

# MetaCAM TEC CAMERA



The Metacam TEC adopt SONY Exmor CMOS sensor as the image-picking device and USB3.0 is used as the transfer interface. hardware resolutions range from 7M to 20M and come with the integrated CNC aluminium alloy compact housing.

With the two-stage peltier cooling sensor chip to  $-42^{\circ}$  below ambient temperature. This will greatly increase the signal to noise ratio and decrease the image noise. Smart structure is designed to assure the heat radiation efficiency and avoid the moisture problem. Electric fan is used to increase the heat radiation speed.

Metacam TEC comes with advanced video & image processing application software, providing Windows/Linux/ OS X multiple platforms SDK, Native C/C++, C#/VB.NET, DirectShow, Twain Control API.

The Metacam TEC can be widely used in low light environment and microscope fluorescence image capture and analysis, as well as in dark field, phase contrast etc.

## Features of METAVIS MetaCAM Software:-

### Image Capture , Time Lapse Imaging , Video Capture

#### Features:

Continuous automatic exposure control, Automatic/manual white balance Multi-focus (Z-Stacking), Multi-fluorescence/channel mode mixing/unmixing, Measurement capabilities, Image/text annotations, Image processing and enhancement, Image combine, Image comparison, Truecolor Imaging, Gallery view, Batch conversion, Live Preview, Microscope Control, Professional Segmentation & Count function, Image Stitching, Management visualization and Printing of metadata and image, Saving formats (image) JPEG, TIFF, PNG, BMP etc., Saving formats (video) AVI, MP4,(H264), MP4(H265), WMV etc Time-lapse, Macro manager, High dynamic range viewing, Optical configuration Layout configuration, Shading calibrations/Adjustment, Multi-camera operation Merge, crop and image arithmetic, Multipoint experiments/Capture, Individual user profiles, Image Overlapping, grid/circle overlay, Objective Calibration, Line profile/histogram, Intensity Measurement & Profile, Image analysis, Manual counting, spatial measurements, length, width, area, perimeter, microbar, vector layer, etc. Exposure & Gain, White Balance(Auto & Manual), Color Adjustment, Frame Rate Control, Power Frequency Setting(Anti-flicker), Flip, Skip and bin sampling, Parameters, Video functions, Image Processing and Enhancement, 2D Measurement (Live & Capture), Image Stitching (Panorama), EDF(Extended Depth of Focus), Professional Segmentation & Count function, Image Stacking, Color Composite, Video Interface, Other Features

## Features:

- Standard C-Mount camera with SONY Exmor CMOS sensors from 10M to 20M.
- Two-stage TE-cooling with controllable electric fan.
- Sensor chip cooling up to  $42^{\circ}\text{C}$  below ambient temperature.
- Working temperature can be regulated to specified temperature in 5 minutes.
- Smart structure to assure the heat radiation efficiency and avoid the moisture problem.
- IR-CUT/AR coated windows.
- Up to 1 hour long time exposure.
- USB3.0 5Gbit/second interface ensuring high speed data transmission.

Ultra-FineTM color engine with perfect color reproduction capability.

With advanced video & image processing application software.

Support both video and trigger modes.

Providing Windows/Linux/Mac OS multiple platforms SDK.

Native C/C++, C#/VB.NET, DirectShow, Twain control API.

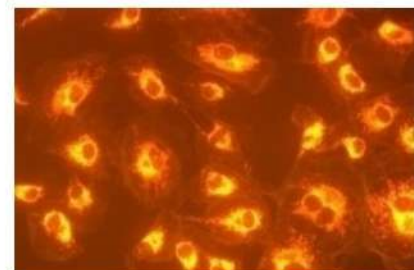
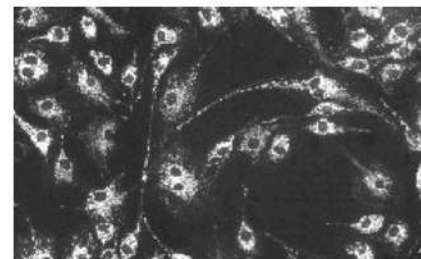
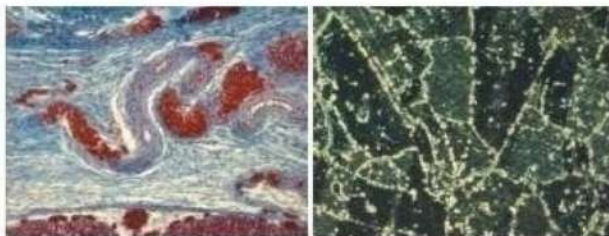
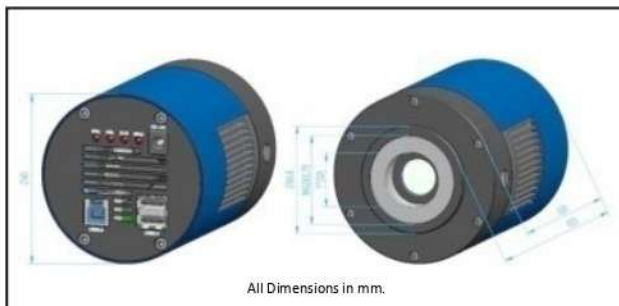
Native C/C++, C#/VB.NET, DirectShow, Twain control Suitable for Brightfield, Phase, Darkfield, Fluorescence Contrast & other microscopy technique.

