

NIRvana® LN InGaSa SWIR CAMERA

KEY FEATURES

- Liquid nitrogen cooled -190 °C
- Unparalleled thermal management
- Ultra-low dark current <10 e⁻
- Ultra-low read noise <15 e⁻
- 850-1600 nm SWIR/NIR-II sensitivity with InGaAs
- Non-destructive readout mode for real-time monitoring
- Hermetically sealed vacuum with lifetime guarantee
- Cold shielding to minimize scene noise
- Large 20 µm pixel for sensitivity
- High dynamic range with <400,000 e⁻ full well capacity
- Unrivaled scientific reputation with over 10 publications in *Nature* since 2017

TYPICAL APPLICATIONS

- *In vivo* imaging
- High-speed failure analysis
- Deep tissue imaging
- Imaging and spectroscopy of nanomaterials
- Sunspot imaging
- Singlet oxygen imaging
- Quantum dot imaging
- SWIR/NIR-II probe testing

RELIABILITY

- One-year warranty
- Lifetime vacuum guarantee

Unmatched Sensitivity in SWIR Imaging with the NIRvana LN Camera

The cryogenically cooled NIRvana® LN InGaAs SWIR camera offers exceptional sensitivity in the short-wave infrared (SWIR) region from 850 nm to 1600 nm, ensuring you can collect every photon and match your challenging SWIR samples!

The NIRvana LN stands out for its liquid nitrogen cooling, providing ultra-low dark current, low read noise, large pixels, and high quantum efficiencies. If it can be seen, you can see it with the NIRvana LN. Featuring long exposure capabilities, live monitoring, and real-time adjustments, the NIRvana LN represents the pinnacle of InGaAs technology.



NIRvana LN SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	2D InGaAs FPA
Active Array Size	640 x 512 (0.3 megapixel)
Pixel Area	20 μm x 20 μm (400 μm^2)
Sensor Area	12.8 mm x 10.24 mm (16.39 mm diagonal)
Quantum Efficiency	> 70% from 1150-1550 nm (peak QE 88% at ~1450 nm)
Spectral Response	850 – 1600 nm
Full Well Capacity	400,000 e^-
Nominal Gain	7 e^-/count
Typical Read Noise	15 e^-
Cooling Method	Liquid nitrogen (with >30 hour hold time)
Dark Current	10 $\text{e}^-/\text{p/s}$ @ -190 °C
Thermostating Precision	± 0.05 °C across entire temperature range
Blemish Specification	Grade A: < 2% defects
Cold Shield	f#/1.5; Light cone angle $\theta = 14.4^\circ\text{C}$
Optical Mount	F-Mount, Spectrometer Mount
Output Interface	GigE
Digitization	16-bit
Read Modes	Standard readout, Non-destructive readout (NDRO)
Shutter	Global shutter
Exposure Time Range	< 100 μs to > 60 minutes
Window Material	Fused silica (AR coated)
Operating Temperature Range	0 °C to 30 °C
Camera Weight	15.43 lbs, 7.0 kg (empty); 19.40 lbs, 8.8 kg (full)
Camera Dimensions	295.30 x 206.50 x 297.20 mm (L x H x W)
Certification	CE

