

40g Active Optical Cable



AI Overview

A 40G Active Optical Cable (AOC) is a high-speed, pre-terminated fiber optic cable that integrates transceivers and optical fiber to deliver 40Gb/s data transmission over short to medium distances with low power consumption and plug-and-play simplicity. Overview A 40G AOC combines four independent 10Gb/s full-duplex channels within a QSFP+ (Quad Small Form-factor Pluggable Plus) connector, using VCSEL lasers and photodetectors to convert electrical signals to optical signals and vice versa inside the connector shell. This active conversion allows the cable to transmit data over lightweight multimode fiber, reducing the bulk and weight compared to copper cables while maintaining high signal integrity. Key Features High-speed transmission: Supports 40Gb/s aggregate data rate through four 10Gb/s channels. Standards compliance: Compatible with IEEE802.3bm, SFF-8436, Ethernet, InfiniBand, and MSA standards. Connector types: Typically uses LC or MPO optical ports for easy integration. Low power consumption: Active electronics inside the cable provide signal conditioning and equalization, minimizing jitter and bit-error rates. Flexible lengths: Available from 0.5 m up to 100 m, exceeding the practical range of DAC cables. Hot-swappable and high-density: Suitable for top-of-rack, rack-to-rack, and high-performance computing environments. Digital Diagnostic Monitoring (DDM): Provides real-time supervision of operating parameters via I2C, with alerts if specifications are exceeded. Advantages Over Direct Attach Copper (DAC) Longer reach: AOCs can cover distances beyond the 5-meter limit typical of DAC cables. Reduced weight and bulk: Fiber-based AOCs are lighter and thinner, improving airflow and cable management in dense data center racks. Plug-and-play simplicity: Pre-terminated and self-contained optical conversion reduces installation errors and maintenance. Signal integrity: Active electronics ensure minimal signal degradation over longer distances compared to passive copper solutions. Applicatio...

Article Content

Wholesale Optical Transceivers Module | 100G

Shop high-speed optical transceivers from Unitekfiber. We offer 100% compatible 40G, 100G, and 400G QSFP-DD modules for data centers. Expert technical

OWC USB4 Active Optical Cable: Up to 40Gb/s

You can conquer the 2-meter distance "dark side" of traditional copper-based Thunderbolt and USB4 cables with the OWC USB4 40Gb/s Active Optical Cable.

InfiniBand Fibre Optic Cable 40G Axiom AOC-Q-Q-2M - TRINCOS

Discover high-speed connectivity with the 2m Axiom InfiniBand Fibre Optic Cable. Ideal for data centers, enhance your network performance today!

What Makes 40G Active Optical Cable So Popular in

40G Active Optical Cable (AOC) is one of the finest solutions available for deployment of 40G Ethernet Networks. This low power consuming yet high

40G Direct Attach Cables & Active Optical Cables

BlueOptics offers premium 40G Active Optical Cables (AOC) and Direct Attach Copper (DAC) cables specifically designed for QSFP (Quad Small Form-Factor Pluggable) form factors.

Cisco 40GBASE QSFP Modules Data Sheet

Active optical cables enable efficient system airflow and have no Electro Magnetic Interference (EMI) issues, which is critical in high-density racks. These breakout cables connect to a

DAC vs AOC vs Fiber + Optics Buying Guide | How to Choose the

DAC vs AOC vs Fiber + Optics: Which Should You Choose? A Simple Buying Guide
When building or upgrading a network, one question comes up repeatedly: Should I use a DAC cable, an

Active Optical Cables AOC SFP QSFP 10G 25G 100G

Active Optical Cables High-Speed Fiber Optic Cables with Power Efficiency & Proven Reliability Pivotal Optics" Active Optical Cables (AOCs) are fully

40G Active Optical Cables - Proficium

Discover Proficium for connectivity at scale with OEM-compatible optical transceivers, dac cables, active copper cables, active optical cables, and fiber optic cables.

