

TB Series

Digital Binocular Microscope B-190TB



PATENT PENDING

The latest Digital Microscopes with Tablet PC from OPTIKA open new microscopy horizons. Our Microscopes combine high-end optics with innovative Digital Technology for microscopic imaging.

Upright Digital Microscopes with Tablet PC

B-190TB

The result of a perfect fusion between years of experience in the microscopy field and a refined design study.

Quality, Reliability and Innovation: this is B-190TB.



Easily detachable from the microscope



Tilting

**360°
Rotating**



PATENT PENDING





TABLET SPECIFICATION

Model	Tablet 10.1"
Operating System	Windows 10 32-bit
Language	Multilanguages already installed
CPU	Intel® Atom™ Z3735F, Quad core
CPU speed	1,83 GHz
Graphics Card	Intel® HD Graphics 3D Accelerator
Memory	Ram 2,048 GB DDR3L
LCD display	LED 10.1" IPS Multi Touch Screen
LCD resolution	1280x800, 16/10 (WXGA)
Storage	Hdd 32GB
Network	Wireless Bluetooth 4.0
Input/output ports	USB - Microphone - Micro SD card reader - HDMI - Head-phone
Control Buttons	Auto rotate off, volume control
Battery Technology	Lithium-ion battery, 2x cell
Battery capacity	6000 mAh
Max load	18 W
Connection to the Load	Power supply 7,5V 2A
Dimensions	Thikness 10,5 mm, Height 17,4 cm, Width 25,7 cm
Weight	600 g
Cables included	OTG cable (Micro USB-B to USB-A)
Also included	Instruction manual, Keyboard with touchpad, touch pen.

MICROSCOPE SPECIFICATIONS

Model	Binocular with double layer stage, objectives 4x 10x 40x 100x
Head	Binocular Digital observation head, inclined 30° and rotatable 360°. Diopter adjustment on left eyepieces. Interpupillary adjustment 48-75 mm.
Observation Modes	Brightfield
Eyepieces	Widefield eyepieces WF10X/18 with field number 18mm.
Nosepiece	Quadruple revolving nosepiece, rotation on ball bearings.
Objectives	Achromatic objectives with mechanical tube lenght 160 mm, made by following objectives: -) Achromatic DIN 4X, A.N. 0.10, W.D. 18 mm -) Achromatic DIN 10X, A.N. 0.25, W.D. 7 mm -) Achromatic DIN 40X, A.N. 0.65, W.D. 0,53 mm -) Achromatic DIN 100X, A.N. 1,25, W.D. 0,13 mm (oil immersion) All objectives are treated with an anti-fungus treatment.
Stage	Double layer with mechanical sliding stage, size 125x115mm, X-Y movement range 70x30, specimen holder for one slide. Vernier scale on the two axes, accuracy 0,1 mm.

Focusing System	Coaxial coarse and fine focusing mechanism (graduated, 0.002mm) with upper stop, to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.	
illumination	Light source type X-LED ² with white LED; light intensity control using a knob on left side of the frame. LED power 3W, comparable to an halogen bulb 30-35W. Color temperature: 6300K LED average life time approx. 50.000h. Voltage: external power supply 100/240Vac, 50/60Hz, output: 6 V Max power required: 7W	
Condenser	Abbe condenser, N.A. 1,25 precentered	
Dimensions	Microscope without tablet HEIGHT: 430 mm WIDHT: 235 mm DEPTH: 290 mm WEIGHT: 7,0 kg	Microscope with tablet HEIGHT: 525 mm WIDHT: 260 mm DEPTH: 290 mm WEIGHT: 7,4 kg

CAMERA SPECIFICATIONS

Digital camera resolution	3.14 MegaPixels
Analog camera resolution	NO
Signal output	USB 2.0
Audio Signal	NO
Sensor Size	1/2.5"
Sensor technology	CMOS
Image format	4\3
Full Image size	2048 x 1536
Pixel size	2,2 x 2,2 micron
Frame rate full resolution	5 frames\sec
Frame rate other resolutions	8 FPS (1280x1024), 30FPS (640x480)
Sensitivity	0,53 V/Lux-second (550 nm)
Signal / noise ratio	40 dB
Dynamic range	66.5 dB
Max Exposure time	1,5 sec
ADC conversion	12 BIT
Color Depth	8 BIT
On camera IR Filter	680 nm
Automatic White Balance	Auto - Man
Automatic Gain Control	Auto - Man
Automatic Back light control	Auto - Man
Exposure control	Auto - Man

ACCESSORIES

Calibration Slide	YES
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SOFTWARE SPECIFICATIONS

Supplied Software	Optika Vision Lite (full view function is also included for a wider Live Camera view)
Driver type	No driver (microsoft driver)
Capture features	Continuous auto exposure, image size, image capture, compressed video capture
Control parameters	Brightness, gain, exposur time, colors, color enhancement.

