INSIZE

MEASUREMENT SOLUTION PROVIDER

ISD-V SERIES
VISION MEASURING SYSTEMS

CATALOGUE NO. ISD-E31

01

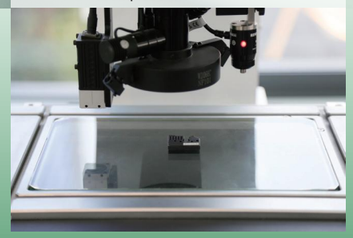
Product Overview and Advantages

Non-contact measurement: Prevents scratches or deformation to workpieces (especially fragile or precision components), safeguarding their integrity.

Visual operation: Displays real-time workpiece images on screen, with measurement points and dimensional annotations clearly visible, reducing manual judgment errors.

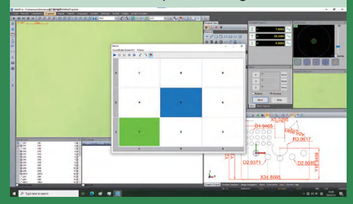
Wide applicability: Measures various parameters including planar dimensions, contours, hole positions, and angles, suitable for electronics, mold making, hardware, and other industries.

Workpiece Measurement



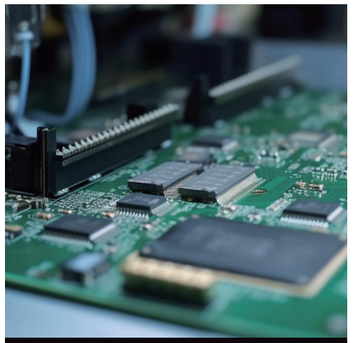
Surface Illumination

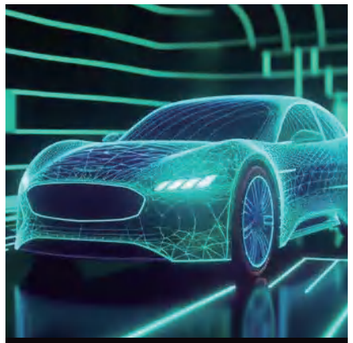
Fixture Operation Page

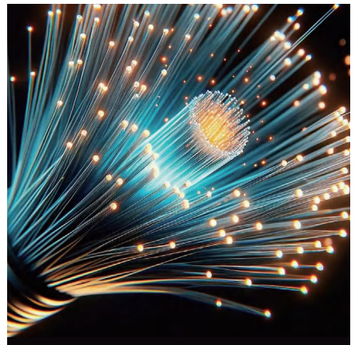


- Intelligent edge detection, auto-focus, auto-measurement, auto-scanning, auto-calibration
- Featuring segmented control for surface illumination, contour illumination and coaxial illumination
- X, Y, Z three-axis servo control
- SPC Data Analysis and Processing
- Bulk jigs

▶ Measurement domain


PCB


Automotive engineering


Optical fibre components

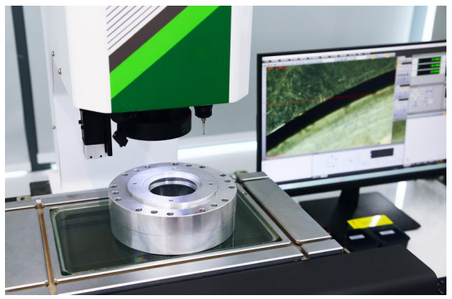

Mobile phone

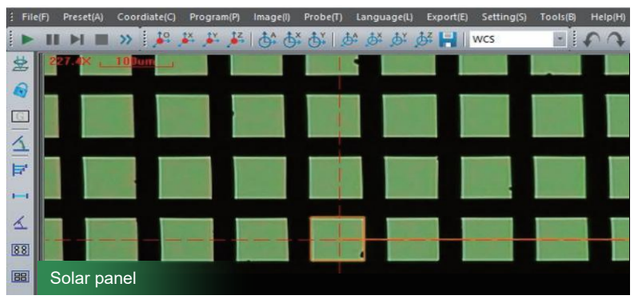

Aerospace


Hardware & Plastics

Beyond this, it finds extensive application across various sectors including precision electronics, wafer technology, cutting tools, precision components, springs, stamped parts, connectors, moulds, military equipment, 2D reverse engineering, drafting, engineering development, conductive rubber, powder metallurgy, screws, watch components, the pharmaceutical industry, higher education institutions, and research institutes.

