



## Opto Edu A16.0960 Research Level Inverted Fluorescent Microscope Motorized Nosepiece Condenser

Our Product Introduction

### Basic Information

- Place of Origin: China
- Brand Name: CNOEC, OPTO-EDU
- Certification: CE, Rohs
- Model Number: A16.0960
- 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: High Eyepoint Plan Eyepiece PL10X/22mm, diopter Adjustment
- Nosepiece: Motorized Bright Filed Sextuple Nosepiece With DIC Slot.
- Objective: LWD Infinity Plan Semi-APO Positive Phase Contrast Objective
- Working Stage: Manual Mechanical Stage, 300mm (X) X 240mm (Y),
- Focusing: Motorized Coarse & Fine Coaxial Focusing
- Condenser: Mortorized LWD Unviersal 7 Positions Condenser With N.A.0.5
- Highlight: **A16.0960 Inverted Fluorescent Microscope, Research Level Inverted Fluorescent Microscope**  
**Motorized Nosepiece Inverted Fluorescent Microscope**



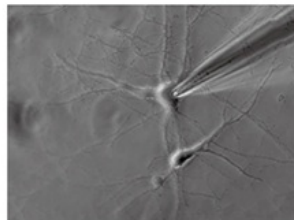
for more products please visit us on [cnoec.com](http://cnoec.com)



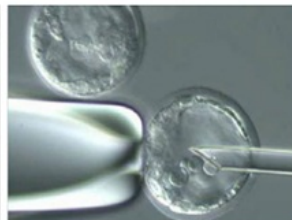
## A14.0960/A16.0960

A14.0960 Research Level Inverted Biological Microscope

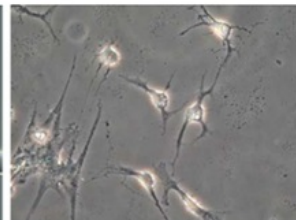
A16.0960 Research Level Inverted Fluorescent Microscope



Single-cell Patch Clamp



Microinjection And Other  
Research And Applications



Cell Observation



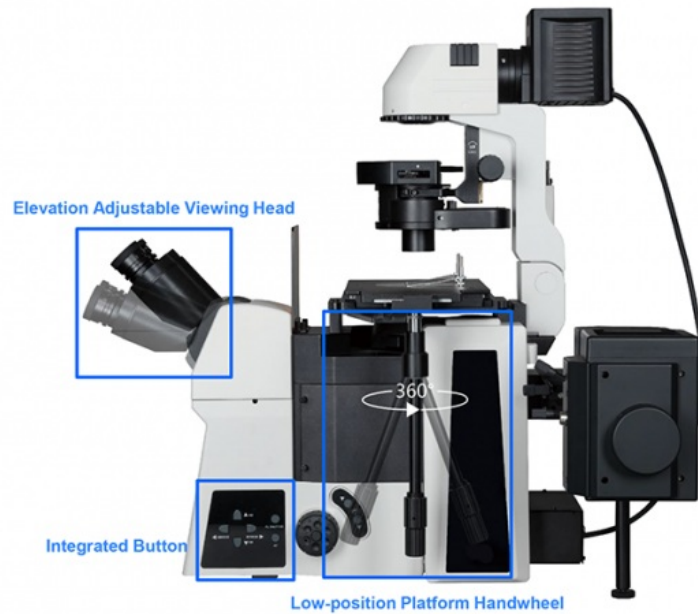
As a representative of Chinese optical, mechanical, electrical and computing integrated microscope, A16.0960 fully automatic research inverted microscope integrates multiple technologies such as electrical control, fluorescence, phase contrast, relief phase contrast, simple polarization, DIC, and objective lens with correction ring. A three-level electric control of single machine, TPC and computer is realized. A14.0960/A16.0960 has powerful expansion functions, providing a more complete solution for life science research.

With flexible structural design and excellent optical performance, A14.0960/A16.0960 can provide you with high-definition wide-field images, providing powerful technical support for cell observation, single-cell patch clamp, micro-injection and other research and applications.

### ► Elevation Adjustable Viewing Head

The A14.0960/A16.0960 is equipped with a 20-45° adjustable binocular viewing head, which can raise the eye point by 78mm

(65mm interpupillary distance) as required. It can be observed easily and quickly even in a standing state, which is effective avoiding fatigue of eyes and limbs.



