

# SpeedCam Macro Vis **EoSens**\*

Highest light-sensitivity at 3 megapixel resolution  
Dynamic adjustment of extreme contrasts



An extremely compact housing, 3 megapixel resolution, high sensitivity to light, and high recording speeds make the robust SpeedCam MacroVis EoSens to the benchmark reference in its performance class. Thanks to the switchable dynamic adjustment, even the most critical recording situations are child's play.

The modular design system enables the camera to be assembled in differing configurations. The basic model is available as either a colour or a monochrome camera. By default, the camera is fitted with a rechargeable battery that enables recording of up to 1 hour without an external power supply. Options include for example, a larger image memory capacity of up to 8 GB, which allows recording times of up to 6 seconds at full resolution and maximum speed. Further options are the ImageBlitz®, the multi-sequence recording, the High-G Version and the IRIG time code interface.

The ImageBlitz® enables an area of the image to be marked, so that in the moment any part of the image within this marked area alters in any way, recording is triggered and the image sequences

stored. This is an ideal solution for sporadically occurring interference or malfunctions in equipment and machines. The multi-sequence recording option can divide the internal ring buffer of the camera in up to 16 areas. Only one part of the memory is addressed by each trigger signal.

The Hi-G option makes the camera is resistant to acceleration of up to 100 G in three axes and is capable of being used under the toughest conditions. IRIG is an international time code, and the IRIG interface places a time stamp on the image data.

## Highlights

- CMOS sensor - Samples of possible resolutions and max. Speed  
1,696 x 1,710 pixel at 523 fps  
1,472 x 1036 pixel at 1.000 fps  
512 x 512 pixel at 5.000 fps  
up to 285.000 fps in reduced resolution  
free choice of the resolution in x- and y-axes
- Highest light sensitivity  
Colour 400 ASA, monochrome 1,200 ASA
- Dynamic image adjustment for critical image situations with extreme bright and dark illumination
- Fixed Pattern Noise correction for extreme sharp and low noise pictures
- Built-in rechargeable battery for operation independent of a mains power supply
- Gigabyte-Ethernet interface  
1000/100 Ethernet guarantees extremely short download times and simple incorporation into existing MS-Windows® computer systems
- Extremely compact and light  
69 x 93 x 92 mm; 900 gram
- Numerous options  
ImageBlitz® Self-trigger function  
Multi-sequence recording  
High-G option: Crash proof up to 100G  
Larger image memory up to 8GB  
IRIG time stamp

The basic software contained in the delivery enables easy slow motion analysis and supports export of the recorded sequences 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

## TECHNICAL DATA

### → Specifications

CMOS-SENSOR	
Sensor properties:	Fast CMOS sensor, 8 x 8 µm, colour or monochrome
Sensor resolution:	1.696 x 1.710 active pixels, at up to 523 fps
Dynamic range:	Up to 90 dB through dynamic shutter control
Light sensitivity:	Monochrome 1.200 ASA, color 1.000 ASA
RECORDING FREQUENCY AND IMAGE MEMORY	
Image memory:	Ring buffer 2 GB (4 GB / 8 GB optional)
Recording frequency:	Up to 285.000 fps at partial resolution
CAMERA CONTROL	
Shutter:	Electronic full image shutter, 1 µs - 1 sec.
Resolution /Image format:	Free choice of the resolution in x- and y-axes
Recording time and Compression:	3,0 sec. at full resolution and 523 fps Double recording time by reduction of colour depth to 4 bit (16 levels of gray)
Trigger:	Freely definable Pre- and Posttrigger Optional: ImageBlitz®
INPUTS / OUTPUTS	
Input signals:	4x digital (1bit), 1x analogue (digitalised value, 8bit)
Trigger:	External TTL trigger and sync input optically coupled
Sync Output:	TTL sync output, strobe signal galvanically separated
Ethernet:	1000 / 100 Ethernet (gigabyte Ethernet) on RJ45
SOFTWARE	
Control software:	Basic-Software (Opt.: Visart/Mobile Control)
Operating system:	Windows® XP Professional / Windows® Vista
Functions:	Camera control & image archiving
Image output:	BMP and AVI format (further formats with SpeedCam Visart)
MECHANICAL DIMENSIONS	
Camera housing:	69 x 93 x 92 mm, weight 900g
Lens mount:	C-Mount, optional F-Mount (Nikon)
AMBIENT CONDITIONS	
Power supply:	10 - 30 V DC ext. or internal rechargeable battery
Internal rechargeable battery:	Capacity: 1hr recording / 1.5 hr standby / 24 hr memory storage
Power supply:	15 W maximum
Ambient temperature:	+5°C up to +45°C
UPGRADES AVAILABLE	
Image memory:	4 GB / 8 GB; up to 6 sec. recording at full resolution @ 523 fps
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 shock up to 100 G / 20 msec. in three axes
F-Mount Upgrade:	Lens adapter with Nikon F-mount connector
IRIG-B Modul:	Synchronising and IRIG time stamp

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\* EoSens is a registered trademark of Mikrotron GmbH, Unterschleissheim, Germany

### → Technical Data

RECORDING SPEED	
RESOLUTION	MAX. IMAGE FREQ.
1.696 x 1.710	523 fps
1.472 x 1.036	1.000 fps
1.280 x 720	1.633 fps
640 x 480	4.450 fps
512 x 512	5.000 fps
320 x 240	14.780 fps
100 x 100	54.279 fps

RECORDING TIME AT FULL RESOLUTION		
FRAMERATE	MEMORY	TIME
523 fps	4 GB	3,0 s
523 fps	8 GB	6,0 s

SpeedCam MacroVis EoSens Interface



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