OPTO EDU A64.5401 10× Laser Confocal Microscope

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A64.5401
- Minimum Order Quantity: 1 pc
- Price: FOB $1~1000, Depend on Order Quantity
- Packaging Details: Carton Packing, For Export Transportation
- Delivery Time: 5~20 Days
- Payment Terms: T/T, West Union, Paypal
- Supply Ability: 5000 pcs/ Month

Product Specification

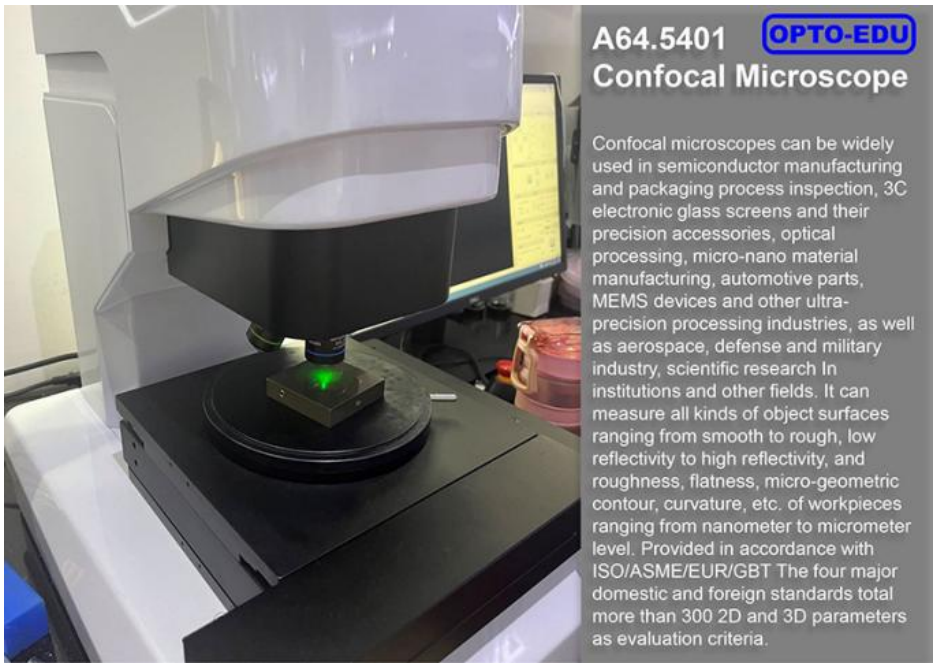
- Measuring Principle: Confocal Optical System
- Microscope Objective Lens: 10×(Standard), 20×, 50×, 100×(Optional)
- Field Of View: 160×160 μm~1.6×1.6 Mm
- Scanning Frame Rate*1: ≥10HZ
- Z-direction Movement Range: 100 Mm
- Objective Lens Tower: 5-hole Motorized
- Highlight: **OPTO EDU Laser Confocal Microscope**, **10× Laser Confocal Microscope**

Product Description

▶ A64.5401 Features

1) The measurement and analysis software with integrated operation does not need to switch the interface for operation, and the configuration parameters are set in advance before measurement. The software automatically counts the measurement data and provides the data report export function, which can quickly realize the batch measurement function.
2) Provide automatic multi-area measurement function, batch measurement, automatic focus, automatic brightness adjustment and other automatic functions.
3) Provide stitching measurement function.
4) Provide data processing functions of the four modules of position adjustment, correction, filtering and extraction. Position adjustment includes functions such as image leveling and mirroring; correction includes functions such as spatial filtering, retouching, and peak denoising; filtering includes functions such as shape removal, standard filtering, and spectral filtering; extraction includes functions such as extracting regions and extracting profiles.
5) Provide five major analysis functions including geometric profile analysis, roughness analysis, structure analysis, frequency analysis and function analysis. Among them, the geometric profile analysis includes features such as step height, distance, angle, curvature and other functions, and straightness, roundness tolerance evaluation and other functions; roughness analysis includes line roughness according to international standards ISO4287, ISO25178 surface roughness, ISO12781 leveling Degree and other full-parameter analysis functions; structural analysis includes pore volume and trough depth, etc.; frequency analysis includes functions such as texture direction and spectrum analysis; functional analysis includes functions such as SK parameters and volume parameters.
6) Provide auxiliary analysis functions such as one-key analysis and multi-file analysis, set analysis templates, combined with the automatic measurement and batch measurement functions provided in the measurement, it can realize the batch measurement of small-sized precision devices and directly obtain the analysis data.

