

The Time Tagger that grows with your needs



Two variants available

The quTAG is available in two variants:

- quTAG standard: This is the device that meets all specifications below and features a rich software solution.
- quTAG basic: this device aims at the cost-sensitive customers that do not need all extensions right now an upgrade is always possible.

quTAG Specifications

Inputs

•	
number of channels	standard: 4 stop and 1 start
	basic: 2 stop and 1 start
timing jitter, FWHM	< 25 ps
timing jitter, RMS	< 10 ps
digital resolution	1 ps
signal levels	-3 +3 V
(threshold comparator)	e.g. LVTTL, NIM
threshold level resolution	1.46 mV
edge	rising, falling
min. input pulse width	300 ps
termination	50 Ohms
min. pulse to pulse separ	ation 40 ns
max. event rate per chan	nel 25 Mcps
	200 MHz periodic*
divider	on start input**
DNL/INL	<1%
delay range	-100 +100 ns
delay resolution	1 ps
input connectors	SMA
max. input level	±3.3V

Applications

- Time-correlated Single Photon Counting (TCSPC)
- Quantum Optics / Information / Communication
- Fluorescence / Phosphorescence Lifetime Imaging (FLIM)
- Fluorescence Correlation Spectroscopy (FCS)
- Stimulated Emission Depletion Microscopy (STED)
- Foerster Resonance Energy Transfer (FRET)
- Single Photon Emitter Characterization
- LIDAR

Clock Input (standard only)

fr <mark>e</mark> quency	10 MHz ^{***}
signal levels (threshold)	-5 +5 V
signal form	sinusoidal
	square wave
termination	50 Ohms
input connector	SMA

Synchronisation (standard only)

number of synchronisable quTAGs	4
number of synchronised channels	16

Software

operating systems	Windows, Linux
supplied software	GUI/DLL/
	LabView / Python /
	command line

Physical characteristics

dimensions (in mm)	440 x 330 x 50
weight	4 kg
interface	USB 3.0

All Time Tag / Stop channels

max. event rate max. acquisition time 100 Mcps 13 days

* with divider enabled ** for stop channels optional *** other frequencies optional

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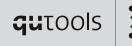


Available Extensions

Extension	quTAG standard	quTAG basic
Lifetime software extension		
Cross-correlation software extension		
Input channels		
Clock input		
Synchronization of devices		
Marker inputs		
Virtual channels		
User-defined Clock frequency		
Start-Channel as input		
Divider for stop channels		
included upgradeable		
Lifetime software extension	on the fly. The softw	n enables the user to vare calculates the re ses and takes respon
Cross-correlation software extension	function, as needed	sion is intended for c for example in Hank ation spectroscopy. St parameters.
Input channels	The quTAG features enabled.	up to two more flex
Clock input	The quTAG can be symmetry more precise long-to	ynchronized to an ex erm accuracy.
Synchronization of devices		vs you to synchronize are offered – all sha
Marker inputs	that insert marker t inputs e.g. to your p	+1 channel input, the imestamps in your ti vixel clock or line cloc correct pixel in your F
Virtual channels		o enable user-defined side the device so th
User-defined Clock frequency	Allow to use any fre term accuracy.	quency between 1 –
Start-Channel as input		an be converted to a npletely equal input
Divider for stop channels		ou to enable the divi ency periodic signals

Customized solutions, e.g. output channels, are available on request. Please contact us for details.

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