

12.7 SCMOS Series USB2.0 CMOS Eyepiece Camera (19)

12.7.1 The Basic Characteristic of SCMOS Series

ToupTek **SCMOS** series is an economic version with simple and compact structure **CMOS** eyepiece camera. So here, the S means simple and compact. USB2.0 is used as the data transfer interface.

The **SCMOS** series comes with high-speed USB2.0 interface and high frame rate video display keep the screen smooth without interruption;

Also the **SCMOS** series comes with advanced video & image processing application ToupView/ToupLite;

The **SCMOS** series can be widely used to transfer the mono or binocular student microscopes to digital microscope.

With 23.2 to 30mm or 23.2 to 30.75 convert ring, the **SCMOS** series camera can also change the stereo microscope to digital stereo microscope.

- Microscope eyepiece camera with 23.2 diameter and compact size;
- Easy to extend to C or CS- Mount camera with high quality lens(optional);
- High-quality camera with Aptina CMOS sensor;
- Auto white balance and auto-exposure; Brightness, contrast, chroma, and saturation can be adjusted;
- High-speed USB2.0 interface and high frame rate video display keep the screen smooth without interruption;
- With advanced video & image processing application ToupView/ToupLite;
- Providing Windows/Linux/Mac OS multiple platforms SDK;
- Native C/C++, C#/VB.NET, DirectShow, Twain Control API;



12.7.2 SCMOS Series Datasheet (19)

Order Code	Sensor & Size(mm)	Pixel(μm)	G Responsivity Dynamic range SNRmax	FPS/Resolution	Binning	Exposure
The New SCMOS after Jan. 2020 (10)						
SCMOS12000KPA TP512000A	12M/IMX577(C) 1/2.3" (5.95x4.71)	1.55x1.55	250LSB 70dB 43dB	20@3840x3040 20@1920x1520 20@960x760	1x1 1x1 1x1	0.1-2000 ms
SCMOS00921KPA TP500921A (New)	0.92M/OV9732(C) 1/4" (3.888x2.208)	3x3	2.066V/lux-sec 72dB@8x gain 39dB	30@1280x720 30@640x360	1x1 1x1	0.1ms~650ms
SCMOS08300KPA TP508300A	8.3M/IMX274(C) 1/2.5" (6.22x3.50)	1.62x1.62	236mV 70dB 43dB	30@3840x2160 30@1920x1080 30@1280x720 30@960x540	1x1 1x1 1x1 1x1	0.1-2000 ms
SCMOS05100KPA TP505100A	5.1M/AR0521(C) 1/2.5" (5.70x4.28)	2.2x2.2	18.8ke-/lux 73dB 40dB	30@2592x1944 30@1280x960 30@640x480	1x1 1x1 1x1	0.1-1000 ms
SCMOS05100KPB TP505100B	5.1M/IMX335(C) 1/2.8" (5.18x3.89)	2.0x2.0	505mV 70dB 43dB	26@2592x1944 26@1280x960 26@640x480	1x1 1x1 1x1	0.1-2000 ms
SCMOS03100KPA TP503100A	3.1M/Aptina(C) 1/2.5" (5.73x4.3)	2.8x2.8	18.8ke-/lux 73dB 40dB	30@2048x1536 30@1024x768	1x1 1x1	0.1-1000 ms
SCMOS02100KPA TP502100A	2.1M/IMX307(C) 1/2.8" (5.73x4.3)	2.9x2.9	1300mV 73dB 43dB	38@1920x1080 38@960x540	1x1 1x1	0.1-2000 ms
SCMOS08300KPB TP508300B (New)	8.3M/IMX415(C) 1/2.8" (5.57x3.13)	1.45x1.45	300mV 70dB 44dB	30@3840x2160 30@1920x1080 30@1280x720 30@960x540	1x1 1x1 1x1 1x1	0.1-2000 ms
SCMOS02100KPB TP502100B (New)	2.1M/SC2332 (C) 1/3" (5.18x2.92)	2.7x2.7	4510mV/lux-s 74dB 38.5dB	30@1920x1080 30@960x540	1x1 1x1	0.1-2000 ms
SCMOS01301KPA TP501301A(20220829)	1.3M/Special (C) 1/3" (5.18x2.92)	3.41x3.41	4510mV/lux-s 74dB 38.5dB	30@1520x856 30@760x428	1x1 1x1	0.1-2000 ms
The SCMOS before Dec. 2019 (9)						
SCMOS05000KPA TP505000A	5.0M/Aptina(C) 1/2.5" (5.70x4.28)	2.2x2.2	NA	2@2592x1944 3@2048x1536 5@1600x1200 7.5@1280x1024	N/A	Auto
SCMOS05000KPB TP505000B(NEW)	5.0M/SC5033(C) 1/2.7" (5.18x3.89)	2.0x2.0	2.0V/lux-sec 64dB 35dB	20@2592x1944 20@2048x1536 20@1600x1200 30@800x600	N/A	Auto
SCMOS03000KPA TP503000A	3.0M/Aptina(C) 1/2.7" (4.51x3.38)	2.2x2.2	NA	3@2048x1536 5@1600x1200 7.5@1280x1024	N/A	Auto
SCMOS03000KPB TP503000B(NEW)	3.0M/SmartSens(C) 1/3" (4.10x3.07)	2.0x2.0	2.0V/lux-sec 64dB 35dB	20@2048x1536 20@1600x1200 30@800x600	N/A	Auto
SCMOS02000KPA TP502000A	2.0M/Aptina(C) 1/3.2" (4.48x3.36)	2.8x2.8	NA	5@1600x1200 7.5@1280x1024 20@800x600 22@640x480	N/A	Auto
SCMOS02000KPB TP502000B(NEW)	2.0M/OV2710(C) 1/2.7" (5.76x3.24)	3x3	3.3V/ Lux-sec 69dB 39dB	25@1920x1080 30@1280x1024 30@1280x720	N/A	Auto
SCMOS01300KPA TP501300A	1.3M/Aptina(C) 1/3" (4.60x3.70)	3.6x3.6	NA	7.5@1280x1024 12.5@1024x768 12.5@800x600	N/A	Auto
SCMOS00920KPA TP500A(NEW)	0.92M/BG0703(C) 1/2.7" (5.80x3.28)	4.5x4.5	5.8V/ Lux-sec 65dB 43dB	25@1280x720 25@640x480	N/A	Auto
SCMOS00350KPA TP500350A	0.35M/Aptina(C) 1/4" (3.58x2.69)	5.6x5.6	NA	30@640x480	N/A	Auto