### ► Integrated Button

A14.0960/A16.0960 retains the traditional coarse and fine adjustment mode, cancels the gear mechanism, integrates electric control technology and realizes manual and automatic integration. The brightness, objectives, attenuator turntable and fluorescent turntable can be quickly switched or rotated through the corresponding buttons on the button panels on both sides. AF one-key auto focus can quickly adjust the Z-axis height according to the real-time image, and eliminates the need for fine-adjusting steps and improves work efficiency.

### ► Low-position Platform Handwheel

The low-position platform handwheel can be rotated 360°, which can effectively reduce the hand fatigue caused by long-term operation and is ergonomic and improves the convenience of operation.

### ► Tilting Transmission Lighting Structure

The tilting structure of the transmission bracket ensures a large working space for users and facilitates the replacement of specimens.



### ► Waste Liquid Drainage Structure

The drainage groove structure is designed under the objective nosepiece, which can prevent the optical components and modules from accidentally being wetted by the cell culture medium or soaking liquid, contaminating and damaging the microscope, simplifying maintenance.

### ► Integrated Panel Control

A14.0960/16.0960 front digital display screen can display the status of multiple components such as microscope objective lens magnification, brightness, and fluorescence band in real time, and can complete the setting of all observation methods, the selection of optical port status, and the switch of fluorescence shutter. Greatly enhance the customer experience and make research work more convenient.



### ► High Scalability

The A14.0960/A16.0960 has a very large rack that provides redundant space for third-party configurations. You can choose single, layer or double-layer optical path according to your needs, up to 16 color filters can be replaced; Multi-light port design can be equipped with confocal module, wide field fluorescent camera, infrared camera, etc., which provides maximum scalability for the research work.

### ► LWD Semi-APO Series Objectives

Full series of LWD semi-APO objectives were developed for cell culture. The objectives with correction ring have significant advantage for the observation of glass substrates and culture vessels with different thickness, and achieves accurate focusing by correcting the cover glass thickness.

		BF	DF	DIC	POL	FL	PH	RPC	
LWD Infinity Plan Positive Phase Contrast Objective	4X/0.13, WD=17mm,	√			√	√	√		A5C.0960-4
	10X/0.30, WD=8.8mm,	√		√	√	√	√		A5C.0960-10
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	√	√	√	√	√	√		A5C.0960-20
	40X/0.60, WD=2.85~4.05mm, 0~2mm Cover glass thickness	√	√	√	√	√	√		A5C.0960-40
	60X/0.70, WD=1.42~2.10mm, 0~1.3mm Cover glass thickness	√	√	√	√	√	√		A5C.0960-60
LWD Infinity Plan Semi-APO Objective	4X/0.13, WD=17mm,	√			√	√			A5F.0961-4
	10X/0.30, WD=8.8mm,	√		√	√	√			A5F.0961-10
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	√	√	√	√	√			A5F.0961-20
	40X/0.60, WD=2.85~4.05mm, 0~2mm Cover glass thickness	√	√	√	√	√			A5F.0961-40
	60X/0.70, WD=1.42~2.10mm, 0~1.3mm Cover glass thickness	√	√	√	√	√			A5F.0961-60
Infinity Plan APOchromatic Objective	4X/0.16, WD=12.8mm	√			√	√			A5F.0962-4
	10X/0.40, WD=3.2mm	√	√	√	√	√			A5F.0962-10
	20X/0.75, WD=0.6mm	√	√	√	√	√			A5F.0962-20
	40X/0.95, WD=0.15mm	√		√	√	√			A5F.0962-40
	60X/0.90, WD=0.26mm	√		√	√	√			A5F.0962-60
	60X/1.25, WD=0.14mm Oil	√			√	√			A5F.0962-60S
	100X/1.35, WD=0.13mm Oil	√			√	√			A5F.0962-100
Infinity Plan Super APO Objective	10X/0.14, WD=3.1mm	√			√	√			A5F.0963-10
	20X/0.80, WD=0.6mm	√			√	√			A5F.0963-20
	40X/0.95, WD=0.18mm	√			√	√			A5F.0963-40
	60X/1.42, WD=0.17mm Oil	√			√	√			A5F.0963-60
	100X/1.45, WD=0.14mm Oil (Under development)	√			√	√			A5F.0963-100
LWD Infinity Plan Semi-APO Relief Hoffman Objectives	10X/0.30, WD=8.8mm,	√	√	√	√	√		√	A5C.0965-10
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	√	√	√	√	√		√	A5C.0965-20
	40X/0.45, WD=2.85~4.05mm, 0~2mm Cover glass thickness	√	√	√	√	√		√	A5C.0965-40



