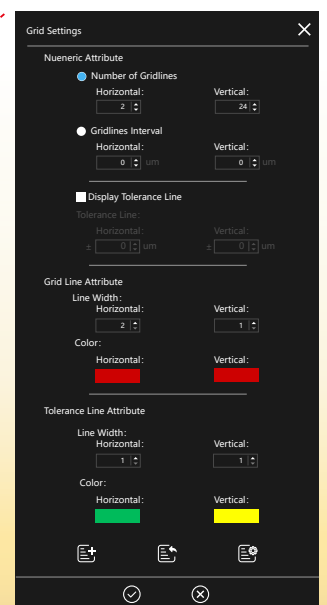
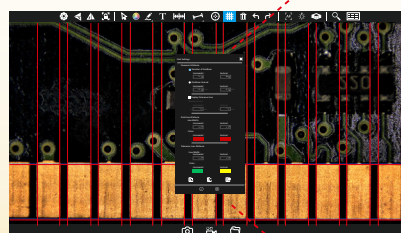


### Grid Overlay & Measurement Tools

#### Grid Overlay & Measurement Tools

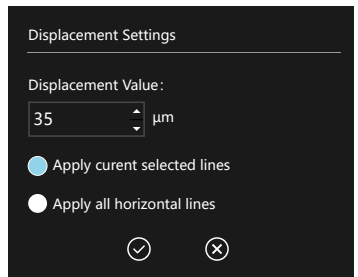
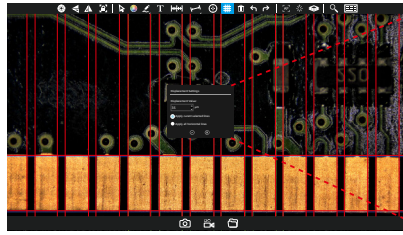
##### Customizable Grids

- Freely set the number of lines and spacing
- Customize line width and color
- Show or hide tolerance lines



## Manage & Save Presets

- Add, import, and manage saved parameter sets
- Create custom styles: adjust spacing, color, width, and endpoint lengths



## Smart Drawing & Controls

- Tap the toolbar to expand options; right-click to hide partial results
- Draw infinite vertical lines (double-click to end)

# 07 Precision Measurement & Annotation

Professional measurement tools paired with intelligent aids deliver reliable data for industrial inspection and scientific analysis.

## Comprehensive Measurement Toolkit

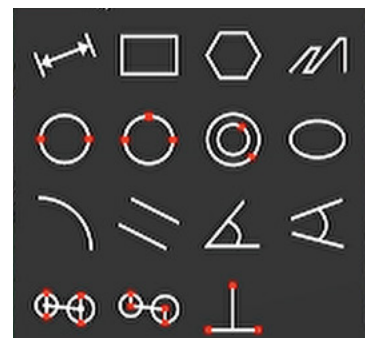
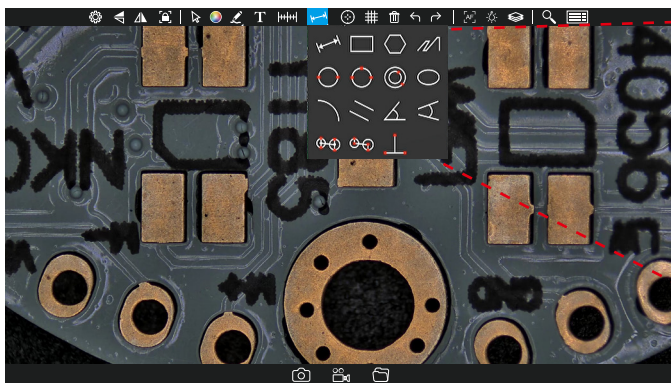
Includes: line, circle, rectangle, angle, parallel distance, arc, 3-point perpendicular, 4 point angle, ellipse, concentric circle, and more—covering everyday checks to complex analytical needs.

## Calibration & Data Management

Calibrate once—ready anytime. The system saves calibration data automatically, even after power off. Restart without re-calibration, ensuring consistency and saving time. Quickly enable scale bars, crosshairs and other visual aids to support positioning and measurement.



## Efficient Annotation & Markup

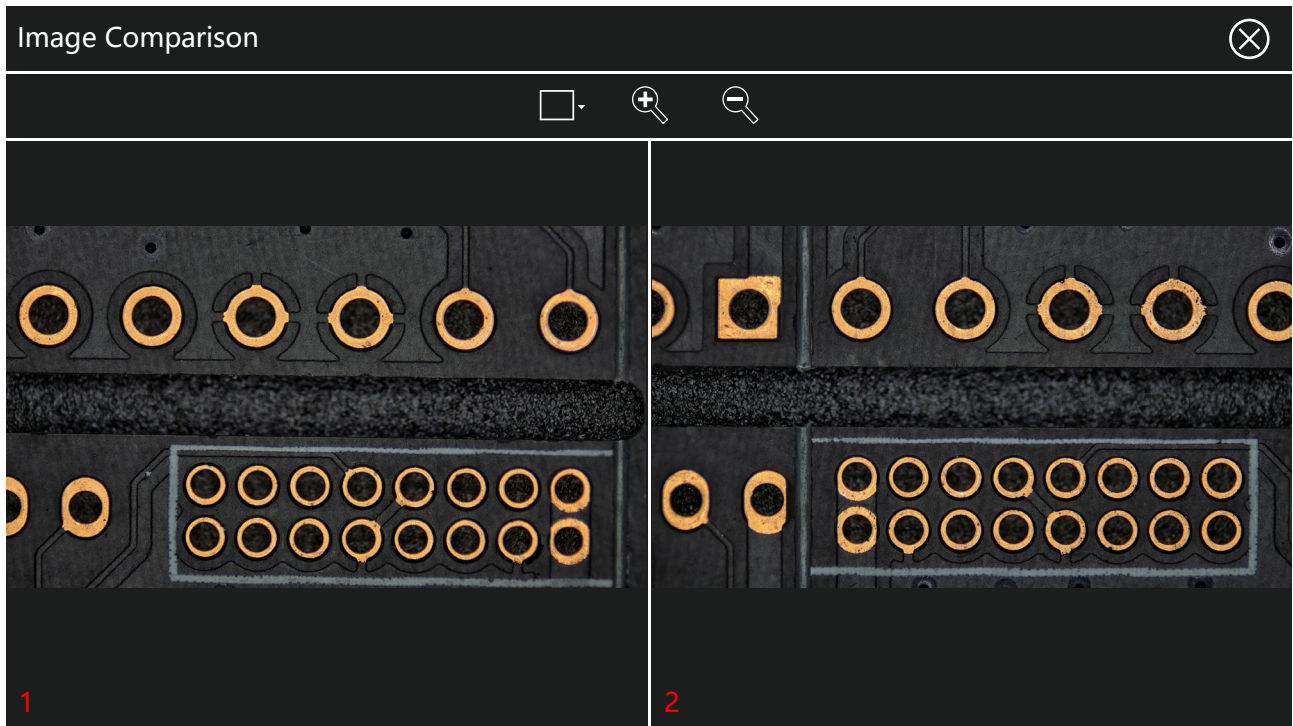
Annotate measurements directly onto the live image for instant clarity. All notes and marks are editable and savable, streamlining report generation and data traceability.





## 08 Side-by-Side Image Compare – Spot Differences Instantly, Boost Inspection Speed

-   This feature displays the live inspection image alongside a captured reference image, enabling quick and precise identification of even the subtlest differences between test and standard samples.



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