Confocal microscope is a testing instrument used for nanometer measurement of various precision devices and materials. It is based on the principle of confocal technology, combined with porous disk parallel scanning technology, precise Z-direction scanning module, 3D modeling algorithm, etc. to perform non-contact scanning on the surface of the device and establish a surface 3D image. The 3D image of the device surface is performed through the system software. Data processing and analysis,
and obtain 2D and 3D parameters reflecting the surface quality of the device,so as to realize the optical inspection instrument for 3D measurement of the surface topography of the device.



A64.5401 Specification

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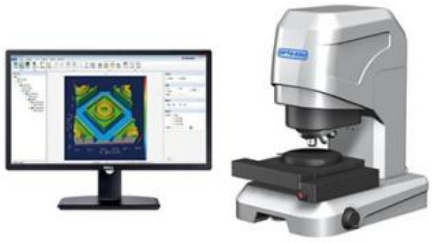

A64.5401 Confocal Microscope Technical Specification Sheet		
Measuring principle		Confocal optical system
Microscope objective lens		10×(Standard), 20×, 50×, 100×(Optional)
Field of view		160×160 μm~1.6×1.6 mm
Scanning frame rate*1		≥10HZ
Height measurement	Repeatability*2	20×: 40nm; 50×: 20nm; 100×: 20nm
	Accuracy*2	± (0.2+L/100) μm
	Display resolution	0.5nm
Width measurement	repeatability*3	20×: 100nm; 50×: 50nm; 100×: 30nm
	Accuracy*3	± 2%
	Display resolution	1nm
XY displacement platform	size	210×210 mm
	Moving range	100×100 mm
	Load	10kg
	Control method	electric
Z-direction movement range		100 mm
Objective lens tower		5-hole motorized
Illumination	light source	LED
	Maximum output	840mW
Dimensions		590×390×540mm
Total weight		45kg
Power supply		AC220V/50Hz
Working environment		Temperature 10℃~35℃, temperature gradient <1 ℃/15 minutes, humidity 30~80%, Vibration <0.002g, less than 15Hz
Notice: *1 Use a 20x lens to measure a 4.7μm standard step sample block at an ambient temperature of 20±2°C. *2 Measure the 4.7μm standard step sample block at an ambient temperature of 20±2°C with a lens of 20 times or more. *3 Use a lens of 20 times or more to measure the standard reticle sample at an ambient temperature of 20±2°C.		
Objective lens specifications		Model Field of View Working Distance (W.D.) Numerical Aperture (N.A.)
		10X 1600×1600 μm 10.6 mm 0.25
		20X 800×800 μm 1.3 mm 0.40
		50X 320×320 μm 0.38 mm 0.75
		100X 160×160 μm 0.21 mm 0.90
Product configuration list Standard configuration:		1) A64.5401 Main body
		2) XY displacement stage: automatic displacement stage
		3) Brand computer
		4) System calibration module
		5) Joystick

	6) Confocal microscope software
	7) Instrument accessories box
	8) Product manual
	9) Product certificate, warranty card
Optional	1) Measuring objective lens:20×, 50×, 100×
	2) Vacuum suction table (for semiconductor wafers): 6 inches, 8 inches;
	3) Automatic measurement splicing measurement function module (requires hardware support)

