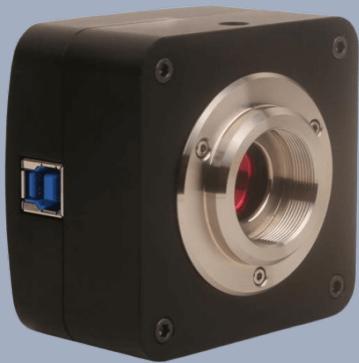


CMOS Cameras

Venuslab-UISP CMOS Camera

Achieve efficient and high-quality image transmission and processing at high resolution.

- High-speed transmission, high-definition and smooth
- Full-scene adaptation, flexible software and hardware
- Industrial-grade reliability, long-term peace of mind
- Hardware ISP, both efficiency and quality improved



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote



Get Expert Advice
+65 8099 5547



Visit Us
www.venuslabtech.com

Overview

Introduction:

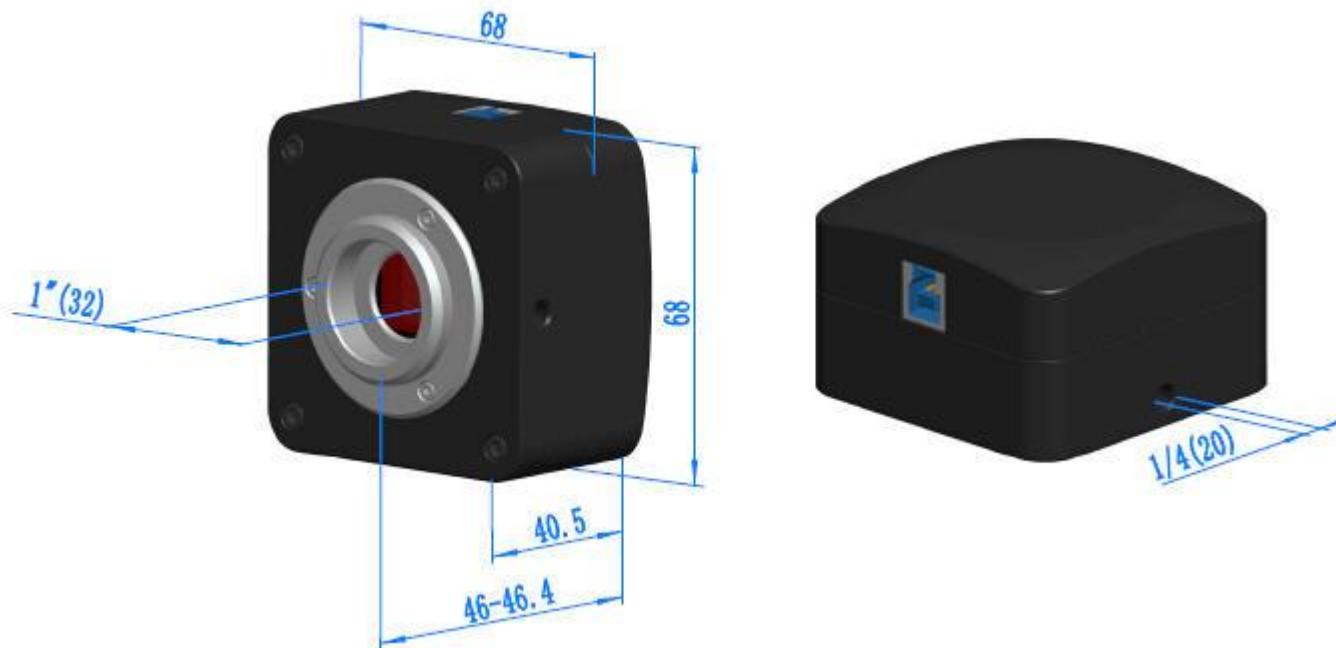
Equipped with a USB3.0 interface, it ensures a high transmission rate and can quickly transmit image data. The built-in hardware ISP Ultra-Fine color engine can accurately reproduce colors, making the captured images more realistic and natural in color. It adopts an aluminum alloy CNC precision-machined oxidized shell, which not only ensures the sturdiness of the camera but also facilitates heat dissipation. The hardware ISP engine, combined with 12-bit ADC sampling, achieves a high dynamic range of 65.8dB, and its color reproduction accuracy and detail retention capability are far superior to software processing solutions. At the same time, hardware offloading significantly reduces the host CPU usage, enabling smooth output of more than 13fps even at 18 million pixels, solving the pain point of "the inability to have both image quality and frame rate" in high-resolution scenarios. This series of cameras can be widely used for the shooting and recording of microscopic images, and is suitable for fields such as scientific research and industrial inspection.

