

Huawei Intelligent Computing Center Short-Range Optical Module



AI Overview

Huawei's StarryLink short-range optical modules deliver ultra-reliable, high-speed, and secure interconnections for AI-driven data centers, supporting GE to 800GE networks with advanced 3S capabilities.

Overview Huawei's short-range optical modules, part of the StarryLink series, are designed to meet the growing demands of AI and large-scale data center networks. They provide high-speed interconnectivity for clusters ranging from thousands to tens of thousands of GPUs, enabling efficient communication between high-capacity switches and server racks. These modules are critical for AI training clusters, where the number of optical modules scales rapidly with GPU count—for example, a 10,000-GPU cluster may require 25,000 200G or 40,000 400G optical modules.

Key Capabilities Huawei emphasizes the 3S quality of these modules:

- Spanning (Ultra-long transmission):** Using a unique optical path coupling algorithm, the modules optimize signal power distribution, achieving transmission distances twice the industry average, which is essential for large data centers.
- Stable (Ultra-high reliability):** Advanced technologies like short-range optical return loss positioning and channel loss resistance allow rapid detection of contaminated or loose modules, improving reliability by a factor of ten and reducing fault detection from hours to minutes.
- Secure (Ultra-solid security):** Integrated PHYSEC ensures complete encryption of all packets, mitigating risks of data leakage during interconnections.

Technical Features

- High Bandwidth Support:** Modules support GE to 800GE, with lane speeds evolving from 56 Gbps to 112 Gbps to accommodate AI clusters with trillions of parameters.
- Fault Management:** The modules enable minute-level fault localization, minimizing downtime and reducing the impact of optical module failures on AI training processes.
- Plug-and-Play Flexibility:** Huawei of...

Article Content

Huawei Unveils StarryLink Optical Modules That Deliver Ultimate

Stable: Huawei's short-distance optical return loss positioning technology enables fault detection on optical links in minutes, significantly faster than the typical three-hour industry standard.

Huawei Introduces Short-Reach Optical Interconnect Module

Huawei today unveiled its short-reach optical interconnect module prototype at the Optical Fiber Communication Conference and Exposition (OFC). A testament to Huawei's leading

Huawei Unveils StarryLink Optical Modules That Deliver

These modules ensure ultra-long distance transmission, ultra-high reliability, and ultra-robust security, delivering an ultimate network performance

Huawei Introduces Short-Reach Optical Interconnect Module

Share this article LOS ANGELES, March 25, 2015 /PRNewswire/ -- Huawei today unveiled its short-reach optical interconnect module prototype at the Optical Fiber Communication

Short Reach Optical Interconnects

Optical interconnection points are included inside the compute substrates, so that memory as well as chip-to-chip interconnection proceeds with

Optical Modules in Intelligent Computing Scenarios

In the AI era, Huawei provides a full range of GE to 800GE optical modules, featuring three major capabilities: Spanning (ultra-long transmission), Stable (ultra-high reliability), and Secure (ultra-solid

Huawei Data Center Network Short-Distance Optical Module Portfolio

Home Huawei Data Center Network Short-Distance Optical Module Portfolio

Huawei Unveils StarryLink Optical Modules That Deliver

Looking ahead, Huawei aims to collaborate with industry partners to further research and innovate in data center network optical modules, promoting

StarryLink Optical Module

The short-distance optical return loss positioning technology enables precise and efficient identification of contaminated or loose optical modules, achieving minute

The Intelligent Micro Module, the Element of Intelligent

The Intelligent Micro Module can provide simultaneous, efficient operations in order to provide the best green data center, the best asset management, and optimum

Huawei Unveils StarryLink Optical Modules

Arthur Wang, President of Huawei's Data Center Network Domain, stated, "Our StarryLink optical module exemplifies our commitment to innovation, providing high-performance optical

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Stable: Huawei's short-distance optical return loss positioning technology enables fault detection on optical links in minutes, significantly faster than the typical three-hour industry standard.

Huawei Unveils StarryLink Optical Modules That Deliver

To address these challenges, Huawei's StarryLink optical modules deliver a high-quality network experience with three key capabilities: Spanning:

Huawei's StarryLink optical module

Huawei's StarryLink optical module showcases Huawei's commitment to innovation, providing high-performance, short-range optical solutions for seamless interconnection.

Huawei Unveils StarryLink Optical Modules for Ultimate Network ...

Looking ahead, Huawei plans to partner with industry stakeholders to foster research and innovation in optical modules for data center networks. The aim is to drive intelligent network upgrades and

What Is an Optical Module and Its FAQs (V200)

Describes what an optical module is and FAQs, including the fundamentals, appearance and structure, key performance counters, common types, and naming conventions of optical modules, causes of

Striding Towards the Intelligent World White Paper

The optical sensing technology can also be used in a wide range of scenarios such as fire and earthquake warning to explore new services and applications and maximize the value of fiber

Understanding Optical Modules

If an optical module is installed in a running device, you can run the display transceiver command to view parameters of the optical module, including the center wavelength, transmission distance, fiber

StarryLink Optical Module

Huawei's StarryLink optical modules for data center networks offer seamless interconnection from GE to 800GE across all scenarios, delivering customers an ultra-reliable, long-distance, and highly secure

Development trend of optical

AI-driven Intelligent Computing Leads the Innovation of Optical Module/Chip The update cycle for IMDD optical modules in data centers is approximately 3 to 4 years; however, following the introduction of

Enabling Intelligent DCI O& M

In short, the optical-layer neurons detect all status parameters of the optical-layer network, with the hardware providing enhanced computing power, and the control layer optimizing

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