OPTO EDU A64.1099 Full Auto Semi APO Laser Confocal Microscope

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: OPTO-EDU
- Certification: CE, Rohs
- Model Number: A64.1099
- 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

- Eyepiece: WF10x/22mm Eyepiece, Diopter Adjustable +/-5°, High Eyepoint
- Head: 10-40° Tilt Adjustable Binocular Head
- Mag. Switch: Coded Manual Intermediate Magnification Switch Button 1x/1.5x On Right Side
- Objective: NIS60 Infinity Plan APO Achromatic Objective
- Focusing: Motorized Z Axis, Grating Type, Moving Range Up 8.5mm
- Transmit Light: Kohler Illumination, With Field/Iris Diaphragm, 0~25° Titl Adjustable Arm
- Highlight: **OPTO EDU Laser Confocal Microscope**, **Semi APO Laser Confocal Microscope**, **Full Auto Laser Confocal Microscope**

More Images

Our Product Introduction

Product Description

4 Laser Source, 4 PMT Detector, Scan Head 8Kx8K, Scan Mode Support x,y,z,λ,T Combine Use
Motorized Pin Hole Stepless Adjustment, Confocal View Field Square Inscribed In Dia.25mm Circle
5.7" Touch Screen, Infintiy Plan Sem-APO Phase Contrast Objective 10x20x40x
Motorized Nosepiece, Motorized XYZ, Motorized Condenser, Motoried Fluorescent Turret
Motorized Control Light Split, 4 Modes: E100, LP100, RP100, E20/RP80

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A64.1099

Laser Confocal Microscope, Auto, Semi-APO, BF+PH+FL, Optional PL+DIC+HMC+Super Resolution

A64.109x Confocal Microscope Series

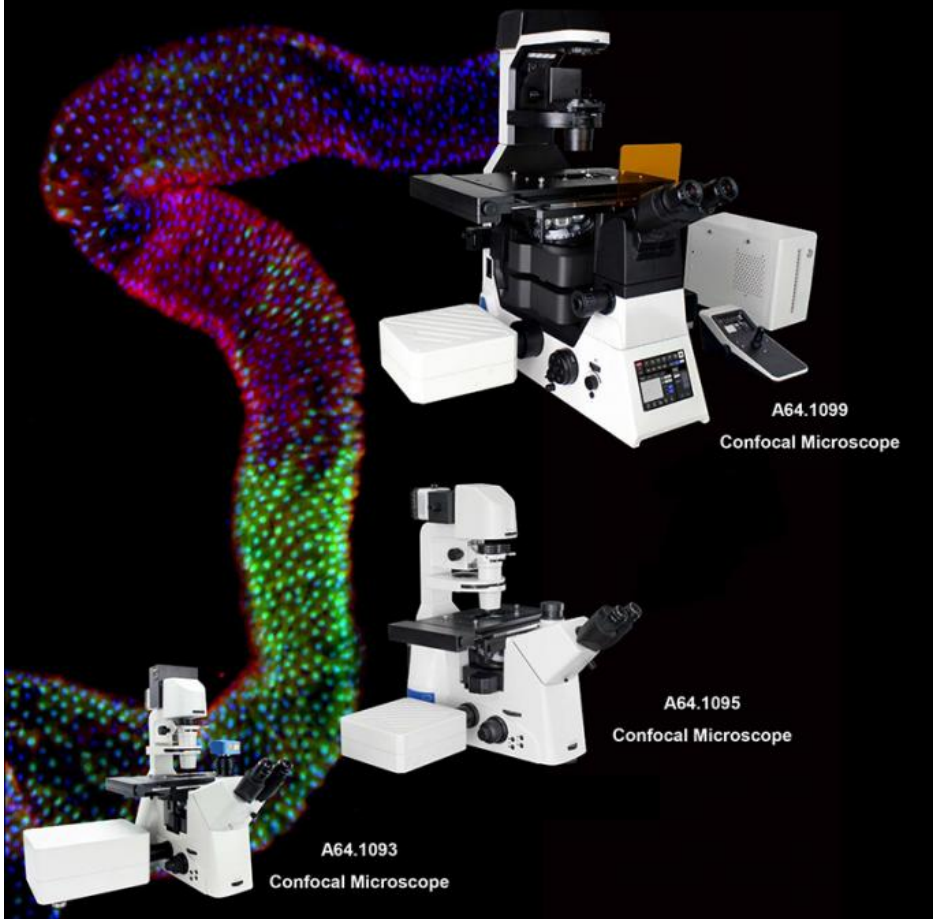
OPTO-EDU

▶ Craftsmanship Masterpiece Pursuing Perfection

Following the legacy of its commercially successful predecessors, the A64.1093 and A64.1095 confocal microscopes, we proudly announce the triumphant upgrade completion of our all-new generation confocal microscope, the A64.1099!

