

NEW

# InGaAs camera C16741-40U



The C16741-40U is an InGaAs camera with sensitivity in the visible to near infrared region from 400 nm to 1700 nm. It has a USB 3.1 Gen 1 interface port which supports 12 bit image acquisition and exposure time adjustment. This makes the C16741-40U ideal for use in a wide range of applications including internal inspection of Si wafers, chips, and MEMS, laser beam alignment and evaluation of solar cells.

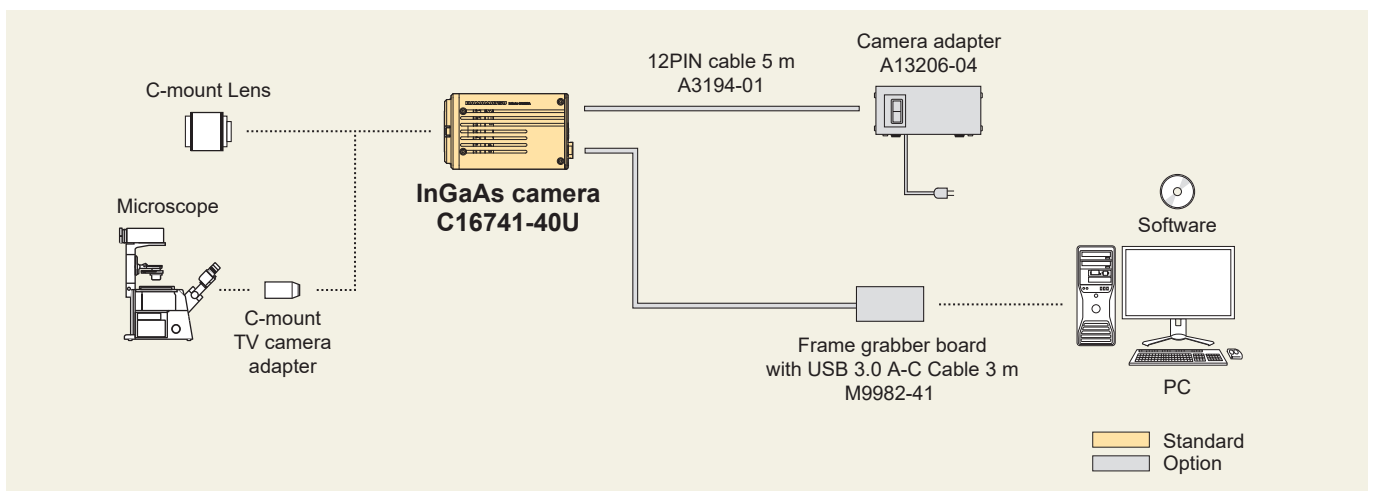
## Features

- 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

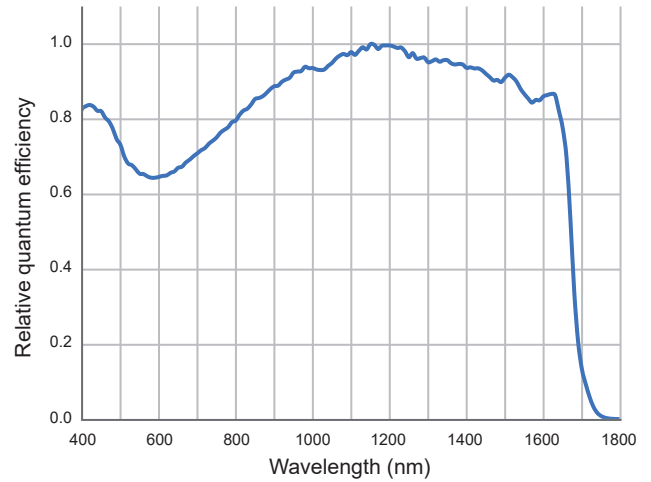
## System Configuration



## Specifications

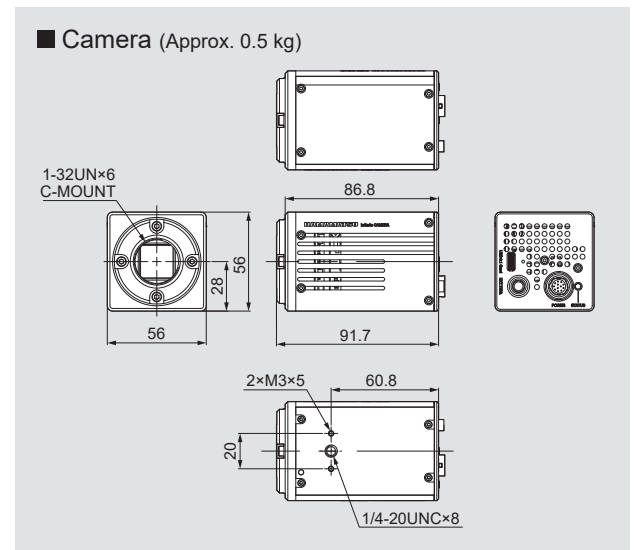
Product number	C16741-40U	
Imaging device	InGaAs sensor	
Effective number of pixels	1280 (H) × 1024 (V)	
Pixel size	5 μm (H) × 5 μm (V)	
Effective area	6.40 mm (H) × 5.12 mm (V)	
Cooling method (Peltier cooling)	Forced-air cooled / Natural-air cooled	
Cooling temperature	Forced-air cooled	+15 °C ±0.5 °C (Ambient temperature: +25 °C ±3 °C)
	Natural-air cooled	+20 °C ±0.5 °C (Ambient temperature: +25 °C ±3 °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)	

## Spectral response



\* Calculated based 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

- Windows is a registered trademark of Microsoft Corporation in the USA. (and other countries.)
- The product and software package names noted in this brochure are trademarks or registered trademarks of their respective manufacturers.
- Subject to local technical requirements and regulations, availability of products included in this brochure may vary. Please consult your local sales representative.
- 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.

© 2024 Hamamatsu Photonics K.K.

**HAMAMATSU PHOTONICS K.K.** [www.hamamatsu.com](http://www.hamamatsu.com)

Systems Division

812 Joko-cho, Chuo-ku, Hamamatsu City, 431-3196, Japan, Telephone: (81)53-431-0124, Fax: (81)53-433-8031, E-mail: [export@sys.hpk.co.jp](mailto:export@sys.hpk.co.jp)

U.S.A.: HAMAMATSU CORPORATION: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218

Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH: Arzbergerstr. 10, 82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: [info@hamamatsu.de](mailto:info@hamamatsu.de)

France: HAMAMATSU PHOTONICS FRANCE S.A.R.L.: 19 Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: [infos@hamamatsu.fr](mailto:infos@hamamatsu.fr)

United Kingdom: HAMAMATSU PHOTONICS UK LIMITED: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: [info@hamamatsu.co.uk](mailto:info@hamamatsu.co.uk)

North Europe: HAMAMATSU PHOTONICS NORDEN AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: [info@hamamatsu.se](mailto:info@hamamatsu.se)

Italy: HAMAMATSU PHOTONICS ITALIA S.R.L.: Strada della Moia, 1 int. 6, 20044 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: [info@hamamatsu.it](mailto:info@hamamatsu.it)

China: HAMAMATSU PHOTONICS (CHINA) CO., LTD.: 1201 Tower B, Jianning Center, 27 Dongsanjuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: [hpc@hamamatsu.com.cn](mailto:hpc@hamamatsu.com.cn)

Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan(R.O.C.), Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: [info@hamamatsu.com.tw](mailto:info@hamamatsu.com.tw)

Cat. No. SCAS0168E02  
JUN/2024 HPK  
Created in Japan