



## ***E-Vision CMOS Camera***

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### ***EVC5000SAC-GE12 Introduction***

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## Attention

The instruction is only used on EVC5000SAC-GE12. You must make sure that the power and cable accord with the camera when you use it. Please read the introduction particularly in order to avoid any damage to camera.

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## Features of EVC5000SAC-GE12

- Transmission mode : Giga Ethernet (without Hub 100m)
- Resolution: 2592\*1944
- Data: 8 bit
- Frame Rate: 12fps
- Dynamic Range: 66.5 dB
- Chip size: 2.2um \* 2.2um
- Capture Mode: Free run or trigger mode.
- Shutter mode: Rolling shutter
- Lens Mount: C/CS
- CPU Occupation: < 1%
- Type: Color (Bayer RGB)
- Power: DC+12v
- Extending Function: Flashlight control, external trigger, two custom I/O control
- soft support: MVCAP
- Application: Graphic and character recognition, micro-image analysis and processing, fingerprint recognition, certificates and cards photography and so on.

EVC5000SAC-GE12 is the latest camera that developed by E-Vision, the transmission mode of camera is Giga Ethernet, so it can transmit data efficiently for long distance. The outstanding feature of the new camera is that the resolution can be five mega pixels, which improve the definition of image largely, and providing a

solution to capture image of high quality. The new camera provides fastened power and network connection, more qualified to actual need.

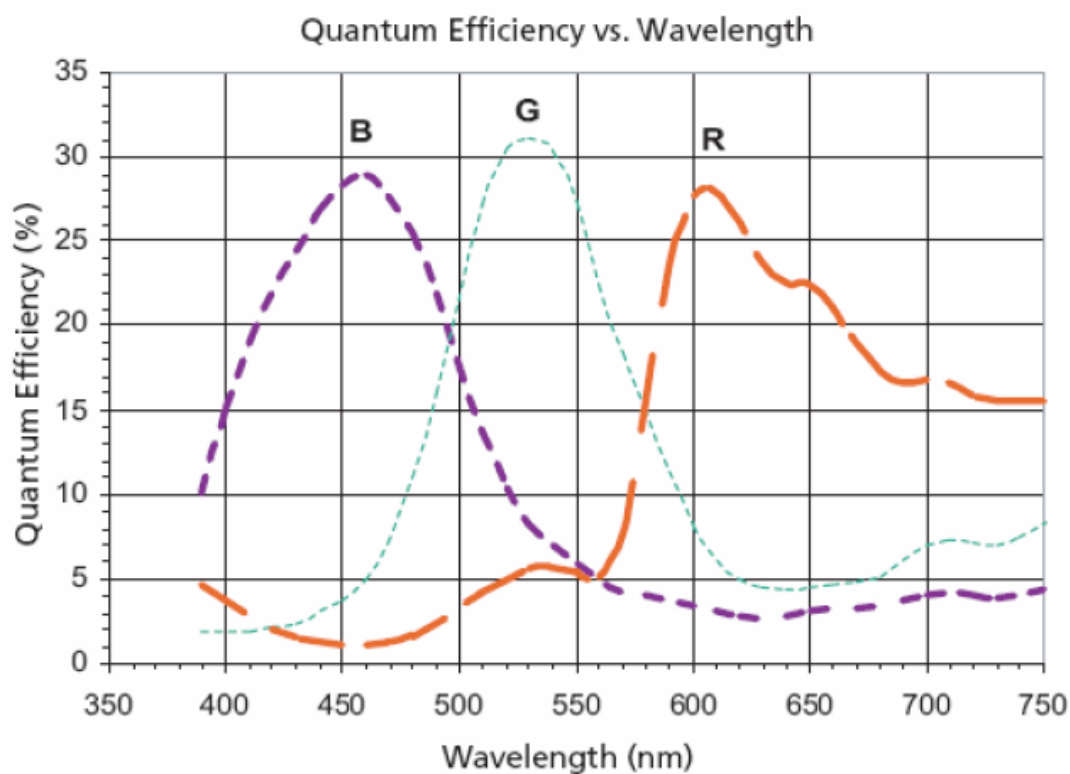
## § 1 Introduction of camera

EVC5000 camera use CMOS Sensor featuring 12 Bit data and progressive scan. The compact shape, simple and safe interface, and perfect software function are applied to machine vision, industrial inspection and so on.

