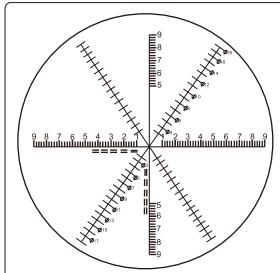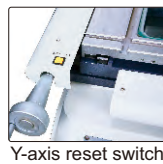**INSPECTION CERTIFICATE**

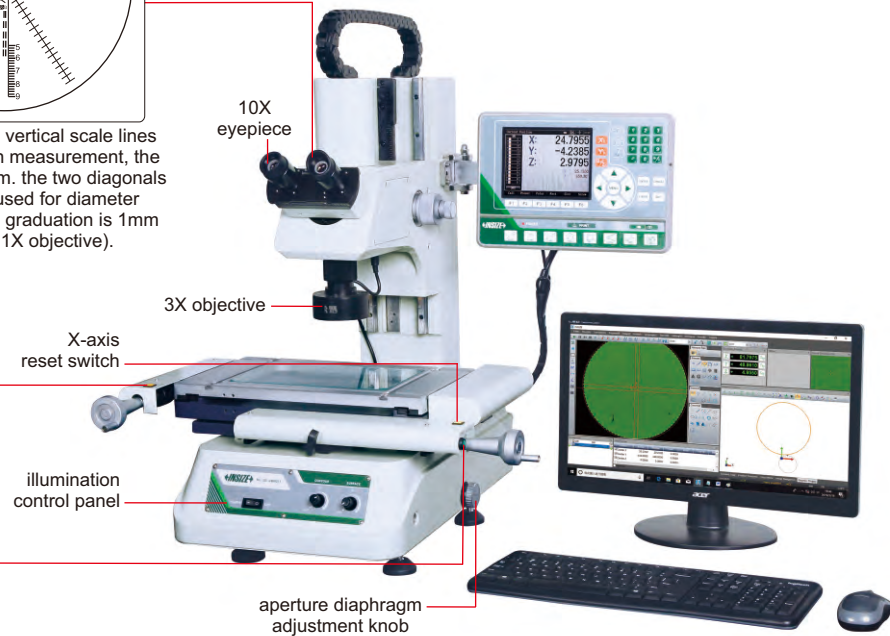**VIDEO**

10X dividing eyepiece

the horizontal and vertical scale lines are used for length measurement, the graduation is 0.2mm. the two diagonals scale lines are used for diameter measurement, the graduation is 1mm (when using 1X objective).

10X eyepiece

3X objective

X-axis reset switch

Y-axis reset switch

illumination control panel

laser positioning switch

aperture diaphragm adjustment knob

computer is optional

ISD-VMM215

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SPECIFICATION

Code	binocular	ISD-VMM205	ISD-VMM215	ISD-VMM225	ISD-VMM235
	monocular	ISD-VMM205D	ISD-VMM215D	ISD-VMM225D	ISD-VMM235D
X/Y axis travel		150×100mm	200×100mm	250×150mm	300×200mm
Z axis travel		150mm	150mm	200mm	200mm
Metal stage size		354×228mm	404×228mm	450×280mm	500×330mm
Glass stage size		210×160mm	260×160mm	306×196mm	350×250mm
Resolution of X/Y/Z axis		0.5µm			
Accuracy of X/Y axis		≤(3.5+L/100)µm (L is the measuring length in mm)			
Repeatability		2µm			
Camera		1/3" color CCD, 0.3M pixel			
Optical magnification		30X (with 3X objective)			
Image magnification		114X (on 19" monitor)			
Illumination		surface and contour with adjustable LED			
Max. weight of workpiece		25kg			
Power supply		100V~240V, 50/60Hz			
Operation system		Windows 7/8/10			
Drive method		manual			
Dimension (L×W×H)		540×667×850mm	540×667×850mm	800×675×920mm	800×675×920mm
Weight		100kg	110kg	135kg	140kg

DATA PROCESSING UNIT

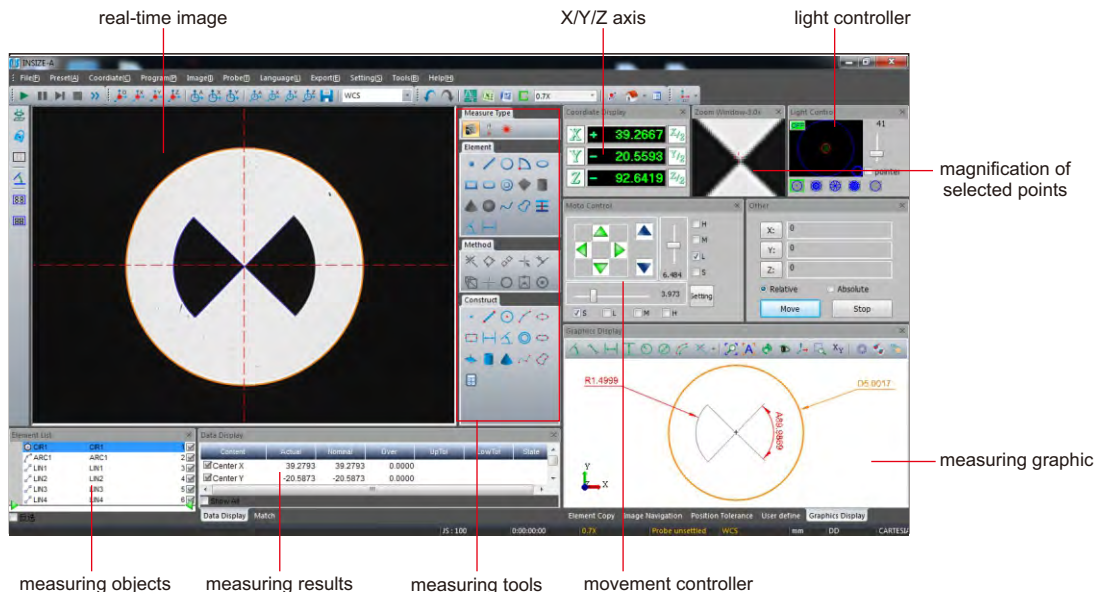| Output	RS232
Function	☼ simple measuring tools
	¤ measure coordinate of points
	⊶ measure lines
	⊙ measure center coordinate, radius of circle with three points
	◹ measure distances betwen two objects
	⊲ measure angles
	↳ set origin of coordinate
	◿ skew and calibrate the workpiece
	⬚ measure rectangle (including length, width, perimeter and center coordinate)
	⋙ measure thread (including thread diameter, screw pitch, screw angle)
	⬭ measure slot (including center coordinate, length, width)

STANDARD DELIVERY

Main unit	1 pc
Video card with dongle	1 pc
Software disc	1 pc
Calibration glass chart	1 pc
Demo sample	1 pc
Foot switch	1 pc
3X objective	1 pc

OPTIONAL ACCESSORY

1X objective	ISD-VMM-LENS1X
5X objective	ISD-VMM-LENS5X
10X objective	ISD-VMM-LENS10X
Toolmaker microscopes (with computer)	Code: **ISD-VMM205A** (binocular) **ISD-VMM215A** (binocular) **ISD-VMM225A** (binocular) **ISD-VMM235A** (binocular) Code: **ISD-VMM205DA** (monocular) **ISD-VMM215DA** (monocular) **ISD-VMM225DA** (monocular) **ISD-VMM235DA** (monocular)

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SOFTWARE (INCLUDED)

- Refer to page 409~410 for details

real-time image   X/Y/Z axis   light controller

magnification of selected points

measuring graphic

measuring objects   measuring results   measuring tools   movement controller

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AUTO FOCUS

TAKE PICTURES AND VIDEOS

MEASUREMENT

VIDEO

AUTO FOCUS DIGITAL MICROSCOPE (LARGE VIEW FIELD)
CODE 5302-AF105

power on/off
HDMI port
USB port
memory card
power port
built-in lens
LED illumination
360° rotation
front/back adjustment
stand
locking ring
up/down adjustment
mouse

TV is optional (HDMI port)

1~14X optical zoom adjustment
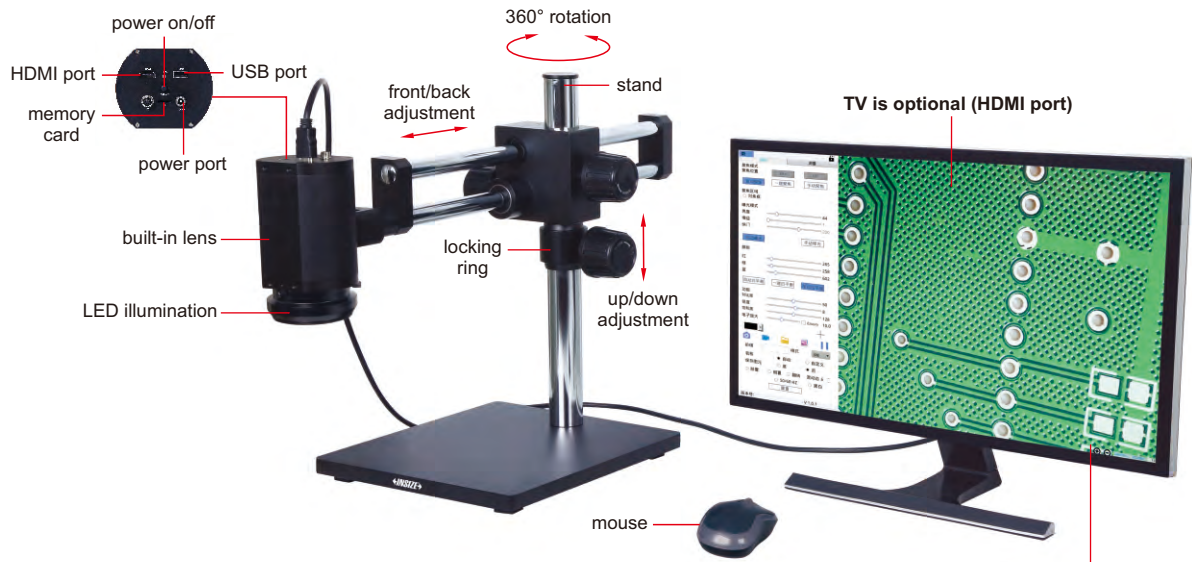
- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to memory card
- Connected to TV by HDMI port
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/brown colors)
- Built-in software without computer, operation by mouse
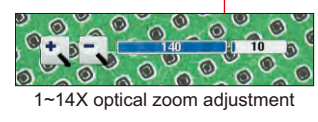
SPECIFICATION

Magnification	1.8X~27.5X (on 28" TV)
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Auto focus distance	100mm~∞
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	500×280×410mm
Weight	17kg

Focus distance	Adjustable magnification (on 28" TV)	View field	Measuring accuracy
100mm	4.5~27.5X	24×14~161×90mm	0.02mm
150mm	3~21X	30×17~240×128mm	0.02mm
200mm	2.3~17.5X	38×20~305×176mm	0.02mm
250mm	2~15X	42×24~320×210mm	0.02mm
270mm	1.8~14.4X	43×25~378×240mm	0.02mm

MEASURING SOFTWARE (INCLUDED)

assist tools
measuring tools
calibration
measuring results
real-time image
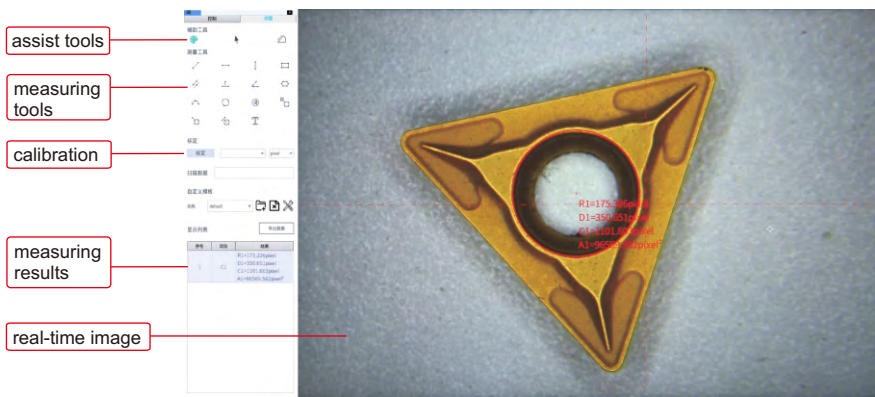
STANDARD DELIVERY

Main unit (with stand)	1 pc
LED illumination	1 pc
16G memory card and holder	1 pc
Mouse	1 pc
HDMI cable (for TV)	1 pc
Power adapter	2 pcs

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HIGH-DEFINITION AUTO FOCUS MEASURING MICROSCOPE (WITH DISPLAY)
CODE 5315-S710

IMAGE STITCHING   DUAL SCREEN OPERATION   FOCUS STACKING

mode switch

memory card

HDMI port

USB port

power

13.3" LCD

step-zoom lens 0.75X~5X (zoom)

fine focus knob (graduation: 2μm)

LED

mouse

VIDEO

focus stacking

focus on the top

+

focus on the bottom

clear image of both top and bottom
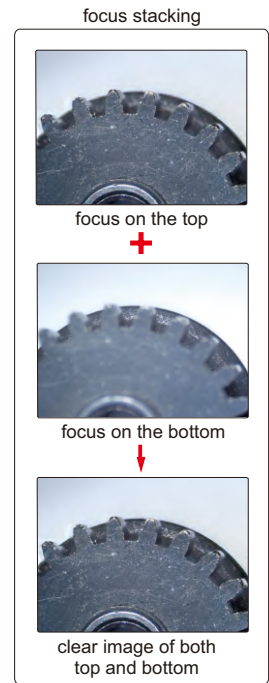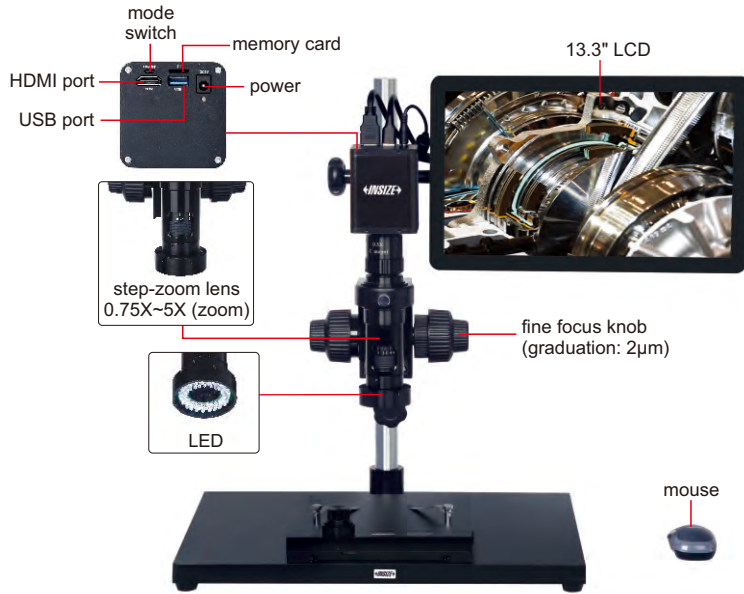
- 12M high-definition image
- Switchable LCD mode and computer mode
- Take pictures or videos, save to memory card
- Measurement results can be sent to Excel
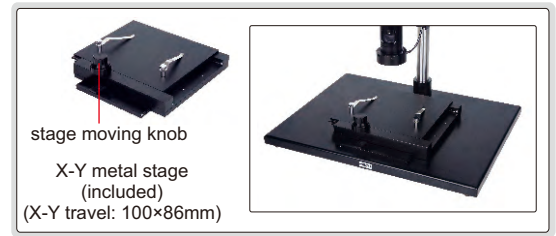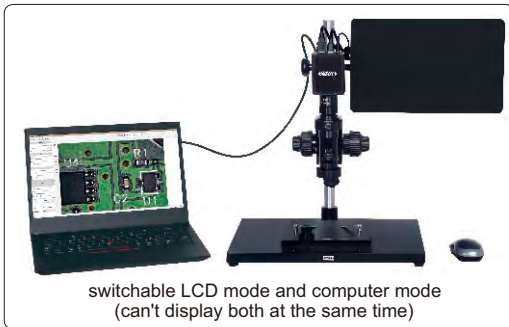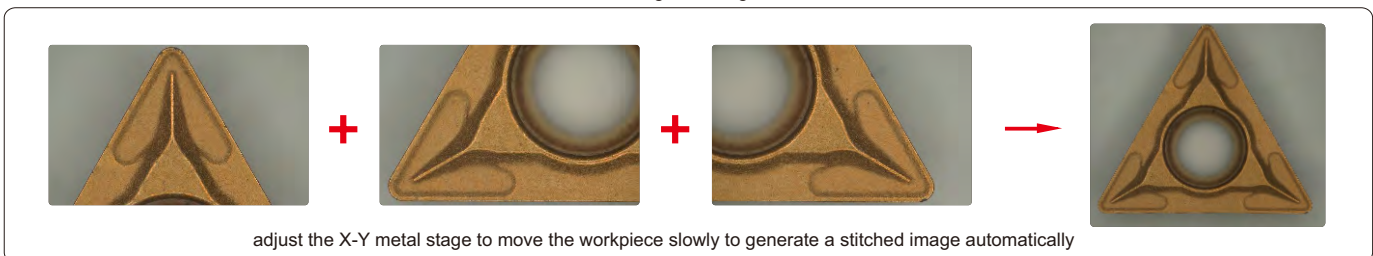- Auto focus
- Automatic white balance and exposure

calibration plate (included)

1X camera adapter (**optional**)

2X auxiliary objective (**optional**)

switchable LCD mode and computer mode (can't display both at the same time)

stage moving knob

X-Y metal stage (included) (X-Y travel: 100×86mm)

image stitching

+   +   →

adjust the X-Y metal stage to move the workpiece slowly to generate a stitched image automatically

To be continued

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SPECIFICATION

Magnification	15X~100X (on 13.3" LCD)
Sensor	1/1.7" CMOS
Pixel	12M
Resolution	4000×3000
Frame rate	60fps
Output	HDMI/USB
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD (on 13.3" LCD)

Specification	Camera adapter	
	0.5X (included)	**1X (optional)**
Magnification	15~100X	30~200X
Focus distance	80±2mm	80±2mm
View filed	20.0×11.2~5.5×3.1mm	10.0×5.6~2.7×1.5mm

STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
32G memory card	1 pc
Mouse	1 pc
X-Y metal stage	1 pc

OPTIONAL ACCESSORY

1X camera adapter	**ISM-DL-CA1X**
2X auxiliary objective	**ISM-DL-OB2X**
Computer	**ISM-DL-COMPUTER**
LED light	**Page 431~432**
Auxiliary objective	**Page 433**

MAGNIFICATION AND MEASURING ACCURACY (on 13.3" LCD)

Objective magnification	Image magnification	Measuring accuracy
0.75X	15X	±2mm
1X	20X	±2mm
1.5X	30X	±2mm
2X	40X	±2mm
2.5X	50X	±2mm
3X	60X	±2mm
3.5X	70X	±2mm
4X	80X	±1mm
4.5X	90X	±1mm
5X	100X	±1mm

