

InGaAs camera C12741-11



The C12741-11 is a near-infrared camera which employs a 640 pixels × 512 pixels InGaAs sensor. -70 °C peltier cooling significantly reduces dark current which leads to improved image quality and allows imaging with long exposure time.

Unlike CCD or CMOS cameras, the C12741-11 can detect weak IR light with a high signal to noise ratio. This makes it suitable for semiconductor wafer inspection, solar cell evaluation and optical communication device analysis.

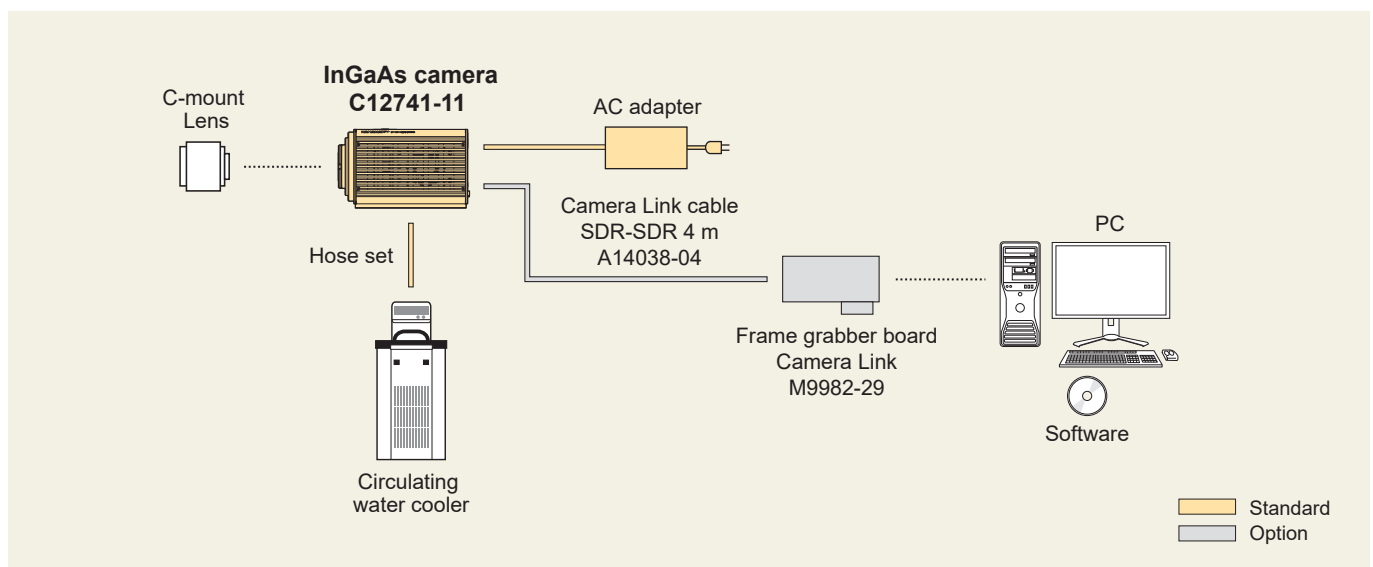
Features

- High sensitivity in near-infrared region
- Resolution 640 pixels × 512 pixels
- Low dark current with -70 °C peltier cooling (water cooling)
- Interchangeable between forced-air/water cooling

Applications

- Evaluation of semiconductor materials such as solar cells
- Non-invasive imaging of small animals
- Evaluation and analysis of optical communication devices
- Astronomy