Infinity correction plan  
APO objectives



Infinity correction plan  
super-APO objectives



LWD plan semi-APO Relief  
phase contrast objectives



LWD plan semi-APO  
objectives



LWD plan semi-APO  
phase contrast objectives

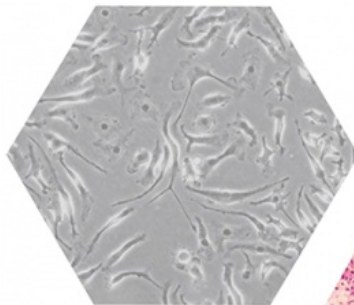
### ► Cool LED High-performance Fluorescent Light Source

Compact LED power box, is able to provide illumination to excite common fluorescent filter with different wavelengths, is available to be applied for multi-channel fluorescent filters.

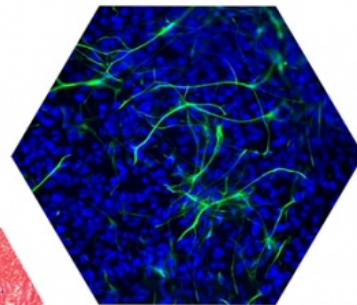


## A14.0960/A16.0960 Application Cases

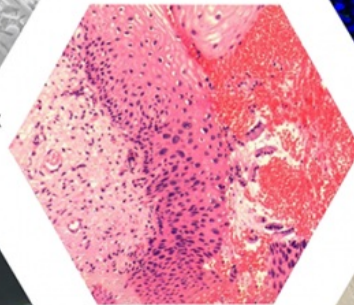
**OPTO-EDU**



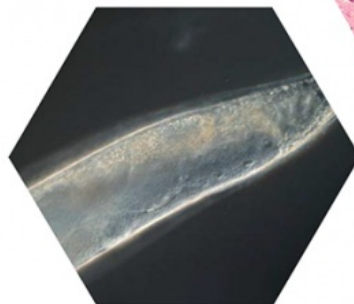
Normal Rat Kidney  
Cells Phase Contrast 10X



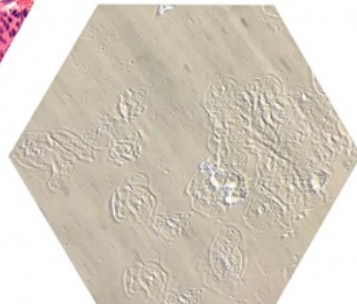
Human Smooth Muscle  
Cells Fluorescence 20X



