

Compact CCD-Cameras

SVCam-CP compact cameras are available in several resolutions from 640 x 480 up to 4872 x 3248 pixel. These cameras are designed to reach high frame rates at low signal-to-noise ratios and are enclosed in a very small housing.



The modular concept of SVCam-CP provides our customers with a fast and low cost way to design customized versions for application specific requirements.

Unique processing of the analogue CCD-signal using Correlated Double Sampling (CDS, a noise reduction method) and digital signal conversion, guarantees an excellent signal-to-noise ratio.

The internal micro-controller 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 maximum frame rate
- Exposure time control via serial interface or over trigger pulse width
- Extend the exposure time up to 10 sec under low light level conditions



- Progressive scan technology
- Several resolution options, e.g.:
 - sv424 640 x 480 pixel
 - sv204 1024 x 768 pixel
 - sv285 1360 x 1024 pixel
 - sv4021 2048 x 2048 pixel
- Synchronization:
 - "free running" (frame rate adjustable)
 - external trigger with internal exposure control
 - external trigger with pulse-width exposure control
- Housing dimensions: e.g. 50mm x 55mm x 35mm
- Monochrome and color sensors (Bayer Pattern)
- 10 Bit video data stream
- Adjustable gain
- Low offset
- 2 x 2 binning mode
- Partial scan mode for higher frame rates
- Standard C-Mount (sv4021 = M42-Mount)
- 12V DC @ approx. 400mA consumption
- Operating temperature range: -10°C to +40°C
- Full 2 year warranty

Camera Types:

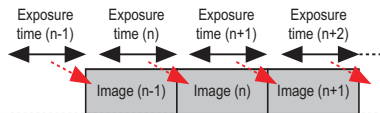
Camera Type	svs424	svs204	svs285	svs4021
Resolution	640 x 480	1024 x 768	1360 x 1024	2048 x 2048
Frame Rate (Hz, max.)	116	50	25	8/16/20*
Pixel (μm^2)	7.4 x 7.4	4.65 x 4.65	6.45 x 6.45	7.4 x 7.4
Exposure Time internal	50 μs - 2 s	50 μs - 2 s	50 μs - 2 s	60 μs - 4 s
Exposure Time external	20 μs - ∞	20 μs - ∞	20 μs - ∞	60 μs - ∞
CCD-Size Equivalent	1/3"	1/3"	2/3"	21.5mm diag.

* single tap S version 8 Hz, dual tap F version 16 Hz, dual tap U version 20 Hz

Operation Modes:

Mode: Free Running

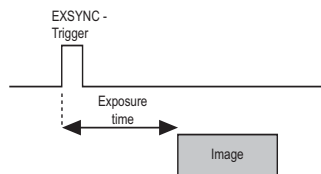
In this mode the camera creates all sync signals itself. The frame rate is at its maximum and there is no need to trigger the camera



(by EXSYNC) in order to get data. Exposure time can be set by using the serial CameraLink interface of any PC. The enclosed software allows the user to set the specified values. Exposure time can be changed online during operation. The time set stays resident after power off.

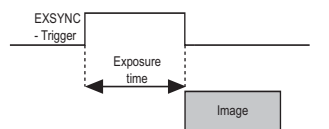
Mode: External Trigger, Internal Exposure Control

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 is entered via serial interface over the frame grabber CameraLink connection. The trigger signal is fed into the camera by the frame grabber or directly to the camera.



Mode: External Trigger, External Exposure Control

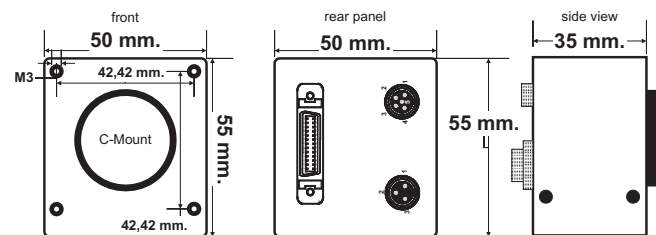
In this mode the camera is waiting for an external trigger which starts integration and read out. Exposure time can be varied using the length of the EXSYNC pulse (i.e. between the high going edge and the low going edge). The time settings in the control software are not activated. This mode is useful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



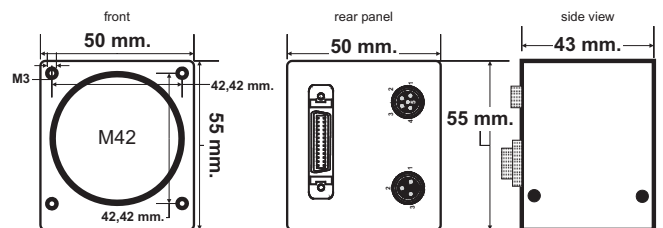
Configuration Software:

The SVCam Compact Line cameras come with our "Convenient Cam"-software, which allows easy interactive setup of all camera parameters. The program runs under Windows XP, Windows 2000 and NT4.0 and, independently from "Convenient Cam", the camera can be configured using any terminal software that supports RS-232 communication.

Dimensions: svs424CP, svs204CP, svs285CP



Dimensions: svs4021CP



Ordering Guide:

Monochrome:	Color:
svs424MFCP	svs424CFCP
svs204MFCP	svs204CFCP
svs285MFCP	svs285CFCP
svs4021MSCP	svs4021CSCP (single tap, frame rate 8 Hz)
svs4021MFCP	svs4021CFCP (dual tap, frame rate 16 Hz)
svs4021MUCP	svs4021CUCP (dual tap, frame rate 20 Hz)