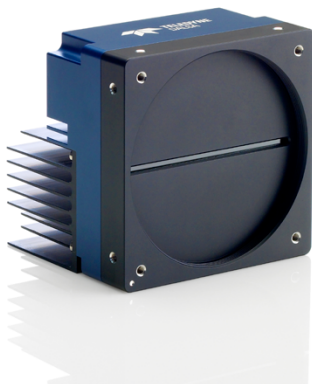




Piranha XL 16K
Multi-line CMOS Color TDI Camera

Multi-line CMOS Color TDI Camera Delivers Breakthrough Performance



Teledyne DALSA presents our latest multi-line CMOS color camera—Piranha™ XL 16k. This camera delivers an unprecedented combination of speed and responsivity with low noise and in color. Each color uses four rows, resulting in an exceptionally responsive tricolor operation with no color interpolation.

The camera uses the field-proven Camera Link HS™ interface based on Teledyne DALSA's technology. The camera achieves very high data throughput with long transmission distances and reliability. This camera, combined with the XTium Camera Link HS frame grabber, offers a complete solution for the next generation Automatic Optical Inspection.

Specifications

Resolution	16,352 x 12 pixels (4 rows per color)
Line Rate	40 kHz / 70 kHz maximum x 3 (120 kHz / 210 kHz aggregate)
Pixel Size	5 μm x 5 μm
Data Format	8 bit
Output	Camera Link HS (1 or 2 cables)
Lens Mount	M90 x 1 mm
Peak Responsivity	21 nJ / cm ² @ 460 nm, 8 bit, 1x gain 22 nJ / cm ² @ 525 nm, 8 bit, 1x gain 25 nJ / cm ² @ 625 nm, 8 bit, 1x gain
NEE	20 pJ / cm ² @ 460 nm 18 pJ / cm ² @ 525 nm 12 pJ / cm ² @ 625 nm
Nominal Gain Range	1x to 5x
Antiblooming	> 100x
Size	97 (W) x 97 (H) x 85.2 (D) mm (40 kHz model) 97 (W) x 140.21 (H) x 78.7 (D) mm (70 kHz model)
Mass	790 g (40 kHz model) 1080 g (70 kHz model)
Operating Temp	0 to +60 °C (front plate)
Power	+12 V to +24 V DC, Hirose 6-pin
Power Dissipation	29 W, max (40 kHz model) 36 W, max (70 kHz model)
Control & Data	Camera Link HS
Regulatory Compliance	CE and RoHS

Key Features

- Trilinear color TDI sensor
- True exposure control
- Up to 70 kHz of three line RGB data
- High full well maximizing signal-to-noise
- High dynamic range using a look-up table (LUT)
- Bidirectional scanning
- Smart lens shading correction
- Parallax correction for applications using angled cameras
- CX4 active optical cable compatibility

Programmability

- Sub-pixel spatial correction for precise encoder timing alignment
- White balancing
- Multiple areas of interest (AOI) for data reduction
- Multiple regions of interest (ROI) for easy calibration
- Lens and shading correction
- Test pattern and diagnostics

Typical Applications

- Flat panel display inspection
- Film and web inspection
- Printed circuit board inspection
- High throughput and high resolution applications
- Print inspection

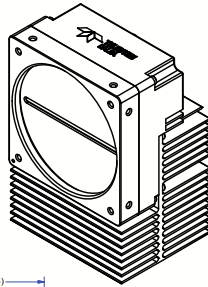
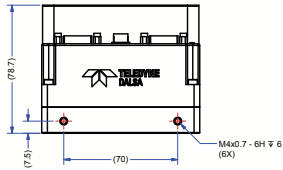
Models			
Part Number	Resolution	Maximum Line Rates	Pixel Size
PX-HC-16K04T-00-R	16,352 x 12	40 kHz x 3 (120 kHz aggregate)	5 μm x 5 μm
PX-HC-16K07T-00-R	16,352 x 12	70 kHz x 3 (210 kHz aggregate)	5 μm x 5 μm



