



## **CAMERAS & DIGITAL Solutions**

Cameras for Microscopy & Digital Scanner

# Entry-Level Microscope Cameras



## **Smart & Affordable Solutions Not Only For Schools & Education...**

A wide range of affordable solutions with diversified live resolution for clear and crisp images to be combined via USB, HDMI or Wi-Fi ensuring smooth and productive teaching experiences on PC, tablets, projectors and other devices.

These models can also be used for basic requirements in laboratories and industries.

Compatible with any microscope brand, thanks to the projection lens and rings (included in most of the cases).



# 4 Entry-Level Microscope Cameras



## E like Educam & Essential

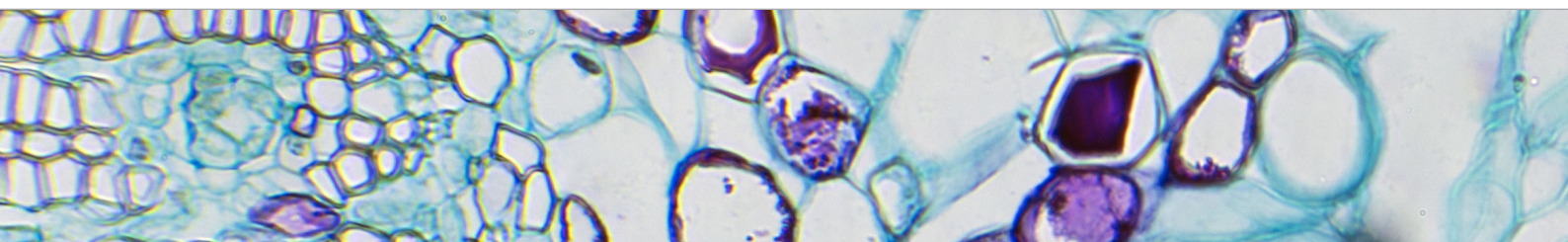
Simply the most essential eyepiece camera (C-E2) or flexible multimedia cameras (Educam Series). That's it!

- 4083** EDUCAM MULTIMEDIA, CCD camera for PC-TV, multi-plug
- 4083.1** EDUCAM MULTIMEDIA PRO, CCD camera for PC-TV, multi-plug
- 4083.2** EDUCAM STUDENT, CCD camera for PC-TV, multi-plug
- 4083.3** EDUCAM STUDENT PRO, CCD camera for PC-TV, multi-plug
- 4083.4** EDUCAM USB, CCD camera for PC-TV, multi-plug
- 4083.5** EDUCAM MIC, CCD camera for PC-TV, multi-plug
- VC-05** TV eyepiece camera, 582x420 TV-Lines
- C-E2** E2 eyepiece camera, 2 MP CMOS, USB2.0

## B like Basic - C-B Series

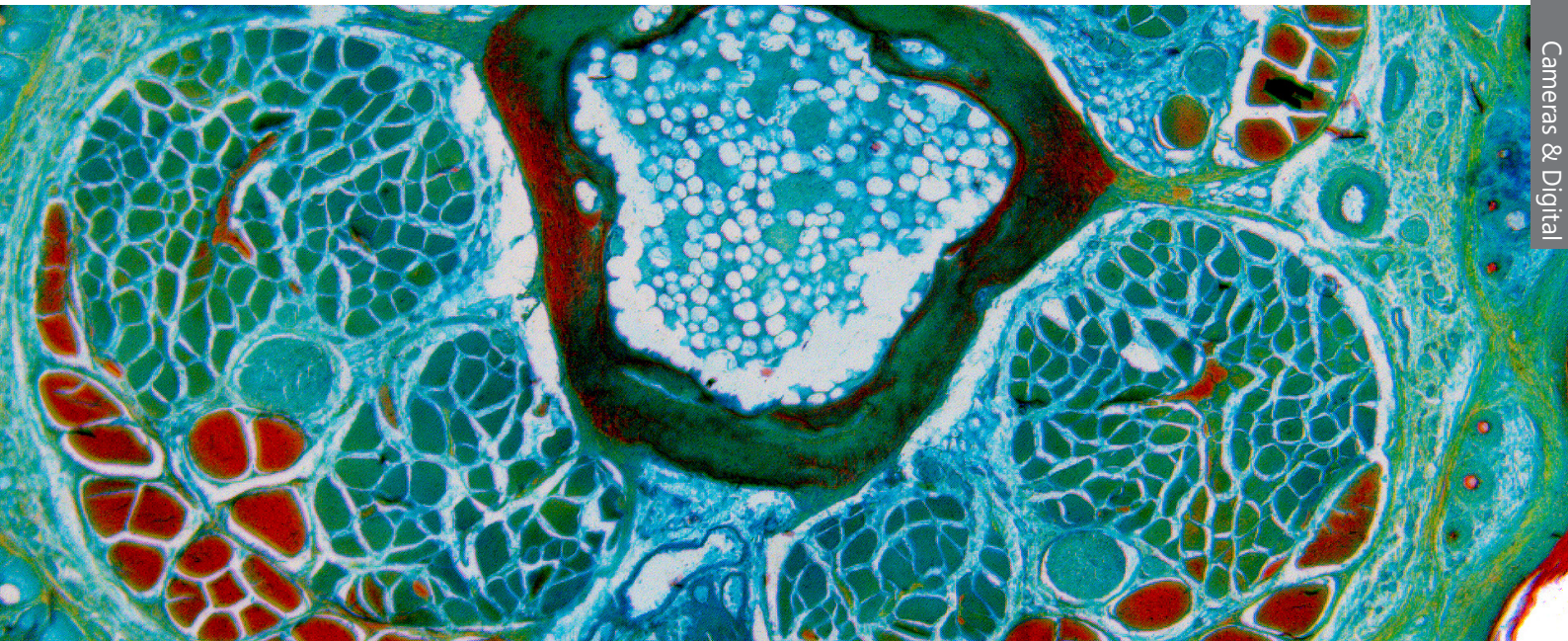
The cost-effective OPTIKA C-B cameras are generally recommended for basic/general applications in education and home use. With C-B+ models, faster transmission speed is achieved through USB3.0 connection, being ideal especially on moving specimens.

