[Image sensor module]

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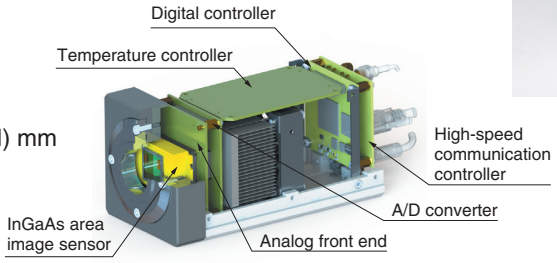
InGaAs area image sensor modules NEW
C16090 series

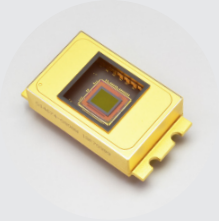
The area image sensor modules consist of a driver circuit, temperature controller and high-speed communication controller, and they can drive InGaAs image sensors. Various settings can be configured by a PC via the USB 3.1 Gen 1 interface.

FEATURES

- For near-infrared imaging
  (various options of wavelength ranges)
- Temperature controller included
- C-mount lens compatible
- Interface: USB 3.1 Gen 1
- Dimensions: 70 (W) × 145 (D) × 70 (H) mm
- Frame rate: 509 frames/s
- High dynamic range
- Supply voltage: 12 V



Core technology



CORE DEVICE

InGaAs area image sensors

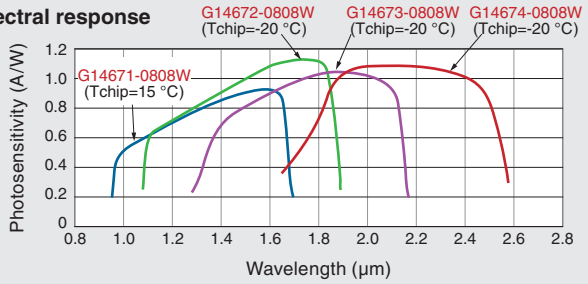
An InGaAs area image sensor captures near-infrared 2D images. It consists of a high quantum efficiency, back-illuminated InGaAs photodiode array and a high gain and low noise ROIC (readout integrated circuit). The ROIC is equipped with a signal amplification circuit (analog) and a timing generator circuit (digital) on the same chip, enabling multi-functionality, high performance and low system cost. The temperature of the InGaAs photodiode can always be controlled by the built-in Peltier cooler and thermistor.

■ **Lineup**

(320 × 256 ch, 20 µm pitch)

C16090	Built-in sensor	Spectral response range
-01	G14671-0808W	0.95 to 1.69 µm
-02	G14672-0808W	1.12 to 1.85 µm
-03	G14673-0808W	1.30 to 2.15 µm
-04	G14674-0808W	1.70 to 2.55 µm

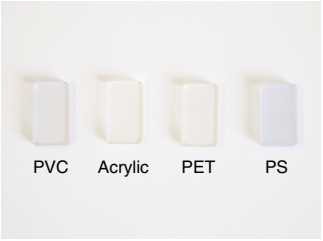
■ **Spectral response**



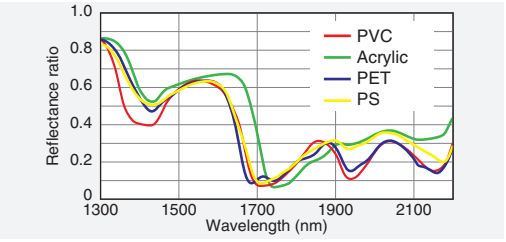
Application example

Hyperspectral cameras, which combine an InGaAs area image sensor and a special optical system, can acquire the image (positional information) and component determination (wavelength information) at the same time.

Visible image



Spectral distribution



Hyperspectral image

The module acquires images with wavelength information within the range of near-infrared region (1.3 µm to 2.2 µm)

Extract characteristics by spectral distribution analysis and identify materials via image processing