SOFTWARE FOR LCD (INCLUDED)

focus
AF ROI
AE
AWB

aassist tools
main tool
calibration
list show

SOFTWARE FOR COMPUTER (INCLUDED)

real-time image   calibration   measuring tools

focus mode
focus area
exposure
white balance
function
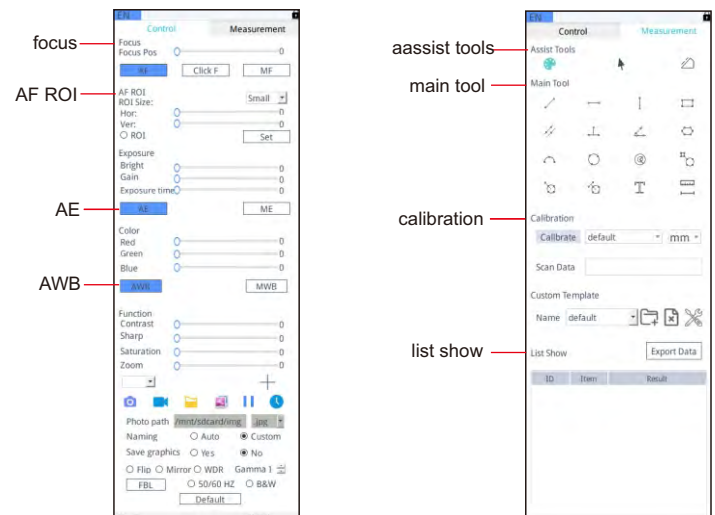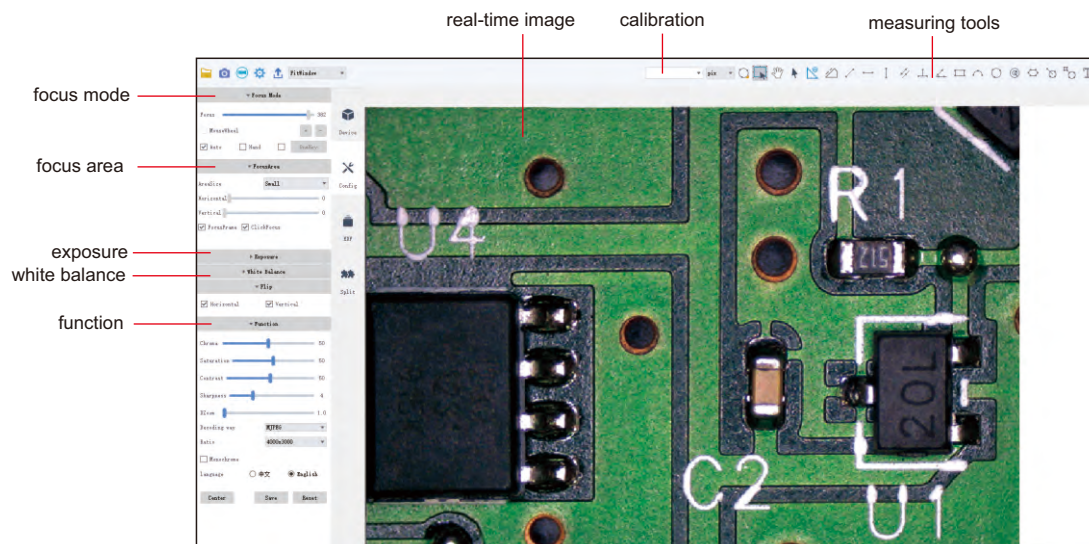
AUTO FOCUS DIGITAL MICROSCOPE (WITH DISPLAY)
CODE 5303-AF103

AUTO FOCUS   **TAKE PICTURES AND VIDEOS**   **VIDEO**

USB port
HDMI port
power port

13.3" LCD

0.75X~5X zoom lens

focus adjustment

LED light
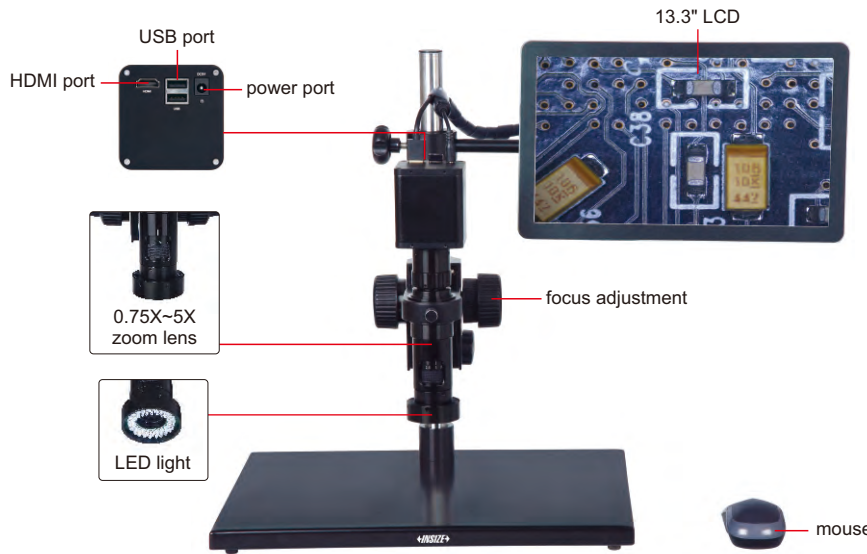
mouse

16G USB flash disk (included)
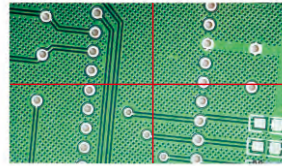
0.5X camera adapter (included)

1X auxiliary objective

1X auxiliary objective (included)

- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to USB flash disk
- Picture review, picture compare
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
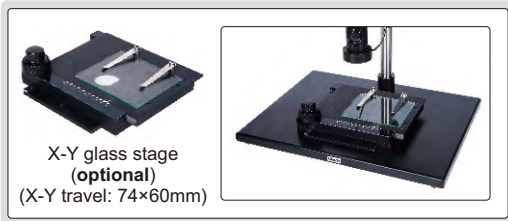- Display cross hair (blue/green/red/yellow/black/ brown colors)

display cross hair
(blue/green/red/yellow/
black/brown colors)

1X camera adapter
(**optional**)

2X auxiliary objective
(**optional**)

X-Y glass stage
(**optional**)
(X-Y travel: 74×60mm)

SPECIFICATION

Magnification	20X~123X
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm
Weight	6.5kg

STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
HDMI cable	1 pc
Power adpter	2 pcs

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	20~123X	40~246X
	Focus distance	48~84mm	48~84mm
	View field	13×7~2.2×1mm	6.3×3.5~1.1×0.5mm
2X (optional)	Magnification	40~246X	80~492X
	Focus distance	24~42mm	24~42mm
	View field	6.5×3.5~1.1×0.5mm	3.3×1.8~0.6×0.3mm

AUTO FOCUS DISTANCE

Zoom objective scale	0.75X	1X	1.5X	2X	2.5X
Auto focus distance	48~84mm	50~78mm	55~73mm	62~71mm	65~70mm

Zoom objective scale	3X	3.5X	4X	4.5X	5X
Auto focus distance	66~70mm	67~70mm	68~70mm	68~70mm	68~70mm

OPTIONAL ACCESSORY

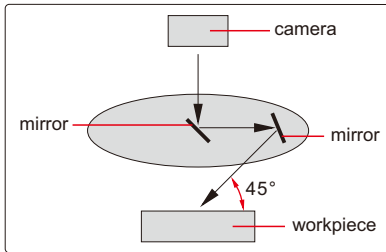| 1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 74×60mm)	ISM-DL-STAGE
X-Y metal stage	ISM-DL-STAGE1
LED light	page 431~432
Auxiliary objective	page 433

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3D MOTORIZED ROTATION MICROSCOPE (WITH DISPLAY)
CODE 5301-D400

SUITABLE TO CHECK CONVEX OBJECTS AND WALL OF HOLE

TAKE PICTURES AND VIDEOS

13.3" LCD

USB port

HDMI port — power

focus adjustment

360° rotation lens with LED

18X~120X zoom

illumination on/off

illumination adjustment

rotary switch

zoom

rotation speed adjustment

rotation direction switch

rotation controller

X-Y metal stage

mouse

VIDEO

working principle

camera

mirror

mirror
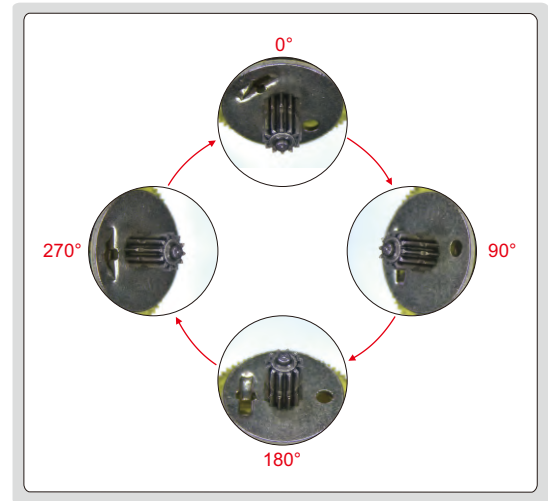
45°
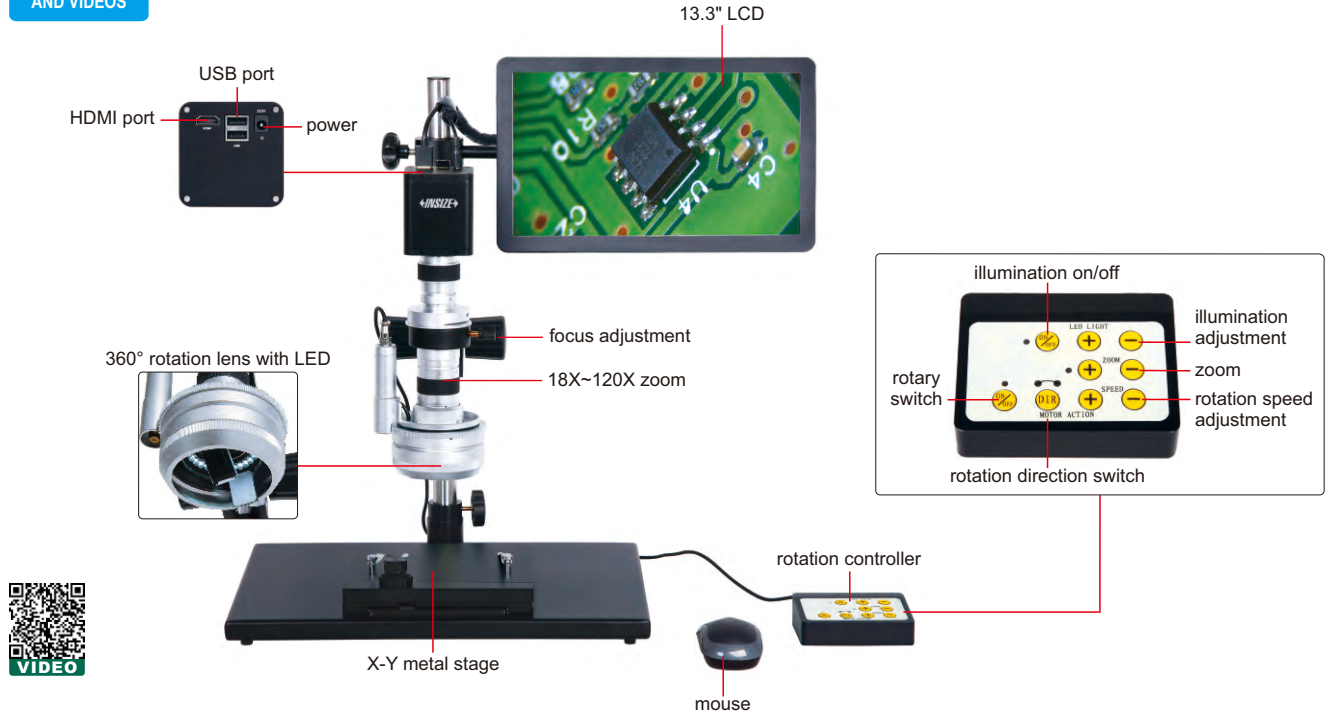
workpiece

- 1080P high-definition 3D image
- Take pictures and videos, save to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio and gain are adjustable

0°

270°

90°

180°

360° rotation observation

18

SPECIFICATION

Magnification	18X~120X
View field	2.4×1.5mm~16×9mm
Focus distance	20mm
View angle	45°
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Rotation speed	2~5RPM
Power supply	110/220V, 50/60Hz
Dimension (L×W×H)	570×300×430mm
Weight	10kg

STANDARD DELIVERY

Main unit	1 pc
Rotation controller	1 pc
X-Y metal stage	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
Power adapter	2 pcs

3D MANUAL ROTATION MICROSCOPE (WITH DISPLAY)
CODE 5313-S407

SUITABLE TO CHECK CONVEX OBJECTS AND WALL OF HOLES

TAKE PICTURES AND VIDEOS

USB port
HDMI port
power
13.3" LCD
focus adjustment
0.7X~4.5X zoom
360° manual rotation lens with LED
rotation handle
illumination controller
X-Y metal stage
mouse

VIDEO

working principle

camera
mirror
mirror
45°
workpiece

0°
90°
180°
270°
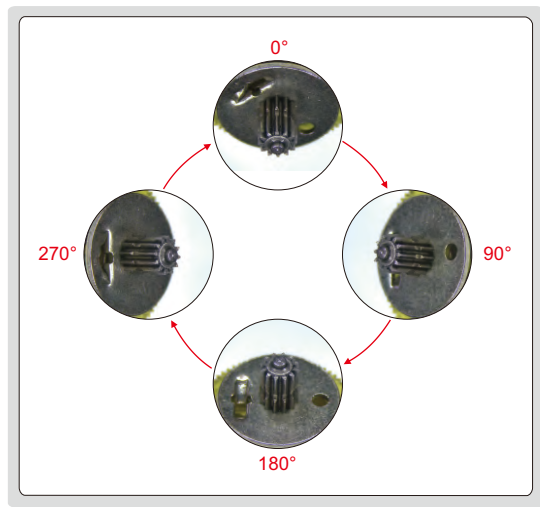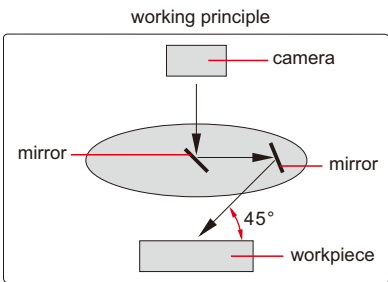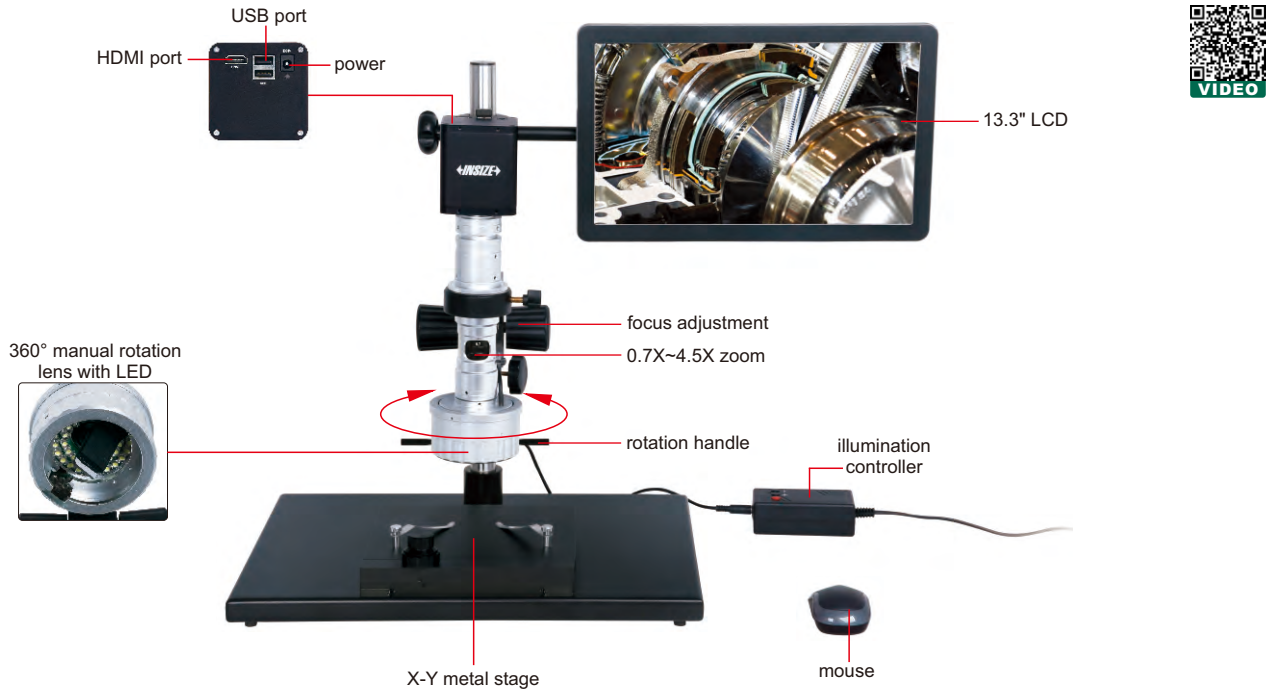
360° rotation observation

SPECIFICATION

Magnification	18X~120X
View field	2.4×1.5mm~16×9mm
Focus distance	20mm
View angle	45°
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	220V, 50/60Hz
Dimension (L×W×H)	570×300×430mm
Weight	10kg

STANDARD DELIVERY

Main unit	1 pc
X-Y metal stage	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
Power adapter	2 pcs

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DIGITAL MEASURING MICROSCOPES (WITH DISPLAY)

VIDEO

0.5X camera adapter
(included)

1X auxiliary
objective
1X auxiliary objective
(included)

calibration plate
(included)

16G USB flash disk
(included)

1X camera adapter
(**optional**)

2X auxiliary objective
(**optional**)

power — HDMI port — USB ports — 13.3" LCD

step-zoom lens
0.75X~5X (zoom)

fine focus knob
(graduation: 2µm)

LED

mouse

ISM-DL300 (without contour illumination)

- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

power — HDMI port — USB ports — 13.3" LCD

step-zoom lens
0.75X~5X (zoom)

fine focus knob
(graduation: 2µm)

LED

contour illumination
brightness adjustment

mouse

contour
illumination

ISM-DL301 (with contour illumination)
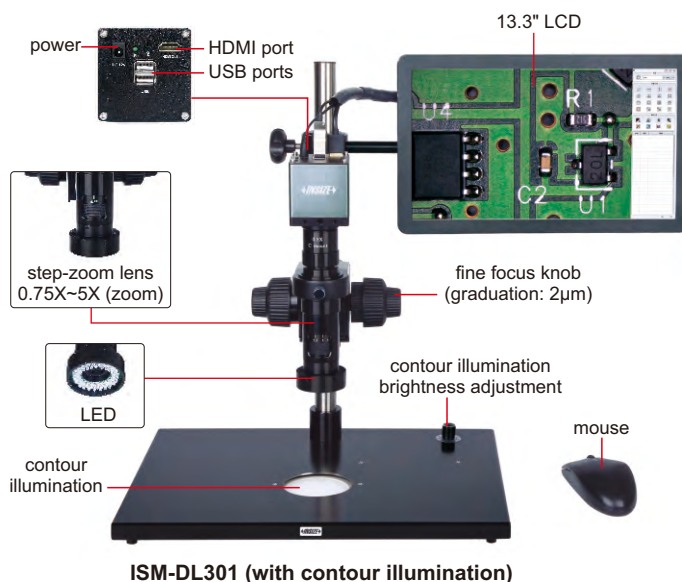
SPECIFICATION

Code	ISM-DL300 (without contour illumination)	ISM-DL301 (with contour illumination)
Magnification	15X~100X	
Sensor	1/2" CMOS	
Pixel	2M	
Resolution	1920×1080	
Frame rate	60fps	
Output	HDMI	
Power supply	power adapter	
Dimension (L×W×H)	570×300×430mm	
Weight	6.5kg	

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STANDARD DELIVERY

Code	ISM-DL300	ISM-DL301
Main unit	1 pc	1 pc
0.5X camera adapter	1 pc	1 pc
1X auxiliary objective	1 pc	1 pc
Calibration plate	1 pc	1 pc
16G USB flash disk	1 pc	1 pc
White/black plate	1 pc	1 pc
Mouse	1 pc	1 pc
HDMI cable	1 pc	1 pc
Power adapter	2 pcs	3 pcs

OPTIONAL ACCESSORY

1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 74×60mm)	ISM-DL-STAGE
X-Y metal stage	ISM-DL-STAGE1
LED light	page 431~432
Auxiliary objective	page 433

MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Image magnification	Measuring accuracy*
0.75X	15X	±8μm
1X	20X	±7μm
1.5X	30X	±6μm
2X	40X	±6μm
2.5X	50X	±6μm
3X	60X	±5μm
3.5X	70X	±5μm
4X	80X	±4μm
4.5X	90X	±4μm
5X	100X	±4μm

* When measuring the contour of workpieces, please use **ISM-DL301** to ensure accuracy.

