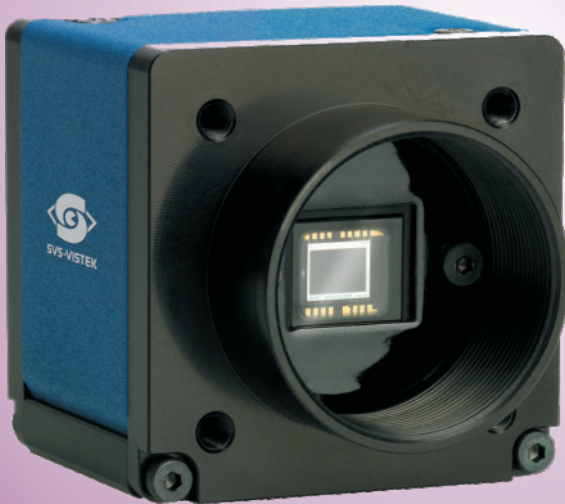


## ECO-Line CCD-Cameras

SVCam-ECO cameras support the industrial image transfer protocol of Gigabit Ethernet. Gigabit Ethernet delivers to your application absolutely new dimensions:

- Extreme small design
- High frame rates
- Industrial standard
- Cable length up to 100m
- Budgetary cost level
- SVCam-ECO cameras are available in 8 resolutions from 640 x 480 up to 5 megapixel. These cameras are designed to reach high frame rates at low signal-to-noise ratios and are enclosed in an utmost small housing.



The modular concept of SVCam-cameras provides our customers with a fast and low cost way to design customized versions for application specific requirements. Unique processing of the CCD-signal guarantees an excellent signal-to-noise ratio. The internal logic allows different ways to adjust exposure time and select trigger modes including:

- Synchronisation of image capture to an external event (trigger mode)
- "Free running" with adjustable frame rate
- Exposure time control via Ethernet interface or over trigger pulse width
- Extend the exposure time under low light level conditions. Hi IR sensitivity (eco428 + 285)

GEN<i>CAM

**GIG**<sup>TM</sup>  
VISION

- Progressive scan technology
- 8 resolution options:
  - eco424 640 x 480 pixel
  - eco415 782 x 582 pixel
  - eco428 768 x 494 pixel
  - eco204 1024 x 768 pixel
  - eco267 1360 x 1024 pixel
  - eco285 1360 x 1024 pixel
  - eco274 1600 x 1200 pixel
  - eco655 2448 x 2048 pixel
- Synchronization:
  - "free running" (frame rate adjustable)
  - external trigger with internal exposure control
  - external trigger with pulse width exposure control
  - Software trigger via PC
- Housing dimensions: e.g. 38mm x 38mm x 33mm
- Weight approx. 100g
- Monochrome and color sensors (Bayer Pattern) with LUT (4 x)
- 64 MB memory inside
- 8/12 Bit video data stream (14 Bit ADC used)
- 1000 MBit Ethernet (Gigabit Ethernet) 100 MBit compatible
- Selectable AOI
- Adjustable gain/auto gain
- Strobe output (e.g. for light flash)
- General purpose I/Os
- Time stamp capability
- Low offset
- 2 x 2 binning mode
- Partial scan mode for higher frame rates(AOI)
- CS-Mount; less space consuming
- 10V - 25V DC; e.g. 300mA @ 12V consumption
- Operating temperature range: -10°C to +40°C
- Temperature sensor to avoid overheating
- Status LED
- Full 2 years warranty

