**High resolution digital CCD detector**  
**ISA011**

**Product summary**
ISA011 is a high resolution & high performance digital CCD detector for 400nm - 1100nm wavelength range.

- Imaging device is 1/2 inch interline CCD, having high resolution of 1392 x 1040 pixels.
- In combination with Synos' optical measurement optics M-Scope series and optical beam analysis module AD013D, it has wide application field such as optical beam profile analysis of various optical device and module such as optical laser diodes, optical fiber, polymer waveguide for OPCB substrate, optical connector, etc. in 400-1100nm wavelength range.

**Feature**
- High resolution type 1/2 inch digital CCD detector for 400-1100nm wavelength range
  - High resolution of 1.4M pixels / 1392 x 1040 pixels
  - Max. 12bit gradation
- Gigabit Ethernet I/F
  - Gigabit Ethernet I/F is adopted as detector control I/F. Direct and easy connection with various personal computer without special hardware.

**Summary of specification**

<table>
<thead>
<tr>
<th>Imaging device</th>
<th>1/2 inch interline CCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral range</td>
<td>400nm - 1100nm</td>
</tr>
<tr>
<td>Pixels number</td>
<td>1392 x 1040 pixels / 1.4M pixels</td>
</tr>
<tr>
<td>Sensor pitch</td>
<td>4.65 x 4.65μm</td>
</tr>
</tbody>
</table>

**Detector control I/F**
- Gigabit Ethernet (1000BASE)
- Frame rate: 20fps
- Exposure time control: 4usec - 60sec
- Gradation: 8/12bit (12bit ADC)
- Dynamic range: 54dB以上 (typical)
- Camera mount: C mount
- Power consumption: 4W or less
- Power supply: 8 - 30VDC
- Operation environment: +5℃ - +50℃

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**High resolution glassless type digital CCD detector**  
**ISA031**

**Product overview**
ISA031 is a high resolution & high performance glassless type digital CCD detector for visible - 1100nm wavelength range, especially good for laser beam observation.

- It is best for optical measurement using high coherency light source due to adopting glassless type CCD chip developed mainly for laser beam analysis and therefore have a slight influence of interference fringe. In combination with Synos' optical measurement optics M-Scope series and optical beam analysis module AP013D, it is widely applicable for various optical beam observation and beam profile analysis application in visible - 1100nm wavelength range.

**Feature**
- Glassless type 2/3 inch CCD detector for visible - 1100nm wavelength range, slight influence of interference fringe in laser observation.
- High resolution of 1.4M pixels (1392 x 1040 pixel)
- High output gradation of max. 10bit
- Camera link I/F
  - Following Camera Link Base Configuration standard as camera I/F.

**Summary of specification**

<table>
<thead>
<tr>
<th>Imaging device</th>
<th>2/3 inch glassless type interline CCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral range</td>
<td>400nm - 1100nm</td>
</tr>
<tr>
<td>Pixels number</td>
<td>1392 x 1040 pixels / 1.4M pixels</td>
</tr>
<tr>
<td>Sensor pitch</td>
<td>6.45 x 6.45μm</td>
</tr>
</tbody>
</table>

**Detector control I/F**
- Camera Link Base Configuration standard
- Frame rate: Non interface / 15fps
- Gamma: 1 (fixed)
- Electronic shutter: 1/12000-1/15sec continuity/random mode
- Gradation: 10bit
- Dynamic range: 50dB以上
- Mount: C mount
- Power supply: DC12V±10% / max. 400mA
- Operation environment: 0℃ - +40℃