Introduction

The RedWave Labs Q430 Time Tagger is a high-precision USB 3.0 instrument compatible with Windows and Linux.

An internal oven-controlled crystal oscillator (OCXO) provides a stable, low-drift time base. The Q430 also supports external 10 MHz synchronisation and provides a clock output for synchronising other instruments.

A software API enables access to time-tagged data, while supplied software supports time tagging, time-correlated single-photon counting (TCSPC), correlation analysis and coincidence counting.



Specification

Features	**Time Tagger Q430 provides digital timing resolution down to 0.5ps**	
Applications	**Photon Timing, QKD, Quantum computing, single-photon spectroscopy, LiDAR, light source characterisation**	
Specifications	Parameter	Value
Power	Single	+12V from an external AC/DC power adapter
Time-tagger Inputs	Voltage Type	0.1-5V threshold adjustable for each input
	Digital Resolution	0.5ps
	Total sustained tag rate	80 Megatags/s
	Maximum burst channel tag rate	125 Megatags/s
	Deadtime	4ns
	Precision	6ps rms single channel
	Number	8 Continuous timing inputs
Clock Sources	Single-ended	SMA 50Ω terminated
Reference/Clock Output	Single-ended	SMA, 1.5V into 50Ω
Dimensions	WxHxD	155 x 160.52 x 43.5 mm
Weight		800 g
Storage Temp		-55 to 100 C
Operating Temp		-40 to 85 C

* RedWave Labs Ltd keeps improving its products and therefore some specifications can vary.

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