System configuration

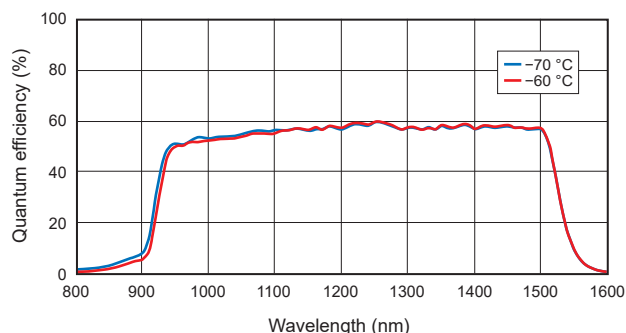


Specifications

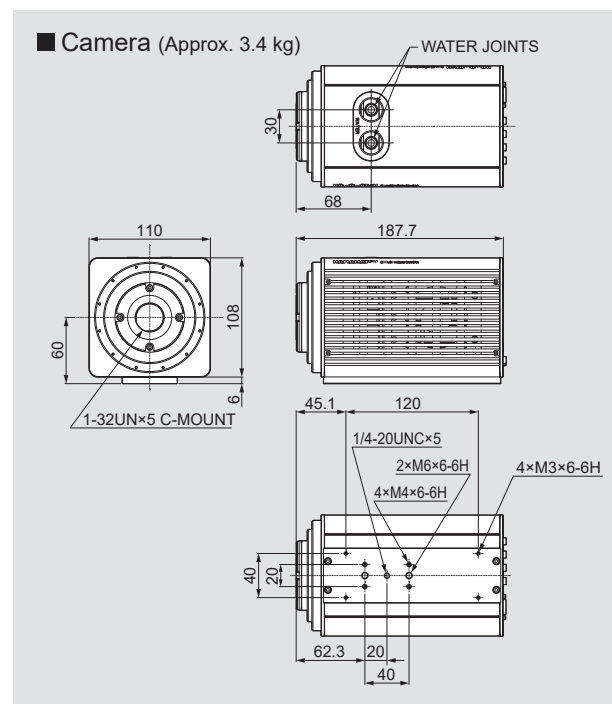
Product number	C12741-11	
Imaging device	InGaAs sensor	
Effective number of pixels	640 (H) × 512 (V)	
Pixel size	20 μm (H) × 20 μm (V)	
Effective area	12.8 mm (H) × 10.24 mm (V)	
Full well capacity (Typ.)	300 000 electrons	
Cooling method (Peltier cooling)	Forced-air cooled / Water cooled	
Cooling temperature	Forced-air cooled (Ambient temperature: +25 °C)	-60 °C
	Water cooled (Ambient temperature, Water temperature: +25 °C)	-70 °C
Frame rate	7.2 frames/s	
Readout noise (rms) (Typ.)	500 electrons	
Dark current (Typ.)	Forced-air cooled (cooling temperature: -60 °C)	300 electrons/pixel/s
	Water cooled (cooling temperature: -70 °C)	130 electrons/pixel/s
Digital output	16 bit	
Exposure time*1	Internal trigger mode	138.5 ms to 10 s (at rolling shutter mode)
		100 μs to 10 s (at global shutter mode)
External trigger input mode	Edge trigger, Level trigger, Start trigger	
Trigger delay function	0 to 10 s (in 10 μs steps)	
Trigger input connector	SMA / Camera Link I/F	
Trigger output	3ch programmable timing outputs, Trigger ready output, Global exposure timing output	
Trigger output connector	SMA	
Binning	2×2, 4×4	
Interface	Camera Link base configuration	
Lens mount	C-mount	
Connector	Mini-Camera Link	
Power supply	AC 100 V to AC 240 V, 50 Hz / 60 Hz	
Power consumption	Approx. 150 VA	
Ambient operating temperature *1	0 °C to +40 °C	
Ambient operating humidity	30 % to 80 % (Forced-air cooled with no condensation)	
Ambient storage temperature	-10 °C to +50 °C	
Ambient storage humidity	90 % max. (with no condensation)	

*1 Depend on the exposure time or ambient temperature, brighter or darker pixels than surrounding area or uneven pattern may appear in the image.
It comes from the characteristics of InGaAs sensor and not the defects or failure of the camera.

Spectral response



Dimensional outlines (Unit: mm)



Options

Product number	Product name
A12106-05	External trigger cable SMA-BNC 5 m
A12107-05	External trigger cable SMA-SMA 5 m
A14038-04	Camera Link cable SDR-SDR 4 m
M9982-29	Frame grabber board Camera Link

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 - 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.
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