▶ Application scenarios

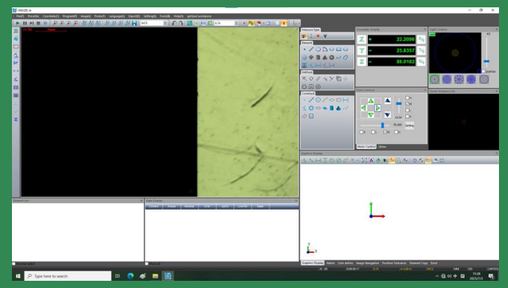




Solar panel

▶ Compared with traditional tools

Vision measurement system automatic edge detection



✔

- Automatic
- Precision
- Quickly
- Extensively

CNC vision measuring systems replace manual measurement with automated instrumentation, delivering higher precision, reduced processing time, and the ability to handle more complex workpieces, thereby significantly boosting productivity.

Traditional measurement


vernier caliper

micrometer

✘

- ☹ Manual
- ☹ Poor accuracy
- ☹ Slow
- ☹ Single

02

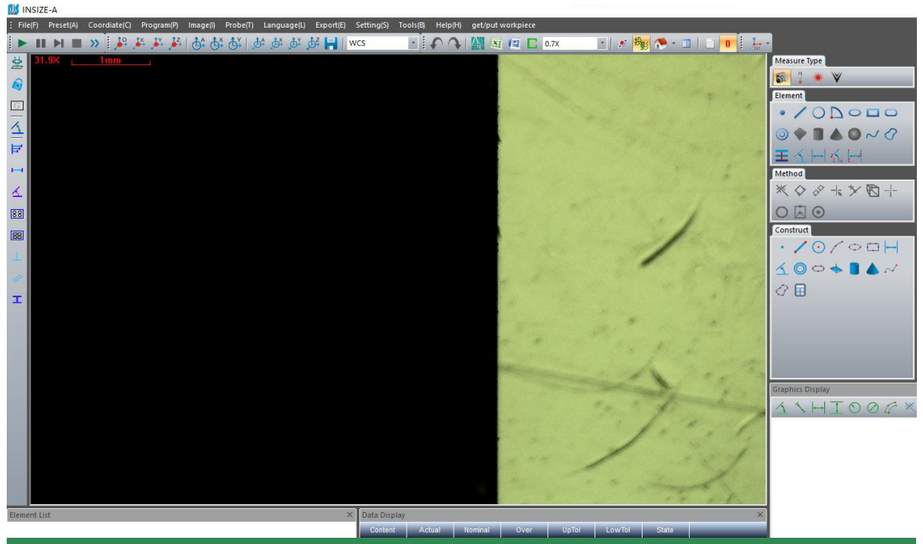
Detailed Functionality

ISD-V series vision measuring systems, equipped with a colour giga-bit network camera, X/Y/Z-axis resolution 0.5μm.

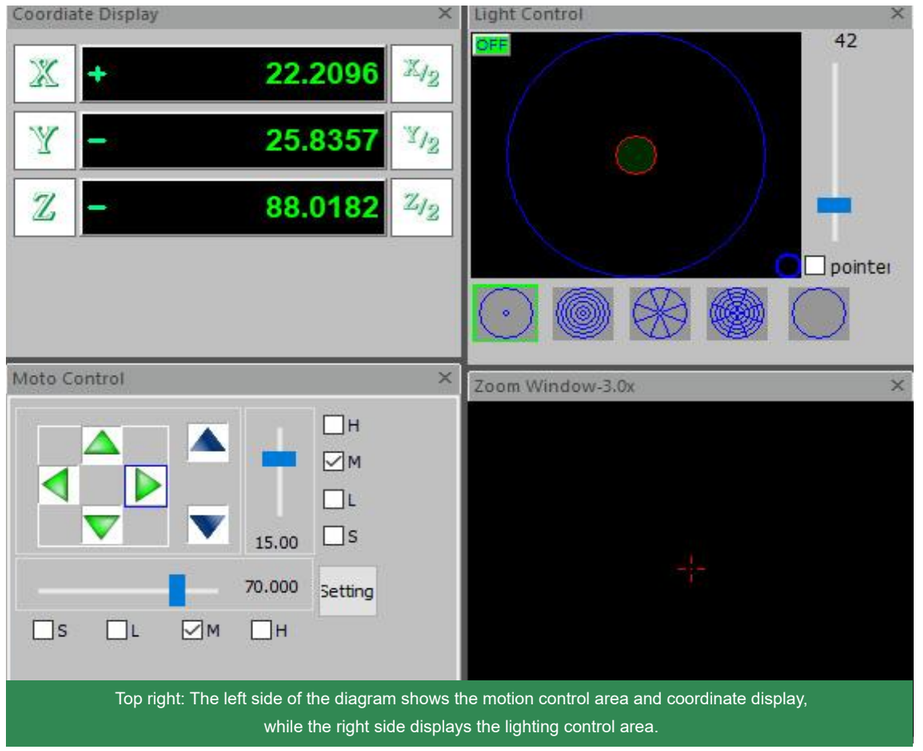
Compatible with Windows 10/11 and multiple operating systems, offering broad applicability and strong versatility. Its exceptionally high resolution significantly measurement accuracy.

