

**New product
of year 2014!**



All-in-one TCSPC visible range module

Features

400-1060 nm wavelength range

Detection Efficiency up to 70%

1 or 2 identical and independent inputs

up to 400 ns range

0.4 million/sec count rate

65 ps rms time resolution

User friendly software

High-speed USB 2.0 interface

LabVIEW and C++ DLL library

Applications

Fluorescence lifetime

Time-resolved fluorescence

Time-resolved photo-luminescence

Single molecule spectroscopy

LIDAR, Time-Of-Flight and ranging

The **LynXéa_VIS** is a new generation of “all-in-one” high-performance visible 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 visible.

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 bin resolution of 65 ps rms.

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

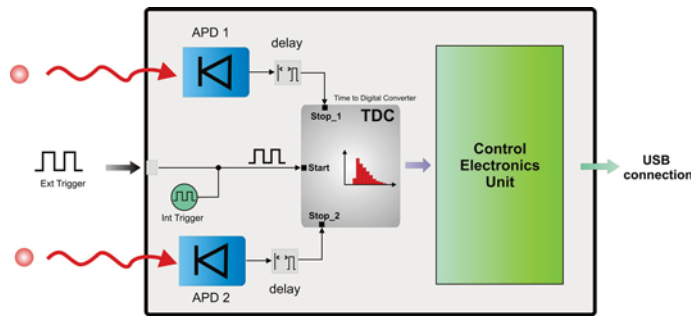
In addition to its elegant and ergonomic front panel display, the **LynXéa** provides plug-and-play Personal Computer connection via its high-speed USB 2.0 interface. It is controlled by its user-friendly graphical user interface software, which enables the measurement parameters set up and adjustment, and also the display and saving of the measurements curves, histograms and data.

LynXéa_VIS is the only “all-in-one” visible TCSPC available today in the industry!

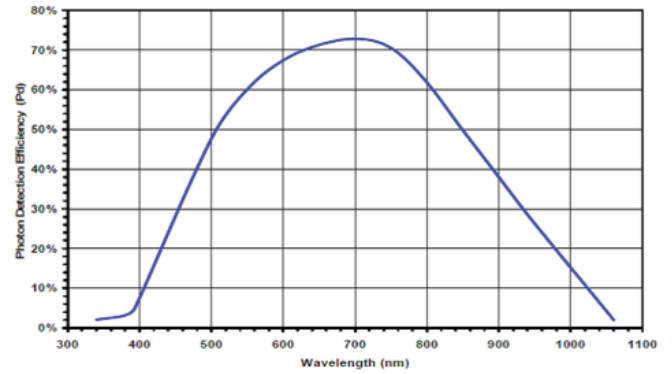
Technical Specifications

SINGLE PHOTON COUNTING		
Spectral range	400 nm to 1060 nm (Silicon APD)	
Optical fiber type	SMF (9 μm) or MMF (50 μm, 62 μm and 100 μm)	
Detection Efficiency	> 70% at 700 nm	
Dark Count Rate	grade E < 500 cps grade D < 250 cps grade C < 100 cps grade B < 50 cps grade A < 25 cps	
Timing resolution	< 350 ps @ 830 nm (< 250 ps in option)	
Dead time range	33 ns	
Afterpulsing probability	< 0,5% à 10MHz @500 ns gate	
	Continuous mode	Gated mode
Max. rate	40 Mcps	20 MHz
Effective gate		from 10 ns to 500 ns [0.5 ns steps]
Gate delay		from 0 to 500 ns [2 ns steps]
TIME TO DIGITAL CONVERTER		
Full scale range	up to 400 ns	up to 250 ns
Time Bin	adjustable from 65 ps [65 ps steps]	
Count rate	up to 0.4 million counts/sec	
Correlation modes	Between Trigger and input channel APD1 Between Trigger and input channel APD2 Cross-correlation between channels APD1 and APD2	
SOFTWARE		
Parameters setups	Time bin resolution	
Data Display	Histograms or Curves Set up measurement parameters Raw Data available	

LynXéa photon correlation diagram



Typical Photon Detection Efficiency vs Wavelength



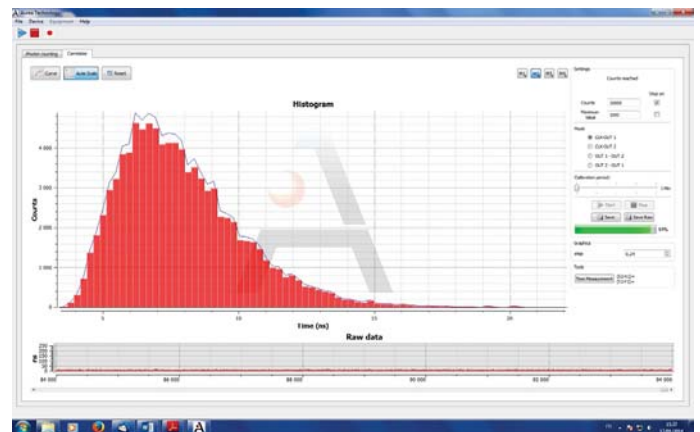
Connectors

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)	286 x 246 x 70 mm ³ (1 channel) 330 x 285 x 86 mm ³ (2 channels)
Weight	4 kg (1 channel) 5 kg (2 channels)
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_VIS_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 info@aureatechnology.com