A64.5401 Application Areas

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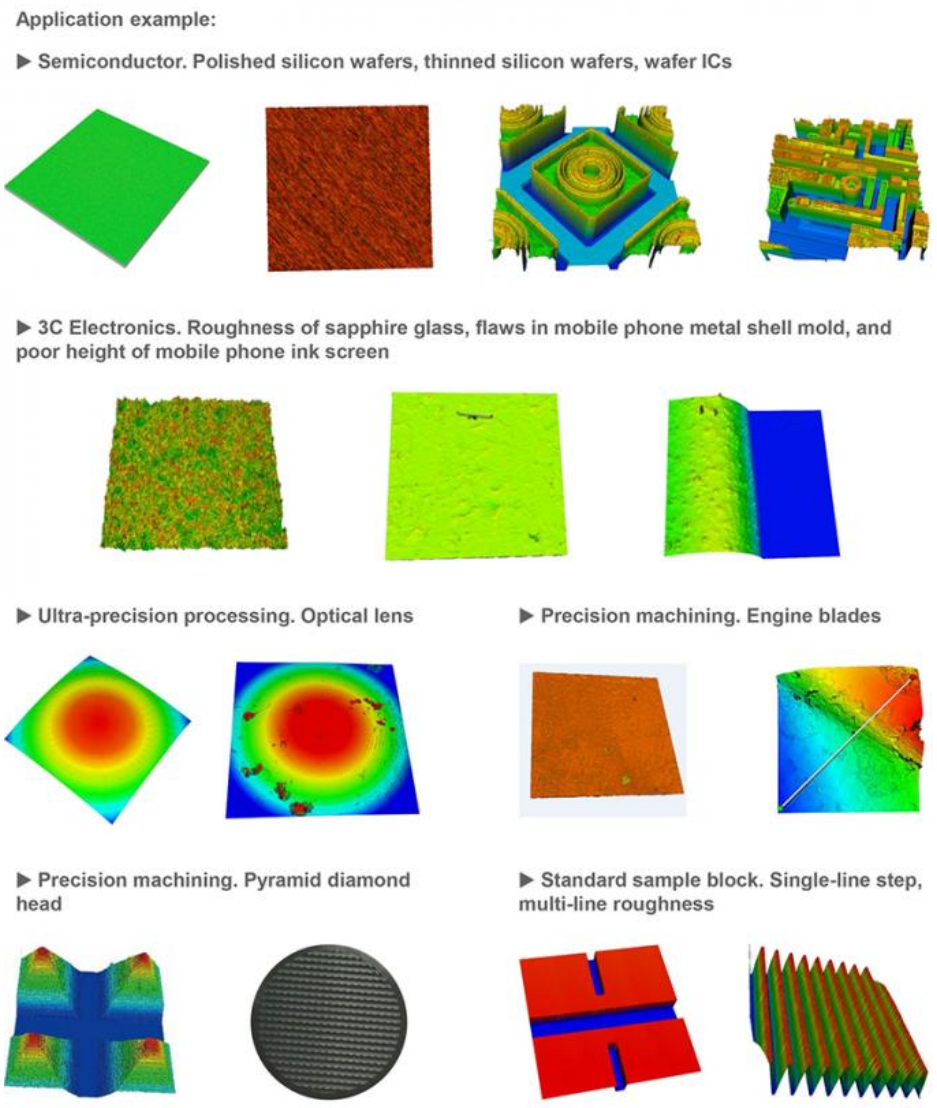
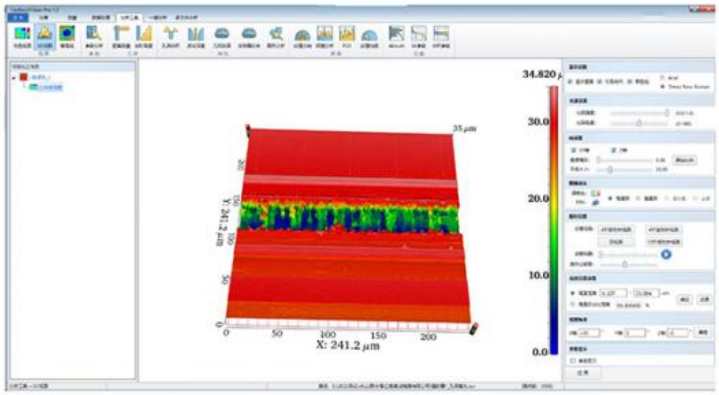
Perform surface topography features such as surface contours, surface defects, wear conditions, corrosion conditions, flatness, roughness, waviness, pore gaps, step heights, bending deformations, and processing conditions of various products, components and materials. Measurement and analysis.