Its outstanding performance enables extensive application across diverse sectors including precision electronics, semiconductor technology, cutting tools, plastics, precision components, springs, stamped parts, connectors, moulds, military applications, 2D digitising, drafting, engineering development, hardware and plastics, PCB, conductive rubber, powder metallurgy, screws, watch components, mobile phones, pharmaceuticals, fibre optics, automotive engineering, aerospace, higher education institutions, and research institutes.

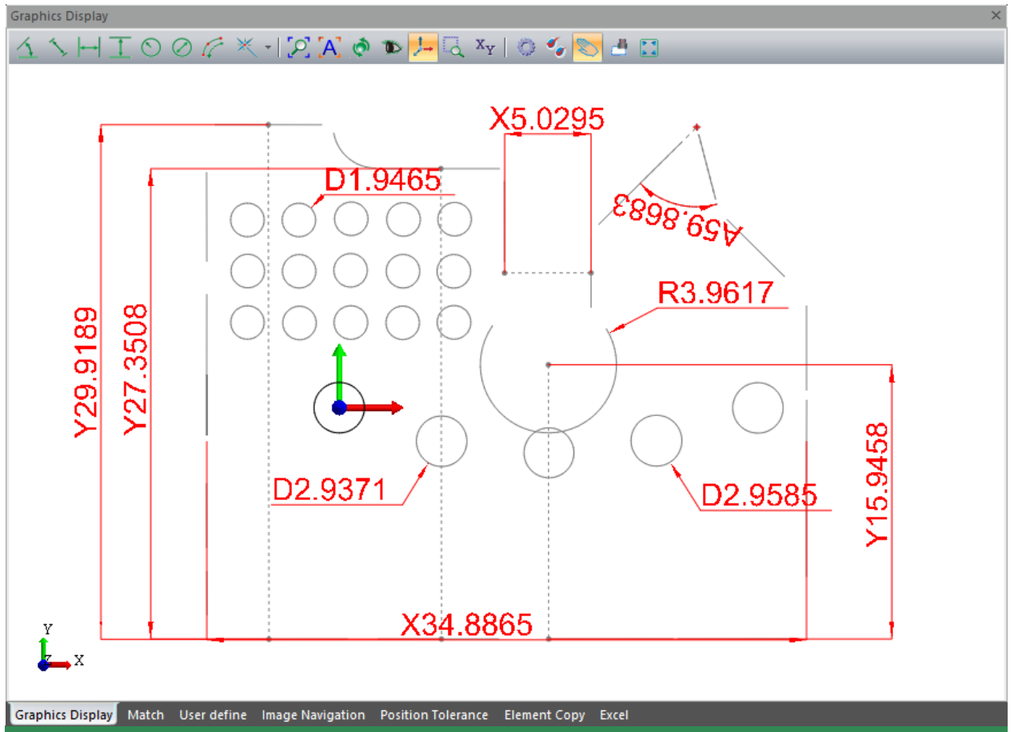
▶ Interface feature overview



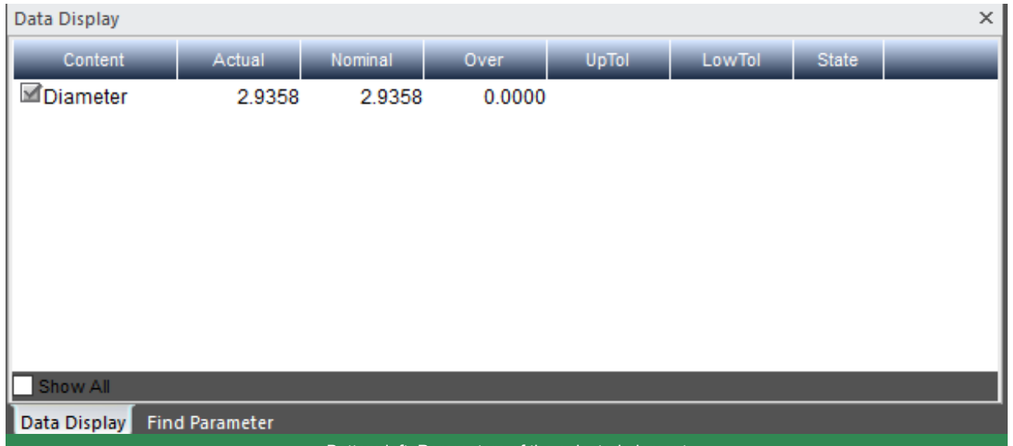