This upgrade not only marks significant advancements in optical systems, resolution, and acquisition speeds, but also introduces profound optimizations in intelligent operation and motorized design, transforming intricate experimental procedures into effortless tasks, thereby fulfilling the stringent demands of cutting-edge research across disciplines.

Through the test of time and meticulous refinement, unparalleled quality is forged. OPTO-EDU now presents the A64.1099 confocal microscope, empowering your scientific aspirations and accompanying you resolutely on your journey to explore the unknown, advancing fearlessly towards new frontiers of knowledge!



A64.1099 Laser Confocal Microscope

OPTO-EDU

▶ Super Vision, Super Resolution and Super Speed

Explore the Mysteries of Cells: A Journey into the Crystal-clear Nanoscopic World

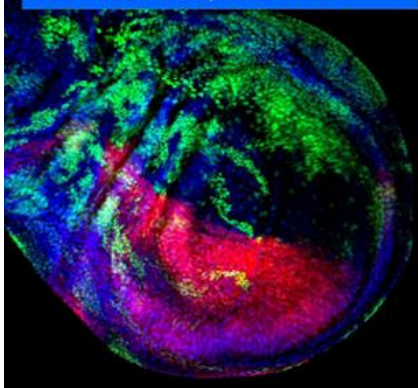
As life science research demands deeper and broader analysis of tissues, organs, and model organisms, efficient imaging solutions have become pivotal for scientific breakthroughs. Capturing images of such large samples requires expanding imaging ranges and reducing acquisition times to detect more accurate intracellular reactions. We are proud to introduce the A64.1099 Laser Confocal Microscope, specifically designed to meet the stringent requirements of modern biological research for high-throughput and high-quality imaging.

The A64.1099 is equipped with an industry-leading 25mm field of view, effortlessly encompassing extensive sample areas for seamless large-scale imaging. With a scanning resolution of 8192 X 8192 pixels, it achieves vivid and precise imaging even at low magnifications. Its remarkable high-speed imaging capability of up to 60 fps (at 8*256 pixels) not only accommodates broad field observations but also delivers high-resolution imagery within a single frame, thereby gathering more data faster in each image.

Larger fields of view, enhanced resolution, and increased speed translate to superior image quality, clearer contrasts, and truer colors. This empowers you to delve deeper into the nanoscale universe within cells, interpreting cellular reaction processes more intuitively and accurately. It propels the boundaries of your scientific research forward, continually exploring uncharted territories in the realm of life sciences.

A64.1099 Super Vision

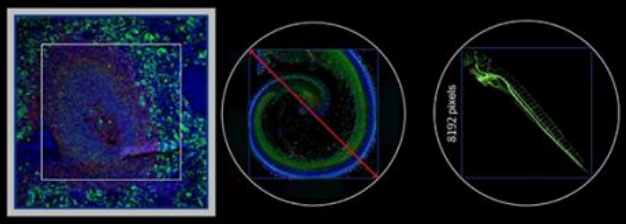
OPTO-EDU



To obtain a wide observation field and comprehensive information of the entire sample within a short period.

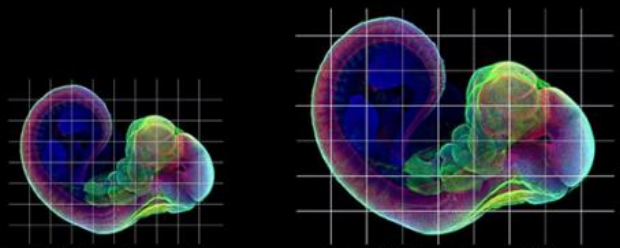
▶ Extract More Data From Sample

The A64.1099 confocal microscope boasts an industry-leading 25mm field of view, enabling it to capture images of large samples in a single scan and offering 1.5 times the data throughput compared to previous generations. Coupled with a scanning resolution up to 8192x8192 pixels, it is designed to meet the escalating demands in life science research for analyzing tissues, organs, and live model organisms, ensuring the acquisition of vital biological data with unprecedented detail and efficiency.



