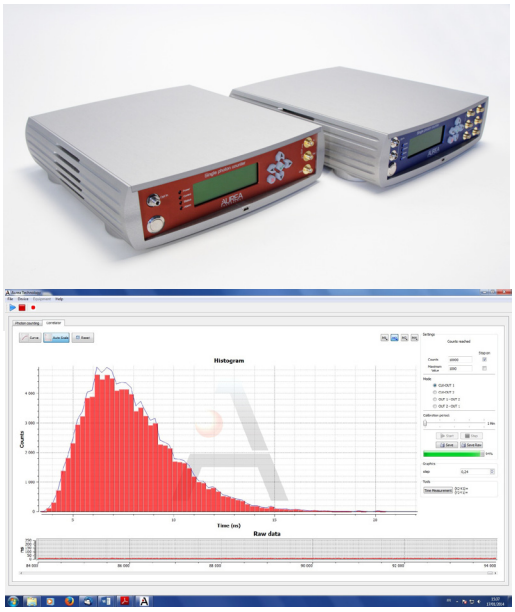
LynXéa_NIR

All-in-One 1 or 2-channels NEAR INFRARED Time-Correlated Single Photon Counting TCSPC module



The **LynXéa** is a new generation of “all-in-one” high-performance Time-Correlated Single Photon Counting (TCSPC) solution ideal for lifetime, time-resolved and coincidence measurements of any low-level-of-light and fast events in the near infrared.

By combining the “world-class” very-low-level-of-light **SPD_A** Single Photon Counter and the TCSPC technique, the **LynXéa** provides fast, accurate and sensitive lifetime and time-resolved measurements with a time resolution of 60 ps rms.

The **LynXéa** fully integrated in the same box, one or two independent high photon detection efficiency Geiger-mode InGaAs avalanche photodiodes with a TDC Converter. Thus, it does not require any external computer plug-in counting cards.

In addition to its elegant and ergonomic front panel display, the **LynXéa** provides plug-and-play Personnal Computer connection via its high-speed USB 2.0 interface. It is controlled by its user-friendly 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.

LynXéa is the only “all-in-one” near-infrared TCSPC available today in the industry!

Features

- [900-1700 nm] near infrared
- High Quantum Efficiency up to 25%
- 1 or 2 identical and independent inputs
- up to 250 ns measurements
- 60 ps rms time resolution
- User friendly software
- High-speed USB 2.0 interface
- LabVIEW and C++ DLL library

Applications

- Single photon source, Quantum Dots, Optoelectronic devices and Solar cells characterization
- Fluorescence lifetime
- Time-resolved fluorescence
- Time-resolved photo-luminescence
- Quantum cryptography
- Single molecule spectroscopy
- LIDAR, Time-Of-Flight and ranging

Technical Specifications

SINGLE PHOTON COUNTING		
Spectral range	900 nm to 1700 nm (InGaAs)	
Quantum Efficiency	Adjustable from 10% **up to 25%** [5% increments] up to 30% for “Champion” option	
Detection rate	up to 20 MHz by external or internal trigger generator	
Dead time range	Adjustable from 500 ns to 1 ms [100 ns increments]	
Dark Count Rate	< 5000 cps @10% QE for standard SMF version < 1000 cps @ 10% QE for Champion SMF version	
Afterpulsing probability	< 0.5**%** at 100 kHz @10 ns gate and 10% QE	
Timing jitter	**< 200 ps @ 20% QE** < 500 ps @ 10% QE	
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 TO DIGITAL CONVERTER		
Full scale range	up to 250 ns	up to 10 sec
Minimum Time Bin	60 ps [adj. 60 ps steps]	60 ns [adj. 60 ns steps]
Count rate	up to 0.4 million counts/sec	
Trigger rate	up to 20 MHz	
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	

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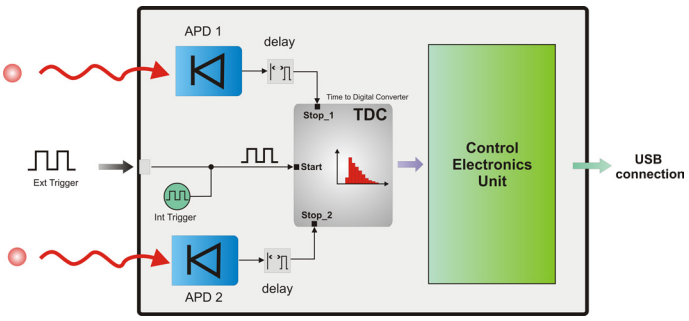
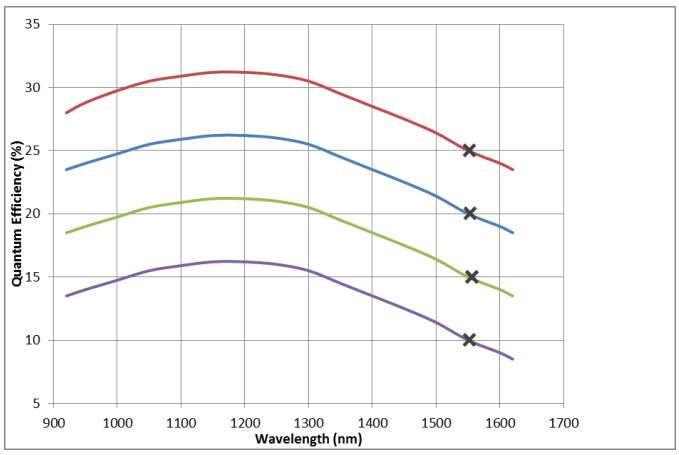
LynXéa photon correlation diagram



Typical Photon Detection Efficiency vs Wavelength



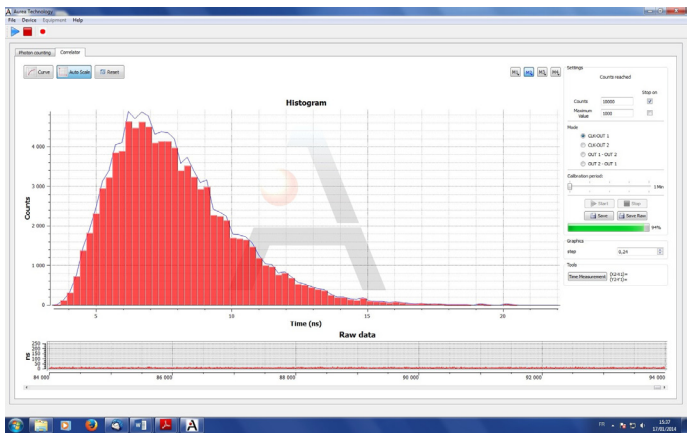
Connectors

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	< 10 Watts @ 5 VDC (1 channel) < 20 Watts @ 5 VDC (2 channels)
Dimension (LxWxH)	315 x 285 x 85 mm^3
Weight	5 kg
Operating temperature	+ 10°C to + 30°C
Storage temperature	- 40°C to + 70°C

Easy-to-use Graphical User Interface



Other available Single Photon Counting modules

AUREA Technology provides a large portfolio of high-performance Single Photon Counting and TCSPC modules from 400 to 1700 nm.

Ordering Information

LYNXEA_NIR_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

Contact Information

For more information contact us at support@aureatechnology.com