Top left: Image display on the left, tool selection on the right



Top right: The left side of the diagram shows the motion control area and coordinate display, while the right side displays the lighting control area.



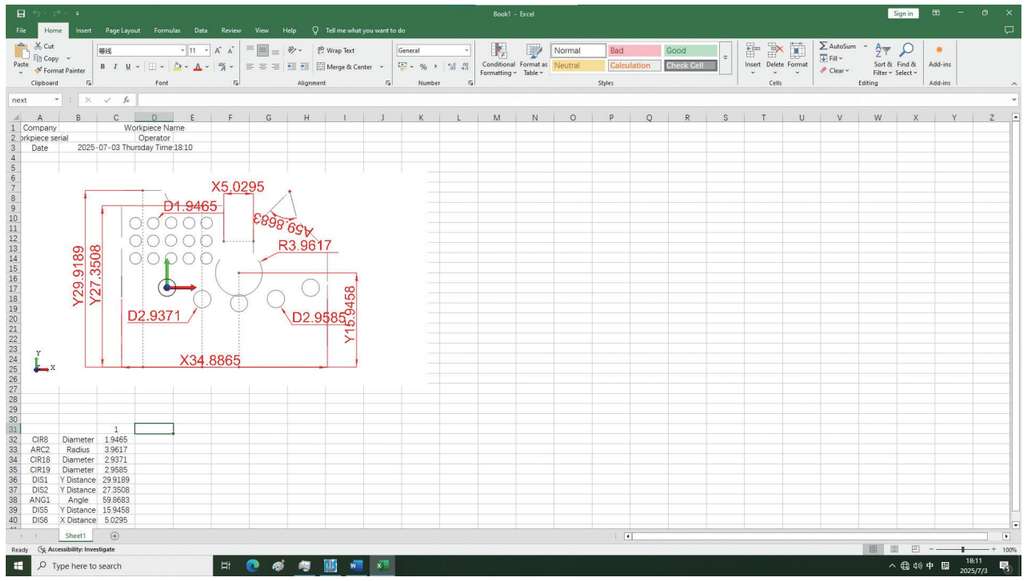
Bottom right: Displays the overall configuration of the measured graphics, the interconnections between graphics, and the graphic parameters.The display area offers multiple tools to select whether parameters of the measured graph are displayed and included in the report. Additional measured parameters may also be added, such as distances and angles within the graph.