Skin Papilloma  
Bright Field 40X



Nematode DIC  
40X



Oral Epithelial Cells  
Relief Phase Contrast 10X



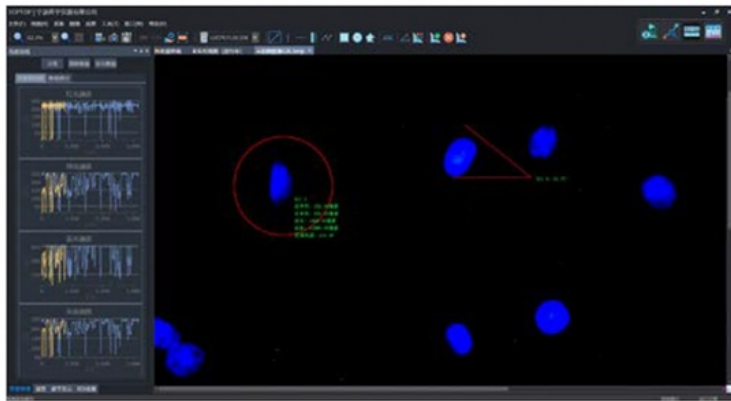
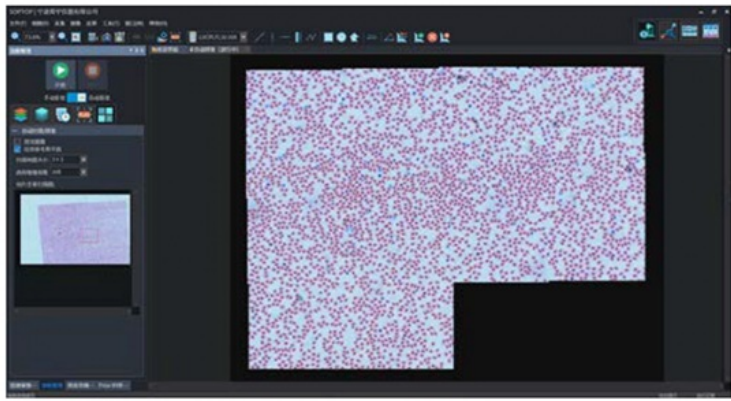
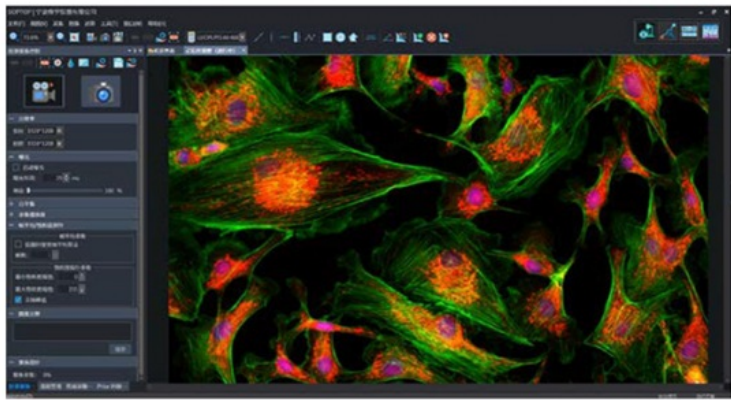
A14.0960 Research Level Inverted Biological Microscope A16.0960 Research Level Inverted Fluorescent Microscope		A14.0960	A16.0960
Function	BF, Bright Field		•
	PH, Phase Contrast		•
	POL, Polarizing		o
	DIC, Differential Interfered Contrast		o
	Relief Hoffoman Phase Contrast		o
Head	20°-45° tilting Binocular head, inverted image,interpupillary distance: 50mm~76mm	A53.0960	•
Eyepiece	High eyepoint plan eyepiece PL10X/22mm,diopter adjustment	A51.0904-1022T	••
Nosepiece	Motorized bright filed sextuple nosepiece with DIC slot.		•
LWD Infinity Plan Semi-APO Positive Phase Contrast Objective	4X/0.13, WD=17mm,	A5C.0960-4	•
	10X/0.30, WD=8.8mm,	A5C.0960-10	•
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	A5C.0960-20	•
	40X/0.60, WD=2.85~4.05mm, 0~2mm Cover glass thickness	A5C.0960-40	•
	60X/0.70, WD=1.42~2.10mm, 0~1.3mm Cover glass thickness	A5C.0960-60	•
LWD Infinity Plan Semi-APO Objective	4X/0.13, WD=17mm,	A5F.0961-4	o
	10X/0.30, WD=8.8mm,	A5F.0961-10	o
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	A5F.0961-20	o
	40X/0.60, WD=2.85~4.05mm, 0~2mm Cover glass thickness	A5F.0961-40	o
	60X/0.70, WD=1.42~2.10mm, 0~1.3mm Cover glass thickness	A5F.0961-60	o
Infinity Plan APOchromatic Objective	4X/0.16, WD=12.8mm	A5F.0962-4	o
	10X/0.40, WD=3.2mm	A5F.0962-10	o
	20X/0.75, WD=0.6mm	A5F.0962-20	o
	40X/0.95, WD=0.15mm	A5F.0962-40	o
	60X/0.90, WD=0.26mm	A5F.0962-60	o
	60X/1.25, WD=0.14mm Oil	A5F.0962-60S	o
	100X/1.35, WD=0.13mm Oil	A5F.0962-100	o
Infinity Plan Super APO Objective	10X/0.14, WD=3.1mm	A5F.0963-10	o
	20X/0.80, WD=0.6mm	A5F.0963-20	o
	40X/0.95, WD=0.18mm	A5F.0963-40	o