Features:

- Adopts a high-quality CMOS sensor and features a C-mount design.
- Equipped with a USB3.0 interface to ensure high-speed transmission.
- Built-in hardware ISP for accurate color reproduction and reduced CPU usage.
- Provides multi-platform SDKs and professional image processing software, with strong adaptability.

Dimension:

The housing of the Venuslab-UIISP CMOS Camera is made of hard aluminum alloy, precision-machined by CNC and oxidized, which is elegant and decent. A high-quality IR-CUT is installed at the front end of the camera sensor, mainly to filter out infrared light waves in imaging and protect the camera sensor at the same time. Compared with cameras of other brands, Venuslab's cameras have no moving parts to ensure that they are sturdy, reliable and durable. At the same time, there is no image blurring caused by the shaking of moving parts.



Specifications

Common Parameter Specification Table

Other Specification	
Spectral Range	380 - 650nm (with IR - cut Filter)
White Balance	ROI White Balance/Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra - Fine HIS* VP/NA for Monochromatic Sensor
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
ADC	8 Bit / 12 Bit
Recording System	Still Picture and Movie
Cooling System*	Natural
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 5V over PC USB Port
Software Environment	
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 10 / 11 (32 & 64 bit); OS X/Mac OS X; Linux
PC Requirements	CPU: Equal to Intel Core 2 2.8GHz or Higher
	Memory: 2GB or More
	USB Port: USB3.0 High - speed Port
	Display: 17" or Larger
	CD - ROM

Packing List

Packing Information for Venuslab-UISP Series



Standard Camera Packing List			
A	Carton L:52cm W:32cm H:33cm (20pcs, 12~17Kg/ carton), not shown in the photo		
B	Gift box L:15cm W:15cm H:10cm (0.67~0.7Kg/ box)		
C	One U3ISPM series camera		
D	High-speed USB3.0 A male to B male gold-plated connectors cable /2.0m		
E	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
F	Adjustable lens adapter	C-mount to Dia.23.2mm eyepiece tube(Please choose 1 of them for your microscope)	108001/AMA037108002/ AMA050108003/AMA075
		C-mount to Dia.31.75mm eyepiece tube(Please choose 1 of them for your telescope)	108008/ATA037108009/ ATA050108010/ATA075
G	Fixed lens adapter	C-mount to Dia.23.2mm eyepiece tube(Please choose 1 of them for your microscope)	108005/FMA037108006/ FMA050108007/FMA075
		C-mount to Dia.23.2mm eyepiece tube(Please choose 1 of them for your microscope)	108011/FTA037108012/ FTA050108013/FTA075
Note: For F and G optional items, please specify your camera type(C-mount, microscope camera or telescope camera) , ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;			
H	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube		
I	108016(Dia.23.2mm to 30.5mm ring)/ Adapter rings for 30.5mm eyepiece tube		
J	108017(Dia.23.2mm to 31.75mm Ring)/ Adapter rings for 31.75mm eyepiece tube		
K	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.)	

Explore Series

Model	Binning	Pix(µm)	Sensor & Size	Exposure	FPS/Resolution	G Responsivity / Dynamic range / S/N(Rms)
Venuslab-UISP18KP-A	1x1 2x2 4x4	1.25x1.25	18M/AR1820(C) 1/2.3" (6.14x4.61)	0.1ms - 2s	13.1@4912x3684 34.2@2456x1842 54.4@1228x922	0.62 Vlux - sec 65.8dB
Venuslab-UISP16KP-A	1x1 2x2 3x3	1.335x1.335	16M/MN34120 (C) 1/2.33" (6.18x4.67)	0.2ms - 2s	16.64632x3488 30.22316x1740 27@1544x1160	R: 2.445 LSB Gg: 2.444 LSB Gb: 1.054 LSB B: 9.096 LSB
Venuslab-UISP16KP-B	1x1 2x2 3x3	3.8x3.8	16M/MN34230 (C) 4/3" (17.60x13.30)	0.2ms - 15s	22@4640x3506 30@3460x2526 43@2320x1740 49@1544x1168	R: 1315 LSB Gg: 1315 LSB Gb: 241 LSB B: 241 LSB (Gain = 0dB)
Venuslab-UISP20KP-A	1x1 2x2	1.4x1.4	20M/AR2020(C) 1/1.8" (7.17x5.38)	0.2ms - 15s	20@5120x3840 45@2560x1920	8.4 ke - Vlux - sec

 Get in touch with our team to explore configurations,request a quote,or learn more about customized solutions tailored to your needs.

Let us help you moves cience forward—faster ands marter.

[Get a Quote](#)



Get Expert Advice
+65 8099 5547



Visit Us
www.venuslabtech.com