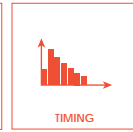
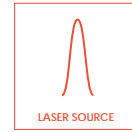


## SPD\_A\_VIS

# VIS Single Photon Detector

Dual-mode photon counting complete solution  
[400 nm - 1060 nm]



The SPD\_A\_VIS photon counter brings a major breakthrough for single photon detection in the 400 nm to 1,060 nm visible range. Built on cooled silicon Geiger-mode single photon avalanche photodiode technology **the SPD\_A\_VIS is the first generation of visible single photon detector that performs both synchronous "gated" and asynchronous "free-running" detection modes.** Based on a table-top design, the SPD\_A\_VIS is a complete detection solution which does not require any additional bulky and expensive cooling systems or control units.

Very well-designed, the outstanding-performances and the modern interfaces make the SPD\_A\_VIS photon counter an essential analytic tool for any low level of light measurements!

### Features

- Dual free-running/gated mode
- 1 or 2 independent channels
- High detection efficiency
- Master/Slave operation
- Adjustable gate parameters
- User friendly graphical interface
- Remote control
- DLL Libraries : LabVIEW, C++
- Read out in TTL

### Applications

- TCSPC measurements
- FLIM microscopy
- Coincidence measurements
- Geiger-mode Lidar
- Optical fiber sensing
- Quantum cryptography
- Particule sizing

### Options

- Low timing jitter
- Red optimized
- Blue optimized

## TECHNICAL SPECIFICATIONS

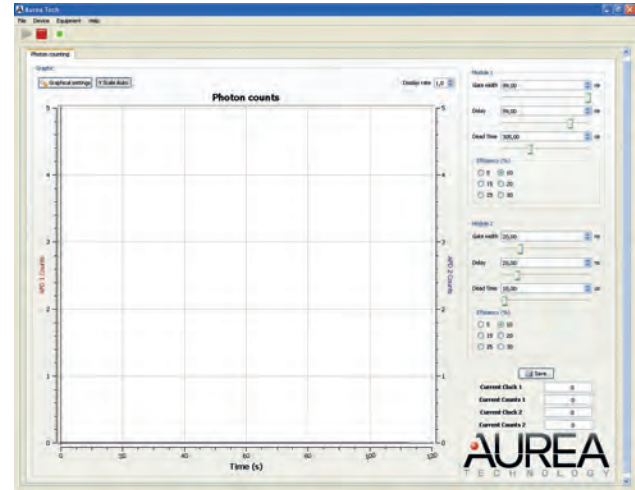
Single Photon Counting - Typical values	
Spectral Range	400 nm to 1060 nm (Silicon APD)
Optical Fiber type	SMF (9µm) or MMF (50µm, 62µm and 100µm)
Dark Count Rate	Grade A < 25 cps Grade B < 50 cps Grade C < 100 cps Grade D < 250 cps Grade E < 500 cps
Detection Efficiency	> 65% @700 nm
Timing Jitter	< 350 ps (< 50 ps in option)
Min Dead Time	20 ns - 40 ns
Free-running mode	
Max Count Rate	40 Mcounts/s
Gated mode	
External trigger	From CW up to 20 MHz
Internal trigger	From CW up to 20 MHz
Effective gate width	From 1 ns up to 100 ns [0.5 ns step]
Trigger delay	From 0 up to 128 ns [0.5 ns step]
Input/Output - Mechanical - Environmental	
Computer Connection	Mini USB 2.0 type B
Optical In	FC/PC or FC/APC optical fiber connector
Detection Out	SMA female type connector (TTL)
Clock In	SMA female type connector (TTL)
Clock Out	SMA female type connector (TTL)
Power consumption	5W
Dimensions (LxWxH)	70 x 250 x 280 mm <sup>3</sup>
Weight	4.5 kg
Operating temperature	+ 10°C to + 30°C
Cooling time	< 1 min @ 25°C

Blue Optimized

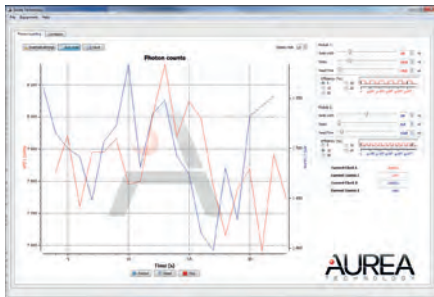
Red Optimized

Low Jitter

QE vs Wavelength



Graphical User Interface



A user-friendly Graphical User Interface is provided. It allows the set-up of the QE, gate width, delays, deadtime, and also the display of the photon count, the clock, the temperature and the alarm to protect against accidental overload. The DLL libraries compatible to the most well-known programming languages are also provided.

## RELATED PRODUCTS

AUREA Technology also provides high performance TCSPC and picosecond laser sources from 375 nm to 1990 nm.



PIXEA picosecond laser source

## ORDERING INFORMATION

SPD_A_VIS_MX_YY_ZZ	MX	M1: 1 channel M2: 2 channels
	YY	SM: Single Mode Optical Fiber MM: Multimode Optical Fiber
	ZZ	01: FC/PC other type on request
	A	Standard version
	AT	Low timing jitter

Please contact us for custom solutions and options

## NOTE

**DISCLAIMER**  
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