Machine Vision

VT-CMC Series

Microscope TE-Cooling USB3.0 CMOS Camera

VT-CMC series camera 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 two-stage peltier cooling sensor chip to -42 degree 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.
VT-CMC 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 VT-CMC series can be widely used in low light environment 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;
- Two-stage TE-cooling with controllable electric fan;
- Sensor chip cooling up to 42° 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-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;

VT-CMC Series Datasheet

OrderCode	Sensor&Size (mm)	Color	Pixel	G Sensitivity DarkSignal	Resolution	FPS	Binning	Exposure	Sensor Technology
VT-CMCR-45MPM (Cylinder) VT-CMCS-45MPM (Square)	45MP IMX492 4/3" (19.11x13.00)	M	2.32 μm²	702mv with 1/30s 0.12mv with 1/30s	8256×5616 4128×2808	8 31	1×1 2×2	0.1ms~3600s	Rolling
VT-CMCR-26MPC (Cylinder) VT-CMCS-26MPC (Square)	26MP IMX571 1.8" (23.48x15.67) APS-C	C	3.76 μm²	485mv with 1/30s 0.07mv with 1/30s	6224×4168(16bit) 6224×4168 3104×2084 2064×1386	6.8 14 37 110	1×1 1×1 2×2 3×3	0.1ms~3600s	Rolling
VT-CMCR-26MPM (Cylinder) VT-CMCS-26MPM (Square)	26MP IMX571 1.8" (23.48x15.67) APS-C	M	3.76μm²	871mv with 1/30s 0.07mv with 1/30s	6224x4168(16bit) 6224×4168 3104×2084 2064×1386	6.8 14 37 110	1×1 1×1 2×2 3×3	0.1ms~3600s	Rolling
VT-CMCR-21MPC (Cylinder) VT-CMCS-21MPC (Square)	21MP IMX269 4/3" (17.40x13.10)	C	3.3 μm²	400mv with 1/30s 0.1mv with 1/30s	5280×3956 3952×3952 2640×1978 1760×1318 584×440	5 6 15 50 100	1×1 1×1 2×2 3×3 9×9	0.1ms~3600s	Rolling
VT-CMCR-20MPC (Cylinder) VT-CMCS-20MPC (Square)	20MP IMX183 1"(13.056x8.755)	C	2.4 μm²	462mv with 1/30s 0.21mv with 1/30s	5440×3648 4096×2160 2736×1824 1824×1216	5 10 15 30	1×1 1×1 2×2 3×3	0.1ms~3600s	Rolling
VT-CMCR-20MPM (Cylinder) VT-CMCS-20MPM (Square)	20MP IMX183 1" (13.056x8.755)	M	2.4 μm²	388mv with 1/30s 0.21mv with 1/30s (F8.0)	5440×3648 4096×2160 2736×1824 1824×1216	17.8 41 51 64	1×1 1×1 2×2 3×3	0.1ms~3600s	Rolling
VT-CMCR-16MPC (Cylinder) VT-CMCS-16MPC (Square)	16MP MN34230PLJ 4/3" (17.6x13.3)	C	3.8 μm²	2413LSB 89.1LSB (Gain = 0dB)	4640×3506 2304×1750 1536×1160	6 20 48	1×1 2×2 3×3	0.15ms~3600s	Rolling
VT-CMCR-16MPM (Cylinder) VT-CMCS-16MPM (Square)	16MP MN34230PLJ 4/3" (17.6x13.3)	M	3.8 μm²	2650LSB 89.1LSB (Gain = 0dB)	4648×3506 2304×1750 1536×1168	22.5 43.0 48.0	1×1 2×2 3×3	0.15ms~3600s	Rolling
VT-CMCR-10.3MPC (Cylinder) VT-CMCS-10.3MPC (Square)	10.3MP IMX294 4/3" (19.11x13.0)	C	4.63 μm²	419mv with 1/30s 0.12mv with 1/30s	4128×2808 4096×2160 2048×1080 1360×720	30.2 38.5 69.5 96.1	1×1 1×1 2×2 3×3	0.15ms~3600s	Rolling
VT-CMCR-10.3MPM (Cylinder) VT-CMCS-10.3MPM (Square)	10.3MP IMX492 4/3" (19.11x13.0)	M	4.63μm²	701mv with 1/30s 0.12mv with 1/30s	4128*2808 8184*5616 2048*1080 1360*720	33.3 8.0 69.5 96.2	1×1 Quad* 2×2 3×3	0.15ms~3600s	Rolling
VT-CMCR-9MPC (Cylinder) VT-CMCS-9MPC (Square)	9MP IMX533 1" (11.28x11.28)	C	3.76 μm²	534mv with 1/30s 0.1mv with 1/30s	2992×3000(14bit) 2992×3000 1488×1500 992×998	20 40 62 186	1×1 1×1 2×2 3×3	0.1ms~3600s	Rolling

