

OEM Solution

NEW

Scientific CMOS board level camera C11440-52U30



The C11440-52U30 is a compact and highly sensitive board level camera with the latest scientific CMOS sensor. The camera has over 80 % quantum efficiency. The camera runs at 30 frames/s at full resolution and it can reach up to 25 655 frames/s (512 × 8 ROI). This enhanced QE means that you have a possibility of detecting the faintest of signals. Or, for moderately dim samples, that the ideal image is achievable with shorter exposure times.

The C11440-52U30 has low camera noise of 2.3 electrons (rms) at 30 frames/s. The compact (90 mm × 90 mm) and light weight design is ideal for integration into various measurement and analytical instruments. In addition to that the camera employs a USB 3.0 digital interface for convenience and compatibility.

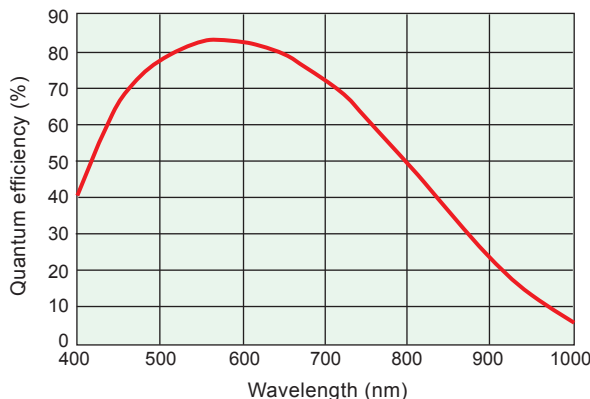
FEATURES

- Resolution: 4.0 megapixels (2048 × 2048)
- Camera noise: 2.3 electrons (rms)
: 1.6 electrons (median)
- Frame rate: 30 frames/s (Full resolution)
- Quantum efficiency: 82 % (Peak QE)

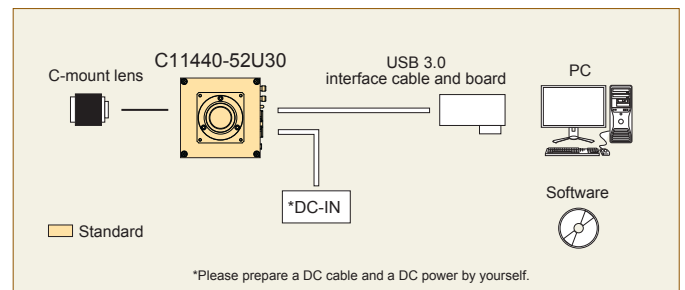
APPLICATIONS

- DNA sequence
- Gene expression
- Imaging cytometry
- High content screening
- Live cell imaging
- Genomic and proteomic analysis and diagnostics
- X-ray I.I., X-ray scintillator readout

SPECTRAL RESPONSE



SYSTEM CONFIGURATION



SPECIFICATIONS

Type number	C11440-52U30
Imaging device	Scientific CMOS image sensor
Effective number of pixels	2048 (H) × 2048 (V)
Cell size	6.5 μm (H) × 6.5 μm (V)
Effective area	13.312 mm (H) × 13.312 mm (V)
Full well capacity typ.	30 000 electrons
Dynamic range typ.*1	18 000 : 1
Frame rate	30 frames/s to 25 655 frames/s
Readout noise typ.*2	2.3 electrons (rms), 1.6 electrons (median)
Digital output	16 bit
Exposure time*3	1 ms to 30 s (Internal trigger mode, Full resolution)
External trigger input mode	Edge trigger, Level trigger, Synchronous readout trigger, Start trigger, Global reset edge trigger, Global reset level trigger
Trigger output	3 programmable timing outputs, Low output, High output, Trigger ready output, Global exposure timing output
Binning	2×2, 4×4
Sub-array	Yes
Interface	USB 3.0
Lens mount	C-mount
Power supply	DC+12 V
Power consumption	Approx. 9 VA
Ambient operating temperature	0 °C to + 40 °C (+ 35 °C *4 recommended)
Ambient operating humidity	30 % to 80 % (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 average readout noise.

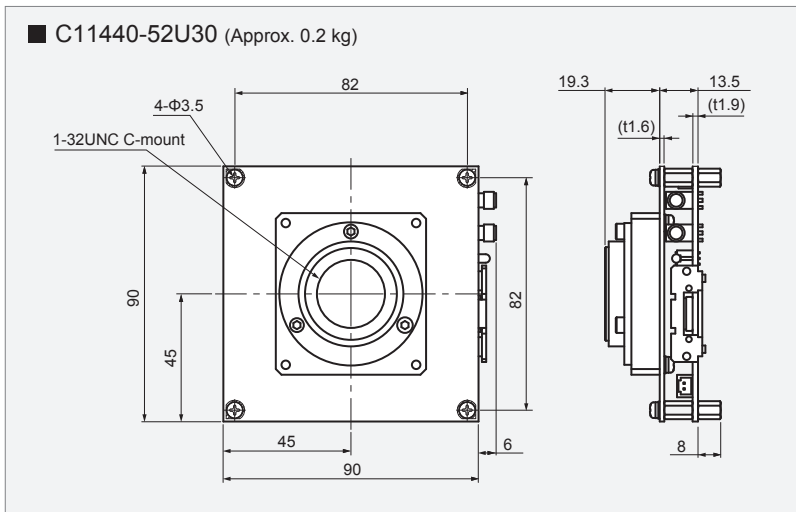
*2: Including dark current at 33 ms exposure.

*3: When exposure time is longer than 100 ms, white spots would be visible and image quality would be degraded.

*4: When ambient operating temperature is higher than + 35 °C, white spots would be visible and image quality would be degraded.

DIMENSIONAL OUTLINES

(Unit: mm)



OPTIONS

- External trigger cable SMA-BNC 5 m: A12106-05
- External trigger cable SMA-SMA 5 m: A12107-05
- Board camera case: A12456-03

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