

The high-resolution, large-format camera for low UV-VIS spectroscopy

Synapse[®] 2048 × 512 Front-Illuminated UV-Sensitive CCD Detector

The HORIBA Scientific Front-Illuminated UV-Sensitive 2048 × 512 CCD is ideal for low-noise acquisitions required in UV and visible spectroscopy. Its 13.5 μm × 13.5 μm pixels offer very high spectral resolution, designed with a low-noise amplifier for extremely low readout noise. The height of this chip makes it the best choice for multi tracking measurements or a full 6.9 mm binning in the UV to visible spectral regions.



Feature

Spectroscopy Benefits

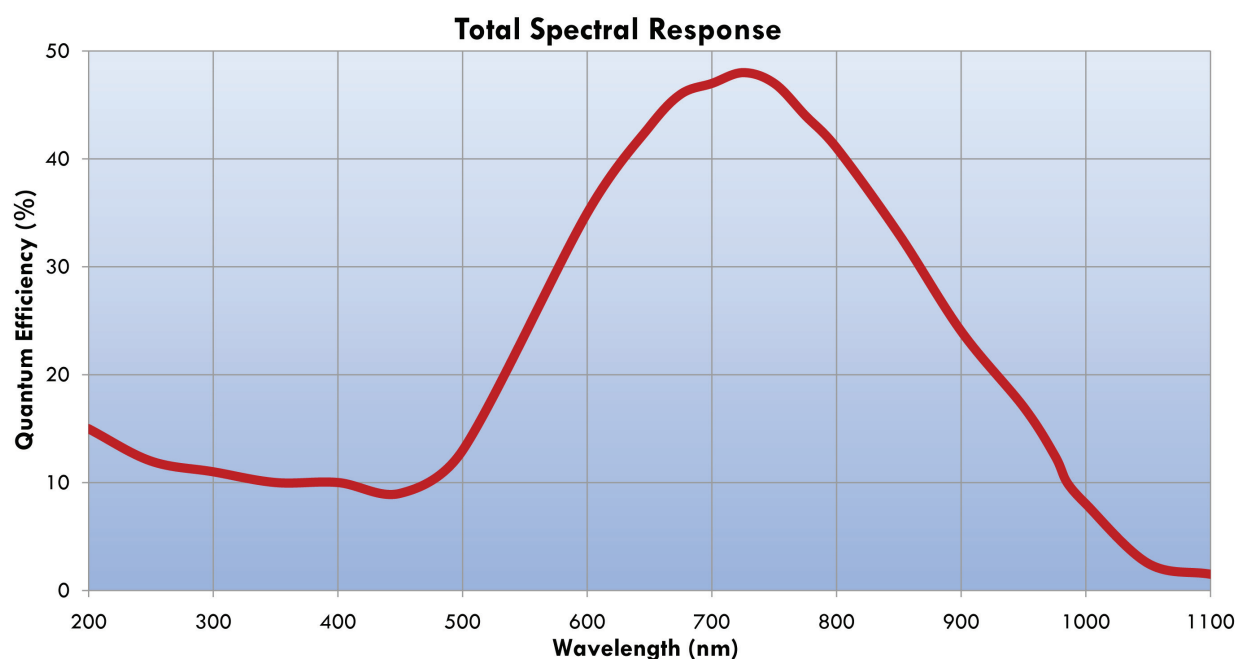
Deep Thermoelectric Cooling	Low dark signal with no need for liquid nitrogen
Lifetime Vacuum Warranty	All-metal sealed technology allows a permanent vacuum, letting us offer a lifetime warranty
Excellent Linearity	Increased accuracy of data over the full dynamic range
USB 2.0 Interface	Standard connection to PC notebooks and desktops with 100% data integrity
Auxiliary Signal Input	Unique ability to add measurements from single-channel detectors without additional electronics
UV-enhanced Coating	UV response down to 200 nm
Scientific Grade 1 CCD	Ideally suited for low light level detection in a variety of spectroscopic applications
HORIBA Scientific's SynerJY [®] Software	Complete control of a Synapse CCD and HORIBA Scientific Spectrograph system with full analysis capabilities
LabVIEW VIs and SDK Available	Flexible software to integrate a Synapse CCD into existing apparatus or as an OEM component



