MotionBLITZ® Cube4

High-Speed Recording Camera

MotionBLITZ® Cube4 Advantages at a Glance:

- Up to 1,010 fps at 1,280 (H) x 1,024 (V) resolution
- Stepless adjustable frame rate up to 86,000 fps
- Compact form factor, minimal housing depth
- Standalone recording up to 1 h
- ImageBLITZ® Automatic Trigger option
- Memory extension option
- Unrivalled price-performance relationship

Robust and Compact Design for Industrial Applications

Fast and Compact

Things are getting faster in modern industrial environment. The clock rates and velocities of up-to-date production lines or machine technology are speeding up, presenting visual analysis with a new high-speed challenge.

The Mikrotron MotionBLITZ® Cube4 is a member of Mikrotron's Cube high-speed recording camera family, developed to meet high-speed requirements using cutting edge camera technology.

Up to 1,010 fps are possible at the camera's 1.3 Megapixel resolution, however, this can be increased to an impressive 86,000 fps by reducing of the Region of Interest (RoI).

Recording with History Function

The MotionBLITZ® Cube4 onboard ring buffer enables a buffering of triggered events up to 6,5 seconds at full resolution and speed (extended buffer option). The history function allows pre and post event recording through free selection of frames or recording time.

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The optionally available ImageBLITZ® Automatic Trigger even goes a step further: it enables an object generated triggering directly through the camera using a selectable section of the RoI as a sensor.

Maximum Performance at Minimum Form Factor

The MotionBLITZ® Cube4 comes with the smallest form factor ever for a high-speed recording camera of this capability. A housing depth of approx. 92 mm (C-Mount version) allows the MotionBLITZ® Cube4 to be utilized in an unrivalled manner even in cramped space conditions.

Total Flexibility at High Transfer Rates

The MotionBLITZ® Cube4 Gigabit-Ethernet interface allows camera operation from any standard PC or Notebook at transfer rates of up to 1,000 MBit/s. Fitted with a ruggedized Phoenix industrial plug, the Cube4 is designed for operation under demanding industrial conditions.

A Great Variety of Extension Options

Get exactly the camera you need: MotionBLITZ® Cube4 offers an extensive range of all-purpose options. Many options from ring buffer upgrade to ImageBLITZ® Automatic Trigger or Multi Sequence recording are available. The Hi-G option provides the durability for crash tests and explosion observations.

Standard Equipment

- 3,24 s onboard Ring Buffer
- C-Mount front
- Internal battery
- Operator software
- Ethernet cable 3 m
- Power supply

Optional Extensions

- Ring Buffer extension up to 6.5 s recording time at full resolution and full speed
- ImageBLITZ® Automatic Trigger
- Multi Sequence Mode
- F-Mount front
- Hi-G 100 g shock, 10 g vibration
- IRIG B synchronisation
- Industrial standard Phoenix Interface Plug

Resolution and corresponding frame rate

1,280 (H) x 1,024 (V)	1,010 fps
1,280 (H) x 512 (V)	2,018 fps
1,280 (H) x 204 (V)	5,050 fps
1,280 (H) x 146 (V)	7,039 fps
1,280 (H) x 102 (V)	10,051 fps
1,280 (H) x 49 (V)	20,326 fps
1,280 (H) x 18 (V)	50,470 fps
1,280 (H) x 10 (V)	85,684 fps

Technical Data

(More detailed specifications are available on request)

	MotionBLITZ® Cube4
Sensor	Fast CMOS Sensor, 1,280 (H) x 1,024 (V) pixel 8-bit monochrome
Pixel size	12 x 12 µm
Light sensitivity	1,600 bit/lux-sec at 550 nm, Vref = 1V
Image speed	25 – 1,010 fps at full 1,280 (H) x 1,024 (V) resolution, up to 93,000 fps at reduced resolution
Recording time	3.24 s at full resolution and 1,000 fps, Extended recording times at reduced resolution and/or image speed
Shutter	Global Electronic Shutter from 2 µs to 1/ frame rate
Sensor dynamic	59 dB
Spectral bandwidth	400 – 800 nm
System design	Scaleable and network-compatible with standard PCs or Notebooks
Camera size	69 x 93 x 92 mm (C-Mount) 69 x 93 x 128 mm (F-Mount option)
Weight	900 g, without lens
Camera body temperature	+5 ... 45 °C
Battery capacity	Recording mode 1 h, Standby mode 1.5 hours
Lens mount	C-Mount or F-Mount
Power supply	10.5 - 24 V DC external power supply, or from internal battery
Power consumption	15 W max.
Software	MotionBLITZ® Director operating software for Windows™ 7 / 10
Frame storage	BMP and AVI file format
Camera-PC interface	Gigabit Ethernet interface
Trigger	Trigger- and Sync. Input, opto coupled
Sync. Output	TTL-Sync., Strobe Signal
Digital input	4-bit (TTL)

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.

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