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HORIBA Scientific

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

The most versatile front-illuminated open-electrode camera for spectroscopy

Symphony® II 1024 × 256 Cryogenic Open-Electrode CCD Detector



The Front-Illuminated Open-Electrode 1024 × 256 CCD has the best value of all CCD detectors on the market today. With an average quantum efficiency of 40% from 200–1000 nm and its relatively flat response, this detector is the optimal choice for general-purpose spectroscopic measurements. Open Electrode technology allows for an increased response in the UV over standard front-illuminated CCDs. In the near-IR, this detector is a lower-cost alternative to the Deep Depletion CCDs with no etaloning because of its front-illuminated design and similar signal-to-noise performance.

Feature	Spectroscopy Benefits
Scientific Grade 1 CCD	Ideally suited for low light level detection in a variety of spectroscopic applications
Open-Electrode Technology	Relatively flat spectral response from 200–1000 nm with no etaloning
Liquid-nitrogen Cooling	Extremely low dark signal for extended integration times required with low signals
Excellent Linearity	Increased accuracy of data over the full dynamic range
Software-selectable Scan Rates	Optimize an experiment for the best combination of speed and sensitivity
USB 2.0 Interface	Standard connection to PC notebooks and desktops with 100% data integrity
HORIBA Scientific's SynerJY® Software	Complete control of a Symphony II CCD and HORIBA Scientific Spectrograph system with full analysis capabilities
Auxiliary Signal Input	Unique ability to add measurements from single-channel detectors without additional electronics
LabVIEW™ VIs and SDK Available	Flexible software to integrate a Symphony II CCD into existing apparatus or as an OEM component

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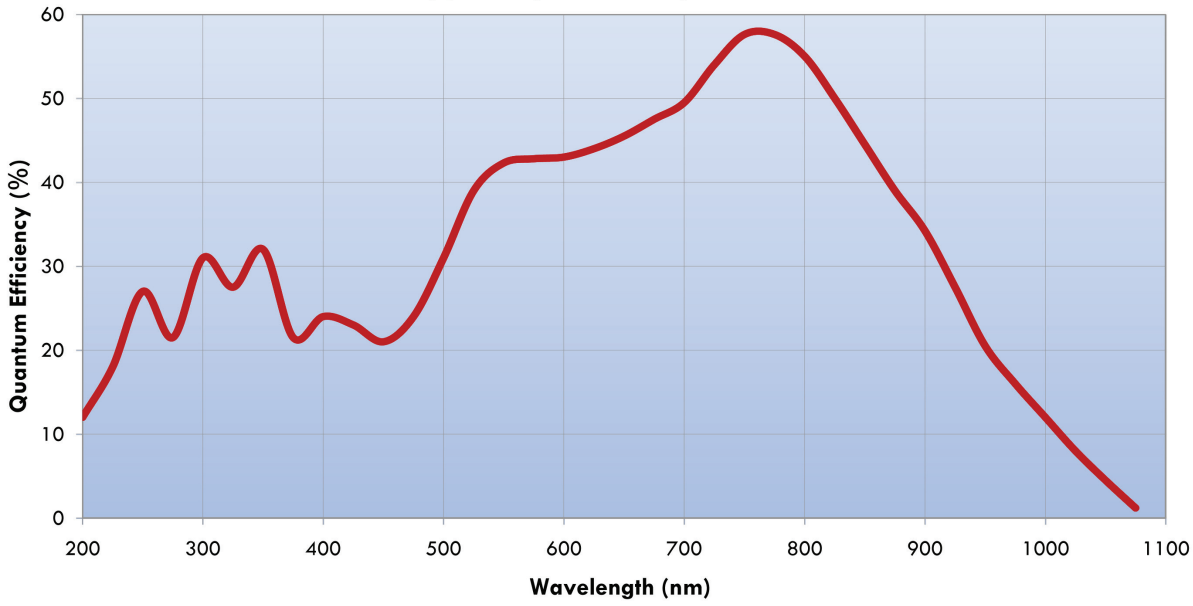
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Specifications*

CCD Format			1024 × 256, front-illuminated, Scientific Grade 1		
Pixel Size			26 µm × 26 µm		
Image Area			26.6 mm × 6.7 mm, 100% fill factor		
Cooling System			Liquid nitrogen		
Hold Time		1LS Model	24 hours with 1 L Dewar		
		3LS Model	72 hours with 3 L Dewar		
			Minimum	Typical	Maximum
Readout Noise		20 kHz		3.4 e^- rms	5 e^- rms
		1 MHz		12 e^- rms	20 e^- rms
Pixel Well Capacity			200 ke^-	450 ke^-	
Register Well Capacity				1000 ke^-	
Dark Current				0.5 e^-/pixel/h	
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	13 Hz		
		1 MHz	278 Hz		

*Specifications subject to change without notice.