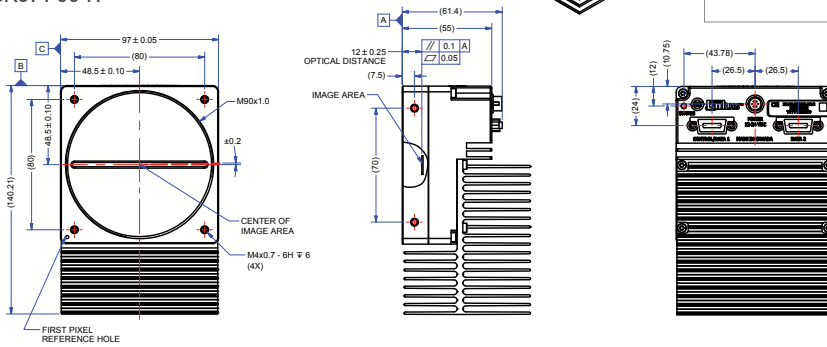


Piranha XL 16K

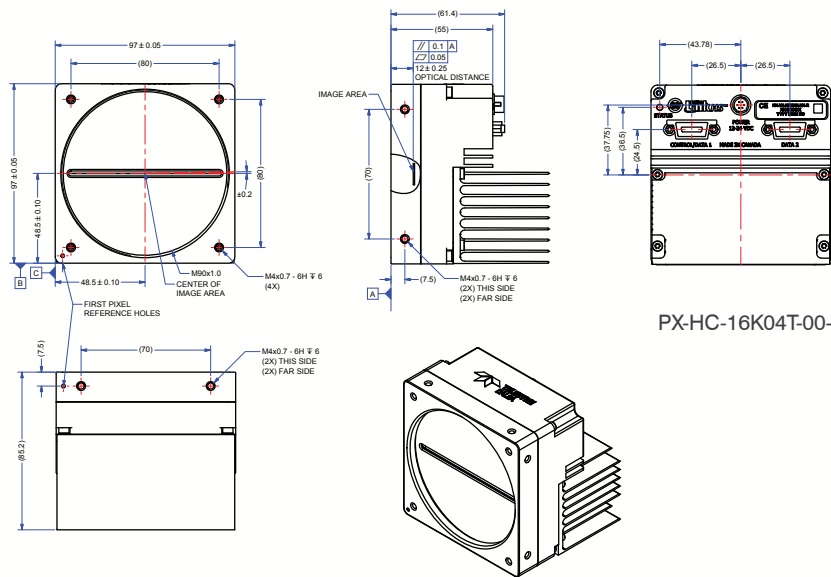
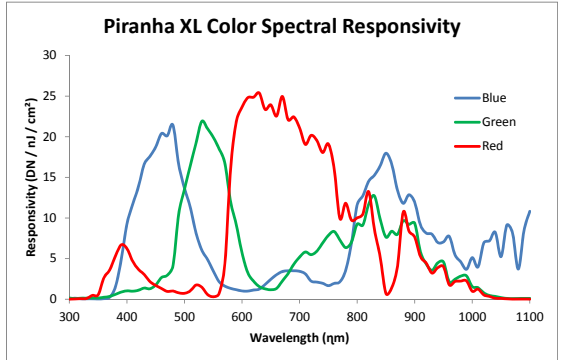
Multi-line CMOS Color TDI Camera



PX-HC-16K07T-00-R



NOTES:
1. UNITS: MILLIMETERS.
2. IMAGE AREA IS ALIGNED TO DATUMS A, B & C.



PX-HC-16K04T-00-R

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1. UNITS: MILLIMETERS.
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Teledyne DALSA has its corporate offices in Waterloo, Canada
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Piranha XL XDR 16K

eXtended Dynamic Range Multi-line CMOS TDI Camera



Multi-line CMOS TDI camera delivering breakthrough performance

Teledyne DALSA presents our latest multi-line CMOS camera, delivering an unprecedented combination of speed and responsivity with low noise. Exposure control allows for seamless variable speed imaging down to stopped conditions on select models.

The camera uses the Camera Link HS interface based on Teledyne DALSA's field-proven HS Link technology. It delivers very high data throughput with long transmission distances and reliability. The camera, combined with the XTNUM Camera Link HS frame grabber, offers a complete solution for the next generation Automatic Optical Inspection.

Key Features

- True exposure control
- High speed 125 kHz line rate
- Highly responsive multi-line CMOS architecture
- 16k pixel resolution with $5 \mu\text{m} \times 5 \mu\text{m}$ pixel size
- Very low noise
- High dynamic range using a look-up table (LUT)
- Binning
- Stop / Start seamless imaging (PX-HM-16K06X-00-R)
- Bidirectional scanning
- Smart lens shading correction
- Field proven Camera Link HS interface
- Multiple user sets
- Fibre optic module support

Programmability

- Adjustable responsivity
- Multiple areas of interest (AOI) for data reduction
- Multiple regions of interest (ROI) for easy calibration
- Lens and shading correction
- Test pattern and diagnostics

Typical Applications

- Flat panel display inspection
- Film and web inspection
- Printed circuit board inspection
- High throughput and high resolution applications

