MICAPS
UPRO4KUHD SERIES

C-mount USB3.0 CMOS Cameras
SONY STARVIS 2 CMOS Sensor

UPRO4KUHD Series HDMI/NETWORK/USB Multi-outputs C-mout CMOS Camera

The UPRO4KUHD series camera is intended to be used for the acquisition of digital images from the stereo microscope, biological microscope or online interactive teaching.

Features

- Sony STARVIS 2 back-illuminated CMOS sensor
- 4K HDMI/ NETWORK/ USB multiple video synchronous outputs
- Rolling Shutter
- 4K/1080P auto switching according to monitor resolution
- High frame rate output, supporting up to 4K 75fps
- Support 4K 60fps low delay HDMI output mode, with an average delay of 40ms
- New browsing function, providing rich file operations
- Excellent ISP with local tone mapping and 3D denoising
- Provide two sets of default ISP parameters for biological and stereo microscope
- SD card/USB flash drive for captured image and video storage, support local preview and playback

Applications

- Scientific research, education (teaching, demonstration and academic exchanges)
- Digital laboratory, medical research
- Industrial visual (PCB examination, IC quality control)
- Medical treatment (pathological observation)
- Food (microbial colony observation and counting)
- Aerospace, military (high sophisticated weapons)

Model No.	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
UPRO4KUHD8MPCA	Sony IMX678(C) 1/1.8"(7.68x4.32)	2.0x2.0	1364mv with 1/30s 0.1mv with 1/30s	72@3840*2160	1x1	0.019~1000
UPRO4KUHD8MPCB	Sony IMX585(C) 1/1.2"(11.14x6.26)	2.9x2.9	1028mv with 1/30s 0.39mv with 1/30s	75@3840*2160	1x1	0.048~1000
UPRO4KUHD16MPCA	Sony IMX283(C) 1/1.1"(13.06x7.34)	2.4 x2.4	1874mv with 1/30s 0.84mv with 1/30s	30@5440*3060	1x1	0.104~1000

Camera Model	Video Saving (FPS/Resolution)	HDMI2.0 (FPS/Resolution)	USB3.0 (FPS/Resolution)	NETWORK (FPS/Resolution)
UPRO4KUHD8MPCA	72@3840*2160	60@3840*2160 60@1920*1080	30@3840*2160 45@2688*1512 60@1920*1080	30@3840*2160 60@1920*1080 72@1280*720
UPRO4KUHD8MPCB	75@3840*2160	60@3840*2160 60@1920*1080	30@3840*2160 45@2688*1512 60@1920*1080	30@3840*2160 60@1920*1080 75@1280*720
UPRO4KUHD16MPCA	S30@3840*2160 30@1920*1080	30@3840*2160 30@1920*1080	20@5440*3060 30@2688*1512 30@1920*1080	30@3840*2160 30@1920*1080 30@1280*720

C: Color.

Interface or Button	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded UPROView software
USB3.0	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 HDMI2.0 standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors
LAN	LAN port to connect router and switch to transfer video
SD	SD card, 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 HDMI2.0 standard
	60fps@4K or 60fps@1080P(UPRO4KUHD8MPCA, UPRO4KUHD8MPCB) 30fps@4K or 30fps@1080P(UPRO4KUHD16MPCA)
LAN Interface	support real time resolution switching(4K/1080P/720P) H264 encoded video DHCP configuration or manual configuration Unicast/multicast configuration
WiFi Interface	Connecting 5G WLAN adapter (USB3.0 slot) in AP/STA mode
USB Video Interface	Connecting USB Video port of PC for video transfer
	H264/MJPEG format video

Other Function	Function Description
Video Saving	Video format:8M(3840*2160) H264/H265 encoded MP4 file Video saving frame rate:72fps(UPRO4KUHD8MPCA), 75fps(UPRO4KUHD8MPCB) 30fps(UPRO4KUHD16MPCA)60fps in low delay mode(UPRO4KUHD8MPCA, UPRO4KUHD8MPCB)
Image Capture	8M (3840*2160, UPRO4KUHD8MPCA, UPRO4KUHD8MPCB) JPEG/TIFF image in SD card or USB flash Drive16M (5440*3060, UPRO4KUHD16MPCA) JPEG/TIFF image in SD card or USB flash drive (Default SD card priority, priority can be modified in settings)
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 RTC(Optional)	To support accurate time on board
Restore Factory Settings	Restore camera parameters to its factory status
Multiple Language Support	English / Simplified Chinese / Traditional Chinese / Korean / Thailand / French / German / Spanish / Japanese / Italian / Russian / Dutch / Portuguese

Software Environment Under LAN/WLAN/USB Video Output	
White Balance	Auto White Balance
Color Technique	Super-Fine Color Engine
Capture/Control SDK	Windows/Linux/macOS/Android Multiple PlatformSDK (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
	Ethernet Port: RJ45 Ethernet Port
	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

LABLINK INSTRUMENTS

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