Make every photon count

ID120 Series

Visible Single-Photon Detector

High detection efficiency at 800 nm with a large 500 µm-diameter active area

IDQ's ID120 Series consists of compact and affordable single-photon detector modules, based on a reliable silicon avalanche photodiode sensitive in the visible wavelength range. The detectors of the ID120 series have high detection efficiency in the red region of the visible spectrum and an ultra high active area. This new detector comes as a free-space module, passive quenching, maximal efficiency value around 800 nm.

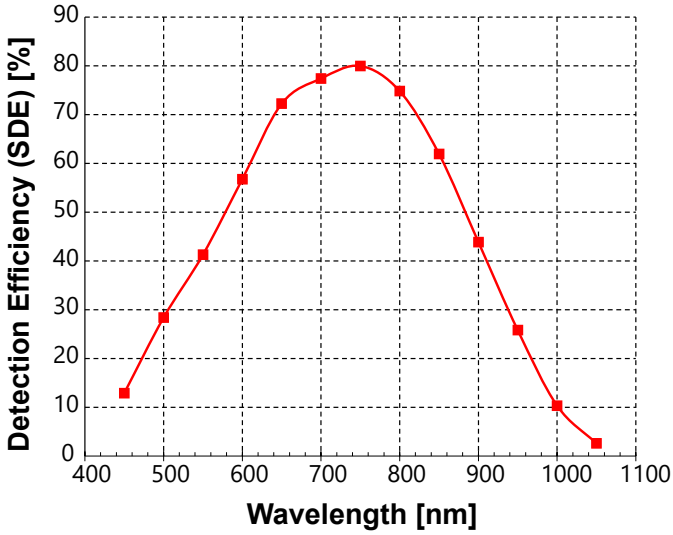
Get the best out of your photonic experiments and applications with the ID120 Series today.

APPLICATIONS

- QKD and quantum communication
- Quantum optics and computing
- Single-photon source characterisation
- Fluorescence lifetime imaging
- Failure analysis of integrated circuits
- VIS, NIR and MIR spectroscopy
- Spectrophotometry
- Laser scanning microscopy
- Particle Physics
- Dynamic Light Scattering

KEY FEATURES

- **60% system detection efficiency at 650 nm**
- **80% system detection efficiency at 800 nm**
- **Tuneable system detection efficiency**
- **Tuneable temperature of the diode**
- **Adjustable deadtime**
- **Universal dual output**
- **LabVIEW interface**
- **C-mount, SM1, cage compatible**
- **Integrated electronic counter**



SPECIFICATIONS

ID120 VISIBLE SINGLE-PHOTON DETECTOR			
Wavelength range	350 nm to 1000 nm		
Active area	500 µm diameter		
System detection efficiency (SDE) [1]	60% at 650 nm	80% at 800 nm	
Noise performance [2]	EDU	STD	ULN
Dark count rate	< 4,000 Hz	< 1,000 Hz	< 300 Hz
Timing resolution [3]	200 ps to 1,000 ps (typ. <400 ps)		
Deadtime	1 µs		
Output pulse	NIM and LVTTL		
Output pulse width	25 ns		
Storage temperature	-40°C to +70°C		

Supplied Accessories:

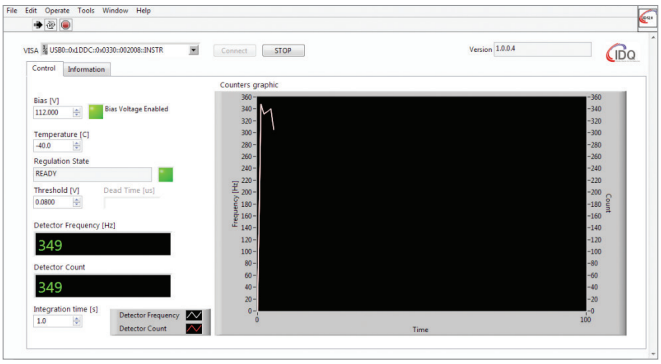
- Region-adapted power supply
- USB memory stick including ID120 control software
- Adapter to mount Thorlabs components
- USB cable

Notes:

(1) See figure on reverse side.
(2) At -40°C, $V_{bias} = V_{breakdown} + 30V$.
(3) At maximum excess bias.

This detection module is highly versatile, thanks to a USB connection and a LabVIEW interface allowing the user to change the bias voltage and the temperature of the diode.

The module is equipped with a dual universal output signal port which can be set through the software interface. The module is compatible with C-mount, SM1 and cage technologies from Thorlabs. This allows an easy coupling of the light beam onto the active area of the detectors.



ID120 control software, allowing users to monitor the single-photon detection count rate, control the system detection efficiency, modify the detector deadtime, and control the detector operating temperature.

AVAILABLE IN THREE MODELS

Photon counter with 500 µm-diameter active area at 800 nm

ID120-500-800-*EDU*
- *Educational, dark count rate < 4,000 Hz*

ID120-500-800-*STD*
- *Standard, dark count rate < 1,000 Hz*

ID120-500-800-*ULN*
- *Ultra-low noise, dark count rate < 300 Hz*

WORLD HEADQUARTERS

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