SpeedCam MiniVis e2

Extremely photosensitive CMOS high-speed camera with more than 120.000 fps

Compared to its sister models from the **SpeedCam MiniVis** family the **SpeedCam MiniVis e2** has an extremely photosensitive CMOS sensor. At the same time this sensor enables a recording frequency up to 128.000 fps at full resolution.

With its modular design, the camera can be assembled in a variety of configurations. The basic model is delivered optionally as a monochrome or color camera and with 2 GB of image storage for 3 seconds of recording time at 512 x 512 full resolution and 2.500 fps. With numerous upgrade options, the **SpeedCam MiniVis e2** is an ideal tool for science and research, quality assurance, or crash tests in the automobile industry. For example, a larger 4 GB image storage, multi-sequence recording mode, and the **ImageBLITZ®** auto-trigger options are available. With **ImageBLITZ®**, a region of interest (ROI) can be marked in the live image. The camera triggers automatically as soon as there is a change in the brightness in this area. With the Hi-G option, the camera is acceleration-proof up to 100 g in 3 axes.

Thanks to the compact housing and the laterally placed plug field, the high-speed camera can be mounted in many difficult-to-access places. With the integrated Gigabit Ethernet interface, the **SpeedCam MiniVis e2** can be operated with any Windows PC or laptop. This guarantees quick download times of image data and secure communication over long transmission distances.

The basic software included in the delivery allows simple slow-motion analysis and supports the export of the recorded sequence as a series of individual BMP images or an AVI video file. The optional available and intuitive-to-use full version of the **SpeedCam Visart** control software offers numerous additional functions and filter options which can be set manually or automatically.

Highlights

- **512 x 512 CMOS-Sensor**
  max. 2.500 fps in full resolution
  up to 128.000 fps in partial resolution
  Free selection of resolution
  in the x and y directions
- **Extremely photosensitive**
  Color 800 ISO/ASA
  Monochrome 2400 ISO/ASA
- **Electronic Shutter down to 1 µs**
  Fast shutter speeds prevent motion blur
- **Gigabit Ethernet Interface**
  1000/100 Ethernet guarantees extremely short download times
  Simple connection to existing Windows computer systems
- **Compact dimensions**
  94x70x110 mm / 3,7"x2,7"x4,3" (WxHxD)
- **Numerous upgrades available**
  Multi-sequence recording
  ImageBLITZ® auto-trigger function
  Hi-G Option: up to 100 g in all 3 axes
  More memory for longer recording times

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SpeedCam MiniVis e2

Technical Data

Specifications

CMOS-SENSOR

Sensor Array:	512 x 512 active pixels, 16 x 16 µm, color or monochrome
Image Resolution:	512 x 512 active pixels up to 2.500 fps
Dynamic Range:	10-bit (Sensor ADC), 57 dB
Light Sensitivity:	Color 800 ISO/ASA, Monochrome 2400 ISO/ASA

MEMORY AND RECORD RATES

On-Board Storage:	Ring memory 2GB (Optional 4 GB)
Recording Rates:	50 to 128.000 fps

CAMERA CONTROL

Shutter:	Global electronic shutter from 1 µs to 1/frame
Resolution/Image Format:	Selectable image format on x and y axis
Recording Time:	Standard 3 sec at full reolution and 2.500 fps Optional 6 sec at full reolution and 2.500 fps
Trigger:	selectable pre- and post trigger Option: ImageBLITZ® self trigger

INPUTS/OUTPUTS

Inputs:	4 x digital (1bit), 1 x analog (digitalized 8bit)
Trigger:	External TTL Trigger and Sync-Input optocoupled
Sync-Output:	TTL-Sync-Output, Strobe Signal
Ethernet:	1000 / 100 Ethernet (Gigabit Ethernet) to RJ45

SOFTWARE

Control Software:	MiniVis-Basic Software (Optional SpeedCam Visart)
Operating System:	Windows 2000 and Windows XP Professional
Functions:	Camera control and file storage
Camera Systems:	SpeedCam MacroVis, SpeedCam MiniVis
Image File Formats:	BMP- and AVI format (additional formats with SpeedCam Visart)

MECHANICAL DESCRIPTION

Camera Dimensions:	(WxHxD) 94 x 70 x 110 mm , 1kg / 3.7" x 2.8" x 4.3", 2.2 lbs
Lens Mount:	C-Mount, optional F-Mount

ENVIRONMENTAL

Power Supply:	10,5 - 24 V external
Integrated Battery:	Capacity: 30 min recording / 60 min standby
Power Consumption:	15 W max
Operating Temperature:	+5°C to +45°C / 41 to 113°F

AVAILABLE UPGRADES

Color Upgrade:	RGB / Bayer-Filter
On-Board Storage:	Ring memory 4 GB
ImageBLITZ®:	Auto-trigger function
Multi-Sequence Recording:	Ring memory dividable into up to 16 segments of equal size including all trigger functionalities
Hi-G Upgrade:	Mechanical stability up to 100 g peak @ 25 msec in any axis
Phoenix Interface Upgrade:	Ethernet Interface with industrial Phoenix plug

Recording rates

RESOLUTION	MAX FRAME RATE
512 x 512	2.500 fps
512 x 256	5.000 fps
512 x 128	10.000 fps
512 x 64	20.000 fps
512 x 32	40.000 fps
512 x 16	80.000 fps
512 x 10	128.000 fps

Recording time at full resolution

FRAME RATE	MEMORY	TIME
2.500 fps	2 GB	3,3 s
2.500 fps	4 GB	6,6 s
1.000 fps	2 GB	8,2 s
1.000 fps	4 GB	16,4 s
750 fps	2 GB	10,9 s
750 fps	4 GB	21,8 s
500 fps	2 GB	16,4 s
500 fps	4 GB	32,8 s
250 fps	2 GB	32,8 s
250 fps	4 GB	65,5 s
125 fps	2 GB	65,5 s
125 fps	4 GB	131,1s

SpeedCam MiniVis e2 Interface

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