- C-B1** B1 camera, 1.3 MP CMOS, USB2.0
- C-B3** B3 camera, 3.1 MP CMOS, USB2.0
- C-B5** B5 camera, 5.1 MP CMOS, USB2.0
- C-B16** B16 camera, 16 MP CMOS, USB2.0
- C-B10+** B10+ camera, 10 MP CMOS, USB3.0
- C-B18+** B18+ camera, 18 MP CMOS, USB3.0





# Entry-Level Microscope Cameras



## TB like Tablet - TB Series

The combination of OPTIKA C-B cameras with Windows tablet PC for a completely new, revolutionary experience. Not a simple tablet but a real PC with large touch screen for smooth and responsive control, representing an extremely comfortable solution for open discussions.

**TB-3W** Windows tablet PC with B3 camera, 3.1 MP CMOS, USB2.0, EU

**TB-5W** Windows tablet PC with B5 camera, 5.1 MP CMOS, USB2.0, EU

## HE like HDMI Essential - C-HB & C-HBSC

Recommended for its easy operation, no software installation is required with image captured on SD card. SC version includes a 11.5" Full HD screen for an all-in-one solution, with tilting features and saving space on the bench.

**C-HB** HB Camera, 1080p, 2 MP CMOS, HDMI, multi-plug

**C-HBSC** HB Camera, 1080p, 2 MP CMOS, HDMI, with screen, multi-plug

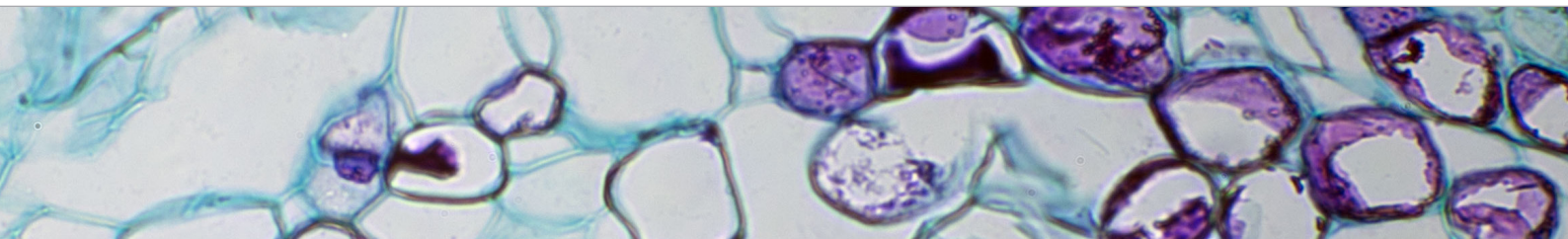
## WiFi Cameras - WiFi Series

The most flexible and versatile camera on the market!

New frontiers are opened thanks to its rechargeable batteries (C-WFR), allowing the camera to be moved from one microscope to another, whilst transferring the live view on any device (using Windows, Android or IOS).

**C-WF** WF camera, 1 MP CMOS, Wi-Fi, multi-plug

**C-WFR** WFR rechargeable camera, 1 MP CMOS, Wi-Fi, multi-plug





## Educam / VC-05

CMOS

USB-OUT

4083.4

4083.4



4083/4083.1/4083.2/4083.3

4083.4

Multimedia cameras to meet various requirements in the educational field. Versatile and flexible, yet sturdy and stable at the same time: direct connection to TV screen / monitor, it can be used as overhead projector, for the projection of drawings, as a camera for teleconferences, assemblies, meetings or as a camera for filming. Up to 90x magnifying power for any specimen and object with 8mm objective lens enables focus from 0.76 cm up to an infinite distance. Ready to use on any microscope with direct tube connection, thanks to the projection lens and 30mm ring included. Downloadable, free of charge software (Windows) is always available to enable the latest updates.