Typical Spectral Response



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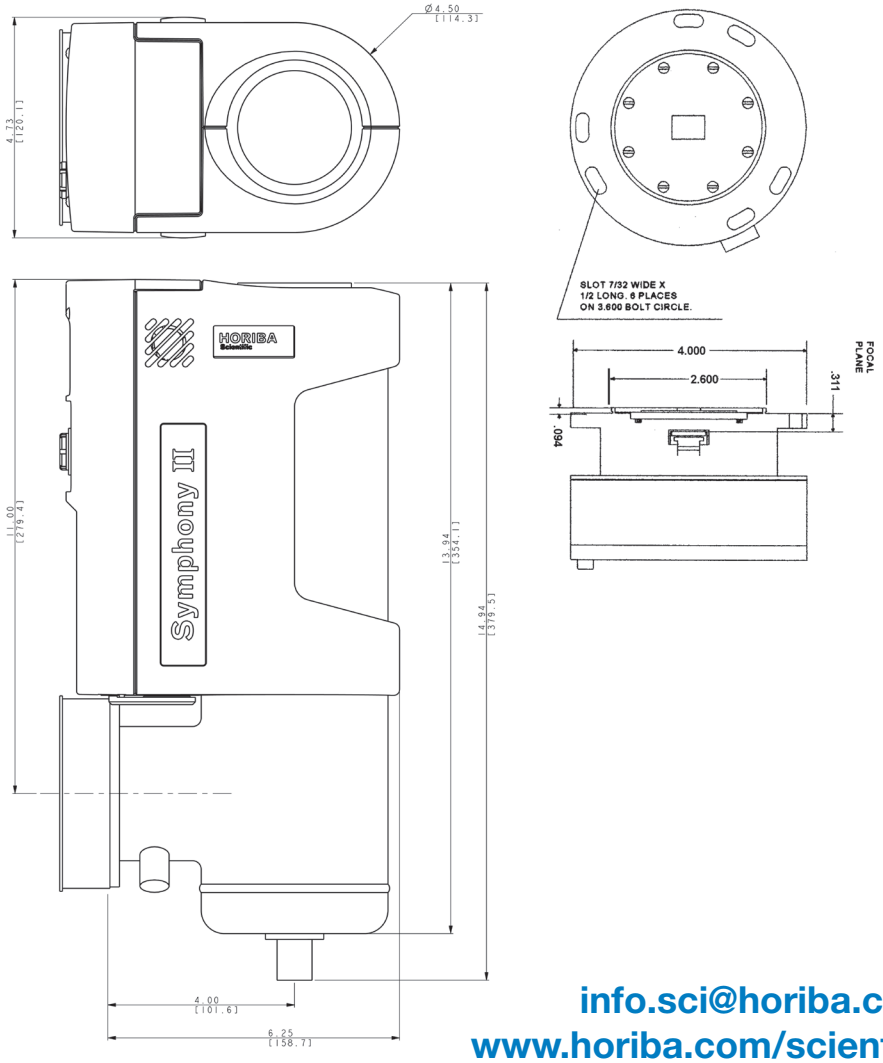
Ordering Information:

SII-1LS-256-OE Liquid Nitrogen Cooled CCD System with 1 Liter Side-Looking Dewar

SII-3LS-256-OE Liquid Nitrogen Cooled CCD System with 3 Liter Side-Looking Dewar

Our CCD packages include a CCD shutter for clean CCD charge transfer and background subtraction. To transfer liquid nitrogen to the CCD Dewar, we recommend our appropriately-sized funnel, part # G3200111328.

Mechanical Dimensions



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