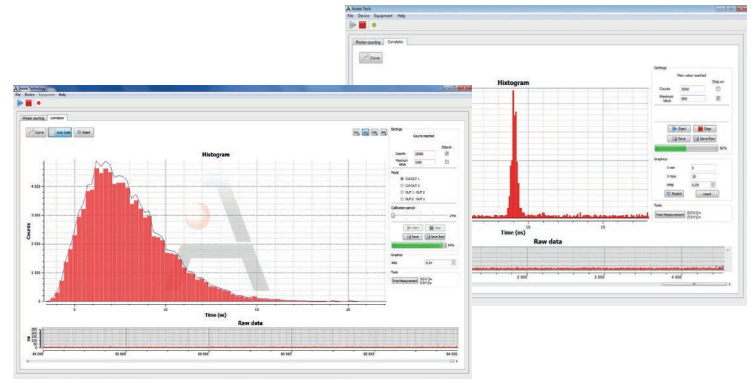


## LYNXEA\_NIR

# Time Resolved Single Photon Detector

All integrated TCSPC instrument

[900 nm - 1700 nm]



The LYNXEA is a new generation of self-contained TCSPC instrument that brings a breakthrough in Quantum Key Distribution, photon sources characterization and any photon coincidence measurements of any low-level-of-light and fast events in the 900 nm - 1700 nm near infrared range. **The LYNXEA is the first generation of time correlated single photon detector that performs both synchronous "gated" and asynchronous "free-running" detection modes.**

Its original architecture integrates in the same box, up to two independent InGaAs Geiger-mode single photon counting channels and a time correlator. Based on a table-top design, the LYNXEA is a complete detection solution which does not require any additional bulky and expensive cooling systems or control units.

Very well-designed, the compactness, the outstanding-performances and the modern interfaces make the LYNXEA an essential analytic tool for any time-correlated measurements!

### Features

- Dual free-running/gated mode
- 1 or 2 independant channels
- 65 ps Time Correlator
- High quantum efficiency
- Master/Slave operation
- User friendly graphical interface
- Remote control
- DLL Libraries : LabVIEW, C++
- Read out in TTL

### Applications

- Photon sources characterization
- Quantum Key Distribution
- Coincidence measurements
- Geiger-mode LIDAR
- High resolution OTDR
- FLIM microscopy
- Optical fiber sensing