X-Y glass stage
(**optional**)
(X-Y travel: 74×60mm)

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	15~100X	30~200X
	Focus distance	70±2mm	70±2mm
	View filed	16×11~2.5×1.6mm	7.8×5.3~1.2×0.8mm
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	29±2mm	29±2mm
	View filed	7.8×5.3~1.2×0.8mm	3.8×2.7~0.6×0.4mm

18

SOFTWARE (INCLUDED)

real-time image   measurement   calibration

A1=59.699°
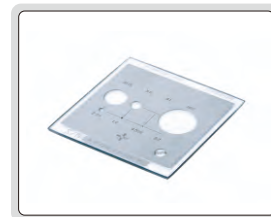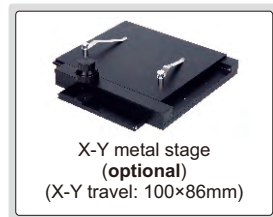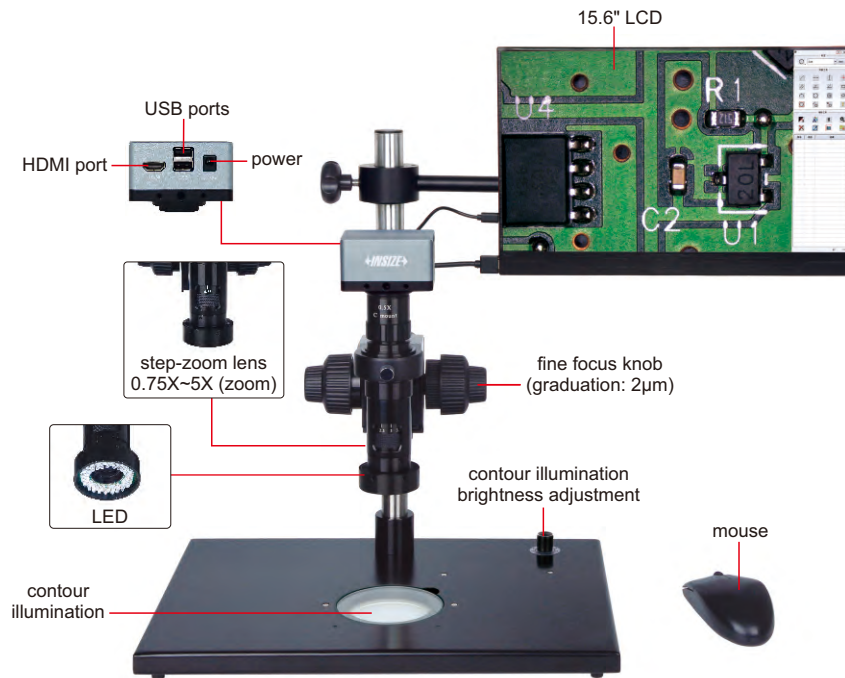A1'=300.301°

measuring tools

assist tools

measuring results

BUILT-IN SOFTWARE WITHOUT COMPUTER **TAKE PICTURES** **MEASUREMENT**

4K DIGITAL MEASURING MICROSCOPE (WITH DISPLAY)
CODE 5310-DL401

15.6" LCD

USB ports

HDMI port — power

step-zoom lens 0.75X~5X (zoom)

fine focus knob (graduation: 2μm)

LED

contour illumination brightness adjustment

mouse

contour illumination

VIDEO

X-Y glass stage (**optional**) (X-Y travel: 74×60mm)

X-Y metal stage (**optional**) (X-Y travel: 100×86mm)

calibration plate (included)

16G USB flash disk (included)

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- 4K high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

0.5X camera adapter (included)

1X auxiliary objective (included)

SPECIFICATION

Magnification	17.6X~120X
Sensor	1/2.3" CMOS
Pixel	8M
Resolution	3840×2160
Frame rate	4K: 30fps, 1080P: 60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm
Weight	6.5kg

1X camera adapter (**optional**)

2X auxiliary objective (**optional**)

To be continued

MAGNIFICATION, VIEW FIELD AND MEASURING ACCURACY

Objective magnification	Image magnification	View field	Measuring accuracy
0.75X	17.6X	19.5×11.5mm	±5µm
1X	23.7X	14.0×8.0mm	±5µm
1.5X	36.6X	9.0×5.0mm	±5µm
2X	49X	7.0×4.0mm	±5µm
2.5X	62X	5.5×3.0mm	±4µm
3X	73X	4.5×2.5mm	±4µm
3.5X	85X	4.0×2.2mm	±4µm
4X	97X	3.5×2.0mm	±3µm
4.5X	109X	3.0×1.8mm	±3µm
5X	120X	2.7×1.5mm	±3µm

STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
HDMI cable	1 pc
Power adapter	3 pcs

OPTIONAL ACCESSORY

1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 74×60mm)	ISM-DL-STAGE
X-Y metal stage (travel: 100×86mm)	ISM-DL-STAGE1
LED light	page 431~432
Auxiliary objective	page 433

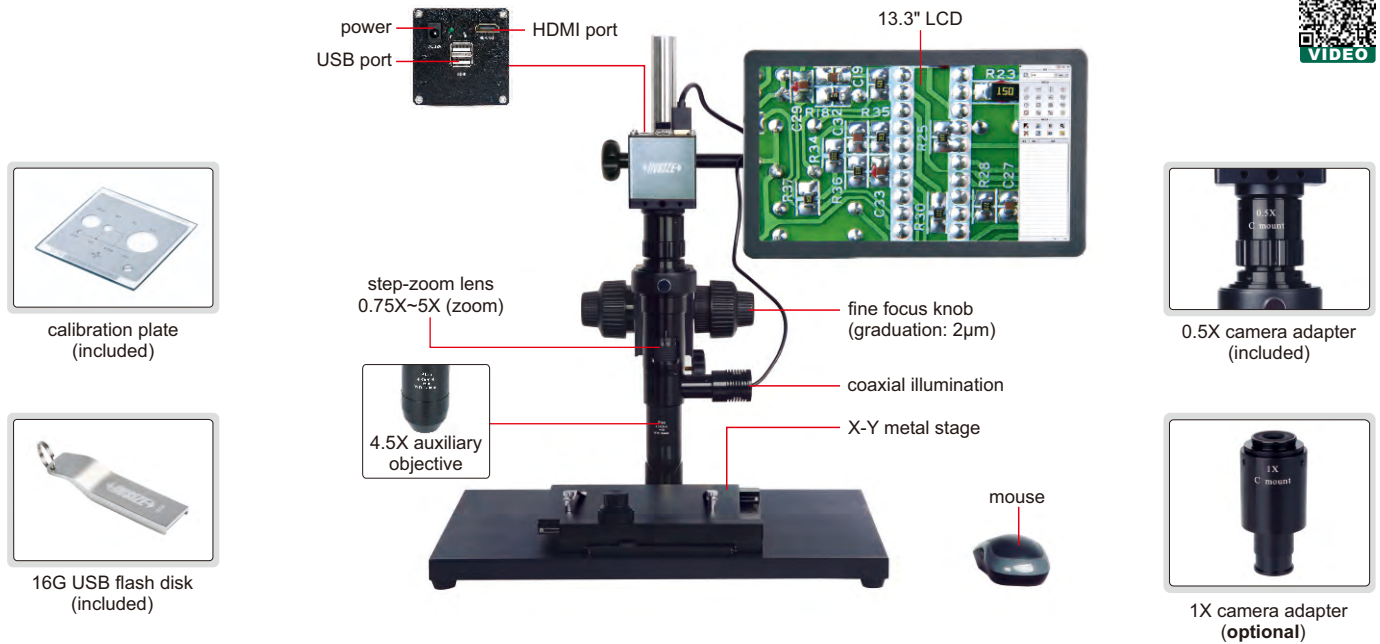**18**

SOFTWARE (INCLUDED)

■ Refer to page 428 for details
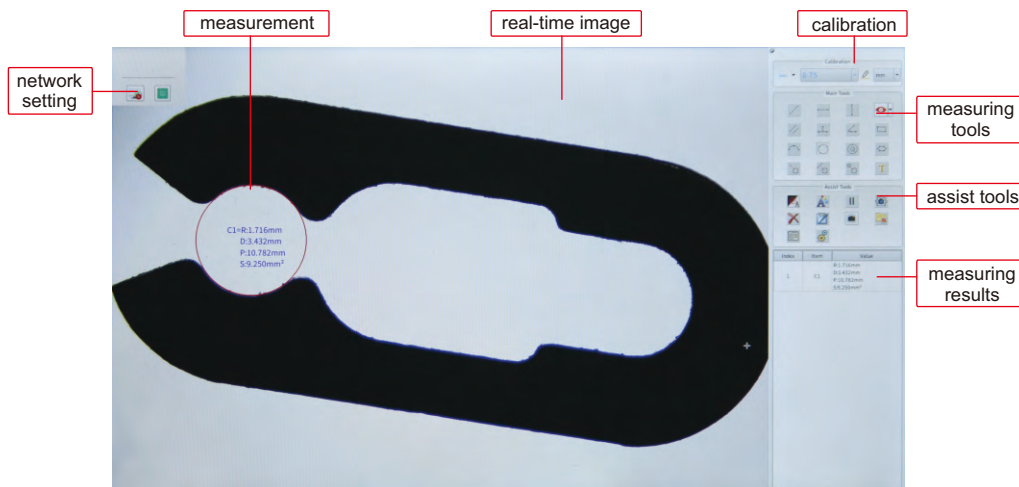
OBSERVATION AND MEASURMENT AT HIGH MAGNIFICATION

SOFTWARE IS INCLUDED, REFER TO page 428 FOR DETAILS

HIGH MAGNIFICATION MEASURING MICROSCOPE (WITH DISPLAY) CODE ISM-DL302

power
HDMI port
USB port
13.3" LCD

step-zoom lens 0.75X~5X (zoom)
fine focus knob (graduation: 2µm)

4.5X auxiliary objective
coaxial illumination
X-Y metal stage
mouse

VIDEO

calibration plate (included)

0.5X camera adapter (included)

16G USB flash disk (included)

1X camera adapter (**optional**)

- 1080P high-definition image
- Maximum 1000X optical magnification (using camera adapter 1X, optional)
- Built-in software without computer, operated by mouse
- Solid base and column to avoid lens shaking during focusing
- Software is included, refer to page 428 for details

SPECIFICATION

Magnification	78X~504X
Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm
Weight	15kg

SATNDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
4.5X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
Mouse	1 pc
HDMI cable	1 pc
X-Y metal stage	1 pc

OPTIONAL ACCESSORY

1X camera adapter	ISM-DL-CA1X
LED light	page 431~432

MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Image magnification	Measuring accuracy
0.75X	78X	±5µm
1X	102X	±4µm
1.5X	153X	±4µm
2X	204X	±4µm
2.5X	255X	±4µm
3X	305X	±4µm
3.5X	356X	±4µm
4X	408X	±4µm
4.5X	458X	±4µm
5X	504X	±4µm

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Camera adapter	0.5X (included)	1X (**optional**)
Magnification	78~504X	156~1008X
Focus distance	14±2mm	14±2mm
View field	2.8×1.7~0.5×0.3mm	1.4×0.9~0.3×0.2mm

18

FOCUS STACKING MEASURING MICROSCOPE (WITH DISPLAY) CODE ISM-DL510

BUILT-IN SOFTWARE WITHOUT COMPUTER

FOCUS STACKING
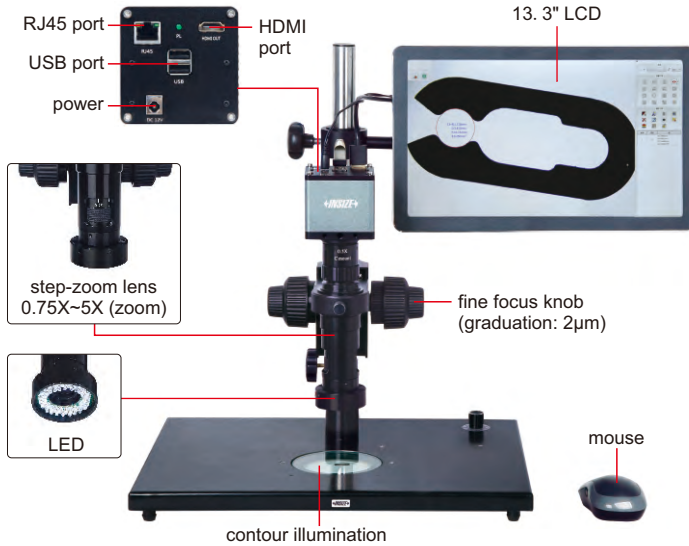
RJ45 port
USB port
power
HDMI port
13. 3" LCD
step-zoom lens 0.75X~5X (zoom)
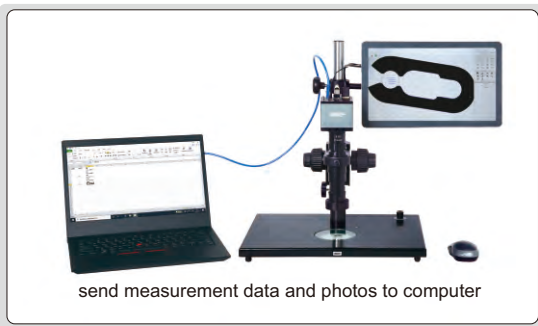LED
fine focus knob (graduation: 2μm)
mouse
contour illumination

VIDEO

- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Focus stacking
- Send photos and measurement data via ethernet (TCP/IP)
- Name photos and measurement data files with serial number of workpieces read by scanner

focus stacking

focus on the top

+

focus on the bottom

clear image of both top and bottom

send measurement data and photos to computer

1X auxiliary objective

1X auxiliary objective (included)

2X auxiliary objective (**optional**)

0.5X camera adapter (included)

1X camera adapter (**optional**)

SPECIFICATION

Magnification	15X~100X
Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm

425

STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
Power adapter	3 pcs

OPTIONAL ACCESSORY

1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 74×60mm)	ISM-DL-STAGE
Scanner and hub	7328-SCAN
LED light	page 431~432
Auxiliary objective	page 433

MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Image magnification	Measuring accuracy
0.75X	15X	±8µm
1X	20X	±7µm
1.5X	30X	±6µm
2X	40X	±6µm
2.5X	50X	±6µm
3X	60X	±5µm
3.5X	70X	±5µm
4X	80X	±4µm
4.5X	90X	±4µm
5X	100X	±4µm

X-Y glass stage
(**optional**)
(X-Y travel: 74×60mm)

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	15~100X	30~200X
	Focus distance	70±2mm	70±2mm
	View filed	16×11~2.5×1.6mm	7.8×5.3~1.2×0.8mm
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	29±2mm	29±2mm
	View filed	7.8×5.3~1.2×0.8mm	3.8×2.7~0.6×0.4mm

SOFTWARE (INCLUDED)

- Refer to page 428 for details

network setting

measurement

real-time image

calibration

measuring tools

assist tools

measuring results
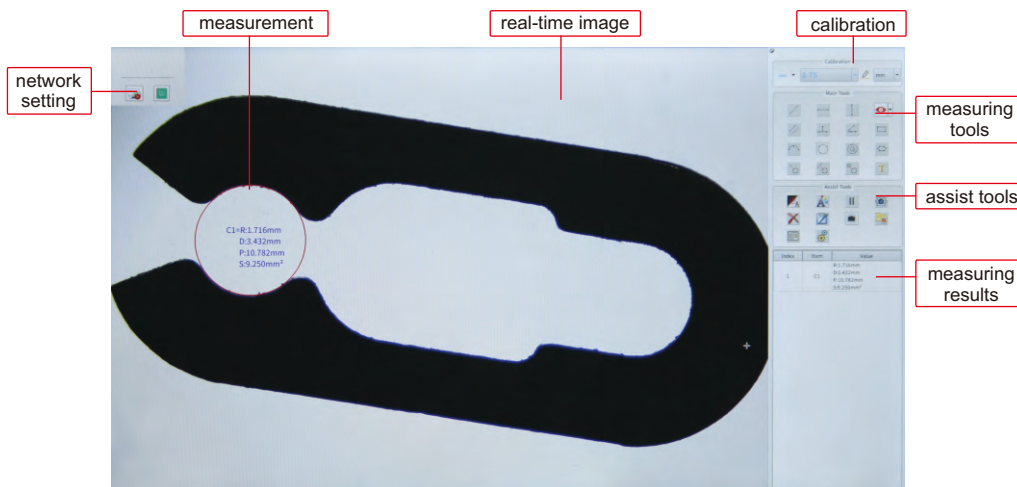
DIGITAL MEASURING MICROSCOPE
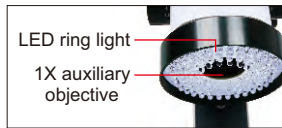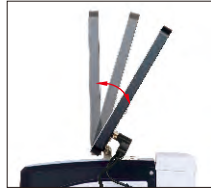## CODE 5307-ID100A

ELECTRONIC MAGNIFICATION FEEDBACK LENS

BUILT-IN SOFTWARE WITHOUT COMPUTER

VIDEO

- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed
- Two methods of LED brightness adjustment, knob adjustment and software adjustment
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measuring results can be sent to Excel

adjustable display angle

11.6" LCD

USB ports
objective magnification adjustment (0.7X~4.5X)
focus adjustment

LED ring light
1X auxiliary objective

illumination brightness adjustment
power on/off

mouse

SPECIFICATION

Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Magnification	12~77X
Focus distance	100mm
View field	2.7×1.9~17.5×11.9mm
Max workpiece height	60mm
Frame rate	60fps
Output	USB/HDMI
Power supply	power adapter
Dimension (L×W×H)	610×610×660mm
Weight	4.5kg

STANDARD DELIVERY

Main unit	1 pc
Calibration plate	1 pc
Power adapter	1 pc
Mouse	1 pc
16G USB flash disk	1 pc

MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Magnification	Measuring accuracy
0.7X	12X	±9µm
1X	17X	±9µm
1.5X	26X	±8µm
2X	35X	±7µm
2.5X	43X	±7µm
3X	51X	±7µm
3.5X	60X	±6µm
4X	68X	±6µm
4.5X	77X	±5µm

SOFTWARE (INCLUDED)

- Refer to page 428 for details

measurement   real-time image   calibration

measuring tools

gridlines

illumination brightness adjustment

assist tools

measuring results
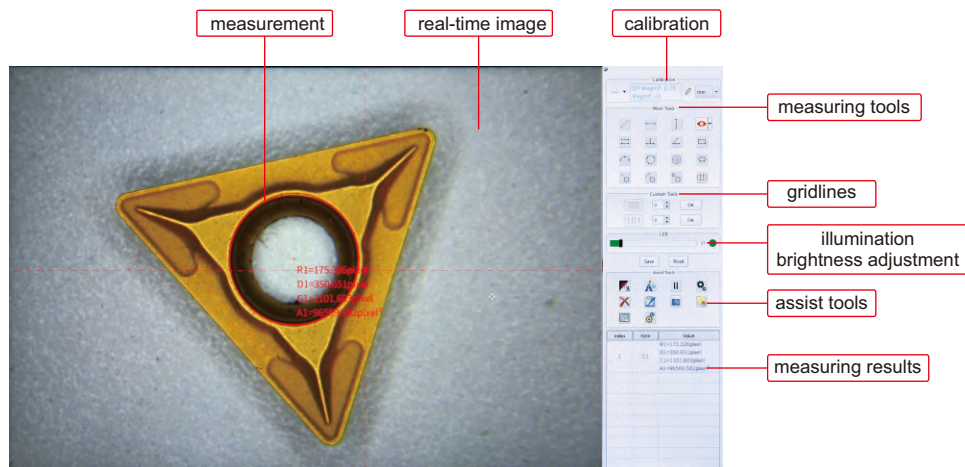
MEASURING SOFTWARE OF DIGITAL MICROSCOPES

real-time image | measurement | zoom in | calibration

measuring tools

assist tools

measuring results

A1=59.699°
A1'=300.301°
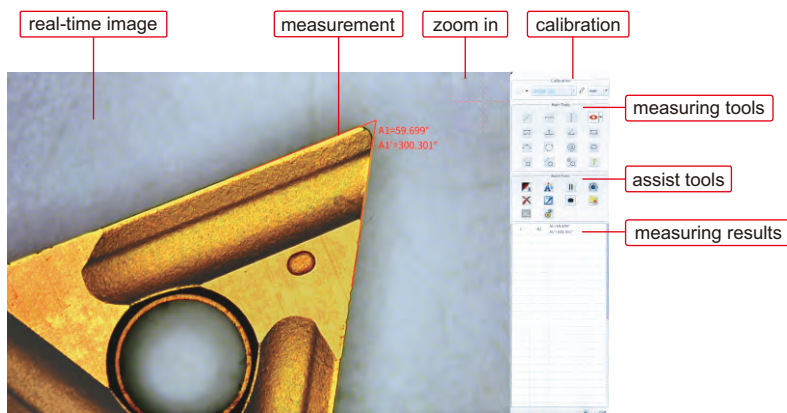
■ **Included in digital microscopes (ISM-DL300, ISM-DL301, 5310-DL401, ISM-DL302, ISM-DL510, 5307-ID100A)**

■ **Language:** Simplified Chinese, Traditional Chinese, English, Korean
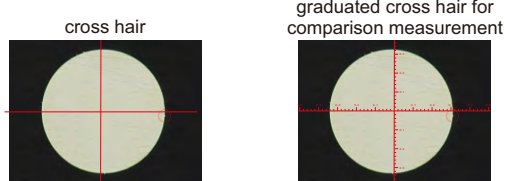
■ **Calibration:**

circle calibration   unit selection

■ **Edge-detection:**

point tool   box tool   click tool
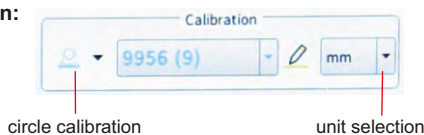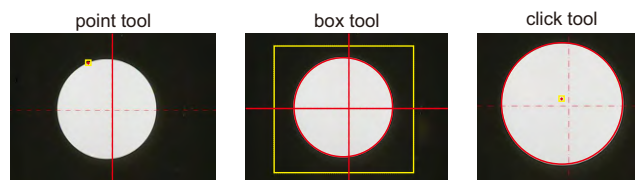
■ **Measurement tools:**

