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Microscope TE-Cooling
USB3.0 CMOS Camera External Trigger
MTECMOS-ET Series

2022 V1
For customized projects please Contact us:
sales@simtrum.cn

Microscope TE-Cooling USB3.0 CMOS Camera External Trigger – MTECMOSET adopts SONY Exmor CMOS sensor as the image-picking device and USB3.0 is used as the transfer interface to increase the frame rate.

With the peltier cooling sensor chip to -25 degree below ambient temperature. This will greatly increase the signal-to-noise ratio and decrease the image noise. A smart structure is designed to assure heat radiation efficiency and avoid moisture problems. The electric fan is used to increase the heat radiation speed.

MTECMOSET series comes with advanced video & image processing application, provides Windows/Linux/OSX multiple platform SDK; Native C/C++, C#/VB.NET, DirectShow, Twain Control API.

The MTECMOSET series can be widely used in low light environments and microscope fluorescence image capture and analysis, as well as the astronomy deep sky application.

Features

- Standard C-Mount camera with SONY Exmor CMOS sensors;
- TE-cooling with controllable electric fan;
- Sensor chip cooling up to 25°C below ambient temperature;
- Working temperature can be regulated to a 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 5-minutes long time exposure;
- USB3.0 5Gbit/second interface ensuring high-speed data transmission;
- Support capture image with video/trigger mode;
- Support external IO synchronization trigger mode;
- Ultra-Fine color engine with perfect color reproduction capability;
- With advanced video & image processing application;
- Providing Windows/Linux/Mac OS multiple platforms SDK;
- Native C/C++, C#/VB.NET, DirectShow, Twain control API;

Specifications

Order Code	Sensor & Size(mm)*	Pixel(µm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
MTECMOS-ET00390KMA	0.39M/IMX287(M) 1/2.9"(4.97x3.73)	6.9 x6.9	7320mV with 1/30s 0.76mV with 1/30s	20fps@720x540	1x1	0.1ms~300s
MTECMOS-ET00503KMA	0.5M/IMX426(M) 1/1.7"(7.2x5.58)	9.0 x9.0	8100mV with 1/30s 0.3mV with 1/30s	20fps@800x620	1x1	0.1ms~300s

* C: Color; M: Monochrome; Default shutter: Rolling Shutter

Other Specifications for MTECMOS-ET Series	
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 Color Engine/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)
Recording System	Still Picture and Movie
Cooling System*	Two-stage TE-cooling System -45 °C below Camera Body Temperature
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 External Power Adapter for Cooling System, DC12V, 3A
Software Environment	
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 /10 /11 (32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory:2GB or More
	USB Port:USB3.0 High-speed Port
	Display:17" or Larger
	CD-ROM

