

h·nü 240

BUILT FOR
ADAPTIVE OPTICS

OVER 3000 FPS FULL
FRAME, IMAGING EVEN IN
NEAR-TOTAL DARKNESS



RETHINK EMCCD

A NEW STANDARD FOR LOW LIGHT IMAGING

OUTSTANDING SNR THANKS TO

Patented electronics decreasing inherent EMCCD camera noise for true photon counting

Lowest background signal and highest electron-multiplying (EM) gain, up to 5000, in inverted mode of operation (IMO) for optimal results in ultra low-light conditions

Sealed body with fully liquid cooling to prevent unwanted airflow while eliminating thermal gradients

Run at higher frame rates to outpace the changing atmosphere with a resolution critical to focal plane wavefront sensing

FASTER ACQUISITIONS, thanks to frame rates up to 3015 fps in full frame and 35.5 μ s first pixel latency at 30 MHz readout rate with ULTIMATE SENSITIVITY enabling highly efficient low-flux imaging

SUPERIOR IMAGE QUALITY thanks to greater charge transfer efficiency

NO NOISE-FILTERING ALGORITHMS the amount of noise generated is simply lower, eliminating the risk of removing genuine photoelectrons

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CHARACTERISTICS

SPECIFICATIONS

Sensor	CCD220
Imaging Area	240 x 240 pixels 24 μ m x 24 μ m pixel area
Outputs	8
Readout Rate	30 MHz
Frame Rate*	up to 3015 fps full frame
First Pixel Latency**	35.5 μ s
Maximum EM Gain	5000
Effective Readout Noise*	< 0.2 e with EM gain
Cooling Temperature	-45°C
Background Signal*	< 0.00115 e/pixel/frame at EM Gain 1000
Charge Transfer Efficiency	> 0.99999
Linearity	< 1%
Triggering Options	Internal or External
Quantization	14 bits

* Data measured at 30 MHz, 3015 fps

**From end of exposure trigger. Lower latency available with windowing

QUALITY PRIORITY

All parts are treated in compliance with the highest requirements and assembled in a Class 10,000 cleanroom to ensure the longest lifetime without maintenance. All our cameras come with a standard 2 year warranty.

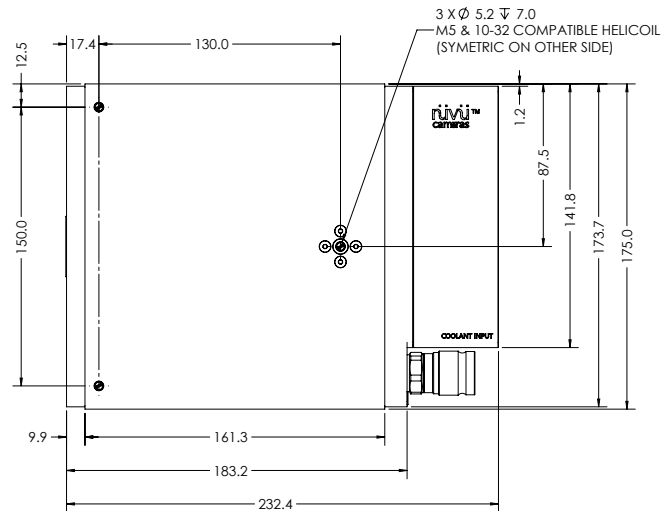
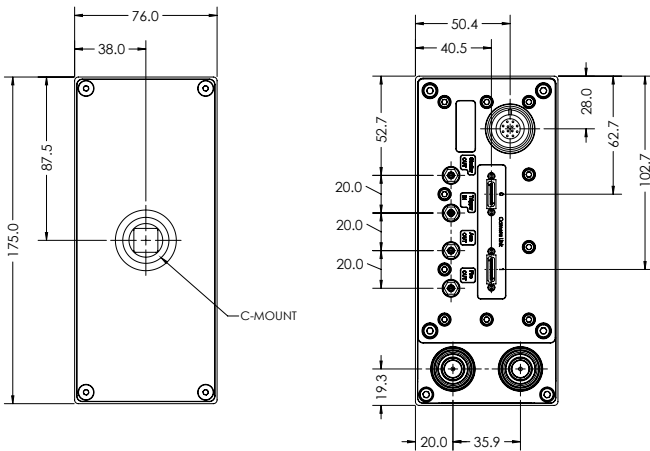
COMPUTER REQUIREMENTS:

- › Communication interface: PCIe Camera Link Extended Full
- › Operating system: Windows (XP, 7 & 10) and Linux (CentOS & Ubuntu)

CAMERA ENVIRONMENT:

- › Operating temperature: 0°C to 30°C
- › Humidity: < 90 % (non-condensing)
- › Power Input: 100 – 240 V, 50 – 60 Hz, max. 3 A

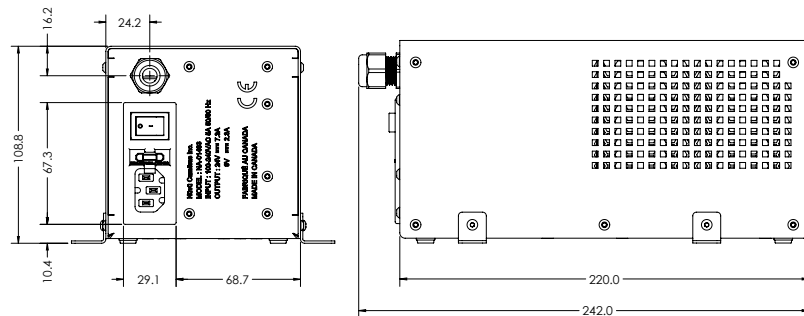
TECHNICAL DRAWINGS



FEATURES

FOR FASTER ACQUISITION AND FOR MORE VERSATILITY:

- › Liquid chiller accessory
- › Vacuum compatible cooling
- › Regions of Interest (ROI)
- › Binning



TYPICAL QUANTUM EFFICIENCY

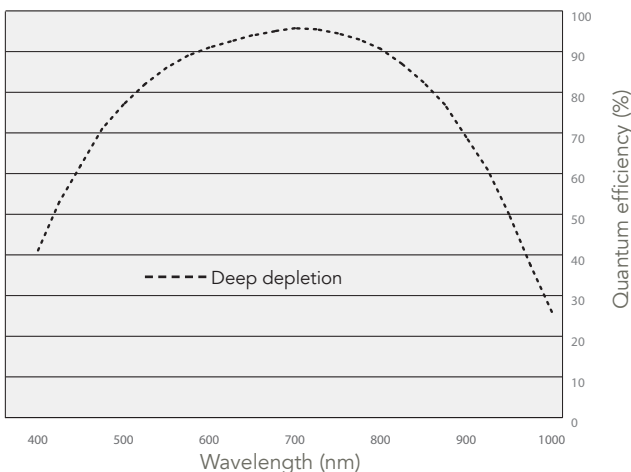


Fig 1. Typical spectral response as a function of wavelength, as specified by the detector manufacturer

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 HNü 240 Specification Sheet 3.2
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