



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	14 µm
Dynamic range	5-, 8- or 10 bit (user selectable with option 1)
Gain control	Low-, mid- and high gain (user selectable with option 1)
Dynamic range	5-, 8- or 10 bit (optional, user selectable)
Sensitivity	ISO 2500 (monochrome), ISO 800 (color)
Image Resolution	800 x 600 pixels (1280 x 1024 pixels with option 2)
Image size	800 x 600: 11.2 x 8.4 mm (= approx. 1" image format) 1280 x 1024: 18.2 x 14.5 mm (exceeding 1" format)
Frame rate	1,000 fps @ 800 x 600 pixels
Max. frame rate	1,000 fps (4'000 fps with option 3)
ROI	800 x 600 or 400 x 300 (200 x 150, option 3) Free selectable (option 2)
Shutter type	Global electronic shutter
Shutter exposure times	1 µsec to 1/frame rate

Image memory	Built-in, DRAM
Image memory type	Circular buffer
Standard capacity	1.3 GB
Optional	2.6, 5.2, 10.4 GB
Memory upgrade	Possible, factory upgrade
Sequence length	2.8 secs @ 800 x 600/1000 fps (1.3 GB image memory) 5.6 secs @ 800 x 600/1000 fps (2.6 GB image memory) 11.1 secs @ 800 x 600/1000 fps (5.2 GB image memory) 22.2 secs @ 800 x 600/1000 fps (10.4 GB image memory) Sequence length can be extended by reducing the image resolution resp. frame rate

Data Interface	Gigabit Ethernet
Video Interface	Optional, see below
Memory Interface	Optional, see below
Status lines	1 (TTL, input) 3 additional status lines (option 4) Used to control the 'event markers'

Power supply	12 VDC (9...16 VDC)
Power consumption	10 W (w/o data link), 15 W (with data link)
Battery	Built-in, rechargeable NiMH battery allowing 45 minutes camera operation

Options

Options are software-based upgrades to extend the cameras performance and functionality. They can be purchased together with a new camera, or at any time later. Options for existing cameras will be sent electronically and can be installed by the operator within minutes.

Option 1	Gain control
Option 2	Full resolution (1280 x 1024 pixels) User selectable ROI
Option 3	Extended speed (4'000 fps)
Option 4	3 additional status lines (total of 4)
Option 5	Frame synchronization (sync in / sync out) Multi camera operation
Option 6	AOS Imaging Studio FULL version, incl. – Image tab (image control functions) – auto download – image cropping

Extensions

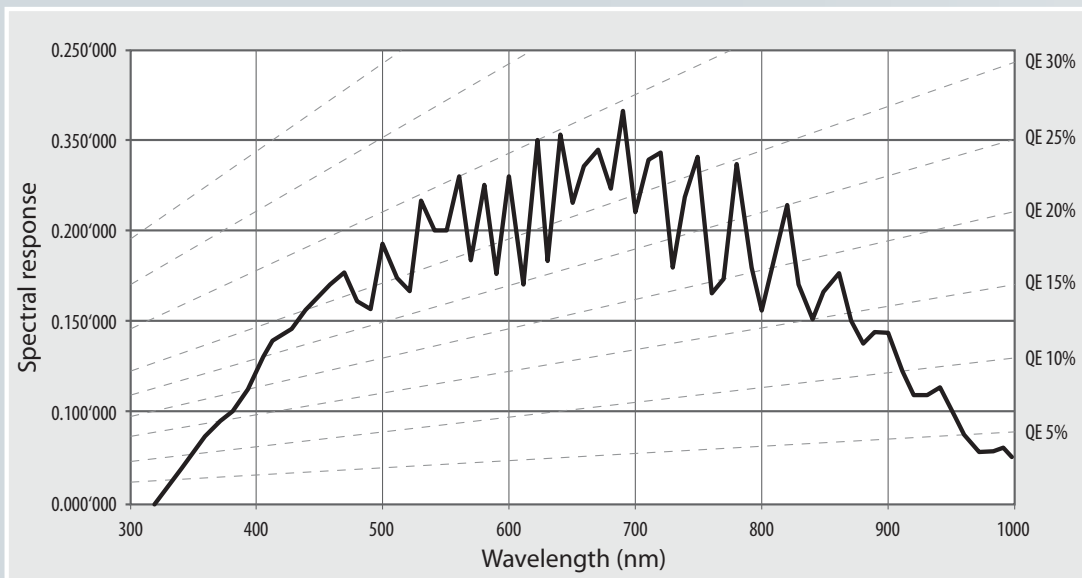
Extensions are additional hardware components, to be ordered with the camera.

