

## Applications

- Medical Diagnostics
- Genomics/Proteomics
- Fluorescence spectroscopy
- Single molecule spectroscopy
- Adaptive Optics
- Quantum Cryptography
- LIDAR and LADAR

## Features

- Operates any silicon SPAD detector with up to 480V breakdown voltage BV
- Up to 18V over-voltage above BV
- Electronic time jitter down to 20ps FWHM
- Detector fully protected from overheating
- Built-in control of TE cooler
- Robust and low cost
- Low power consumption
- Easy to use



## Product Information

The PDC are electronic carrier modules that can operate any silicon avalanche diode suitable for Geiger mode operation (with up to 480V breakdown voltage BV). For achieving the desired trade-off between quantum detection efficiency and dark counting rate, the over-voltage above BV is adjustable from 5V to 18V. A fast timing electronic board exploits in full the device performance in photon timing. By means of an easily configurable Peltier controller the module can operate devices mounted on a cooler with a temperature sensor (NTC or PTC). The detector device is protected from overheating (e.g. in case of daylight illumination) by a built-in monitor of current and temperature.

A patented integrated Active Quenching Circuits (iAQC), specifically designed and optimized for photon counting applications,

makes the PDC ideal for portable equipment and for all applications requiring low power consumption. A technical contact is available for discussing with customers how to solve specific problems by means of the MPD technology.

## Ordering Information

For more information please contact:

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## Specifications

	Min	Typ	Max	Units
<b>Electronic time jitter (FWHM full-width at half-maximum)</b> At the TTL Counting Output At the NIM Timing Output	100 20			ps
<b>Quenching voltage pulse</b>		20		V
<b>Security Current Limit (factory adjustable)</b>	1		50	mA
<b>Over-Voltage above Breakdown Voltage (factory adjustable)</b>	5		18	V
<b>Peltier cooler current</b>			1.4	A
<b>Controlled Peltier temperature (cold side)</b>	-20		0	°C
<b>Dead Time (factory adjustable)</b>	50		300	ns
<b>External Supply Voltage required</b>	unregulated DC, any value 5V ~ 12V			
<b>TTL Output pulse rise and fall time</b> <b>Output pulse duration</b> <b>Gating input</b> <b>Supply Voltage input connector</b>	< 2ns on 10pF load 20ns typical 5V CMOS control (0V gates detector off) Standard 3.5mm supply socket			

## Module mechanical dimensions :

(all measures in mm)

