BWHC1-4K Series HDMI/WiFi /USB3.0 Multi-outputs C-mount CMOS Camera

BWHC1-4K Series Camera

Introduction

BWHC1-4K series cameras have been designed for acquisition of digital images from biological microscopes, stereo microscopes and other optical microscopes or online interactive teaching.

Features

The basic characteristics have been listed as below:

● Sony Exmor/STARVIS back-illuminated CMOS sensor

● 4K HDMI/ WiFi/ USB3.0 multiple video outputs

● 4K/1080P auto switching according to monitor resolution

● SD card/USB flash drive for captured image and video storage, support local preview and playback

● Embedded XCamView for the control of the camera and image processing

● Excellent ISP with local tone mapping and 3D denoising

● View/ Lite software for PC

● iOS/Android applications for smart phones or tablets

Specification

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity/Dark Signal	FPS/Resolution	Binning	Exposure(ms)
BWHC1-4K8MPA	Sony IMX678(C) 1/1.8"(7.68x4.32)	2.0x2.0	1364mv with 1/30s 0.15mv with 1/30s	30@3840*2160(HDMI) 30@1920*1080(WiFi) 30@3840*2160(USB3.0)	1x1	0.045~1000
BWHC1-4K8MPB	Sony IMX585(C) 1/1.2"(11.14x6.26)	2.9x2.9	1028mv with 1/30s 0.13mv with 1/30s	30@3840*2160(HDMI) 30@1920*1080(WiFi) 30@3840*2160(USB3.0)	1x1	0.014~1000

Available Ports on the Back Panel of the Camera Body

Interface or Button	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded **XCamView** software
USB2.0	Connect USB flash drive to save pictures and videos Connect 5G WiFi module to transfer video wirelessly in real time
USB Video	Connect PC or other host device to realize video image transmission
HDMI	Comply with HDMI1.4 standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors
SD	Comply with SDIO3.0 standard and SD card could be inserted for video and images saving
ON/OFF	Power switch
LED	LED status indicator
DC12V	Power adapter connection (12V/1A)
Video Output Interface	Function Description
HDMI Interface	Comply with HDMI1.4 standard 30fps@4K or 30fps@1080P
WiFi Interface	Connecting 5G WiFi adapter (USB2.0 slot) in AP/STA mode 1080P H264 format video, 8M (3840*2160) image
USB Video Interface	Connecting USB3.0 Video port of PC for video transfer H264/NV12/MJPEG format video
Other Function	Function Description
Video Saving	Video format: 8M(3840*2160) H264/H265 encoded MP4 file Video saving frame rate:30fps
Image Capture	8M (3840*2160) JPEG/TIFF image in SD card or USB flash drive
Measurement Saving	Measurement information saved in different layer with image content Measurement information is saved together with image content in burn in mode
ISP	Exposure(Automatic / Manual Exposure) / Gain, White Balance(Manual / Automatic / ROI Mode), Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Brightness Adjustment, Gamma Adjustment, Color to Gray, 50HZ/60HZ Anti-flicker Function
Image Operation	Zoom In/Zoom Out(Up to 10X), Mirror/Flip, Freeze, Cross Line, Compare(Comparison between real time video and images in SD card or USB flash drive), Embedded Files Browser, Video Playback, Measurement Function
Embedded	To support accurate time on board

RTC(Optional)	
Restore Factory Settings	Restore camera parameters to its factory status
Multiple Language Support	English / Simplified Chinese / Traditional Chinese / Korean / Thailand / French / German / Japanese / Italian / Russian
Software Environment under WiFi/USB Video Output
White Balance	Auto White Balance
Color Technique	Ultra-Fine Color Engine
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
Recording System	Still Picture or Movie
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1 /10/ 11(32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 4GB or More
	Display:19" or Larger
	CD-ROM
Operating Environment
Operating Temperature (in Centidegree)	-10°~ 50°
Storage Temperature (in Centidegree)	-20°~ 60°
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 12V/1A Adapter