Video Interface	Video out (digital SDI, or analog PAL or NTSC)
CF Interface	For CF memory cards (SanDisk Extreme)
IRIG B Interface	IRIG B time stamping (requires external IRIG-B122, amplitude modulated signal)
24 V Interface	Extended voltage range (24 – 36 V DC)
Ext. temp range Coating	-40...+50 °C (-40...+120 °F) To protect electronics against humidity

Certifications

CE	In compliance with relevant standards
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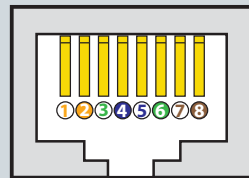
Spectral response



Connectors

Data Connector

- 1 Tx +
- 2 Tx -
- 3 Rx +
- 4
- 5
- 6 Rx -
- 7
- 8



Connector type:

RJ45

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 Status 2 (In/Out) *
- 13 Status 3 (In/Out) *
- 14 Status 4 (In/Out) *

* optional



Connector type:

LEMO Type: FGG.2B.314.CLAD82Z

ODU Type: S22LOC-P14MFG0-8200

Environmental conditions

Shock resistance	Robust design, but not designed/built to withstand severe shocks
Operating temperature	0 ... +40 °C (32 ... 104 °F)
Storage temperature	-40 ... +70 °C (-40 ... 158 °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

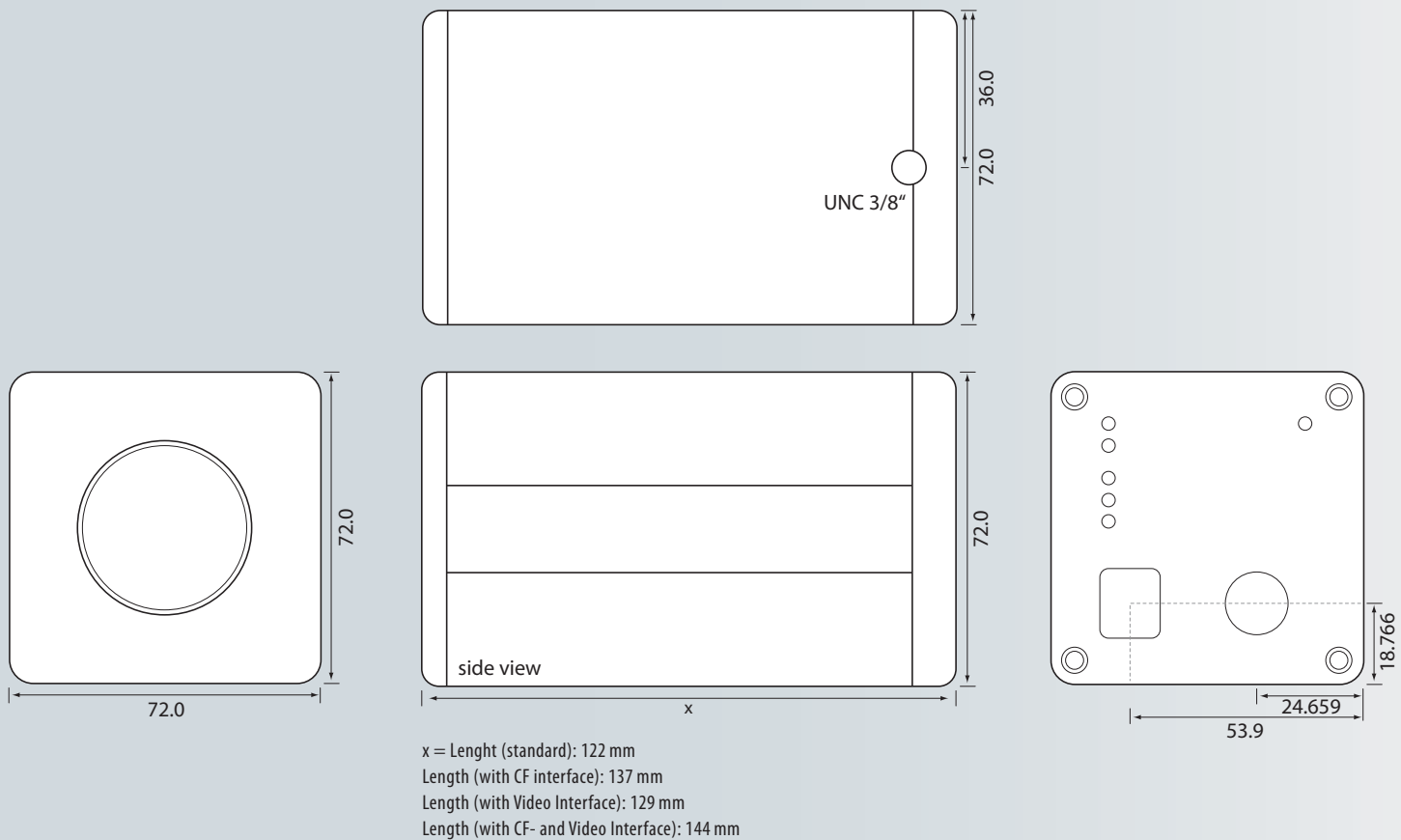
CPU	Pentium 4, 2 GHz with MMX
DRAM	2 GB
HDD	60 GB
Interfaces	GigE
OS	MS Windows 2000, XP PRO, VISTA

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.

Dimensions / weight / mechanics

Dimension (w/o options)	72 x 72 x 122 mm (w/o lens and extensions)
Weight	900 gr (w/o lens and extensions)
Lens mount	c-mount, adjustable backfocus 1" lens format covers image format at 800 x 600 Full format of 1280 x 1024 (option 2) requires lenses with an image size larger than 1" (i.e. F-mount lenses with adapter)
Camera mount	Standard 3/8" thread with 1/4" brass insert

Dimension / Mounting



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