

Single-photon SPAD Detector



Our USB-powered fiber-coupled single-photon SPAD detector is specifically engineered for time-resolved fluorescence lifetime imaging and spectroscopy measurements. Thanks to its portable and light-weight format it allows time-tagging with no precedent.

KEY SPECS

- Single-Photon Avalanche Diode technology
- Portable
- Desktop-size-compact: 100x60x30mm
- USB-powered
- Light weight: 235g
- TE-cooled sensor
- FC/PC fiber-coupled sensor
- B2C or B2B selling options

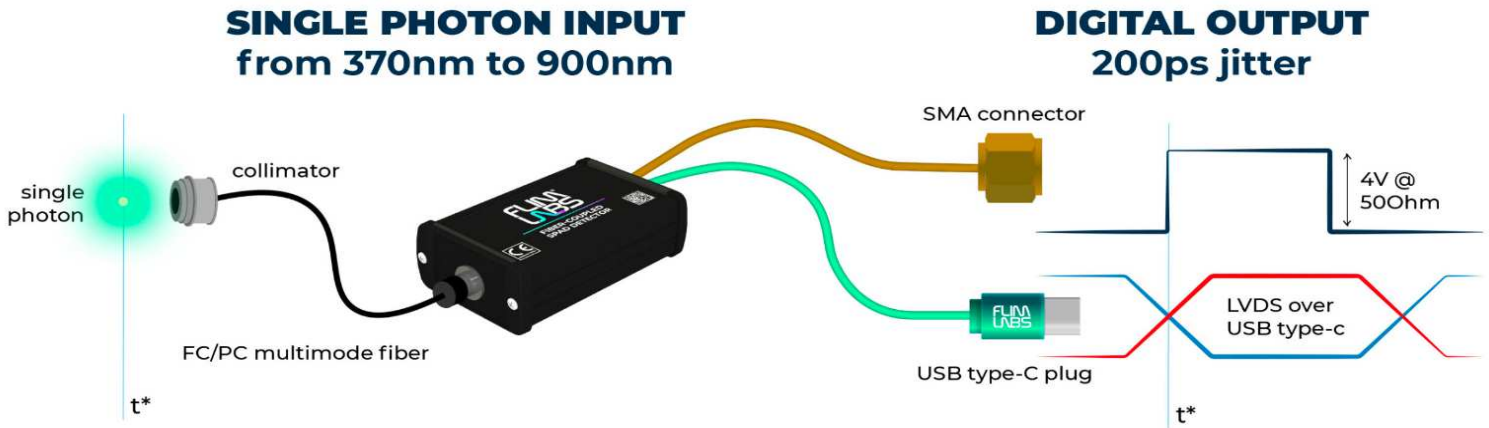
Included in the price

- Wall-mount DC converter
- USB type-C power cable
- SMA coaxial cable
- USB type-C LVDS signal cable
- FC/PC MultiMode fiber patch cord

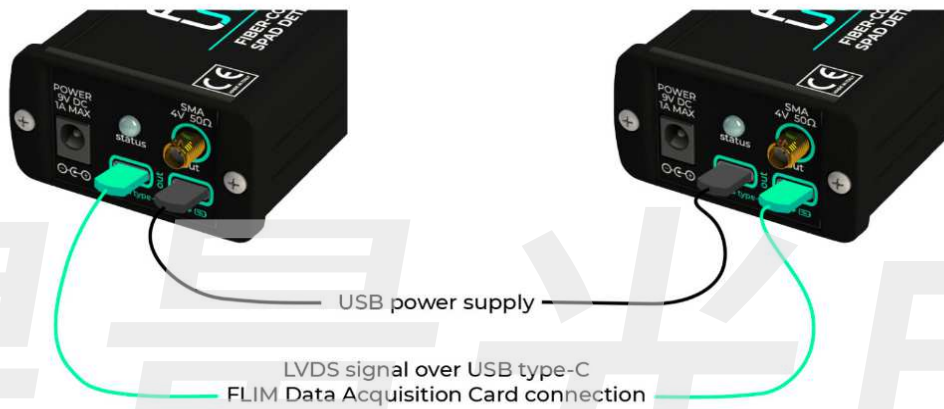
MAIN TECH-SPECS

- Spectral response range from 370nm to 900nm
- Peak sensitivity at 450nm
- 7 cps dark count
- < 200ps jitter
- 50 μm photosensitive area
- Digital LVTTTL 4V @ 50Ohm and LVDS output