	60X/1.42, WD=0.17mm Oil	A5F.0963-60	o
	100X/1.45, WD=0.14mm Oil (Under development)	A5F.0963-100	o
Working Stage	Manual mechanical stage, 300mm (X) × 240mm (Y), moving range is 135mm (X) × 85mm (Y),stage thickness is 30mm. Lower universal right side handle. With lock function. During locking, moving range 50mm (X) × 50mm (Y). It can use with 35mm petri dish holder, culture flask holder, sliced holder, Φ110mm replaceable disc stage with clips.	A54.0960	•
	Stage: Motorized, 260*153mm with working range 110*75mm, The maximum speed is 3mm/s, the repeat positioning accuracy is ±1um, and it can be adapted to petri dish and slice observation	A54.0963	o
Marzhauser Motorized Stage	Marzhauser Motorized stage, moving range: 120mm(X) × 80mm(Y); resolution: 0.02μm, repeatability <1μm, with control box and operating handle, with slider holder.	A54.0961	o
	φ36 Petri dish holder,used with Marzhauser-SCAN		o
	96-well plate petri dish holder,used with Marzhauser-SCAN		o
	Teraseki holder,used with Marzhauser-SCAN		o
Prior Motorized Stage	Prior Motorized stage, moving range: 114mm(X) × 75mm(Y), resolution: 0.01μm, repeatability:0.2 μm, with control box and operating handle.	A54.0962	o
	φ36 Petri dish holder,used with Prior stage.		o
	96-well plate petri dish holder,used with Prior stage.		o
	Teraseki holder,used with Prior stage.		o
	Motorized coarse & fine coaxial focusing, range: 10.5mm, precision: 1 μm.	A54.0960-AV	•
	Motorized left camera port, splitting ratio:0:100, 50:50, 100:0.		•
	Motorized upper camera port, splitting ratio: 100:0, 0:100,with CTV adapter Dual optical path, with fluorescent light barrier.		•
	Base mounting bracket anti-vibration	A54.0960-AV	o
	Right camera port, manual two gears switching, splitting ratio: 100:0, 0:100, POV16mm, built-in C-mount 1X. (MUST ordered with whole unit, cannot be added later as optional)	A55.0960	o

