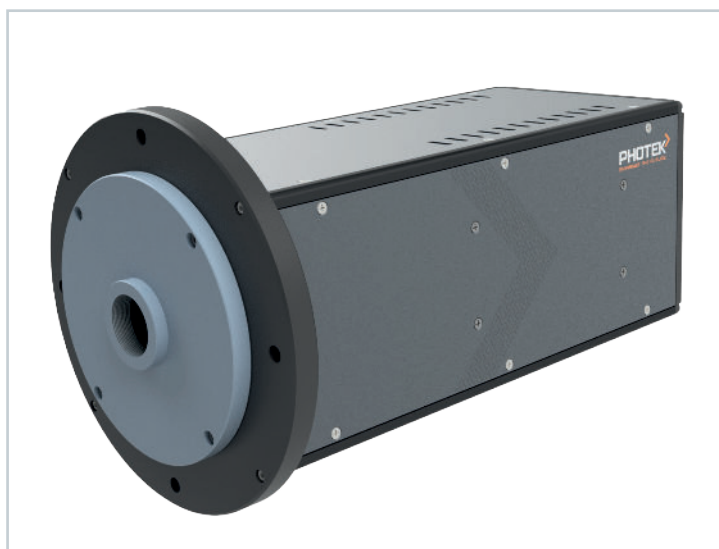


# IPD6 Photon Counting

## Imaging Photon Detector



**The Photek IPD6 is based on a true single photon counting sensor that uniquely provides simultaneous position and timing information for each detected photon.**

The camera outputs a continuous stream of photon detection location and time (x, y, t), with a spatial resolution of 100  $\mu\text{m}$  and a timing resolution of 20 ns. The IPD6 is perfect for continuous imaging of processes with very low light levels over wide fields. The high resolution time tagging enables 100% duty cycle imaging of time resolved events.

The IPD6 is highly customisable, with multiple options of image plane formats, high sensitivity photocathodes and accessories that can be combined into complete turn-key systems. Operation has never been easier thanks to the plug-n-play USB interface, fully integrated power supply and intuitive Image32 software.

### Key Attributes

- > Noiseless photon counting
- > High resolution position and time stamp for each photon
- > Continuous data acquisition
- > Variety of high QE, low noise photocathodes covering full UV to visible wavelengths
- > Fully integrated high voltage power supply
- > USB 3.0 interface
- > Easy to use software

### Applications

- > Wide Field Time Correlated Single Photon Counting
- > Bioluminescence Imaging of Luciferase and Aequorin
- > Chemiluminescence Imaging
- > ATP-Bioluminescence Studies
- > Time resolved spectroscopy
- > Fluorescence Lifetime Imaging
- > Missile Warning
- > Astronomy
- > LiDAR
- > Microtitre plate readers
- > Autoradiography

## Specifications

Camera	
Readout Mode	Real time image integration and X, Y, T list
Integration time	Unlimited
Input Window	Fused Silica (Fibre Optic optional)
Photocathode	SB, Bi, S20, S25
High Voltage	Integrated
Interface	USB 3.0

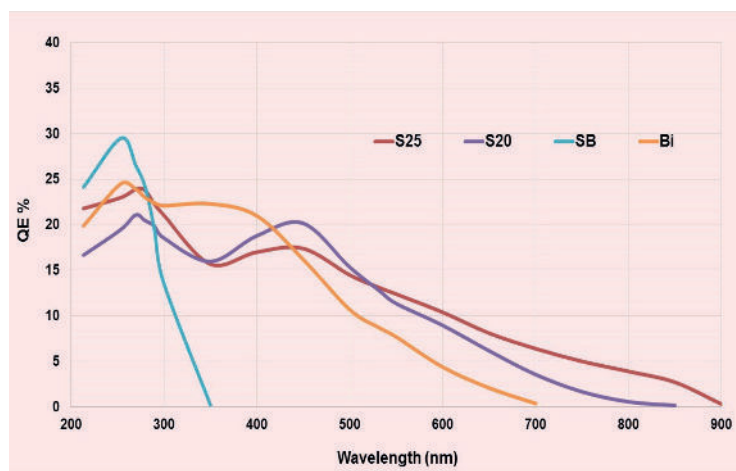
  





Resolution	IPD318	IPD325	IPD340
Input Diameter	18 mm	25 mm	40 mm
Typical Image Format (software scalable to 2k x 2k)	512 x 512	512 x 512	512 x 512
Pixel Size at Image Plane	35 $\mu\text{m}$	50 $\mu\text{m}$	80 $\mu\text{m}$
Limiting Resolution	18 lp/mm	15 lp/mm	12 lp/mm

Timing	
Time Resolution	20 ns
Maximum Count Rate	300,000 cps
Recommended Count Rate	< 100,000 cps
Local Count Rate (1 mm <sup>2</sup> )	50,000 cps
Event Deadtime	1.3 $\mu\text{s}$

## Quantum Efficiency Curves



Dark Count Rate (cps/cm <sup>2</sup> )			
		At 20°C	At -30°C
	SB	<2	-
	Bi	<50	-
	S20	<2000	<20
	S25	<20,000	<200

**Note:** The spectral graphs shown opposite are for indication only. Detectors with Fibre Optic input windows will have no response below 300 nm. Please contact the Sales Office to discuss your exact requirements.