Main Function



POWER SUPPLY AND USB type-C SIGNAL INTERFACE



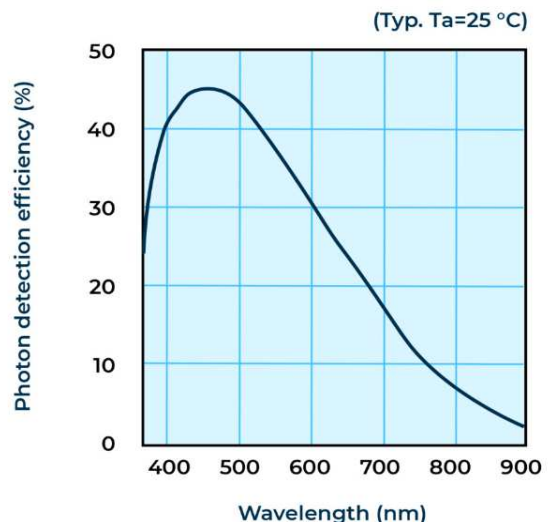
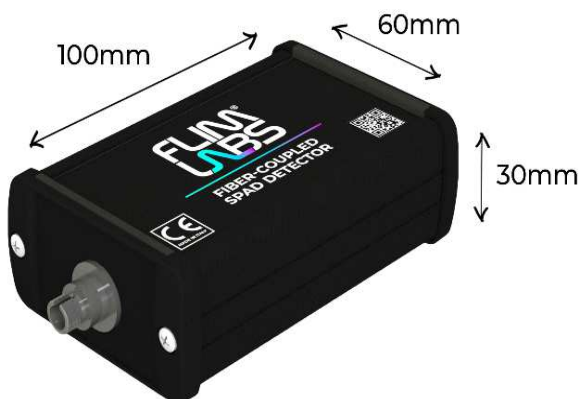
MAIN FEATURES

Our fiber-coupled SPAD detector is specifically designed for pursuing fluorescence lifetime imaging and spectroscopy measurements. Thanks to its capability of being powered via a standard USB port, it will introduce a new paradigm for fluorescence lifetime-based applications, where it can be deployed with minimal effort in any type of environment.

Compactness

Compact dimensions (100x60x30mm) and lightweight (235g) allows for extreme portability. Furthermore, capable of also being USB-powered our SPAD detector could be used in a portable setup or even outdoors.

Photon detection efficiency vs. wavelength

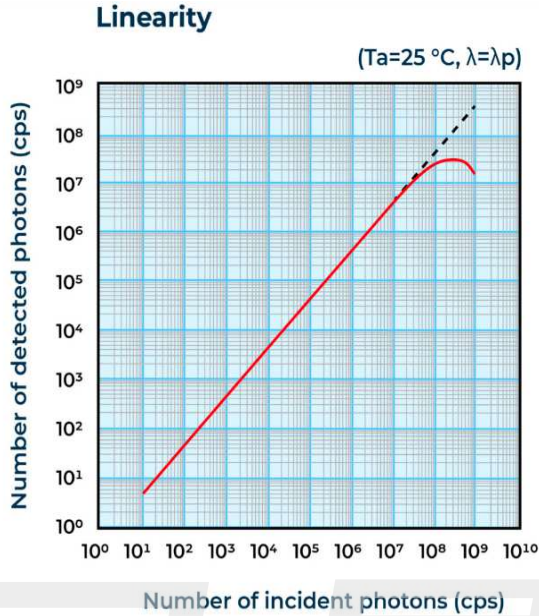


Spectral Response

The sensitivity of our SPAD detector peaks at 450nm, while its spectral response range spans from 370nm to 900 nm.

Key tech specs

Our fiber-coupled USB-powered SPAD detector yields a <200 ps timing jitter coupled with 7cps of dark count rate. The throughput linearity is maintained up to 3.5Mcounts/s of incident photons.



Interface and connection type

Our SPAD detector has a SMA coaxial connector for a LVTTTL 50 Ohm interface, working in a parallel and independent way together with orientation independent USB type-C ports for communicating over a proprietary FLIM LABS LVDS protocol with the [FLIM Data Acquisition Card](#). USB type-C connector allows for user-friendly and low-cost interfacing as well as powering the SPAD.

Power Supply

The 2 options available for the power supply allow for flexible powering the SPAD detector via standard USB port or via a 2.1/5.5 mm coaxial connector using a wall-mount DC converter (recommended values are 9 V DC – 1 A max).



Fiber coupling

FC/PC fiber coupling offers flexibility for using our SPAD detector in any type of context boosting, together with USB powering, its adaptability for a plethora of different applications.

LED Status

A LED light is always there for providing real time feedback on the correct functioning of the SPAD detector.

FULL SPECS

Technology	Single-Photon Avalanche Diode (SPAD)
Spectral response range	370nm + 900nm
Peak sensitivity (Ap)	450nm
Dark count	7cps
Timing jitter	< 200ps
Photosensitive area	50 μ m
Fiber connector	FC type
Maximum light incident level	50 μ W
Maximum photon counts throughput	Linear response up to 3.5MCounts/s
Output interface	LVTTTL 4V@50 Ohm over the SMA connector LVDS over the USB-type C ports (FLIM LABS proprietary interface)
Operating temperature	-10 + +40 °C
Storage temperature	-20 + +70 °C
Power supply	USB powered or 9V DC-1 A max via the 2.1/5.5 mm coaxial connector
Dimensions	100x60x30mm
Weight	235g
Model	Fl i m spad- 07

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