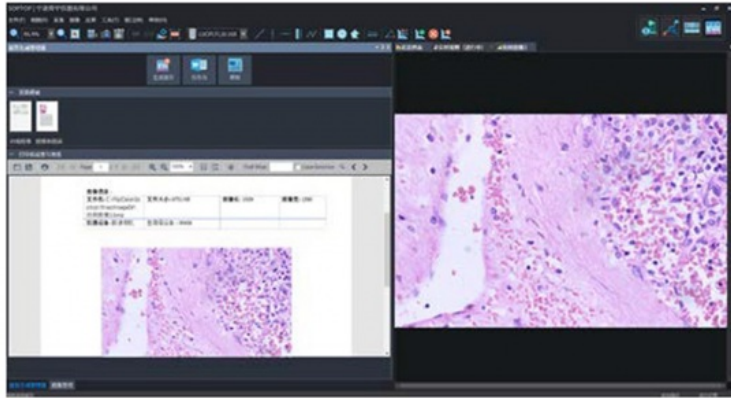
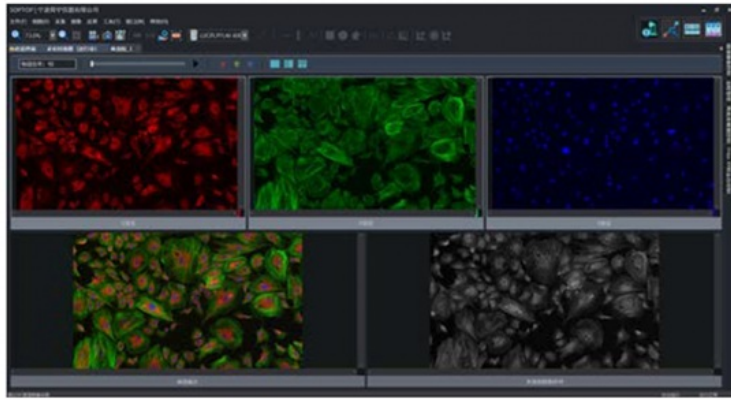
Condenser B	<b>Motorized</b> LWD univrsal 7 positions condenser with N.A.0.55, W.D.27mm. 3 positions ø30mm for Phase contrast observation. 4 positions ø38mm, External connecting cable 100cm <b>Work For BF, PH, DIC.</b>	A56.0962	•	•
Phase Contrast for B	4X phase contrast aperture group	A5C.0962-4	•	•
	10X phase contrast aperture group	A5C.0962-10	•	•
	20X/40X/60X phase contrast aperture group	A5C.0962-204060	•	•
DIC for A,B	DIC slider & Analyzer for transmitted light, Need to select Objectives: A5F.0961-10x,20x,40x,60x A5F.0962-10x,20x,40x,60x A5C.0960-10x,20x,40x,60x	A5C.0964	Bo	Bo
	10X DIC ring, compatible with condenser B	A5C.0964-10	Bo	Bo
	20X DIC ring, compatible with condenser B	A5C.0964-20	Bo	Bo
	40X/60X DIC ring, compatible with condenser B	A5C.0964-4060	Bo	Bo
Condenser C	Manual 5 positions LWD condenser, NA0.30, WD73mm, to meet 4X-60X phase contrast, simple polarization or 10X-40X RPC relief contrast. <b>Work For BF, PH, POL, Relief</b>	A56.0963	o	o
Phase Contrast for C	4X phase contrast aperture group	A5C.0963-4	Co	Co
	10X phase contrast aperture group	A5C.0963-10	Co	Co
	20X/40X/60X phase contrast aperture group	A5C.0963-204060	Co	Co
Polarizing for C	Analyzer, <b>MUST</b> be selected for Relief Hoffman	A5P.0963-A	Co	Co
	360° rotatable polarizer, <b>MUST</b> be selected for Relief Hoffman	A5P.0963-P	Co	Co
Relief Hoffman Phase Contrast Slide & Objective	10X aperture group, compatible with condenser C	A5C.0965-10S	Co	Co
	20X aperture group, compatible with condenser C	A5C.0965-20S	Co	Co
	40X aperture group, compatible with condenser C	A5C.0965-40S	Co	Co
	LWD Infinity Plan Semi-APO Relief Hoffman Phase Contrast Objectives	A5C.0965	Co	Co
	10X/0.30, WD=8.8mm,	A5C.0965-10	Co	Co
	20X/0.45, WD=6.5~7.6mm, 0~2mm Cover glass thickness	A5C.0965-20	Co	Co
	40X/0.45, WD=2.85~4.05mm, 0~2mm Cover glass thickness	A5C.0965-40	Co	Co
Transmit Light	Tilting transmited light system, transmited Kohler light system, Condenser lifting adjustable, range: 65mm, able to set 4 filters.	A56.0960	•	•
	10W Cool LED Light Box, color temperature 5000K	A56.0960-LED	o	o
	12V100W halogen illumination box, filament center preset.	A56.0960-HAL	•	•
	12V100W halogen lamp 7724	A56.0960-12100	••	••
	LBD filter	A56.0960-LBD	•	•
