

# SVCam-svs16000

SVCam-HR Line

## Compact 16 Megapixel Camera



This digital Machine Vision camera models have a resolution of 4872 x 3248 pixel.

The cameras are designed to reach high frame rates at an excellent signal-to-noise ratio and are enclosed in a small housing.

Correlated Double Sampling (CDS) and 2 x 14 Bit A/D converters guarantee an excellent signal-to-noise ratio.

The internal logic allows different ways to adjust exposure time and select trigger modes including:

- > Synchronization of image capture to an external event (trigger mode)
- > "Free running" with maximum frame rate
- > Exposure time control via serial interface or by trigger pulse width
- > Longer exposure times up to under low light level conditions

**GigE**  
VISION

GEN*i*CAM

CAMERA  
**Link**

### Technical Highlights/Technical Data

- > Progressive Scan technology
- > Resolution: 4872 x 3248 pixel
- > Synchronization:
  - "Free running" (frame rate adjustable)
  - External trigger with internal exposure control
  - External trigger with pulse width exposure control
  - Software trigger via PC (GigE)
- > Housing dimensions:
  - GigE Version: 70 mm x 71 mm x 50.5 mm
  - CameraLink: 65 mm x 67 mm x 43 mm
- > Monochrome and color sensors (Bayer Pattern)
- > 12 Bit video data stream (using 14 Bit ADC)
- > 256 MB Memory inside(GigE Version)
- > Internal LUT operations (GigE Version)
- > Internal flat-field correction (GigE Version)/planned
- > Adjustable gain
- > Adjustable clock speed (48/40/30 MHz)
- > Low offset
- > Binning mode
- > Partial scan mode for higher frame rates (Camera Link)
- > Area of Interest (AOI) (GigE Version)
- > M58 x 0.75 Mount (optional F-Mount adapter)
- > 12V DC @ approx. 900mA consumption (model dependend)
- > Broad voltage input possible (+10V to +30V DC)
- > Operating temperature range: -10°C to +40°C
- > Full 2 years warranty

## Overview

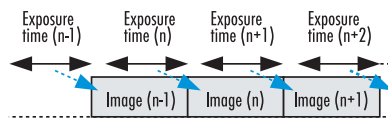
SVCam-svs 16000	GigE Version		Camera Link Version	
	svs16000XFG	svs16000XUGE*	svs16000XOLCPC2	svs16000XTLPC2
Camera Type	svs16000XFG	svs16000XUGE*	svs16000XOLCPC2	svs16000XTLPC2
Resolution	4872 x 3248	4872 x 3248	4872 x 3248	4872 x 3248
Frame Rate (Hz, max.)	3.3	4.0	2.6	4.9
Pixel ( $\mu\text{m}^2$ )	7.4 x 7.4	7.4 x 7.4	7.4 x 7.4	7.4 x 7.4
CCD-Size Equivalent	43.3 mm diag.	43.3 mm diag.	43.3 mm diag.	43.3 mm diag.
Exposure Time internal	160 $\mu\text{s}$ - 2 s	160 $\mu\text{s}$ - 2 s	282 $\mu\text{s}$ - 8 min	282 $\mu\text{s}$ - 8 min
Exposure Time external	160 $\mu\text{s}$ - $\infty$	160 $\mu\text{s}$ - $\infty$	250 $\mu\text{s}$ - $\infty$	250 $\mu\text{s}$ - $\infty$

X = Monochrome, X = Color For more camera types see our SVCam-HR product overview. \* Ultra high speed (2 x 48 MHz, max.)

## Operation Modes

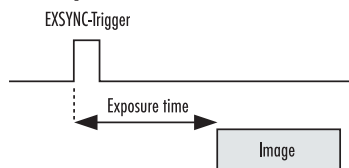
### Mode: Free Running/Fixed Frequency

In this mode the camera creates all sync signals itself. Camera is connected to PC and will create images immediately.



