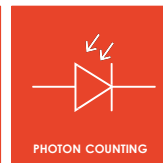
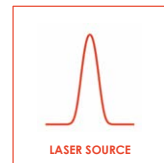


SPD_OEM_NIR

NIR Single Photon Counter

Compact OEM Detection Module

900 nm - 1700 nm · InGaAs/InP SPAD · Low Noise



AUREA Technology's **SPD_OEM_NIR** is a non-cryogenic single-photon counter covering the **900–1700 nm near-infrared spectrum**, optimized for telecom wavelengths. Compatible with 2U rack mounts, it pairs an FC/PC-coupled, cooled InGaAs SPAD with fast-quenching electronics.

Operating in both **free-running and gating mode** up to **100 MHz**, it achieves calibrated detection efficiency up to **30% at 1550 nm**, and typical dark count rate of **500 cps at 10% detection efficiency** and **50 µs dead time**. Dual USB/UART interfaces and native C++/Python APIs ensure effortless integration into next-generation photonic architectures, from **QKD networks** to eye-safe **LiDAR** and precision **spectroscopy**.

Features

- Calibrated QE up to 30%
- Dark Count Rate at 500 cps typ.
- Dead Time down to 100 ns
- Timing Jitter down to 150 ps
- Free-Running and Gated Modes
- TTL and NIM outputs

Applications

- Quantum Key Distribution (QKD)
- Single-Photon LiDAR and ToF
- TCSPC and FLIM Microscopy
- High-resolution OTDR
- Photon Source Characterization
- Methane and Trace Gas Sensing

Related Products

- TPS_1550_TYPE_S Entangled Photon Source
- CHRONOXEA Time Tagger
- PIXEA Picosecond Laser

TECHNICAL SPECIFICATIONS

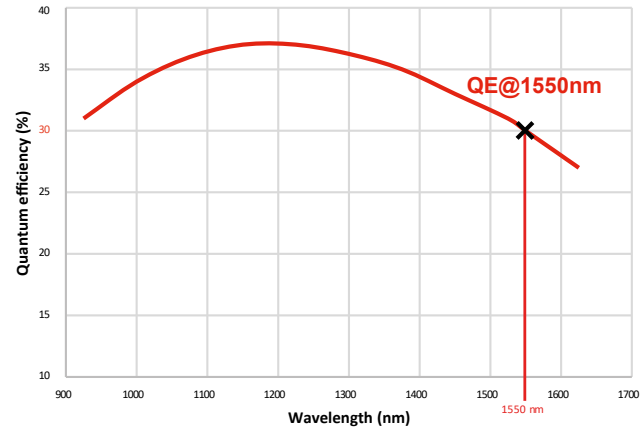
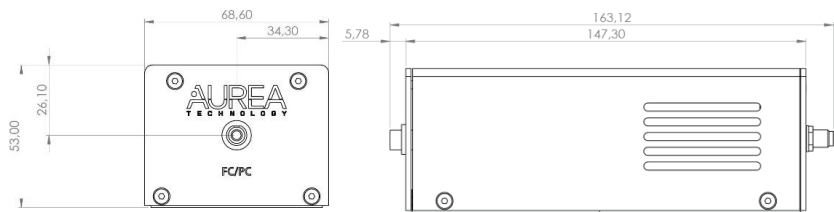
DETECTION PERFORMANCE ¹	
Spectral Range	900 nm – 1700 nm
Optical Fiber Type	MMF SMF
Operating Modes	Free-Running (FR) Gated (GM)
Dark Count Rate (DCR) ²	500 cps typ.
Calibrated QE	10% – 30% (5% step)
External Gate Frequency	100 MHz max.
Timing Jitter ³	150 ps typ.
Dead Time Range (FR)	5 μs – 1 ms
Dead Time Range (GM)	100 ns – 1 ms
Afterpulsing Probability	1% typ.

¹ Detection performance measured at 1550 nm and 25 °C.
² DCR measured at 10% QE and 50 μs dead time. Max DCR value 700 cps at 10% QE at 50μs dead time.
³ Timing Jitter measured at 30% QE.

MECHANICAL - POWER - ENVIRONMENTAL	
Form Factor	2U Rack Compatible
Dimensions (L x W x H)	163 x 68 x 52 mm
Weight	0.5 kg
Power Consumption	10 W
Cooling Time	< 1 min @ 25 °C Ambient
Operating Temperature	+10°C to +35 °C 60% RH max.
Storage Temperature	-20°C to +50 °C 60% RH max.

DIGITAL INTERFACES - INPUT/OUTPUT - SOFTWARE	
Optical Input	FC/PC
Trigger Input	SMA – TTL only
Detection Output	SMA – User selectable TTL/NIM
Embedded Interface	Dedicated UART port
Host Interface	USB 2.0 Mini-B port
Programming APIs	Python C++
Supported OS	Windows Linux

MECHANICAL DRAWING & QUANTUM EFFICIENCY



Compact OEM form factor with high quantum efficiency optimized at 1550 nm.

REMOTE CONTROL

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 sales@areatechnology.com.

ORDERING INFORMATION

SPD_OEM_NIR

Factory-calibrated ULN option with with DCR < 300 cps.
Available on request.

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.

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ACCESSORIES ON REQUEST

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