SVS-VISTEK

PRELIMINARY

SVS4020

4 Megapixel Progressive Scan Camera with 10-Bit Digital Output

The SVS4020 camera features a Progressive-Scan -sensor with 2048 x 2048 Pixels. This technology provides an image with full resolution even in asynchronous or flash (strobe) mode. Several operation modes are possible like:

- free running
- synchronisation to external events (e.g. flash to freeze an image).

The camera's output is a 10-Bit monochrome signal. Sophisticated processing of the analogue CCD-signal using Correlated Double Sampling (CDS, a noise reduction method) and converting the signal to digital guarantee an excellent Signal/Noise ratio. The built-in microcontroller allows several modes of exposure control.

- time adjustment via serial CameraLink interface
- time adjustment via EXSYNC- pulse width

- for low light levels the exposure time can be extended up to 10 seconds .

The camera is supplied by +12V DC power supply. An internal voltage stabilizer assures that the camera supplies perfect images without distortion.

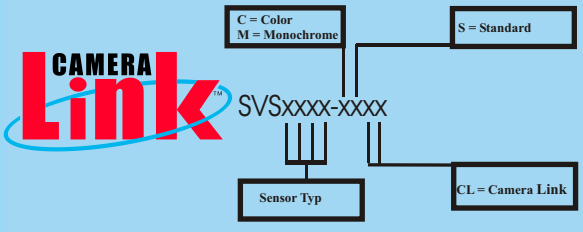
Customer specific modifications of the SVS4020 can be done at a reasonable cost.

Features:

- Progressive-Scan-Camera (1- Chip)
- 2048 x2048 square pixels, 7,4 x 7,4µm
- Sensor diagonal is 21,5 mm
- 16 full fps E.g. with 2048 x 1024 in partial scan 29 fps
- Synchronisation:
  - free running mode or
  - external trigger
- Exposure Control by serial interface or EXSYNC pulse width:
  60µs - 60ms mode: freerunning & serial ctrl
  60µs - 4.7s mode: EXSYNC & serial ctrl
  60µs - 10s mode: EXSYNC pulse width
- Output:
  - 10 Bit Data via CameraLink (Base configuration)
  - Clock- and Sync-Signals
  - Gain adjustable via serial control from 1.0 to 2.0
- Low Offset
- Fixed pattern noise: +/- 2 counts
- Photo Response Nonuniformity(PRNU)~10 %
- Spectral Response: 380nm - 950nm

- Binning
- Scalable partial scan
- Multi camera sync operation
- Power Supply: +12 V DC
- Lens Interface: M 42/C Mount
- Mechanical Dimensions: 55x50x 43mm
- Operating Temperature: -10° to + 40° C
- Colour CCD available
- 2 YEARS WARRANTY

Declaration of order code



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SVS4020

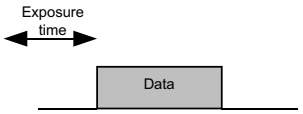
Operation Modes

General:

All operation modes are selected using the cameras serial CameraLink interface . Default factory setting of the camera is freerunning/exposure control via serial interface. Signal gain is 1 per default, but can be varied software wise up to a value of 2.

Freerunning using RS 232 Interface

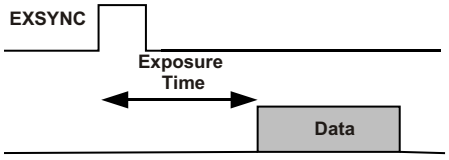
In this mode the camera creates all sync signals itself. The frame rate is about 16 FPS and there is no need to trigger the camera (by EXSYNC) in order to get data. Exposure time can be set by using the serial via Cameralink Framegrabber. The enclosed software allows the user to set the values from 60µs to 60ms.



Exposure time can be changed online during operation. The time set stays resident after power off if stored.

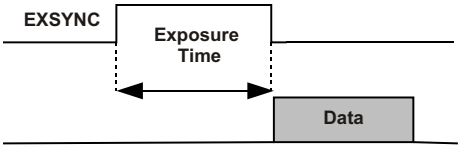
External Trigger and serial CameraLink Interface

Frame rate is determined by the number of EXSYNC pulses per time unit. With each positive transition (going high) the camera will readout a frame. Exposure time is set the same way as in free running mode, but with an exposure time range from 60µs up to 4,7sec.



External Trigger and Pulswidth of EXSYNC

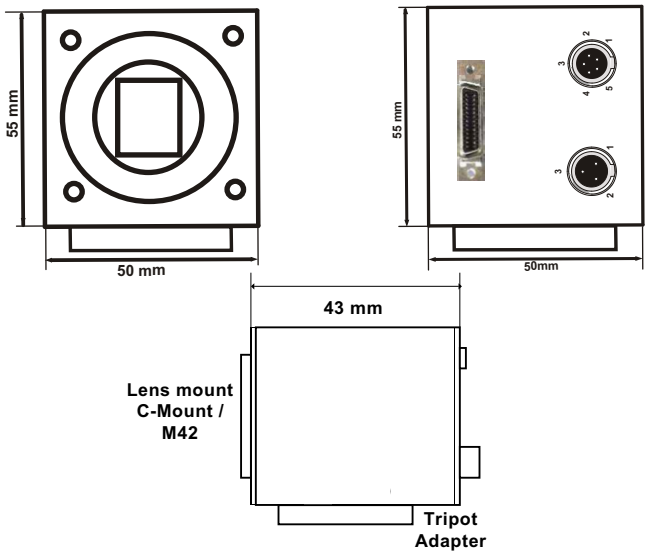
In this mode the camera is waiting for an external trigger which starts integration and read out.
Exposure time can be varied using the length of the EXSYNC pulse (i.e. between the high going edge and the low going edge). The time settings in the control software are not activated.
This mode is useful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



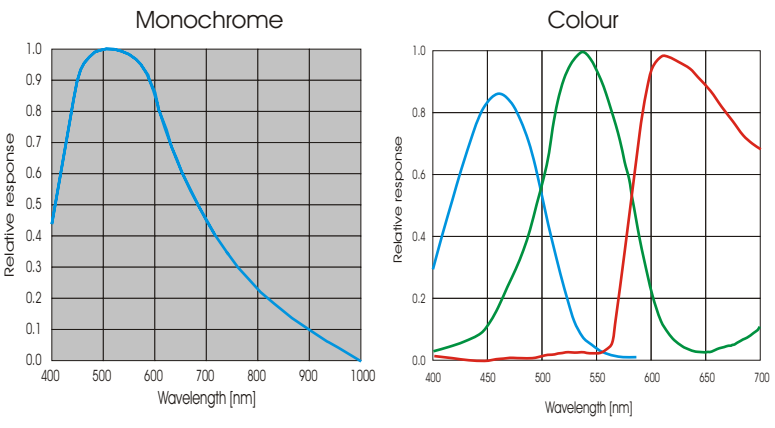
Software:

The SVS4020 camera comes with our “Convenient Cam” software, which allows easy interactive setup of all camera parameters. The program runs under Windows 98, NT4.0, 2000 and XP. A DLLis provided in order to integrate the camera into vision systems.

Dimensions



Spectral response



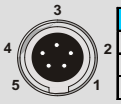
Connectors

3M 26 Pin standard CameraLink connector

CameraLink Framegrabber is “Base Specification”

TTL optocoupled Trigger input

TB5M:
TTL trigger plug



Pin	Signal	Pin	Signal
1	NC	4	TTL -
2	NC	5	TTL +
3	NC		

TB3M:
Power supply plug

Pin	Signal	Pin	Signal
1	+12 V DC	3	GND
2	Not used		