PIV.Nano Camera

ILA.PIV.Nano is a compact size camera with one of the highest quantum efficiency in the PIV branch. A compact camera head and integrated digital temperature compensation leads to such a small footprint.

- an interframing time down to 1μs
- a versatile USB 2.0 connection
- 14 bit dynamic range
- >60% quantum efficiency

are the key features when it comes to PIV measurements.
In addition to its pocket size dimensions and high-end performance, it is situated in the lower price segment for scientific cameras, making it ideal for smaller budgets.

Data Sheet
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PIV.Nano Camera

General

power supply	9..28 VDC (12 VDC typ.)
power consumption	< 4 W
weight	250 g
operating temp.	+10 °C .. +45 °C
operating humidity	10% .. 80% (non-condensing)
storage temp range	-20 °C .. +70 °C
optical interface	C-mount*
CE certified	yes

* F-mount available upon request

Frame rate table

	normal		center	
Pixelclock [MHz]	12	25	12	25
1392x 1040Px [fps]	7.3	13.5		
v2 binning [fps]	14.7	27	21.8	40.4

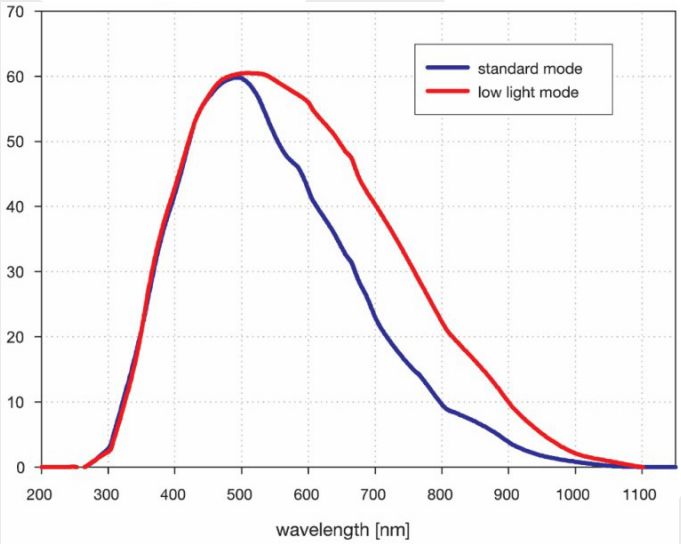

Image Sensor

type of sensor	CCD
image sensor	ICX285AL
resolution (h x v)	1392 x 1040 pixel (normal) 800 x 600 (center)
pixel size (h x v)	6.45 µm x 6.45 µm
sensor format	2/3”
diagonal	11.14 mm
shutter mode	global (snapshot)
dynamic range	2667 : 1 (68 dB, 12MHz, full frame)
quantum efficiency	62% @ peak
spectral range	290 nm .. 1100 nm
MTF	77.5 lp/mm (theoretical)
fullwell capacity	16 000 e^- (full frame) 24 000 e^- (binning)
readout noise	5 .. 7 e^- rms @ 12 MHz (typ.) 6 .. 8 e^- rms @ 24 MHz (typ.)
dark current	1 e^-/pixels/s @ 23 °C
DSNU[1]	< 2 e^- rms
PRNU[2]	< 1%

Camera

frame rate	7.3 / 13.5 fps (12 / 25 MHz, normal) 11.7 / 21.6 fps (12 / 25 MHz, center)
exposure / shutter time	1 µs .. 60 s
interframing time	1 µs
dynamic range A/D	14 bit
A/D conversion factor	1.0 e^-/count
pixel scan rate	12 MHz / 24 MHz
pixel data rate	19.5 Mpixel/s
binning (hor x ver)	1 x 1 .. 2 x 2
non linearity	< 1%
smear	< 0.002 %
anti-blooming factor	> 400 (standard 100 ms exposure) > 4 (NIR enhanced 100 ms exposure)
trigger input signals	software / TTL level
trigger output signals	3.3 V LVTTL level
data interface	USB

[1] Dark signal non-uniformity measured in a 90% center zone of the image sensor
[2] Photo response non-uniformity

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