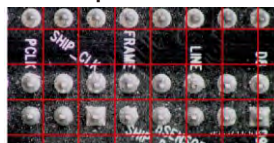|		
measure length of line or distance between two points	measure length of line or distance between two points in horizontal direction	measure length of line or distance between two points in vertical direction
measure angle from horizontal line	measure angle from vertical line	measure angle of two lines
measure distance between two parallel lines	measure distance between two parallel lines	measure distance between multiple parallel lines
measure distance between point and line	measure radius, length and angle of arc	measure girth and area of polygon
measure radius, diameter, girth and area of circle with three points	measure radius, diameter, girth and area concentric of circles	measure length, width, girth and area of rectangle
measure minimum distance between point and circle	measure distance between point and center of circle	measure maximum distance between point and circle
measure minimum distance between line and circle	measure distance between line and center of circle	measure maximum distance between line and circle
measure minimum distance between two circles	measure center distance between two circles	measure maximum distance between two circles
add text	measure radius, diameter, girth and area of circle with two points	cross hair and graduated cross hair

■ **Assist tools:**

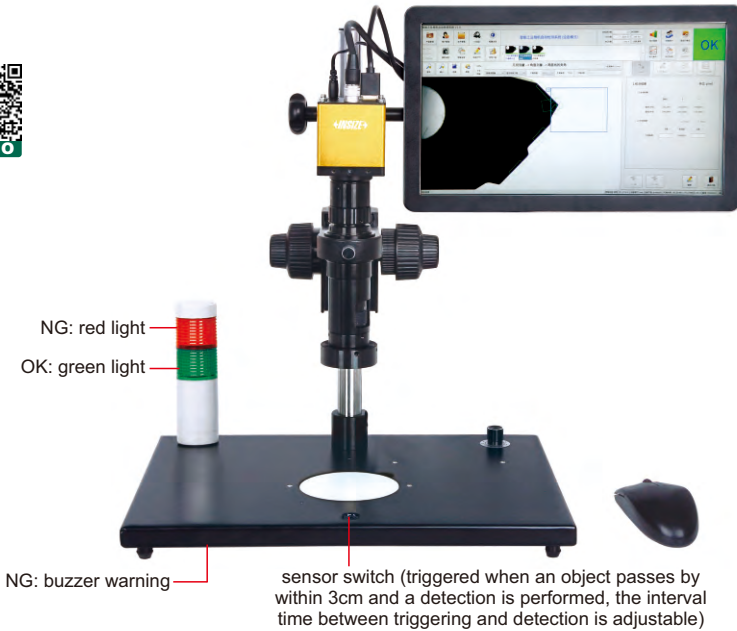|	
manual/automatic point selection	delete images
line width and color settings	export measurement data to U disk
freeze screen	take pictures and save
camera parameter settings	review pictures
layout settings of measurement items	system settings

■ **Comparison:**

set the standard workpiece as the background image, superimpose the measured workpieces on the image for quick comparison

■ **Cross hair:**

cross hair   graduated cross hair for comparison measurement

■ **Grid comparison measurement:**

full-screen grid for comparison measurement, adjustable grid number

■ **Output to Excel:**

| 1 | A1 | A1=59.699° A1'=300.301° |

18

SMART MICROSCOPE
CODE ISM-DL400

AUTOMATICALLY LOCATE WORKPIECES REGARDLESS OF POSITION AND DIRECTION

BUILT-IN SOFTWARE WITHOUT COMPUTER

NG: red light

OK: green light

NG: buzzer warning

sensor switch (triggered when an object passes by within 3cm and a detection is performed, the interval time between triggering and detection is adjustable)

camera function

- surface defect detection
- dimension measurement
- read barcode
- burr detection
- contour matching
- character recognition
- color detection
- read QR code
- object counting
- thread measurment

detect different workpieces at one time
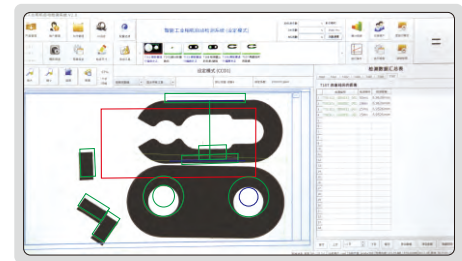
- Automatically identify different workpieces
- Automatically locate workpieces regardless of position and direction
- Built-in software, PLC control input and output interface
- Including multiple detection tools
- Automatically calculate, store the test results and export to Excel

report showing the perform times of each tool, quantity of OK and NG, the report can be saved

report of each detection is automatically created and saved

SPECIFICATION

Magnification	15X~100X
Resolution	1920×1080
Pixel	2M
Single pixel size	3.75×3.75µm
Frame rate	60fps
Sensor	1/2" CMOS
Chip structure	FPGA+ARM
Operation system	Linux 3.10
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm
Weight	6.5kg

STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
HDMI cable	1 pc
Power adapter	3 pcs

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	15~100X	30~200X
	Focus distance	70±2mm	70±2mm
	View filed	16×11~2.5×1.6mm	7.8×5.3~1.2×0.8mm
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	29±2mm	29±2mm
	View filed	7.8×5.3~1.2×0.8mm	3.8×2.7~0.6×0.4mm

OPTIONAL ACCESSORY

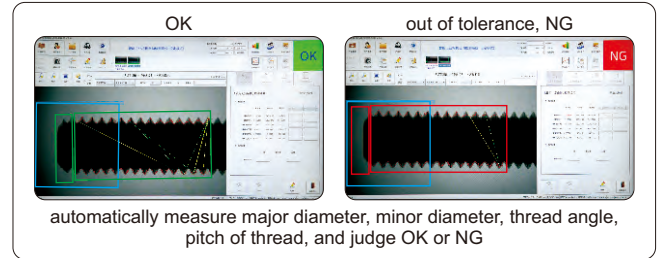|	
1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
LED light	page 431~432
Auxiliary objective	page 433

Continued from previous page
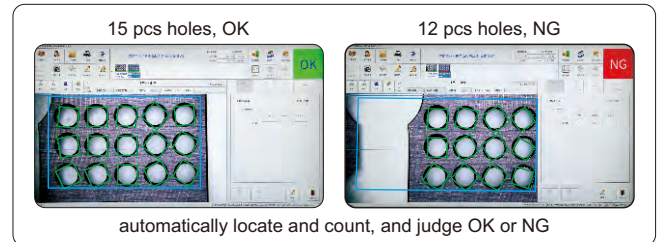
■ **APPLICATION EXAMPLES:**

dimension measurement

OK	out of tolerance, NG

automatically locate and measure, and judge OK or NG

thread measurement

OK	out of tolerance, NG

automatically measure major diameter, minor diameter, thread angle, pitch of thread, and judge OK or NG
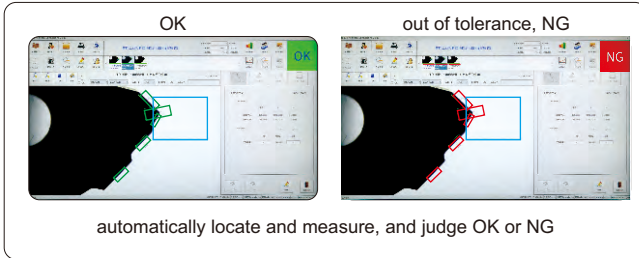
cutting tools measurement

OK	length is too short, NG

measure length and angle

counting

15 pcs holes, OK	12 pcs holes, NG

automatically locate and count, and judge OK or NG

existence or absence

existence, OK	absence, NG

automatically detect the existence or absence of the target

character recognition

character is "EF", OK	character is "E", NG

automatically detect letters or numbers in the area, and judge OK or NG

color detection

OK	sequence error, NG

automatically detect colors, and judge OK or NG

location detection

center line aligned, OK	center line misaligned, NG

automatically detect whether the center line is aligned or not

surface defect detection

no defect, OK	defect, NG

detect missing and burr on the edge of circle, and judge OK or NG

glue detection

complete, OK	broken, NG

automatically detect if there is break of glue, measure width, and judge OK or NG
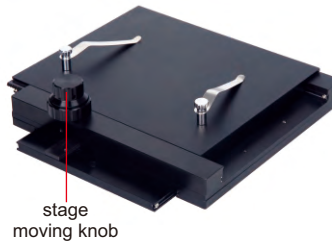
18

X-Y METAL STAGE
CODE ISM-DL-STAGE1

■ Suitable for digital microscopes **5301-D400, 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302**, **5315-S710**

SPECIFICATION

X-Y travel range	100×86mm
Dimension (L×W×H)	180×180×50mm
Weight	2.3kg

stage moving knob

LED RING LIGHT
CODE ISM-LED-9245R

RED, GREEN, BLUE, INFRARED AND UV LIGHT CAN BE CUSTOMIZED

ATTENSION: MUST BE USED WITH LIGHT BRACKET AND LIGHT CONTROLLER

■ Diffuser plate is included to reduce the reflective effect on workpieces
■ Suitable for digital microscopes **5301-D400, 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510**, **5315-S710**

diffuser plate

SPECIFICATION

Light color	white
Power supply	24V
Power	5.5W
Angle	45°
Outside/inside diameter	92/52mm

LED SQUARE LIGHT
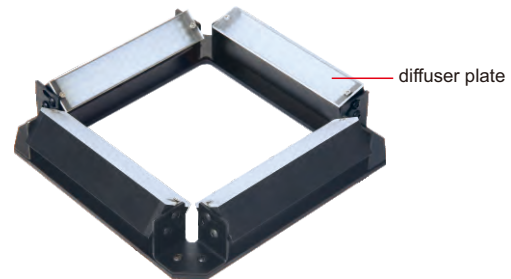## CODE ISM-LED-100L4

RED, GREEN, BLUE, INFRARED AND UV LIGHT CAN BE CUSTOMIZED

ATTENSION: MUST BE USED WITH LIGHT BRACKET AND LIGHT CONTROLLER

■ Diffuser plate is included to reduce the reflective effect on workpieces
■ Angle and brightness can be adjusted independently
■ Suitable for digital microscopes **5301-D400, 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510**, **5315-S710**

diffuser plate

SPECIFICATION

Light color	white
Power supply	24V
Power	10.36W
Angle	0~90°
Dimension (L×W×H)	154×154×30mm

DIGITAL LIGHT CONTROLLER
CODE ISM-LED-CTRL

output channel   power on/off

■ 256 (0-255) steps of brightness adjustment
■ With power off memory function and short circuit protection function
■ Suitable for **ISM-LED-100L4, ISM-LED-9245R**

power indicator

screen

external trigger port   RS-232 port

adjustment button

SPECIFICATION

Power supply	100~240V, 50/60HZ
Output power (rated)	60W
Output voltage (rated)	24V
Dimension (L×W×H)	145×118×83mm

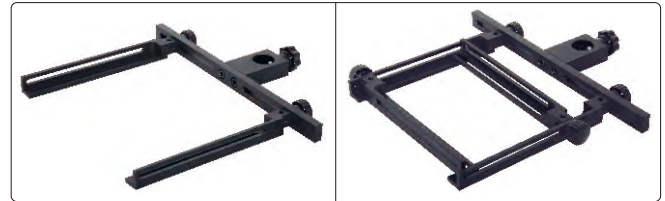INSIZE » M&B Calibr | info@insz.ro | +40 364 228 188 | www.insz.ro

18
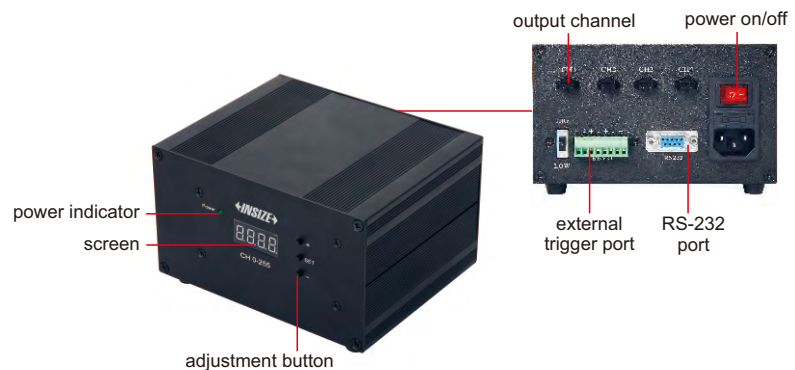
BRACKET FOR LIGHTS
CODE ISM-LED-BRACKET
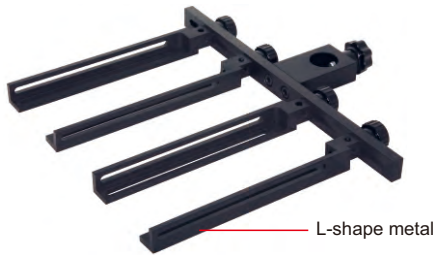
application

L-shape metal

- 4 pcs L-shape bars are included, multiple combinations can be realized
- Suitable for **ISM-LED-100L4, ISM-LED-9245R**

SPECIFICATION

Size (L×W×H)	260×300×20mm
Weight	0.7kg

DUAL HEAD LED LIGHT
CODE ISM-ZS-LED

- Adjustable illumination
- For digital and stereo microscopes

application

SPECIFICATION

Power	3W
Power supply	100~240V
Working	10000h
Illumination	10000lux

LED AUXILIARY LIGHT
CODE ISM-DL-LED

- Suitable for digital microscopes **5301-D400, 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710**

brightness adjustment knob

SPECIFICATION

Power	8W
Diameter of mounting hole	Ø25mm
Power supply	10~12V, 0~300mA

illumination direction and brightness are adjustable

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COAXIAL LIGHT
CODE ISM-DL-COAXIAL
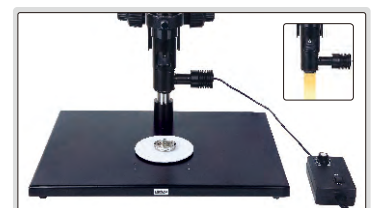
- Suitable for digital microscopes **5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710**

brightness adjustment knob

SPECIFICATION

Power	1W
Power supply	0~3.4V, 0~400mA

for smooth surfaces and small holes, brightness is adjustable

AUXILIARY OBJECTIVES

0.3X auxiliary objective
ISM-DL-OB03X

0.5X auxiliary objective
ISM-DL-OB05X

0.75X auxiliary objective
ISM-DL-OB075X

1X auxiliary objective
ISM-DL-OB1X

1.5X auxiliary objective
ISM-DL-OB1D5X

2X auxiliary objective
ISM-DL-OB2X

■ Suitable for digital microscopes **5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710**

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD (5303-AF103, 5315-S710)

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
0.3X (optional)	Magnification	6~37X	12~74X
	Focus distance	120~310mm	120~310mm
	View field	52×30~8×5mm	26×15~4×2.5mm
0.5X (optional)	Magnification	10~61X	20~123X
	Focus distance	78~230mm	78~230mm
	View field	37×20~5×3mm	18×10~2.5×1.5mm
0.75X (optional)	Magnification	15~92X	30~184X
	Focus distance	60~125mm	60~125mm
	View field	21×13~3.4×2mm	10×6.5~1.7×1mm
1X (included)	Magnification	20~123X	40~246X
	Focus distance	48~84mm	48~84mm
	View field	15×8~2.5×1.5mm	7.5×4~1.3×0.7mm
1.5X (optional)	Magnification	30~184X	60~368X
	Focus distance	36~63mm	36~63mm
	View field	10×6~1.7×1mm	5×3~0.9×0.5mm
2X (optional)	Magnification	40~246X	80~492X
	Focus distance	24~42mm	24~42mm
	View field	7.5×4~1.3×0.7mm	3.8×2~0.7×0.4mm

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD
(5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510)

Auxiliary objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
0.3X* (optional)	Magnification	5~34X	10~68X
	Focus distance	287±2mm	287±2mm
	View field	42×26~6.5×4.5mm	21×13~3.3×2.3mm
0.5X* (optional)	Magnification	9~56X	18~112X
	Focus distance	166±2mm	166±2mm
	View field	25.6×16.8~5×3.5mm	12.8×8.4~2×1.3mm
0.75X* (optional)	Magnification	13~84X	26~168X
	Focus distance	105±2mm	105±2mm
	View field	17×10.5~2.6×1.7mm	8.5×5.3~1.3×0.9mm
1X (included)	Magnification	15~100X	30~200X
	Focus distance	70±2mm	70±2mm
	View field	16×11~2.5×1.6mm	7.8×5.3~1.2×0.8mm
1.5X (optional)	Magnification	26~168X	52~336X
	Focus distance	42±2mm	42±2mm
	View field	8.5×5.2~1.3×0.9mm	4.3×2.6~0.7×0.5mm
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	29±2mm	29±2mm
	View field	7.8×5.3~1.2×0.8mm	3.8×2.7~0.6×0.4mm

*For auxiliary objectives 0.3X, 0.5X, 0.75X,
use contour illumination of **5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510** or LED light
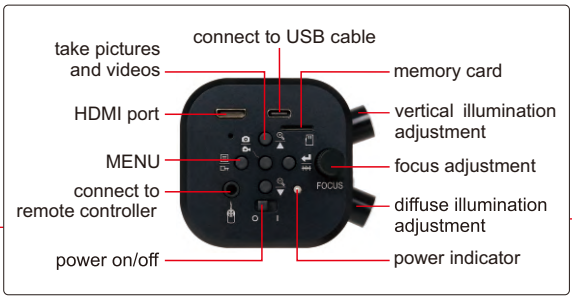
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MEASUREMENT | TAKE PICTURES AND VIDEOS

VIDEO

15.6" LCD (included)

display angle is adjusted

15.6" LCD (included)

display angle is adjusted

take pictures and videos — connect to USB cable — memory card

HDMI port — vertical illumination adjustment

MENU — focus adjustment

connect to remote controller — diffuse illumination adjustment

power on/off — power indicator

FOCUS

straight arm

adjust working distance, view field and magnification
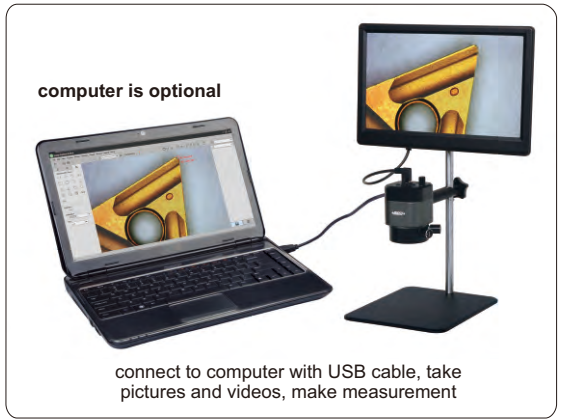
universal arm

5309-DM50

5309-DM51

- Independent control of vertical illumination and diffuse illumination
- Back focus adjustment extends working distance
- Take pictures and videos, save to memory card

SPECIFICATION

Code	5309-DM50	5309-DM51
Arm type	straight	universal
Sensor	1/2.8" CMOS	
Pixel	2M	
Resolution	1920×1080	
Exposure	real-time auto, single auto, manual adjustment	
White balance	real-time auto, single auto, manual RGB adjustment	
Record format	pictures: JPG videos: MOV	
Record media	memory card	
Working distance	45~169mm	42~195mm
Magnification	9~41X	7.6~49.4X
View field	7.6×4~38.5×21.7mm	7×4~45×25mm
Power supply	DC12V 3A	

computer is optional

connect to computer with USB cable, take pictures and videos, make measurement

MAGNIFICATION, VIEW FIELD AND MEASURING ACCURACY (use computers, optional)

Image magnification	View field	Measuring accuracy
9.0X	38.5×21.7mm	±0.02mm
13.0X	26.6×15.0mm	±0.02mm
17.0X	20.5×11.7mm	±0.02mm
22.0X	16.0×9.0mm	±0.02mm
28.5X	11.9×6.3mm	±0.02mm
34.0X	9.8×5.5mm	±0.01mm
41.0X	7.6×4.1mm	±0.01mm

