

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 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.

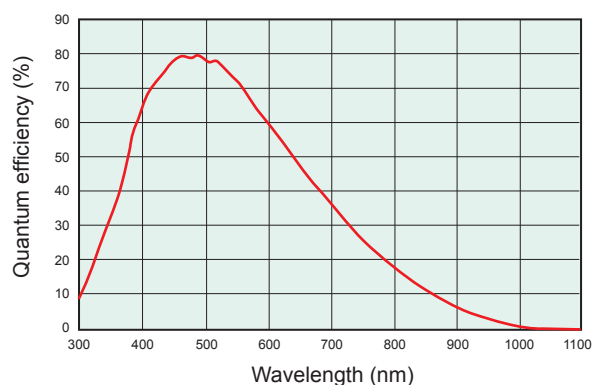
FEATURES

- 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

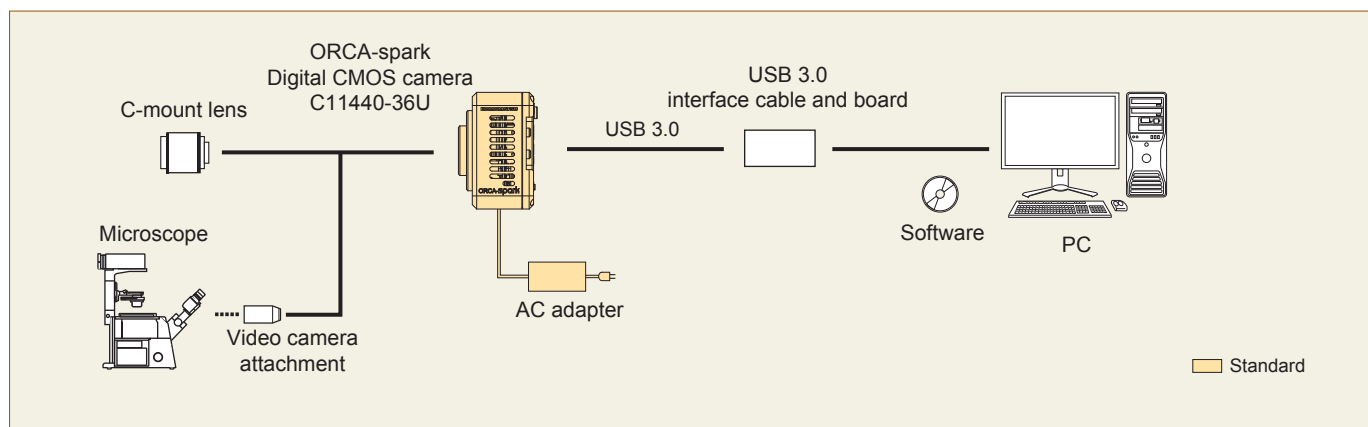
APPLICATIONS

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

SPECTRAL RESPONSE



SYSTEM CONFIGURATION



SPECIFICATIONS

Type 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	
Lens mount	C-mount	
Connector	USB 3.0 microB type	
Power supply	DC +12 V	
Power consumption	Approx. 20 VA	
Ambient operating temperature	0 °C to +40 °C	
Ambient operating humidity	30 % to 70 % at Forced-air cooled (with no condensation)	
Ambient storage temperature	-10 °C to +50 °C	
Ambient storage humidity	90 % max. (with no condensation)	

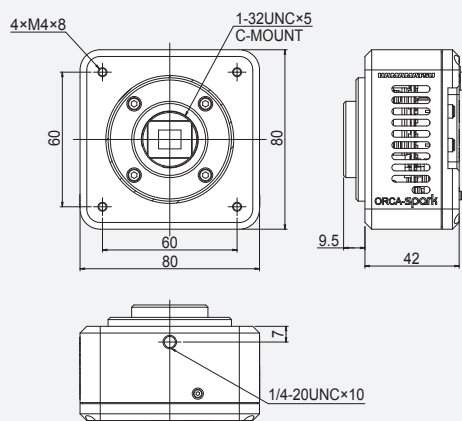
*1 : Calculated from the ratio of the full well capacity and the readout noise.

*2 : Digital binning processing in the camera

DIMENSIONAL OUTLINES

(Unit : mm)

● C11440-36U (Approx. 0.5 kg)



OPTIONS

- External trigger cable SMA-BNC 5 m A12106-05
- External trigger cable SMA-SMA 5 m A12107-05

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