

OLT optical module interface



Article Overview

An OLT interface optical module is a transceiver that enables an Optical Line Terminal (OLT) to connect to a Passive Optical Network (PON) by converting electrical signals to optical signals and vice versa.

Function and Role

OLT interface optical modules serve as the physical interface between the OLT and the fiber network, allowing data transmission to multiple Optical Network Units (ONUs) or Optical Network Terminals (ONTs) over fiber optics. Each module typically supports a single PON port and handles both transmit (Tx) and receive (Rx) wavelengths, ensuring proper bidirectional communication with connected ONUs/ONTs. These modules are essential for enabling GPON, XGS-PON, or EPON standards depending on the OLT and module type .

Types and Form Factors

The most common form factors for OLT optical modules are SFP (Small Form-factor Pluggable) and SFP+, which are hot-swappable and allow flexible deployment. Some OLTs use combo ports, supporting either 1G or 10G uplinks, while others are dedicated PON ports for downstream connections . Modules are selected based on:

- Transmission speed: 1.25 Gbps for GPON, 10 Gbps for XGS-PON or NG-PON2.
- Wavelength: Typically 1490 nm downstream and 1310 nm upstream for GPON; XGS-PON uses 1577 nm downstream and 1270 nm upstream.
- Distance support: Standard single-mode fiber modules can reach 20 km or more...

Article Content

Cisco Routed Passive Optical Network Deployment Guide, Release

The Cisco PON OLT is compatible with various Optical Network Terminals (ONTs) on the market, provided they

Guide to Optical Line Terminal (OLT) Classifications: Detailed Types ...

Explore the different classifications of OLT equipment, understanding each type's unique functions and applications.

Getting Started With OLT Network Configuration, Cisco Catalyst PON ...

About Service Profiles How to Configure Service Profiles About Service Profiles A Gigabit passive optical network

What are OLT, ONU, ONT and ODN in PON?

A GEAPON system usually consists of an OLT (Optical Line Terminal) at the service provider's central office and

OLT and ONT

OLT supports bandwidth allocation that allows to make smooth delivery of data float to the OLT, that usually arrives in bursts from

optical module SFP for OLT and optical module SFP for switches

The optical module SFP (Small Form-factor Pluggable) optical modules used in OLT (Optical Line Terminal) devices

What is OLT (Optical Line Terminal)? Types, Features & Applications

At the core of Passive Optical Networks (PON), the Optical Line Terminal (OLT) plays a vital role in enabling efficient

GPON OLT C+ Optical Module Spec Sheet

1490nm continuous-mode transmitter with DFB LD 1310nm burst-mode receiver with APD-TIA 2-wire interface for integrated digital

OLT in Networking: Definition, Functions & Features

An OLT interfaces with the Metro Ethernet Network or backbone internet, receiving high-speed data which it then

GPON OLT Basics and Beyond: A Comprehensive Introduction

PON Ports: Optical interfaces on service line cards. Using optical modules, they connect to the trunk fiber, directly

Guide to Optical Line Terminal (OLT) Classifications: Detailed Types ...

In modern communication networks, optical line terminal (OLT) is the core device to realize point-to-multipoint

Decoding OLT, ONU, ONT, and ODN in PON Network

Embarking on an exploration of the fascinating world of Passive Optical Networks (PON), we unravel the roles of OLT,

Optical Line Terminal (OLT)

In a Fiber Optic Network, a component called Optical Line Terminal (OLT) is a vital component that acts as an

OLT vs ONT - What's the Difference?

Discover the key differences between OLT and ONT in fiber-optic networks. Learn their roles, functions, and how they

Optical Line Terminal (OLT) The Ultimate Guide

An OLT (Optical Line Terminal) is the core device in a Passive Optical Network (PON) — the interface

Overview of OLT and its application in GPON network

Overview of OLT and its application in GPON network OLT Overview OLT is an optical line terminal, the core equipment of the

What's the OLT (Optical Line Terminal)?

Optical Line Terminal Overview What is an OLT? Definition: An Optical Line Terminal (OLT), also called an Optical

Optical line termination

An optical line termination (OLT), also called an optical line terminal, is a device which serves as the service provider endpoint of a

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