STANDARD DELIVERY

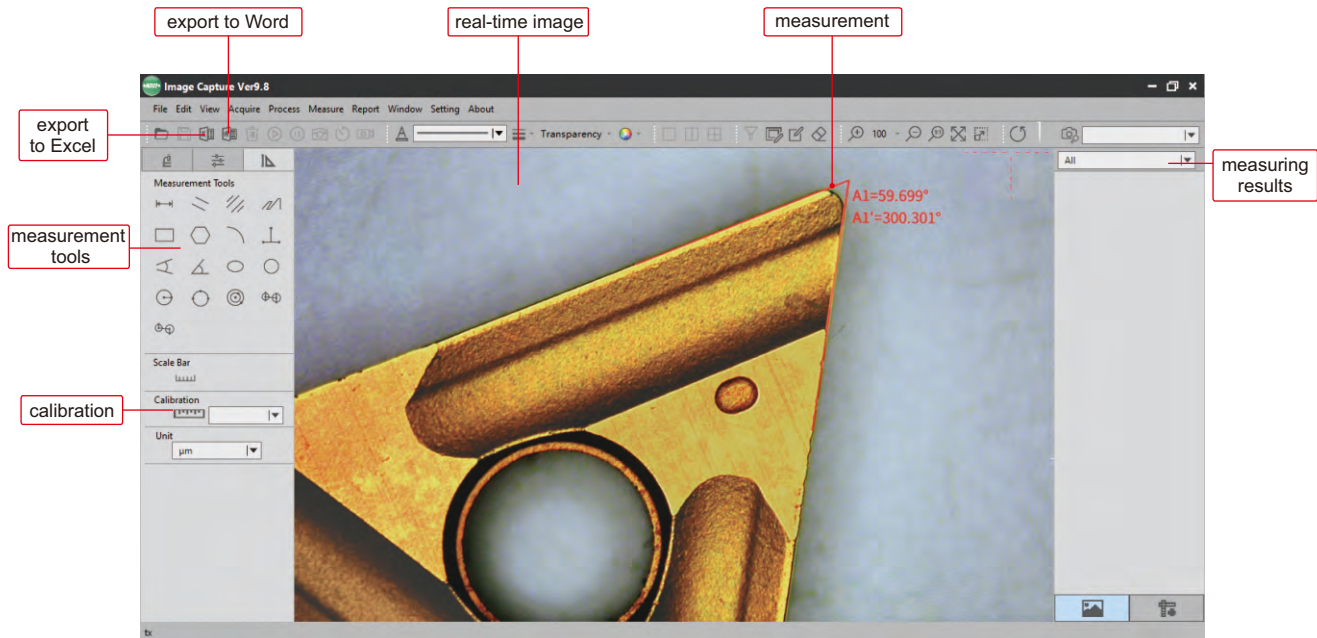| Main unit	1 pc
Memory card and holder	1 pc
Plastic calibration rule (graduation 1mm)	1 pc
White/black plate	1 pc
Remote controller	1 pc
USB cable	1 pc
Measuring software	1 pc
Power adapter	1 pc

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remote controller
(included)

white/black plate
(included)

plastic calibration rule
(graduation 1mm, included)

SOFTWARE FOR COMPUTER

- **Language**: Chinese (Simplified), English, French, Chinese (Traditional), Portuguese, Korean, Japanese
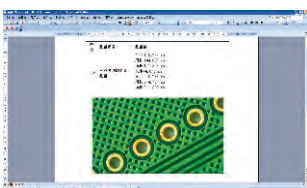- **Operation system**: Windows 7/8/8.1/10 (64bit)

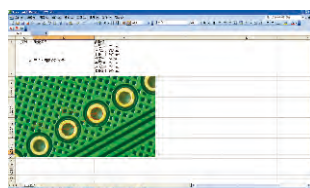export to Word   real-time image   measurement

export to Excel

measurement tools

calibration

measuring results

A1=59.699°
A1'=300.301°

- **Measurement tools:**

↔ straight line distance measurement	parallel lines distance measurement	centre distance between parallel lines measurement	polyline line measurement
rectangular measurement	polygon measurement	arc measurement	three-vertical-line measurement
four-point perspective measurement	angle measurement	ellipse measurement	round measurement
circle measurement by radius	circle measurement by 3-point	torus measurement	center distance measurement by radius
center distance measurement by 3-point			

- **Data export to Word or Excel:**
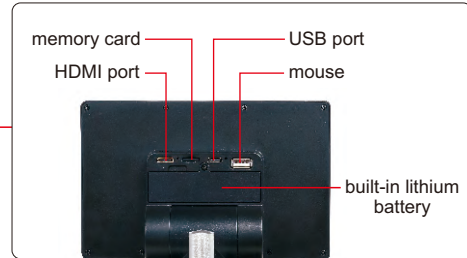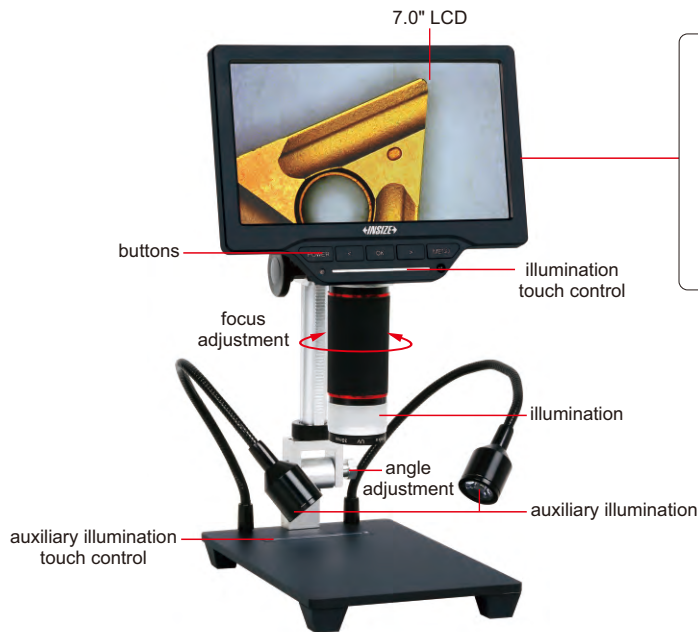
export to word   W

export to excel   X


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TAKE PICTURES AND VIDEOS

BUILT-IN LITHIUM BATTERY

VIDEO

MINI DIGITAL MICROSCOPE (ECONOMIC TYPE)
CODE 5311-M710

7.0" LCD

buttons

focus adjustment

auxiliary illumination touch control

illumination touch control

angle adjustment

illumination

auxiliary illumination

memory card
HDMI port

USB port
mouse

built-in lithium battery

8G memory card and holder (included)

infrared ray remote controller (included)

computer is optional

connect to computer with USB cable, take pictures and videos, make measurement
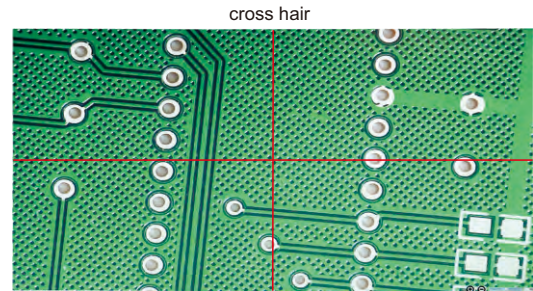
cross hair
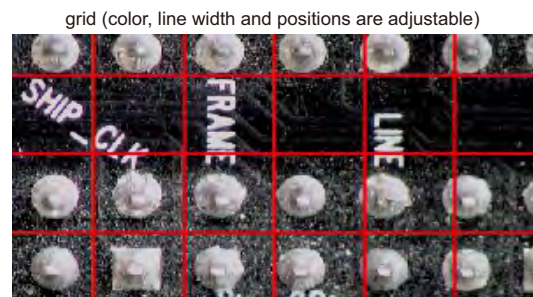
grid (color, line width and positions are adjustable)

SPECIFICATION

Display resolution	1024×600
Sensor	1/3" CMOS
Sensor resolution	1280×960
Single pixel size	2μm×2μm
Frame rate	60fps/30fps
Magnification	1X~16X
White balance	auto/manual (10 levels RGB)/calibration
Exposure control	AE lock/exposure compensation (10 levels)
Image control	contrast/saturation/sharpness
Record media	memory card
Output	HDMI
Power supply	built-in lithium battery/power adapter
Dimension (L×W×H)	174×200×350mm
Weight	1.5kg

STANDARD DELIVERY

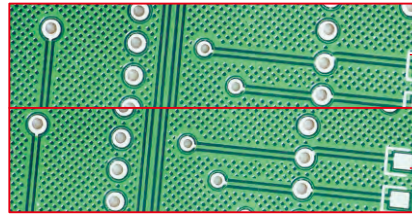|	
Main unit	1 pc
USB cable	1 pc
HDMI cable	1 pc
IR remote controller	1 pc
8G memory card and holder	1 pc
Plastic calibration rule	1 pc
Power adapter	1 pc

To be continued

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- **Screen freezing:**
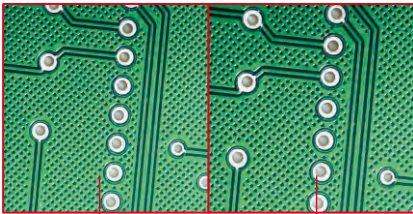
full screen
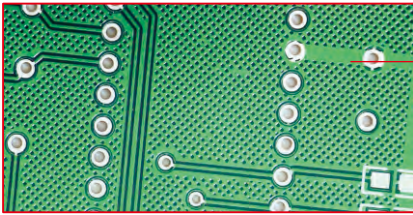
freezing screen

up-down split screen

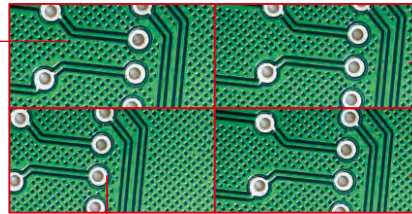freezing screen

image on-line

left-right split screen

freezing screen   image on-line

1/4 split screen

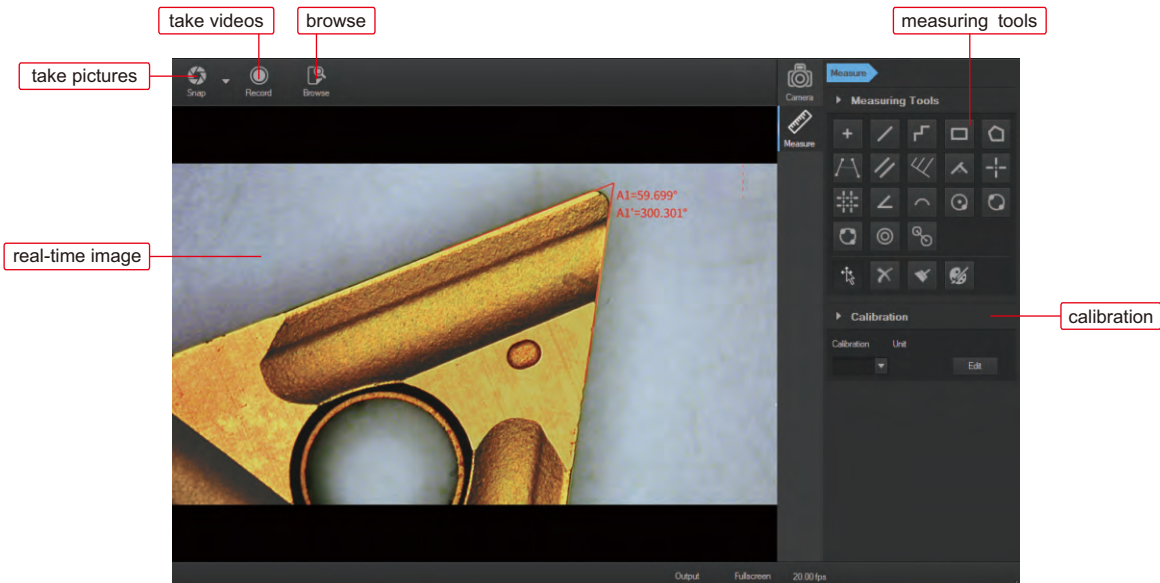first freezing screen

second freezing screen

image on-line

third freezing screen

SOFTWARE FOR COMPUTER (included)

- **Language**: Chinese (Simplified), English
- **Operation system**: Windows 7/8/8.1/10 (64bit)
- **Port**: USB2.0 or above
- **Measuring accuracy**: 0.02mm

point counting	straight line length	continuous line length	area of a rectangle
area of a polygon	distance between 2 lines	distance between parallel lines	distance between line and first parallel line
point-line distance	cross line	double cross line	angle
arc	radius of a circle	radius of a 2-point circle	radius of a 3-point circle
center distance of 2 circles	center distance of concentric circle		

take videos   browse   measuring tools

take pictures

real-time image

calibration

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DIGITAL MEASURING MICROSCOPES

software CD (included)

focus support (included)

put the digital microscope directly on the workpiece for inspection and measurement

stand

measurement

take picture

illumination adjustment
focus adjustment
magnification adjustment
white/black plate

ISM-PM200SA
computer is optional
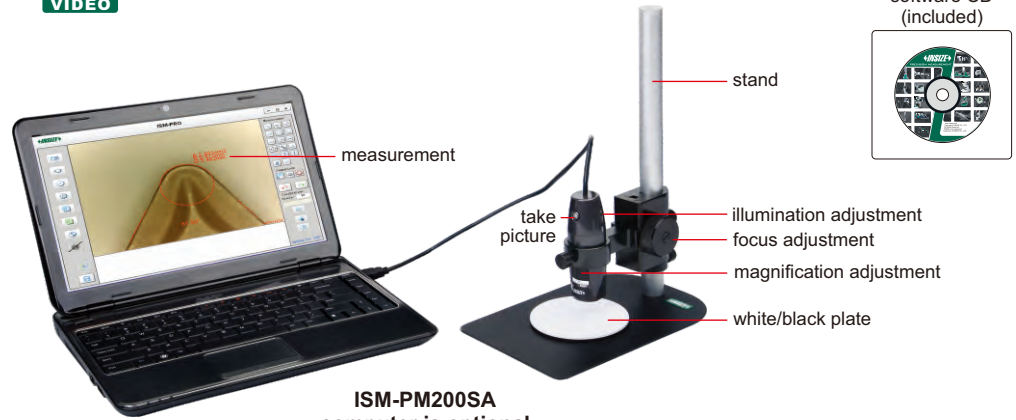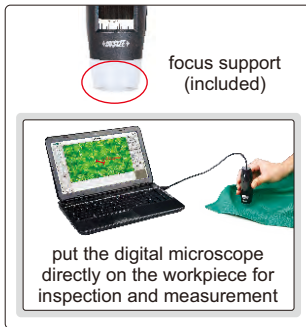
- Can take pictures and videos
- Supplied with software
- Calibration rules (graduation 0.1 and 1mm) are included
- With focus support

universal stand (included in **ISM-PM200SB**)

filter (**optional**)

SPECIFICATION

Code	ISM-PM200SA	ISM-PM200SB
Magnification	10X~200X	10X~200X
Stand	standard	universal
Pixel	2M (resolution: 1600×1200)	
Ilumination	built-in adjustable LED	
Power supply	USB 2.0 cable (voltage required: 5±0.1V)	

OPTIONAL ACCESSORY

Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

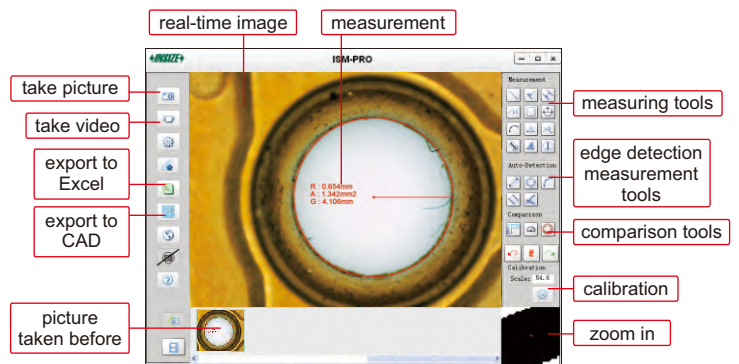| Magnification	Focus distance	View field	Accuracy
50X	21mm	8.1×6.4mm	30µm
100X	13mm	3.9×3.1mm	15µm
150X	16mm	2.6×2.1mm	10µm
200X	19mm	1.8×1.5mm	8µm

SOFTWARE

- **Language**: English, Japanese, Korean, German, Turkey, Portuguese, Chinese
- **Operation system**: Windows 7/8/XP/Vista
- **Measuring tools:**

  measure length of line or distance between two points

  measure area of rectangle

  measure distance between two circles

  measure distance between two parallel lines

  measure angle with two lines

  measure distance between point and line

  measure radius, length and angle of arc

  add number with circle

  measure length of continuous line

  measure angle with three points

 measure radius, girth and area of circle

  add text

- **Edge detection measurement tools:**

  detect two parallel lines automatically and calculate distance

  detect circle automatically, and calculate radius, girth and area

  detect arc automatically, and calculate radius, angle and arc length

  detect two lines automatically, and calculate angle

  detect line automatically, and calculate length

real-time image   measurement

take picture

take video

export to Excel

export to CAD

picture taken before

measuring tools

edge detection measurement tools

comparison tools

calibration

zoom in

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- **Comparison tools:**
  Create line, angle or circle with desired size, to compare with workpieces

  create line

  create angle

  create circle with tolerance
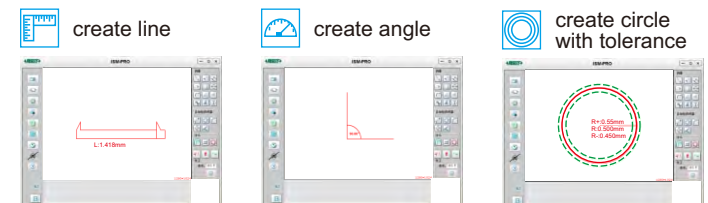
- **Data export to CAD or Excel:**
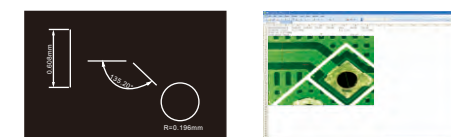
WiFi DIGITAL MEASURING MICROSCOPE
CODE ISM-WF200

VIDEO

- Maximum working distance is 5m under WiFi mode
- Can be connected to multiple iPads, Android devices or computers together under WiFi mode
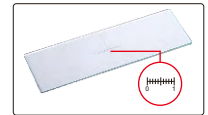- Take pictures and videos
- Supplied with software

take picture
illumination adjustment
USB/WiFi switch

magnification adjustment

focus support

filter (**optional**)

stand (code **ISM-PM-STAND**, **optional**)
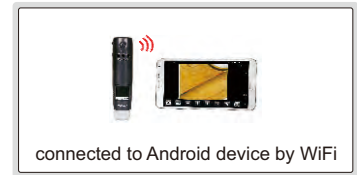
software CD (included)

plastic calibration rule (graduation 1mm, included)

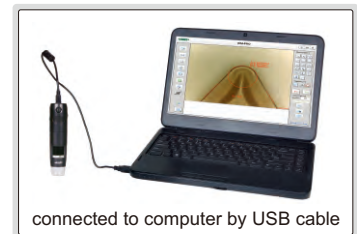glass calibration rule (graduation 0.1mm, included)

SPECIFICATION

Magnification	10X~200X
Pixel	1.3M (resolution: 1280×1024)
Illumination	built-in adjustable LED
Power supply	built-in rechargeable battery

STANDARD DELIVERY

Microscope	1 pc
Focus support ring for 80X/150X	1 pc
Focus support ring for 60X/200X	1 pc
Glass calibration rule (graduation 0.1mm)	1 pc
Plastic calibration rule (graduation 1mm)	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

connected to iPad by WiFi

connected to Android device by WiFi

connected to computer by WiFi

connected to computer by USB cable

OPTIONAL ACCESSORY

Stand	ISM-PM-STAND
Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

Magnification	Focus distance	View field	Accuracy
50X	21mm	8.1×6.4mm	30µm
100X	13mm	3.9×3.1mm	15µm
150X	16mm	2.6×2.1mm	10µm
200X	19mm	1.8×1.5mm	8µm

1 Software ISM-PAD (for iPad by WiFi)

- measure length of line or distance between two points
- measure radius, girth and area of circle with three points
- measure angle

real-time image
measurement

picture taken before

measuring tools and calibration

take picture and video

resolution setting

move measuring piont
take picture/video switch

18

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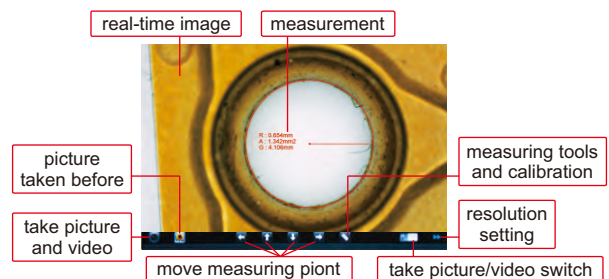
❷ Software ISM-APK (for Android devices by WiFi)