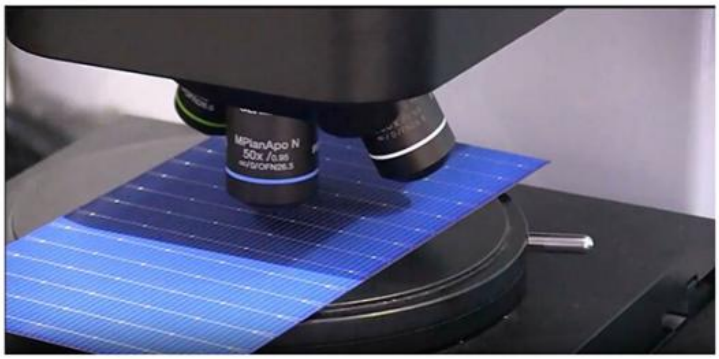
▶ 4.1 High Precision And High Repeatability

The measurement system composed of low-noise imaging sensors, high-performance optical components and encoders, and excellent 3D reconstruction algorithms ensure the measurement that meets the standards; rooted in the measurement industry for many years, the same line of industrial design and top processing level ensure a high level The measurement repeatability.



▶ 4.2 High-speed Parallel Scanning

The multi-point parallel scanning of the profile using the porous disk greatly improves the work efficiency compared with the traditional single-point scanning scheme of the galvanometer, and the scanning can be completed in only a few seconds.

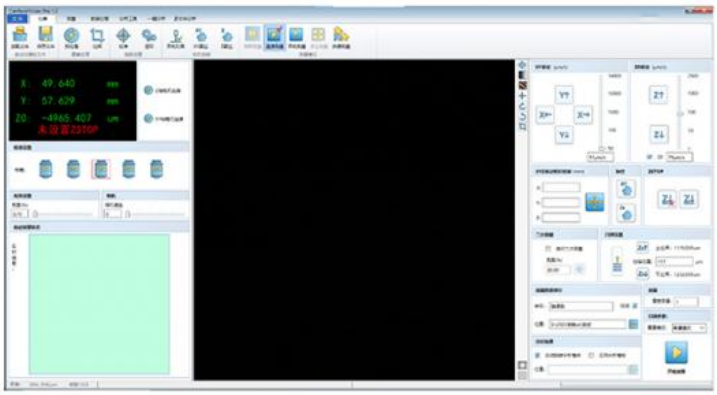


▶ 4.3 Strong Adaptability

The measurement system has an ultra-high dynamic range for different sample poses, surface complexity, and surface reflectivity.

▶ 4.4 Integrated Measurement And Analysis Software

1) The measurement and analysis are operated on the same interface, without switching, the measurement data is automatically counted, and the function of rapid batch measurement is realized;
2) The visual window is convenient for users to observe the scanning process in real time;
3) Combined with the automatic measurement function of the custom analysis template, it can automatically complete the multi-region measurement and analysis process;
4) The five functional modules of geometric analysis, roughness analysis, structure analysis, frequency analysis, and function analysis are complete;
5) One-click analysis, multi-file analysis, freely combined analysis items are saved as analysis templates, one-click analysis of batch samples, and data analysis and statistical chart functions are provided;
6) More than 300 2D and 3D parameters can be measured according to ISO/ASME/EUR/GBT and other standards.