**Models:**

**4083:** EDUCAM MULTIMEDIA, CCD camera for PC-TV, multi-plug

**4083.1:** EDUCAM MULTIMEDIA PRO, CCD camera for PC-TV, multi-plug

**4083.2:** EDUCAM STUDENT, CCD camera for PC-TV, multi-plug

**4083.3:** EDUCAM STUDENT PRO, CCD camera for PC-TV, multi-plug

**4083.4:** EDUCAM USB, CCD camera for PC-TV, multi-plug

**4083.5:** EDUCAM MIC, CCD camera for PC-TV, multi-plug

**VC-05:** Simple eyepiece camera with CCD sensor, 420 TV lines (PAL)



MIC-4083.5



VC-05

	MULTIMEDIA / 4083	MULTIMEDIA PRO / 4083.1	STUDENT / 4083.2	STUDENT PRO / 4083.3
<b>Digital camera resolution</b>	NO	NO	NO	NO
<b>Analog camera resolution</b>	PAL 582 x 420	PAL 582 x 420	PAL 582 x 420	PAL 582 x 420
<b>Signal output</b>	PAL	PAL	PAL	PAL
<b>Audio Signal</b>	Analog	Analog	NO	NO
<b>Sensor Size</b>	1/3"	1/3"	1/3"	1/3"
<b>Sensor technology</b>	CCD	CCD	CCD	CCD
<b>Image format</b>	4/3	4/3	4/3	4/3
<b>Full Image size</b>	-	-	-	-
<b>Frame rate full resolution</b>	50 frames/sec (analog mode)	50 frames/sec (analog mode)	50 frames/sec (analog mode)	50 frames/sec (analog mode)
<b>Max Exposure time</b>	-	-	-	-
<b>ON board Memory</b>	NO	NO	NO	NO
<b>External Memory Card</b>	NO	NO	NO	NO
<b>External camera power</b>	15V DC power supply	15V DC power supply	12V DC power supply	12V DC power supply
<b>White Balance</b>	Auto	Auto	Auto	Auto
<b>Gain Control</b>	Auto	Auto	Auto	Auto
<b>Back light control</b>	Auto	Auto	Auto	Auto
<b>Exposure control</b>	Auto	Auto	Auto	Auto
<b>C-Mount connection</b>	YES	YES	YES	YES
<b>CS-Mount connection</b>	NO	NO	NO	NO
<b>Arm length</b>	50 cm	65 cm	50 cm	65 cm
<b>8mm objective</b>	YES	YES	YES	YES

**Accessories included:**

All models (except VC-05 and C-E2): C-mount projection lens, 30 mm ring adapter, SCA RT for TV plug.

VC-05: C-mount projection lens, 30 mm / 30.5 mm ring adapters, SCART for TV plug.

C-E2: 30 mm / 30.5 mm ring adapters, 1.8 m USB cable.

## C-E2



Simply the most essential, user-friendly and handy eyepiece camera for low budget, with 2 MP resolution, CMOS sensor and USB2.0 connection.

Ready to use on any microscope with direct eyepiece tube connection, thanks to the rings included. Connectable also on trinocular tube.

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.

**Model:**

**C-E2:** E2 eyepiece camera, 2 MP CMOS, USB2.0



- » Simple operation, driver-free
- » Universal connection to any microscope brand
- » Direct eyepiece & trino port connection
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » Rings included
- » USB cable included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux

USB / 4083.4	MIC / 4083.5	VC-05	C-E2
0.3 MP	NO	NO	2 MP
PAL 582 x 420	PAL 582 x 420	PAL 582 x 420	NO
PAL , USB2.0	PAL	PAL	USB 2.0
Analog	NO	NO	NO
1\3"	1\3"	1\3"	1\3.2"
CCD	CCD	CCD	CMOS
4\3	4\3	4\3	4\3
640 x 480	-	-	1600 x 1200
50 frames\sec (analog mode), 25 frames\sec (digital mode)	50 frames\sec (analog mode)	50 frames\sec (analog mode)	5 fps (1600x1200) / 7,5 fps (1280x1024) / 20fps (800x600) / 22fps (640x480)
Auto	-	-	Auto
NO	NO	NO	NO
NO	NO	NO	NO
15V DC power supply	12V DC power supply	12V DC power supply	PC USB
Auto	Auto	Auto	Auto
Auto	Auto	Auto	Auto
Auto	Auto	Auto	Auto
Auto	Auto	Auto	Auto
YES	YES	NO	NO
NO	NO	NO	NO
65cm	-	-	-
YES	YES	NO	NO