Dimension

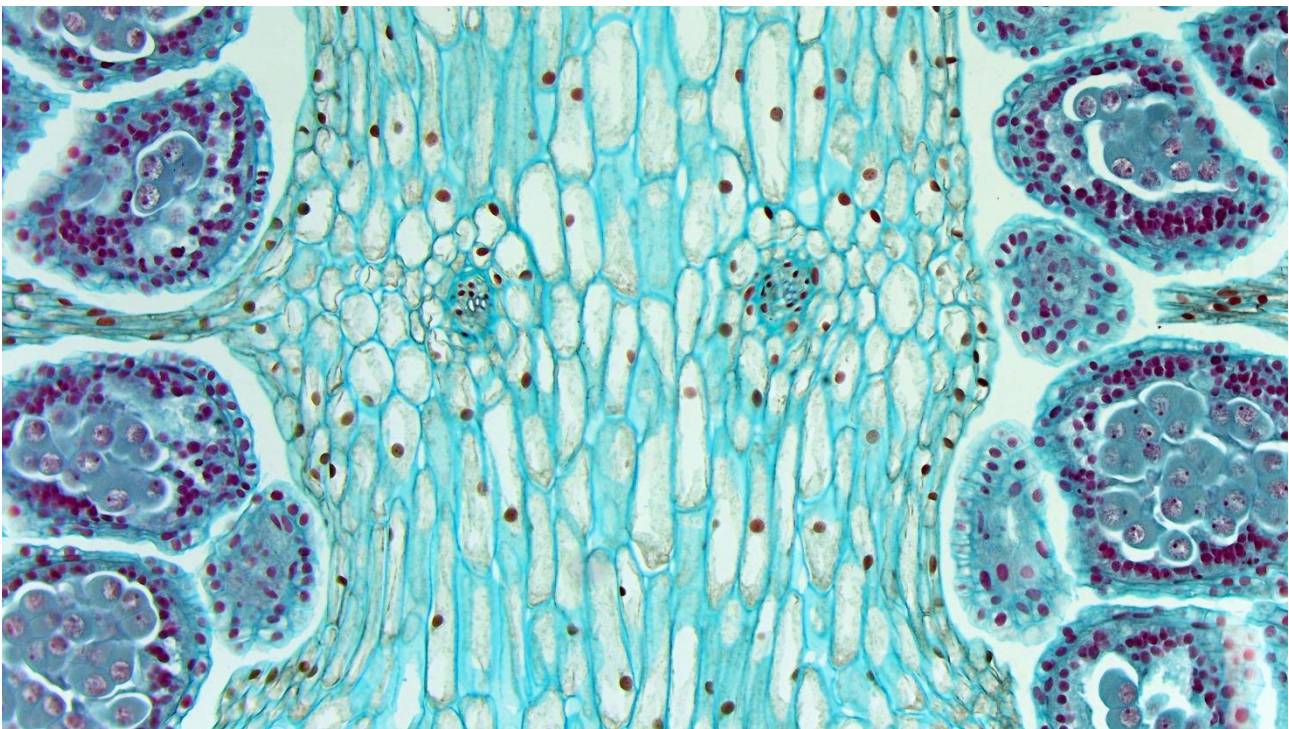
Dimension of BWHC1-4K Series Camera

Packing Information
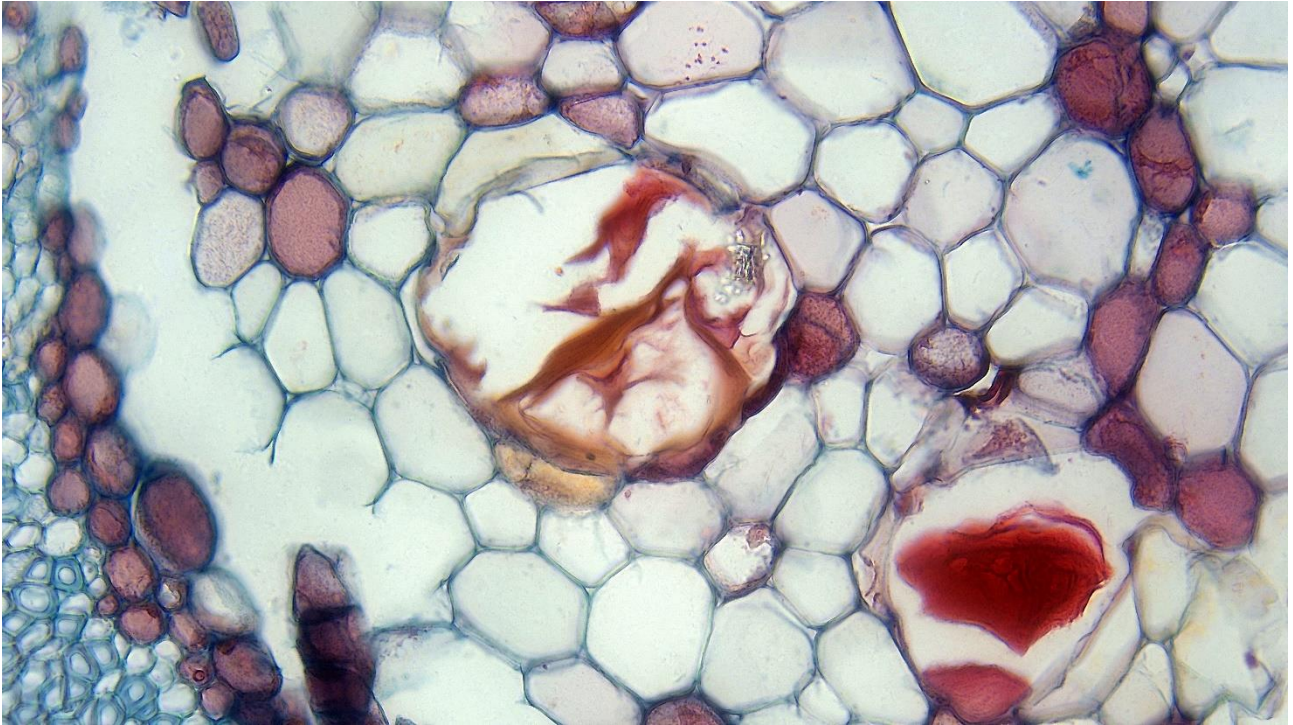

BWHC1-4K Series Camera Packing Information

Standard Packing List	
A	Gift box: L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.57Kg/ box)
B	BWHC1-4K Camera (One of the two different shapes)
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A **American standard**: Model: POWER-U-12V1A(MSA-C1000IC12.0-12W-US): UL/CE/FCC **European standard**: Model: POWER-E-12V1A(MSA-C10001C12.0-12W-DE): UL/CE/FCC EMI standard: FCC Part 15 Subpart B EMS standard: EN61000-4-2,3,4,5,6
D	USB Mouse
E	HDMI Cable
F	USB3.0 A male to A male gold-plated connectors cable /2.0m
G	CD (Driver & utilities software, Ø12cm)
Optional Accessory	
H	SD Card(16G or above; Speed: class 10)
I	Adjustable lens adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)	BCN2A-0.37× BCN2A-0.5× BCN2A-0.75× BCN2A-1×
J	Fixed lens adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)	BCN2F-0.37× BCN2F-0.5× BCN2F-0.75× BCN2F-1×