▶ Requires Fewer Total Images For Large High-resolution Image Stitching

When paired with the A16.1099 inverted microscope, the A64.1099 is capable of acquiring high-quality 25 mm field of view (FOV) confocal images. The large field of view reduces the number of images required for stitching large images and decreases image acquisition time, enabling uniform brightness, high efficiency, and high throughput imaging of large specimens.



22mm FOV Large image stitching

25mm FOV Large image stitching

A64.1099 Super Resolution

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Achieving Higher Signal-to-noise Ratio And Increased Image Resolution.

▶ High-performance Objectives For Confocal Imaging

The NIS series objectives boast high numerical apertures, long working distances, and exceptional chromatic aberration correction capabilities. Employing multi-layer coating technology, they deliver outstanding image quality and resolution. Not only do the NIS series objectives serve as an ideal complement to traditional optical microscopes, but they also play a pivotal role in confocal microscopy systems, enabling researchers to capture hitherto unseen fine structures and dynamic processes, thus facilitating in-depth exploration and visualization research of the microscopic world.

NIS Apochromat TIRF 100X Oil

Boasting unprecedented ultra-high resolution with a numerical aperture (NA) up to 1.49, this objective lens represents the pinnacle of the NIS series. It is meticulously designed to optimize spherical aberrations produced under varying imaging temperatures, namely 23 degrees Celsius and 37 degrees Celsius.

NIS Apochromat 20× C WI

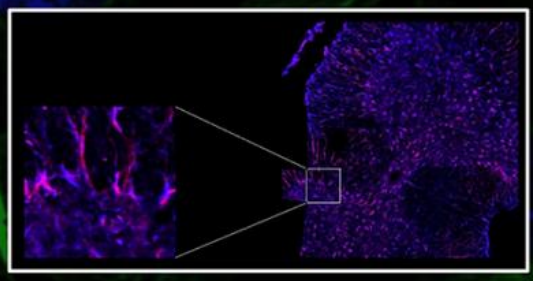
The optimal choice for observing cultured cells and other specimens in culture medium, with a refractive index closely matching that of both the cells and the culture medium, thereby minimizing spherical aberration and light loss caused by refractive index differences to the greatest extent.

NIS Plan Apochromat series

Representing the apex of professional-grade objectives, with numerical apertures and working distances reaching new extremes, these lenses enable impeccable aberration correction across the entire field of view, offering imaging quality unparalleled by conventional objectives.

▶ High-efficiency Scanning Heads And Detectors

The A64.1099 employs an internally integrated high-precision scanning galvanometer system within its scanning head, coupled with a continuously variable electric pinhole, enabling low noise, high contrast, and premium quality confocal imaging. With a scanning size of 8192x8192 pixels, it transcends the optical diffraction limit even when using low magnification objectives, achieving exceptional high-resolution sampling. This ensures the meticulous capture and reproduction of micro details.



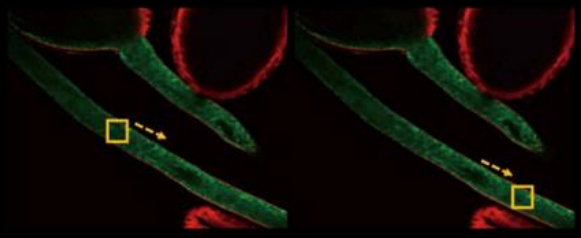
A64.1099 Super Speed

OPTO-EDU

Shortened acquisition times have been achieved, facilitating high-frequency confocal imaging.

