Industry’s First Multifield TDI Camera with High Throughput and Detectability

Based on Teledyne DALSA’s industry leading CMOS TDI technology, the new Linea HS Multifield™ camera is the most advanced TDI product in the marketplace. This camera delivers the highest performance available, with unique features that significantly improve detectability for many demanding applications. The camera comes with high-speed fiber optic interface, delivering up to 8.4 Gigapixels per second over a single and long length fiber optic cable.

Multifield Technology
Multifield is a new imaging technology that enables capturing multiple images simultaneously using various lighting conditions (e.g. brightfield, darkfield, and backlight) in a single scan.

Teledyne DALSA’s Linea HS Multifield camera is the first in the industry capable of capturing up to three images using light sources at different wavelengths. The camera uses advanced wafer-level coated dichroic filters with minimum spectral crosstalk to spectrally isolate three images captured by separate TDI arrays. It can be used for color imaging as well.

This new technology significantly improves inspection speeds and image quality, as it eliminates the need for multiple scans. The difference between traditional color imaging and multifield imaging is the filter technology. Conventional color filters have significant spectral crosstalk between RGB channels, while the multifield filters have minimum spectral crosstalk.

Specifications
- Resolution: 16,384 x 256 pixels
- Line rate: 100 kHz x 3
- Pixel Size: 5 x 5 µm
- Bit depth: 8 or 12 bit selectable
- Lens Mounts: M90 x 1
- Responsivity: See graph
- Dynamic Range: 69 dB
- Nominal Gain Range: 1x to 10x
- Size: 97 x 140.5 x 78.6 mm
- Mass: 1200 g
- Operating Temp: 0 to +60 °C (front plate)
- 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

Camera Models

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Resolution</th>
<th>Max. Line Rate</th>
<th>Pixel Size</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL-HF-16K10T-00-R</td>
<td>16,384 x (64 +128 + 64)</td>
<td>100 kHz x 3</td>
<td>5 x 5 µm</td>
<td>F1, F2, F3</td>
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</table>
Linea™ HS Multifield
16k Multi-array CMOS TDI Camera

Spectral Responsivity — Linear

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<tr>
<th>Wavelength [nm]</th>
<th>MF3 - R</th>
<th>MF3 - G</th>
<th>MF3 - B</th>
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<tr>
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<td>3000.0</td>
<td>4000.0</td>
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<tr>
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