Photonic Quantum Optical Module



Overview

Our compact light control units enable efficient beam conditioning through switching and modulation, utilizing miniaturized acousto-optic and electro-optic modulators. These modules serve various quantum technology applications, e. quantum sensing, timing and. This article provides a comprehensive overview of advancements in photonic quantum computing, developed by leading industry players, examining current performance, architectural designs, and strategies for developing large-scale, fault-tolerant photonic quantum computers. We constantly challenge the state of the art, creating innovative solutions to practical problems through dedicated. In this blog summarizes indie Photonics' optical components and subsystems that empower next-generation quantum technologies, specifically quantum computing and Quantum Key Distribution (QKD). indie's portfolio includes ultra-low-phase-noise lasers, high-performance optical filters, and advanced. This article is part of the How to Build a Quantum Computer Deep Dive series, which covers the practical engineering of assembling quantum computers from modular components across every major qubit modality. Based on the ECDL-MOPA concept, our laser modules combine a high output power with a narrow linewidth.



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Article Content

A manufacturable platform for photonic quantum computing

A manufacturable platform for quantum computing with photons is introduced and a set of monolithically integrated silicon-photonics-based modules is benchmarked, demonstrating dual-rail...

Efficient evaluation of optical quantum modules via two-photon ...

We introduce a two-photon method using high-dimensional Hong–Ou–Mandel interference and multi-degree-of-freedom photon encoding to assess optical quantum modules with minimal resource

Photonic Quantum Computers

In this paper, we provide an in-depth review of key players in photonic quantum computing technologies (listed alphabetically) and their developed quantum photonic computers, delineating their efforts

indie Photonics Solutions for Quantum Technologies

indie Photonics'' optical components and subsystems that empower next-generation quantum technologies, specifically quantum computing and Quantum Key Distribution (QKD).

Building a Photonic Quantum Computer Guide

Photonic quantum computers involve extensive optical fiber routing between source modules, processor modules, and detector modules. PsiQuantum explicitly scales beyond a single

Micro-integrated photonic modules for quantum technology applications

We present our latest development of photonic modules for quantum technology applications and show first results of their electro-optical performance. Based on the ECDL-MOPA

Top Photonic Quantum Computing Companies in 2026

We''ve organized a list of the top photonics companies as of 2026. Read on to learn more about the state of the photonics industry.

Photonic Quantum Technologies | Ferdinand-Braun-Institut

The Joint Lab Photonic Quantum Technologies develops optical chip-based quantum devices that can be directly interfaced with optical fibers.

How Industry Collaboration Fosters NVIDIA Co

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How modular optical subassemblies ensure rapid deployment The Quantum-X Photonics switch is powered by a sophisticated optical subassembly

Photonic and Optical Test

Keysight offers various optical component test products, optical spectrum analyzers, tunable lasers, power meters, optical attenuators, and dispersion analysis.

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Advanced Photonics Solutions

25+ Years of Proven Expertise in Photonic Innovation We deliver advanced photonics solutions by combining fiber optic components, high-performance light sources, and integrated photonics. With

Recent progress towards large-scale integrated photonic quantum ...

Recent years have witnessed significant progress in quantum computing and its applications, driven by the emergence of integrated quantum photonic chips.

The Rise of Co-Packaged Optics (CPO) and Silicon Photonics in

As generative AI models scale, traditional pluggable optical transceivers face a power-performance wall. Co-packaged Optics (CPO) and Silicon Photonics address this by integrating

Market Insights: 800G & 1.6T Silicon Photonics Optical Modules

We offer a comprehensive range of products, including optical modules, DAC, AOC cables, 1.6T InfiniBand XDR silicon photonics transceivers and 800G / 400G Ethernet silicon

OFC 2026 New Launches Roundup Part II: Photonics Market Highlights

The 2026 Optical Fiber Communications Conference and Exhibition (OFC) in Los Angeles brought together researchers and industry players. Folks showcased the next wave of

Yaqumo, NKT Photonics, and Hamamatsu Photonics Sign MOU on

In cold-atom (neutral atom) quantum computers in particular, high-performance optical devices are essential at every stage — atom trapping, cooling, manipulation, and readout — and the

GlobalFoundries accelerates adoption of co-packaged optics for

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SCALE CPO solution is the industry''s first OCI MSA capable platform and built with GF''s proven silicon photonics technology MALTA, N.Y., May 4, 2026 – GlobalFoundries (Nasdaq: GFS)

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