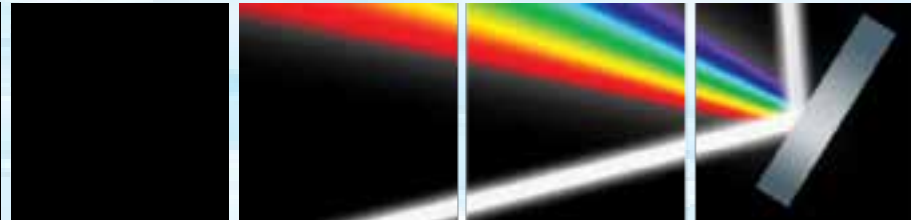




Symphony II Linear InGaAs Array Scientific CCD Camera

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

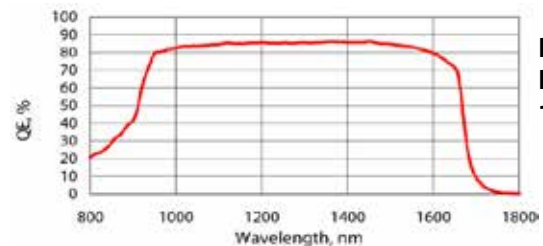
Designed for use in the NIR, applications include NIR Raman, photoluminescence, emission, and absorbance spectroscopy.



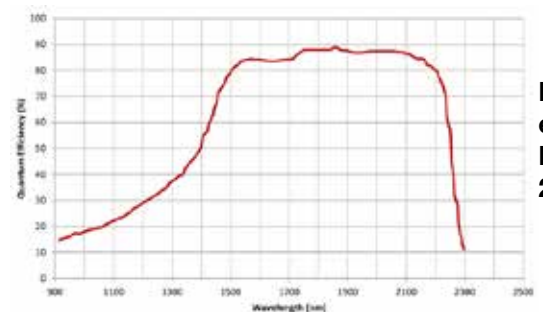
HORIBA Scientific's Symphony II InGaAs arrays are the ideal choice for demanding, low-light-level measurements in the near infrared (NIR) spectral region from 800–1700 nm. Offered in 512 × 1 (25 × 500 μm), 512 × 1 (50 × 500 μm), and 1024 × 1 (25 × 500 μm) pixel formats, these InGaAs detectors provide high resolution while maintaining full well capacity. Symphony II InGaAs arrays feature a 16-bit dynamic range, are liquid-nitrogen cooled to minimize dark noise, and use a mechanical shutter for subtraction of the dark background. Available with a 3-liter dewar for hours of uninterrupted data-collection. A plug-and-play USB 2.0 interface allows portability and easy setup on PC notebooks and desktop computers with 100% data integrity. Applications include near-IR Raman, photoluminescence measurements of semiconductors, SWCNTs, and nanowires. Detectors with sensitivity from 1 μm to 2.2 μm are also available.

Features and Benefits

- Cryogenic cooling cools the array to -103°C to minimize dark noise
- Excellent linearity—high accuracy of data over the full dynamic range
- USB 2.0 interface—easy to use; connects to PC notebooks and desktops with 100% data integrity
- High Sensitivity (HiS) and High Dynamic Range (HiD) modes—software selection of acquisition mode to optimize detector for best signal-to-noise ratio
- Auxiliary signal input—unique ability to add measurements from single-channel detectors without additional electronics
- HORIBA Scientific's SynerJY® software—complete control of a Symphony II CCD and HORIBA Scientific Spectrograph system with full analysis capabilities
- LabVIEW VIs and SDK available—flexible software to integrate a Symphony II CCD into existing apparatus or as an OEM component