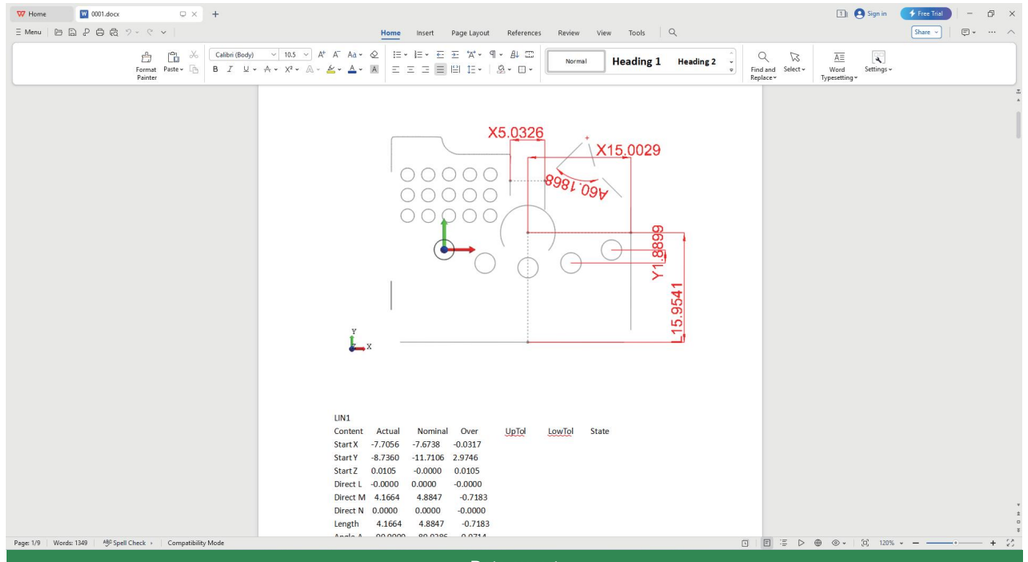


Bottom left: Parameters of the selected element

▶ Vision measuring systems data export function

The vision measuring system software boasts extensive functionality and the capability to export data. Upon completion of measurements, results may be exported in multiple formats including Word and Excel.The exported report displays the pattern and data of the tested workpiece.





Data export

03
Operating procedure

step 1

Place workpiece

Selecting the appropriate fixing device

step 2

Focus and illumination adjustment

Adjust the light source and focus to ensure the image is clear.

step 3

Measurement

Edit the measurement programme and run

step 4

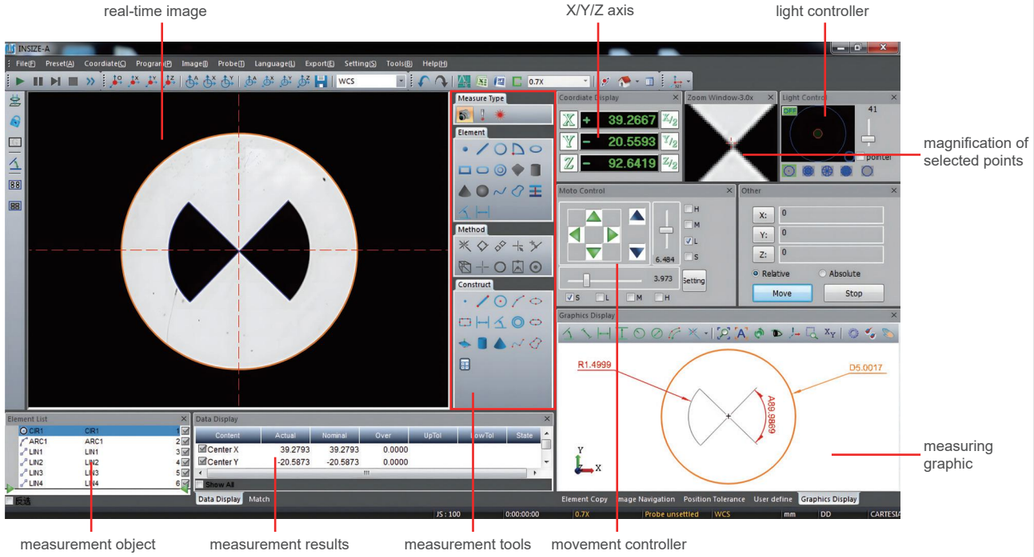
Editorial Report

Select file format, select item

04
Brand advantages

▶ Software advantages

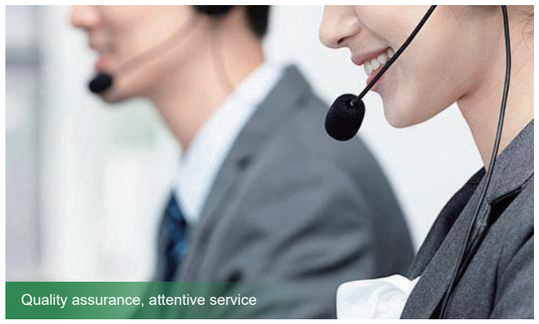
The software is straightforward with clear functionality, and its simple programming capabilities require minimal learning effort–a significant advantage of our brand. Vision measuring systems are broadly similar, enabling measurement of flat surfaces and simple height differentials. The software is a three-in-one solution, offering user-friendly operation.