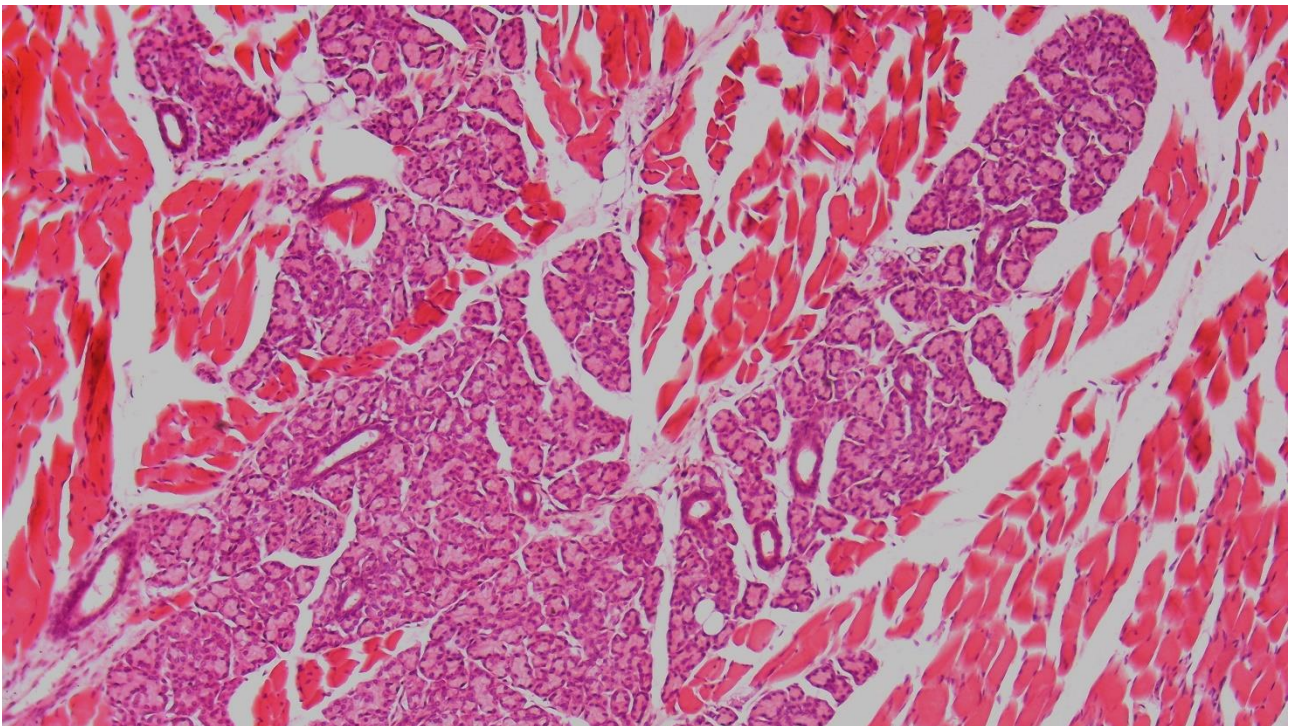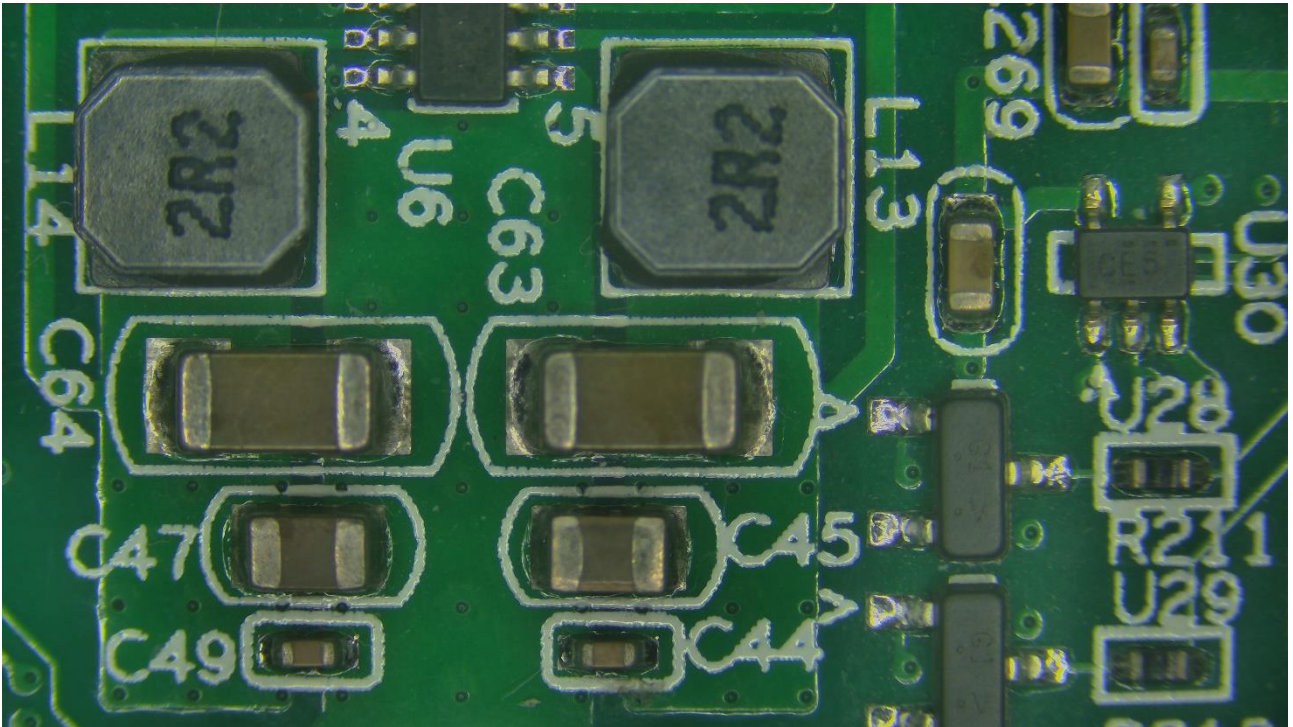|				
	Note: For **K** and **L** optional items, please specify your camera type (C-mount, microscope camera or telescope camera), engineer will help you to determine the right microscope or telescope camera adapter for your application;			
K	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube			
L	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube			
M	Calibration kit	106011/TS-M1(X=0.01mm/100Div.); 106012/TS-M2(X,Y=0.01mm/100Div.); 106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.)		
N	USB flash drive			
O	USB WiFi adapter			

Sample Images

Longitudinal Section Of Equisetum Sporophyll Captured with BWHC1-4K8MPA

Lime Wood Stem CS Captured with BWHC1-4K8MPA

Taste Bud.Sec. Captured with BWHC1-4K8MPA

Circuit Board Captured with BWHC1-4K8MPA