



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.

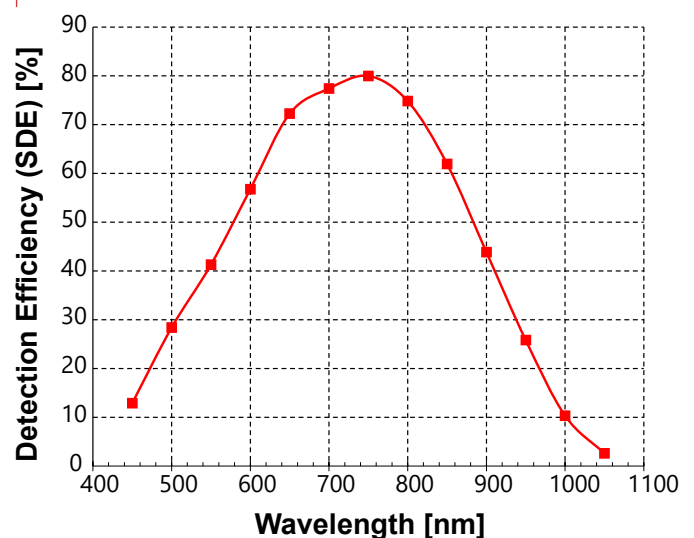
Get the best out of your photonic experiments and applications with the ID120 Series today.

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

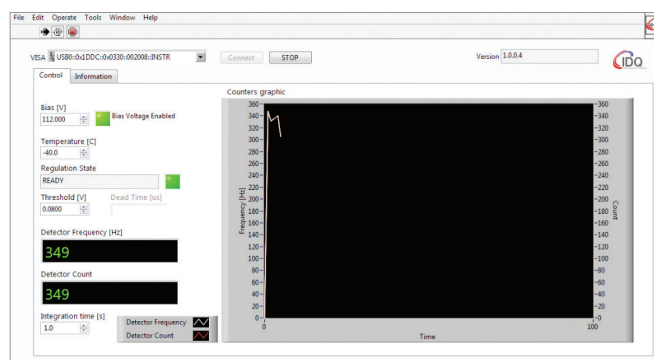


SPECIFICATIONS

| 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: | Notes: | | |
| <ul style="list-style-type: none"> Region-adapted power supply USB memory stick including ID120 control software Adapter to mount Thorlabs components USB cable | <p>(1) See figure on reverse side. (2) At -40°C, $V_{\text{bias}} = V_{\text{breakdown}} + 30V$. (3) At maximum excess bias.</p> | | |

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

ID120-500-800-EDU

ID120-500-800-STD

ID120-500-800-ULN

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

- Educational, dark count rate < 4,000 Hz
- Standard, dark count rate < 1,000 Hz
- Ultra-low noise, dark count rate < 300 Hz



WORLD HEADQUARTERS

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