Linear InGaAs to 1700 nm



Linear extended InGaAs to 2200 nm

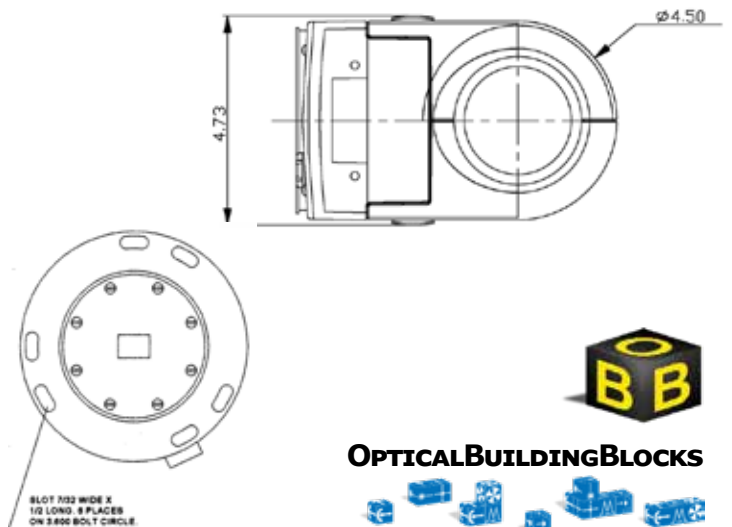
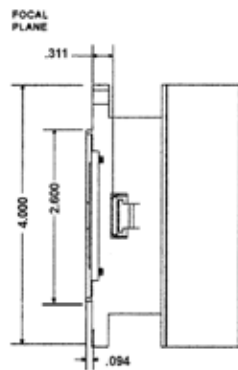
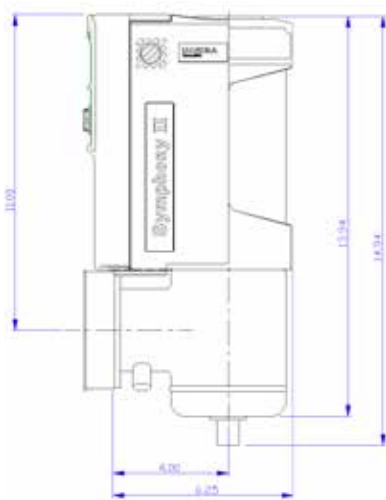
Linear InGaAs to 1700 nm

IGA format	512 x 1	512 x 1	1024 x 1
Element size	25 µm x 500 µm	50 µm x 500 µm	25 µm x 500 µm
Array size	12.8 mm	25.6 mm	25.6 mm
Cooling system	Liquid nitrogen		
Typical readout noise	High gain: 0.5 – 0.8 ke- rms; Low gain: 5-8 ke- rms		
Typical full well capacity	High gain: 5 Me-; Low gain: 130 Me-		
Typical dark current at -103°C	3 ke-/p/s	7 ke-/p/s	4 ke-/p/s
Response nonuniformity	± 10%	± 5%	± 10%
Response nonlinearity	< ± 1%		
Gain (normal)	High gain: 58 e-/count; Low gain: 1545 e-/count		
Dynamic range	16 bits		
Pixel defects	Max of 5 dark pixels	Max of 5 dark pixels	Max of 10 dark pixels

Linear extended InGaAs to 2200 nm

IGA format	512 x 1	512 x 1	1024 x 1
Element size	25 µm x 250 µm	50 µm x 250 µm	25 µm x 250 µm
Array size	12.8 mm	25.6 mm	25.6 mm
Cooling system	Liquid nitrogen		
Typical readout noise	High gain: 0.5 – 0.8 ke- rms; Low gain: 5-8 ke- rms		
Typical full well capacity	High gain: 5 Me-; Low gain: 130 Me-		
Typical dark current at -103°C	2 Me-/pixel/s		
Response nonuniformity	± 10%		
Response nonlinearity	< ± 1%		
Gain (normal)	High gain: 58 e-/count; Low gain: 1545 e-/count		
Dynamic range	16 bits		
Pixel defects	Max of 10 dark pixels	Max of 10 dark pixels	Max of 20 dark pixels

Mechanical Dimensions



OPTICALBUILDINGBLOCKS



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