Specifications*

CCD Format	2048 × 512, front-illuminated, UV-coated, Scientific Grade 1			
Pixel Size	13.5 μm × 13.5 μm			
Image Area	27.6 mm × 6.9 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).			
		Minimum	Typical	Maximum
Readout Noise	20 kHz		3 e ⁻ rms	4 e ⁻ rms
	1 MHz		9 e ⁻ rms	15 e ⁻ rms
Pixel Well Capacity		150 ke ⁻	250 ke ⁻	
Register Well Capacity			1000 ke ⁻	
Dark Current			0.001 e ⁻ /pixel/s	
Nonlinearity	< 0.4% at 20 kHz < 1% at 1 MHz			
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	6 Hz		
	1 MHz	140 Hz		

*Specifications subject to change without notice.



HORIBA

Scientific

Ordering Information:

CCD-2048x512-FIUV-SYN Synapse Thermoelectric Cooled CCD System

Our CCD packages include a CCD shutter for clean CCD charge transfer and background subtraction.

ELEMENTAL ANALYSIS

FLUORESCENCE

GRATINGS &
OEM SPECTROMETERS

OPTICAL COMPONENTS

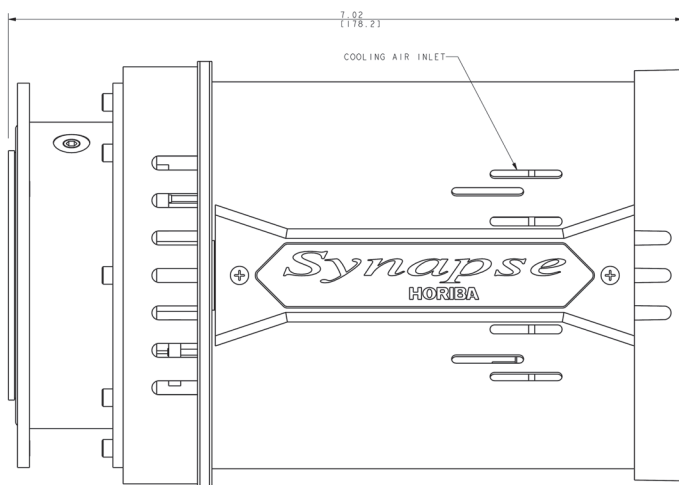
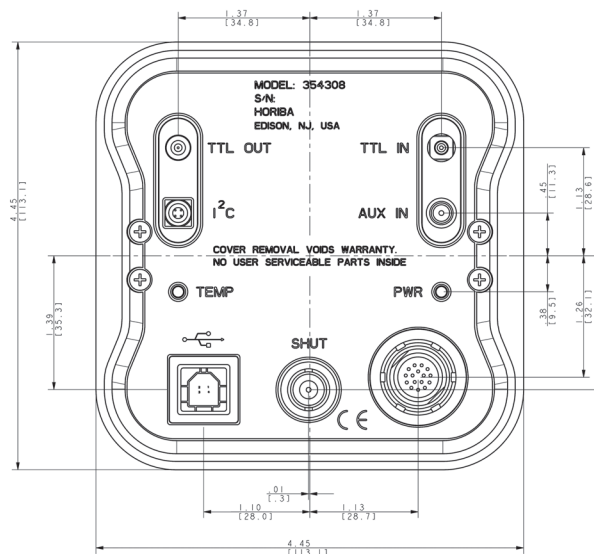
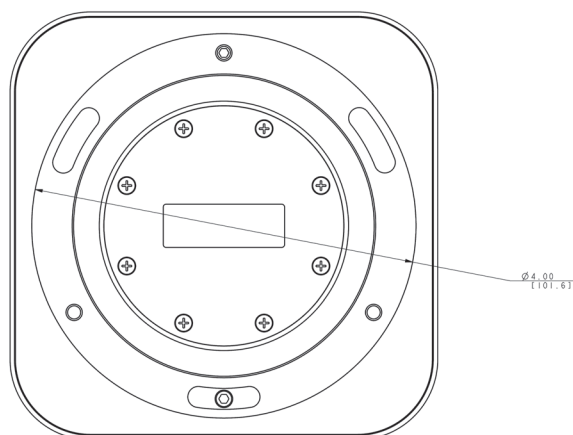
PARTICLE CHARACTERIZATION

RAMAN

SPECTROSCOPIC ELLIPSOMETRY

SPR IMAGING

Mechanical Dimensions



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