## ④ C-B Series

1.3/18  
MP

CMOS



C-B

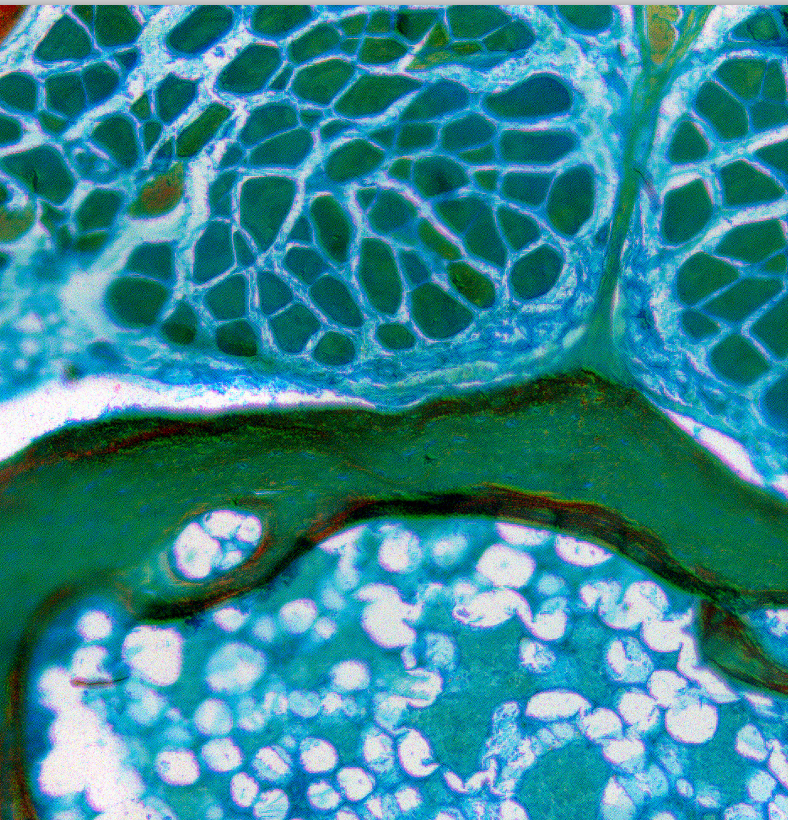
C-B+

Cost-effective, user-friendly cameras with several resolutions (from 1.3 up to 18 MP), CMOS sensor and USB2.0 or USB3.0 connection, recommended for basic/general applications in education and home use especially on moving specimens.

Ready to use on any microscope with direct eyepiece tube connection, thanks to the C-mount projection lens and rings included.

Connectable also to all the trinocular tube of different brands using the C-mount projection lens included or additional focusable C-Mount adapter.

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.





# C-B Series

- » Simple operation, driver-free
- » Universal connection to any microscope brand
- » Direct eyepiece & trinocular port connection
- » Crisp 1.3 MP crisp images
- » Reliable color fidelity
- » C-Mount projection lens and rings included
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux



4

Cameras & Digital





## 4 C-B Series

### C-B Models:

- C-B1:** B1 camera, 1.3 MP CMOS, USB2.0
- C-B3:** B3 camera, 3.1 MP CMOS, USB2.0
- C-B5:** B5 camera, 5.1 MP CMOS, USB2.0
- C-B16:** B16 camera, 16 MP CMOS, USB2.0

### C-B+ Models:

- C-B10+:** B10+ camera, 10 MP CMOS, USB3.0
- C-B18+:** B18+ camera, 18 MP CMOS, USB3.0



## C-B Series - Specifications

	C-B1	C-B3	C-B5
<b>Digital camera resolution</b>	1.3 MP (1280 x 1024)	3.1 MP (2048 x 1536)	5.1 MP (2592 x 1944)
<b>Signal output</b>	USB 2.0	USB 2.0	USB 2.0
<b>Sensor Size</b>	1/3"	1/2"	1/2.5"
<b>Sensor technology</b>	CMOS	CMOS	CMOS
<b>Sensor type</b>	Aptina CMOS	Aptina CMOS	Aptina CMOS
<b>Image format</b>	5/4	4/3	4/3
<b>Pixel size</b>	3.6 x 3.6 $\mu\text{m}$	3.2 x 3.2 $\mu\text{m}$	2.2 x 2.2 $\mu\text{m}$
<b>Frame rate full resolution</b>	15 fps (1280 x 1024)	12 fps (2048 x 1536)	7 fps (2592 x 1944)
<b>Frame rate other resolutions</b>	50 fps (320 x 256)	32 fps (1024 x 768); 45 fps (680 x 510)	27 fps (1280 x 960); 90fps (640 x 480)
<b>Sensitivity</b>	1 V/lux-second	1 V/lux-second	0.53 V/lux-second
<b>Signal / noise ratio</b>	44 dB	43 dB	40.5 dB
<b>Dynamic range</b>	74 dB	61 dB	66.5 dB
<b>ADC conversion</b>	8 Bit	8 Bit	8 Bit
<b>Color Depth</b>	1 Bit; 4 Bit; 8 Bit; 24 Bit	1 Bit ; 4 Bit; 8 Bit; 24 Bit	1 Bit; 4 Bit; 8 Bit; 24 Bit
<b>Exposure Time</b>	0.14 msec - 2 sec	0.244 msec - 2 sec	0.294 msec - 2 sec
<b>Binning</b>	1x1; 2x2; 4x4	1x1; 2x2; 3x3	1x1; 2x2; 4x4
<b>IR filter</b>	380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)
<b>Camera power</b>	PC USB	PC USB	PC USB
<b>C-mount</b>	YES	YES	YES

# C-B Series



### C-B Contents:

- USB camera
- USB 2.0 cable
- 30 & 30.5 mm rings
- C-mount projection lens
- Micrometric slide



