



MotionBLITZ EoSens® mini1

High-Speed Recording Camera



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MotionBLITZ EoSens® mini1 Advantages at a Glance:

- Maximum photo sensitivity:
2,500 ASA monochrome, 2,000 ASA RGB
- Up to 506 frames per second at
1,280 x 1,024 pixel resolution
- Stepless adjustable frame rate up to more than
100,000 frames per second at reduced resolution
- Up to 6.6 seconds onboard Recording Memory at
full resolution and full speed
- GigE Vision® compatible
- ImageBLITZ® Automatic Trigger
- Crashproof up to 100 g shock, 10 g vibration
- High image quality through pixel based FPN-Correction
- Burst Trigger Mode
- Multi Sequence Mode

For more information please contact:



BOCK OPTRONICS INC.
14 Steinway Blvd., Unit 7
Toronto, Ontario M9W 6M6

Tel: (416) 674-2804
sales@bockoptronics.ca
www.bockoptronics.ca

Innovative Technology for Maximum Light Efficiency

Lighting Becomes a Minor Matter

So far, lighting was the crucial point in high-speed recording. The MotionBLITZ EoSens® mini1 resolves the lighting issue! Its unprecedented sensitivity enables real high-speed recordings under normal lighting conditions.

Crystal Clear Images

Every single pixel is adjusted regarding blackvalue and dynamic, in real time. The benefits are low noise and crystal clear pictures.

Onboard Ring Buffer (Pre-/Post-Trigger)

The onboard Ring Buffer allows buffering of triggered events up to 6.6 seconds at full resolution and full speed. Freely adjustable pre or post triggered recording time to capture the event as it happens.

ImageBLITZ® Automatic Trigger

The ImageBLITZ® Automatic Trigger allows object-driven triggering directly through the camera by a user defined image region. Adjusting this image area acts as a trigger sensor. If there is a change in the lightness (on the single frame level), the camera will trigger automatically.

Burst Trigger Mode (Post Trigger)

The Burst Trigger Mode makes it possible to divide the memory into several thousand image bursts. For every event a defined number of frames will be stored.

Dynamic Range Adjustment

The camera's Dynamic Range Adjustment allows the user allows to change the CMOS sensor's transfer characteristics to provide clear details even at extreme contrasts up to 90 dB.

Maximum Performance at Minimum Form Factor

MotionBLITZ EoSens® mini1 comes with a small form factor. The small footprint of approx. 63 x 64.5 mm (C-Mount version) allows for universal use, even in cramped space conditions.

Flexible and Easy to Use

The camera's Gigabit Ethernet interface makes it possible to operate multiple cameras from any standard Notebook/PC over a distance of up to 100 m.

A Great Variety of Extensions

Color version, F-Mount front, ImageBLITZ® Automatic Trigger, Multi Sequence Mode, side placed connectors, cooling option and Hi-G version are optionally available.

Standard Equipment

- ImageBLITZ® Automatic Trigger
- Multi Sequence Mode
- Burst Trigger Mode
- Dynamic Range Adjustment
- Quad Mode
- 3.3 s onboard Ring Buffer
- C-Mount front
- Rearside placed connectors
- Power supply
- Operator software
- Ethernet cable 3 m

Optional Extensions

- Ring Buffer extension up to 6.6 s recording time at full resolution and full speed
- Color version
- F-Mount front
- Hi-G 100 g shock, 10 g vibration
- Cooling option
- Side placed connectors

Resolution and corresponding frame rate

1,280 x 1,024	506 fps
1,280 x 720	718 fps
1,280 x 512	1,008 fps
640 x 480	1,869 fps
512 x 512	2,033 fps
320 x 240	5,670 fps
128 x 100	18,610 fps
128 x 10	79,540 fps

Technical Data

(More detailed specifications are available on request)