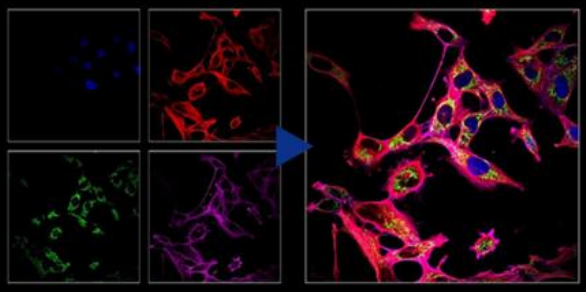
▶ Faster Scanning Speed

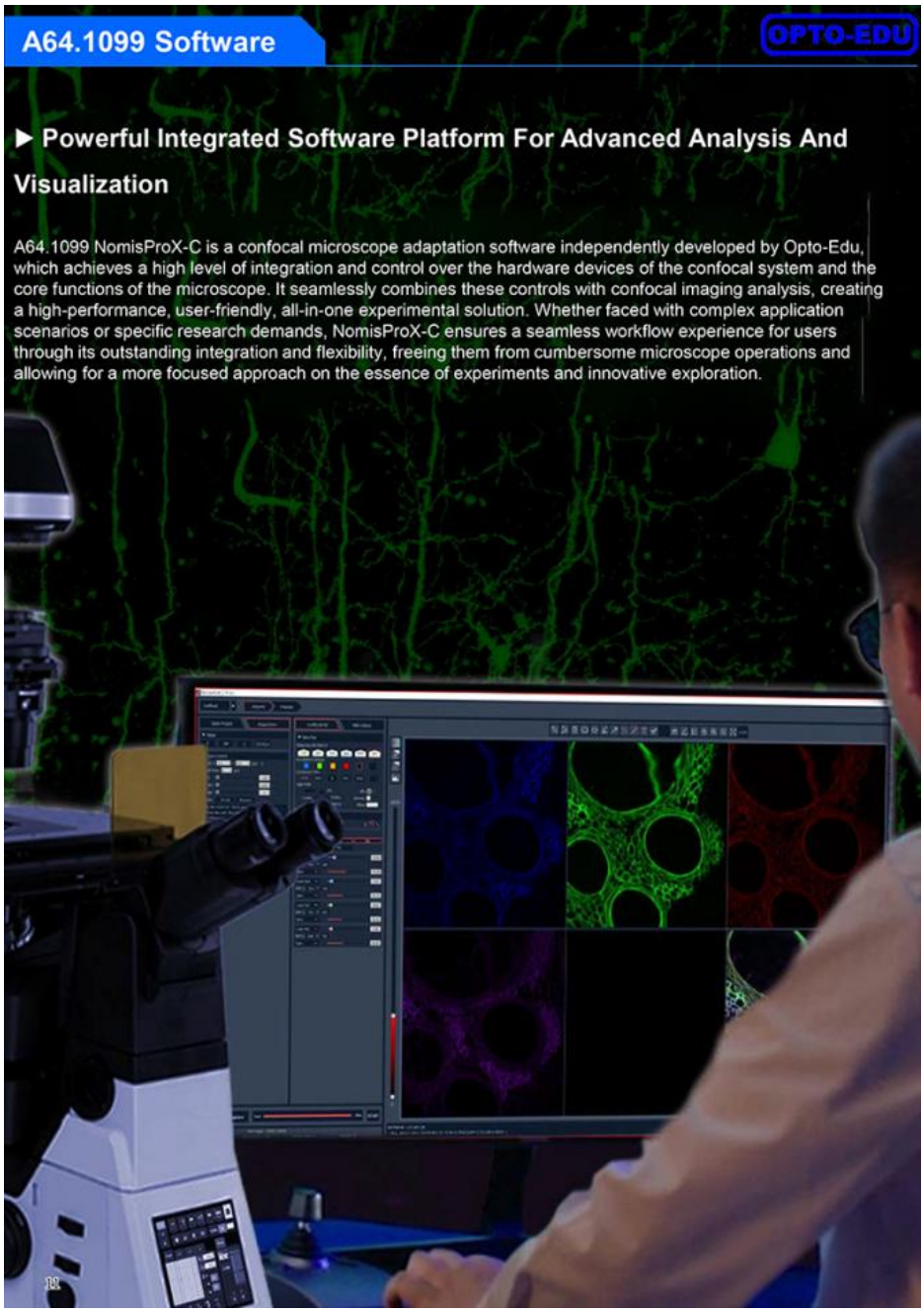
Capable of high-speed imaging up to 60 frames per second (fps) at 8*256 pixels, reducing exposure time for samples under high light intensities and thereby significantly decreasing phototoxicity. This rapid imaging speed facilitates high-frequency data acquisition, enabling the capture of dynamic events and prolonged changes in samples, accurately and in real-time, fulfilling the complex and stringent imaging requirements of the life sciences domain.



▶ Real-time Four-channel Synchronized Imaging

The A64.1099 confocal microscope incorporates cutting-edge four-channel fluorescence merging technology, empowering researchers to conduct real-time, synchronous, multi-channel precise fusion observations and captures. It allows for simultaneous detection and analysis of four distinct fluorescent labels within the same field of view, seamlessly switching and integrating multiple signals. Coupled with precise spectral unmixing imaging, this technology vividly and three-dimensionally reveals intricate, multi-layered information within samples, vastly enhancing experimental throughput and data accuracy.