Extension of MTECMOSET Series with Microscope or Telescope Adapter
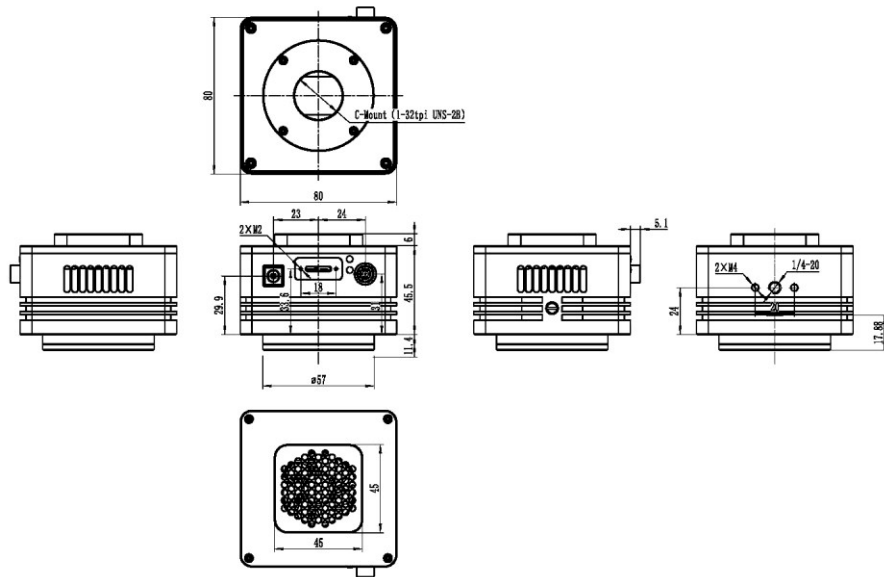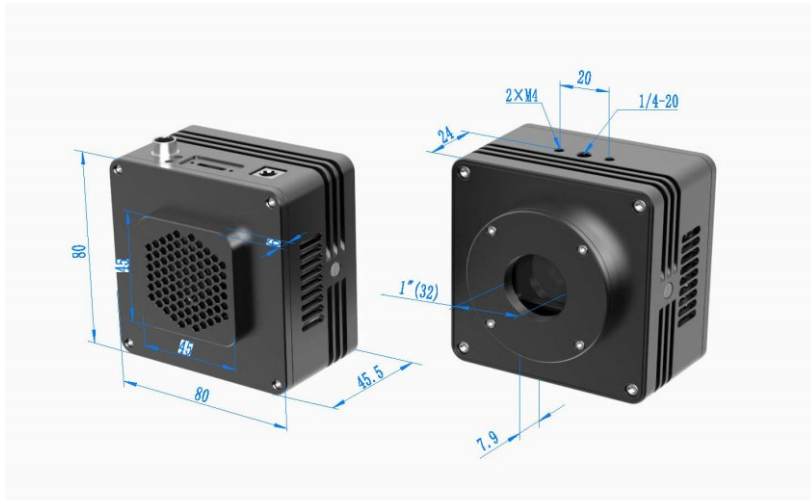
MTECMOS-ET + AMAXXX(23.2MM Adapter)

MTECMOS-ET + FMAXXX(23.2MM Adapter)

Dimension

The MTECMOSET series body, made from tough, alloy with CNC technique, ensures a heavy duty, workhorse solution. The camera is designed with a high-quality IR-CUT or AR to block the IR light or protect the camera sensor. The fan's vibration is minimized to the low level to eliminate the vibration caused imaging blur. This design ensures a rugged, robust solution with an increased lifespan when compared to the other industrial camera solutions.

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Packing Information

	Standard Package
A	Carton L:50cm W:30cm H:30cm (20pcs, 12~17Kg/ carton), not shown in the photo (TBD)
B	B1: L:20.4cm W:20.4.0cm H:10cm (1pcs, 1.04kg/ box) B2:3-A safety equipment case: L:28cm W:23cm H:15cm (1pcs, 2.1Kg/ box); Carton size:L:28.2cm W:25.2cm H:16.7cm(TBD)
C	One MTECMOS-ET series camera(C-mount)
D	With National standard, American Standard, European standard, and British standard power lines respectively(Optional)
E	Power adapter: input: AC 100~240V 50Hz/60Hz, output: DC12 V 3A
F	High-Speed USB3.0 A male to B male gold-plated connectors cable /1.5m
G	One external trigger control cable
H	USB flash driver (Driver & utilities software)
	Optional Accessory
I	Adjustable lens adapter	C-mount to Dia. 23.2mm eyepiece tube
		C-mount to Dia. 31.75mm eyepiece tube
J	Fixed lens adapter	C-mount to Dia. 23.2mm eyepiece tube
		C-mount to Dia. 31.75mm eyepiece tube
K	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube
L	108016(Dia.23.2mm to 30.5mm ring)/Adapter rings for 30.5mm eyepiece tube
M	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.)

Note: For I and J optional items, please specify your camera type (C-mount, microscope camera, or telescope camera), SIMTRUM will help you to determine the right microscope or telescope camera adapter for your application.

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