### C-B+ Contents:

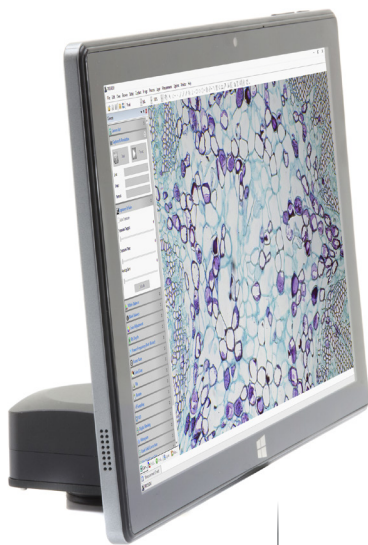
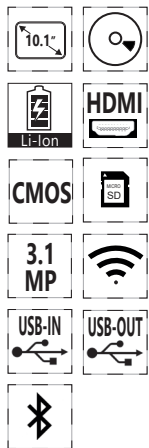
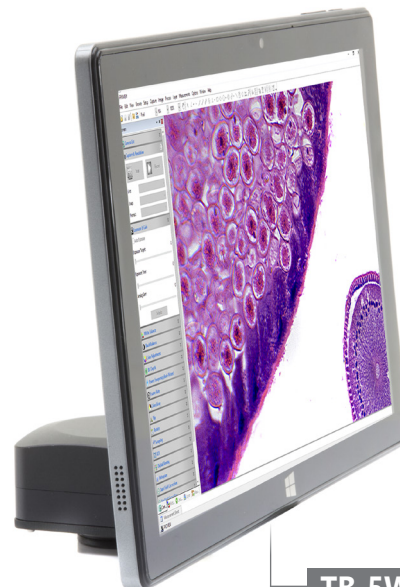
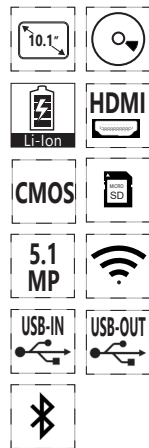
- USB camera
- USB 3.0 cable
- 30 & 30.5 mm rings
- C-mount projection lens
- Micrometric slide



C-B16	C-B10+	C-B18+
16 MP (4632 x 3488)	10 MP (3584 x 2748)	18 MP (4912 x 3684)
USB 2.0	<b>USB 3.0</b>	<b>USB 3.0</b>
1/2.3"	1/2.3"	1/2.3"
CMOS	CMOS	CMOS
Aptina CMOS	Aptina CMOS	Aptina CMOS
4/3	4/3	4/3
1.335 x 1.335 µm	1.67 x 1.67 µm	1.25 x 1.25 µm
2 fps (4632 x 3488)	7.2 fps (3584 x 2746)	5.6 fps (4912 x 3684)
8 fps (2320 x 1740); 11 fps (1536 x 1160)	24.5 fps (1792 x 1372);	18.1 fps (2456 x 1842); 32.2 fps (1228 x 922)
0.31 V/lux-second	0.31 V/lux-second	0.62 V/lux-second
-	34 dB	36.3 dB
65 dB	65.2 dB	65.8 dB
8 Bit	8 Bit - 12 Bit	8 Bit - 12 Bit
1 Bit; 4 Bit; 8 Bit; 24 Bit	1 Bit; 4 Bit; 8 Bit; 24 Bit	1 Bit; 4 Bit; 8 Bit; 24 Bit
0.2 msec - 2 sec	0.4 msec - 2 sec	0.1 msec - 2 sec
1x1; 2x2; 3x3	1x1; 2x2; 4x4	1x1; 2x2; 4x4
380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)
PC USB	PC USB	PC USB
YES	YES	YES



# TB Series

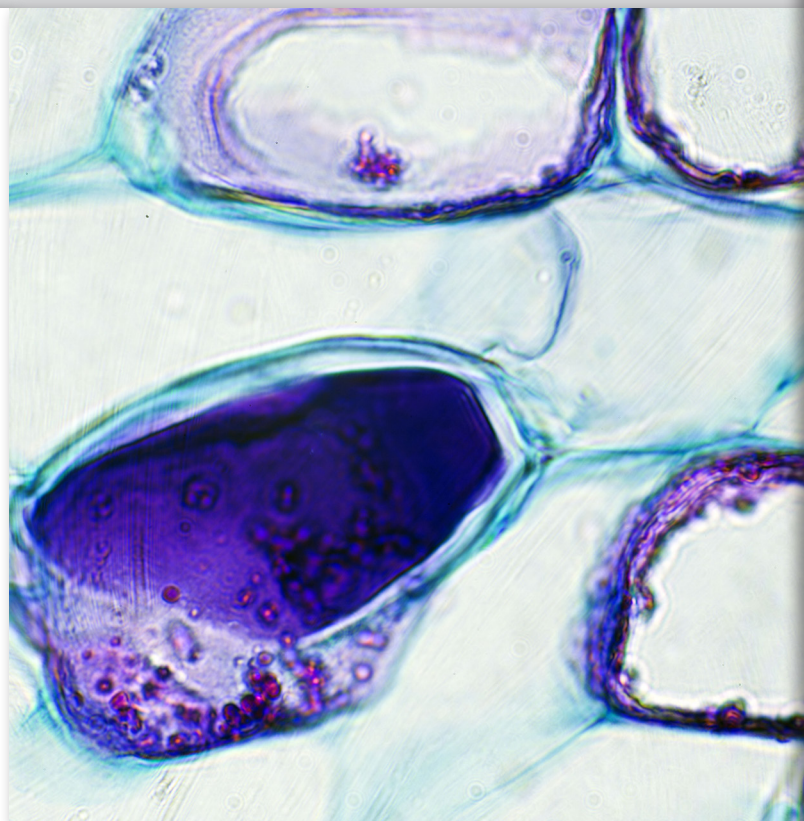

**TB-3W**

**TB-5W**

Exclusive, powerful Windows tablet PC combined to a CMOS sensor cameras with USB2.0 connection, recommended for discussion groups and educational purposes thanks to the easy operation, space-saving features and unparalleled comfort. The unique holding solution for open discussion is 360° rotating and tilting for any adjustment, whilst the large touch screen provides fast, responsive and smooth control.