▶ 4.5 Precision Joystick

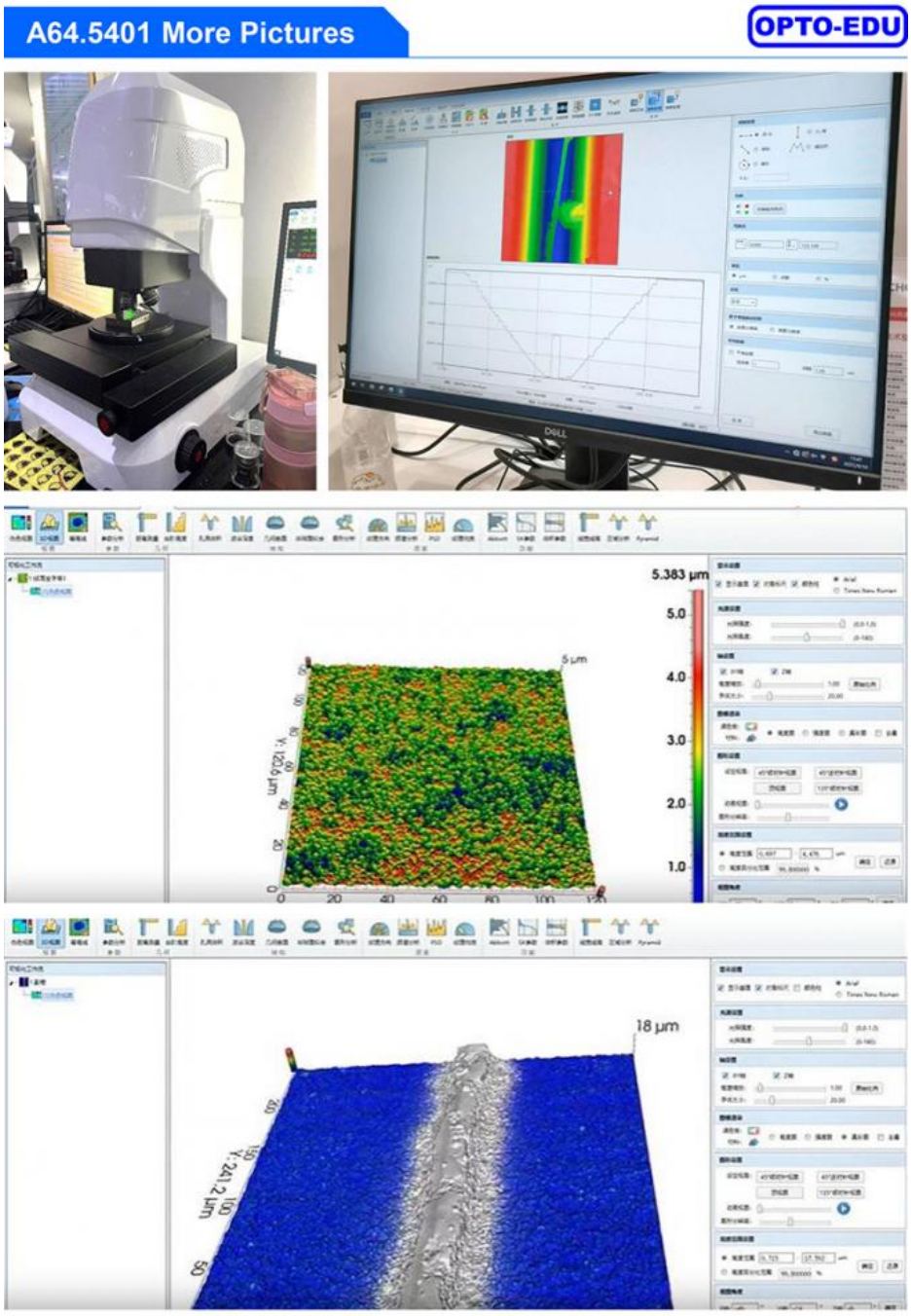
The joystick integrated with the function of displacement adjustment in the three directions of X, Y, and Z can quickly complete the pre-measurement work such as stage translation and Z-direction focusing.

▶ 4.6 Anti-collision Design

Avoid damage to the objective lens and the object to be measured due to collision caused by Misoperation.

▶ 4.7 Fully Electric Microscope

Equipped with a series of electric parts, these closely connected electric parts work together to make observation fast and simple.



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