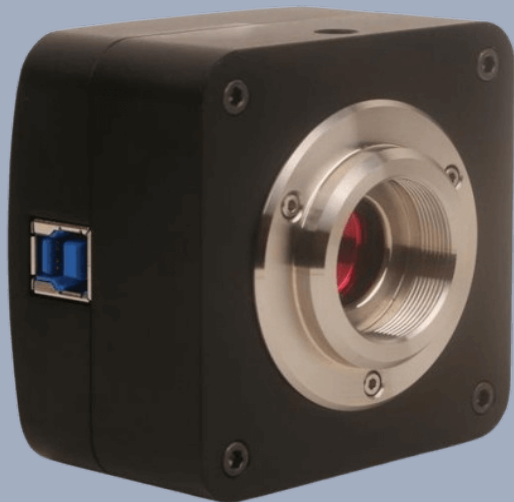


CMOS Cameras

Venuslab-UISP CMOS Camera

High-res, efficient & high-quality image transmission and processing.

- 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
+658099 5547 (WhatsApp)



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Overview

Introduction:

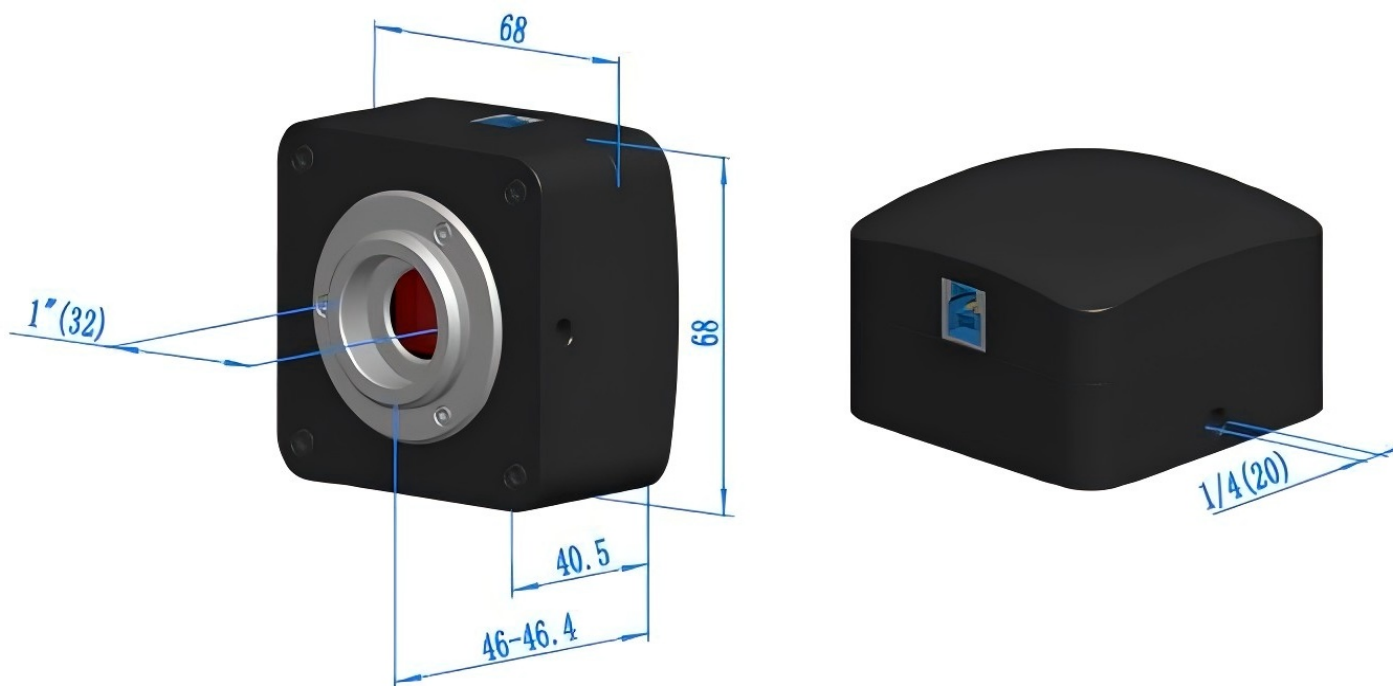
Equipped with a USB3.0 interface, it ensures a high transmission rate and can quickly transmit image data. The built-in hardware ISP Ultra-Fine color engine can accurately reproduce colors, making the captured images more realistic and natural in color. It adopts an aluminum alloy CNC precision-machined 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.)	

Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

1. Warranty Policy

Quality First, Worry-Free Operation

Warranty Period: We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

Coverage: We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

Rapid Response: Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

2. Technical Support

Expert Team, Full-Process Guidance

Technical Consultation: Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

Scheduled Maintenance: We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

Training Services: We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

3. Logistics & Delivery

Precision Packaging, Global Reach

Professional Packaging: Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

Logistics Partners: We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

Shipping Insurance: All shipments are fully insured to eliminate logistics risks.

4. Compliance & Certification


Strict Standards, Total Compliance

Quality Certification: Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE** and **RoHS**.

Export Compliance: "Committed to environmental responsibility, all our products comply with **RoHS 2.0** and **REACH** standards, ensuring safety and global compliance."

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 move science forward—faster and smarter.

[Get a Quote](#)



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