### § 1.1 parameter of EVC5000SAC-GE12

Parameter	EVC5000SAC-GE12
Resolution	2592*1944
The maximal frame rate	12fps
Chip size	2.2um * 2.2um
Type	Color
Signal Noise Ratio	>40.5db
Dynamic range	66.5db
Definition	>800line*800line (color)
sensitivity	<a href="#">0.53v/lux.sec@550nm</a>
Sampling bit	8bit
Optical size	1/2.5 inch
Sensor	Progressive scan, rolling shutter
Interface	Giga Ethernet
Transmission distance	100m(without hub)
power	12v DC/1A
Extending function interface	flash control, external trigger, two custom I/O control

Diagram 1-1 shows the spectrum curve of EVC5000SAC-GE12



**Diagram 1-1 Spectrum curve of EVC5000SAC-GE12**

## § 1.2 EVC5000SAC-GE12 Application

EVC5000SAC-GE12 series cameras can be applied to analysis and process of microscope image, medical image, machine vision, graphics and character recognition and so on. Because the camera uses rolling shutter, it has limitation to snapping the moving objects with high speed, and you can use EVC1280SA-GE30, if you want to snap the moving objects with high speed.

## § 1.3 EVC5000SAC-GE12 Dimension

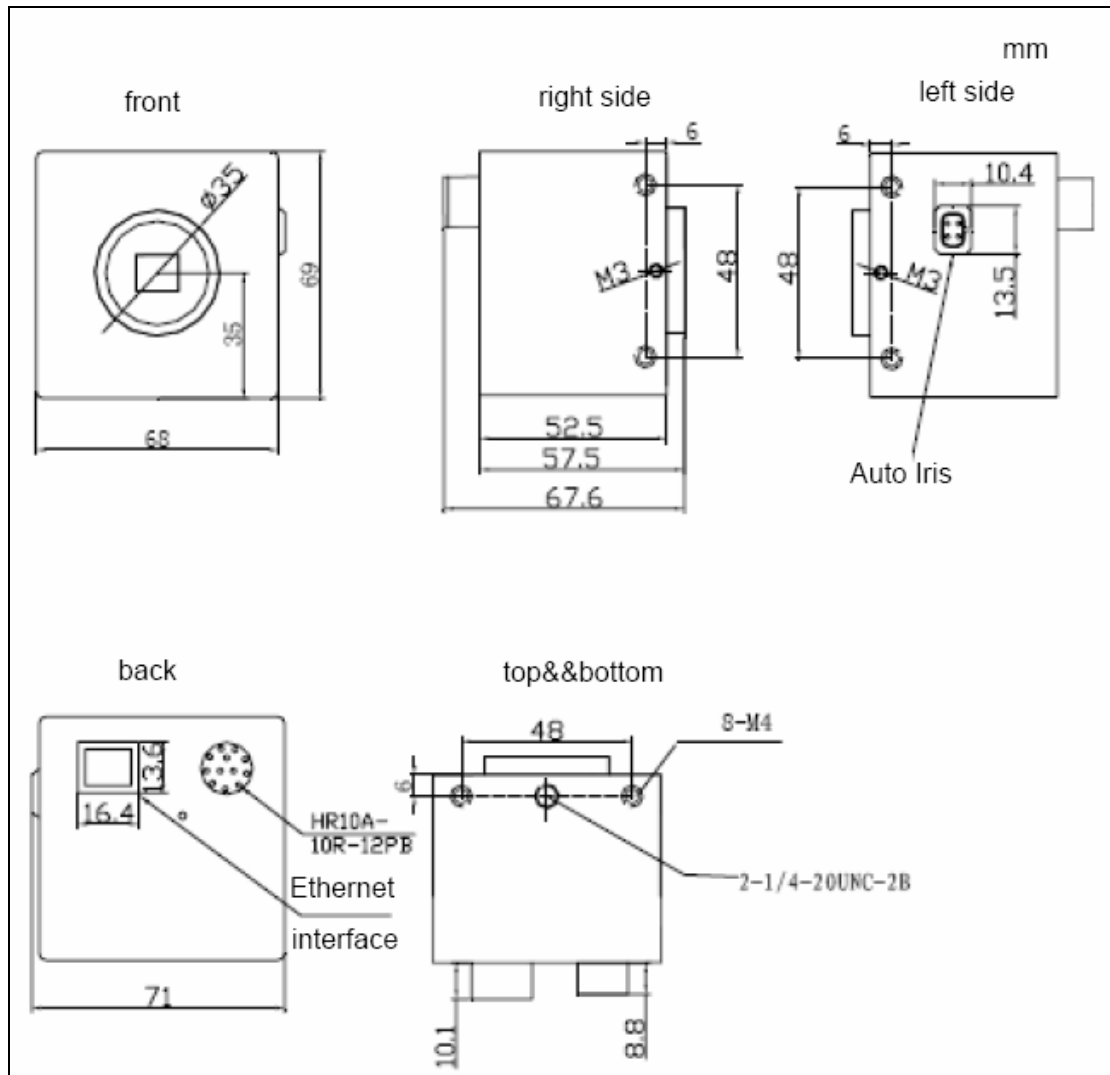


Diagram 1-2 EVC5000SAC-GE12 Dimension

## § 2 Camera Interface

There are two ports on the rear board of the camera, one is power control interface (12 pin port), and the other is Giga Ethernet interface, which is adapt to CAT5e cable;

Pin definition of power control interface:

Pin No.	Definition	Direction	Illustration
1	RET	—	Power GND
2	VIN	—	Power input(12V)
3	Flash Lamp Output	0	LVTTL(3.3V);Low Valid
4	Trigger Input		LVTTL(3.3V);Low Valid
5	DGND	—	Digital GND
6	NC	—	—
7	NC	—	—
8	NC	—	—
9	USER_OUTPUT0	0	User_Output 0,LVTTL (3.3V)
10	USER_OUTPUT0		User_Input 0,LVTTL (3.3V)
11	NC	—	—
12	NC	—	—

Table 2-1 Definition of pins of power control port

Definition of Pin number:



Diagram 2-1 Definition of pin number of power control interface

Diagram2-2 shows the electro circuit of flash lamp and trigger inner camera, and user

can connect it according to his actual application.

