



**AOS**  
Technologies AG

# TRI-VIT High Speed Camera



PRODUCT LEAFLET

TECHNICAL SPECS

APPLICATION NOTE

## TRI-VIT – the compact ruggedized high speed camera for automotive safety testing. Full 1.3 Megapixel resolution at 1,000 fps

### Applications

The ruggedized TRI-VIT is especially suitable for all Hi-G applications where a minimal depth and full image resolution at 1,000 fps is required:

- Automotive safety testing – on-board full size crash vehicle or sled body structures where the camera is fitted into tight areas like door panels or the pedal area
- Industrial or military applications with Hi-G shocks and limited space – like eccenter presses and similar devices

### Why the TRI-VIT?

- High performance at 1'000 fps with full resolution at 1280 x 1024 pixels creates images with high image quality at advanced frame rates
- Unique form factor with minimal depth, fitting into limited spaces where other cameras simply won't fit, allowing to position the camera closer to the object for an undisturbed sight
- Special feature set for multi-camera systems, with extensive trigger- and sync functions
- Ultra-robust design – milled from solid aluminium plates, tested and certified for shocks of up to 100G in all 3 axis

### Unique features

- **Unique performance** – Unique performance/size ratio: only camera with a full 1.3 MPixel image resolution at 1,000 fps in a housing just 46mm deep (1.8 inch) – get the best image quality from a camera positioned in places where no other camera would fit
- **Integrated Flash memory** – An optional integrated non-volatile flash memory with ultra-fast download times. Immediately after the recording stops, the images are automatically downloaded to the built-in, non-volatile flash memory to secure the valuable image data. The camera returns automatically to the recording mode after the download is completed.
- **Optional display** – An optional 'display/control unit' allows an autonomous operation of the camera including live preview, recording and play back as well as downloading to the camera's optional flash memory. Its 4" color display allows an immediate review of the recorded sequence, and 4 configurable push buttons let the user operate the camera functions without a PC connected



The TRI-VIT backplate is flat for easy installation - all connectors, buttons and LEDs at the side



TRI-VIT with optional Display/control unit



Car crash (on board)



Your local AOS partner:

Specifications are subject to change without prior notice – v08.2012



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## Technical key specifications

<b>Image Sensor</b>	Progressive CMOS, 11280 x 1024 pixels, mono or color
<b>Sensor size (@ full resolution)</b>	15.36 x 12.28 mm, 12 µm pixel size
<b>Light sensitivity</b>	ISO1600 (monochrome), ISO 1000 (color)
<b>Dynamic range</b>	8- or 10 bit, adjustable by user
<b>Gain control</b>	User selectable
<b>Frame rate at full resolution</b>	1'000 fps @ 1280 x 1024 pixels
<b>Max. frame rate</b>	100'000 fps
<b>Shutter type</b>	Global electronic shutter
<b>Shutter exposure times</b>	4 µsec to 1/frame rate
<b>Image memory</b>	Built-in DRAM, circular buffer
<b>Sequence length</b>	3 secs @ 1280 x 1024/1000 fps (4 GB image memory) 6 secs @ 1280 x 1024/1000 fps (8 GB image memory) 12 secs @ 1280 x 1024/1000 fps (16 GB image memory) Sequence length can be extended by reducing the image resolution resp. frame rate
<b>Data Interface</b>	Gigabit Ethernet (1'000 Mb/s) RJ45, other connectors on request
<b>Frame synchronisation</b>	Sync in, Sync out (TTL)
<b>Multi-camera operation</b>	Yes
<b>Non-volatile memory</b>	Optional Flash memory (4, 8, 16 or 32 GB) for secure image data storage
<b>Power supply</b>	24 VDC (24 ... 36 VDC)
<b>Power consumption</b>	12 W (w/o data link), 18 W (with data link)
<b>Battery</b>	Built-in, rechargeable NiMH battery allowing up to 30 minutes camera operation.
<b>Video Interface</b>	PAL/NTSC (analog)
<b>IRIG B Interface</b>	IRIG B time stamping (requires external IRIG-B122, amplitude modulated signal)
<b>Operating temperature</b>	0 ... +45 °C (32 ... 113 °F)
<b>Storage temperature</b>	-40 ... +70 °C (-40 ... 158 °F)
<b>Shock resistance</b>	100G for 15msec, 3 axis, up to 200G during short peaks
<b>Size, weight (standard model)</b>	Approx. 143 x 94 x 46 mm (w/o lens), 900 gr
<b>I/O Connector</b>	<b>LEMO Type:</b> FGG.2B.314.CLAD82Z <b>ODU Type:</b> S22LOC-P14MFG0-8200  different pinout configuration on request
<b>Video out</b>	<b>LEMO Type:</b> FFA.00.250.CTAC31 
<b>CE</b>	In compliance with relevant standards

Complete technical specifications of our products are available as a separate document ('technical specs') from your AOS partner, or as a download from our webpage [www.aostechnologies.com/downloads](http://www.aostechnologies.com/downloads)