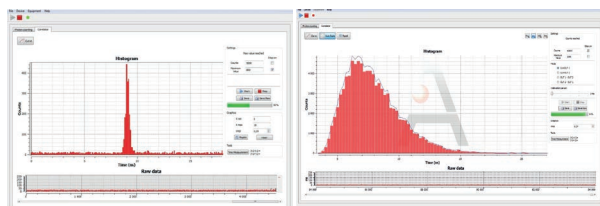
### Options

- Analog output
- NIM Output

## TECHNICAL SPECIFICATIONS

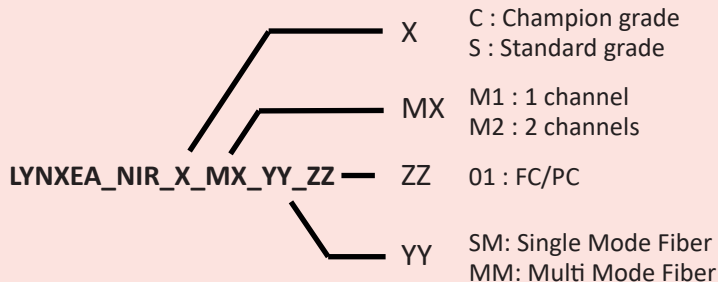
Single Photon Counting - Typical values measured @1550nm		
Spectral Range	900 nm to 1700 nm	
Grade	Standard	Champion
Dark Count Rate @10% QE	< 5 000 cps	< 1 000 cps
Quantum Efficiency	10% - 25% [5% step]	10% - 30% [10% step]
Timing Jitter @max QE	200 ps	180 ps
Deadtime range @10% QE	from 1 $\mu$ s to 1 ms	from 100 ns to 1 ms
Afterpulsing probability <sup>1</sup>	< 1%	< 0.1%
Free-Running/Gated mode		
External trigger	From CW up to 20 MHz	
Internal trigger	From CW up to 20 MHz	
Effective gate width	From 1 ns up to 100 ns [0.5 ns step]	
Trigger delay	From 0 up to 128 ns [0.5 ns step]	
Time Correlation		
Timing resolution	65 ps from 0 to 400 ns measurement range 60 ns from 400 ns up to 1 ms measurement range	
Data transfert	0.25 Million of correlation per sec	
Correlation modes	Trigger vs Channel 1 Trigger vs Channel 2 Channel 1 vs Channel 2 (for 2-channels)	
Data display	Graphical User Interface Histograms & curves Raw data & DLL libraries	
Input/Output - Mechanical - Environmental		
Computer Connection	Mini USB 2.0 type B	
Optical In	FC/PC optical fiber connector	
Detection Out	SMA female type connector (TTL)	
Clock In	SMA female type connector (TTL)	
Clock Out	SMA female type connector (TTL)	
Power consumption	5 W	
Dimensions (LxWxH)	70 x 250 x 280 mm <sup>3</sup>	
Weight	4.5 kg	
Operating temperature	+ 10°C to + 30°C	
Cooling time	< 1 min @ 25°C	

<sup>1</sup> per 10ns measurement time @10 $\mu$ s deadtime and 10% QE

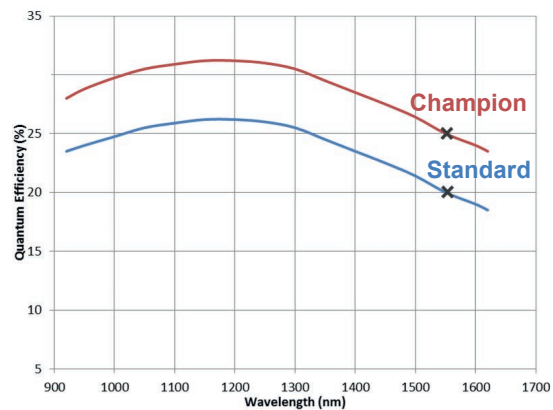


An user-friendly Graphical User Interface is provided. It allows the set-up of the QE and deadtime, and also the display of the photon count, the clock, the temperature and the alarm to protect against accidental overload. The DLL libraries compatible to the most well-known programming languages are also provided.

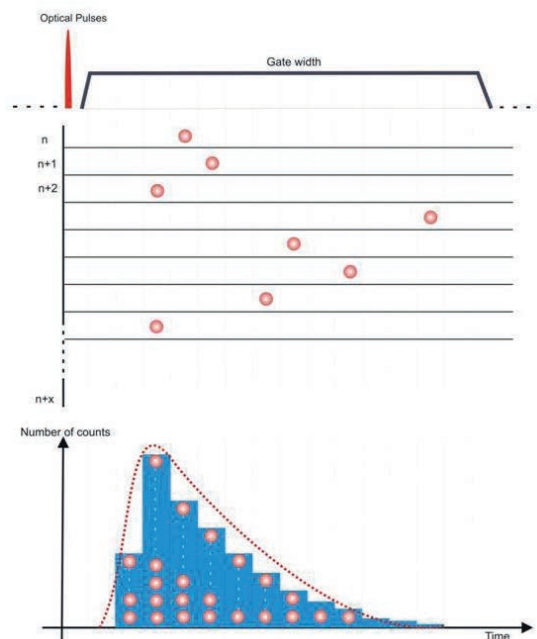
### ORDERING INFORMATION



Please contact us for custom solutions and options



QE (%) vs Wavelength (nm)



Time histogram building representation

### RELATED PRODUCTS

AUREA Technology also provides high performance TCSPC and picosecond laser sources from 375 nm to 1990 nm



PIXEA picosecond laser source

### NOTE

#### DISCLAIMER

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