nüvü cameras

every photon counts

h·nü TDI

HIGH SENSITIVITY TIME-DELAY INTEGRATION MODE

A NEW STANDARD FOR LOW LIGHT IMAGING

NÜVÜ™ TDI CAMERA

OPTIMIZED FOR DEMANDING SCANNING APPLICATIONS

OUTSTANDING LOW-LIGHT SCANNING PERFORMANCES:

Line rate up to 103 kHz
Resolution of 4096 (H) x 128 (V) pixels
Average readout noise lower than 65 electrons

TIME-DELAY INTEGRATION (TDI) PRINCIPLE:

A readout mode based on the concept of the accumulation of cumulative exposures of the same object as it is moving linearly under the detector. It synchronizes the transfer of the charges from one line to the next with the same speed as the object is moving under the camera.

Fig 1.
Example of imaging the word NÜVÜ using TDI readout mode. The intensity of the signal is increased as the word moves across the detector

TYPICAL SPECTRAL RESPONSE

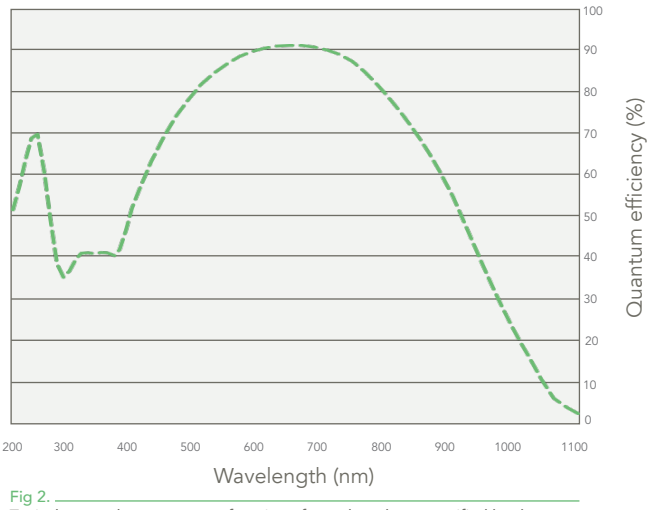


Fig 2.
Typical spectral response as a function of wavelength, as specified by the detector manufacturer

SIMPLE INTEGRATION & QUALITY PRIORITY

Nüvü Camēras offers the highest standard of technology in a compact thermoelectrically cooled camera. The technology at the heart of the HNü was originally designed for space exploration where the need for state-of-the-art instruments drives innovation. Now optimized and extended to a broad range of applications, the user- friendly HNü provides many advantages to efficiently bridge the gaps between purchase, setup, discoveries and usage.

All parts are treated in compliance with high vacuum requirements, including all metal sealed in a Class 10,000 cleanroom to ensure the longest camera lifetime without maintenance. Nüvü Camēras uses at least λ/10 quality windows, essential for optimal image quality.

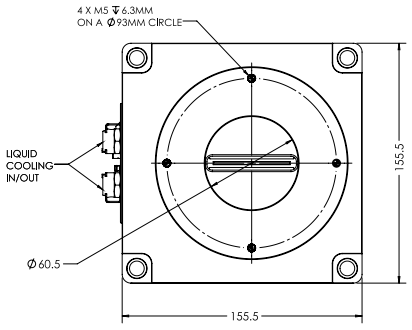
Consultation services are available on demand.

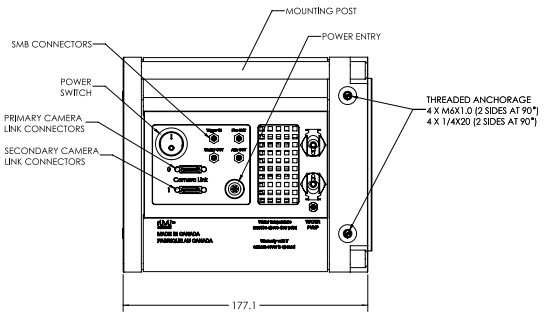
h·nü TDI

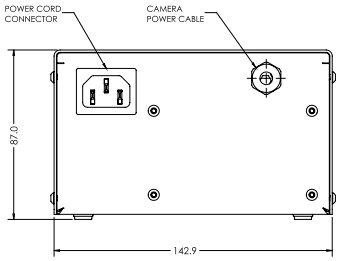
CHARACTERISTICS	SPECIFICATIONS
Line Rate	103 kHz
TDI Transfer Direction	Unidirectional
Interface	Camera Link Extended Full
Resolution	4096 x 128 pixels
Data Rate	30 MHz per output
Pixel Size	12 x 12 µm
Data Format	14 bits
Outputs	16
Size (H W D)	155.6 x 155.6 x 177.8 mm
Mass	5 kg
Operating Temperatures	0°C to 30°C
Power Supply	100-240 V, 50-60 Hz, max. 3 A
QE	See spectral graph (Fig.2)
Sensor Type	Back thinned
Effective Area	49.152 mm x 1.52 mm
Readout Mode	Conventional
TDI Line Rate Control	Internal or external
Full Well Capacity[1]	70k electrons
Readout Noise[1]	65 electrons
Binning	Vertical, 1 to full binning
Image Processing	None
Sensor Cooling	Thermoelectric, to sub-zero °C
Dark Current[1]	<130 ē/pixel/s @ 0°C

1 Typical values, these numbers may vary depending on the CCD detector.

TECHNICAL DRAWINGS







nüvü camēras

Contact us at:
info@nuvucameras.com
+1 514 733 8666
Montreal (Quebec)
CANADA

HNü TDI Specification Sheet 1.2.1