## Camera Types:

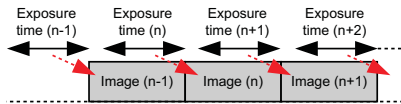
Camera Type	eco424	eco415	eco428*	eco204	eco267	eco285	eco274	eco655*
Resolution	640 x 480	780 x 580	768 x 494	1024 x 768	1360 x 1024	1360 x 1024	1600 x 1200	2448 x 2048
Frame Rate (Hz, max.)	124	86	60	47	25	20	20	8
Pixel ( $\mu\text{m}^2$ )	7.4 x 7.4	8.3 x 8.3	8.4 x 9.8	4.65 x 4.65	4.65 x 4.65	6.45 x 6.45	4.4 x 4.4	3.45 x 3.45
Exposure Time internal	3 $\mu\text{s}$ - 2 s	22 $\mu\text{s}$ - 2 s	65 $\mu\text{s}$ - 2 s	17 $\mu\text{s}$ - 2 s	40 $\mu\text{s}$ - 2 s	16 $\mu\text{s}$ - 2 s	26 $\mu\text{s}$ x 2 s	40 $\mu\text{s}$ - 1 s
Exposure Time external	3 $\mu\text{s}$ - 00	22 $\mu\text{s}$ - 00	65 $\mu\text{s}$ - 00	17 $\mu\text{s}$ - 00	40 $\mu\text{s}$ - 00	16 $\mu\text{s}$ - 00	26 $\mu\text{s}$ - 00	40 $\mu\text{s}$ - 00
CCD-Size Equivalent	1/3"	1/2"	1/2"	1/3"	1/2"	2/3"	1/1.8"	2/3"

\*PRELIMINARY

## Operation Modes:

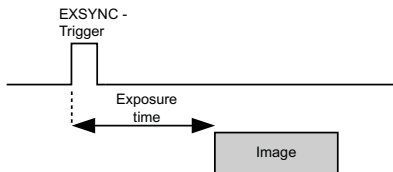
### Mode: Free Running

In this mode the camera creates all sync signals itself. The frame rate is at its maximum or less (adjustable) and there is no need to trigger the camera in order to get data. Exposure time can be set by using the Ethernet interface of the PC. The enclosed software allows the user to set the specified values. Change of exposure time is possible from one frame to the next. The time set stays resident after power off.



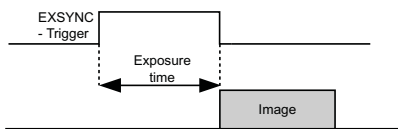
### Mode: External Trigger, Internal Exposure Control

In this mode the camera starts the image acquisition after an external trigger event. The exposure time is controlled by the camera. The value for the exposure time can be set by using the Ethernet interface of the PC. The trigger signal is fed into the camera directly by the industrial connector. Change of exposure time is possible from one frame to the next.



### Mode: External Trigger, External Exposure Control

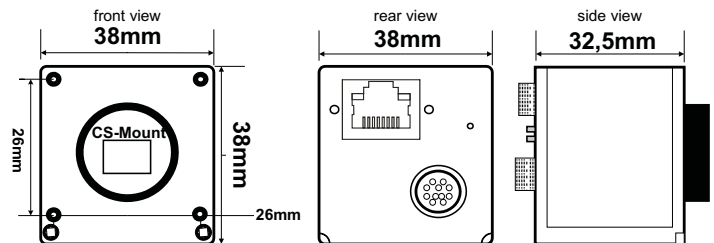
In this mode the camera is waiting for an external trigger which starts integration and read out. Exposure time can be varied using the length of the TRIGGER pulse (i.e. between the rising and the falling edge). The time settings in the control software are not activated. This mode is useful in applications where the light level of the scene changes during operation. Change of exposure time is possible from one frame to the next.



## Configuration Software:

The SVCam-ECO cameras come with our "SVCapture"-software, which allows easy interactive setup of all camera parameters. The software including a SDK supports Windows XP including 64 Bit operating system. A LINUX Driver is also available. The camera can be configured using the XML File stored inside the camera. This complies also with the international **GenICam** standard.

## Dimensions:



## Ordering Guide:

### Monochrome:

eco424MVGE  
eco415MVGE  
eco204MVGE  
eco428MVGE  
eco267MVGE  
eco285MVGE  
eco274MVGE  
eco655MVGE

### Color:

eco424CVGE  
eco415CVGE  
eco204CVGE  
eco428CVGE  
eco267CVGE  
eco285CVGE  
eco274CVGE  
eco655CVGE

### Options:

- Mounting bracket with tripod thread fits on frontplate threaded holes
- CS- to C-Mount adapter ring

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