



Q*bird
quantum
connectivity

Q*Bird QKD Falqon[®] Series

QUANTUM OPTICS SWITCH MQS4000



Introduction

The QKD Falcon® Series is a cutting-edge solution for secure, scalable quantum networking. Designed for flexibility and growth, the series is ideal not just for building multipoint-to-multipoint Quantum Key Distribution (QKD) networks, but multipoint-to-multipoint entanglement distribution – now, and in the future.

The MQS4000 Quantum Optics Switch Unit

• Optical Transport for both Quantum and Classical Signals

The MQS4000 allows one to reconfigure their optical fabric, routing both quantum and conventional IP/ethernet optics around their optical transport layer.

• Scalable to Many Devices

The MQS4000 is an Nx2 optical switch, allowing one to scale their network to many Quantum devices, by letting you determine when and where quantum signals should be routed on your precious optical fabric.

Quantum Switch Innovation

The MQS4000 Quantum Switch is designed with targeted goals.

- **Low Insertion Loss**, preserving quantum signals.
- **Low Cross-Talk between channels**, ensuring the high-quality quantum signals.
- **Reliable Switching**, with firmware monitoring and feedback, to guarantee correct routing of signals.

Features and Benefits

• Designed for Quantum / Conventional Coexistence

The MQS4000 is designed to switch / route both quantum and conventional optical signals simultaneously. Not only does it feature low insertion loss, but also low cross-talk, especially from designated Conventional channels into designated Quantum channels.

• Uncompromised Security

The MQS4000 is designed with security in mind. All interfaces are protected with rigorously validated MTLS cryptography packages.

• Scalable Design

Expand your network effortlessly without a complete redesign or exponential increase in hardware required by systems, by switching your quantum optics signals as needed.

Key Features of the MQS4000 Line

Wavelength	1260 - 1620 nm
Input/Output Ports	4+2 Fiber Pairs (MQS4040) 8+2 Fiber Pairs (MQS4080)
Fibers Use	1 Fiber Pair per Link
Insertion Loss	1.1 dB typ (1.75 dB max) (MQS4040) 1.3 dB typ (1.95 dB max) (MQS4080)
Connectors	LC
Switching Speed	< 100 ms (< 40 ms typical)

Environmental and Physical Parameters

Form Factor MQS4000	1 U
Dimensions	19 inch x 41 cm
Interfaces	1x Ethernet, 1x USB
Power Supply	< 10 W, 100 - 240 V
Weight	5.5 Kg
Temperature Range	18 C - 35 C
Relative Humidity Range	30% to 60% non-condensing

Management and Monitoring

Over Ethernet, Secured with MTLS, Plug and Play.



Validated technology
in pilot networks



Cost Effective
Scaling



Production, Maintenance, Service
is EU27



Easy installation and
remote support



QKD in complex networks
(e.g. stars, rings, etc.)



Multi-point to Multi-point
Networks without Trusted Nodes



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Interested?
Contact us!

www.q-bird.nl