	MotionBLITZ EoSens® mini1
Sensor	CMOS sensor 1,280 (H) x 1,024 (V) pixel active area 22.9 mm (diagonal) 17.92 (H) x 14.34 (V) mm 8-bit monochrome or RGB-color with BAYER-filter
Pixel size	14 x 14 µm
Light sensitivity	2,500 ASA monochrome, 2,000 ASA RGB-color, monochrome 25 V/lux-s
Image speed	1 – 506 fps at full resolution, up to more than 100,000 fps at reduced resolution
Quad Mode	1,700 fps at full resolution (with pixel algorithm)
Recording time	6.6 s at full resolution and full speed extended recording times at reduced resolution and/or frame rate
Shutter	global electronic shutter from 2 µs to 1 s, in 2 µs steps
Sensor dynamic	up to 90 dB using Dynamic Range Adjustment
Spectral bandwidth	400 – 900 nm
Amplification	Digital Gain 1 – 4 in 8 steps
System design	scaleable and network-compatible with standard PCs or Notebooks, synchronous processing of multiple cameras
Camera size	63 x 63 x 64.5 mm (C-Mount) 63 x 63 x 94 mm (F-Mount option)
Weight	280 g, without lens
Camera body temperature	+5 ... 35 °C (without cooling option) +5 ... 45 °C (with cooling option)
Lens mount	C-Mount or F-Mount or FG-Mount
Power supply	10 – 30 V DC external power supply or from internal battery
Power consumption	7.5 W max.
Software	MotionBLITZ® Director2 operator software for Windows® XP / 7 / 8
Frame storage	BMP, JPG, TIFF, AVI, DNG, PNG and REC (MIKROTRON proprietary raw) file format
Camera-PC interface	Gigabit Ethernet interface
Trigger	triggering with external signal/switch, MotionBLITZ® Director2 software or ImageBLITZ® Automatic Trigger
Synchronisation	in- and output to synchronise multiple cameras or trigger any external devices (5V TTL), alternative ARM output (recording state)
Digital input	4-bit with Optocouplers, inserted in each image
Plug position	rearside placed, optional side placed

fps = frames per second

MIKROTRON GmbH

MIKROTRON GmbH provides a full range of high-speed imaging solutions for challenging applications in industry, engineering, science and sports. The company's extreme slow-motion recording solutions enable customers to optimize manufacturing processes, improve product design, revolutionize quality management and analyze motion.

Germany

Landshuter Str. 20-22
85716 Unterschleißheim
+49(0)89-726342-00
info@mikrotron.de
www.mikrotron.de

North America

14032 Hermosillo Way
US-Poway, CA 92064
+1-858-774-1176
steve.ferrell@mikrotron.de
www.mikrotron.de



member of the TKH Group

MIKROTRON
High-Speed Vision Solutions



MotionBLITZ EoSens® mini2

High-Speed Recording Camera



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MotionBLITZ EoSens® mini2 Advantages at a Glance:

- Extremely flexible in resolution and speed:
up to 523 fps at 1,696 (H) x 1,710 (V) pixel resolution
- Stepless adjustable frame rate up to more than
200,000 frames per second at reduced resolution
- Maximum photo sensitivity:
1,200 ASA monochrome, 1,000 ASA RGB
- 3 seconds onboard Recording Memory
at full resolution and speed
- GigE Vision® compatible
- ImageBLITZ® Automatic Trigger (optional)
- Crashproof up to 100 g shock, 10 g vibration
- Pixel based Fixed Pattern Noise Correction
- Burst Trigger Mode
- Multi Sequence Mode

3 Megapixel Resolution for Detailed Images

Extremely Flexible in Resolution and Speed

The MotionBLITZ EoSens® mini2 meets the requirements of the most varied applications, because resolution and speed can be user defined as needed. A resolution of 1,696 x 1,710 pixels delivers superb image quality with a high level of detail. Based on MIKROTRON'S high-speed technology the camera captures more than 200,000 frames per second to freeze-frame any action.

Crystal Clear Images

The MotionBLITZ EoSens® mini2 adjusts every single pixel regarding blackvalue and dynamic in real time. The resulting video impresses with crystal clear images.

Onboard Ring Buffer (Pre-/Post-Trigger)

The onboard Ring Buffer allows for buffering of triggered events up to 3 seconds at full resolution and full speed. Freely adjustable pre or post triggered recording settings capture the events as they happen.

ImageBLITZ® Automatic Trigger

The ImageBLITZ® Automatic Trigger allows image driven triggering directly through the camera by a user defined image region. This image area can be defined and calibrated as a trigger sensor. A change in the brightness, checked in every frame, will trigger the camera or record an event.