DISCLAIMER

The manufacture reserve the right to change this document at any time without notice and disclaims liability for editorial, pictorial and typographical errors. © 2011-14 AUREA Technology SAS. All rights reserved.

AUREA Technology SAS 18 rue Alain Savary 25000 Besançon France

info@aureatechnology.com www.aureatechnology.com

Jan 2014 V1.0

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 Personal 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

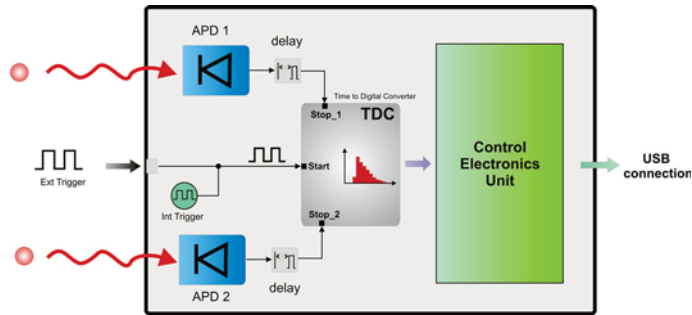
Applications

- 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

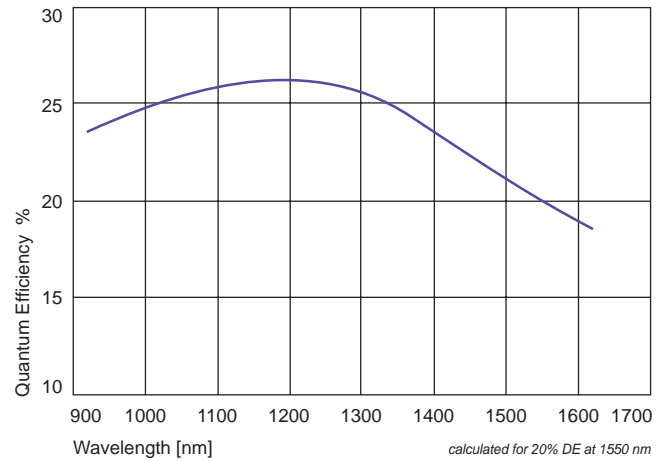
Technical Specifications

SINGLE PHOTON COUNTING	
Spectral range	900 to 1700 nm
Quantum Efficiency	Adjustable from 10% up to 25% [5% increments]
Detection rate	up to 20 MHz by external or internal trigger generator
Dead time range	Adjustable from 1 μ s to 999 μ s [0.1 μ s 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
Time Bin	adjustable from 60 ps [60 ps 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

LynXéa photon correlation diagram



Typical Photon Detection Efficiency vs Wavelength



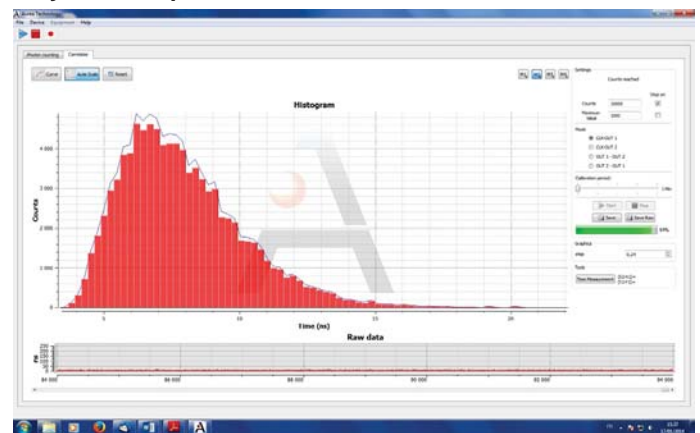
Connectors

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)	286 x 246 x 70 mm ³ (1 channel) 330 x 285 x 86 mm ³ (2 channels)
Weight	4 kg (1 channel) 5 kg (2 channels)
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 info@areatechnology.com

DISCLAIMER

The manufacture reserve the right to change this document at any time without notice and disclaims liability for editorial, pictorial and typographical errors. © 2011-14 AUREA Technology SAS. All rights reserved.

AUREA Technology SAS 18 rue Alain Savary 25000 Besançon France

info@areatechnology.com www.areatechnology.com

Jan 2014 V1.2