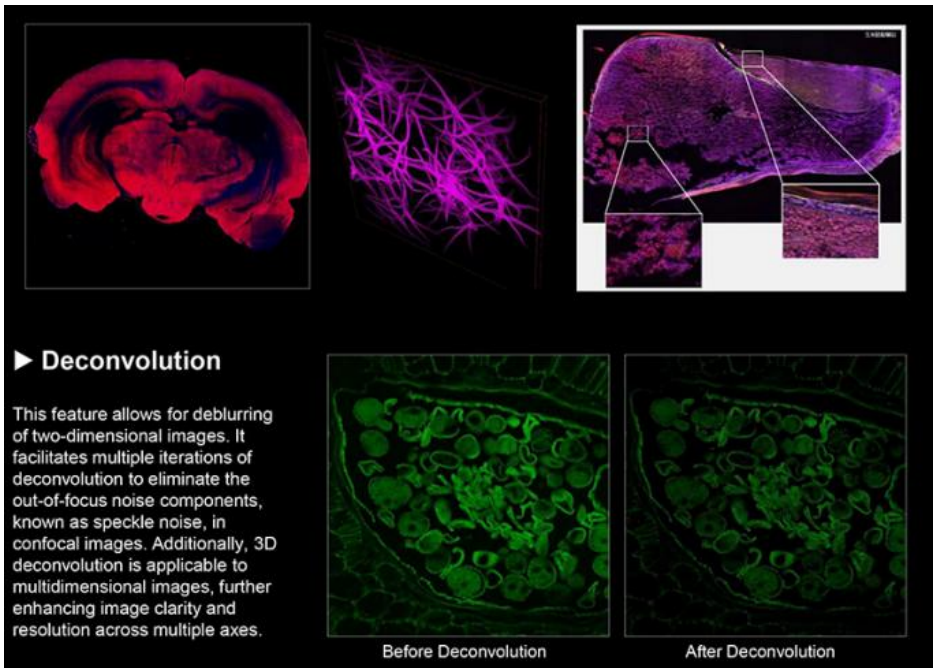


▶ High Speed Hardware Control

It empowers users with unprecedented convenience in operation, effortlessly digitizing management and enabling precise control over multiple electric components within the microscope, such as objective lens switching, focusing, condenser lens changing, and fluorescence module transitions.

▶ Multi Dimensional Imaging And Display

It is capable of memorizing custom observation modes and supports the combined use of X, Y, Z, λ, and T scanning functions. Equipped with a variety of flexible shooting modes, including multi-channel fluorescence imaging, time-lapse scanning, multi-position acquisition, Z-axis stacking, and panoramic stitching. These five modes can be freely combined according to the user's actual needs, adapting to a wide range of complex and diverse experimental application scenarios.



A64.1099 Details

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▶ High Performance Confocal Microscopy Platform

The A16.1099 offers a powerful and flexible imaging solution, establishing a robust and highly expandable foundation for microscopic imaging within the A64.1099 system. With its 25mm field of view design, it provides ideal observation conditions for large sample and high-throughput experimental research. Integrating various microscopical techniques such as brightfield, fluorescence, differential interference contrast, and phase contrast, users can freely opt for single-layer or dual-layer optical path configurations based on their specific experimental needs to achieve optimal imaging results. The Adaptive Focus Shift System (AFS) ensures precise focal plane positioning during continuous observations, thereby enabling stable, continuous, and clear recordings of cellular dynamic behaviors.

▶ High Speed Electric Motor Control

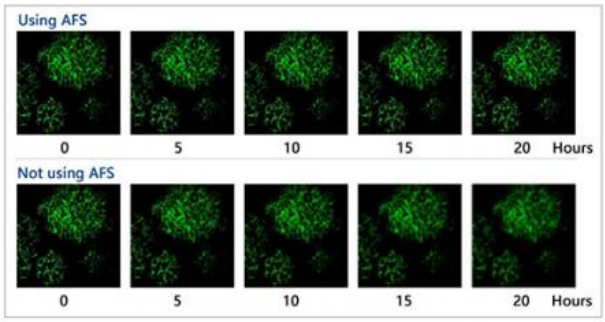
The operation and switching speed of objectives, filter blocks, XY stage, and observation modules have been significantly enhanced, creating an effortless operating environment that enables researchers to focus on daily observations and image capture. A joystick for intuitive manipulation of the stage allows the microscope to become an extension of your eyes and hands, making it user-friendly and natural to operate.