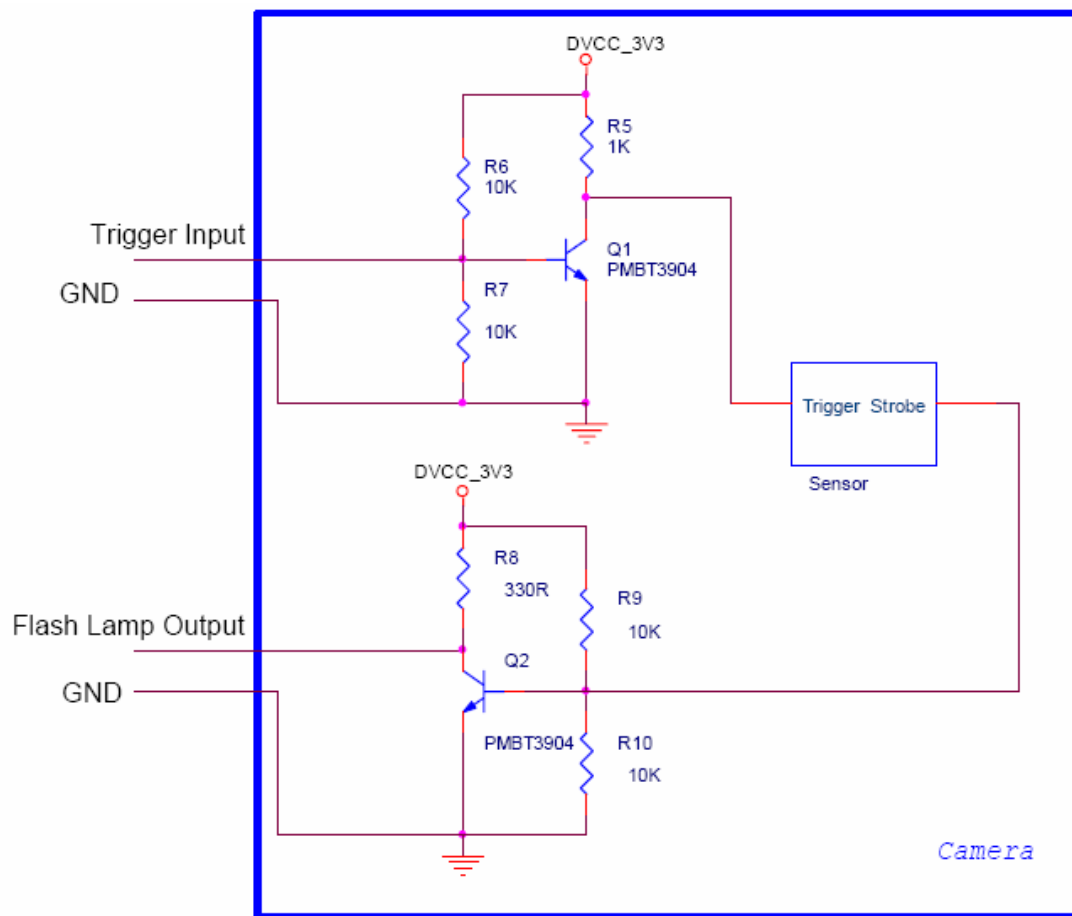
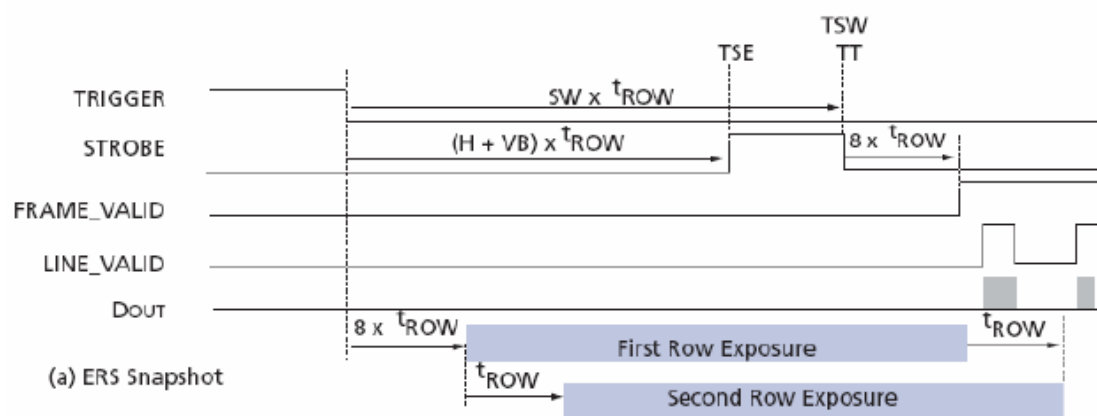


Diagram 2-2 The electrocircuit of flash lamp and trigger inner camera

### § 3 Timing table of Camera

EVC5000SAC-GE12 could work under two modes; one is free run mode while the other is single frame trigger mode. And the Diagram3-1 shows the timing of EVC5000SAC-GE12 working under the trigger mode. “TRIGGER” is the trigger pulse signal, the width of which shouldn’t be lower than  $100 \mu\text{S}$ . “STROBE” is flash lamp pulse signal, which is reversed before it is output from the camera.



**Diagram3-1 Time sequence of EVC5000SAC-GE12 working under the trigger mode**