AOS Technologies AG

Q-EM High Speed Camera

PRODUCT LEAFLET | TECHNICAL SPECS | APPLICATION NOTE

Technical specifications

Product type	Digital high speed camera

Image Sensor	CMOS Progressive Sensor
Image Sensor	Monochrome or color (with Bayer pattern)
Pixel size	8 µm
Dynamic range	8bit
Gain control	User selectable
Sensitivity	ISO 2000 (monochrome), ISO 1000 (color)
Image Resolution	1696x 1710 pixels
Image size	1696 x 1710: 13.56 x 13.68 mm
Frame rate	500 fps @ 1696 x 1710 pixels
Max. frame rate	100,000 fps
ROI	Free selectable
Shutter type	Global electronic shutter
Shutter exposure times	1 µsec to 1/frame rate
Frame synchronization Multi-camera operation	Sync in, sync out (TTL)

Image memory	Built-in, DRAM
Image memory type	Circular buffer
Standard capacity	2.6 GB
Optional	5.2, 10.4 GB
Memory upgrade	Possible, factory upgrade
Sequence length	1.8 secs @ 1696 x 1710 / 500 fps (2.6 GB memory) 3.6 secs @ 1696 x 1710 / 500 fps (5.2 GB memory) 7.2 secs @ 1696 x 1710 / 500 fps (10.4 GB memory) Sequence length can be extended by reducing the image resolution resp. frame rate

Data Interface	Gigabit Ethernet
Memory Interface	Built-in CF interface, accepting CF cards for non-volatile data storage
Status lines	1 (TTL, input), control the 'event markers' Other configuration of status lines available on request

Power supply	28 VDC (24…36 VDC)
Power consumption	14 W (w/o data link), 18 W (with data link)
Battery	Built-in, rechargeable NiMH battery allowing 30 minutes camera operation. Optional 'extended battery pack' with 2 hour capacity

Extensions

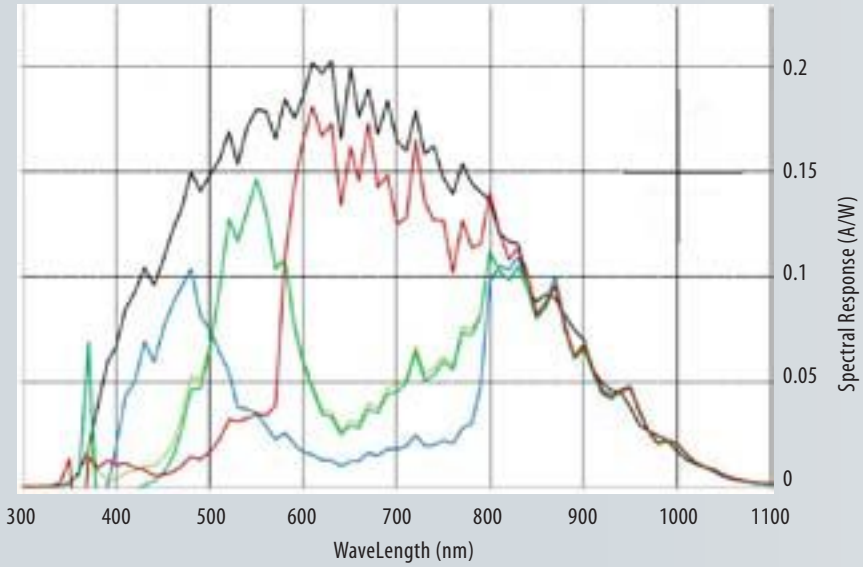
Extensions are additional hardware components, to be ordered with the camera.

Extended battery pack	2 hours battery capacity
Video Interface	SDI (digital) or PAL/NTSC (analog)

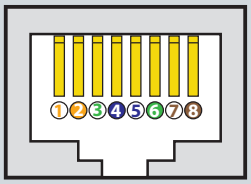
Certifications

CE	In compliance with relevant standards
EMC tests	In compliance with MIL-STD-461E (pending)
Environmental tests	In compliance with MIL-STD-810 (pending):
Ambient air condition	Meth. 501.4, Proc. I, Tab. 501.4II (pending)
Sever cold	Meth. 502.4, Proc. I, Tab. 502.4II (pending)
Temp. shock	Meth. 503.4, Proc. I, Tab. 503.4II (pending)
Low altitude	Meth. 500.4, Proc. II (pending)
Vibration	Meth. 514.5, Proc. I, Cat. 12, Fig. 514-5C8 (pending)
Mech. shock	Meth. 516.5, Proc. I, Tab. 516.5-1 (pending)
Humidity	Meth. 507.4, Fig. 507.4-1, modified (2 cycles) (pending)

Spectral response



Connectors

Data Connector	
1 Tx + 2 Tx – 3 Rx + 4 5 6 Rx – 7 8	
Connector type:	**RJ45** (lockable)

I/O Connector	
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/Out) 12 GND 13 GND 14 IRIG-B (In) different pinout configuration on request	
Connector type:	**LEMO** Type: FGG.2B.314.CLAD82Z **ODU** Type: S22LOC-P14MFG0-8200

Environmental conditions

Shock resistance	Robust design, designed/built to withstand severe shocks up to 100 G for 15 msec, 3 axis
Operating temperature	-45 … +60 °C (-49 …140 °F)
Storage temperature	-55 … +80 °C (-67 …176 °F)
Operating humidity	max. 80 %, non condensing, at 45 °C (113 °F) for 8 hours
Storage humidity	max. 40 %, non condensing, at 70 °C (158 °F) for 48 hours

Control PC – minimum requirements

CPU	Pentium 4, 2 GHz with MMX
DRAM	2 GB
HDD	60 GB
Interfaces	GigE
OS	MS Windows XP PRO, VISTA, Win7

The control PC for an AOS high speed camera has to meet or exceed these minimum requirements for a reliable, convenient camera performance. PC's with lower specifications may result in a camera performance below the indicated ones.