

# STALWART

## C-mount CMOS Digital Cameras STC5E Series



STC5E-Series

## Introduction

STC5E series cameras adopt SONY Exmor CMOS sensor as the image capture device and USB3.0 is used as the data transfer interface.

STC5E hardware resolutions range from 2.3MP to 20MP and come with the integrated CNC aluminum alloy compact housing.

STC5E come with advanced video & image processing application ImageView; Providing Windows/Linux/ OSX multiple platforms SDK; Native C/C++, C#/VB.NET, DirectShow, Twain Control API;

The STC5E can be widely used in bright field light environment and microscope image capture and analysis with higher frame rate.

## Features

- SONY Exmor, Exmor R(Back-illuminated), Exmor RS CMOS sensor with USB3.0 interface;
- Real-time 8/12/14/16bit depth switch(depending on sensor);
- Super high sensitivity up to 1120mV(IMX185);
- Ultra low noise and low power dissipation by using column-parallel A/D conversion;
- With hardware resolution among 2.3M to 20M;
- Rolling Shutter or Global Shutter;
- Standard C-Mount camera;
- CNC aluminum alloy housing;
- USB3.0 5 Gbps interface ensuring high frame rates;
- With advanced video & image processing application ImageView;
- Providing Windows/Linux/Mac OS multiple platforms SDK;
- Native C/C++, C#/VB.Net, DirectShow, Twain, LabView.

## Specification

Item	STC5E-2000M	STC5E-2000BC	STC5E-1230M	STC5E-1200C
Sensor & Size(mm)	20M/IMX183(M) 1 "(13.06x8.76)	20M/IMX147© 1/2.3 "(6.24x4.67)	12.3M/IMX304(M) 1.1 "(14.13x10.35)	12M/IMX226© 1/1.7"(7.40x5.55)
Pixel(μm)	2.4 x2.4	1.2 x1.2	3.45 x3.45	1.85x1.85
G Sensitivity	776mv with 1/30s	130mv with 1/30s	1146mv with 1/30s	280mv with 1/30s
Dark Signal	0.21mv with 1/30s	0.1mv with 1/30s	0.1mv with 1/30s	0.1mv with 1/30s
FPS/Resolution	17.5@5440x3648 40@4080x2160 48@2736x1824 60@1824x1216	5.2@5200x3888 15@2592x1944 30@1728x1296	23.4@4096x3000 46.3@2048x1500	7.1@4000x3000 30@2048x1080
Binning	1x1, 1x1, 2x2, 3x3	1x1, 2x2, 3x3	1x1,1x1,	1x1, 2x2
Exposure	0.1ms~60s	0.1ms~15s	0.244ms~15s	0.244ms~2000ms

## Specification

Item	STC5E-630C	STC5E-630M	STC5E-500M	STC5E-310C
Sensor & Size(mm)	6.3M/IMX178(M) 1/1.8" (7.37x4.92)	10M/MT9J003© 1/2.3" (5.98x4.58)	8.5M/Special© 1/2.4"(5.56x4.26)	5.1M/MT9P006© 1/2.5" (5.7x4.28)
Pixel(μm)	2.4x2.4	1.67x1.67	1.67x1.67	2.2x2.2
G Sensitivity	425mv with 1/30s	0.31v/lux-sec	0.31v/lux-sec	1.76v/lux-sec
Dark Signal	0.15mv with 1/30s	65.2dB 34dB	65.2dB 34dB	67.74dB 38.5dB
FPS/Resolution	30@3072 x2048 50@1536x 1024	7.2@3584x2746 24.5@1792x1372	8.3@3328x2548 26.2@1664x1272	14.2@2560x1922 38.3@1280x960 101.2@640x480
Binning	1x1, 2x2	1x1,2x2,4x4	1x1,2x2,4x4	1x1,2x2,4x4
Exposure	0.244ms~2000ms	0.4ms~2000ms	0.1ms~2000ms	0.1ms~2000ms

## Specification

Item	STC5E-310M	STC5E-230C	STC5E-231C	STC5E-231M
Sensor & Size(mm)	3.1M/IMX265(M, GS) 1/1.8" (7.07x 5.30)	2.3M/IMX185© 1/1.9" (7.20x4.50)	2.3M/IMX249©, GS ) 1/1.2" (11.25x 7.03)	2.3M/IMX174(M, GS) 1/1.2" (11.25x 7.03)
Pixel(μm)	3.45x3.45	3.75x3.75	5.86x5.86	5.86x5.86
G Sensitivity	1146mv with 1/30s	1120mv with 1/30s	1016mv with 1/30s	1016mv with 1/30s
Dark Signal	0.15mv with 1/30s	0.15mv with 1/30s	0.15mv with 1/30s	0.15mv with 1/30s
FPS/Resolution	53@2048x1536 85@1024x768	38@1920x1200 66@960x600	30@1920x1200	120@1920x1200
Binning	1x1 1x1	1x1, 2x2	1x1	1x1
Exposure	0.1ms~15s	0.244ms ~2000ms	0.244ms~2000ms	0.244ms~2000ms

## Specification

Item	STC5E-150M	STC5E-120C
Sensor & Size(mm)	1.5M/IMX273(M, GS) 1/2.9" (4.968x 3.726)	1.2M/IMX224© 1/3"(4.80x3.60)
Pixel(μm)	3.45x3.45	3.75 x3.75
G Sensitivity Dark Signal	1830mv with 1/30s 0.15mv with 1/30s	2040mv with 1/30s 0.15mv with 1/30s
FPS/Resolution	228@1440x1080 530@720x540	60@1280x960 120@640x480
Binning	1x1 2x2	1x1,2x2
Exposure	0.1ms~60s	0.105ms~15s

## Other Specification for STC5E 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 API	Native C/C++, C# /VB.Net, DirectShow, Twain and Labview
Recording System	Still Picture and Movie
Cooling System	Natural

## Operating Environment

Operating Temperature(in Centigrade)	-10~ 50
Storage Temperature(in Centigrade)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port

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

The STC5E body, made from tough, CNC 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. These measures ensure a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.