⬊ measure length of line or distance between two points
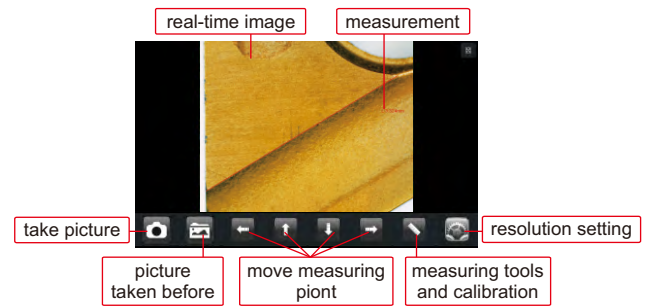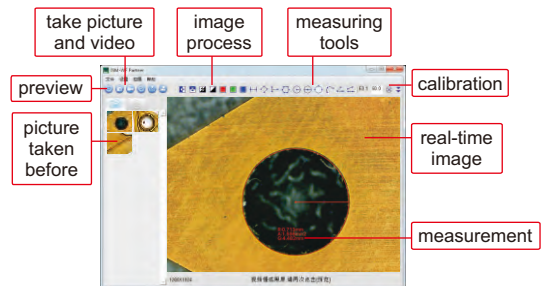
⊕ measure radius, girth and area of circle with three points

◿ measure angle

real-time image | measurement
take picture | resolution setting
picture taken before | move measuring piont | measuring tools and calibration

❸ Software ISM-WF Partner (for computer by WiFi)

⬊ measure length of line or distance between two points

⬡ measure area of polygon

◿ measure angle with three points

⊖ measure radius, girth and area of circle with center point

∿ measure length of continuous line

⊕ measure radius, girth and area of circle with three points

⤫ measure angle with two lines

⊖ measure radius, girth and area of circle with two points

⬈ measure distance between point and line

⌒ measure radius, length and angle of arc

▭ measure area of rectangle

take picture and video | image process | measuring tools
preview | calibration
picture taken before | real-time image
measurement

❹ Software ISM-PRO (for computer by USB cable)

■ **Measuring tools:**

⬊ measure length of line or distance between two points

∿ measure length of continuous line

⌒ measure radius, length and angle of arc

⊗⊗ measure distance between two circles

⤢ measure distance between two parallel lines

⊕ measure radius, girth and area of circle

⬈ measure distance between point and line

▭ measure area of rectangle

⤫ measure angle with two lines

Ⓘ add number with circle

◿ measure angle with three points

Ⓐ add text

take picture | measurement | real-time image
take video | measuring tools
export to Excel | edge detection measurement tools
export to CAD | comparison tools
calibration
picture taken before | zoom in

■ **Edge detection measurement tools:**

▱ detect line automatically, and calculate length

◺ detect arc automatically, and calculate radius, angle and arc length

◎ detect circle automatically, and calculate radius, girth and area

⤫ detect two lines automatically, and calculate angle

⤢ detect two parallel lines automatically and calculate distance

■ **Comparison tools:**
Create line, angle or circle with desired size, to compare with workpieces

📏 create line   ⏲ create angle   ◎ create circle with tolerance

L:1.418mm

80.1°

R+:0.550mm
R:0.500mm
R-:0.450mm

■ **Data export to CAD or Excel:**

R=0.196mm

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INDUSTRIAL MICROSCOPES

camera connector
image to eyepiece/camera switch
WF10X eyepiece
view field diaphragm
aperture diaphragm
polarizer filter (frosted glass/yellow/green/blue)
analyzer
polarizer
illumination
objective turret with five holes
stage moving knob
stage
power on/off
illumination brightness adjustment

5101-M500

- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objective 50X is spring type

SPECIFICATION

Code	5101-M500 (bright field objectives)				5101-M500BD (bright & dark field objectives)			
Illumination	6V/30W halogen lamp, brightness is adjustable				12V/50W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	5X	10X	20X	50X	5X	10X	20X	50X
Working distance	26.1mm	20.2mm	8.80mm	3.68mm	9.70mm	9.30mm	7.23mm	2.50mm
Numerical aperture	0.12	0.25	0.40	0.70	0.12	0.25	0.40	0.70
Magnification	50X~500X							
Eyepiece (wide field)	10X (view field: Ø22mm)							
Stage	double layer							
	size: 160×140mm							
	travel: 35x30mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz							
Dimension (L×W×H)	415×345×380mm							
Weight	14kg							

STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Bright & dark field objective (for 5101-M500BD)	PL40X	5101-M-BD40X
	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5101-M-EPD10X
Bright field objective (for 5101-M500)	PL40X	5101-M-OB40X
	PL60X	5101-M-OB60X
	PL80X	5101-M-OB80X
	PL100X	5101-M-OB100X
Digital camera		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter *		5101-M-ADAPTER

*Digital camera must be used with camera adapter

INDUSTRIAL INSPECTION MICROSCOPE (LARGE STAGE)
CODE 5104-M700

- camera connector
- eyepiece
- illumination
- plug-in polarizer filter (frosted glass/yellow/green/blue)
- aperture diaphragm
- view field diaphragm
- objective turret with five holes
- stage fast moving knob
- glass stage
- stage moving knob
- illumination brightness adjustment
- fine focusing knob
- coarse focusing knob

■ For observation and inspection of large IC and chip in IT industry

SPECIFICATION

Magnification	40X~400X			
Eyepiece (wide field)	10X (view field: Ø22mm)			
Objective (plan achromatic)	4X	10X	20X	40X
Numerical aperture	0.10	0.25	0.40	0.60
Working distance	17.8mm	10mm	5.8mm	2.9mm
Stage	double layer, size: 300×268mm, travel: 250×200mm			
Kohler illumination	6V/20W halogen lamp, brightness is adjustable built-in green, blue, yellow and frosted glasses			
Pupil distance	48~75mm			
Diopter adjustment	±5 diopter (two eyepieces)			
Power supply	220V, 50/60Hz			
Dimension (L×W×H)	647×268×376mm			
Weight	12kg			

STANDARD DELIVERY

Main unit	1 pc
Camera connector	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Bright field objective	2.5X plan achromatic objective (focus distance: 11.7mm)	5104-M700-OB2.5X
	5X plan achromatic objective (focus distance: 15.5mm)	5104-M700-OB5X
	50X plan achromatic objective (focus distance: 0.32mm)	5104-M700-OB50X
	100X plan achromatic objective (focus distance: 2mm)	5104-M700-OB100X
Polarizer and analyzer		5104-M700-AP
Digital camera		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter 0.5X *		ISM-MAS-ADAPTER

*Digital camera must be used with camera adapter

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METALLURGICAL MICROSCOPES

camera connector
WF10X eyepiece
polarizer filter
(frosted glass/yellow/green/blue)
illumination
image to
eyepiece/camera switch
view field diaphragm
aperture diaphragm
analyzer   polarizer
objective turret
with five holes
stage
condenser lifting knob
coarse focusing knob
fine focusing knob
(graduation 2μm)
stage moving knob
view field diaphragm
transmitted/reflected
illumination switch
auxiliary condenser
aperture diaphragm
power on/off

5102-M600

- Infinite optical system, observation in reflected or transmitted illumination, polarizing observation
- Kohler illumination system provides uniform illumination field
- Objectives 40X, 60X are spring type

blue filter (included)

frosted glass filter (included)

SPECIFICATION

Code	5102-M600 (bright field objectives)				5102-M600BD (bright & dark field objectives)			
Illumination	6V/30W (transmitted) 6V/30W (reflected)				12V/30W (transmitted) 12V/50W (reflected)			
Objective (infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	5X	10X	40X	60X	5X	10X	20X	40X
Working distance	26.1mm	20.2mm	3.98mm	3.18mm	9.70mm	9.30mm	7.20mm	3.00mm
Numerical aperture	0.12	0.25	0.60	0.70	0.12	0.25	0.40	0.70
Magnification	50X~600X				50X~400X			
Eyepiece (wide field)	10X (view field: Ø22mm)							
Stage	double layer							
	size: 210×140mm							
	travel: 75x50mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz							
Dimension (L×W×H)	456×260×498mm							
Weight	11kg							

STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc
Filter (blue/frosted glass)	1 pc of each

OPTIONAL ACCESSORY

	PL50X	5101-M-BD50X
Bright & dark field objective (for 5102-M600BD)	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5101-M-EPD10X
Bright field objective (for 5102-M600)	PL20X	5101-M-OB20X
	PL50X	5101-M-OB50X
	PL80X	5101-M-OB80X
	PL100X	5101-M-OB100X
Digital camera		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter *		5101-M-ADAPTER

*Digital camera must be used with camera adapter

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METALLURGICAL MICROSCOPES

rotary table (O.D. Ø130mm, I.D. Ø20mm)

WF10X eyepiece

VIDEO

stage

illumination

polarizer filter (frosted glass/yellow/green/blue)

aperture diaphragm

view field diaphragm

objective turret with five holes

camera connector

coarse focusing knob

fine focusing knob (graduation 2μm)

power on/off

analyzer   polarizer

stage moving knob

image to eyepiece/ camera switch
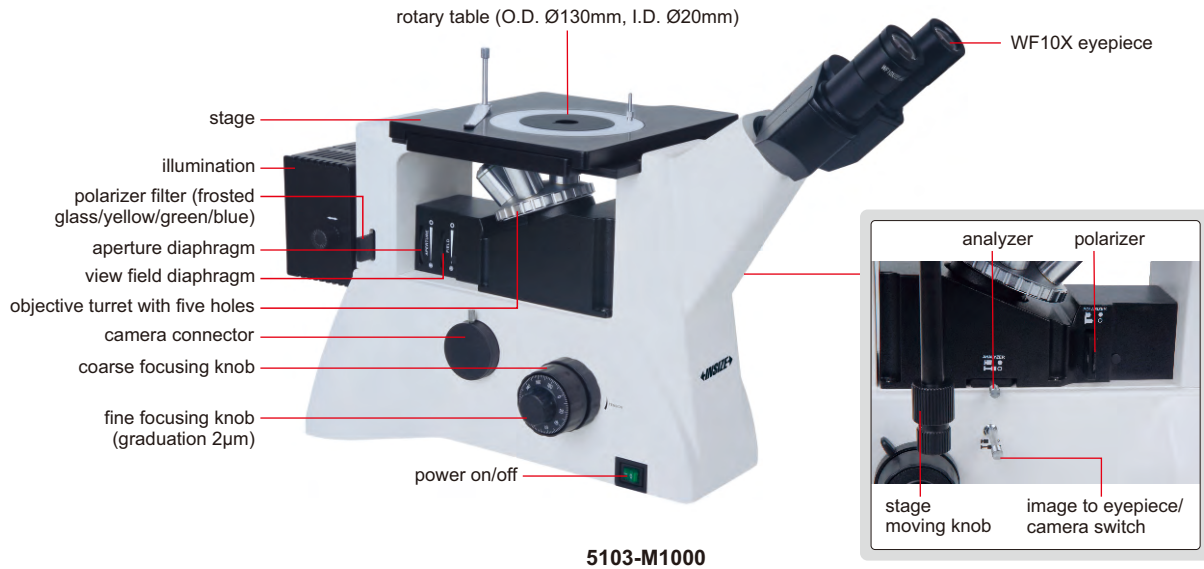
5103-M1000

- ■ Infinite optical system, polarization observation
- ■ Kohler illumination system provides uniform illumination field
- ■ Objectives 50X, 100X are spring type

SPECIFICATION

Code	5103-M1000 (bright field objectives)				5103-M1000BD (bright & dark field objectives)			
Illumination	6V/30W halogen lamp, brightness is adjustable				12V/50W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	10X	20X	50X	100X	5X	10X	20X	50X
Working distance	20.2mm	8.80mm	3.68mm	0.40mm	9.70mm	9.30mm	7.23mm	2.50mm
Numerical aperture	0.25	0.40	0.70	0.85	0.12	0.25	0.40	0.70
Magnification	100X~1000X				50X~500X			
Eyepiece (wide field)	10X (view field: Ø22mm)							
Stage	double layer							
	size: 242×200mm							
	travel: 30x30mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz							
Dimension (L×W×H)	614×250×394mm							
Weight	13kg							

STANDARD DELIVERY

Main unit	1 pc
Polarizer and analyzer	1 pc of each
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

	PL40X	5101-M-BD40X
Bright & dark field objective (for 5103-M1000BD)	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5103-M-EPD10X
Bright field objective (for 5103-M1000)	PL5X	5101-M-OB5X
	PL40X	5101-M-OB40X
	PL60X	5101-M-OB60X
	PL80X	5101-M-OB80X
Digital camera		ISM-CM63
Camera adapter *		5101-M-ADAPTER

*Digital camera must be used with camera adapter

18

ZOOM STEREO MICROSCOPE (PROFESSIONAL TYPE)
CODE 5107-S70T

LED ring light (**optional**)

Labels in diagram:
- 0.5X camera connector
- 10X eyepiece
- image to eyepiece/camera switch
- objective magnification adjustment
- focus adjustment
- reflected LED light
- objective
- working stage diameter: 100mm
- LED light adjustment

- Greenough optical system, clear observation, real color
- High working distance is convenient for operation
- Excellent flat image and large depth of field, make observation comfortable
- 6.7:1 large zoom ratio, allow quick observation adjustment

SPECIFICATION

Optical tube	trinocular
Eyepiece (wide field)	10X (view field: Ø22mm)
Objective	0.67X~4.5X (zoom)
Observation tube	45° trinocular tube inclination angle, built-in 0.5X adapter
Zoom ratio	6.7:1
Pupil distance	50~75mm
Diopter adjustment	-8~+5 diopter (both eyepieces)
Working distance of objective	110mm
Max. workpiece height	106mm
Illumination	adjustable LED light
Power supply	110/220V
Dimension (L×W×H)	330×300×368mm
Weight	3.5kg

frosted glass filter
(included)

white/black plate
(included)

STANDARD DELIVERY

Main unit	1 pc
10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	5107-S70T-OB05X
	1.5X	5107-S70T-OB15X
	2X	5107-S70T-OB20X
Eyepiece	15X (view field: Ø16mm)	5107-S70T-EP15X
	20X (view field: Ø12.5mm)	5107-S70T-EP20X
LED ring light		ISM-ZS-RL
Digital camera		ISM-CM20, ISM-CM63, ISM-ZS70-S

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PARALLEL LIGHT STEREO MICROSCOPE
CODE ISM-ZS200

coaxial illumination (**optional**)

10X eyepiece

objective magnification adjustment

coarse focusing knob

fine focusing knob

1X plan field achromatic objective

reflected illumination adjustment

transmitted illumination adjustment

working stage diameter: 100mm

VIDEO
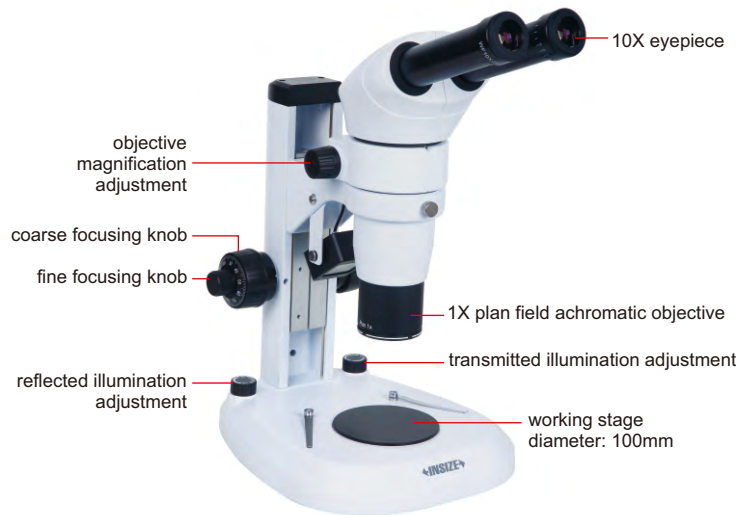
- Infinity parallel optical system and 20° inclined optical tube reduce fatigue
- Coaxial illumination is optional for deep holes which cannot be observed by ring light
- Aperture diaphragm is optional for large depth of field and high quality image

optical path splitter (**optional**)

iris diaphragm (**optional**)

SPECIFICATION

Optical tube	binocular (20° inclined)
Eyepiece (wide field)	10X (view field: Ø22mm)
Objective	0.8X~8X (zoom)
Zoom ratio	1:10
Pupil distance	55~75mm
Diopter adjustment	±5 diopter (both eyepieces)
Working distance of objective	78mm
Max. workpiece height	72mm
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	240×280×440mm
Weight	4.3kg

STANDARD DELIVERY

Main unit	1 pc
WF10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Objective	0.5X achromatic objective (focus distance: 186mm)	**ISM-ZS200-OB05X** *
	2X plan achromatic objective (focus distance: 32.5mm)	**ISM-ZS200-OB2X**
	0.5X plan apochromatic objective (focus distance: 126mm)	**ISM-ZS200-APO05X** *
Eyepiece	WF15X (view field: Ø16mm)	**ISM-ZS200-EP15X**
	WF20X (view field: Ø12mm)	**ISM-ZS200-EP20X**
	WF30X (view field: Ø20mm)	**ISM-ZS200-EP30X**
Sleeve for objective		**ISM-ZS30-ADAPTER**
Iris diaphragm		**ISM-ZS200-IRD**
Optical path splitter		**ISM-ZS200-OBS**
Coaxial illumination		**ISM-ZS200-COAXIAL**
Digital camera **		**ISM-CM20, ISM-CM63**

***0.5X achromatic objective must be used with sleeve ISM-ZS30-ADAPTER**

****Digital camera must be used with optical path splitter**

18

ZOOM STEREO MICROSCOPES (ADVANCED TYPE)

LARGE ZOOM RATIO
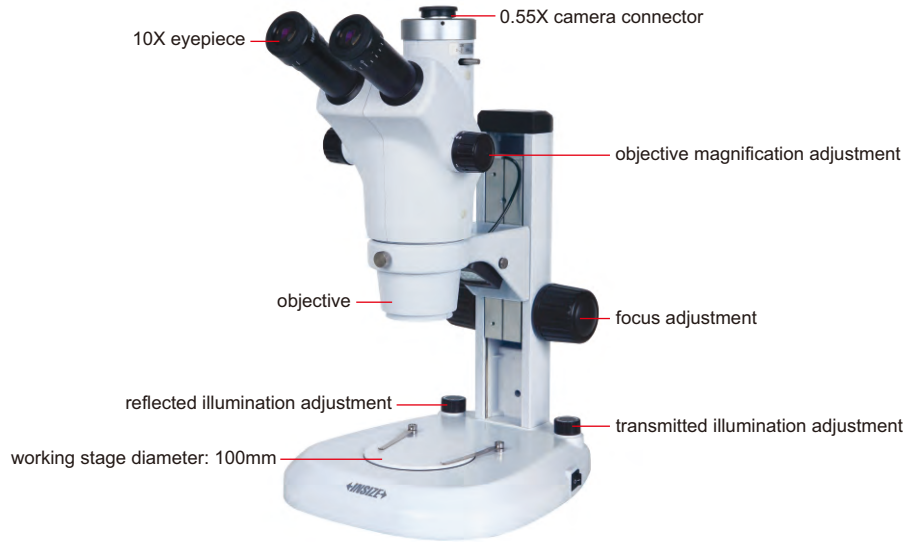
application
(code: **ISM-ZS100T**)

connect to digital camera

10X eyepiece

0.55X camera connector

objective magnification adjustment

objective

focus adjustment

reflected illumination adjustment

transmitted illumination adjustment

working stage diameter: 100mm

ISM-ZS100T

VIDEO
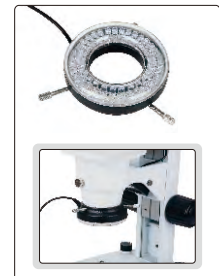
LED ring light (**optional**)

SPECIFICATION

Code	ISM-ZS100	ISM-ZS100T
Optical tube	binocular	trinocular
Eyepiece (wide field)	10X (view field: Ø23mm)	
Objective	0.6X~5X (zoom)	
Zoom ratio	1 : 8.3	
Pupil distance	55~75mm	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	75mm	
Illumination	adjustable reflected and transmitted LED light	
Power supply	110/220V, 50/60HZ	
Dimension (L×W×H)	260×310×490mm	
Weight	4.9kg	