	Green filter	A56.0960-G	•	•
Reflect Fluorescent Mercury Light	L-shaped design reflection fluorescence illuminator.with attenuation plate.		x	•
	100W Fluorescence mercury light box	A5F.0960-MER	x	•
	100W mercury lamp power supply unit (U5 power supply unit)		x	•
	100W Mercury Lamp (OSRAM)		x	•
	5 positions <b>Motorized</b> filter wheel is offered for both excitation and observation, BF/Shutter/ND6/ND25/ND50; External connecting cable 100cm	A5F.0960-FW	x	o
	Extension accessories	A5F.0960-EX	x	•
Fluorescent Filter	<b>Multi-band LED Light Source Module, with four excitation channels,10W high-power LED</b>	<b>A5F.0960-LED4</b>	x	o
	Motorized turret with 8 positions, built-in shutter, External connecting cable 20cm	A5F.0960-60	x	•
	Rotary disk dustproof box	A5F.0960-DB	x	•
	Fluorescence filter(B) (CHROMA)	A5F.0960-B	x	•
	Fluorescence filter(G) (CHROMA)	A5F.0960-G	x	•
	Fluorescence filter(UV) (CHROMA)	A5F.0960-UV	x	•
CAN Card	<b>Fluorescence filter(R1) (CHROMA) EX:AT620/50X, BS: AT655DC, EM: AT690/50M</b>	<b>A5F.0960-R1</b>	x	o
	Need buy computer too to meet electric control, including MV-image-Research	A54.0966-USB	•	•
Computer	Need buy computer too to meet electric control, including MV-image-Research	A54.0966-PCIE	o	o
	Dell Computer Precision T3650(i7 11700/16GB/256GB+1TB/P620) + P2722H	A54.0966-PC	o	o
	7" screen, <b>Motorized</b> control unit	A54.0966-TPC	o	o
Power supply	External connecting cable 200cm, computer connect with power supply box.	A54.0966-EC	•	•
	External system controller.All motorized units are powered by this. Voltage input:90-265V,output:12V100W/24V5A/15V5A/5V5A External connecting cable 200cm, power supply box connect to microscope		•	•
Digital Camera	External system controller.All motorized units are powered by this. Voltage input:90-265V,output:12V100W/24V5A/15V5A/5V5A External connecting cable 200cm, power supply box connect to microscope		•	•
	SONY IMX267 color camera,CCD 8.9M, 32fps@8.9MP,USB3.0,Sensor 1"	A59.0960-8.9M	o	o
	SONY IMX264 color camera,CCD 5.0M, 35fps@5MP,USB3.0,Sensor 2/3"	A59.0960-5.0M	•	•
	SONY ICX695 color camera,CCD 6.0M, 7.5fps@6MP,USB3.0,Sensor 1"	A59.0960-6.0M	o	o
	SONY ICX695 color cold camera,CCD 6.0M, 7.5fps@6MP,USB3.0,Sensor 1"	A59.0960-6.0MC	o	o
	SONY ICX695 mono color camera,6.0M, 7.5fps@6MP,USB3.0,CCD 1"	A59.0960-6.0MM	o	o