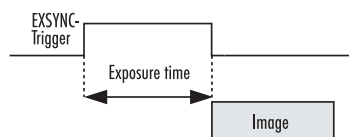
### Mode: External Trigger, Internal Exposure Control

The camera needs an external trigger to output images. The exposure time is set by the internal logic inside the camera.



### Mode: External Trigger, External Exposure Control

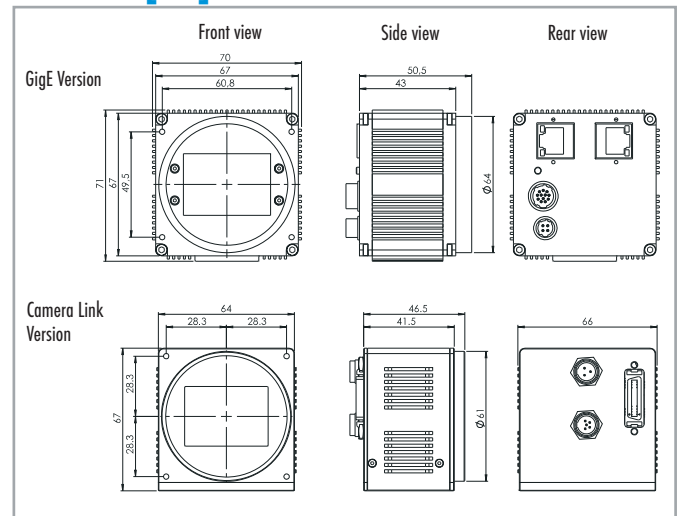
The camera needs an external trigger to output images. The exposure time is determined by the pulse width of the trigger signal and can be changed from frame to frame.



### Mode: Software Trigger

The PC sends a command to the camera in order to get data. Internal logic is set for the exposure time. Jitter must be observed.

## Dimensions [mm]



## Connector Pin-out (HR 10A-10R-12PB, HR 10A-7R-4PB)

GigE Version		Camera Link Version	
<ul style="list-style-type: none"> <li>1 VIN- (GND)</li> <li>2 VIN+ (10V to 25V DC)</li> <li>3 RXD (RS232 Level)</li> <li>4 TXD (RS232 Level)</li> <li>5 IN1 (TTL Level)</li> <li>6 IN2 (TTL Level)</li> <li>7 OUT1 (TTL Level)</li> <li>8 OUT2 (TTL Level)</li> <li>9 IN3+ (RS422 Level)</li> <li>10 IN3- (RS422 Level)</li> <li>11 OUT3+ (RS422 Level)</li> <li>12 OUT3- (RS422 Level)</li> </ul>	<ul style="list-style-type: none"> <li>1 VIN+ (10V to 25V DC)</li> <li>2 VIN- (GND)</li> <li>3 IN0 (TTL Level)</li> <li>4 OUT0 (TTL Level)</li> </ul>		
<ul style="list-style-type: none"> <li>1 +12V to +15V DC</li> <li>2 Reserved (do not connect)</li> <li>3 GND</li> </ul>	<ul style="list-style-type: none"> <li>1 Reserved (do not connect)</li> <li>2 Reserved (do not connect)</li> <li>3 Reserved (do not connect)</li> <li>4 Tr- (Exsync GND)</li> <li>5 Tr+ (Exsync TTL)</li> </ul>		

## Ordering Guide

Monochrome:

Color:

svs16000MFG	svs16000CFG	(max. 3.3 Hz)
svs16000MUG	svs16000CUG	(max. 4 Hz)
svs16000MOLCPC2	svs16000COLCPC2	(max. 2.6 Hz)
svs16000MLTCP2	svs16000CTLPC2	(max. 4.9 Hz)

Option: M58 to F-Mount adapter

## Configuration Software

The SVCam cameras come with our SVCapture (for GigE type) or ConvCam software (for CL type, respectively), it allows easy interactive setup of all camera parameters. The software including a SDK (GigE) or DLL (CL) supports Windows XP and Windows 7 including 64 Bit operating system. A LINUX Driver is also available (GigE only). The camera can be configured using the XML file stored inside the camera (GigE). This complies also with the international GenICam standard.