STANDARD DELIVERY

Main unit	1 pc
Digital camera adapter 0.55X for ISM-ZS100T	1 pc
WF10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X (focus distance: 220mm)	ISM-ZS100-OB05X *
	0.7X (focus distance: 125mm)	ISM-ZS100-OB07X
	2X (focus distance: 45mm)	ISM-ZS100-OB2X
Eyepiece	WF15X (view field: Ø16mm)	ISM-ZS100-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS100-EP20X
	WF30X (view field: Ø8mm)	ISM-ZS100-EP30X
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
LED ring light		ISM-ZS-RL
Digital camera adapter 1X for ISM-ZS100T		ISM-ZS100-DA
Digital camera for ISM-ZS100T		ISM-CM20, ISM-CM63, ISM-ZS70-S

*0.5X auxiliary objective must be used with sleeve **ISM-ZS30-ADAPTER**

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ZOOM STEREO MICROSCOPES (STANDARD TYPE)

VIDEO

WF 10X eyepiece

objective magnification adjustment

objective

reflected LED light

focus adjustment

reflected LED light adjustment

transmitted LED light adjustment

working stage diameter: 100mm
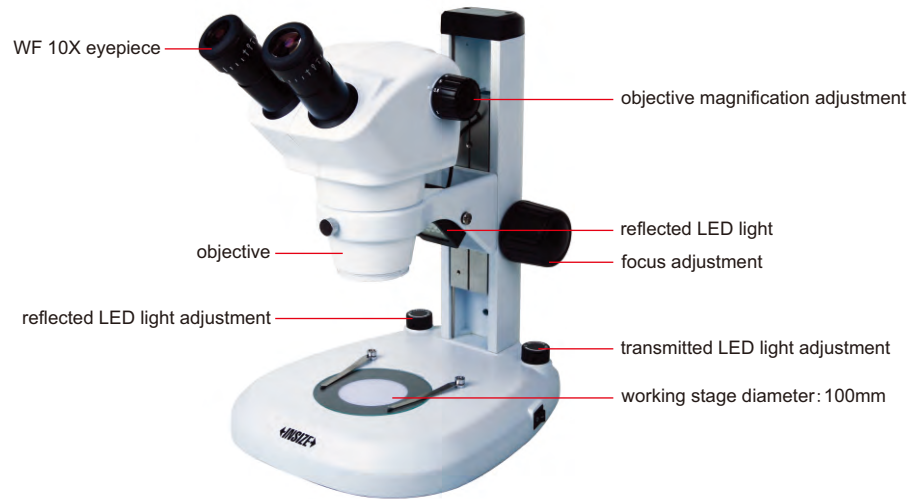
LED ring light (**optional**)

ISM-ZS50

SPECIFICATION

Code	ISM-ZS50	ISM-ZS50T
Optical tube	binocular	trinocular
Eyepiece (wide field)	10X (view field: Ø22mm)	
Objective	0.8X~5X (zoom)	
Zoom ratio	1: 6.3	
Pupil distance	55~75mm (adjustable)	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	75mm	
Illumination	adjustable reflected and transmitted LED light	
Power supply	110/220V, 50/60HZ	
Dimension (L×W×H)	290×260×480mm	
Weight	4.9kg	

STANDARD DELIVERY

Main unit	1 pc
WF 10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X*
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/div.)	ISM-ZS50-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
LED ring light		ISM-ZS-RL
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
Digital camera for ISM-ZS50T		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter 0.5X for ISM-ZS50T **		ISM-MAS-ADAPTER

* 0.5X auxiliary objective must be used with **ISM-ZS30-ADAPTER**

** Digital camera must be used with camera adapter 0.5X

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ZOOM STEREO MICROSCOPES (WITH UNIVERSAL STAND)

angle adjustment

360° rotation

front/back adjustment

objective magnification adjustment

WF 10X eyepiece

stop ring

up/down adjustment

objective

LED ring light

focus adjustment
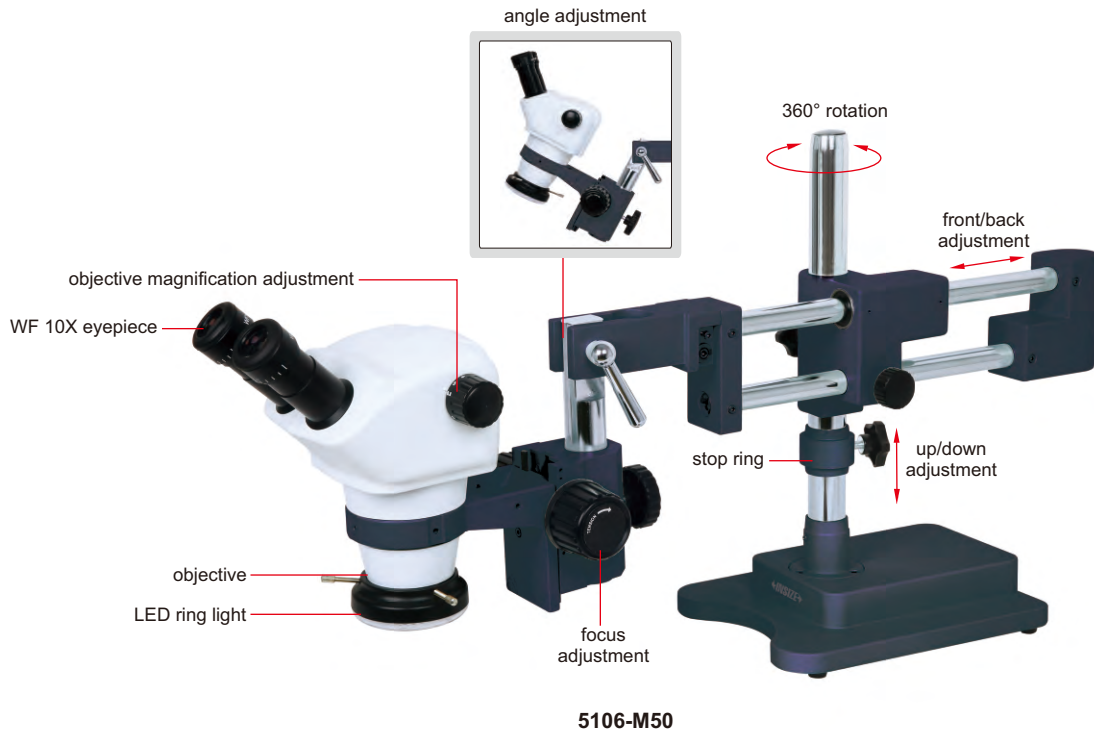
5106-M50

SPECIFICATION

Code	5106-M50	5106-M50T
Optical tube	binocular	trinocular
Eyepiece (wide field)	10X (view field: Ø22mm)	
Objective	0.8X~5X (zoom)	
Zoom ratio	1:6.3	
Pupil distance	55~75mm	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	300mm	
Illumination	adjustable reflected LED ring light	
Power supply	power adapter	
Dimension (L×W×H)	790×230×430mm	
Weight	20kg	

STANDARD DELIVERY

Main unit (with stand)	1 pc
WF10X eyepiece	2 pcs
LED ring light	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X *****
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (0.1mm/div.)	ISM-ZS50-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
Digital camera for 5106-M50T		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter 0.5X for 5106-M50T ******		ISM-MAS-ADAPTER

*0.5X auxiliary objective must be used with **ISM-ZS30-ADAPTER**

**Digital camera must be used with camera adapter 0.5X

ZOOM STEREO MICROSCOPE (BASIC TYPE)
CODE ISM-ZS30

VIDEO

SPECIFICATION

Optical tube	binocular
Eyepiece (wide field)	10X (view field: Ø20mm)
Objective	1X~4.5X (zoom)
Zoom ratio	1: 4.5
Pupil distance	55~75mm (adjustable)
Diopter adjustment	±5 diopter (two eyepieces)
Working distance of objective	97mm
Max. workpiece height	60mm
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	260×190×400mm
Weight	4.3kg

WF 10X eyepiece
objective magnification adjustment
reflected LED light
objective
focus adjustment
reflected LED light adjustment
transmitted LED light adjustment
working stage diameter: 95mm

LED ring light (**optional**)

STANDARD DELIVERY

Main unit	1 pc
WF 10X eyepiece	2 pcs
Ø95mm glass plate	1 pc
Ø95mm white/black plate	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS30-OB05X *
	0.63X	ISM-ZS30-OB06X *
	0.75X	ISM-ZS30-OB07X *
	2X	ISM-ZS30-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/div.)	ISM-ZS30-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
LED ring light		ISM-ZS-RL
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
Digital camera		ISM-CM63
Camera adapter 0.75X **		ISM-AD-0D75

*0.5X, 0.63X and 0.75X auxiliary objectives must be used with **ISM-ZS30-ADAPTER**

**Digital camera must be used with camera adapter 0.75X

LONG WORKING DISTANCE STEREO MICROSCOPE (LOW MAGNIFICATION)
CODE 5305-ZS80

SPECIFICATION

Magnification	8X
Eyepiece (wide field)	10X (view field: Ø20mm)
Objective	0.8X
Pupil distance	55~75mm
Diopter adjustment	±5 diopter (one eyepiece)
Working distance of objective	115mm
Max. workpiece height	100mm
Dimension (L×W×H)	280x160x370mm
Weight	3.7kg

VIDEO

10X eyepiece
flexible arm
0.8X objective

STANDARD DELIVERY

Main unit	1 pc
10X eyepieces	1 pair
0.8X objective	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Eyepiece	WF5X (view field: Ø20mm)	5305-ZS80-EP5X
	WF15X (view field: Ø15mm)	5305-ZS80-EP15X
	WF20X (view field: Ø10mm)	5305-ZS80-EP20X
LED ring light		ISM-ZS-RL

LED ring light (**optional**)

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POLARIZING MICROSCOPE
CODE ISM-POL1000

- 10X eyepiece
- bertrand lens (sliding in/out of optical path)
- reflected-transmitted observation switch
- objective turret with four holes
- revolving round stage
- condenser (aperture diaphragm is adjustable)
- coarse focusing knob
- polarizer (adjusting disc with scale)
- analyzer revolving disc
- illumination
- polarizer filter
- aperture diaphragm
- view field diaphragm
- reflector polarizer
- stay lens
- fine focusing knob (graduation: 2µm)
- condenser

- Widely used in geology, mineralogy, fossil fuel exploration
- Single polarization, othorgonal polarization or conoscopic observation are available

SPECIFICATION

Magnification	40X~600X				
Eyepiece	10X (view field: Ø20mm)				
Infinite strain free plan achromatic objective	4X (transmitted/reflected)	10X (transmitted/reflected)	20X (transmitted)	40X (transmitted)	60X (transmitted)
Working distance	22.2mm	6.1mm	6.4mm	0.6mm	0.3mm
Numerical aperture	0.1	0.25	0.4	0.65	0.8
Stage	revolving round stage				
	diameter: Ø160mm				
	graduation: 1°, resolution: 6'				
Pupil distance	53~75mm				
Diopter adjustment	±5 diopter (one eyepiece)				
Illumination	12V/50W halogen lamp, brightness is adjustable (reflected illumination)				
	12V/20W halogen lamp, brightness is adjustable (transmitted illumination)				
Power supply	110/220V, 50/60HZ				
Dimension (L×W×H)	614×250×394mm				
Weight	13kg				

STANDARD DELIVERY

Main unit	1 pc
Micrometer	1 pc
Grid plate	1 pc
10X crossing eyepiece (view field: Ø20mm)	1 pc
10X dividing eyepiece (view field: Ø20mm, graduation 0.1mm)	1 pc
λ slip (first class red) and 1/4λ slip	1 pc
Quartz wedge	1 pc

OPTIONAL ACCESSORY

Objective for reflected system	PL20X	ISM-POL1000-OBR20X
	PL40X	ISM-POL1000-OBR40X
	PL60X	ISM-POL1000-OBR60X
	PL100X	ISM-POL1000-OBR100X
Objective for transmitted system	PL100X	ISM-POL1000-OBT100X
Specimen presser		ISM-POL1000-SP

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DIGITAL CAMERA FOR MICROSCOPES (WITH PAD)
CODE ISM-ZS70-S

ATTENTION: CAMERA CONNECTOR AND ADAPTER ARE NEEDED ACCORDING TO MICROSCOPES

MEASUREMENT, TAKE PICTURES AND VIDEOS

11.6" PAD

application

connected to microscope

USB port
USB port
power on/off
USB port
HDMI port
power
LAN port
C-Mount port
mouse
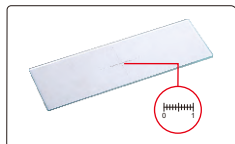
glass calibration rule
(included, graduation 0.1mm)
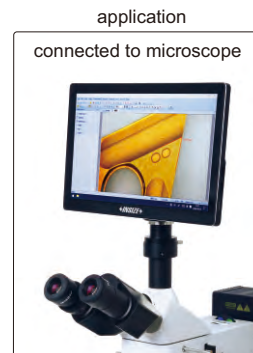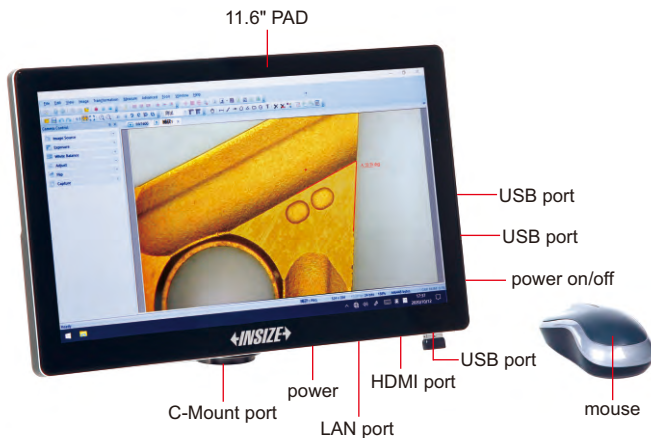
- Windows 10 operation system
- Built-in software, can take pictures and videos, can measure
- Language: Chinese, English, French, Japanese, German, Polish, Arabic
- Automatic exposure, white balance, brightness, contrast ratio, saturation are adjustable
- Image process feature: zoom in/out, flip, mirror, stitching and so on
- Output to Excel or CSV file

VIDEO

software (included)

video mode tools
image mode tools
camera control panel

measurement on pictures
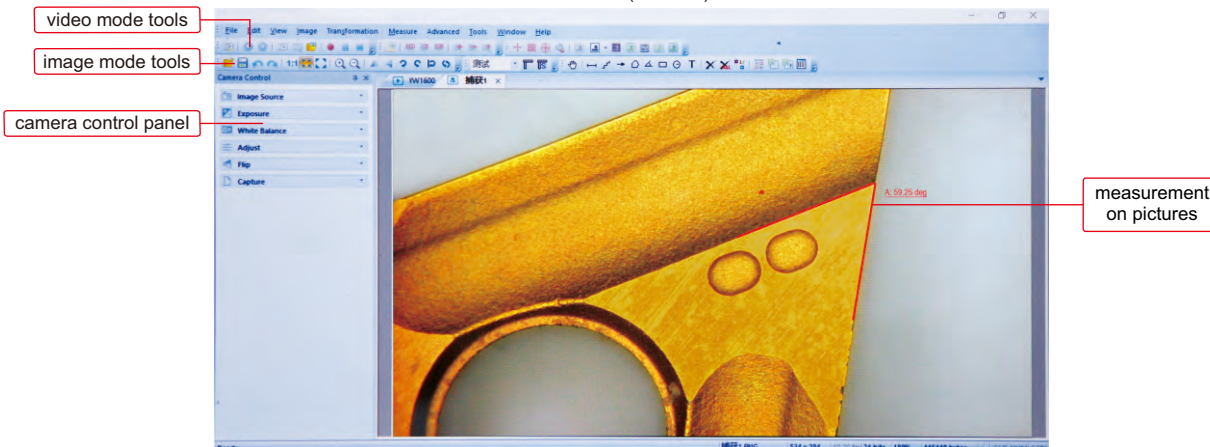
- **Measuring tools**

measure line	measure meander line	arrow mark
measure angle	measure rectangle	measure circle

measure polygon	calibration
text mark	show/hide scale

SPECIFICATION

Sensor	1/2.3" CMOS
Pixel	16M
Resolution	800×600, 1600×1200, 1920×1080, 2048×1536, 2304×1728, 2592×1944, 4608×3456
Frame rate	30fps (1920×1080)
Output	HDMI, USB 3.0
Power supply	power adapter
Dimension (L×W×H)	280.3×177.4×12.5mm
Weight	0.9kg

STANDARD DELIVERY

Main unit	1 pc
Mouse	1 pc
Glass calibration rule (graduation 0.1mm)	1 pc
AC/DC adapter	1 pc

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DIGITAL CAMERA FOR MICROSCOPES
CODE ISM-CM63

VIDEO

- To be used with computers
- Sony Exmor back-illuminated CMOS sensor
- USB3.0 transmission
- Automatic exposure, gain adjustment, white balance, chrominance adjustment, saturation adjustment, gamma correction, luminance adjustment, contrast adjustment

C-mount port

adapter 0.75X (**optional**)

application

automatic image stitching (expand field of view)

left side   right side

+

after stitching
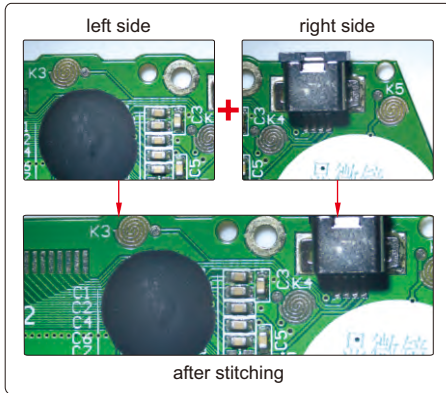
software (included)

selectable resolution

measurement items

real time gray calibration

histogram (quantify the distribution of color and brightness)

counting

select counting tool   automatic counting

black balance (reduce color difference)

flat field correction (reduce brightness difference)

dark field correction (reduce thermal noise)

The software can control image completely, including measurement, image stitching, extend focus depth, image gray processing, RGB histogram observation, image color sampling, 3D plot (3D representation of image intensity), image exposure, white balance, black balance, image bit depth, flat field correction and dark field correction, etc.

focus stacking

focus on the top   focus on the bottom   clear image of both top and bottom

+

Measuring tools:

measure length of line or distance between two points	measure rectangle
measure distance between two parallel lines	measure width and diameter of ring
measure angle	measure diameter, length, perimeter angle of arc
measure radius, girth and area of circle	measure area of polygon
measure axis lengths, girth and area of ellipse	measure center distance between two circles
calibration	measure length of open curve

binary
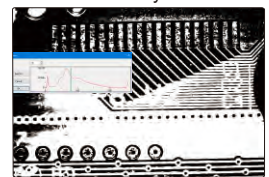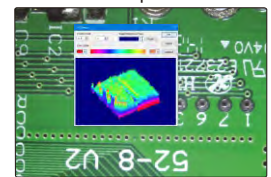
3D plot

separate target and background

visualize the distribution of image brightness and color

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SPECIFICATION

Sensor (back-up)	1/1.8" CMOS
Resolution	3072×2048
Pixel	6.3M
Single pixel size	2.4×2.4μm
Spectral range	380-650nm (with infrared cut filter)
Frame rate	30fps
Sampling average	1×1
Exposure time	0.1ms~15s
Power supply	USB port
Weight	400g

STANDAER DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc

COMPUTER REQUIREMENT

Operation system	Windows/7/8/10
CPU	Intel Core 2 2.8Hz or above
Memery	2GB or above
USB port	USB3.0 (recommand) or USB2.0
Display	17" or above

OPTIONAL ACCESSORY

Adapter 0.75X	ISM-AD-0D75

SMART CAMERA
CODE ISM-MV10

HDMI port

Power

USB port

I/O port

VIDEO
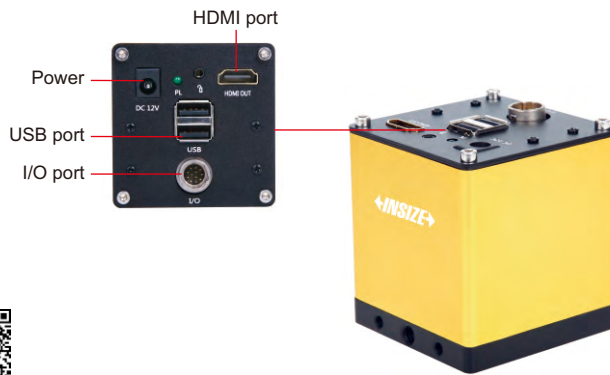
- Built-in software, operated by mouse.
- Automatically calculate, store the test results and export to Excel.
- Camera with PLC control input and output interface, can be integrated with automation equipment.
- Functions: presence or absence of objects, position tilt correction, object counting, color detection, stain detection, dimension measurement, position guide, etc.

