9.8 L3CMOS Series C-mount USB3.0 CMOS Camera

9.8.1 L3CMOS Basic Characteristic

L3CMOS is Luxurious USB3.0 CMOS camera with frame buffers and it adopts ultra-high performance CMOS sensor as the image-picking device, and USB3.0 is used as the data transfer interface.

L3CMOS comes with advanced video & image processing application ToupView; Providing Windows/Linux/ OSX multiple platforms SDK; Native C/C++, C#/VB.NET, DirectShow, Twain Control API;

The L3CMOS can be widely used in bright field light environment and microscope image capture and analysis.

The basic characteristic of L3COMS cameras are as follows:

- C-Mount camera has 25.4 mm or 1 inch diameter with 32 threads per inch;

- Scientific research grade camera with Aptina CMOS sensor;

- With hardware resolution among 1.2M to 14M;

- On-board memory for perfect synchronization，higher frame rate and stable performance;

- High performance cooling structure, ensures low image noise;

- USB3.0 5 Gbps interface ensuring high frame rate;

- Ultra-Fine^{TM} color engine with perfect color reproduction capability;

- With advanced video & image processing application ToupView;

- Providing Windows/Linux/Mac OS multiple platforms SDK;

- Native C/C++, C#/VB.NET, DirectShow, Twain Control API;

9.8.2 L3CMOS Datasheet(5)

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dynamic Range SN Ratio	FPS/Resolution	Binning	Exposure
L3CMOS14000KPA LP114000A	14M/MT9F002(C) 1/2.3"(5.73x4.60)	1.4x1.4	0.724v/lux-sec 65.3dB 35.5dB	6.2@4096x3286 20.8@2048x1644 53.3@1024x822	1x1,2x2,4x4	0.1ms~2000ms
L3CMOS10000KPA LP110000A	10M/MT9J003(C) 1/2.3" (5.98x4.58)	1.67x1.67	0.31v/lux-sec 65.2dB 34dB	7.2@3584x2746 24.5@1792x1372	1x1,2x2,4x4	0.1ms~2000ms
L3CMOS08500KPA LP108500A	8.5M/Special(C) 1/2.4"(5.56x4.26)	1.67x1.67	0.31v/lux-sec 65.2dB 34dB	8.3@3328x2548 26.2@1664x1272	1x1,2x2,4x4	0.1ms~2000ms
L3CMOS05100KPA LP105100A	5.1M/MT9P006(C) 1/2.5" (5.63x4.23)	2.2x2.2	1.76v/lux-sec 67.74dB 38.5dB	14.2@2560x1922 38.3@1280x960 101.2@640x480	1x1,2x2,4x4	0.05ms~2000ms
L3CMOS03100KPA LP103100A	3.1M/AR0330(C) 1/3" (4.51x3.37)	2.2x2.2	1.9v/lux-sec 100dB 39dB	27.3@2048x1534 53.3@1024x770	1x1, 2x2	0.1ms~2000ms

C: Color; M: Monochrome;

Other Specification for L3CMOS Camera

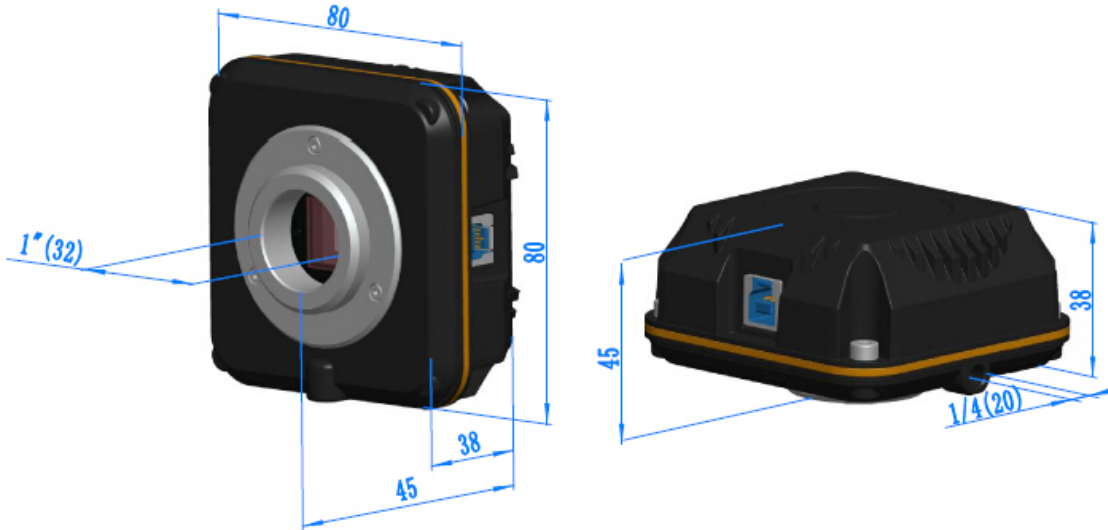|	
Spectral Range	380-650nm (with IR-cut Filter)
White Balance	ROI White Balance/ Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra-Fine™ Color Engine/NA for Monochromatic Sensor
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
Recording System	Still Picture and Movie
Cooling System*	Natural with High Performance Cooling Structure

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

Software Environment

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

9.8.3 Dimension of L3CMOS

The L3CMOS body, made from tough, aluminum alloy, ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT to protect the camera sensor. No moving parts included. This design ensures a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.

Dimension of L3CMOS

9.8.4 Packing Information of L3CMOS

Packing Information of L3CMOS

Standard Camera Packing List			
A	Carton L:40cm W:36cm H:36cm (16pcs, 12~17Kg/ carton), not shown in the photo		
B	Gift box L:16.4cm W:16.4cm H:9.6cm (0.72~0.8Kg/ box)		
C	L3CMOS series USB3.0 C-mount CMOS camera		
D	High-speed USB3.0 A male to B male gold-plated connectors cable /2.0m		
E	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
F	Adjustable lens adapter	C-mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108001/AMA037 108002/AMA050 108003/AMA075
		C-mount to Dia.31.75mm eyepiece tube (Please choose 1 of them for your telescope)	108008/ATA037 108009/ATA050 108010/ATA075
G	Fixed lens Adapter	C-mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108005/FMA037 108006/FMA050 108007/FMA075
		C-mount to Dia.31.75mm eyepiece tube (Please choose 1 of them for your telescope)	108011/FTA037 108012/FTA050 108013/FTA075
	Note: For F and G optional items, please specify your camera type(C-mount, microscope camera or telescope camera) , ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;		
H	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube		
I	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube		
J	108017(Dia.23.2mm to 31.75mm Ring)/ Adapter rings for 31.75mm eyepiece tube		
K	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.)	

9.8.5 Extension of L3CMOS with Microscope or Telescope Adapter

Extension	Picture	
C-mount Camera		Machine vision; Medical imaging; Semiconductor equipment; Test instruments; Document scanners; 2D barcode readers; Web camera and security video; Microscope imaging;
Microscope Camera	L3CMOS+AMAXXX(23.2mm Adapter)	L3CMOS+FMAXXX(23.2mm Adapter)
Telescope Camera	L3CMOS+ATAXXX(31.75mm Adapter)	L3CMOS+FTAXXX(31.75mm Adapter)