Retail DAC High-Speed â€‹â€‹Cable SFP

Article Overview

Direct Attach Copper (DAC) SFP cables are high-speed, factory-terminated twinax copper assemblies designed for short-range, low-latency connections between network devices, available in passive and active versions.

Overview

DAC cables are twinax copper cables with SFP connectors permanently attached at both ends, used for connecting servers, switches, and storage arrays in data centers . They provide a cost-effective, low-latency alternative to fiber optics for short-distance links, typically within racks or between adjacent racks . These cables are plug-and-play, requiring no additional transceivers or modules, and are available in various data rates including 10Gbps, 25Gbps, 40Gbps, 50Gbps, 100Gbps, and higher .

Types of DAC Cables

o Passive DAC: Contains no active electronics. Ideal for very short distances (1-3 meters, sometimes up to 5-7 meters). Offers lowest cost, zero power consumption, and minimal heat generation .
o Active DAC: Includes signal conditioning electronics such as equalizers or pre-emphasis to extend reach up to 10-15 meters. Slightly more expensive and consumes less than 1W per cable . Active DACs are suitable for inter-rack connections or high-density deployments where cable flexibility is important .

Key Features

o High reliability and performance: 100% tested for signal integrity with serial number traceability .
o Customizable options: Cable lengths, wire gauges, low-smoke zero-halogen jackets, pull-tab colors, and EEPROM programming are available .
o Low latency: Electrical signals over copper introduce minimal delay, making DAC ideal for high-speed, latency-sensitive applications .
o Ease of deployment: Factory-terminated assemblies reduce installation complexity and risk of errors .
o Bend radius considerations: Minimum bend radius is typically 4x the cable diameter (~1 inch); exceeding this can damage the cable .

Use Cases

o In-rack connections: Short links between servers and switches within the same rack.
o Inter-rack connections: Active DACs can extend reach for connections between adjacent racks.
o High-density data centers: Flexible active DACs help manage cabling in dense environments.
o Cost-sensitive deployments: Passive DACs provide a low-cost alternative to fiber optics for short distances.

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Summary

Retail DAC SFP cables are high-speed, reliable, and cost-efficient solutions for short-range networking in data centers. Choosing between passive and active DAC depends on the required distance, power consumption, and deployment density. They are widely used for 10G, 25G, 40G, and 100G connections, offering plug-and-play simplicity and predictable performance for modern high-speed networks .

There are three different technologies used for high-speed networking interconnectivity: Direct Attach Copper Cables (DAC) Active

The Volex DAC cable product family is comprised of cable assemblies with Small Form-factor Pluggable (SFP), Quad Small Form

Take the SFP+ DAC cable as an example, shown in the picture below. It consists of a fixed

SFP+ DAC: Copper is heavy and rigid. Thick shielding is required to prevent interference, resulting in a larger bend

DAC cables are high-speed, copper-based cables designed for connecting networking devices over short distances, especially in

FS 25G/10G/1G DAC/AOC cables are compliant with MSA and IEEE standards for guaranteed

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Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

High-speed data transmission: DAC cables for SFP/SFP+ can support speeds up to 16 Gb/s, making them ideal for

Direct Attach Copper (DAC) is a type of cable that enables high-speed connections over short distances. Specifically, these cables

10 Gigabit SFP+ DAC Kabel Definition, Typen & Bereitstellungshandbuch Die Netzwerkverkabelung

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Direct Attach Copper (DAC) cables quietly power today"s data centers: compact, cost-effective, and built to

High-speed I/O passive cable assemblies that can deliver data rates as high as 400 Gbps with a variety of lengths or customized

High-speed Volex Direct Attach Copper (DAC) cables deliver reliable, energy-efficient data transfer for data

The AXC7615 is a 15m active optical SFP+ Direct Attach Cable offering ultra-low latency 10 Gigabit connectivity for servers, storage,

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