



PRODUCT LEAFLET

TECHNICAL SPECS

APPLICATION NOTE

Q-VIT – the ruggedized, compact high speed camera with an ultra-high resolution of 3MPixel

for automotive safety testing and harsh industrial as well as research applications.

More light sensitive than ever.

Applications

The Q-VIT is particularly suited for all applications where a compact and portable yet robust camera is essential:

- 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 eccentric presses and similar devices

Why the Q-VIT ?

- Ultra-high resolution of 3MPixel at 500fps
- Robust design – designed for many years of rough handling in HiG-applications (milled aluminum)
- Simple to use – the camera control software is easy to use, even for novices and occasional users; operator training is not necessary – yet provides full control of the camera settings and functions
- Autonomous operation – the built-in battery allows you to use the camera without external power cables and power supplies. Ideal for troubleshooting appliances on the factory floor

Unique features

- **High Sensitivity** – the Q-VIT offers a light sensitivity greater than in previous cameras models. In many applications and settings, the camera delivers well-lit images without extra illumination, while in others only minimal extra light is necessary.
- **High Sensitivity** – High light sensitivity also allows for crisper images as motion blur, associated with fast moving objects can be substantially reduced by a shorter shutter time, and depth of field can be extended by stopping down the lens – both parameters are essential to create better, more informative images
- **Modular concept** – you don't have to buy an off-the-shelf product which might or might not suit your application. Have your S-VIT configured for a perfect match by choosing from an extensive range of extension.
- **Selectable ROI** – the customer can select the most suitable image format (ROI, region of interest) almost without limitations, for best camera performance and image quality



Car crash (on board)



Car crash (off board)


Your local AOS partner:

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



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Technical key specifications

Image Sensor	Progressive CMOS, 1696 x 1710 pixels, mono or color
Sensor size (@ full resolution)	13.56 x 13.68 mm, 8 µm pixel size
Light sensitivity	ISO 3200 (monochrome), ISO 1600 (color)
Dynamic range	8 bit, adjustable by user
Gain control	User selectable, available HDR mode
Frame rate at full resolution	500 fps @ 1696 x 1710 pixels
Typical fps/resolution settings	1300 x 1060 @ up to 1'000fps 900 x 700 @ up to 2'000fps 512 x 512 @ up to 4'200fps
Max. frame rate	100'000 fps
Shutter type	Global electronic shutter
Shutter exposure times	2 µsec to 1/frame rate
Image memory	Built-in DRAM, circular buffer
Sequence length	0.9 sec @ 1696 x 1710 / 500fps (1.3 GB memory) 1.8 sec @ 1696 x 1710 / 500fps (2.6 GB memory) 3.6 sec @ 1696 x 1710 / 500fps (5.2 GB memory) 7.2 sec @ 1696 x 1710 / 500fps (10.4 GB memory)
Data Interface	Gigabit Ethernet (1'000 Mb/s) RJ45, other connectors on request
Frame synchronisation	Sync in, Sync out (TTL)
Multi-camera operation	Yes
Memory Interface	Built-in CF interface (optional), accepting CF cards for non-volatile data storage
Power supply	12 VDC (9...16VDC), other voltage ratings available on request
Power consumption	14 W (w/o data link), 18 W (with data link)
Battery	Built-in, rechargeable NiMH battery allowing up to 3 hours camera operation.
Video Interface (optional)	SDI (digital) or PAL/NTSC (analog)
IRIG B Interface (optional)	IRIG B time stamping (requires external IRIG-B122, amplitude modulated signal)
24 V Interface (optional)	Voltage range (24 – 36 V DC)
Ext. temp range, storage	-40 ... +50 °C (-40 ... +120 °F)
Ext. temp range, operation	0 ... +45 °C (32 ... 113 °F)
Shock resistance	100G for 15msec, 3 axis , up to 200G during short peaks
Size, weight (standard model)	71 x 71 x 122 mm, 1100 gr
I/O Connector	LEMO Type: FGG.2B.314.CLAD82Z ODU Type: S22LOC-P14MFG0-8200  1 GND (-) 2 V In (In) 3 Remote On (In) 4 Sync In (In) * 5 Sync Out (Out) * 6 Set-to-Rec (In) 7 Trigger (In) 8 Strobe (Out) 9 Armed (Out) 10 Triggered (Out) 11 Status 1 (In) 12 Status 2 (In) 13 Status 3 (In) 14 Status 4 (In) different pinout configuration on request
CE	In compliance with relevant standards