VT-CMC Series Datasheet

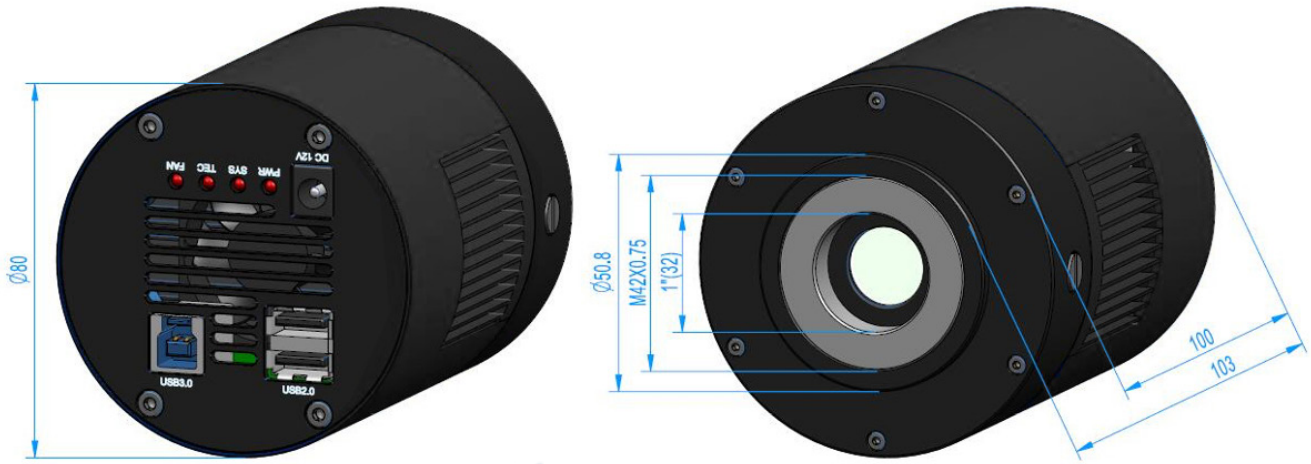
OrderCode	Sensor&Size (mm)	Color	Pixel	G Sensitivity DarkSignal	Resolution	FPS	Binning	Exposure	Sensor Technology
VT-CMCR-8.3MPC (Cylinder) VT-CMCS-8.3MPC (Square)	8.3MP IMX485 1/1.2" (11.14x6.26)	C	2.9 μm²	2188mv with 1/30s 0.15mv with 1/30s	3840x2160 1920x1080	43 66	1×1 2×2	0.1ms~3600s	Rolling
VT-CMCR-7MPC (Cylinder) VT-CMCS-7MPC (Square)	7.0M IMX428 1.1" (14.4x9.9)	C,GS	4.5 μm²	2058mv with 1/30s 0.15mv with 1/30s	3200×2200 1600×1100	12 33	1×1 1×1	0.1ms~3600s	Global
VT-CMCR-7MPM (Cylinder) VT-CMCS-7MPM (Square)	7.0M IMX428 1.1" (14.4x9.9)	M,GS	4.5 μm²	3354mv with 1/30s 0.15mv with 1/30s	3200×2200 1600×1100	51 133	1×1 1×1	0.1ms~3600s	Global
VT-CMCR-1.7MPC (Cylinder) VT-CMCS-1.7MPC(Square)	1.7M IMX432 1.1" (14.4x9.9)	C,GS	9.0 μm²	4910mv with 1/30s 0.3mv with 1/30s	1600×1100	33	1×1	0.1ms~3600s	Global
VT-CMCR-1.7MPM (Cylinder) VT-CMCS-1.7MPM (Square)	1.7M IMX432 1.1" (14.4x9.9)	M,GS	9.0 μm²	8100mv with 1/30s 0.3mv with 1/30s	1600×1100	94	1×1	0.1ms~3600s	Global

Specifications

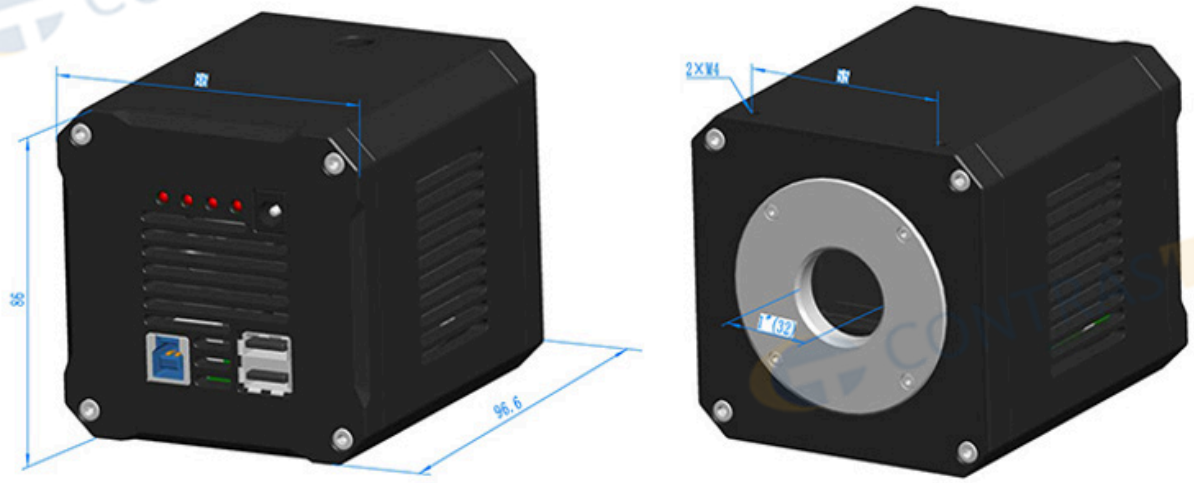
Other Specification	
Spectral Range	380-650nm (with IR-cut Filter)
White Balance	ROI White Balance/ Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra-Fine Color Engine/NA for Monochromatic Sensor
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native 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	
Temperature(in Centidegree)	-10~ 50°C（Operating）/ -20~ 60°C（Storage）
Humidity	30~80%RH（Operating）/10~60%RH（Storage）
Power Supply	DC 5V over PC USB Port External Power Adapter for Cooling System, DC12V, 3A
SoftwareEnvironment	
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 /10 (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 of CMC Series

The CMC 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.



Dimension of VT-CMCR (Cylinder) Series



Dimension of VT-CMCS (Cylinder) Series

Vision And More Available

让工业更智能，让视觉更简单!

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Macro Lens
Industrial Lens

+

Microscope

System Solution
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