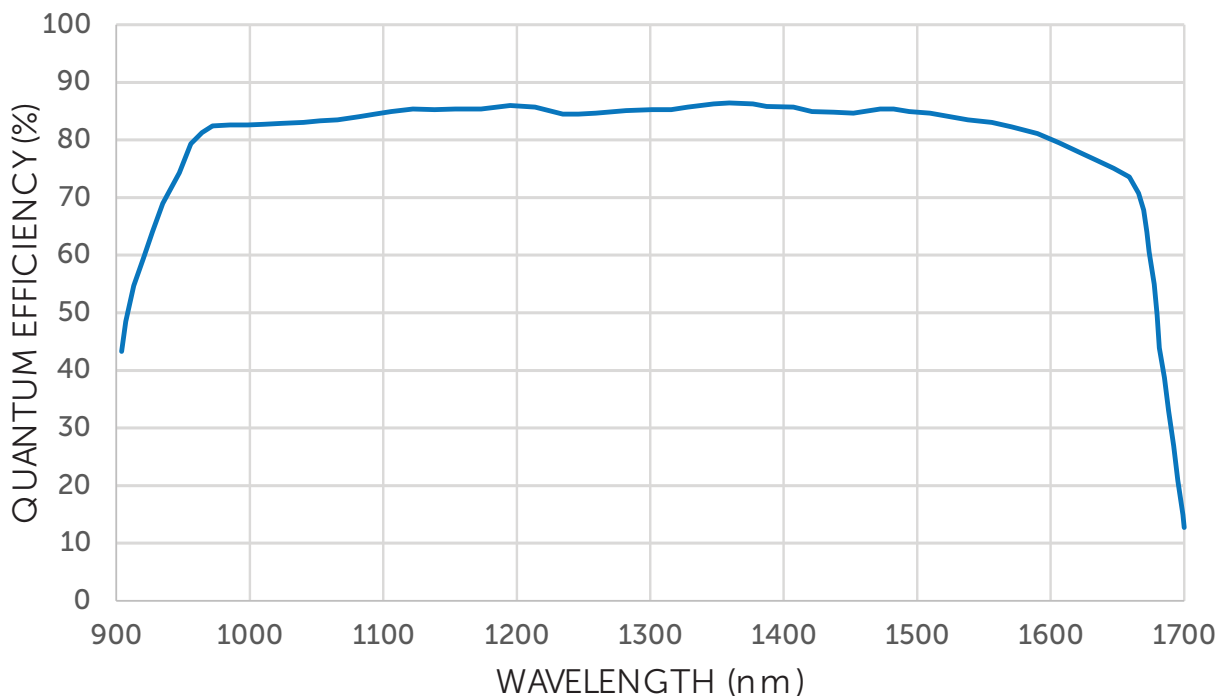
NIRvana LN SPEED TABLES

Camera Scan Rates		
Specifications	250 kHz	125 kHz
Frame Rate	2.77 fps	1.4 fps

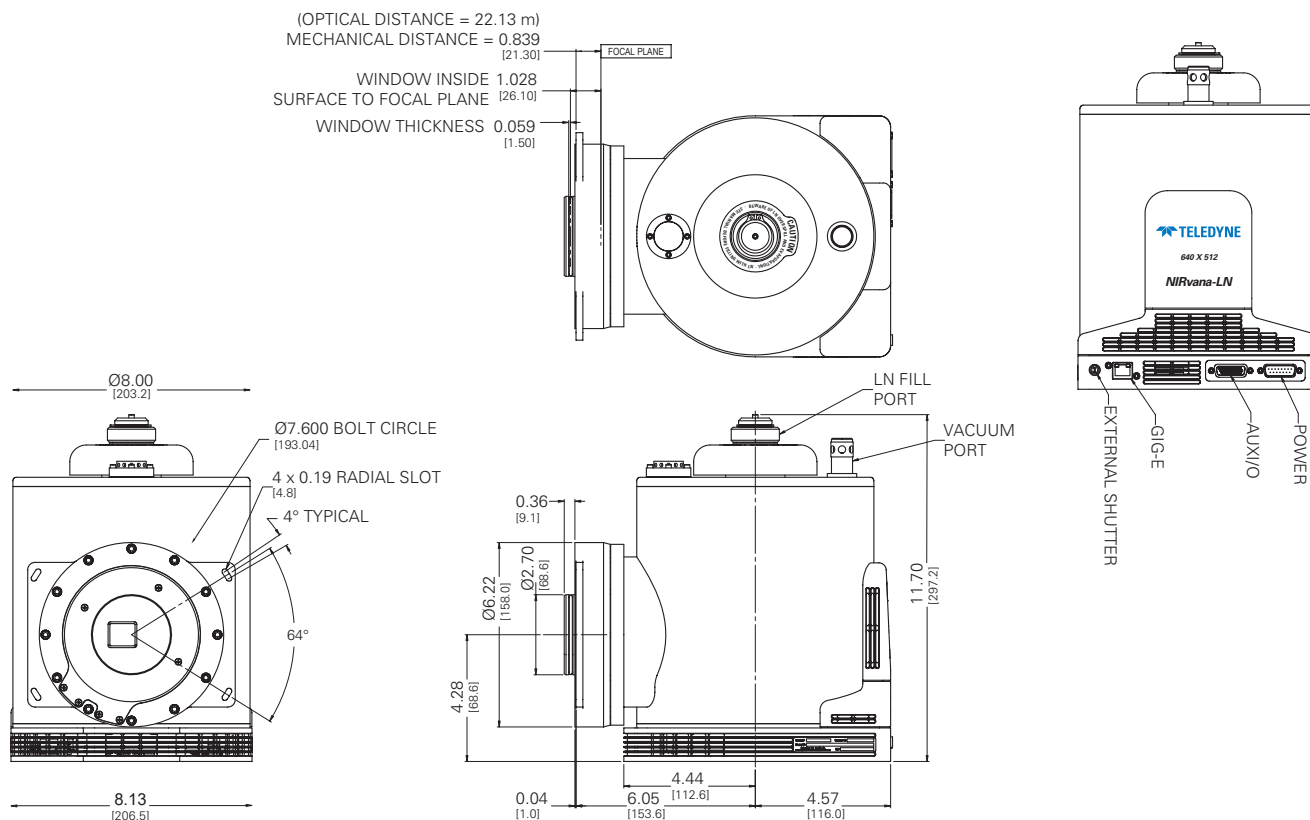
NIRvana LN ACCESSORIES

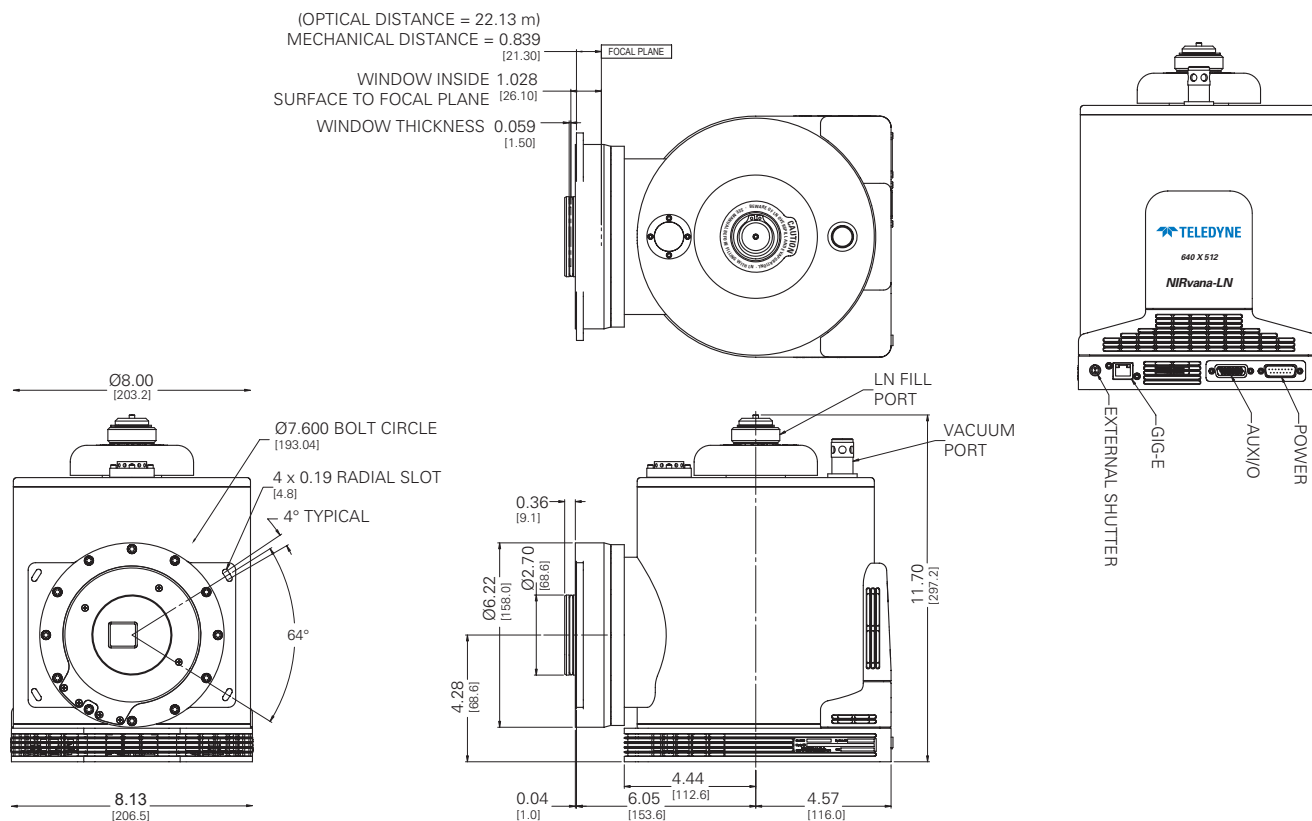
ACCESSORIES (Included)	ACCESSORIES (Optional)
GigE Data Cable	Additional optical adapters
Power Supply (12V/10A DC)	
PICAM drivers/software	
Quick start guide	
Performance and gain test data	

NIRvana LN QE CURVE



NIRvana LN (F-MOUNT ADAPTER) DIMENSIONAL OUTLINES (Unit: mm)



NIRvana LN (SPECTROMETER ADAPTER) DIMENSIONAL OUTLINES (Unit: mm)

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Specifications in this datasheet are subject to change.
 Refer to the Teledyne Princeton Instruments website for most current specifications.

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Revision Date: 2025 01 10