## Fields of Application

- |                 |                         |
|-----------------|-------------------------|
| Materialography | • Pathology             |
| Petrography     | • Hematology            |
| Quality Control | • Histology             |
| Geology         | • Cell Biology          |
| Mineralogy      | • Forensic              |
|                 | • Fluorescence (USB3.0) |

# MetaCAM TEC CAMERA

Model	MetaCAM C-10MP	MetaCAM C-12MP	MetaCAM C-16MP	MetaCAM C-20MP
<b>Pixels</b>	10.3MP	12MP	16.0MP	20.0MP
<b>Sensor Model</b>	CMOS(Colour)	CMOS(Colour)	CMOS(Colour)	CMOS(Colour)
<b>Sensor Size</b>	4/3" (17.47x12.86)	1"(14.13x10.35mm)	1.65" (36x23mm)	1" (13.06x8.76)
<b>Pixel Size</b>	4.63 $\mu\text{m}$ x 4.63 $\mu\text{m}$	3.45 $\mu\text{m}$ x 3.45 $\mu\text{m}$	7 $\mu\text{m}$ x 7 $\mu\text{m}$	2.4 $\mu\text{m}$ x 2.4 $\mu\text{m}$
<b>G Sensitivity</b>	419mv with 1/30s	1146mv with 1/30s	2413LSB	388mv with 1/30s
<b>Dark Signal</b>	0.12mv with 1/30s	0.1mv with 1/30s	89.1SLB (Gain=0dB)	0.21mv with 1/30s
<b>Resolution/Frame Rate</b>	3704 x 2778 : 7.5 FPS 4096 x 2160 : 10 FPS 2048 x 1080 : 60 FPS 1360 x 720 : 96 FPS	4096x3000:23.4FPS 2048x1500:46.3FPS Any ROI	4648 x 3506 : 6 FPS 2304 x 1750 : 20 FPS 1536 x 1168 : 48 FPS	5440 x 3648 : 17.8 FPS 4096 x 2160 : 41 FPS 2736 x 1824 : 51 FPS 1824 x 1216 : 64 FPS
<b>Exposure Time</b>	0.15ms-3600s	0.15ms-3600s	0.15ms-3600s	0.1ms-3600s
<b>Image Data Format</b>	8/12 bit RAW Format			
<b>Data Interface</b>	USB 3.0			
<b>ADC</b>	16 bit			
<b>Dynamic Range</b>	2000:1			
<b>Full Well Capacity</b>	15.000 electrons			
<b>Dark Noise</b>	<0.05e-/Px/Sec			
<b>Read Out Noise</b>	~6 electrons (10 MHz)			
<b>Binning</b>	1x1, 2x2, 3x3, 4x4			
<b>Quantum Efficiency</b>	Upto 80%			
<b>Spectral Range</b>	380-720nm (with IR-filter), for Monochromatic Camera, AR Is Used			
<b>White Balance</b>	ROI White Balance/ Manual Temp-Tint Adjustment			
<b>HDMI (optional)</b>	Port to connect camera directly to HDMI input port of Projector, Screen etc			
<b>GigE (optional)</b>	Port to connect & capture camera through network			
<b>Color Rendering Technique</b>	Ultra Fine Color Engine			
<b>Capture/Control API</b>	Native C/C++, C#, Directshow, Twain, Labview			
<b>Recording System</b>	Still Picture and Movie			
<b>Cooling System*</b>	Two-stage Thermo electric-cooling System -45 °C below Camera Body Temperature			
<b>Operating Temperature</b>	-10°C~ 50°C			
<b>Storage Temperature</b>	-20°C~ 60°C			
<b>Operating Humidity</b>	30~80%RH			
<b>Lens Mount</b>	C/CS Mount			
<b>Storage Humidity</b>	10~60%RH			
<b>Power Supply</b>	DC 5V over PC USB Port, External Power Adapter for Cooling System, DC12V,3A			
<b>Operating System</b>	Support Microsoft Windows XP / Vista / 7 / 8 / 10(32 & 64 bit) OS X (Mac OS X), Linux			



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