SOFTWARE

presence or absence of objects

OK   NG
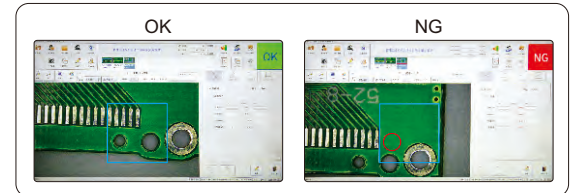
select the area and specify the target, the camera will automatically detect the presence or absence of the target.

automatic counting

OK   NG

select the area and specify the target,
the camera will automatically calculate the number of targets.

dimension measurement

OK   NG
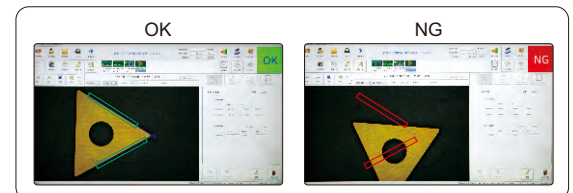
measuring angle, distance, radius, center distance, etc.

SPECIFICATION

Chip structure	FPGA+ARM
Opreation system	Linux 3.10
Kernel structure	dual-core Cortex-A9
Frequency	1GHZ
I/O port	3 sets of input and output (can be connected to photoelectric switch, wire switch, PLC, etc.)
Working temperature	-10~70°C
Sensor	1/2" CMOS
Single pixel size	3.75×3.75μm
Resolution	1920×1080
Frame rate	60fps
Video output	HDMI port
Lens connection	standard C port

STANDAER DELIVERY

Camera (with HDMI cable)	1 pc
Software	1 pc

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DIGITAL CAMERA FOR MICROSCOPES
CODE ISM-CM20

FOCUS STACKING

AUTOMATIC IMAGE STITCHING

HDMI port

power indicator

display connection indicator

USB port

power port (DC 12V)

SD card

power on/off
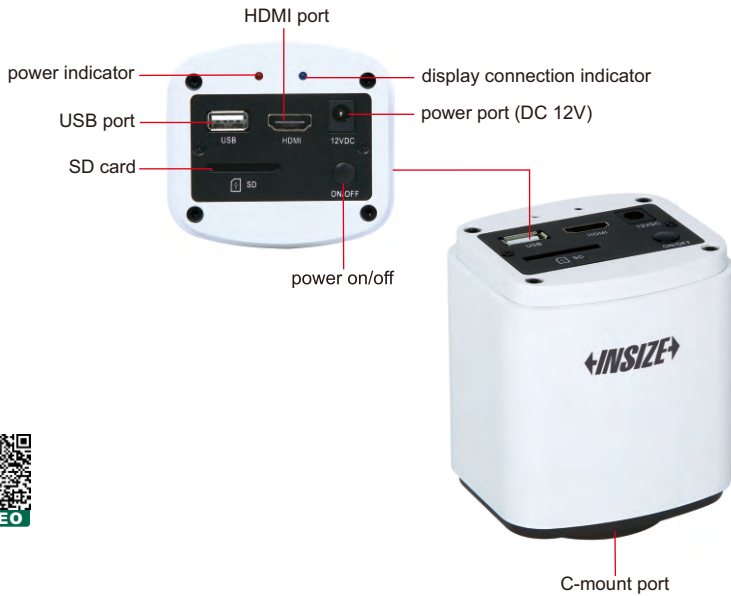
adapter 0.5X (**optional**)

VIDEO

C-mount port

application

- 1080P high-definition image
- Can be connected with displays or computers
- Built-in simple measuring software for displays, without computer
- Professional measuring software for computers is included
- For bright field, dark field or fluorescent field
- Automatic exposure, white balance, gain adjustment, gamma correction, brightness contrast adjustment, saturation adjustment, chroma sharpness adjustment
- Focus stacking, automatic image stitching
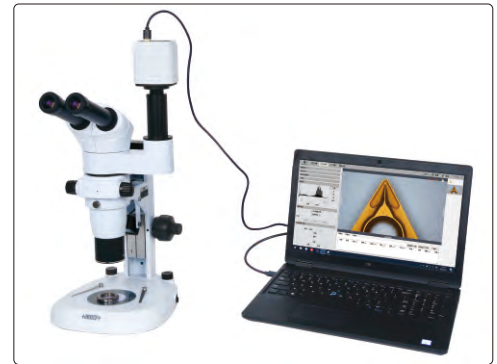
SIMPLE MEASURING SOFTWARE (BUILT-IN, FOR DISPLAYS)

Measuring tools:

measure length of line or distance between two points

measure distance between point and line

measure rectangle

measure concentric circles

measure circle

measure curve

measure polygon

measure center distance of two circles

measure angle of two lines

camera setting

measurement

calibration

horizontal mirror

vertical mirror

zoom in

zoom out

block

review

comparison

cancel

cross hair

ruler

auto exposure, white balance, gain adjustment, gamma, chroma contrast adjustment, brightness sharpness adjustment, size measurement

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PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)

selectable resolution

white balance
(balance color based
on actual light source)

histogram
(quantify the distribution
of color and brightness)

flat field correction

metrics flow
(create templates,
set tolerances and
build metrics flow)

manual counting
(class counting)

image coloring, fluorescence synthesis, binary, image smoothing, color filter/color extraction/color inversion, delay capture, focus stacking, automatic image stitching, metrics flow, manual counting, dynamic and static measurement, layered measurement, report generation and printing, delay record, flat field correction, image adjustment, histogram.

focus stacking

focus on the top

focus on the bottom

clear image of both top and bottom

automatic image stitching

slowly move the workpiece to generate a stitched image automatically (this image can not be used for size measurement)

SPECIFICATION

Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	30fps
Power supply	power adapter
Output	HDMI/USB
Lens connection	C-mount

COMPUTER (optional) REQUIREMENT

Operation system	Windows 7/8/10 (64 bit)
CPU	Intel Core i5 or above
Memory	8GB or above
USB port	USB 3.0

DISPLAY (optional) REQUIREMENT

Size	13" or above
Resolution	1080P or above
HDMI port	TYPE A

STANDARD DELIVERY

Main unit	1 pc
16G memory card and holder	1 pc
Mouse	1 pc
HDMI cable	1 pc
USB cable	1 pc
Power supply	1 pc

OPTIONAL ACCESSORY

Adapter 0.5X	ISM-MAS-ADAPTER

WIFI 4K CAMERA FOR MICROSCOPES
CODE ISM-MP8B

WIRELESS AD-HOC NETWORK	AUTOMATIC IMAGE STITCHING	FOCUS STACKING
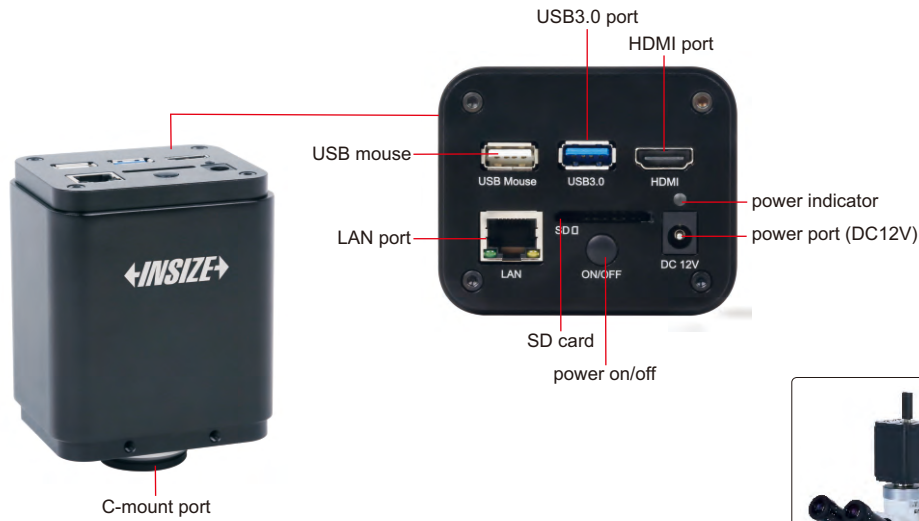
USB3.0 port
HDMI port
USB mouse
USB Mouse   USB3.0   HDMI
power indicator
LAN port
LAN
SD card
power port (DC12V)
ON/OFF   DC 12V
SD card
power on/off

application

C-mount port

- 4K high-definition image
- Can be connected with displays or computers
- Built-in simple measuring software for display, without computer
- Professional measuring software for computers is included
- 4K HDMI/LAN/USB multiple video outputs
- 4K/1080P automatically switched by display resolution
- Focus stacking, automatic image stitching
- Wireless network or wired network

VIDEO

simple measuring software (built-in, for displays)

professional measuring software (included, for computers)
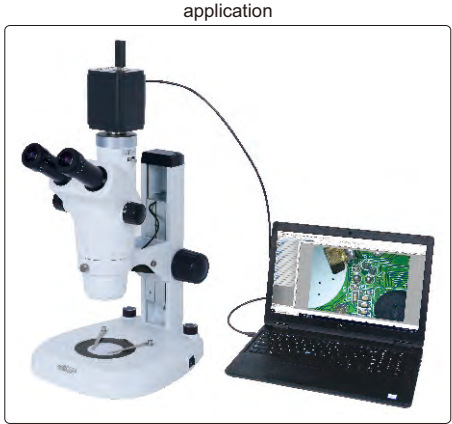
SPECIFICATION

Sensor	1/1.2" CMOS
Pixel	8M
Resolution	3840×2160, 1920×1080
Single pixel	2.9×2.9μm
Frame rate	60fps@3840×2160 (HDMI) 30fps@3840×2160 (LAN) 30fps@3840×2160 (USB)
Binning	1×1
Exposure	0.04~2000ms
Output	HDMI/USB/LAN
Lens connection	C-mount
Power supply	DC 12V 1A
Dimension (L×W×H)	255×170×90mm
Weight	2kg

CONNECTION

HDMI	comply with HDMI2.0 standard 4K/1080P automatically switched by display resolution
LAN	H264 encoded video bandwidth adjustment in real time DHCP configuration or manual configuration unicast/multicast configuration
WLAN	connecting 5G WLAN adapter (USB3.0 interface) in AP/STA mode
USB3.0	connecting USB3.0 port of PC for video transfer MJPEG format video

To be continued

STANDARD DELIVERY

Main unit	1 pc
16G SD card	1 pc
USB mouse	1 pc
HDMI2.0 cable	1 pc
USB3.0 cable	1 pc
USB wlan adapter	1 pc
Wlan cable	1 pc
Glass calibration ruler	1 pc
Calibration plate	1 pc
Software	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

16G USB flash disk		IS-USBDISK-16G
Adjustable lens adapter	Ø23.2mm eyepiece tube	ISM-MP-2A075
	Ø31.75mm eyepiece tube	ISM-MP-3A075
Fixed lens adapter	Ø23.2mm eyepiece tube	ISM-MP-2F075
	Ø31.75mm eyepiece tube	ISM-MP-3F075
Adapter ring for Ø30.0mm eyepiece tube		ISM-MP-300R
Adapter ring for Ø30.5mm eyepiece tube		ISM-MP-305R

COMPUTER

Operation system	Windows/7/8/10
CPU	Intel Core 2 2.8Hz
Memory	2GB
USB port	USB3.0 or USB2.0 port
Display	17"

PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)

Measuring tools:

measure length of line or distance between two points

measure rectangle

measure distance between two parallel lines

measure width and diameter of ring

measure angle

measure diameter, length, perimeter angle of arc

measure radius, girth and area of circle

measure area of polygon

measure axis lengths, girth and area of ellipse

measure center distance between two circles

calibration

measure length of open curve

automatic image stitching (expand field of view)

left side

right side

+

after stitching

focus stacking

focus on the top

focus on the bottom

clear image of both top and bottom

3D plot

visualize the distribution of image brightness and color

counting

select counting tool

automatic counting

binary

separate target and background

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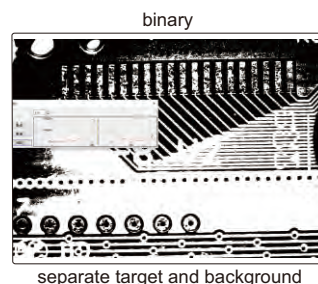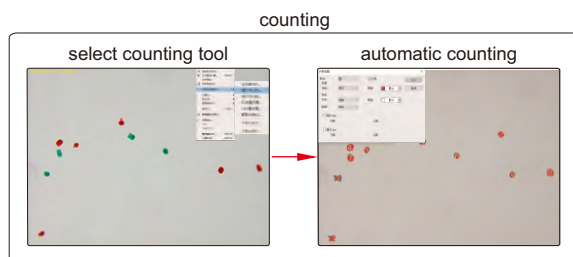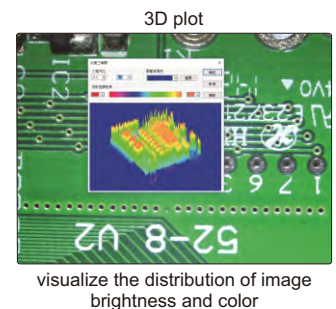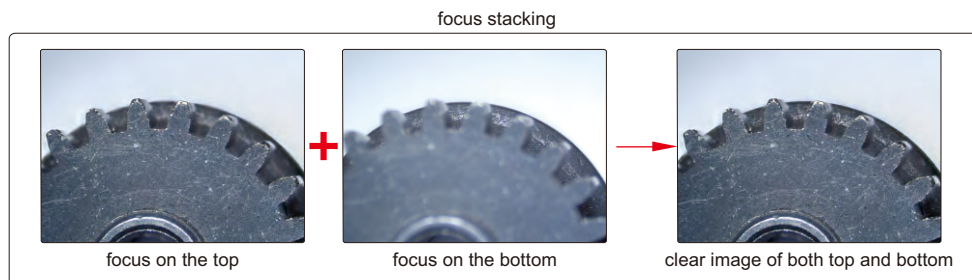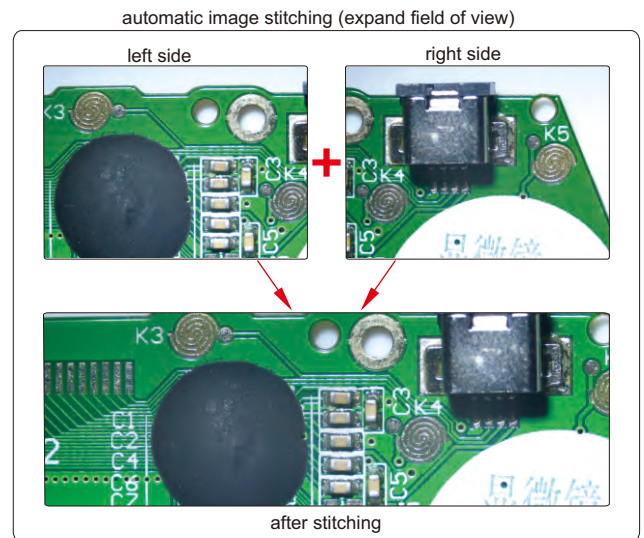
METALLURGICAL ANALYSIS SOFTWARE AND CAMERA
CODE ISM-MAS100

- More than 100 standards (ISO, ASTM, JIS, etc.)
- For metallurgical microscopes
- The camera can be inserted into the eyepiece tube
  or camera connector of microscopes
- Metallurgical analysis software is included,
  which can make comparative analysis,
  measurement and evaluation of various materials

VIDEO

application
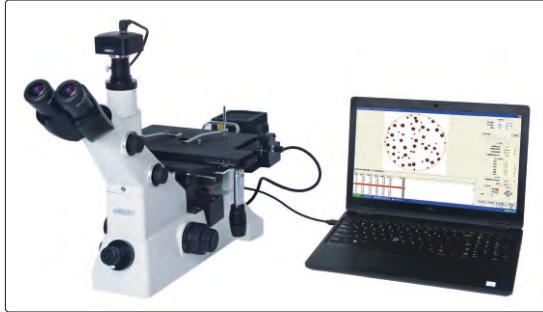
software CD
(included)
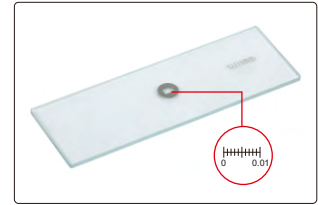
glass calibration rule
(included, graduation 0.01mm)

metallurgical analysis software (included)

tool bar

gallery

this software can be used with variety of metallographic microscopes for
acquisition, processing, analysis, report generation of metallurgical images

metallurgical module list

examples of metallurgical analysis

metallurgical analysis of ductile cast iron-spheroidizing grading

metallurgical analysis of ductile cast iron-pearlite quantity

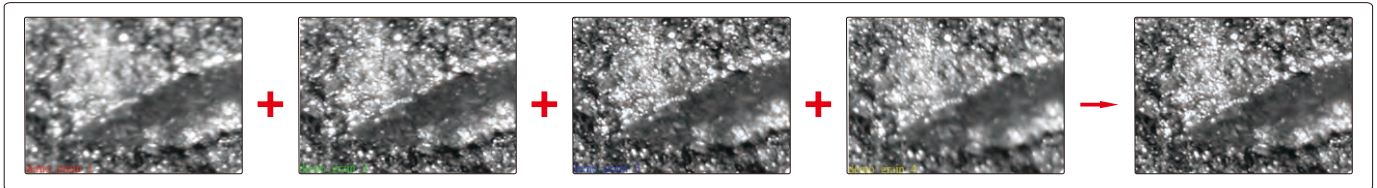dimension measurement

report

focus stacking

image stitch

three dimension map
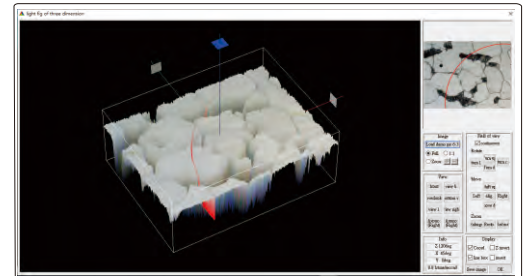
SPECIFICATION

Sensor	1/2.8" CMOS
Pixel	3.1M
Resolution	2048×1536
Frame rate	10fps
Exposure	manual or automatic, adjustable exposure time
Power supply	USB port
Weight	400g

STANDARD DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc
Glass calibration rule (graduation 0.01mm)	1 pc

CAMERA ADAPTERS

- ■ Ø23.2/30mm eyepiece adapter is included
- ■ Suitable for digital cameras **ISM-CM20, ISM-CM63, ISM-ZS70-S**

0.5X camera adapter (fixed focus distance) ISM-AD-0D5

0.75X camera adapter (fixed focus distance) ISM-AD-0D75

application

inserted into eyepiece tube

inserted into camera connecter
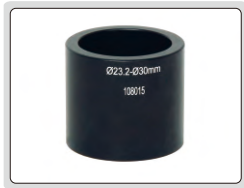
Ø23.2/30mm eyepiece adapter (included)

focus distance adjustment ring

0.5X camera adapter (adjustable focus distance) ISM-AD-A0D5

focus distance adjustment ring

0.75X camera adapter (adjustable focus distance) ISM-AD-A0D75

SPECIFICATION

Code	ISM-AD-0D5	ISM-AD-A0D5 *	ISM-AD-0D75	ISM-AD-A0D75
Type	fixed focus distance	adjustable focus distance	fixed focus distance	adjustable focus distance
Magnification	0.5X	0.41X~0.58X	0.75X	0.64X~0.86X

* There may be shadows on the edge of image when **ISM-AD-A0D5** is used

PORTABLE MEASURING MICROSCOPES

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10X eyepiece with graduation

10X eyepiece

focus adjustment

pen light

10X objective

ISM-PM100

SPECIFICATION

Code	ISM-PM20	ISM-PM40	ISM-PM50	ISM-PM100
Total magnification	20X	40X	50X	100X
Eyepiece	10X with graduation	10X with graduation	10X with graduation	10X with graduation
Objective (achromatic)	2X (numerical aperture: 0.05)	4X (numerical aperture: 0.1)	5X (numerical aperture: 0.12)	10X (numerical aperture: 0.25)
Working distance	17.2mm	18mm	17.6mm	7mm
Graduation	0.05mm	0.025mm	0.02mm	0.01mm
Viewing field	Ø9mm	Ø4.5mm	Ø3.6mm	Ø1.8mm
Focus range	30mm			
Illumination	LED light			
Diameter of base	Ø63mm			
Height	210mm			
Weight	650g			

STANDARD DELIVERY

Main unit	1 pc
Pen light	1 pc
Battery (AAA)	2 pcs

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