

Synapse FIVS

Scientific CCD Camera

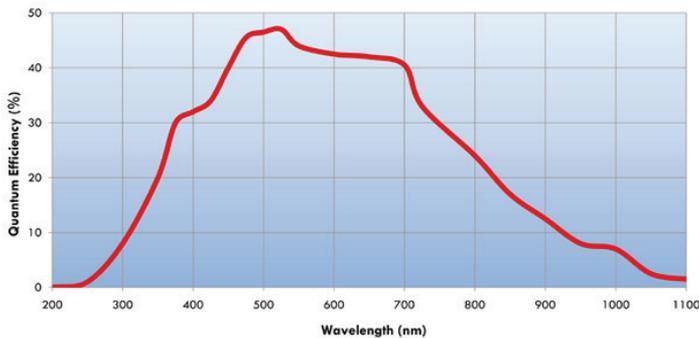
ELEMENTAL ANALYSIS
FLUORESCENCE
GRATINGS & OEM SPECTROMETERS
OPTICAL COMPONENTS
FORENSICS
PARTICLE CHARACTERIZATION
RAMAN
SPECTROSCOPIC ELLIPSOMETRY
SPR IMAGING

Front illuminated visible sensor, -80°C
 Three chip formats to choose from:
 512x512, 2048x512, 1024x256



The Synapse FIVS scientific CCD camera is the ideal camera for a variety of spectroscopy applications. This series of cameras offers three different chip array formats to choose from with a peak quantum efficiency of 56%.

QE Curve, Synapse FIVS CCD



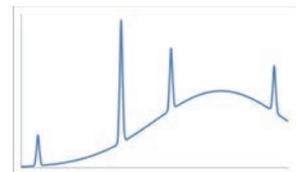
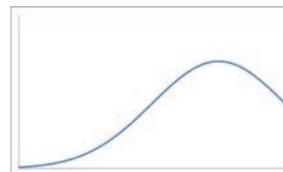
Features and Benefits

- Deep thermoelectric cooling
- Ideal for low light level detection without etaloning
- Excellent linearity
- Single channel detector port extends wavelength range
- E2V Scientific Grade 1 CCD
- Lifetime vacuum warranty
- USB 2.0 Interface
- HORIBA SynerJY acquisition and analysis software
- LabVIEW VI's and SDK available

Primary Applications

Primarily chosen for broad spectrum analysis such as photoluminescence, it is also well suited for studying fine spectral features on a broad spectral background.

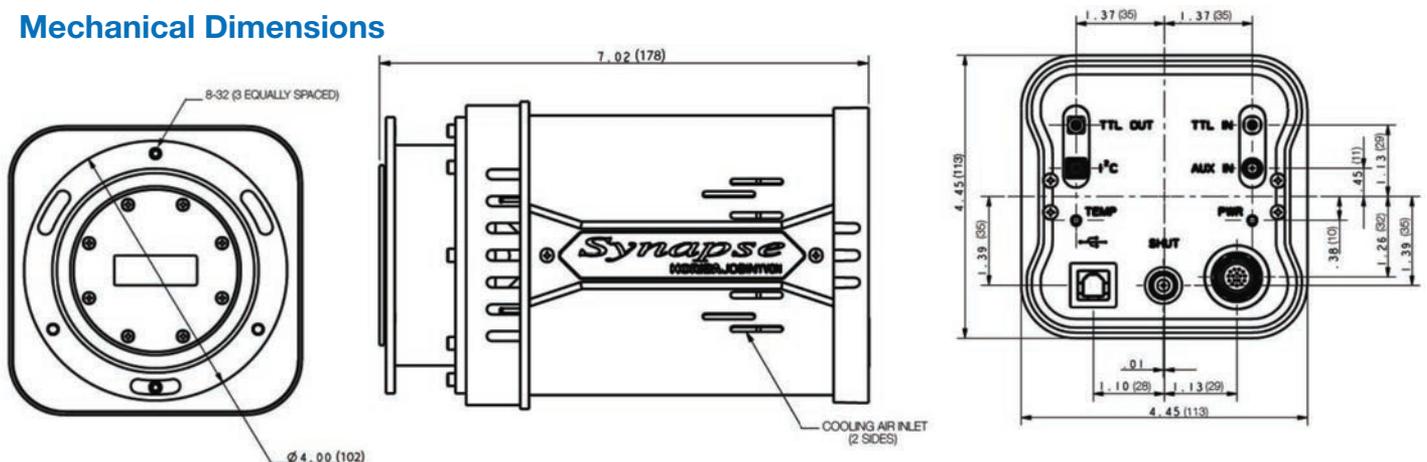
- Fluorescence
- Photoluminescence
- Absorption
- Transmission
- Reflectance
- Raman



Specifications

CCD format	512 x 512, front-illuminated, Scientific Grade 1	
Pixel size	24 μm x 24 μm	
Image area	12.3 mm x 12.3 mm, 100% fill factor	
Cooling system	Four-stage thermoelectric cooling. Typical operating temperature -80°C, guaranteed to -75°C. External cooling option available (-95°C typical.)	
Typical readout noise	20 kHz: 3.5 e ⁻ rms	1 MHz: 20 e ⁻ rms
Maximum readout noise	20 kHz: 6 e ⁻ rms	1 MHz: 25 e ⁻ rms
Minimum pixel well capacity	300 ke ⁻	
Typical pixel well capacity	350 ke ⁻	
Typical register well capacity	1000 ke ⁻	
Typical dark current	0.002 e ⁻ /pixel/s	
Nonlinearity	20 kHz : <0.4%	1 MHz: <1%
Scan rates	20 kHz and 1 MHz, software-selectable	
Software-selectable gains	3 software-selectable gains	
Dynamic range	16 bits	
Vertical shift rates	36 μs , 9 μs	
Maximum spectral rate	20 kHz: 18 Hz	1 MHz: 49 Hz
Physical dimensions (L x W x H)	7 x 4.5 x 4.5 inches	
Physical weight	5.8 lbs	

Mechanical Dimensions



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