



Microscope TE-Cooling USB 3.0 CCD Camera

MTECCD Series



2022 V1

For customized projects please Contact us:
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Microscope TE-Cooling USB3.0 CCD Camera adopts Sony Exview HAD CCD II sensor as the image-picking device with a two-stage Peltier cooling sensor chip to -40 degree below ambient temperature. This will greatly increase the signal-to-noise ratio and decrease the image noise. A smart structure is designed to ensure heat radiation efficiency and avoid moisture problems. The electric fan is used to increase the heat radiation speed.

USB3.0 is used as the data transfer interface to increase the frame rate.

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

The MTECCD 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 ExView HAD CCD II sensors from 1.4M to 12M;
- Two-stage TE-cooling with controllable electric fan;
- Sensor chip cooling up to 40°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 1-hour long time exposure;
- USB3.0 5Gbit/second interface ensuring high-speed data transmission;
- Ultra-Fine color engine with perfect color reproduction capability;
- With advanced video & image processing application;
- Support both video and trigger modes;
- 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
MTECCD12000KPA MP112000A(New)	12M/ICX834AQG(C) 1" (13.15x8.77)	3.1x3.1	420mv with 1/30s 15.2mv with 1/30s	3.6@4248x2836 3.6@2124x1418	1x1, 2x2	0.06ms~1h
MTECCD12000KMA MM112000A(New)	12M/ICX834ALG(M) 1" (13.15x8.77)	3.1x3.1	420mv with 1/30s 12mv with 1/30s(F8.0)	3.6@4248x2836 3.6@2124x1418	1x1, 2x2	0.06ms~1h
MTECCD09000KPA MP109000A(New)	9.0M/ICX814AQG(C) 1" (12.47x9.98)	3.69x3.69	580mv with 1/30s 12mv with 1/30s	4.4@3388x2712 4.4@1694x1356	1x1, 2x2	0.06ms~1h
MTECCD09000KMA MM109000A(New)	9.0M/ICX814ALG(M) 1" (12.47x9.98)	3.69x3.69	660mv with 1/30s 12mv with 1/30s(F8.0)	4.4@3388x2712 4.4@1694x1356	1x1, 2x2	0.06ms~1h
MTECCD06000KPA MP106000A	6.0M/ICX695AQG(C) 1" (12.48x9.99)	4.54x4.54	880mv with 1/30s 8mv with 1/30s	7.5@2748x2200 14@2748x1092	1x1	0.06ms~1h
MTECCD06000KMA MM106000A	6.0M/ICX695ALG(M) 1" (12.48x9.99)	4.54x4.54	1000mv with 1/30s 8mv with 1/30s	7.5@2748x2200 14@2748x1092	1x1	0.06ms~1h
MTECCD02800KPA MP102800A(New)	2.8M/ICX674AQG(C) 2/3" (8.81x6.63)	4.54x4.54	800mv with 1/30s 4mv with 1/30s	15@1938x1460 17@1610x1212 18@1930x1092	1x1	0.05ms~1h
MTECCD02800KMA MM102800A(New)	2.8M/ICX674ALG(M) 2/3" (8.81x6.63)	4.54x4.54	950mv with 1/30s 4mv with 1/30s	15@1938x1460 17@1610x1212 18@1930x1092	1x1	0.05ms~1h
MTECCD01400KPA MP101400A	1.4M/ICX285AQ(C) 2/3" (8.88x6.70)	6.45x6.45	1240mv with 1/30s 10mv with 1/30s	15@1360x1024	1x1	0.07ms~1h
MTECCD01400KMA MM101400A	1.4M/ICX285AL(M) 2/3" (8.88x6.70)	6.45x6.45	1300mv with 1/30s 11mv with 1/30s	15@1360x1024	1x1	0.07ms~1h
MTECCD01400KPB MP101400B(New)	1.4M/ICX825AQA(C) 2/3" (8.88x6.70)	6.45x6.45	2000mv with 1/30s 4.8mv with 1/30s	25@1376x1040	1x1	0.07ms~1h
MTECCD01400KMB MM101400B(New)	1.4M/ICX825ALA(M) 2/3" (8.88x6.70)	6.45x6.45	2000mv with 1/30s 4.8mv with 1/30s	25@1376x1040	1x1	0.07ms~1h

C: Color; M: Monochrome;

Other Specification for MTECCD 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

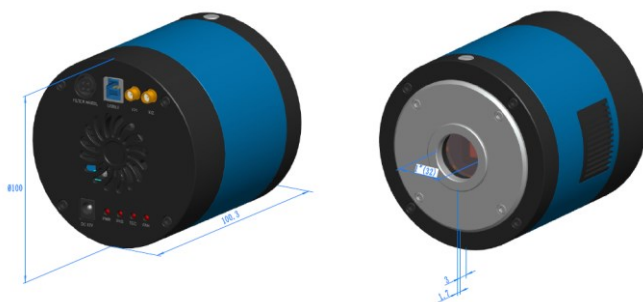
Operating Temperature(in Centidegree)	-10~ 50
Storage Temperature(in Centidegree)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port External Power Adapter for Cooling System, DC12V, 3A

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

Dimension

The MTECCD 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 a low level to eliminate the vibration caused by imaging blur. This design ensures a rugged, robust solution with an increased lifespan when compared to the other industrial camera solutions.



Packing Information



Standard Package		
A	Carton L:50cm W:30cm H:30cm (20pcs, 12~17Kg/ carton), not shown in the photo	
B	3-A safety equipment case: L:28cm W:23cm H:15cm (1pcs, 2.8Kg/ box); Carton size:L:28.2cm W:25.2cm H:16.7cm	
C	One MTECCD series camera(C-mount)	
D	Power adapter: input: AC 100~240V 50Hz/60Hz, output: DC12 V 3A	
E	High-Speed USB3.0 A male to B male gold-plated connectors cable /1.5m	
F	CD (Drive & utilities software, Ø12cm)	
Optional Accessory		
G	Adjustable lens adapter	C-mount to Dia. 23.2mm eyepiece tube
		C-mount to Dia. 31.75mm eyepiece tube
H	Fixed lens adapter	C-mount to Dia. 23.2mm eyepiece tube
		C-mount to Dia. 31.75mm eyepiece tube
I	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube	
J	108016(Dia.23.2mm to 30.5mm ring)/Adapter rings for 30.5mm eyepiece tube	
K	External trigger control line	
L	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 G and H 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.

*Due to ongoing continuous product improvement, specifications are subject to change without notice.