

SpeedCam MacroVis VLS

Extremely light-sensitive high-speed camera
with 5,000 fps at 512 x 512 pixels



The ultra-compact dimensions make the robust SpeedCam MacroVis VLS the smallest high-speed CMOS camera in its performance class. One of the many advantages it offers is sensationally high sensitivity to light of 2.400 / 800 ASA (monochrome / colour), unimaginable shutter speeds with up to 2 μ s, as well as turbo-speed recording frequencies of up to 195.000 fps.

Modular design allows the camera to be set up in differing configurations. The basic model is available either as a B/W or colour camera, with 2 GB image memory for 1.6 seconds recording time at full resolution and 1.000 fps. Many upgrades are available to make the SpeedCam MacroVis into an ideal tool for science, research, and quality control and crash tests in the automobile industry. Further options include; increased image memory capacity up to 8 GB, a multi-sequence recording mode, and the ImageBLITZ® Self-Trigger option. Using ImageBLITZ® an ROI (Region of Interest) can be marked in the live image; the camera then

independently triggers immediately when there is any alteration in brightness in that particular area. With the Hi-G option, the camera is resistant to acceleration of up to 100 G in three axes.

Thanks to the ultra-compact housing and side-mounted socket access, the SpeedCam MacroVis can be mounted in many difficult-to-reach areas. An integrated gigabyte Ethernet interface enables the high-speed camera to be operated with any MS-Windows® PC or laptop computer. This guarantees rapid download times for the image data and secure communication over long distances.

Highlights

- 512 x 512 CMOS sensor
max. 5.000 fps at full resolution
up to 195.000 fps at partial resolution
free choice of resolution in x- and y-axes
- Extremely sensitive to light
Colour 800 ISO / ASA
Monochrome 2.400 ISO / ASA
- Electronic shutter up to 2 μ s
Fast shutter speeds hinder motion blur
- Gigabyte-Ethernet interface
1.000 / 100 Ethernet guarantees extremely short download times
Simple incorporation into existing MS-Windows® computer systems
- Ultra-compact dimensions
93 x 49 x 92 mm (W x H x D)
- Numerous upgrades are available
Multi-sequence recording
ImageBlitz® Self-Trigger function
Hi-G option - crash proof up to 100 G in three axes
More image memory, longer recording time
IRIG-B interface

The basic software contained in the delivery enables easy analysis of slow motion sequences and supports their export as a BMP single frame series or AVI video file. Also available is the optional Visart and Mobile Control software packet. Visart has been designed for users who wish to operate several cameras together, and therefore want to use the numerous image-processing functions the software has to offer. Mobile Control has been especially developed to enable touch-screen operation making it possible to perform camera operation simply using an ultra-mobile PC.

SpeedCam Macro Vis VLS

TECHNICAL DATA

→ Specifications

CMOS-SENSOR	
Sensor properties:	16 x 16 µm, colour or monochrome
Sensor resolution:	512 x 512 active pixels, at up to 5,000 fps
Dynamic range:	10-bit (ADC sensor), 59 dB
Light sensitivity:	Colour 800 ASA, monochrome 2.400 ASA
RECORDING FREQUENCY AND IMAGE MEMORY	
Image memory:	Ring buffer 4 GB (8 GB optional)
Recording frequency:	Up to 195.000 fps
CAMERA CONTROL	
Shutter:	Global electronic shutter up to 2 µs with software control
Resolution / Image format:	Free choice of the resolution in x- and y-axes
Recording time:	Standard: 3,3 sec. at full resolution and 5,000 fps Opt.: 6.6 sec. at full resolution and 5,000 fps
Trigger:	Freely definable pre- and post-trigger Optional: ImageBlitz® Self-Trigger
INPUTS / OUTPUTS	
Input signals:	4x digital (1-bit), 1x analogue (digitalised value, 8-bit)
Trigger:	External TTL trigger and sync input optically coupled
Sync output:	TTL sync output, strobe signal
Ethernet:	1.000 / 100 Ethernet (gigabyte Ethernet) on RJ45
SOFTWARE	
Control software:	MacroVis basic software (optional: SpeedCam Visart / Mobile Control)
Operating system:	Windows® XP Professional / Windows® Vista
Functions:	Camera control & image archiving
Camera system:	SpeedCam MacroVis, SpeedCam MiniVis
Image output:	BMP and AVI Format (further formats with SpeedCam Visart)
MECHANICAL DIMENSIONS	
Camera housing:	93 x 69 x 92 mm (W x H x D)
Lens mount:	C-Mount, optional F-Mount (Nikon)
AMBIENT CONDITIONS	
Power supply:	10 - 30 V external
Internal rechargeable batt.:	Capacity: 60 min recording / 90 min standby
Power supply:	15 W maximum
Ambient temperature:	+5°C to +45°C
UPGRADES AVAILABLE	
Image memory:	Ring buffer 8 GB
ImageBlitz®:	Self-triggering function for a freely definable image ROI
Multi-sequence recording:	Up to 16 sequences can be individually triggered within the total memory capacity
Hi-G upgrade:	Mechanical stability up to 100 G in three axes (20 msec.)
F-mount upgrade:	Lenses with Nikon bayonet (F-mount) can be used
IRIG-B upgrade:	IRIG-B interface for external image

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→ Technical Data

RECORDING SPEED	
RESOLUTION	MAX. IMAGE FREQ.
512 x 512	5.000 fps
512 x 256	10.000 fps
512 x 128	20.000 fps
512 x 64	40.000 fps
512 x 28	86.000 fps
512 x 20	119.000 fps
512 x 12	195.000 fps

RECORDING TIME AT FULL RESOLUTION		
FRAMERATE	MEMORY	TIME
5.000 fps	4 GB	3,3 s
2.500 fps	4 GB	6,6 s
5.000 fps	8 GB	6,6 s
2.500 fps	8 GB	13,2 s

SpeedCam MacroVis EoSens Interface



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