Ki3 PHOTONICS
Technologies

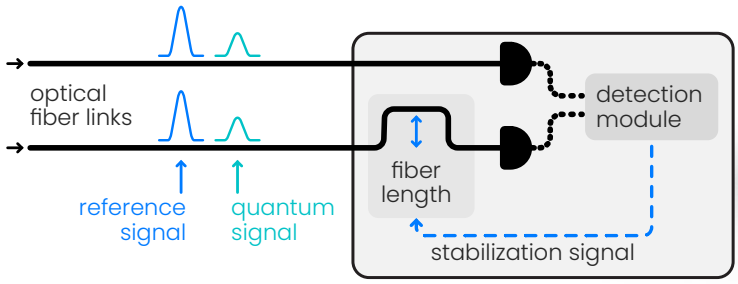
Ki3 LINQ.SYNQ

Optical Link Stabilizer

The Ki3 LINQ.SYNQ is a precision module engineered to synchronize distributed quantum network nodes — enabling secure quantum communication, distributed quantum computing, and ultra-precise time transfer.

Designed for deployment on existing fiber infrastructure, LINQ.SYNQ delivers the stability and accuracy required for quantum network applications. Once connected to the optical fiber link, the low-crosstalk stabilization system automatically tracks and corrects fiber length drifts in real time.

Multiple nodes can be locked to a common reference, enabling shared timing for photon correlation measurements, entanglement distribution, and multi-user protocols. The system detects picosecond-scale fluctuations in optical path length using high-speed electronics and actively compensates to maintain synchronization and coherence. The reference and quantum signals are separated for low-crosstalk and high isolation.



Features and benefits:

- Track and stabilize the length of optical fiber links - Ensures high-fidelity operations, interference, and processing on quantum signals within a network
- Distribute a common time reference - Reliable and synchronized timing for high-performance communications, with a resolution of <10ps
- Isolate the reference from the signal - Mitigate the impact of crosstalk on signal and measurement fidelity
- Maintain coherence over long distances - Enable new quantum network protocols and increase node separation
- Integrate with existing telecommunication infrastructure - Extends the capabilities of existing fiber links to quantum use-cases by compensating for drifts at the network nodes
- Scale efficiently with a compact design – Optimized for quantum networking and future scalability.

Questions and quote requests:
info@ki3photonics.com
ki3photonics.com

Specification[a]	Value
Time-to-digital conversion resolution	< 10 ps
Fiber length compensation step	< 1 ps
Wavelength	1527.4– 1600.8 nm
Reference signal isolation	> 70 dB
Fiber type	SMF-28, FC/APC
Footprint	2U rack mount (19”×3.5”×13”)

a. Custom specifications available, please contact info@ki3photonics.com.

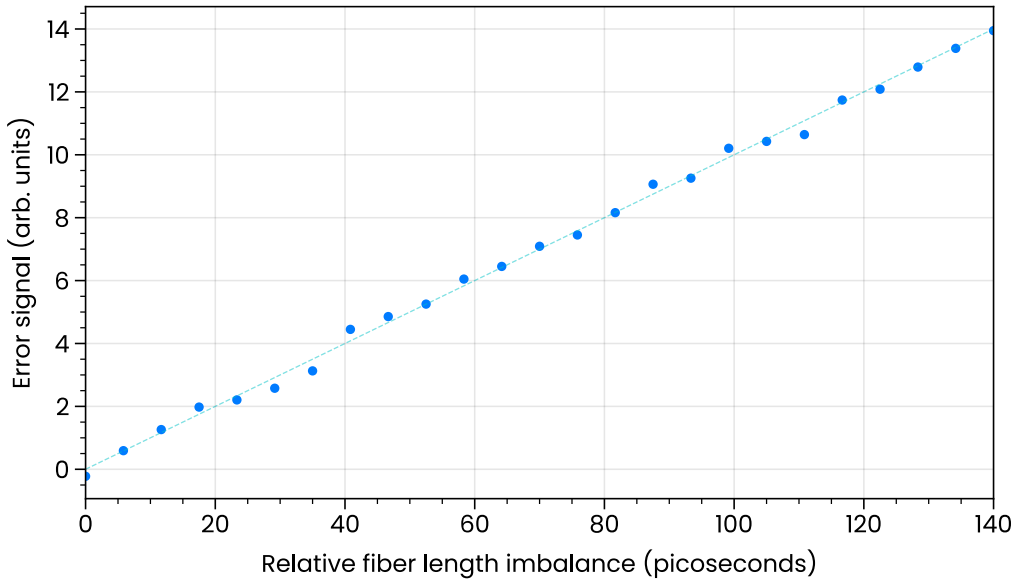


Fig. 1: Ki3 LINQ.SYNQ module, which measures fiber length imbalances with a high resolution, stabilizing drifts in real-time.

Ki3 Photonics Technologies
301-2547 Rue Sicard
Montreal, Quebec, Canada
tel: +1 514 434 8829