▶ Live Cell Culture System

Specifically designed for precise live cell imaging, this system accurately regulates the microscope platform temperature, ensuring constant temperature, humidity, and CO2 concentration within the culture dish, thereby providing an ideal cultivation environment for long-term experiments.

▶ AFS Ensures Stable And Reliable Imaging Performance.

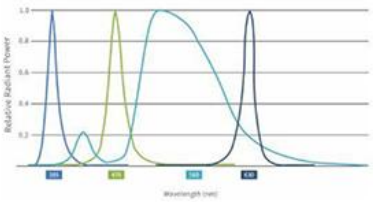
The A16.1099 employs an independent focusing design, minimizing the impact of other mechanical components on the Z-axis. It features a newly designed **Adaptive Focus System** (AFS), which intelligently eliminates focus drift. Whether paired with high-magnification objectives has large numerical apertures or utilized in conjunction with advanced imaging techniques such as super-resolution, confocal, or TIRF (Total Internal Reflection Fluorescence), the system consistently delivers crisp, sharp images. This design ensures the highest level of imaging stability and precision across a broad range of demanding applications in modern microscopy.



Correcting focus drift during long-term imaging

▶ High Power LED Fluorescence Illuminator

The LED 4 system enables up to 4-channel LED illumination, offering high compatibility with commonly used fluorescent dyes in the market. It features concentrated excitation energy and high brightness, fulfilling the fluorescence imaging requirements of routine experiments. With instant-on capability, long service life, and no need for bulb replacement, it outperforms traditional mercury arc lamps in terms of reducing photobleaching and phototoxicity, making it particularly friendly to live cell samples. It is a sustainable, energy-efficient, and environmentally friendly microscope light source, ideal for low-carbon laboratory practices.



▶ Smart Interactive Operation

The A16.1099 innovatively incorporates a touch screen into its front panel, significantly enhancing user interface convenience and expandability of functions. It retain the traditional microscope knobs and buttons on both sides ensures intuitive control even in dark laboratory environments, allowing researchers to concentrate on the core of their experiments without being hindered by complicated operations. This design promotes an efficient and seamless microscopy observation experience.

A64.1099 is equipped with a 5.6-inch touch screen display on the front panel.

Control of components such as objectives, dual-layer/single layer fluorescence filter wheels, the condenser, light intensity, electric stage speed, electric Z-axis speed, host spectrometer ports, ESC exit, FN keys, and objective parfocality is achieved through the touch interface. It also provides real-time display of various statuses including objective magnification, transmitted illumination brightness, fluorescence wavelengths, output ports, XYZ positions, and movement speeds.

▶ Large Aperture Observation Optical System

Equipped with a large-aperture objective lens, it significantly increases light transmission, coupled with a spacious CMOS sensor, effortlessly enabling brightfield and fluorescence imaging across a vast field of view up to FOV25mm. This broader perspective captures more details, empowering you to comprehensively explore the microscopic world and have complete control over your scientific research endeavors.

▶ Large Aperture Reflective Fluorescence Illuminator

Specifically designed for a large field of view (FOV) of 25mm, this fluorescence imaging illumination apparatus features a high-power LED light box, delivering broadband, high-transmission illumination encompassing the ultraviolet spectrum. It is also compatible with large-aperture fluorescent filters, ensuring high signal-to-noise ratio fluorescent images for detailed and accurate observations.

