



## ► ID230 Infrared Single Photon Detector



*Ultra-low noise and high precision single-photon detection in a standalone system*

The ID230 delivers reliable and robust telecom-wavelength single-photon detection, with the performance and versatility of a semiconductor system.

With the ID230, unwanted detector noise is uniquely low. Thanks to an advanced cooling system and best-in-class device control electronics, the temperature of the ID230's InGaAs/InP avalanche photodiode can be cooled stably to  $-90^{\circ}\text{C}$ , giving detector dark counts as low as  $<50$  Hz.

Specially designed for applications with asynchronous detection, this single-photon counting module can detect up to 25% of all photons arriving through its optical fibre-couple input (MMF or SMF), with a user-definable detector deadtime of  $2\text{ }\mu\text{s}$  to  $100\text{ }\mu\text{s}$ .

Get the most out of your ultra-sensitive photonic experiments and applications with the ID230 Infrared Single-Photon Detector today.

### KEY FEATURES

- Self-contained single photon detection module
- High detection efficiency: up to 25%
- Ultra low noise: as low as  $< 50$  Hz dark count rate
- Superb precision:  $< 200$  ps timing jitter, typ.  $< 150$  ps
- Broadband NIR detection: 900–1700 nm light
- Reliable and robust performance, with worldwide round-the-clock technical support included

### 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
- Deep tissue imaging



### ID1000 TIME CONTROLLER SERIES BUNDLE

Take your experiment to the next level. Use the Time Controller to register single-photon pulses and control your experiment, within a combined time-tagger, pulse generator, delay generator package. All with advanced on-board logic for real-time four-fold coincidence measurements.

# SPECIFICATIONS

## ID230 INFRARED SINGLE PHOTON DETECTOR

Wavelength range	900 nm to 1700 nm	
Deadtime	2 $\mu$ s to 100 $\mu$ s, in 1 $\mu$ s steps	
Output pulses	LVTTTL, 100 ns width	
Optical coupling	Optical fibre (SMF or MMF62.5)	
Efficiency range <sup>(1)</sup> calibrated at $\lambda$ = 1550 nm	10%, 15%, 20%, 25%	
Timing jitter @ 25% efficiency level	Maximum 200 ps (150 ps typical)	
Noise performance @ efficiency level <sup>(2)</sup>	10%	20%
Dark count rate	< 80 Hz (as low as < 50 Hz)	< 200 Hz (as low as < 100 Hz)
Dimensions	60 cm x 27 cm x 25 cm	
Weight	30 kg	
Control interface	USB 2.0	
Operating temperature	+10°C to +25°C, max. 60% humidity	
Power supply	90-264 VAC, 127-327 VDC (50-60 Hz) Max current @ 115 VAC: 5.6 A Max. current @ 2.75 VAC: 2.75 A	

### Supplied Accessories:

- Optical fibre patch cable, SMF or MMF as ordered
- Optical fibre cleaner
- Region adapted power supply cable
- USB thumb drive
- USB cable

### Notes:

- (1) Additional efficiency levels can be calibrated on demand.  
(2) Dark count rate measured with a 50  $\mu$ s deadtime at -90°C detector temperature.

### NEED SOMETHING SMALLER?

Consider the ID Qube NIR Series of single-photon detectors:

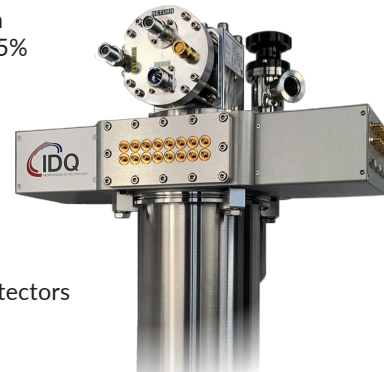
- Compact & cost effective
- High detection efficiency (up to 35%)
- Low noise (<800 Hz dark counts)



### ONLY THE BEST WILL DO?

Consider the ID281 Superconducting Nanowire Series:

- Ultra high detection efficiency: up to >95%
- Ultra low noise: as low as <1 Hz dark counts
- Superb precision, as low as <25 ps timing jitter
- Up to 16 built in detectors



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