

## SynapsePlus OE

High Speed Scientific CCD Camera

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

Front illuminated open electrode sensor,  
-80°C (-95°C) 1024 x 256 pixels

### Features and Benefits

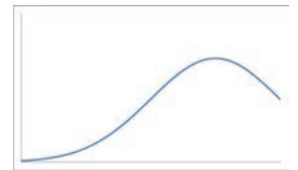
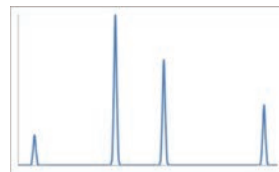
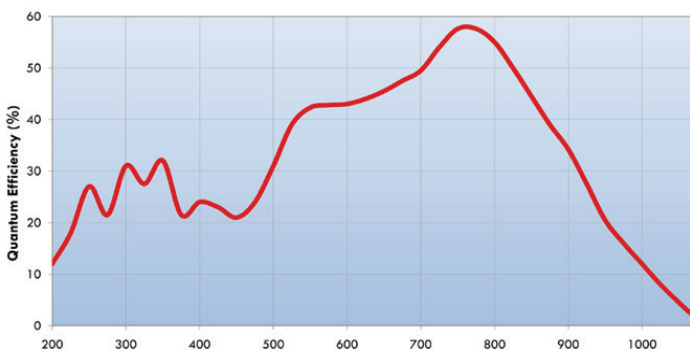
- Best value
- Deep thermoelectric cooling
- Fast acquisition rate of more than 2200 spectra/s
- Ideal for low light level detection without etaloning
- Excellent linearity
- e2V Scientific Grade 1 CCD
- Lifetime vacuum warranty
- USB 2.0 interface: 100% guaranteed data integrity
- HORIBA SynerJY or LabSpec acquisition and analysis software
- LabVIEW VI's and SDK available

### Primary Applications

An excellent affordable choice for fine and broad spectrum analysis such as photoluminescence, it is also well suited for studying fine spectral features on a broad spectral background.

- Absorption
- Raman
- Transmission
- Photoluminescence
- Reflectance
- Fast kinetics

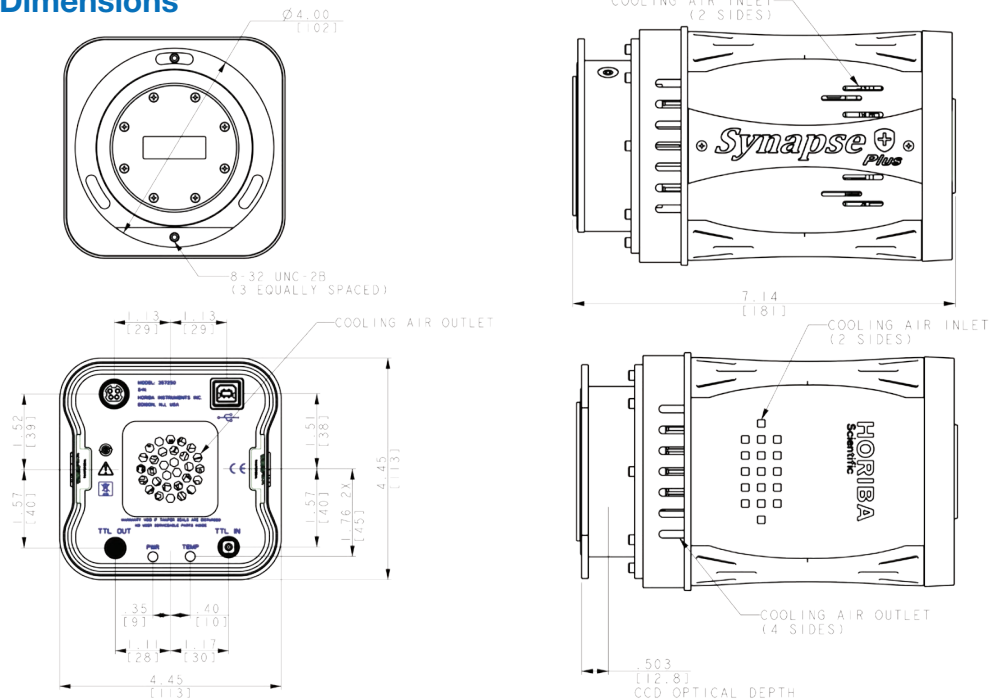
### QE Curve, SynapsePlus FIOE CCD



## Specifications

<b>Sensor</b>	Front-Illuminated Open Electrode (FIOE), Scientific Grade 1		
<b>Active pixels</b>	1024 x 256		
<b>Pixel size</b>	26 µm x 26 µm		
<b>Image area</b>	26.6 mm x 6.7 mm, 100% fill factor		
<b>Pixel well depth</b>	450,000 e <sup>-</sup>		
<b>Register well depth</b>	1,000,000 e <sup>-</sup>		
<b>Non-linearity</b> (Measured at all speeds per camera)	<0.40%		
<b>Readout Noise (e<sup>-</sup>): Typ. (Max)</b>	<b>50 kHz:</b> 4 (5)	<b>1 MHz:</b> 12 (15)	<b>3 MHz:</b> 15 (30)
<b>Dark current at -80°C (e<sup>-</sup>/pixel/s)</b>	<0.002		
<b>Maximum spectra per second</b>	<b>Full vertical bin:</b> 363 <b>ROI mode 20 rows:</b> 1795 <b>ROI mode 8 rows:</b> 2247		
<b>Software-adjustable gain (e<sup>-</sup>/count)</b>	Selectable from 1.0 to 13.5		
<b>Digitization</b>	16-bit ADC		
<b>Vertical shift rates (µs)</b>	9.3, 18.4, 36.5 software-selectable		
<b>Cooling at +20°C</b>	<b>Air-cooled:</b> -75°C (guaranteed), -80°C (typical) <b>Liquid-cooling recirculator:</b> -90°C (guaranteed), -95°C (typical)		
<b>Power requirements</b> AC-DC power supply (provided)	AC input 90-264 VAC, 47-63 Hz DC output, +9 V, 6.44 A maximum		
<b>Physical dimensions</b>	<b>Length:</b> 181 mm (7.14")	<b>Width:</b> 113 mm (4.45")	<b>Height:</b> 113 mm (4.45")
<b>Physical weight</b>	2.10 kg (4.64 lb)		

## Mechanical Dimensions



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**HORIBA**  
Scientific