The software interface is straightforward

▶ Service quality advantage

The quality of our after-sales fault diagnosis and repair services represents a key strength of our company, encompassing professional factory commissioning.



Quality assurance, attentive service

Professional factory commissioning

▶ Extensive range of optional extras

It can perform composite measurements along the X, Y, and Z axis.Beyond the imaging measurement capabilities, styli and laser probe can broaden vision measuring systems application scope, compensating for the lack of height measurement functionality.Flatness may be measured.

laser probe **(optional)**, measuring accuracy is 5μm

probe **(optional)**, includes Ø2mm and Ø3mm styli, Ø25mm calibration ball measuring accuracy is 10μm

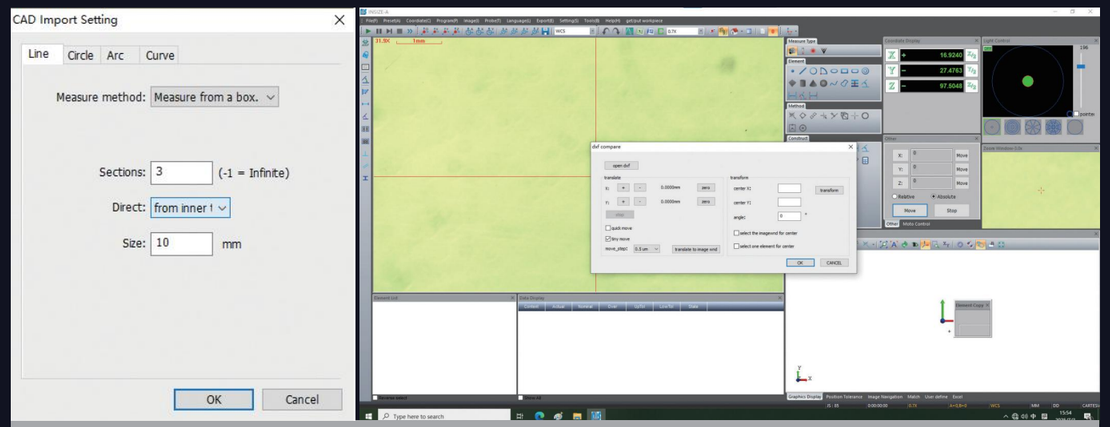
basic probe set (**optional**), includes Ø1mm, Ø2mm, Ø3mm styli Ø25mm calibration ball measuring accuracy is 10μm

Name	CNC vision measuring system
0.5X auxiliary objective	code: **ISD-V-OB05X** working distance: 175mm magnification: 16.5~104.3X (with manual zoom lens, on 24" monitor), 16.0~94.4X (with motorized zoom lens, on 24" monitor)
2X auxiliary objective	code: **ISD-V-OB2X** working distance: 36mm magnification: 66~417.2X (with manual zoom lens, on 24" monitor), 63.8~377.4X (with motorized zoom lens, on 24" monitor)
Standard probe set (RENISHAW)	code: **ISD-V-PROBE**, includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Basic probe set	code: **ISD-V-PROBE1**, includes Ø1mm, Ø2mm, Ø3mm styli, Ø25mm calibration ball
Laser probe	code: **ISD-V-LASER**
Office software	code: **7313-OFFICE**

Name	Manual vision measuring system
0.5X auxiliary objective	code: **ISD-V-OB05X** working distance: 175mm magnification: 14.5~92X (on 21.5" monitor)
2X auxiliary objective	code: **ISD-V-OB2X** working distance: 36mm magnification: 58~368X (on 21.5" monitor)
Standard probe set (RENISHAW)	code: **ISD-V-PROBE**, includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Basic probe set	code: **ISD-V-PROBE1**, includes Ø1mm, Ø2mm, Ø3mm styli, Ø25mm calibration ball
Vision measuring system with coaxial light lens (with computer)	code: **ISD-V150ACL, ISD-V250ACL, ISD-V300ACL, ISD-V400ACL** code: **ISD-V150HCL, ISD-V250HCL, ISD-V300HCL, ISD-V400HCL**
Office software	code: **7313-OFFICE**

▶ CAD import

DXF files can be imported into the software, which intelligently generates testable features, inspection items and sets tolerances, thereby facilitating the editing of measurement programmes.



