



Symphony

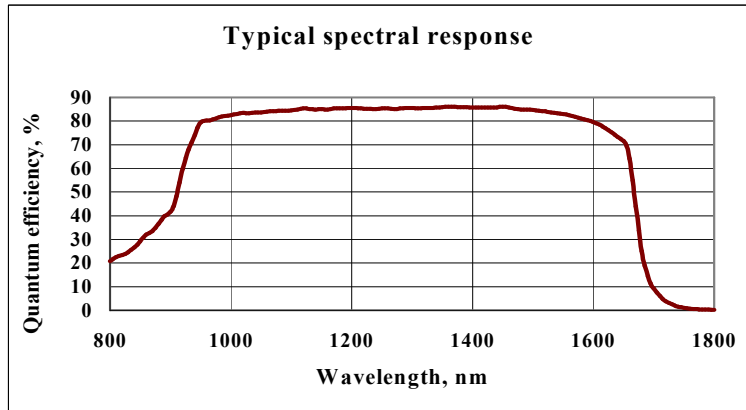
IGA-1024 x 1 (25 μm x 500 μm) Linear InGaAs Array Detector

High Resolution Array for NIR Spectroscopy

HORIBA Jobin Yvon's Symphony IGA-1024 x 1 is the ideal choice for demanding, low light level measurements in the near infrared (NIR) spectral region from 800 nm – 1700 nm. With a 1024 x 1 pixel format and small pixel size (25 μm x 500 μm), this InGaAs detector provides exceptionally high resolution (twice the resolution of standard InGaAs arrays with 50 μm pixels) while maintaining full well capacity. The IGA-1024 x 1 features a 16-bit dynamic range, a mechanical shutter for dark background subtraction, and is available in a Super TE cooled and Liquid Nitrogen cooled versions. Liquid nitrogen cooling minimizes dark signal and allows users to perform low light level measurements that require extended integration times. A Fast Ethernet connection to the host PC guarantees 100% data integrity.

Ideal for a Variety of Applications:

- NIR Raman Spectroscopy
- Photoluminescence
- Emission
- Fiber Optics Transmission



Typical spectral response for IGA-1024 x 1 detector (25 °C)

Features	Benefits
Spectroscopic Grade InGaAs Chip	Ideally suited for low light level detection in a variety of spectroscopic applications
Mechanical Shutter	True Background subtraction for performing high precision, low light level spectroscopic applications
Liquid Nitrogen Cooling with 1 or 3 liter Dewar Options	Extremely low dark signal operation for extended integration times required with low signal levels
High Sensitivity (HiS) and High Dynamic Range (HiD) Acquisition Modes	Optimize the detector for the best signal-to-noise ratio (S/N)
Ethernet Connection to Host PC	Standard, easy to use interface with 100% data integrity
HORIBA Jobin Yvon SynerJY® Software	Simple and complete control of a Symphony IGA based spectroscopy system with full analysis capabilities
LabVIEW VIs and SDK Available	Flexible software to integrate a Symphony IGA into existing apparatus or as an OEM component

Specifications

Model		STE		LN ₂	
Wavelength Range		800 nm – 1700 nm			
Pixel Format		1024 x 1			
Pixel Size		25 μm x 500 μm			
Image Area		100% Fill Factor			
Operating Temperature		220 K		170 K	
		Typical	Maximum	Typical	Maximum
Readout Noise	HiS Mode	0.5-0.7 ke ⁻ rms	1 ke ⁻ rms	0.5-0.8 ke ⁻ rms	1 ke ⁻ rms
	HiD Mode	5-7 ke ⁻ rms	10 ke ⁻ rms	5-8 ke ⁻ rms	10 ke ⁻ rms
Full Well Capacity	HiS Mode	5 Me ⁻		5 Me ⁻	
	HiD Mode	130 Me ⁻		130 Me ⁻	
Dark Signal		35 ke ⁻ /p/s	75 ke ⁻ /p/s	2.5 ke ⁻ /p/s	10 ke ⁻ /p/s
Fixed Pattern Response	HiS Mode	500 e ⁻ /s	3000 e ⁻ /s	200 e ⁻ /s	500 e ⁻ /s
	HiD Mode	500 e ⁻ /s	3000 e ⁻ /s	200 e ⁻ /s	500 e ⁻ /s
Response Nonuniformity		± 5 %	± 10 %	± 5 %	± 10 %
Response Nonlinearity		< ± 1%		< ± 1%	
Gain	HiS Mode	75 e ⁻ /count		75 e ⁻ /count	
	HiD Mode	2000 e ⁻ /count		2000 e ⁻ /count	
Dynamic Range		16 bits			
Spectral Rate		150 Hz			
Pixel defects		Maximum of 10 dark or hot pixels			

* Specifications subject to change without notice.

Ordering Information:

IGA-1024x1-25-1700-STE
IGA-1024x1-25-1700-1LS
IGA-1024x1-25-1700-3LS

Super TE Cooled InGaAs Detector
Liquid Nitrogen Cooled InGaAs Detector with 1 Liter Dewar
Liquid Nitrogen Cooled InGaAs Detector with 3 Liter Dewar

HORIBAJOBIN YVON

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