



MICAPS UPRO4KUHD16MPCA-EF

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



UPROAF4KUHD16MPCA HDMI/NETWORK/USB Multi-outputs C-mount CMOS Camera

UPRO4K16MPCA_EF HDMI Camera – Smart, 4K, and EF Lens Compatible The UPRO4K16MPCA_EF is a cutting-edge HDMI camera from Micaps, designed for professionals who need power, flexibility, and precision. It offers multiple output options—HDMI, Network, and USB—so you can easily connect it to monitors, computers, or networks. You can also save images and videos directly to an SD card or USB flash drive for easy on-site analysis or future research. Part of Micaps’s high-end AI-powered UPRO series, this camera is equipped with a large, high-resolution CMOS sensor that delivers crisp 4K visuals and supports up to 16MP image capture. You can control everything with a simple USB mouse via the intuitive on-screen menu—adjusting display settings, measuring dimensions, or processing images in real-time. One of its standout features is support for EF-mount lenses (Electronic Focus Lens). Once installed, the camera can automatically detect the focal length, aperture, and focus of the lens. You can even control focus and aperture electronically, directly through the HDMI interface—no extra hardware required. Whether you’re working in medical fields like ophthalmology and dentistry, or conducting ultra-high-definition industrial inspections, the UPRO4K16MPCA_EF delivers professional-level results. It’s compatible with a wide range of EF lenses, making it easy to adapt to your specific application needs.

Features

- Equipped with a large-size, high-resolution Sony back-illuminated CMOS sensor for exceptional image quality.
- Compatible with EF mount lenses, supporting electronic control of aperture and both manual/auto focusing.
- Supports depth of field synthesis based on lens focusing control for sharp, detailed images
- Offers multiple synchronized outputs: 4K HDMI, Network (LAN), and USB
- Built-in storage support: Save images and videos directly to an SD card or USB flash drive, with local preview and playback

Applications

- Enhanced browsing interface with advanced file management tools, including: Image-to-image comparison (2 or 4 images), Image-to-live video comparison, Multi-image EDF (Extended Depth of Field) processing
- Excellent ISP with local tone mapping and 3D denoising, ROI white balance is more accurate
- Embedded MicroView for the control of the camera and image processing, supporting automatic edge finding and measurement functions
 - MicroView/MicroLite software for PC
 - iOS/Android applications for smart phones or tablets

Model No.	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
UPRO4K16MPCA_EF	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

C: Color.

Camera Model	Video Saving (FPS/Resolution)	HDMI2.0 (FPS/Resolution)	USB3.0 (FPS/Resolution)	NETWORK (FPS/Resolution)
UPRO4K16MPCA_EF	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

Video Output Interface	Function Description
HDMI Interface	Comply with HDMI2.0 standard
	30fps@4K or 30fps@1080P
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 WiFi adapter (USB3.0 slot) in AP/STA mode
USB Video Interface	Connecting USB Video port of PC for video transfer
	H264/MJPEG format video

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

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)

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
	USB interface: USB2.0 interface or higher
	Display:19" or Larger
	CD-ROM

Other Function	Function Description
Video Saving	Video format : 16M (3840*2160) H264/H265 encoded MP4 file Video saving frame rate:30fps
Image Capture	16M (5440*3060) 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

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)



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