M-VIT 4000 High Speed Camera
Very light sensitive high speed camera HD ready up to 4000 fps

The M-VIT is an ultra-compact high speed camera particularly suited for situations such as on board vehicular crash test applications. The rugged, sealed camera withstands High-G loads and vibrations. With 1 megapixel at 4000 fps, this highly light sensitive sensor provides crisp clear images even in dim light conditions. The camera is optionally equipped with a built-in rechargeable battery.

Unique features and benefits

- **Fast** – with 1280 x 800 pixel of up to 4000 fps the M-VIT 4000 provides highly detailed recordings.

- **Very light sensitive** – using a sensor with cutting edge pixel technology the M-VIT 4000 offers superb light sensitivity.

- **Onboard ready** – the M-VIT 4000 takes shocks of up to 150 g / 11 msec all axis.

Frame rates vs resolution

1280	864	3700 fps
1280	800	4000 fps
1280	720	4450 fps
1280	630	5000 fps
1280	512	6200 fps

Resolution and fps may be set individually in the given speed ranges. Gain in fps by reducing the vertical resolution. Max fps is 227'000 @ 1280 x 4

Recording time in sec vs memory size

Memory Size (GB)	M-VIT @ 1280 x 800 @ 4000 fp (in seconds)
4 (standard)	1.0
8	2.0
16	4.0

Extended recording time by reducing resolution and/or framing speed.

Camera and optical specifications

Sensor Type	CMOS Sensor
Pixel Size	14 micron
Sensor Format	1"
Light Sensitivity	ISO 10'000 (mono) ISO 6000 (color) (without gain)
Exposure Time	Global, from 1 / framing speed down to 2 µsec
Dynamic Range	10 Bit / 30 Bit color
Gain	3 gain settings available, controlled by software
Lens Mount	C-Mount

Software and camera operation

Live Video	Live Video out via Ethernet or when installed HDMI, WiFi
Buffer Type	Circular buffer, parametrized by software
Number of Buffers	Up to 100 buffers, individually configurable by software
Trigger Modes	Pre-post recording, adjustable in steps of 1 frame, rising falling edge, delayed trigger, trigger debouncing
Auto Exposure	Auto exposure for automatic brightness control
Auto Download	Auto download to PC or CFast card (CFast card optional)
Export Formats	Export in all popular movie and single image formats supported
Control SW	AOS Imaging Studio v4 for parametrization, recording, editing and exporting/converting of recordings included

Data interface

Data	Gigabit Ethernet RJ45 lockable
I/O	Solid 14 pin LEMO connector, compatible with all AOS camera series
I/O Tolerance	TTL compatible I/O, up to 24 V tolerant
Trigger In	Input for start stop recording, falling edge, switch closure
Armed Out	Armed out to indicate camera status ready for recording
Triggered Out	Indicates that trigger is received and camera finishes recording
Remote On	For remote switch on of camera
Sync In/Out	Sync in/out on camera
Strobe	Strobe out for synchronization of LED illumination
IRIG-B	IRIG-B 122b synchronization
Power Requirements	10…36 V / 28 Watts

M-VIT 4000 mounted in ChillBox. No additional cabling etc. is required. Simply put camera in ChillBox, connect the power supply via I/O connector and connect Ethernet to camera.

Options and add-on

Camera Memory	Optional 4-8-16 GB
Battery	Rechargeable battery for up to 30 mins operation and/or memory backup
Video Out	HDMI Video out on camera
Nonvolatile Memory	Removable CFast interface with auto download functionality
WiFi	Live view and camera set-up via wireless network
ChillBox	For longer offboard use without passive cooling via metal surface use the camera mounted in the ChillBox
C-F Mount Adapter	For F-Mount lenses, with dial for F-stop
Single Connector Interface	Single push-pull interface according German "Arbeitskreis" optional

Physical specifications

Size & Weight	width: 75 mm / height: 75 mm / length: 75 mm / 910 gr width: 2.95" / height: 2.95" / length: 2.95" / 1.4 lb
Operating Temperature	-10 … + 45 °C / +14 … +113 °F
Storage Temperature	-40 … +70 °C / -40 … +158 °F
Shock Resistance	150 G / 11 msec all axis, spikes up to 200 G according EN 60068-2-27:2009
I/O Connector	LEMO type ref. FGG.2B.314.CLAD72Z (cable type)
CE	In compliance with relevant standards
Mounting	¼" UNC thread, bottom / M6 mounting threads on 4 sides

System configuration and optional extensions

Model/Extension	M-VIT 4000	M-VIT 4000 with battery	M-VIT 4000 with CFast/ HDMI output
Battery Time	No backup battery	30 min	20 min
Size	75 x 75 x 75 mm	75 x 75 x 107 mm	75 x 75 x 124 mm

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Specifications are subject to change without prior notice – v09.2019