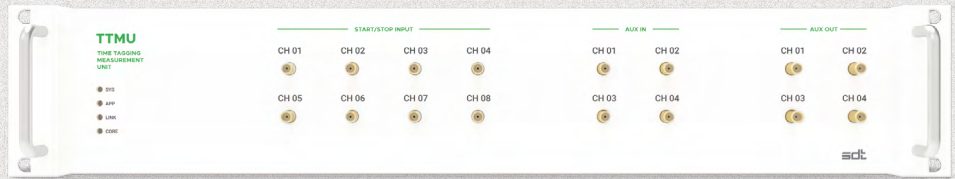


Specifications



Channels	8 (4 pairs)
Max. Event Rate	6.0 Msp/s (total ch)
Min. Jitter RMS	< 20.0 ps
Resolution	< 5 ps DIGITAL resolution
Dead Time	< 8 ns
Input Voltage Range	+3.3 V
Interfaces	SMA Female on front panel for input channels LAN/Ethernet, Gigabit Maintenance USB
Dimensions (W x H x D)	W430 X H84.2 (2U) X D318.2 mm

Key Features

- 4 pairs of TDCs and 8 input channels for unparalleled performance
- Simultaneous Start-Stop signal measurements with up to 4 TDC pairs
- Flexible Start-Stop channel assignment to any input channel
- Integrated Python library for effortless and seamless development
- High-speed data transfer of up to 1 Gbps via Gigabit Ethernet
- Built on SDT's proprietary patented IP*, this product can be tailored to customer needs
* [Patent Registration KR 10-2767209](#), [KR 10-2773773](#)

Introduction

The TTMU (Time Tagging Measurement Unit) is an ultra-precise metrology device designed to measure time differences between signals, verifying the suitability of photons as quantum sources. It serves as a core instrument for advanced experiments, including NV center microscopy, Hong-Ou-Mandel interference, fluorescence correlation spectroscopy, fluorescence lifetime analysis, and quantum key distribution.

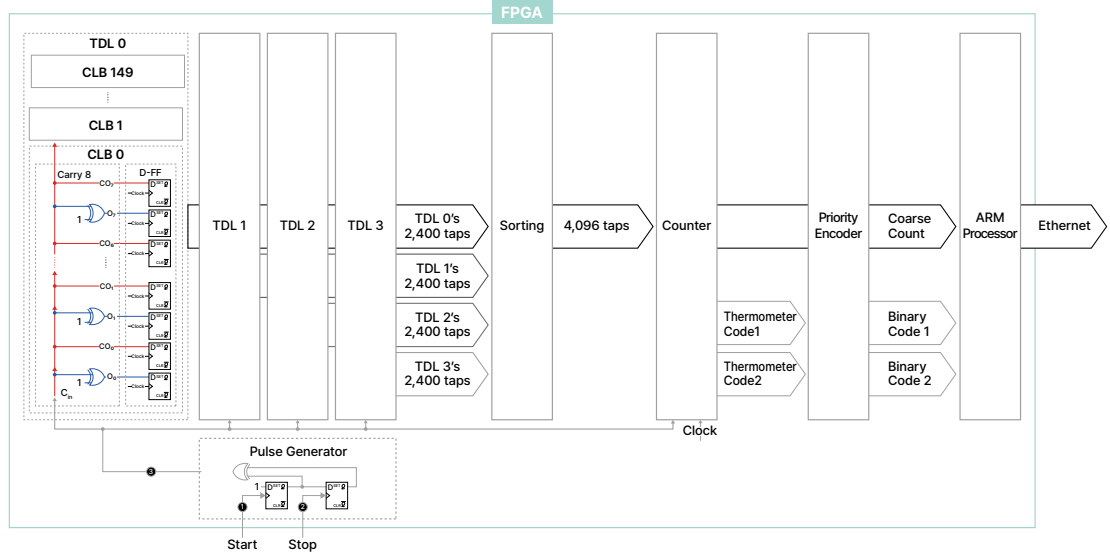
Engineered for exceptional precision and scalability, the TTMU seamlessly integrates with other experimental systems via cloud computing, enabling automated scheduling and device synchronization. This integration significantly reduces manual intervention, streamlining research workflows.

The TTMU also includes an integrated Python library, offering researchers a user-friendly platform to conduct experiments efficiently, even without extensive programming expertise.

Certifications



Functional Description

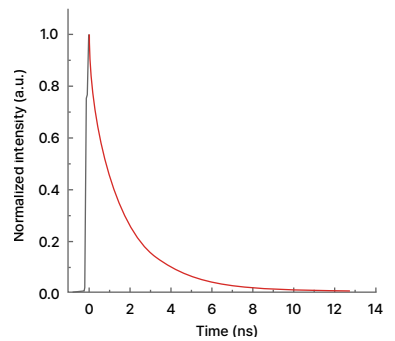
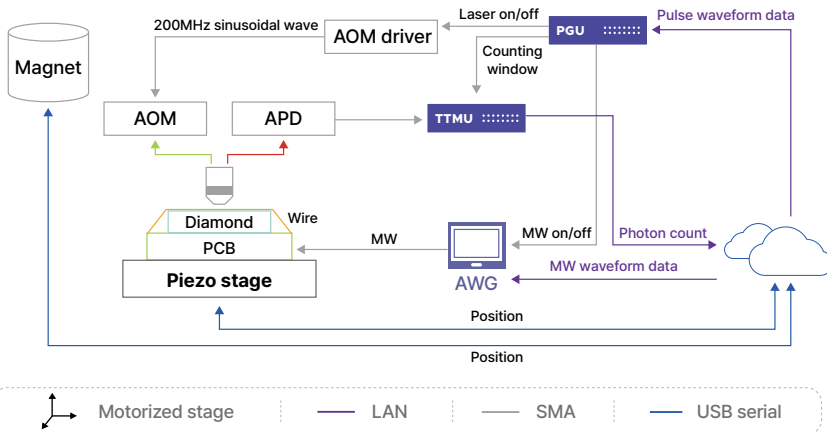


Applications

- **Nitrogen Vacancy Center Microscope** | The TTMU enables precise verification of single-photon sources in NV center experiments.

NV Center Microscope Experiment Setup

NV Center Microscope Experiment Results



- **Hong-Ou-Mandel Interference** | The TTMU evaluates quantum light sources by measuring H-O-M interference.

H-O-M Experiment Setup

H-O-M Experiment Data