Burst Trigger Mode (Post-Trigger)

The Burst Trigger Mode makes it possible to divide the memory into several thousand image bursts. For every event a defined number of frames will be stored. This makes it easier to record sequences of events.

Dynamic Range Adjustment

The camera's Dynamic Range Adjustment feature makes it possible to widen the CMOS sensor's dynamic range for high contrast scenes. Thus, the camera provides clear details even at extreme contrasts.

Maximum Performance at Minimum Form Factor

MotionBLITZ EoSens® mini2 comes up with a small form factor. The small footprint of approx. 63 x 64.5 mm (C-Mount version) allows for easy handling, even in cramped conditions.

Flexible and Easy to Use

The camera's Gigabit Ethernet interface allows to operate multiple cameras from any standard Notebook/PC over a distance of up to 100 m.

A Great Variety of Options

Color version, F-Mount front, ImageBLITZ® Automatic Trigger, Multi Sequence Mode, side placed connectors, cooling option and Hi-G version are optionally available.

Standard Equipment

- Burst Trigger Mode
- FPN Correction
- Dynamic Range Adjustment
- 1.5 s onboard Ring Buffer
- C-Mount front
- Rearside placed connectors
- Power supply
- Operator software
- Ethernet cable 3 m

Optional Extensions

- Ring Buffer extension up to 3 s recording time at full resolution and full speed
- ImageBLITZ® Automatic Trigger
- Multi Sequence Mode
- Color version
- F-Mount front
- Hi-G 100 g shock, 10 g vibration
- Cooling option
- Side placed connectors

Resolution and corresponding frame rate

1,696 x 1,710	523 fps
1,280 x 1,024	1,155 fps
1,280 x 720	1,640 fps
1,024 x 1,024	1,410 fps
640 x 480	4,460 fps
512 x 512	5,010 fps
320 x 240	14,770 fps
128 x 128	43,540 fps

Technical Data

(More detailed specifications are available on request)

	MotionBLITZ EoSens® mini2
Sensor	CMOS sensor 1,696 (H) x 1,710 (V) pixel active area 19.27 mm (diagonal), 13.57 (H) x 13.68 (V) mm, 8-bit monochrome or RGB-color with BAYER-filter
Pixel size	8 x 8 µm with micro lenses
Light sensitivity	1,200 ASA monochrome, 1,000 ASA RGB-color, monochrome 25 V/lux-s
Image speed	1 – 523 fps at full 1,696 (H) x 1,710 (V) resolution, more than 200,000 fps at reduced resolution
Recording time	3 s at full resolution and full speed, extended recording times at reduced resolution and/or frame rate
Compression	double recording time through reduction of color depth to 4-bit = 16 greysteps
Shutter	global electronic shutter from 2 µs to 1 s, in 2 µs steps
Sensor dynamic	up to 90 dB using Dynamic Range Adjustment
Spectral bandwidth	400 – 900 nm
Amplification	Digital Gain 1, 1.5 & 2
System design	scaleable and network-compatible with standard PCs or Notebooks, synchronous processing of multiple cameras
Camera size	63 x 63 x 64.5 mm (C-Mount) 63 x 63 x 94 mm (F-Mount option)
Weight	280 g, without lens
Camera body temperature	+5 ... 35 °C (without cooling option) +5 ... 45 °C (with cooling option)
Lens mount	C-Mount or F-Mount
Power supply	10 – 30 V DC external power supply or from internal battery
Power consumption	7.5 W max.
Software	MotionBLITZ® Director2 operator software for Windows® XP / 7 / 8
Frame storage	BMP, JPG, TIFF, AVI, DNG, PNG and REC (MIKROTRON proprietary raw) file format
Camera-PC interface	Gigabit Ethernet interface
Trigger	triggering with external signal/switch, MotionBLITZ® Director2 software or ImageBLITZ® Automatic Trigger
Synchronisation	in- and output to synchronise multiple cameras or trigger any external devices (5V TTL), alternative ARM output (recording state)
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info@mikrotron.de
www.mikrotron.de

North America

14032 Hermosillo Way
US-Poway, CA 92064
+1-858-774-1176
steve.ferrell@mikrotron.de
www.mikrotron.de



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