At any time, the tablet PC can be easily detached to be used as a laptop.

Non-stop operation is granted by the simultaneous camera and power connection for long-term use and class/lesson alternation.

Connectable also to all the trinocular tube of different brands using the projection lens included or additional focusable C-Mount adapter. Downloadable, free of charge software is always available to enable the latest updates.



# TB Series

- » External digital camera connected to Windows tablet PC
- » Large touch screen with fast, responsive and smooth control
- » Easily detachable, can be used as a laptop
- » A 2-in-1 solution that you can use like a PC, being Windows-based
- » Simultaneous camera and power connection for long-term operation
- » Powerful Intel processor ensuring top performance and speed
- » High-resolution, vivid color graphic display
- » Crisp 3.1 or 5.1 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » C-mount projection lens and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView for Windows





# 4 TB Series

## Tablet Models:

**TB-3W:** Windows tablet PC with B3 camera, 3.1 MP CMOS, USB2.0, EU

**TB-5W:** Windows tablet PC with B5 camera, 5.1 MP CMOS, USB2.0, EU



**OPTIONAL**

## TB Series - Specifications

CAMERA TECHNICAL SPECIFICATIONS	TB-3W	TB-5W
Digital camera resolution	3.1 MP (2048 x 1536)	5.1 MP (2592 x 1944)
Signal output	USB 2.0	USB 2.0
Sensor Size	1/2"	1/2.5"
Sensor technology	CMOS	CMOS
Sensor type	Aptina CMOS	Aptina CMOS
Image format	4/3	4/3
Pixel size	3.2 x 3.2 $\mu\text{m}$	2.2 x 2.2 $\mu\text{m}$
Frame rate full resolution	12 fps (2048 x 1536)	7 fps (2592 x 1944)
Frame rate other resolutions	32 fps (1024 x 768); 45 fps (680 x 510)	27 fps (1280 x 960); 90fps (640 x 480)
Sensitivity	1 V/lux-second	0.53 V/lux-second
Signal / noise ratio	43 dB	40.5 dB
Dynamic range	61 dB	66.5 dB
ADC conversion	8 Bit	8 Bit
Color Depth	1 Bit ; 4 Bit; 8 Bit; 24 Bit	1 Bit; 4 Bit; 8 Bit; 24 Bit
Exposure Time	0.244 msec - 2 sec	0.294 msec - 2 sec
Binning	1x1; 2x2; 3x3	1x1; 2x2; 4x4
IR filter	380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)
Camera power	PC USB	PC USB
C-mount	YES	YES

# TB Series



### TB Contents:

- USB camera
- Windows tablet PC
- C-mount projection lens
- Micrometric slide
- OTG cable (micro USB-C to USB-A)
- USB cable USB-B to USB-A (0.5m)
- Touch pen
- External power supply

## TB Series - Tablet specifications

### TABLET TECHNICAL SPECIFICATIONS

Operating system	Windows 10 (64Bit)
CPU	Gemini-Lake, N4100
CPU speed	1.10 GHz
Graphic card	Intel® HD Graphics 600
RAM	Ram 6 GB LPDDR3
Display size	LED 10.1" IPS Multi Touch Screen
Display resolution	1920x1200
Storage	Hdd 128 GB
Network	WiFi (2.4G / 5G) - Bluetooth 5.0
Input ports	USB-C (1 USB2.0 for battery charge, 1 USB3.0) - Micro SD card reader
Output ports	Microphone - Headphone - Micro HDMI
Battery Type	Lithium-ion
Battery capacity	6500 mAh
Power consumption	24.05W
Power supply	12V 2A EU
Dimensions (mm)	261 x 167 X 9
Weight (Kg)	0.53
Language	Multilanguage
Weight	530 g
Tablet accessories included	OTG cable (micro USB-C to USB-A) USB cable USB-B to USB-A (0.5m) Touch pen





