



Trax/NIR™ Back Illuminated – Back-Illuminated Near-Infrared CMOS Camera

Features

- **World's first back-illuminated CMOS camera optimized for near-infrared response**
- **1.3 megapixel high resolution (1280 x 1024 pixels) at maximum 30 fps**
- **Near-infrared anti-reflection coating**
- **Very high QE and fill factor maximizes NIR sensitivity and dynamic range**
- **100% fill factor provides sensitivity only found in expensive scientific grade CCD cameras**
- **Low noise**
- **CameraLink® interface**
- **Software selectable region-of-interest (ROI) settings**
- **Low power consumption**
- **Compact – 2 x 2 x 3 inches**
- **Includes GUI and SDK**

Applications

- **Low light NIR imaging**
- **Biometrics security**
- **NIR microscopy**
- **Medical imaging**
- **NIR Hyperspectral imaging**
- **Product inspection and sorting**

Back Illuminated Near-Infrared CMOS 1.3 Megapixel CameraLink® 1.3 Megapixel High Resolution 30 fps Digital Camera. Designed for Low Light NIR Imaging, Biometrics Security, Microscopy, Medical Imaging, and NIR Hyperspectral Imaging.



Overview

The Trax/NIR™ Back Illuminated is the world's first back-illuminated CMOS camera optimized for near-infrared response. The combination of 100% fill-factor and high Quantum Efficiency (QE) from proprietary coatings provides NIR sensitivity comparable to very expensive scientific grade CCD cameras. The C-mount compatible camera boasts a 1280 x 1024, 10.8µm megapixel resolution and 30 frames per second, full frame, flexible ROI settings and digital readout via its CameraLink® data port.

The camera has a small form factor, low power consumption, and is ideal for volume OEM applications as well as end-user applications including low light NIR imaging, biometrics security, NI microscopy, medical imaging, NIR hyperspectral imaging and product inspection and sorting. The Trax/NIR is supported by National Instruments' IMAQ™ and LabVIEW™ software.

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Specifications

General Specifications

Imaging Sensor	Back-illuminated CMOS with anti-reflection coating to optimize NIR response
Active Image Pixels	1280 (H) × 1024 (V), 1.3 megapixels
Pixel Size	10.8 μm x 10.8 μm (square grid)
Active Image Area	13.8 (H) x 11.06 mm (V), 17.7 mm diagonal
Pixel Fill Factor	100%
System Read Noise	30 e- rms
Well Capacity	40 ke
Dark Current	150 e/p/s
Cooling	Passive air cooling (no fan required)
Nonlinearity	<2%
ROI Selection	Software Selectable
Frame Rate vs. ROI	1280 X 1024: 30 fps 512 X 512: 130 fps 128 X 128: 1230 fps
Digital Output Bit Depth	10 bit monochrome
Shutter Type	Rolling Shutter and Pseudo Snapshot
Exposure Time Range (Exposure limit depends on ROI Size)	Rolling Shutter Mode: 30 usec to 6 second Pseudo Snapshot Mode: 30 usec to 260 msec
Digital Data Port	CameraLink®

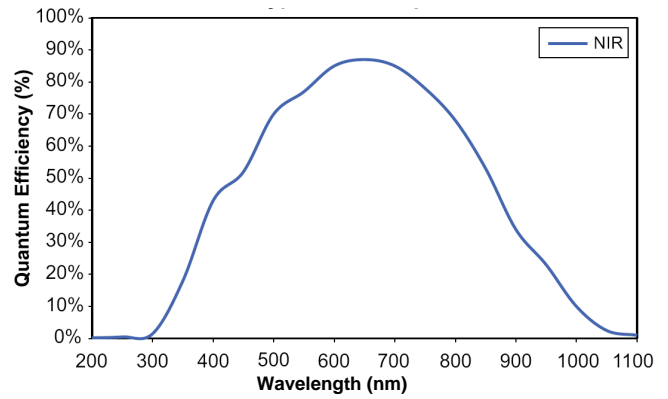
Physical and Power

Power Consumption	2 Watts @ 3.6 VDC
Lens Mount	C-Mount, 1" Optical Format
Camera Mount	1/4"-20
Dimensions	51 x 51 x 76 mm (2 x 2 x 3 inches)
Weight	225 grams (8 oz.)
Operating Temp.	-0°C to 50°C
Humidity	5%-95%, Non-condensing
Computer Operating System Platforms	Windows® Vista, Windows® XP, Windows® 2000
Conformities	CE Mark, FCC, RoHS

Ordering Information

NI-1.3CL: Trax/NIR Back Illuminated Near-Infrared CMOS Camera

Typical QE Response



Camera Drawings

