The core of the C13770-50U camera is the scientific image sensor, an advanced CMOS detector that simultaneously achieves high resolution, fast readout speeds and low noise. With its small size, board-level design and simple, low-cost integration using USB 3.0, the C13770-50U is the ideal camera for OEM scientific imaging. It is available to offer customization following your request. Please contact us for details.

**FEATURES**
- Resolution: 5.0 megapixels (2464 x 2056)
- Readout noise: 2.3 electrons (typ.)
- Frame rate: 40 frames/s (Full resolution)
- Global shutter
- High sensitive in near infrared range

**APPLICATIONS**
- Fluorescence imaging
- DNA sequencing
- CTC detection
- X-ray I.I. readout
- X-ray CT

**SYSTEM CONFIGURATION**

**SPECTRAL RESPONSE**

![Spectral Response Graph]

- Quantum efficiency (%) vs. Wavelength (nm)

*Power supply from USB.
**Type number** | C13770-50U  
---|---  
**Imaging device** | CMOS image sensor  
**Effective number of pixels** | 2464 (H) × 2056 (V)  
**Pixel size** | 3.45 μm (H) × 3.45 μm (V)  
**Effective area** | 8.50 mm (H) × 7.09 mm (V)  
**Full well capacity typ.** | 10 500 electrons  
**Analog gain** | 1× to 15.8× (240 steps)  
**Dynamic range typ.** | 4565 : 1  
**Frame rate** |  
| Full resolution | 40 frames/s  
| 2×2 Binning | 134 frames/s  
| 2×2 Binning, 4 Line Sub-array | 3406 frames/s  
**Readout noise (rms) typ.** | 2.3 electrons  
**Digital output** | 12 bit  
**Exposure time** |  
| Internal mode | 20.71 μs to 1 s  
| External trigger mode | 20.71 μs to 1 s (Edge trigger, Start trigger)  
| | 1 ms to 1 s (Level trigger, Synchronous readout trigger)  
**External trigger input mode** | Edge trigger, Level trigger  
| | Synchronous readout trigger, Start trigger  
**Trigger delay function** | 0 s to 10 s in 1 μs steps  
**Trigger output** | Programmable timing output  
| | Trigger ready output  
| | Global exposure timing output  
| | Low output, High output  
**Binning *2** | 2 × 2  
**Sub-array** | Yes  
**Interface** | USB 3.0  
**Lens mount** | C-mount  
**Connector** | USB 3.0 microB type  
**Power supply** | Bus Power/DC+8 V to DC+30 V  
**Ambient operating temperature** | 0 °C to + 40 °C  
**Ambient operating humidity** | 30 % to 80 % (with no condensation)  
**Ambient storage temperature** | - 10 °C to + 50 °C  
**Ambient storage humidity** | 90 % max. (with no condensation)  

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**DIMENSIONAL OUTLINES**

(Unit: mm)

![Diagram of C13770-50U](image)

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**OPTIONS**

- Board camera case A12599-02  
- External trigger cable SMA-BNC 5 m A12106-05  
- External trigger cable SMA-SMA 5 m A12107-05  
- External trigger cable 5 m A11892-05

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**SPECIFICATIONS**

1: Calculated from the ratio of the full well capacity and the readout noise.

2: Digital binning processing in the camera

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**OPTIONS**

- Board camera case A12599-02  
- External trigger cable SMA-BNC 5 m A12106-05  
- External trigger cable SMA-SMA 5 m A12107-05  
- External trigger cable 5 m A11892-05

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