# C-HB & C-HBSC



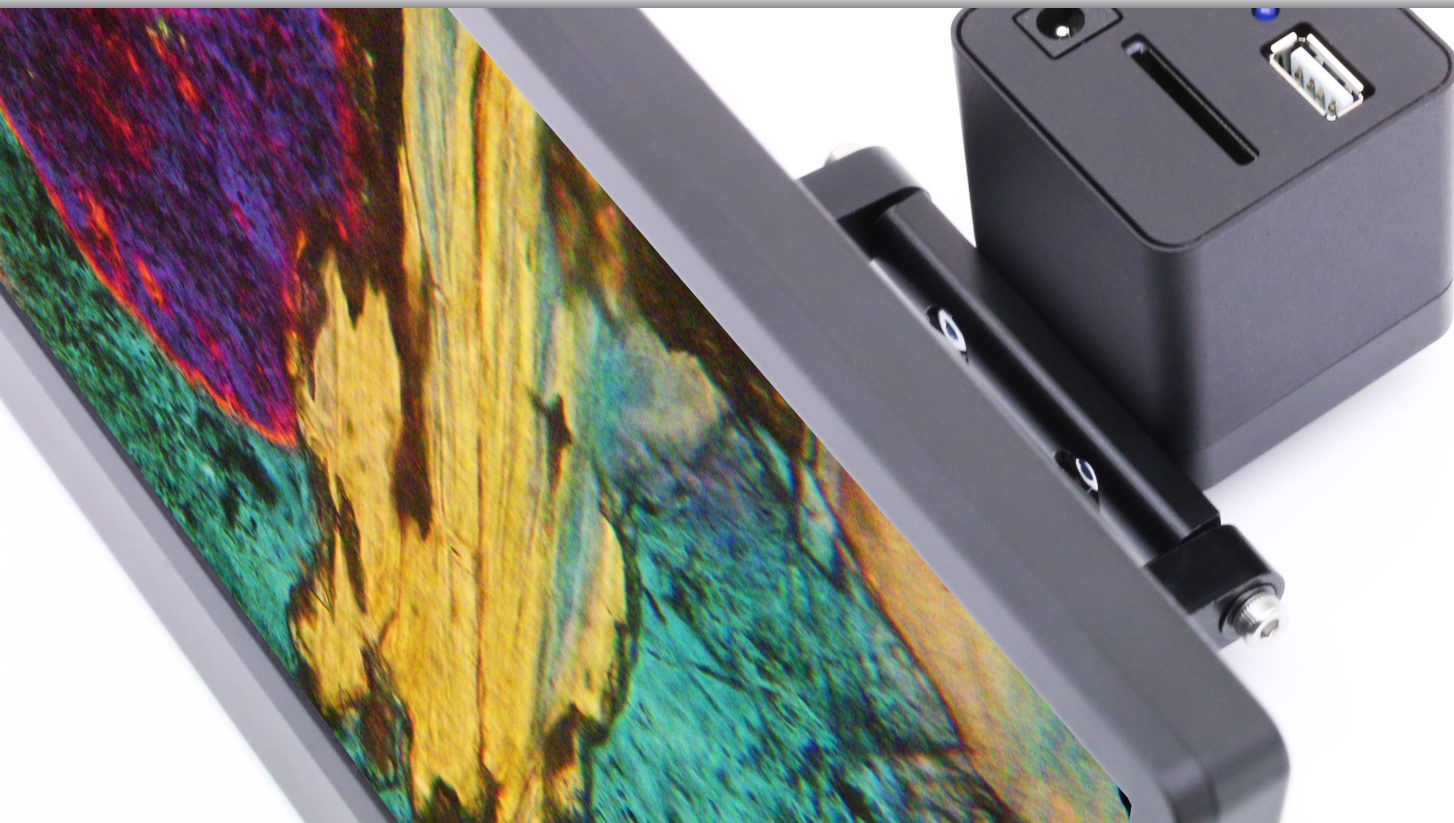
C-HB



C-HBSC

Cost-effective, entry-level HD camera with 1080p, 2 MP resolution, CMOS sensor and HDMI connection, recommended for its easy operation, no software installation is required with image capturing on SD card.

Connection into the eyepiece tube or to the trinocular tube of any microscope brand via dedicated adapter (to be purchased separately). Available also as an all-in-one, space saving package including a 11.5" full HD monitor with compact footprint, enabling screen adjustment to ensure correct posture and eliminate fatigue during observation connectable to trinocular tube only via dedicated adapter (to be purchased separately). Wireless mouse, SD card and built-in software included.