SCMOS05000KPB and SCMOS03000KPB have fast speed than SCMOS05000KPA and SCMOS03000KPA

C: Color; M: Monochrome;

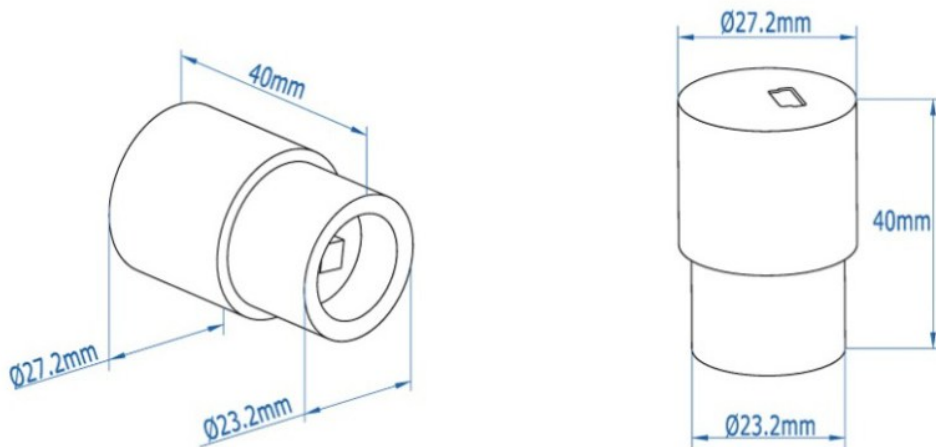
Other Specification	
Spectral Range	380-650nm (with IR-cut Filter)
White Balance	Auto/ROI/Manual White Balance(New Model) Auto(Products before 2020)

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Color Technique	N/A
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
Data Format	MJPEG
Cooling System*	Natural
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 /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:USB2.0 High-speed Port
	Display:17" or Larger
	CD-ROM

12.7.3 Dimension of SCMOS Series

The **SCMOS** series body, made from aluminum alloy blackening, ocular housing: Dia.27.2 X 40mm ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT filter to filter the infrared light and 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 SCMOS Series

12.7.4 Packing Information for SCMOS Series



Packing Information of SCMOS Series

Standard Camera Packing List	
A	Carton L:52cm W:32cm H:33cm (50pcs, 12~17Kg/ carton), not shown in the photo
B	Gift box L:14.5cm W:9.5cm H:6.0cm (0.15~0.16Kg/ box)
C	One SCMOS series eyepiece camera
D	High-Speed USB2.0 A male to mini B 5-pin male gold-plated connectors cable /1.5m
E	CD (Driver & utilities software, Ø8cm)
Optional Accessory	
F	C-Mount Adapter Housing:108027(HS502)
G	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube
H	108016(Dia.23.2mm to 30.5mm ring)/ Adapter rings for 30.5mm eyepiece tube
I	108017(Dia.23.2mm to 31.75mm Ring)/ Adapter rings for 31.75mm eyepiece tube
J	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.)