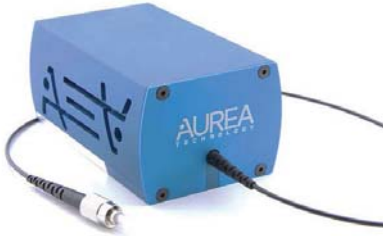


SPD_OEM_NIR

Compact, fast, USB
Free-running and gated-modes
NIR SINGLE PHOTON COUNTING MODULE



Very well-designed, the SPD_OEM is the first OEM module offering both:

- . 'free-running mode' for asynchronous detection,
- . 'gated mode' for synchronous detection.

This is the most compact and fastest high-performance Near-Infrared Single Photon Detection module for asynchronous (free-running) and synchronous (gated) photon detection applications. Two grades are available, the standard and the champion. The champion SPD_OEM_NIR performs free-running and gated modes with ultra-low-noise DCR < 1.000 cps and high Photon Detection Efficiency up to 30%, and up to 120 MHz trigger rate with very fast timing resolution < 150 psec.

Very well-designed, the SPD_OEM_NIR is self-contained. It doesn't require any additional cooling systems or control units. Thus, its compactness and modern interfaces make it very easy to integrate in the most demanding analytical instruments, quantum optics systems, and quality control processes.

Moreover, the SPD_OEM_NIR provides a Personal Computer connection via its mini-USB interfaces. Its easy-to-use Graphical User Interface allows the user to adjust the Photon Detection Efficiency and the Dead Time.

DLL libraries compatible to the most well-known programming languages, such as LabVIEW, C++, and Visual Basic are also provided.

Features

- Free-running and gated modes
- Detection Efficiency up to 30%
- Very low Dark Count Rate
- 150 ps Timing resolution
- Compact and easy-to-use GUI
- USB 2.0 interface (Bluetooth in option)
- LabVIEW and C++ DLL libraries

Applications

- Quantum Cryptography
- Quantum Optics
- Time Correlated Single Photon Counting (TCSPC)
- Fluorescence, FLIM, FRET
- Spectroscopy, Raman spectroscopy
- Photo-luminescence
- Laser Ranging LIDAR
- Photon source & optical fiber test
- Semiconductor and IC control



SPECIFICATIONS for both free-running and gated modes

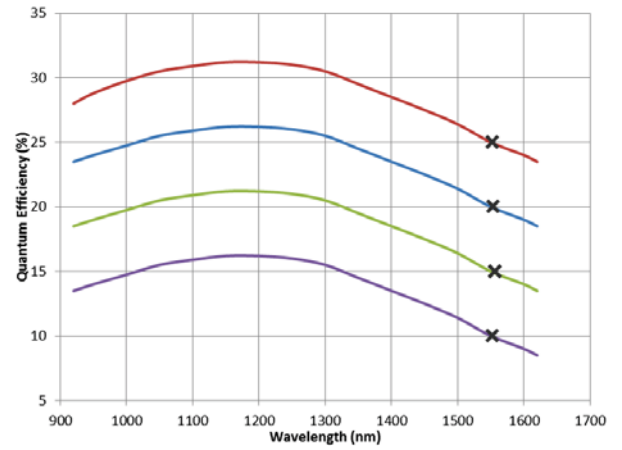
Parameter	Typical values measured @1,550 nm	
DETECTION		
Spectral range	900 nm to 1,700 nm (InGaAs)	
Optical fiber type	MMF (FC/PC fiber connector)	
Grade	Standard	Champion
Detection Efficiency	adjustable up to 25%	adjustable up to 30%
Dark Count Rate @10% QE	< 5,000 cps	< 1,000 cps
Max. trigger	from CW to 20 MHz	from CW to 120 MHz
Timing jitter	< 250 psec @ 20%QE	< 150 psec @ 30%QE
Dead time range	from 20 usec to 1 ms	from 5 usec to 1ms
Afterpulsing probability	< 5% at 20 MHz @ 10 ns gate and 10% QE < 0.1% at 100 kHz @ 10 ns gate and 10% QE	
Electrical, mechanical and environmental		
Input/Output	TTL - SMA connector (analog output in option)	
Control	Mini-B USB 2.0	
Power supply	5 VDC - 5 W	
Dimensions	103 x 68 x 50 mm ³ (without fan) 103 x 68 x 80 mm ³ (with fan)	
Weight	800 g	
Operating temperature	+ 10 C to + 30 C	
Cooling time	< 2 min @ 25°C	

User Interfaces

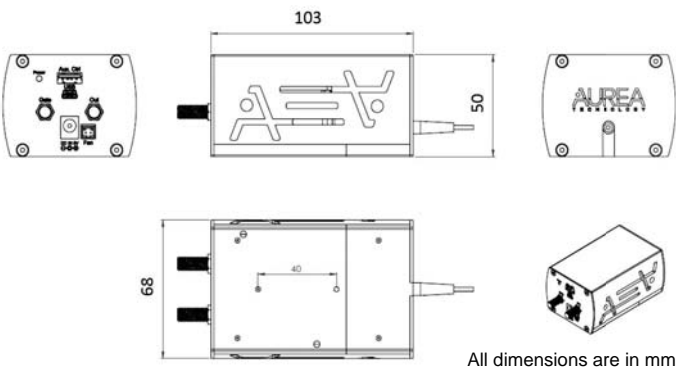


A very well-designed and easy-to-use Graphical User Interface is provided.

Typical Photon Detection Efficiency vs Wavelength



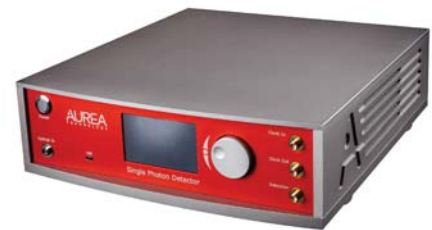
Mechanical Drawings



SPD_OEM module with fan option

Other available photon detection, timing, and laser products

AUREA Technology provides a large portfolio of high-performance Single Photon Counting, TCSPC, time-resolved, and picosecond Laser solutions from 400 nm to 1,700 nm.

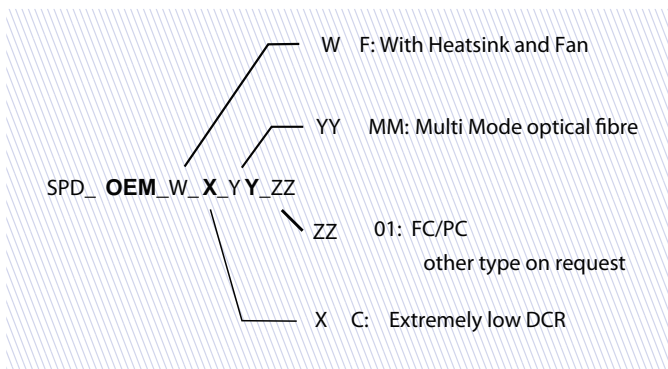


Options

The SPD_OEM provides also many options, such as :

- . Analog output,
- . Bluetooth interface,
- . Selection of optical fiber connectors,
- . Color LCD display connection via USB.

Ordering Information



Contact Information

For more information contact us at support@areatechnology.com

DISCLAIMER

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