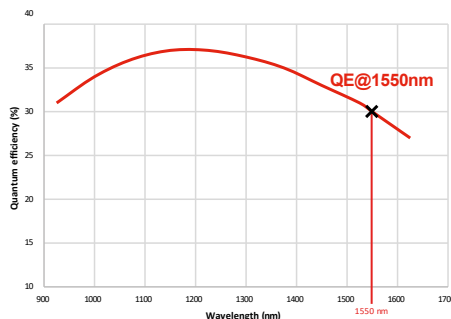


SPD_OEM_NIR

NIR Single Photon Counter

Compact NIR photon counting solution

[900 nm - 1700 nm]



The compact SPD_OEM_NIR brings a major breakthrough for single photon detection in the 900 nm to 1 700 nm near infrared range. Built on cooled InGaAs/InP Geiger-mode single photon avalanche photodiode technology **the SPD_OEM_NIR is the first generation of ultra-low level of light NIR single photon detector that performs both synchronous "gated" (GM) and asynchronous "free-running" (FR) detection modes.** The user selects the detection mode via the provided software interface.

The SPD_OEM_NIR features ultra-low-noise down to 700 cps, high calibrated Quantum Efficiency up to 30 %, 100 ns deadtime, 100 MHz external trigger, fast timing resolution of 150 ps and very low afterpulsing.

Based on a robust industrial design, the SPD_OEM_NIR detector does not require any additional bulky cooling systems and control units. Very well-designed, the compactness and its modern interfaces make the SPD_OEM_NIR very easy to integrate in the most demanding Quantum systems and analytical instruments.

Features

- Free-Running & Gated mode
- Calibrated QE up to 30%
- Best Dark Count Rate < 700 cps
- Min Deadtime 100 ns
- External Trigger up to 100 MHz
- Rack 2U compatibility
- TTL and NIM compatibility
- Software for remote control
- Library : C++ ,Python

Applications

- Quantum Key Distribution
- Quantum Communications
- Geiger-mode LIDAR
- High resolution OTDR
- Time Correlated Single Photon Counting (TCSPC)
- Low level of light detection
- Fluorescence Microscopy FLIM

Pairing products

- Entangled Photon Source 1550nm
- Time Tagging electronics CHRONOXA

TECHNICAL SPECIFICATIONS

TYPICAL SPECIFICATIONS @ 1550nm	
Spectral Range	900 nm to 1700 nm
Optical Fiber type	MMF (recommended) and SMF
Detection mode	Free-running & Gated mode
OPTICAL	
Dark Count Rate@10%QE	< 700 cps ¹
Calibrated QE	10% - 30% [5% step]
External trigger	from CW to 100 MHz
Timing Jitter @30%QE	150 ps
Deadtime range	from 100 ns to 1 ms ²
Afterpulsing probability	< 0.1%

¹ FR Mode | deadtime: 20µs
² Min deadtime GM: 100 ns | Min deadtime FR mode: 5 µs

SOFTWARE

Control the SPD_OEM_NIR easily thanks to its user-friendly software interface ! Tune the QE, deadtime and display the photon count, clock rate, temperature and alarm to monitor your photon counter live.

For an easy integration and monitoring of the SPD_OEM_NIR in complex QKD systems, DLL with examples for Python and C++ are provided. The SPD_OEM_NIR software is supported by LINUX, macOS and MS Windows.

INPUT/OUTPUT- MECHANICAL - ENVIRONMENTAL	
Optical IN	FC/PC optical fiber connector
Trigger IN	SMA - TTL only
Detection OUT	SMA - User selectable TTL/NIM
Cooling time	< 1 min @ 25°C
Power consumption	10 W
CONNECTIVITY - SOFTWARE	
Remote Control	Mini USB 2.0 type B - UART connection
DLL example	Python, C++
System	LINUX, MacOS, Windows

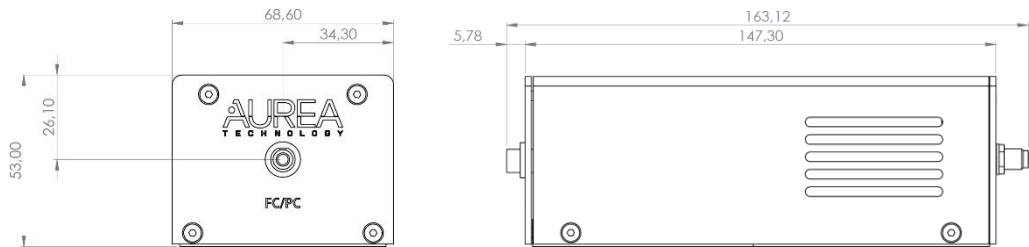
CUSTOMER SUPPORT

Integration of high-end technologies can be challenging but AUREA Technology is here to help you reach your objectives!

Work with AUREA Technology and benefit from the help of our dedicated technical support team. Our team made of the best experts in single photon detection technology and QKD systems can be reached any time!

Contact our technical support team and receive an answer within a day at techsupport@areatechnology.com

MECHANICAL DRAWING (All dimensions in mm)



ORDERING

SPD_OEM_NIR

Please contact us at sales@areatechnology.com for custom solutions and options.

WARRANTY

Any warranty is void if the Product has been damaged, disassembled, modified, misused, used in applications which exceed the Product specifications or rating, neglected, improperly installed or otherwise abused or is used in hazardous activities.

DISCLAIMER

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ACCESSORIES ON DEMAND

- +5V, 12W, AC/DC power adapter, with AC power cord
- Mechanical plate (compatible EU/US)
- Mini USB to USB A cable