A64.1099 Specification

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A64.1099 Laser Confocal Microscope			Cata. No.
Main Frame	Motorized Frame --5.7" Touch Screen, Show All Status, Control All Parts --Motorized Z Axis Control --Coded Brightness Adjust Knob --Coded Manual Intermediate Magnification 1x/1.5x Switch Button --Coded Manual **Bertrand** Lens Switch --F1 Button For Customized Function --Motorized Nosepiece Objective Switch Button x2 --Motorized Condenser Button --Motorized Fluorescent Filters Switch Wheel x2	•	
Eyepiece	WF10x/22mm Eyepiece, Diopter Adjustable +/-5°, High Eyepoint	••	A51.1006-1022A
Head	10-40° Tilt Adjustable Binocular Head, IPD 47-78mm, Eyepiece Tube Dia. 30mm	•	A51.1099-B
Mag. Switch	Coded Manual Intermediate Magnification Switch Button 1x/1.5x On Right Side	•	
Nosepiece	Motorized 6 Holes Nosepiece, With DIC Slot, M25×0.75	•	A54.1099-M
	Motorized 6 Holes Nosepiece, With Adaptive Anti-Focus Shift System (AFS)	◦	A54.1099-MAFS
Objective	NIS60 Infinity Plan APO Achromatic Objective 4x, N.A.0.16, W.D.17mm	◦	A52.1099-4
	NIS60 Infinity Plan APO Achromatic Objective 10x, N.A.0.45, W.D.4mm	•	A52.1099-10
	NIS60 Infinity Plan APO Achromatic Objective 20x, N.A.0.75, W.D.1.1mm	•	A52.1099-20
	NIS60 Infinity Plan APO Achromatic Objective 40x, N.A.0.95, W.D.019-0.21mm	•	A52.1099-40
	NIS60 Infinity Plan APO Achromatic Objective610x (Oil), N.A.1.42, W.D.0.25mm	•	A52.1099-100
	NIS60 Infinity Plan APO Achromatic Objective 100x(Oil), N.A.1.45, W.D.0.13mm	◦	A52.1099-100
	NIS60 Infinity Plan APO Achromatic Objective 100x(Oil), N.A.1.49, W.D.0.09-0.16mm, Cover Glass 0.13~0.19(23C°), 0.14~0.20(37°C)	◦	A52.1099-100A
	Motorized Working Stage, Grating Type, XY Moving 130x100mm, Size 445x300mm, Max Speed 20mm/s, Moving Precision 0.1μm, Repeatability 0.5μm	•	
	Slide & Petri Dish Holder For Dia. 35-65mm	•	
	4~1396 Holes Plate Holder	•	
	Holder For 96 Holes Petri Dish	◦	A54.1099-96
	Holer For For Olympus 6 Holes Petri Dish	◦	A54.1099-6
Platform	Vibration Isolation Platform, 1000x1000mm	◦	A54.1080
Focusing	Motorized Z Axis, Grating Type, Moving Range Up 8.5mm, Down 1.5mm, Min Step 0.02um, Repeatability 0.1um, 3 Level Focusing Knob: 2um/40um/200um Per Circle	•	
Transmit Light	Kohler Illumination, With Field/Iris Diaphragm, 0~25° Titl Adjustable Arm Electrical Optical Brake Optional	•	
	3W S-LED Lamp House	•	
Condenser	Motorized 7 Holes Nosepiece Turret, 4 Holes For **Phase Contrast, Hoffman**, ND Filter, 3 Holes For **DIC**, ND Filters, Up/Down Range 66mm	•	
	Long Working Distance Condenser NA=0.52,WD=30mm	•	
Phase Contrast	10x-20x Phase Contrast Module	•	
	40x Phase Contrast Module	•	
	Coded Manual Bertrand Lens Switch In/Out Light Path, Focus Adjustable	•	
DIC & Polarizing	DIC Set, Including Manual Splitter, With Optical Fiber, View Field 18mm, With DIC Prism Slide (Into Nosepiece DIC Slot), DIC Polarizer Slide, DIC Analyzer Slide	•	A5C.1099
	10x DIC Nocaridan Prism Slide, Insert In Nosepiece DIC Slot	•	
	20x DIC Nocaridan Prism Slide, Insert In Nosepiece DIC Slot	•	
	40x DIC Nocaridan Prism Slide, Insert In Nosepiece DIC Slot	•	
	60x DIC Nocaridan Prism Slide, Insert In Nosepiece DIC Slot	•	
	100x DIC Nocaridan Prism Slide, Insert In Nosepiece DIC Slot	◦	
	10x DIC Walker Prism, In Condenser Turret	•	
	20x/40x/60x DIC Walker Prism, In Condenser Turret	•	
	100x DIC Walker Prism, In Condenser Turret	◦	
Reflect Light	Epi Fluorescent LED Light Source, Optical Fiber Adapter, Iris Diaphragm, 2 Holes Filter Insert Plate	•	
	Round Diaphragm	•	
	Support 4 Fluorescent LED Light Source: 385, 470, 555, 630	•	
	Light Source Controller Box	•	
Fluorescent Turret	Motrozied 6 Holes Fluorescent Turret Disc, Motorized Shutter, With Cable	•	
	FITC Filter, BP460-495, DM505, BA510-550	•	
	TRTC Filter, BP528-553, DM565, BA578-633	•	
	DAPI Filter, BP360-390, DM415, BA435-485	•	
	Double Layer Fluorescent Turret Set, Including Z Axis Heighten Base, Fluorescent Turnable Heighten Seat, Stage Heighten Seat	◦	A5F.1099
Middle Part	For Light Split Status Detection: 100/0, 0/100	•	

