

LynXéa_NIR

All-in-One 1 up to 4-channels NEAR INFRARED
Time-Correlated Single Photon Counting TCSPC module



Very-well engineered the LynXéa is a new generation of “all-in-one” high-performance Time-Correlated Single Photon Counting (TCSPC), which fully integrates in the same box, one or multiple independent Geiger-mode single photon counting channels and the time-to-digital converter. Thus, it does not require any external PC plug-in counting cards. This self-contained TCSPC module brings a breakthrough in Quantum Key Distribution, and any photon coincidence measurements of any low-level-of-light and fast events in the near infrared.

Moreover, the LynXéa's smart electronics perform both synchronous ‘gated’ and asynchronous ‘free-running’ detection modes. This dual modes capability is particularly useful for detection of unpredictable arrival of photons. For example, free-running mode can be first used for coarse measurements, and then easily switched to gated-mode for more accuracy. Two grades are available : the ‘champion’ and the “standard”. The champion provides very-low noise DCR < 1000 cps and high Quantum Efficiency up to 30%. Moreover, it performs up to 100 MHz trigger rate with fast timing resolution < 150 ps and low afterpulsing rates < 1%.

In addition to its elegant and ergonomic front panel display, the LynXéa provides plug-and-play PC connection via its USB 2.0 interface. It is controlled by an easy-to-use Graphical User interface software, which enables the measurement parameters set up and adjustment, and also the display and saving of the measurements curves, histograms and data. DLL libraries compatible to the most well-known programming languages, such as LabVIEW, C++, and Visual Basics are also provided.

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

Features

- 1 up to 4 independent inputs
- High Quantum Efficiency up to 30%
- < 1,000 cps Dark Count Rate
- < 200 ps timing resolution
- < 1% afterpulsing rates
- User friendly software
- USB 2.0 data interface
- LabVIEW and C++ DLL libraries

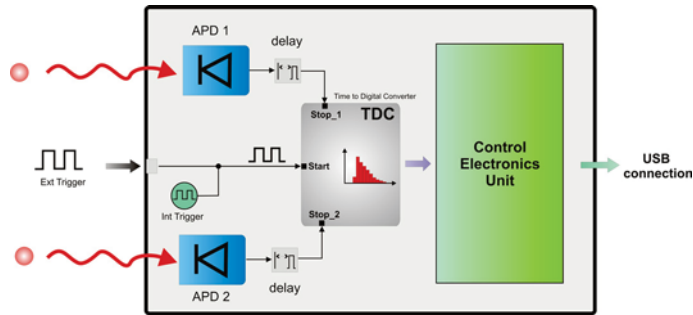
Applications

- Quantum Cryptography (QKD)
- Time-correlated Single photon Counting (TCSPC)
- Fluorescence lifetime (FLIM)
- Single photon source, Quantum Dots, characterization
- LIDAR, Time-Of-Flight and ranging
- IC failure analysis
- Oxygen Singulet

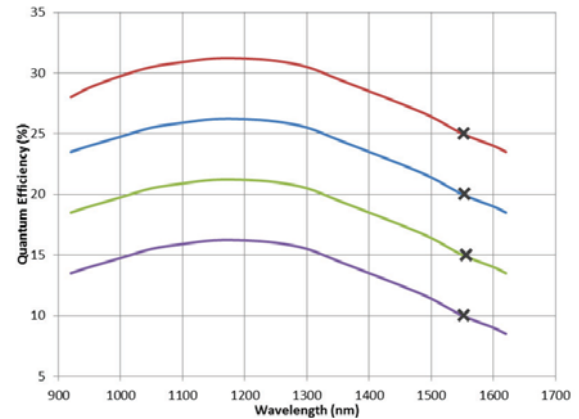
Specifications

	Typical values measured @ 1,550 nm	
Spectral range	900 to 1700 nm	
Grade	Standard	Champion
Dark Count Rate @10% QE	< 5.000 cps	< 1.000 cps
Quantum Efficiency	10%, 15%, 20% or 25%	10%, 20% or 30%
Max. trigger	from CW to 20MHz	from CW to 100MHz
Timing jitter @ max QE	200 ps	150 ps
Deadtime range @10% QE	from 1 us to 1 ms	from 100 ns to 1 ms
Afterpulsing probability @10 ns gate and 10% QE	< 1%	< 0.1%
Effective gate	adjustable width from 1 ns to 100 ns [0.5 ns steps] adjustable delays from 0 to 128 ns [0.5 ns steps]	
Time Correlation		
Time resolution	60 ps from range up to 400 ns 60 ns from 400 ns to 1 ms	
Graphical User Interface software		
Data Display	Histograms or Curves Set up measurement parameters Raw Data available	
Correlation modes	Between Trigger and input channel APD1 Between Trigger and input channel APD2 Between the two input channels APD1 and APD2	

LynXéa photon correlation diagram



Typical Photon Detection Efficiency vs Wavelength

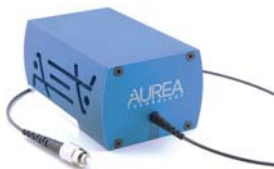


Connectors

CTL_USB	Mini USB 2.0 type B
Opt IN	FC/PC optical connector
Detection OUT	SMA female type
Trigger (Clock IN & OUT)	SMA female type

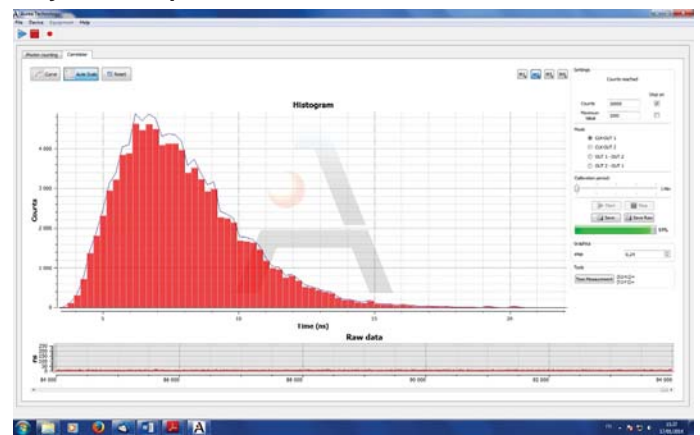
Electrical, Mechanical and Environmental

Power supply	110 – 230 VAC
Power consumption	< 15 Watts @ 5 VDC (1 channel) < 25 Watts @ 5 VDC (2 channels)
Dimension (LxWxH)	315 x 285 x 90 mm ³
Weight	< 5 kg
Operating temperature	+ 10°C to + 30°C
Storage temperature	- 40°C to + 70°C



SPD_A_OEM compact NIR single photon counting module

Easy-to-use Graphical User Interface



Other available Single Photon Counting, timing and ps lasers

AUREA Technology provides a large portfolio of high-performance Single Photon Counting, TCSPC, ps laser and FLIM solutions from 400 to 1700 nm.

Please visit www.aureatechnology.com for more information.

Ordering Information

LYNXEA_NIR_C_MX_YY_ZZ	MX	M1: 1 channel M2: 2 channels
	YY	SM: Single Mode fibre MM: Multi Mode fibre
	ZZ	01: FC/PC other type on request
	champion grade	

Contact Information

For more information contact us at support@areatechnology.com

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