ILA.PIV.Nano Camera

The camera with one of the highest quantum efficiency value in the PIV branch is also at the same time the smallest available camera. The small form factor is enabled through the design of the ultra compact camera head and the integration of digital temperature compensation.

The ILA.PIV.Nano camera comes with a 14 bit CCD image sensor, which is specially designed for low light applications in the visible spectral range.

In addition to the pocket size dimensions and high-end performances, it also has a low price making it the perfect camera for smaller budgets.
**Specifications**

**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**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Pixelclock [MHz]</th>
<th>Normal fps</th>
<th>Normal center fps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1392 x 1040</td>
<td>12</td>
<td>7.3</td>
<td>13.5</td>
</tr>
<tr>
<td>v2 binning</td>
<td>14.7</td>
<td>27</td>
<td>21.8</td>
</tr>
</tbody>
</table>

**Image Sensor**
- Type of sensor: CCD
- Image sensor: ICX285AL
- Resolution (h x v): 1392 x 1040 pixel (normal)
- 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: > 65% @ peak
- Spectral range: 290 nm .. 1100 nm
- MTF: 77.5 lp/mm (theoretical)
- Fullwell capacity: 16 000 e- (full frame)
- Readout noise: 5 .. 7 e- rms @ 12 MHz (typ.)
- Dark current: 1 e- / pixels/s @ 23 °C
- DSNU1: < 2 e- rms
- PRNU2: < 1%

**Camera**
- Frame rate: 7.3 / 13.5 fps (12 / 25 MHz, normal)
- Exposure / shutter time: 5 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)
- Trigger input signals:
  - Software / TTL level
  - 3.3 V LV TTL level
- Trigger output signals:
  - 3.3 V LV TTL level
- Data interface:
  - USB

**Quantum efficiency**

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

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