

**NEW
in 2014!**



The first worldwide 2-channels VIS single photon counter

> Features <

- Free-running or Gated mode
- High Quantum Efficiency > 70% @ 700 nm
- Very low Dark Count Rate (grade selection)
- 1 or 2 independant channels
- Self-contained, compact and easy-to-use
- Remote control USB 2.0 interface
- LabVIEW and C++ DLL libraries

> Applications <

- Quantum Optics
- Photon correlation spectroscopy
- Fluorescence, fluorescence life time
- Time Correlated Single Photon Counting (TCSPC)
- Laser Ranging (LIDAR)
- Photo-luminescence
- Confocal Microscopie
- Particle sizing
- Astronomy

> Options available on request <

- Fully integrated TDC for TCSPC
- Low timing resolution < 250 ps
- Analog output (0 to 5 Volts)
- Wireless Bluetooth connection
- Monochromator interface

The SPD_A_VIS from AUREA Technology is the “best-in-class” high-performance and easy-to-use single photon counting modules engineered for the most demanding low-level -of-light [400 nm - 1060 nm] applications. The SPD_A_VIS can be used in free-running mode and also in gated-mode. It provides undeniable superior detection performances over existing commercial detection technologies, such as solid-states, and photomultipliers.

Thanks to its outstanding low-noise and high photon detection efficiency, the self-contained SPD_A modules enable worldwide scientists and engineers to measure very-low-light-level down to the single photon level. By achieving extremely low light level analytical measurements, it allows our worldwide customers to focus on their own challenges, and remain at the cutting edge of their field.

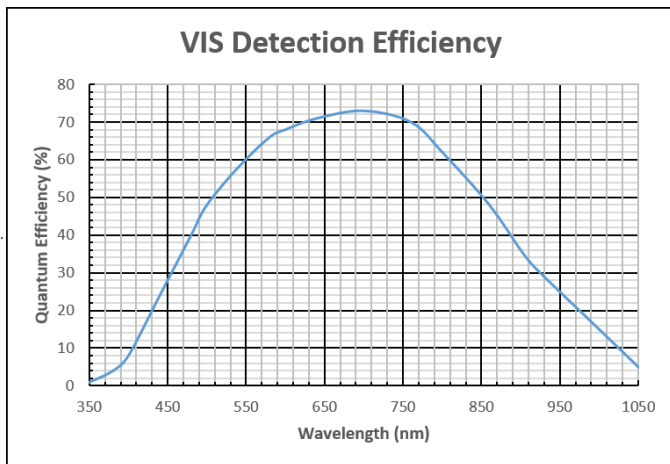
Engineered with “high performance, and ease-of-use” innovative mindset, the SPD_A_VIS includes the world’s most advanced Silicon Single Photon Avalanche Photodiode (SPAD) technologies, integrated cooling systems, the latest fast data processing and the most intuitive and practical user interfaces.

Very compact the newly designed SPD_A_VIS is the only commercially available photon counting module which provides **up to 2 channels**, and also a large variety of valuable options, such as the fully integrated Time-to-Digital Converter.

The SPD_A series were designed to meet the needs of a large variety of applications. In order to meet each application, the SPD_A can be qualified or customized based on the customers’ technical requirements. At each delivery, a precise test report is provided.

Technical Specifications

SINGLE PHOTON COUNTING		
Spectral range	400 nm to 1060 nm (Silicon APD)	
Optical fiber type	SMF (9 µm) or MMF (50 µm, 62 µm and 100 µm)	
Detection Efficiency	up to 65% at 650 nm up to 70% at 700 nm up to 45% at 830 nm	
Dark Count Rate	grade E < 500 cps grade D < 250 cps grade C < 100 cps grade B < 50 cps grade A < 25 cps	
Timing resolution	< 350 ps @ 830 nm (< 250 ps in option)	
Dead time	33 ns	
Afterpulsing probability	< 0,5% à 10MHz @ 500 ns gate	
	Continuous mode	Gated mode
Max. count rate Max rep. rate	40 Mcps	20 MHz
Effective gate Gate delay		from 10 ns to 500 ns [0.5 ns steps] from 0 to 500 ns [2 ns steps]



Photon Detection Efficiency versus wavelength

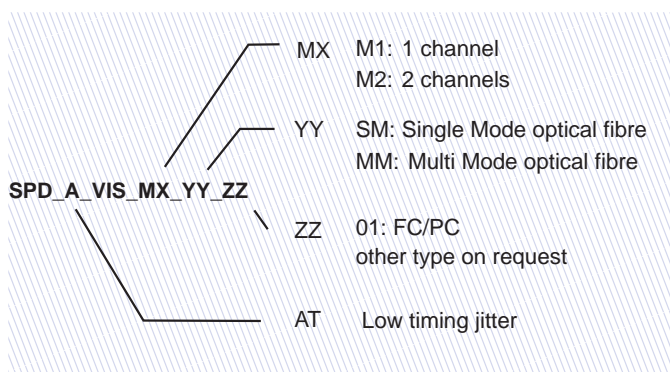
Connectors

CTL_USB	Mini USB 2.0 type B
Opt IN	FC/PC optical connector
Detection OUT	SMA female type
Trigger (Clock IN & OUT)	SMA female type

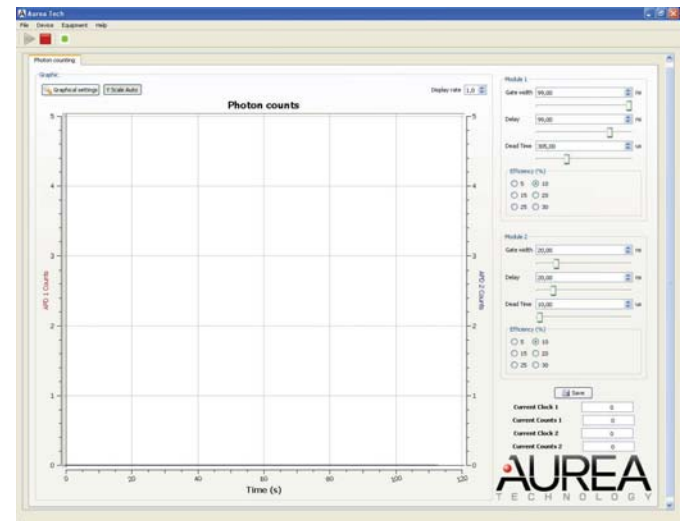
Electrical, Mechanical and Environmental

Power supply	110 – 230 VAC
Power consumption	< 10 Watts @ 5 VDC (1 channel) < 20 Watts @ 5 VDC (2 channels)
Dimension (LxWxH)	286 x 246 x 70 mm ³ (1 channel) 330 x 285 x 86 mm ³ (2 channels)
Weight	4 kg (1 channel) 5 kg (2 channels)
Operating temperature	+ 10°C to + 30°C
Storage temperature	- 40°C to + 70°C

Ordering Information



User Interfaces



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

TCSPC versions and available options

The LynXea series is also available with 60 psec time correlation for TCSPC applications. Its Graphical User Interface directly provides fluorescence decay curve, time correlation...

Other available Single Photon Counting modules



AUREA Technology provides a large portfolio of high-performance Photon Counting and TCSPC solutions from 400 nm to 1700 nm.

Contact Information

For more information contact us at info@areatechnology.com

DISCLAIMER

The manufacture reserve the right to change this document at any time without notice and disclaims liability for editorial, pictorial and typological errors. © 2011-14 AUREA Technology SAS. All rights reserved.