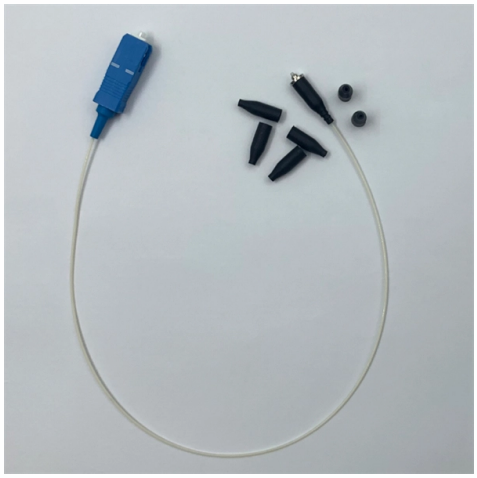
ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Optical modules LH and LX



Overview

Discover everything you need to know about SFP optical transceiver modules for long-distance fiber transmission.

Key Takeaways

LX and LH SFP modules are functionally similar, both operating at 1310 nm over single-mode fiber, with LX being an IEEE standard and LH a vendor-specific term for long-haul applications.Overview of LX and LH

LX (Long Wavelength) is an IEEE 802.3z standard for Gigabit Ethernet over fiber. It typically operates at a 1310 nm wavelength and is designed for single-mode fiber (SMF), supporting distances up to 10 km. LX modules can also work over multimode fiber (MMF) for shorter distances (up to 550 meters) when using a Mode Conditioning Patch Cable (MCP) to prevent Differential Mode Delay (DMD) errors . LH (Long Haul) is a vendor-specific term, most commonly used by Cisco, to indicate modules that meet or exceed LX specifications. LH modules also operate at 1310 nm and are designed for SMF, with typical distances ranging from 10 km to 20 km, depending on the vendor. LH modules were historically marketed to signal higher-quality optics or slightly longer reach than standard LX modules .

Key Similarities
• Both LX and LH modules use 1310 nm wavelength and support 1 Gbps Gigabit Ethernet.

• Both are compatible with single-mode fiber and can be adapted for multimode fiber with MCP cables.

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• LX and LH modules are interoperable, meaning an LX module can connect to an LH module without issues .
Key DifferencesFeatureLXLHStandardIEEE 802.3zVendor-specific (e.g., Cisco)Typical DistanceUp to 10 km on SMF10–20 km on SMF (varies by vendor)Fiber TypeSMF (compatible with MMF using MCP)SMFPurposeMedium- to long-distance linksLong-haul or marketing distinction for extended reachPractical Considerations
• For generic networks: LX modules are a safe choice for standard 10 km connections.

• For Cisco networks: LH modules like the GLC-LH-SMD are recommended, offering Digital Diagnostics Monitoring (DDM) and compatibility with LX standards.

• Multimode fiber deployment: Always use a Mode Conditioning Patch Cable to avoid signal instability when using LX or LH modules on MMF .
Summary

While LX is a formal IEEE standard and LH is a vendor-specific designation, in practice, they are functionally equivalent for most 1G applications. The choice between them usually depends on vendor compatibility, network equipment, and desired distance, rather than fundamental technical differences .

Article Content

LX SFP Module Guide: What Is 1000BASE-LX and vs LR LH SX

Learn what LX SFP (1000BASE-LX) modules are, how they differ from LR/LH/SX, and practical tips for compatibility,

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Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet

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What is the difference between SFP LX and SFP LH□

SFP LX: SFP LX modules are commonly used in metropolitan and enterprise networks where moderate-distance

Are lx and lh sfp compatible?

While LX and LH SFP modules remain relevant, advancements in technology such as DWDM (Dense Wavelength Division

What is the difference between lx and lh transceivers?

Conclusion Choosing between LX and LH transceivers involves understanding the specific needs of your network, including distance,

SX vs SR vs LX vs LH Explained: A Simple Guide

What Do SX, SR, LX, and LH Mean? These labels define optical transmission standards

SFP Optical Transceiver Modules for Long Distance: A Complete

Discover everything you need to know about SFP optical transceiver modules for long-distance fiber transmission.

Cisco 1000BASE-LX/LH SFP

Explore the Cisco 1000BASE-LX/LH SFP module, designed for reliable and high-performance Gigabit Ethernet connectivity.

1000BASE-LX/LH SFP Transceiver Selection Guide for Long Haul

A 1000BASE-LX/LH SFP transceiver is a Gigabit (1G) optical module used to transmit data over fiber using a 1310 nm wavelength,

Do you know the difference between the GLC-LH-SMD

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Differences Between 1000BASE-SX, LX, BX, and ZX

SFP (Small Form-factor Pluggable) modules are widely used in Ethernet, Fibre Channel,

How to Choose LX or SX SFP Module

In Short Choosing the right SFP module, whether LX or SX, requires a thorough understanding of your network''s needs, including

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1000BASE-SX VS 1000BASE-LX SFP Transceivers

SFP module is a small pluggable optical module for supporting optical fiber communication with a 1G rate, which has

1000BASE-SX, 1000BASE-LX, 1000BASE-ZX&BX SFP: A Simple

Like 1000BASE-LX, it uses the same long wavelength of 1310nm but provides a higher power budget to achieve

GLC-LH-SMD Datasheet Overview

Cisco GLC-LH-SMD 1000BASE-LX/LH SFP is made for Both Multimode and Single-Mode Fibers. 50 m on any multimode fibers.

Guide to Optical Transceiver Standards

Guide to Optical Transceiver Standards – What do SR, LR, FX, LX, etc. stand for? Transceiver part codes are typically made up of a

One minute to know about SFP SX LX EX ZX SR LR ER ZR meaning

So share the following with new customers, In order to help them quickly to know about SFP SX LX EX ZX SR LR ER

SX SFP Module Guide: SX vs LX vs SR Differences Explained

Use SX SFP Module with Aqua (OM3) cable. Connecting distant buildings? Use LX SFP Module with Yellow (OS2) cable. Upgrading

The Differences of 1G Optical Modules: LX vs SX

Uncover the key differences between 1G LX and SX modules, aiding you in making the right choice for your network

1000BASE-SX vs. 1000BASE-LX, Which SFP Module Fits Your

Learn the differences between 1000BASE-SX and 1000BASE-LX SFP modules, and discover when to choose fiber

Optic Modules Datasheet

Features and Benefits The following table lists the different pluggable optic modules and supported platforms, along with the

One Minute to Understand SFP SX, LX, EX, ZX, SR, LR, ER, ZR ...

□□ At Sate Optics, we often get questions from new customers about what abbreviations like SX or LX actually mean

FAQs About Cisco 1000BASE-LX/LH SFP Transceiver

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Cisco SFP Modules for Gigabit Ethernet Applications

Product overview The industry-standard Cisco Small Form-Factor Pluggable (SFP) Gigabit Interface Converter (Figure 1) links your

Understanding 1000BASE-LX SFP and 1000BASE-LH SFP

FS offers a wide range of 1000BASE-LX/LH SFP transceiver modules which are compatible with major brands,

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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