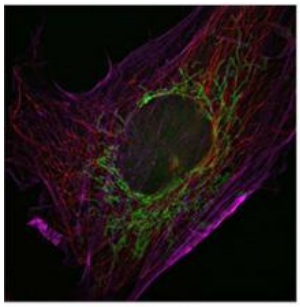
Photo Adapter	Motorized Light Split Switch Control By Front 5.7" Touch Screen: --Eyepiece 100%, --Left Photo Port 100%, --Right Photo Port 100%, --Eyepiece 20% + Right Photo Port 80%	•	
	Left Photo Port, With Built-in 1x C-Mount	•	A55.1099-L1.0
	0.7x C-Mount For Left Photo Port	◦	A55.1099-L0.7
	0.5x C-Mount For Left Photo Port	◦	A55.1099-L0.5
	1x C-Mount For Right Photo Port,	•	A55.1099-R1.0
Laser Confocal	Left Side Confocal Port With 1x Lens	•	
	Galvanometer Scanning Mirror, Motorized Pinhole Stepless Adjustment.	•	
	4 Laser Source With AOTF, Max Laser Power 50mW, 405nm, 488nm, 561nm, 640nm	•	
	4 PMT Detection, Captuer Set, Control Set, EX 405,488,561,640 Channel 1 EM:440-470 Channel 2 EM:510-540 Channel 3 EM:575-605 Channel 4 EM:679-727	•	
	Scan Head Max Pixel 8192x8192 (8K x8K) Scan Mode Support Combine Use of X, Y, Z, λ, T Scanning Functions Confocal Field of View: Square Inscribed In Dia. 25mm Circle Image Bit Depth: 16bits	•	
Computer	i7-11700/16GB*2 DDR4/1TB SSD/RTX A2000 6G/USB PCIE Card, 4x USB3.0, WINDOWS 10 Professional, 3NBD/460W/ CD Driver, 4K Monitor	•	
Camera	1.1" CMOS, Work With 1x C-Mount, FOV 18mm, 4K, FPS 23.4, Max FPS 46.3	•	
	24M Digital Camera, 2.7" CMOS, Work With 1.5x C-Mount (M52), 6K High Resolution, 15.3FPS@20M, Max FPS 114	◦	A55.1099-24M
Joystick	Joystick For XYZ Motorized Control, Touch Screen Show Objectives, Fluorscent Filters, Customized Shortcut Button	•	
Tool Kit	Full Set Tool Kit For Installation	•	
Dust Cover	Dust Cover	•	
Cable	USB2.0 Cable 1.5m, Motorized Control Data Cable	•	
Software	Support Image & Video Capture, Control Microscope XYZ Stage, Objectives Switch, Image & Video Capture, Large Image Stitching, Extended Depth of Field (EDF), NOT Support Slide Scan Function	•	

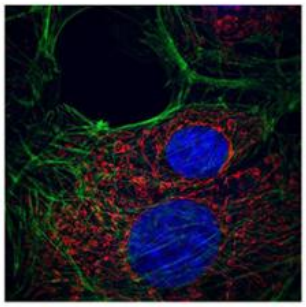
Capable of Super Resolution Module

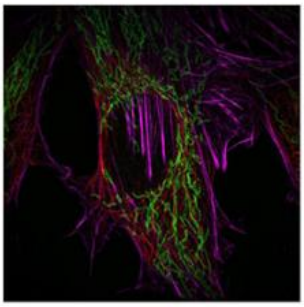
OPTO-EDU

Multimodal	Ultra-Wide Field of View, Super-Resolution, Ultra-High Speed
>Brightfield, Phase Contrast, Fluorescence, DIC	>Field of View reaching up to 66μm x 66μm at 100X Magnification
>Laser Confocal Microscopy	>Lateral Resolution (2D-SIM) improved 2-fold, with a maximum achievable resolution of 86nm; Axial Super-Resolution (3D-SIM) advanced to 270nm.
>2D-SIM/3D-SIM/TIRF-SIM	>Real-time super-resolution imaging at video rate, delivering "what you see is what you get" experience.

A65.1099 Super Resolution Microscope







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