Multiline CMOS Color TDI camera delivering breakthrough performance

Teledyne DALSA presents our latest multi-line CMOS color camera, delivering an unprecedented combination of speed and responsivity with low noise and in color. Each color uses four rows, resulting in an unprecedentedly responsive tri-color operation with no color interpolation.

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 XTIUM Camera Link HS frame grabber, offers a complete solution for the next generation Automatic Optical Inspection.

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

- Responsivity adjustable by color
- 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
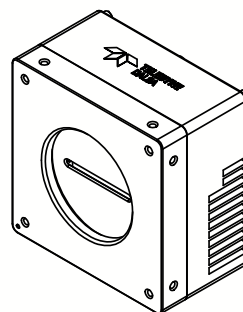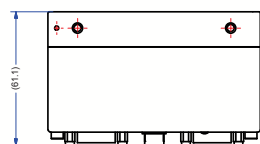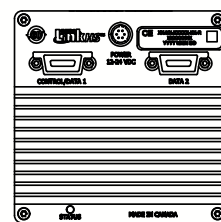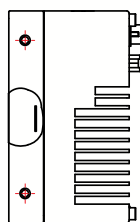- Print inspection

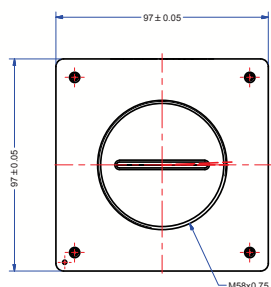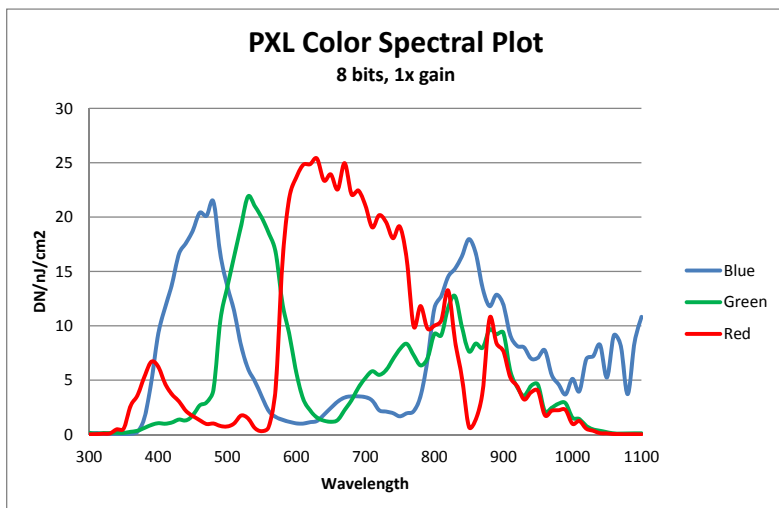## Specifications

Resolution	8160 x 12 pixels (4 rows per color)
Max Line Rate	210 kHz, allowing for 3 lines of 8k pixel RGB data @ 70 kHz per line
Pixel Size	5 μm x 5 μm
Data Format	8 or 10* bit, selectable
Output	Camera Link HS (1 or 2 cables)
Lens Mount	M58 x 0.75 mm
Peak Responsivity	21 nJ/cm² @ 460 nm, 8 bit, 1x gain
	22 nJ/cm² @ 525 nm, 8 bit, 1x gain
	25 nJ/cm² @ 625 nm, 8 bit, 1x gain
NEE	20 pJ/cm² @ 460 nm
	18 pJ/cm² @ 525 nm
	12 pJ/cm² @ 625 nm
Nominal Gain Range	1x to 5x
Antiblooming	> 100x
Size	97 (W) x 97 (H) x 61 (D) mm
Mass	680 g
Operating Temp	0 to 60 °C (front plate)
Power	Hirose 6-pin, +12 V to + 24 V DC
Power Dissipation	18 W, max (70 kHz model)
Control & Data	Camera Link HS
Regulatory Compliance	CE and RoHS
Part Number	PX-HC-08K07T-00-R (70 kHz model)

*10 bit data support with Xtium PX8 will be available at a future date.

PXL Color Spectral Plot
8 bits, 1x gain

Blue
Green
Red

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

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