40G AOC Active Optical Cable 40M for Data Center| Alibaba

Type Fiber Optic Transceivers Use Data Center Network Gsm Model Number 40G QSFP+ AOC Cable 40M Brand Name REALSEA Place of Origin Guangdong, China Warranty Time 3 years Port QSFP+

Pluggable Optical Modules - GIGALIGHT

GIGALIGHT provides 10G to 800G immersible pluggable active optical cable (AOC) with SFP,QSFP+,QSFP28,QSFP56,QSFP-DD,OSFP form factor for immersion liquid cooling

Ironlink 40G Qsfp+ To 4X10G Sfp+ Active Optical Cable Cisco

Ironlink 40G Qsfp+ To 4X10G Sfp+ Active Optical Cable Cisco Compatible - 2M - QSFP-4X10G-AOC2M-IL Defective products must be in the original factory carton with all original packing

3m (10ft) Generic Compatible 40G QSFP+ Active Optical Cable

This AOC is compliant with the SFF-8436 QSFP+ MSA standards. It provides a cost-efficient solution as compared to using discrete optical transceivers and optical patch cables and is suitable for 40Gbps

Active Optical Cables (AOC) | High-Speed Connectors

Designed to support data rates from 12G to 400G, AOCs integrate fiber-optic transceivers directly into the cable to provide faster transmission,

40G AOC Fiber Optic Cable 20M QSFP+ High-Speed - TRINCOS

40G AOC fiber optic cable, 20M length, QSFP+ interface, 40Gbps speed. Perfect for high-speed data centers and networking. Order today.

40G-QSFP-4SFP-C-0101

Extreme Networks Compatible QSFP+ Active Optical Cable QuickSpecs Technical Specifications Quad Small Form-factor Pluggable Plus (QSFP+) to 4 x Small Form-factor Pluggable Plus (SFP+) active

Cisco QSFP-4X10G-AOC25M 40G QSFP+ Breakout Active Optical

This breakout cable is compliant with SFF-8436, SFF-8431 and SFP+ & QSFP MSA standards. It provides a connection of a 40G QSFP+ port on one end and to four 10G SFP+ ports on the other end

Hilink Optics QSFP QSFPDD OSFP 10G SFP

40G QSFP+ AOC CABLE 40G QSFP+ to QSFP+ active optical direct-attach cables are suitable for very short distances and offer a very c...

HPE Aruba 40G QSFP+ to QSFP+ 7m Active Optical Cable (r0z22a)

Buy HPE Aruba 40G QSFP+ to QSFP+ 7m Active Optical Cable (r0z22a) at business.walmart Facilities Maintenance, Repair & Operations - Walmart Business Supplies

40Gb/s QSFP+ Active Optical Cables

Amphenol provides a series of 40G QSFP+ optical module products, including SR4, eSR4, IR4, LR4, ER4 lite, AOC and AOC breakout series.

40G QSFP+ Active Optical Cable-JPT Laser

JPT offers high-performance active optical cables and direct attach cables with high bandwidth, low latency, and strong compatibility. Perfect for data centers, cloud computing, and high-speed

200G Modules

SFP/XFP/QSFP Cloud Programmer 10G Tunable BOX Optical Transceiver Checkers
GIGALIGHT provides a series of BER testing tools (checker) for 10G SFP+, 25G/32GFC SFP28, 40G QSFP+,

AMPCOM MPO Fiber Patch Cable: High-Density Interconnect for

AMPCOM MPO fiber cable lineup: trunk and breakout configurations engineered for low-loss, high-density 40G/100G/400G data center links An MPO (Multi-Fiber Push-On) fiber patch cable

What is an Active Optical Cable (AOC) and its applications

What is AOC and where to use them? Definition An AOC (Active Optical Cable) is a communication cable that requires an external power source to convert electrical signals into optical signals and ...

Contact Us

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