

Synapse-i scientific CCD camera

The Synapse-i scientific CCD camera is the most sensitive quantitative low light imaging camera on the market. The Synapse-i imaging camera provides real image quantification for direct correlation between the image intensity and the detected number of photons.



The importance of the quantitative nature of the Synapse-i imaging camera cannot be overstated especially for imaging of labeled cells, plants and in-vivo imaging.



Thanks to its unique quick-change mounting flange, the Synapse-i imaging camera can be converted easily from an imaging mode to a spectroscopic mode for standard spectroscopy experiments. The Synapse-i imaging camera offers deep thermoelectric cooling for low dark signal operation with excellent linearity. The increased accuracy of data over the full dynamic range gives you a true 16-bit linear range without binning. The scientific grade 1 CCD makes the Synapse-i the ideal imaging quantitative camera for chemiluminescence, plant genetics, photovoltaic inspection, combustion and flow analysis.

Specifications

| | Synapse-i 512 | Synapse-i 1024 |
|-------------------|-------------------------------------|-------------------------------------|
| CCD Format | 512 x 512 | 1024 x 1024 |
| Pixel Size | 24 μm x 24 μm | 13 μm x 13 μm |
| Image Area | 12.3 mm x 12.3 mm | 13.3 mm x 13.3 mm |

Cooling System

Guaranteed -75°C

Guaranteed -75°C

Read Noise**20 kHz** 3 e- rms

2 e- rms

1 MHz 15 e- rms

8 e- rm

Dark Current

0.004 e-/pixel/s

0.001 e-/pixel/s

Pixel Well Capacity

350 ke-

100 ke-

Register Well Capacity

1000 ke-

500 ke-

Nonlinearity**20 kHz** < 0.4%

< 0.4%

1 MHz < 1%

< 1%

Pixel Read Out State

20 kHz, 1 MHz

20 kHz, 1 MHz

Software Selectable Gains

3 choices

3 choices

Dynamic Range

16 bits

16 bits

Vertical Shift Rate36 μ s, 8 μ s36 μ s, 9 μ s**Maximum Spectral Rate****20 kHz** 18 Hz

8 Hz

1 MHz 185 Hz

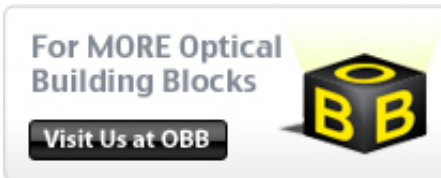
97 Hz

Minimum Image Readout Time **20 kHz** 15.8 s

63 s

1 MHz 0.32 s

1.5 s



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