

ORCA[®]-spark

Digital CMOS camera C11440-36U



The ORCA[®]-spark is a high-sensitivity digital CMOS camera using a 2.3 megapixel CMOS sensor. It has global shutter to achieve a high-speed readout of approx. 65 frames/s, making it ideal for imaging fast moving objects. The ORCA[®]-spark also delivers readout noise levels as low as 6.6 electrons, enabling imaging with high S/N ratio even when capturing images of dark objects.

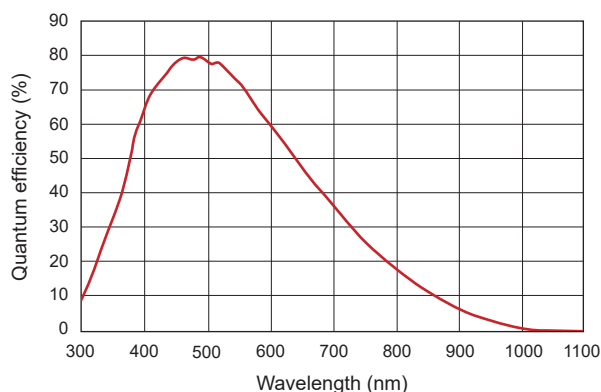
Features

- 2.3 megapixel CMOS sensor
- High-speed readout of approx. 65 frames/s
- Low readout noise of 6.6 electrons
- Wide dynamic range of 5000:1
- Global shutter
- USB 3.0 interface

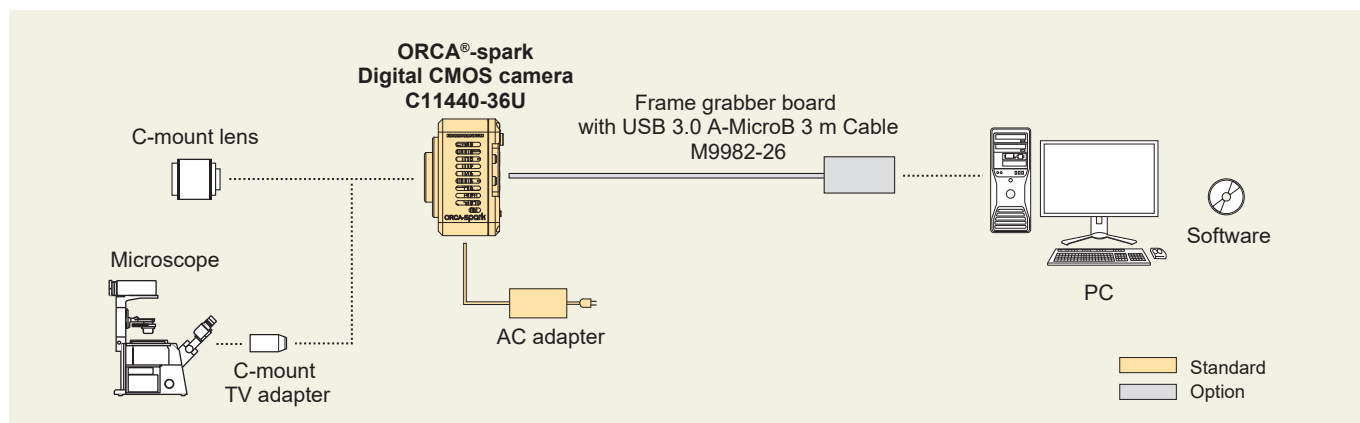
Applications

- Low-light-level imaging
- Microscope observation
- X-ray scintillator readout

Spectral response



System configuration



Specifications

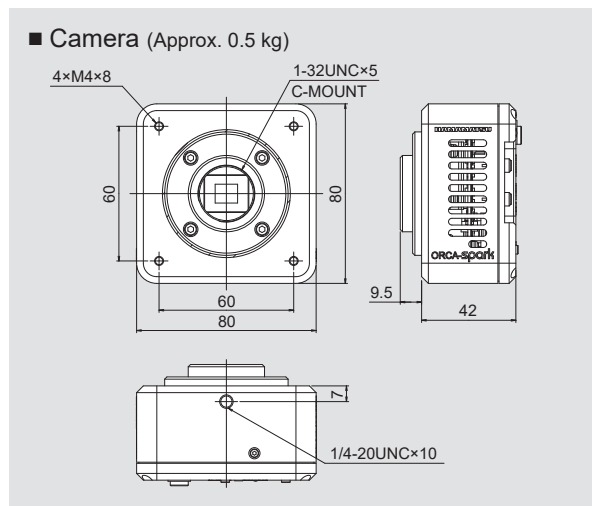
Product number	C11440-36U	
Imaging device	CMOS image sensor	
Effective number of pixels	1920 (H) × 1200 (V)	
Cell size	5.86 μm (H) × 5.86 μm (V)	
Effective area	11.25 mm (H) × 7.03 mm (V)	
Full well capacity (typ.)	33 000 electrons	
Analog gain	1× to 15.8× (240 steps)	
Dynamic range (typ.) *1	5000 : 1	
Frame rate	Full resolution	64.9 frames/s
	2 Line Sub-array	2008.9 frames/s
Readout noise (rms) (typ.)	6.6 electrons	
Digital output	12 bit	
Exposure time	Internal mode	26.17 μs to 10 s
	External trigger mode	26.17 μs to 10 s (Edge trigger, Start trigger) 1 ms to 1 s (Level trigger, Synchronous readout trigger)
External trigger input	Yes	
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 input connector	SMA	
Trigger output	Programmable timing outputs, Low output, High output, Global exposure timing output, Trigger ready output	
Binning *2	2×2	
Sub-array	Yes	
Interface	USB 3.0 *3	
Lens mount	C-mount	
Connector	USB 3.0 microB type	
Power supply	AC 100 V to AC 240 V, 50 Hz/60 Hz	
Power consumption	Approx. 20 VA	
Ambient operating temperature	0 °C to +40 °C	
Ambient operating humidity	30 % to 80 % at Forced-air cooled (with no condensation)	
Ambient storage temperature	-10 °C to +50 °C	
Ambient storage humidity	90 % max. (with no condensation)	

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

*2 Digital binning processing in the camera

*3 USB 3.1 Gen 1 compatible

Dimensional outlines (Unit: mm)



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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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Options

Product number	Product name
A12106-05	External trigger cable SMA-BNC 5 m
A12107-05	External trigger cable SMA-SMA 5 m
M9982-26	Frame grabber board with USB 3.0 A-MicroB 3 m Cable

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