	SONY ICX695 mono color cold camera,6.0M, 7.5fps@6MP,USB3.0,CCD 1"	A59.0960-6.0MMC	o	o
	RISI 9.9M mono color camera(2960x2960), field of view 17.8mm, pixel size 4.25x 4.25um, 30 fps, 73% quantum efficiency, sensor 17.8mm	A59.0960-9.9M	o	o
Telescope	Phase Contrast Telescope Φ30	A5C.0910-30	•	•
	Fluorescence Telescope	A5F.0930-2	x	•
C-mount adaptor	C-mount adaptor 0.5X	A55.0930-05	o	o
	C-mount adaptor 0.65X	A55.0930-65	•	•
	C-mount adaptor 1X	A55.0930-10	o	o
Accessories	Allen wrench M3		••	••
	Allen wrench M4		••	••
	Allen wrench M5		•	•
	Non-fluorescing immersion oil		o	o
Packaging	Carton and foam		•	•
Remark	• means standard outfit, 'o' means optional outfit, 'x' means not compatible, 'A','B','C' means only compatible for specific condenser A,B or C			

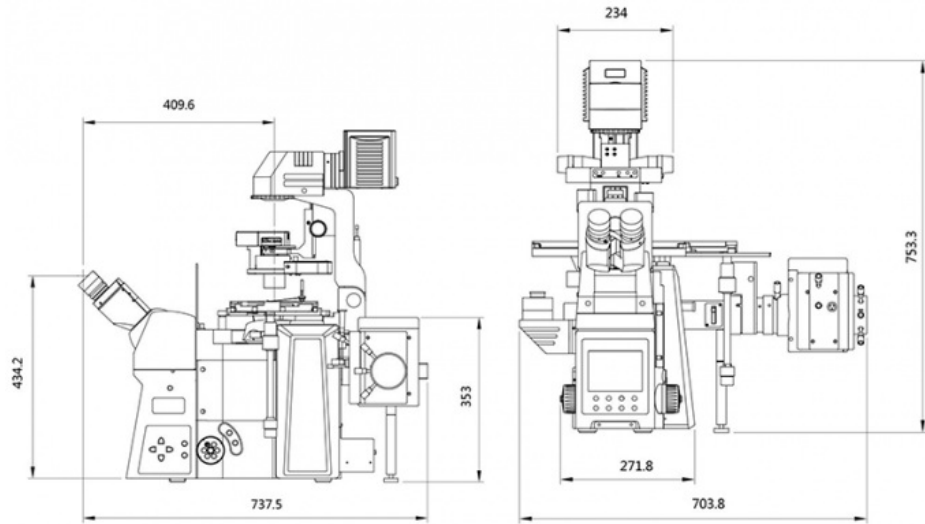
**A14.0960/A16.0960 Software**





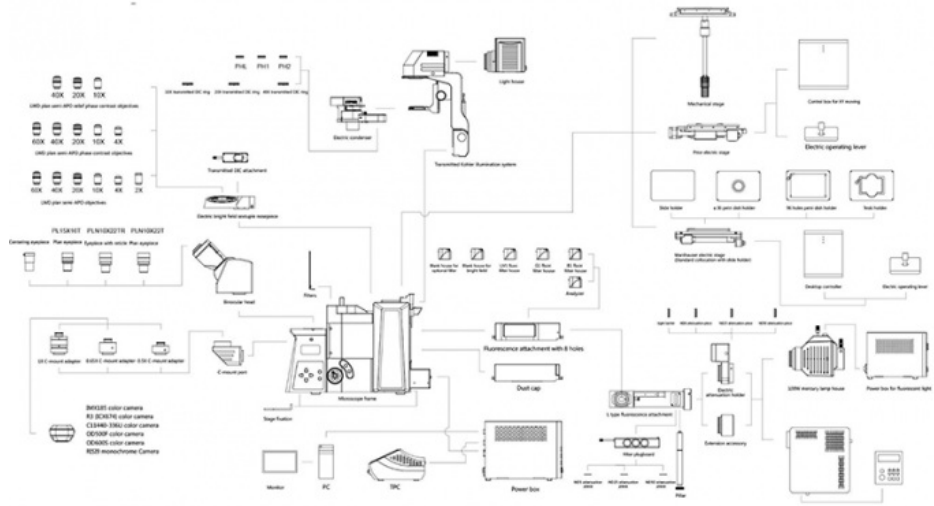
**A14.0960/A16.0960 Dimension(mm)**

**OPTO-EDU**



A14.0960/A16.0960 Diagram

OPTO-EDU



A14.0960/A16.0960 Upgraded

OPTO-EDU

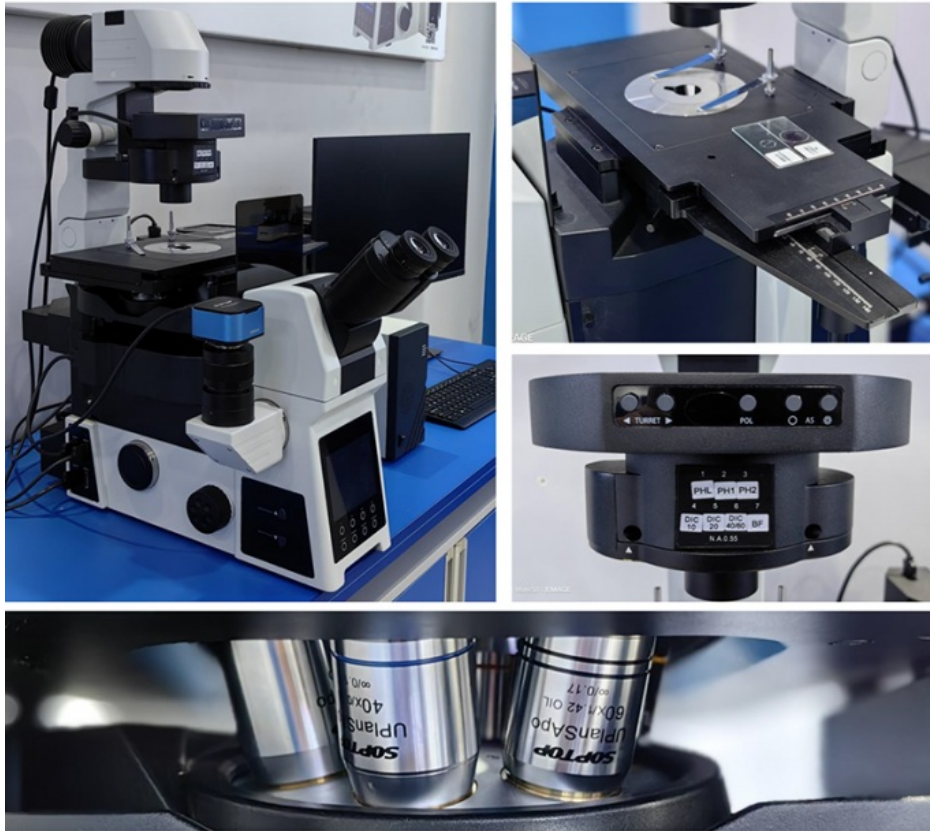


Laser Confocal Scanning Microscope

A14.0960/A16.0960 More Pictures

OPTO-EDU





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F-1501 Wanda Plaza, No. 18 Shijingshan Road, Beijing 100043, China