

Linea<sup>™</sup> HS

32k CMOS TDI Camera

Part of the Teledyne Imaging Group



945 East 11<sup>th</sup> Avenue Tampa, FL 33605 Phone: (813) 984-0125 Contact: <u>Sales@pyramidimaging.com</u> https://pyramidimaging.com



#### **Key Features**

- » 32k super resolution
- » High speed 150kHz
- » High sensitivity TDI
- » Bi-directionality
- » Assisted alignment marks

## Programmability

- » Multiple Regions of Interest for calibration, data reduction
- » 8 bit output
- » Flat field and lens shading correction
- » Programmable coefficient sets

## **Typical Applications**

- » Flat panel display inspection
- » Printed circuit board inspection
- » Semiconductor wafer
- » Life sciences
- » Web inspection
- » General purpose machine vision

# Industry's First 32k TDI Camera with Improved Detectability

Based on Teledyne DALSA's industry leading CMOS TDI technology, the new Linea HS family offers advanced and unique TDI products. The Linea HS 32k camera is capable of capturing 32,768 pixel data using patent-pending pixel offset technology. This enables users to significantly improve subpixel defect detectability while using existing optical lenses and maintaining high sensivity. The camera comes with high-speed fiber optic interface that delivers up to 8.4 GByte/sec data in a single cable and long cable length.

## Patent Pending Pixel Offset Technology

The 32k camera uses two 16k/5  $\mu$ m TDI arrays with ½ pixel offset. Two 16k/5  $\mu$ m image data are captured and then reconstructed to achieve a super resolution image of 32k/2.5  $\mu$ m in real time. This significantly enhances detectability for subpixel defects. One advantage of the pixel offset technology is that existing 16k/5  $\mu$ m lenses can be used without sacrifice in responsivity and MTF with a smaller physical pixel size.

#### **Specifications**

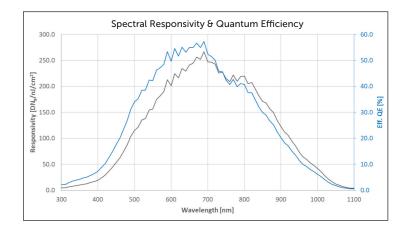
Resolution	32,768 x 64 pixels		
Line rate	150 kHz maximum*		
Pixel Size	5 x 5 µm / 2.5 x 2.5 µm		
Bit depth	8 bit		
Output	Monochrome		
Lens Mounts	M90 x 1		
Responsivity	see graph		
Nominal Gain Range	1x to 10x		
Size	97 x 140.5 x 78.6 mm		
Mass	1200 g		
Operating Temp	0 to +60 °C (frontplate)		
Power Supply	+12 to +24 VDC		
Power Dissipation	28 W		
Data and Control	Camera Link HS CX4		
GPIO	Hirose 12-pin		
Regulatory Compliance	CE, FCC, RoHS		

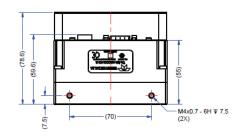
\* Due to bandwidth limitation of the FG, max. line rate is 100 kHz

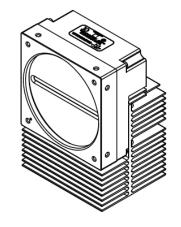
## **Camera Models**

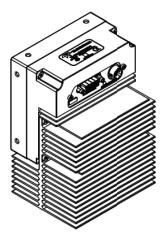
Part Number	Resolution	Max. Line Rate	Pixel Size	Output
HL-HM-32k15S-00-R	32,768 x 64 pixels	150 kHz*	5 x 5 μm 2.5 x 2.5 μm	Mono

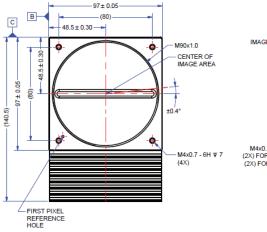


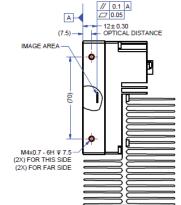


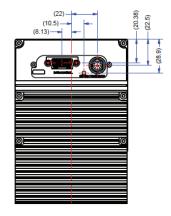














#### Americas

Boston, USA +1 978-670-2000 sales.americas@teledynedalsa.com

#### Europe

Krailling, Germany +49 89-89-54-57-3-80 sales.europe@teledynedalsa.com

# Asia Pacific

Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com Shanghai, China +86 21-3368-0027 sales.asia@teledynedalsa.com

#### www.teledynedalsa.com

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