Imperx: **C2880**

The C2880 incorporates the ON Semiconductor KAC-06040 CMOS image sensor with a native resolution of 2832 x 2128 in a 1” optical format. The GenICam™ compliant camera delivers up to 160 frames per second in either global or rolling shutter mode using the 2-channel CoaXPress® (CXP) interface. Extended dynamic range technology coupled with extremely robust blooming suppression produce clean imagery in even the most severe uncontrolled lighting applications. Cheetah cameras incorporate “smart” wide dynamic range technology that monitors each pixel's exposure and sets the exposure to one of four user selectable values based on the intensity of the source at the pixel. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications.

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Interface</td>
<td>2-channel CoaXPress® (CXP) w/PoCXp®</td>
</tr>
<tr>
<td>Resolution</td>
<td>2832 x 2128; 2848 x 2144 max</td>
</tr>
<tr>
<td>Sensor</td>
<td>KAC-06040, CMOS Color/Mono</td>
</tr>
<tr>
<td>Sensor Format</td>
<td>13.1 mm (H) x 10.0 mm (V) 16.65 mm diagonal 1” optical format</td>
</tr>
<tr>
<td>Pixel Size</td>
<td>4.7 microns square</td>
</tr>
<tr>
<td>NIR Sensitivity</td>
<td>850 nm: 15%, 950 nm: 5%</td>
</tr>
<tr>
<td>Shutter</td>
<td>Global shutter (GS), rolling shutter (RS)</td>
</tr>
<tr>
<td>Sensor Digitization</td>
<td>10-bit or 12-bit</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>160 fps (8-bit), 118 fps (10-bit), 44.7 fps (12-bit)</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>74 dB (RS), 57 dB (GS)</td>
</tr>
<tr>
<td>Output Bit Depth</td>
<td>8, 10, 12-bit</td>
</tr>
<tr>
<td>Analog Gain Control</td>
<td>12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)</td>
</tr>
<tr>
<td>Digital Gain</td>
<td>24 dB (128 steps)</td>
</tr>
<tr>
<td>Black Level Offset</td>
<td>Manual, 0 to 2048, 1/step</td>
</tr>
<tr>
<td>White Balance</td>
<td>Manual, Auto, Off</td>
</tr>
<tr>
<td>Shutter Speed</td>
<td>1 μs/step, 5 μs to 1.0 s (GS), 2 μs to 1.0 s (RS)</td>
</tr>
<tr>
<td>Exposure Control</td>
<td>Off, Internal, External</td>
</tr>
<tr>
<td>Regions of Interest (ROI)</td>
<td>1 ROI</td>
</tr>
<tr>
<td>Averaging Decimation</td>
<td>Not supported</td>
</tr>
<tr>
<td>Sub-sampling Decimation</td>
<td>Not supported</td>
</tr>
<tr>
<td>Trigger Inputs</td>
<td>External, Pulse generator, Software</td>
</tr>
<tr>
<td>Trigger Options</td>
<td>Edge, Debounce</td>
</tr>
<tr>
<td>Trigger Modes</td>
<td>Internal, External, Software</td>
</tr>
<tr>
<td>Wide Dynamic Range</td>
<td>100 dB (typ.) GS, up to 3 knee points, piece-wise linear</td>
</tr>
<tr>
<td>External Inputs/Outputs</td>
<td>2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)</td>
</tr>
</tbody>
</table>
**Imperx: C2880 Applications**

The CXP-C2880 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

- Aerospace
- Satellites
- Surveillance
- Military and Non-Military Ground Vehicles
- Ball Grid Array
- Printed Circuit Board Inspection
- Motion Analysis
- Broadcast Television
- Telepresence
- Unmanned Aerial Vehicles
- Machine Vision
- Reconnaissance
- Intelligent Traffic Systems
- Aerial Imaging
- Open Road Tolling Systems
- Situational Awareness

**Absolute Quantum Efficiency**

- Color Spectral Response KAC-06040
- Mono Spectral Response KAC-06040

**Dimensions**

**FRONT**

- IMAGE CENTER IS NOMINALLY AT CENTER OF LENS
- R6.0(4X)
- 36.0
- 72.0
- 10.8
- M2.5 X 0.45(8X) SCREWS
- 50.4
- 10.8

**BACK**

- 31.0
- 36.0
- 62.0
- 16.0
- 8.0
- 17.42±0.28
- M3.0 X 0.5 THREAD
- 1.0
- 33.5±0.35
- 12.1

**TOP**

- 8.5(4X)
- 5.0
- 5.5
- 17.42±0.28
- M3.0 X 0.5 THREAD
- 7.5 DEEP (8X)
- 33.5±0.35
- 12.1

**Ordering Information**

- **Output Interface**
  - 2-channel CoaXPress® (CXP) w/PoCXP®

- **Lens Mounts**
  - C-Mount (Default)
  - M42
  - F-Mount
  - EF Canon

- **Sensor Types available**
  - Monochrome
  - Bayer Color

- **Accessories (Sold separately)**
  - CBL-PWIO01: Cable Power; Hirose 12p (F) to Hirose 12p (M), loose end; 2 meters

**Hirose Connectors**

- **I/O Interface**
  - 1. Reserved
  - 2. Reserved
  - 3. Reserved
  - 4. Reserved
  - 5. OUT2 OPTO -
  - 6. OUT1 TTL Gnd
  - 7. OUT1 TTL Signal
  - 8. IN1 OPTO +
  - 9. IN2 TTL Signal
  - 10. IN1 OPTO -
  - 11. IN2 TTL Gnd
  - 12. OUT2 OPTO +

Connectors: Hirose HR10A-10R-12PB(71)

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Environmental Management System ISO 14001:2015 Registered
DDTC Registered (Directorate of Defense Trade Controls, US Department of State)