CAD import setting

05
| Specification

CNC vision measuring systems							
Code	motorized zoom lens	ISD-V220ZA	ISD-V220ZHN	ISD-V270ZA	ISD-V270ZHN	ISD-V370ZA	ISD-V370ZHN
	manual zoom lens	ISD-V220CNCA	ISD-V220HN	ISD-V270CNCA	ISD-V270HN	ISD-V370CNCA	ISD-V370HN
Measuring range (X×Y×Z)		220x120x150mm	220x120x300mm	270x170x150mm	270x170x300mm	370x270x150mm	370x270x300mm
Stage size		450x280mm	450x280mm	500x330mm	500x330mm	606x466mm	606x466mm
Glass stage size		306x196mm	306x196mm	350x250mm	350x250mm	450x350mm	450x350mm
Resolution of X/Y/Z axis		0.5μm					
Accuracy of X/Y axis		≤(2.5+L/100)μm (L is the measuring length in mm)				≤(3.5+L/100)μm (L is the measuring length in mm)	
Repeatability of X/Y axis		2μm					
Objective		0.7X~4.5X (zoom)					
Working distance		92mm					
View field (diagonal length)		1.5~10.8mm					
Magnification		33.0X~208.6X(with manual zoom lens, on 24" monitor)					
		31.9X~188.7X(with motorized zoom lens, on 24" monitor)					
Camera		giga-bit network camera					
Illumination	surface	coaxial light, programmable segmented ring light					
	contour	adjustable LED light					
Max. height of workpiece		150mm	300mm	150mm	300mm	150mm	300mm
Max. weight of workpiece		30kg					
Operation system		Windows 10/11					
Drive method		automatic					
Power supply		220V, 50/60Hz					
Dimension (L×W×H)		760x600x900mm	760x600x1050mm	760x600x900mm	760x600x1050mm	970x670x940mm	970x670x1090mm
Net weight		146kg	156kg	168kg	178kg	266kg	276kg

Manual vision measuring systems				
Code	**ISD-V150A**	**ISD-V250A**	**ISD-V300A**	**ISD-V400A**
Measuring range (X×Y×Z)	150x100x150mm	250x150x150mm	300x200x150mm	400x300x150mm
Stage size	354x228mm	450x280mm	500x330mm	606x466mm
Glass stage size	210x160mm	306x196mm	350x250mm	450x350mm
Resolution of X/Y/Z axis	0.5μm			
Accuracy of X/Y axis	≤(2.5+L/100)μm (L is the measuring length in mm)			
Repeatability of X/Y axis	2μm			
Objective	0.7X~4.5X (zoom)			
Working distance	92mm			
Magnification	29X~184X (on 21.5" monitor)			
Camera	1/3" color CCD, 0.3M pixel			
Illumination	surface and contour: adjustable brightness LED light			
Max. height of workpiece	150mm			
Max. weight of workpiece	20kg			
Operation system	Windows 10/11			
Drive method	manual			
Power supply	110/220V, 50/60Hz			
Dimension (L×W×H)	560x540x850mm	760x600x900mm	760x600x900mm	970x670x940mm
Net weight	100kg	120kg	140kg	240kg

Manual vision measuring systems				
Code	**ISD-V150H**	**ISD-V250H**	**ISD-V300H**	**ISD-V400H**
Measuring range (X×Y×Z)	150x100x300mm	250x150x300mm	300x200x300mm	400x300x300mm
Stage size	354x228mm	450x280mm	500x330mm	606x466mm
Glass stage size	210x160mm	306x196mm	350x250mm	450x350mm
Resolution of X/Y/Z axis	0.5μm			
Accuracy of X/Y axis	≤(2.5+L/100)μm (L is the measuring length in mm)			
Repeatability of X/Y axis	2μm			
Objective	0.7X~4.5X (zoom)			
Working distance	92mm			
Magnification	29X~184X (on 21.5" monitor)			
Camera	1/3" color CCD, 0.3M pixel			
Illumination	surface and contour: adjustable brightness LED light			
Max. height of workpiece	300mm			
Max. weight of workpiece	20kg			
Operation system	Windows 10/11			
Drive method	manual			
Power supply	110/220V, 50/60Hz			
Dimension (L×W×H)	560x540x1000mm	760x600x1050mm	760x600x1050mm	970x670x1090mm
Net weight	110kg	130kg	150kg	250kg

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