# C-HB & C-HBSC

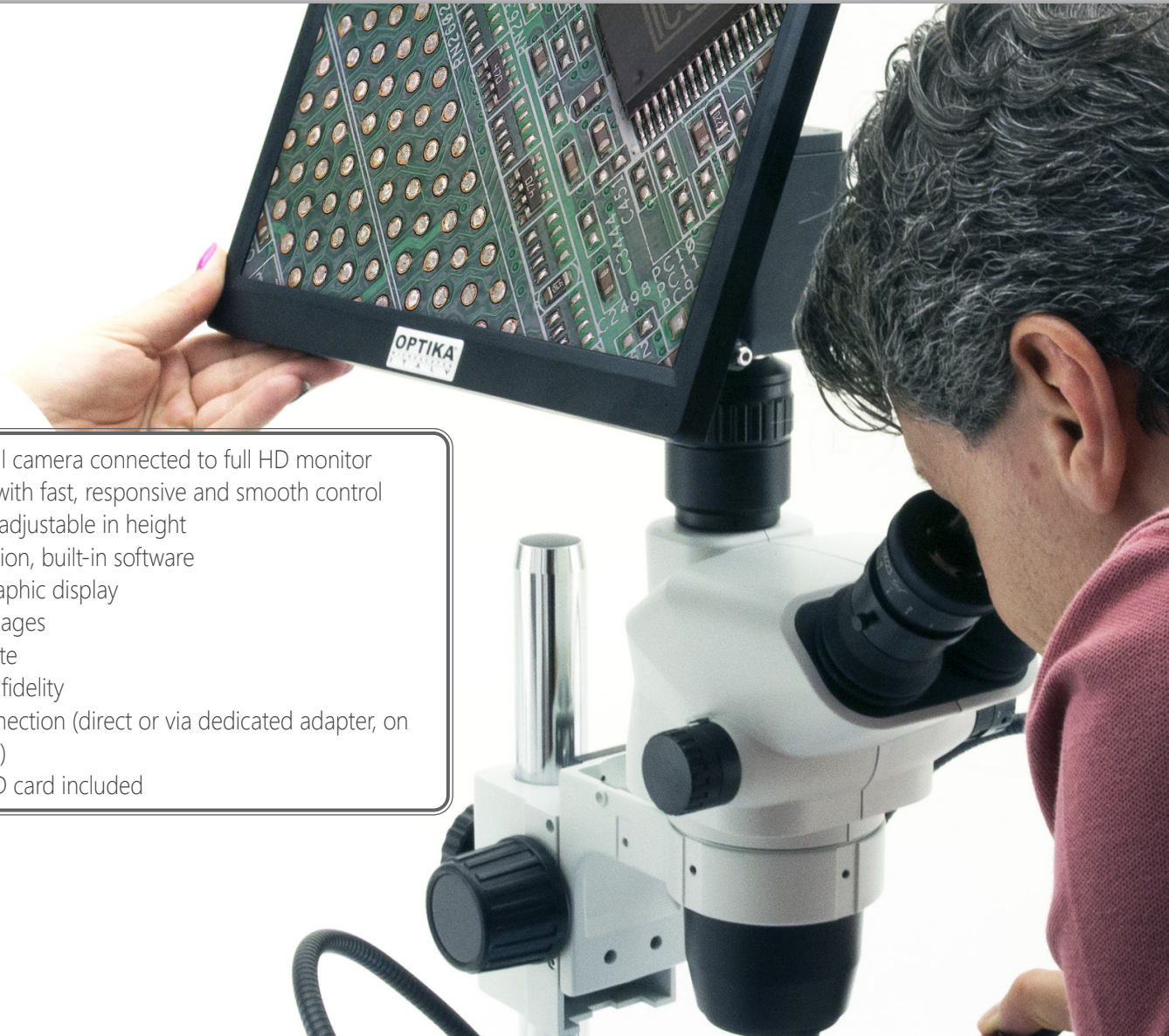
## C-HB

- » Simple operation, built-in software
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » Mouse and SD card included



4

Cameras & Digital



## C-HBSC

- » External digital camera connected to full HD monitor
- » Large screen with fast, responsive and smooth control
- » Tilttable to be adjustable in height
- » Simple operation, built-in software
- » Vivid color graphic display
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » Mouse and SD card included



## ④ C-HB & C-HBSC

### C-HE Models:

**C-HB:** HB camera, 1080p, 2 MP CMOS, HDMI, multi-plug

**C-HBSC:** HB camera, 1080p, 2 MP CMOS, HDMI, with screen, multi-plug



## C-HE & C-HESC - Specifications

	C-HE	C-HESC
Video resolution (USB output)	-	-
Video resolution (HDMI output)	HD 1080p	HD 1080p
Digital camera resolution	2 MP (1280 x 720)	2 MP (1280 x 720)
Signal output	HDMI	HDMI
Sensor Size	1/2.8"	1/2.8"
Sensor technology	CMOS	CMOS
Sensor type	SONY STARVIS	SONY STARVIS
Image format	16/9	16/9
Pixel size	2.9 x 2.9 $\mu\text{m}$	2.9 x 2.9 $\mu\text{m}$
Frame rate (HDMI)	60@1920X1080	60@1920X1080
Sensitivity	1300 mV at 1/30sec	1300 mV at 1/30sec
Dark Signal	0.15mV at 1/30sec	0.15mV at 1/30sec
Exposure Time	0.01 msec - 1 sec	0.01 msec - 1 sec
Binning	1x1	1x1
IR filter	380-650 nm (IR-cut filter)	380-650 nm (IR-cut filter)
Camera power	DC 12V 1A	DC 12V 1A
C-mount	YES	YES
White balance	Auto/Manual//ROI	Auto/Manual//ROI
Live HDMI measurement	Yes	Yes
Exposure control	Auto / Manual	Auto / Manual

# C-HB & C-HBSC



### C-HB Contents:

- HDMI camera
- HDMI cable
- SD card
- Wireless mouse
- Multi-plug external power supply
- Calibration slide



### C-HBSC Contents:

- HDMI camera
- HDMI monitor
- HDMI cable
- SD card
- Wireless mouse
- Multi-plug external power supply (2 pcs.)
- calibration slide



# C-HE & C-HESC - Monitor Specifications

## MONITOR TECHNICAL SPECIFICATIONS

Size	11,5"
Power supply	12V / 2,5A
HDMI cable	150 cm







**Wolflabs**

# Wolf Laboratories Limited

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**Use the above details to contact us if this literature doesn't answer all your questions.**

**Pricing on any accessories shown can be found by keying the part number into the search box on our website.**

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

