

# N-EM

## High Speed Camera

Proven technology  
for the harsh environment



Imaging for smart decisions...



### Superior image quality

1920 x 1080 Full HD  
resolution at up to  
1000 fps for crisp  
clear images.



### Non volatile 64GB flash memory

Imminent backup  
of recording data to flash  
memory.  
Never lose image data.



### Interfaces

Removable CFast  
Flash Disk and  
HD-SDI output  
on camera.



### Environmental

N-EM is tested in  
accordance with  
MIL810 and MIL461  
standards

## N-EM – the ultimate rugged, high resolution airborne camera.

- **Small, light sensitive sensor ideal for recording under low light conditions in tight spaces.**

The N-EM is particularly well suited for all applications where a compact, portable, high resolution camera may be used under the toughest environmental conditions. The highly light-sensitive sensor provides Full HD 1920 x 1080 pixels, with framing speeds of up to 1000 fps. These features are embedded in a compact and rugged design that suits even the most ambitious application. The N-EM is designed and officially tested in accordance with MIL 810 and MIL 461 standards. Offering a wide range of signals for external control and feedback on camera status during operation, the N-EM is a genuine all-in-one camera.

Fast download of your image sequence is achieved via Gigabit Ethernet or CFast removable cards. The N-EM also supports IRIG-B input for synchronization and time stamping as well as an HD-SDI video output.



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# N-EM | Key Specifications

## Typical frame rates vs resolution

1920	1400	840 fps
1920	1080	1000 fps
1920	588	2000 fps
1920	390	3000 fps
1920	290	4000 fps
1920	230	5000 fps

## Recording time

Memory Size	8 GB	16 GB
1920 x1080 @ 1000 fps	4 sec	8 sec

## Optical/Sensor specifications

Image Sensor	CMOS sensor
Pixel Size	6.6 microns
Sensor Format	1" 12.67 x 9.24 mm
Light Sensitivity	ISO 10'000 (monochrome), ISO 5000 (color) without gain
Dynamic Range	Mono 10 Bit / Color 30 Bit
Shutter Type	Global, independent of frame rate
Exposure Time	Free adjustable from 2 µsec to 1 / framing rate by software
Lens Mount	C-Mount or optional EF / F-Mount

## Software and camera operation

Live Video	Live video out and playback via Ethernet and HD-SDI
Buffer Type	Circular buffer, customizable size
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, shock trigger (high-G trigger)
Battery	Rechargeable battery for up to 10 mins operation and/or memory backup
Auto Exposure	Auto exposure for automatic brightness control
Auto Download	Auto download to PC or CFast card
Export Formats	Export in all popular movie and single image formats supported
Control software	AOS Imaging Studio v4 for parametrization, recording, editing and exporting/converting of recordings included

## Data interface

Data I/O	Gigabit Ethernet RJ45 lockable Solid 14 pin LEMO connector, compatible with all AOS camera series
HD-SDI	High Definition Serial Digital Interface in accordance with SMPTE 292M
I/O Tolerance	TTL compatible I/O, up to 24V 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 122 Input for frame synchronisation and time stamping
Power Requirements	10...36V/30 Watts

Please check technical camera manual for detailed information

## Options and add-on

Camera Memory	8 GB or 16 GB
Non-volatile Memory	Removable CFast interface with auto download functionality
C-F-Mount Adapter	For F-Mount lenses, with dial for F-stop
C-EF-Mount Adapter	For EF-Mount lenses, remote control of Focus and aperture

## Certifications (pending)

CE	In compliance with relevant standards
EMC Tests	In compliance with MIL-STD-461E
Environmental Tests	In compliance with MIL-STD-810
Ambient Air Condition	Meth. 501.4, Proc. I, Tab. 501.411
Severe Cold	Meth. 502.4, Proc. I, Tab. 502.411
Temp. Shock	Meth. 503.4, Proc. I, Tab. 503.411
Low Altitude	Meth. 500.4, Proc. II
Vibration	Meth. 514.5, Proc. I, Cat. 12, Fig. 514-5C8
Mech. Shock	Meth. 516.5, Proc. I, Tab. 516.5-1
Humidity	Meth. 507.4, Fig. 507.4-1 modied (2 cycles)

## Physical specifications

Size & Weight	width: 75 mm / height: 75 mm / length: 123 mm / 1.25kg width: 2.95" / height: 2.95" / length: 4.84" / 2.76 lb
Operating Temperature	-51 ... + 49 °C / -60 ... +120 °F
Storage Temperature	-51 ... +70 °C / -60 ... +158 °F
Shock Resistance	150 g / 10 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



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Specifications are subject to change without prior notice – v04.2023