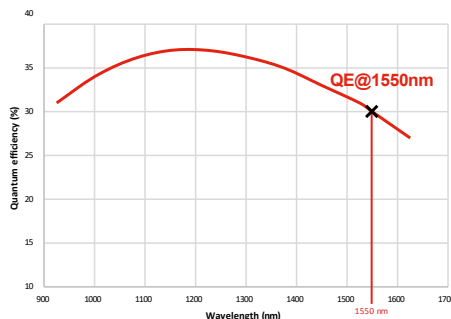


SPD_OEM_NIR

NIR Single Photon Counter

Compact NIR photon counting solution

[900 nm - 1700 nm]



The compact SPD_OEM_NIR delivers high-performance single-photon detection across the 900 nm to 1,700 nm near-infrared range. Based on cooled InGaAs/InP Geiger-mode single-photon avalanche photodiode technology, it combines synchronous gated mode (GM) and asynchronous free-running mode (FR). The operating mode and key detection parameters are easily configured through the supplied software interface.

The SPD_OEM_NIR provides a dark count rate below 700 cps, calibrated Quantum Efficiency up to 30%, a minimum dead time of 100 ns, external gating up to 100 MHz, low timing jitter down to 150 ps, and afterpulsing probability below 0.1%. This combination of speed, high-sensitivity, and operating flexibility makes it well suited to demanding photon-counting applications.

Designed for reliable OEM integration, the SPD_OEM_NIR requires no bulky external cooling or separate control unit. Its compact design, low power consumption, modern interfaces, and cross-platform software enable easy integration into Quantum systems, LiDAR, fiber sensing, and scientific instruments.

Features

- Free-Running & Gated modes
- Calibrated QE up to 30%
- Dark Count Rate < 700 cps
- Timing Jitter down to 150 ps
- External Trigger up to 100 MHz
- Minimum Deadtime 100 ns
- TTL and NIM outputs
- Libraries : Python / C++
- 2U rack compatible

Applications

- Quantum Key Distribution (QKD)
- Quantum Networking
- Methane and gas-sensing LiDAR
- Single-Photon LiDAR and ToF
- High-resolution OTDR
- TCSPC and FLIM microscopy
- Photon Source characterization
- Low-light-level instrumentation

Pairing products

- TPS-1550 Entangled Photon Source 1550 nm
- CHRONOXEA Time tagger
- PIXEA picosecond laser

TECHNICAL SPECIFICATIONS

TYPICAL SPECIFICATIONS @ 1550nm at	
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 [20 μs deadtime]
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 ¹
Afterpulsing probability	< 0.1%

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

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++
OS system	LINUX, MacOS, Windows

SOFTWARE

Control the SPD_OEM_NIR through its user-friendly software interface. Select the calibrated detection efficiency and dead time, and monitor the photon count rate, trigger frequency, detector temperature, and alarm status in real time.

For easy integration and remote monitoring in complex QKD and photon-counting systems, Python and C++ APIs with programming examples are provided. The control software supports Microsoft Windows, Linux, and macOS.

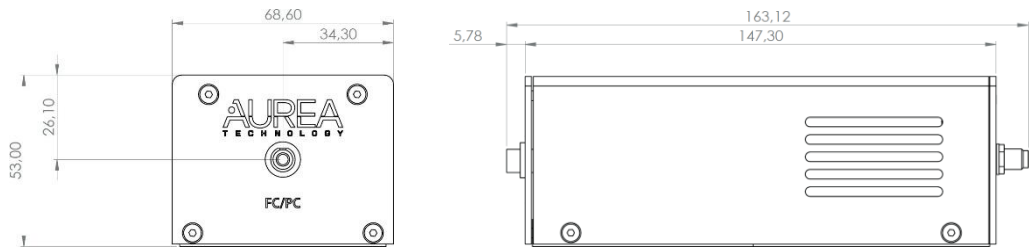
CUSTOMER SUPPORT

Integrating advanced technologies can be challenging, but AUREA Technology is here to help you achieve your objectives.

Work with AUREA Technology and benefit from our dedicated technical support team. Our experts in single-photon detection, low-light detection, and QKD systems are available to support you throughout your integration.

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

MECHANICAL DRAWING (All dimensions in mm)



ORDERING

SPD_OEM_NIR

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

WARRANTY

Any warranty shall be void if the Product has been damaged, disassembled, modified, misused, neglected, improperly installed, used beyond its specified ratings or operating conditions, otherwise abused, or used in hazardous activities.

DISCLAIMER

The manufacturer reserves the right to modify this document at any time without prior notice and disclaims liability for editorial, pictorial, or typographical errors.

© 2011-26 AUREA Technology SAS. All rights reserved.

ACCESSORIES ON DEMAND

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