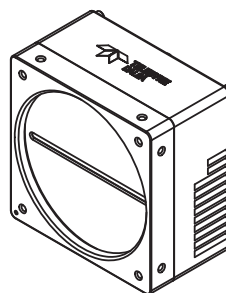
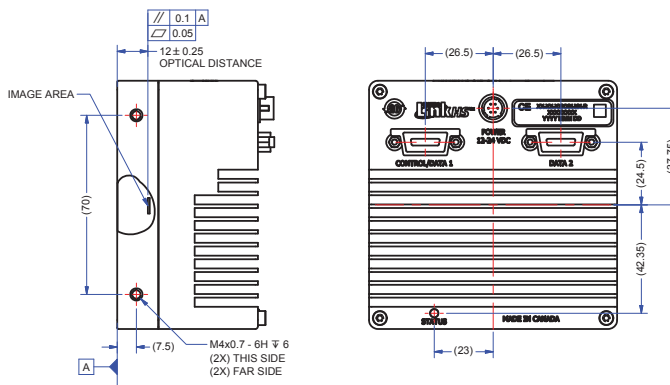
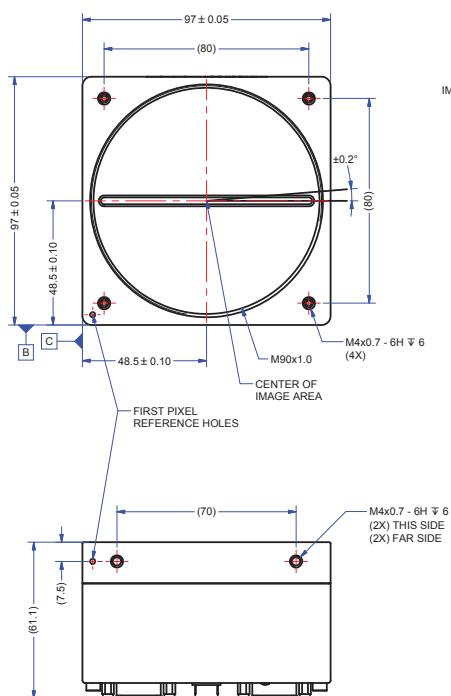
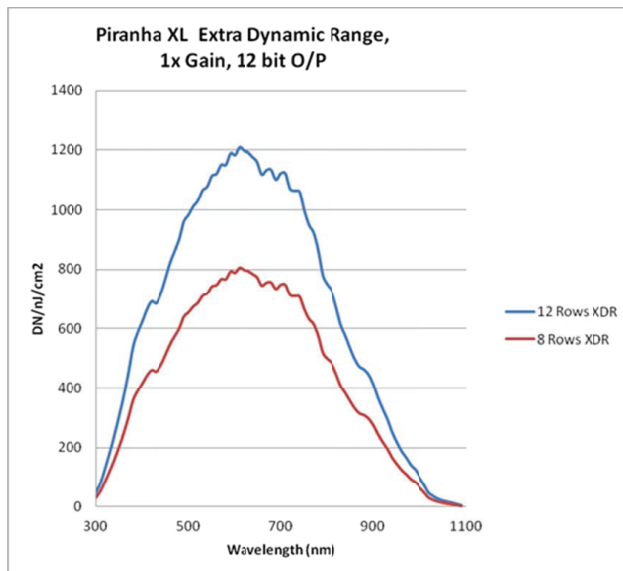
Specifications

Resolution	16,352 x 12 pixels
Max Line Rate	125 kHz (single cable)
Pixel Size	$5 \mu\text{m} \times 5 \mu\text{m}$
Row Selection	8 or 12 rows
Data Format	8 or 12 bit, selectable
Output	Camera Link HS (1 or 2 cables)
Lens Mount	M90 x 1 mm
Responsivity	1200 DN/(nJ/cm ²), 12 bit, 1x gain
Responsivity Range	23x min to max
NEE	6.5 pJ/cm ² @ 620 nm
Nominal Gain Range	Up to 10x
Antiblooming	> 100x
Size	97 (W) x 97 (H) x 61 (D) mm
Mass	685 g
Operating Temp	0 to 60 °C (front plate)
Power	Hirose 6-pin, +12 V to + 24 V DC
Power Dissipation	23 W, typical
Control & Data	Camera Link HS
Regulatory Compliance	CE and RoHS
Part Number	PX-HM-16K12X-00-R (125 kHz model) PX-HM-16K06X-00-R (60 kHz model)



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eXtended Dynamic Range Multi-line CMOS TDI Camera



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2. IMAGE AREA IS ALIGNED TO DATUMS A, B & C.

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