

NEW

InGaAs camera C16741-40U



The InGaAs camera C16741-40U is a camera with sensitivity in the visible to near-infrared range of 400 nm to 1700 nm. With a high resolution of 1280 pixels × 1024 pixels, it can capture more detailed images compared to conventional InGaAs cameras. Among the applications suitable for near-infrared observation, it is particularly suitable for low-magnification microscopic observation and macro lens observation, such as void detection and pattern inspection of Si-bonded wafers, and inspection of damage to agricultural products.

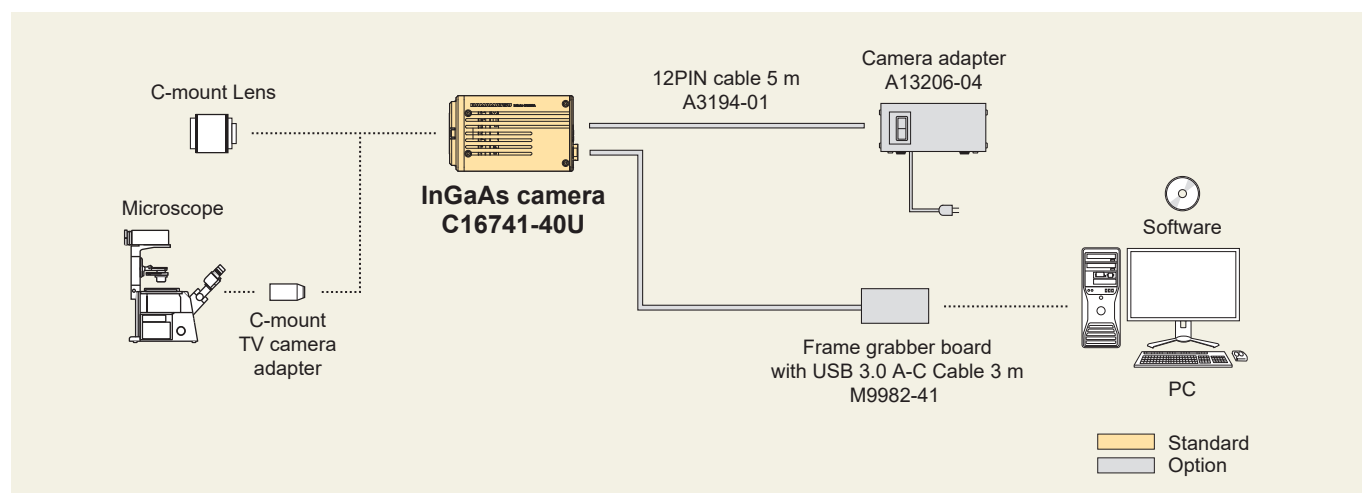
Features

- High sensitivity in the visible to near infrared region
- 1280 pixels × 1024 pixels
- Low noise and high stability with cooling
- Frame rate of 71.53 frames/s

Applications

- Inspection of internal defects in Si wafers, chips, and MEMS
- Evaluation and analysis of optical communication devices such as IR beam profilers
- Evaluation of semiconductor materials such as solar cells
- Inspection of food and agricultural products
- Moisture detection
- Observation of cultural assets

System Configuration



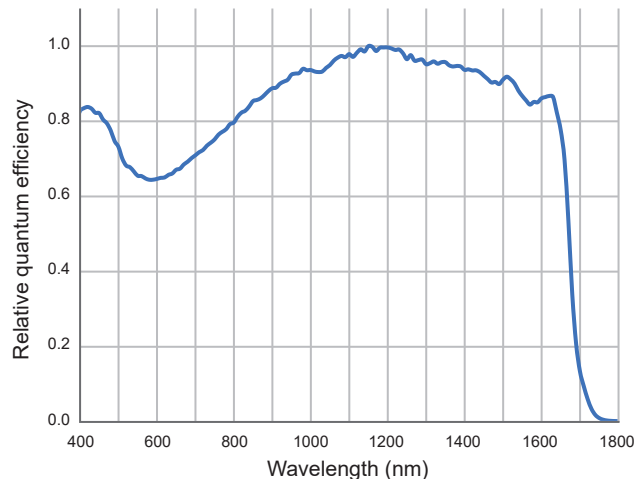
Specifications

Product number	C16741-40U
Imaging device	InGaAs sensor
Effective number of pixels	1280 (H) × 1024 (V)
Pixel size	5 μm (H) × 5 μm (V)
Effective area	6.40 mm (H) × 5.12 mm (V)
Cooling method *1	Peltier device + Forced-air cooled Peltier device + Natural-air cooled
Cooling temperature	Peltier device + Forced-air cooled +14.5 °C to +15.5 °C Peltier device + Natural-air cooled *2 +19.5 °C to +20.5 °C
Frame rate (Full resolution)	71.53 frames/s
Binning	2×2
Sub-array	Yes
Digital output	12 bit / 8 bit
Exposure time	20.46 μs to 1 s (13.09 μs step)
External trigger input mode	Edge trigger, Level trigger, Start trigger
Trigger delay function	0 μs to 10 s (1 μs step)
Trigger input connector	SMA
Interface	USB3.1 Gen 1
Image processing functions	Background subtraction, Shading correction
Lens mount	C-mount
Connector	USB Type-C
Power supply	DC +12 V
Power consumption	Approx. 15 W
Ambient operating temperature	0 °C to +35 °C
Ambient operating humidity	30 % to 80 % (with no condensation)
Recommended operating ambient temperature	+25 °C ±3 °C
Ambient storage temperature	−10 °C to +50 °C
Ambient storage humidity	90 % max. (with no condensation)

*1 Default is forced air cooled.

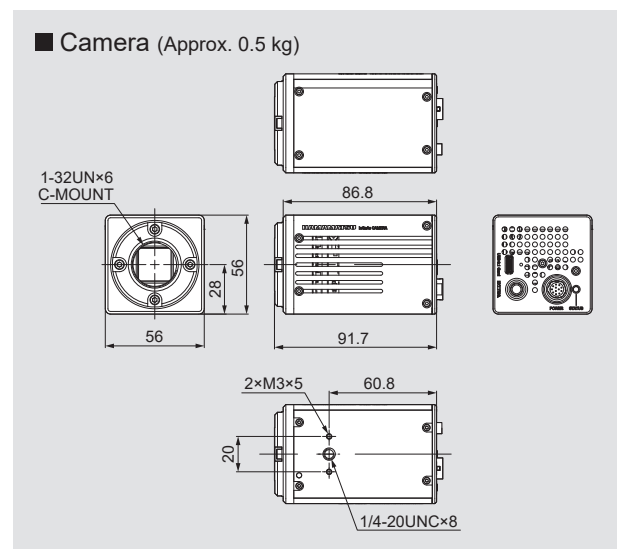
*2 To maintain the proper temperature of the enclosure, please take measures such as installing a heat dissipation mechanism.

Spectral response



* This is a relative quantum efficiency calculated on the basis of the quantum efficiency at 1150 nm.

Dimensional outlines (Unit: mm)



Options

Product number	Product name
A13206-04 (for EU)	Camera adapter
A3194-01	12PIN cable 5 m
M9982-41	Frame grabber board with USB 3.0 A-C Cable 3 m

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- The product described in this brochure is designed to meet the written specifications, when used strictly in accordance with all instructions.
- The spectral response specified in this brochure is typical value and not guaranteed.
- Specifications and external appearance are subject to change without notice.

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