GENERAL SPECIFICATIONS

Working temperature	+0 up to +60°C
Storage temperature	-20 up to +70°C
Relative Humidity	45% up to 85%

Fast, accurate and dependable results delivered in one click!

Enjoy looking at the Tablet PC in a comfortable position



B-190TB Model

Optical system:

The optical system has been developed for the most demanding users; it consists of high quality components which guarantee an high image contrast and an excellent optical resolution. The optical components have been designed and treated with special techniques to prevent the formation of moulds and fungi.

Stand:

The stand has a modern and ergonomic design. It is easy to carry the microscope thanks to the large opening behind the revolving nosepiece, to be used as a handle. The opening allows the user to see clearly the objectives and the samples, as requested in discussion groups.

Mechanics:

The moving parts are made by means of machine tools with computerized numerical control reducing manufacturing tolerance and increasing the reliability of the instrument. The strict controls on materials and production processes are optimized through the procedures established by ISO 9001:2008 quality system.

Illumination:

X-LED² type with white LED; light intensity control using a knob on left side of the frame.

LED power 3W, comparable to a 30-35W halogen bulb.

Camera:

Digital camera resolution: 3.14 MegaPixels

Signal output: USB 2.0 - Sensor size: 1/2.5"

Sensor technology: CMOS- Image format: 4/3

Full Image Size: 2048x1536. NO driver (microsoft driver).

Capture features: continuous auto exposure, image size, image capture, compressed video capture.

Control parameters: brightness, gain, exposure time, colors, color enhancement.

Tablet PC:

Equipped with Windows 8.1 operating system.

Included: Image Analysis software OPTIKA VISION LITE, full view function is also included for a wider Live Camera view.

2GB standard memory. 16+16 GB capacity flash memory.

8.9" screen size. Tablet PC with OPTIKA detachable system.



Simultaneous data and power feed



A COMPLETELY NEW EXPERIENCE

Discover the unmatched comfort of simultaneous camera and power connection, providing an unparalleled solution ideal for long-term operation.



EXCEPTIONAL OPERABILITY

Equipped with Intel quad-core processor.
Battery life up to 10 hours.

You can detach the tablet and use it as a laptop.



You can connect a USB keyboard or WiFi mouse and then use it as a desktop PC always connected to the microscope.

Technical specification

OPERATING SYSTEM

OS Windows 8.1

PROCESSOR AND CHIPSET

Processor manufacturer Intel
Processor Type Bay Trail
Model Z3735F
Speed 1,83 GHz
Processor Core Quad core

MEMORY

Standard Memory 2 GB
Memory Technology LPDDR3
Memory Card Reader Yes
Supported memory microSD

STORAGE

Capacity flash memory 16+16 GB

DISPLAY AND GRAPHICS

Screen Size 8.9"
Screen Type LCD color TFT
Screen Mode Full HD
Screen Resolution 1920 x 1200
Backlight technology LED
Touchscreen Yes
Multi-touch screen Yes
Graphics Controller Manufacturer Intel
Graphics Controller Model HD Graphics
Graphics Memory Technology LPDDR3
Graphics Memory Accessibility Shared

NETWORK & COMMUNICATION

LAN wireless Yes
Wireless LAN standard IEEE 802.11a/g/n
Bluetooth Yes
Standard Bluetooth Bluetooth 4.0

INTERFACES / PORTS

HDMI Yes

INPUT DEVICES

Keyboard Type Touchscreen

BUILT-IN DEVICES

Microphone Yes

SOFTWARE

Operating System Windows 8.1 32-bit
Software Microsoft Office (1 year)
Image Analysis software OPTIKA VISION LITE

BATTERY INFORMATION

Number of Cells 2-cell
Battery Chemistry Lithium ION
Battery Capacity 6000 mAh

POWER DESCRIPTION

Maximum Power Supply Wattage 10 W

WEIGHT AND DIMENSIONS

Thickness 9,5 mm
Width 220 mm
Height 157 mm
Weight (Approximate) 477 g



Headquarters and Manufacturing Facilities

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