

How to convert optical cables using a FTTH splitter



AI Overview

An FTTH splitter allows a single optical signal from an OLT to be distributed to multiple ONTs by connecting input and output fibers according to the splitter's design and split ratio. Understanding the FTTH Splitter An optical splitter is a passive device that divides a single input optical signal into multiple outputs without requiring power, making it ideal for Passive Optical Networks (PON) in FTTH deployments. The splitter can also work in reverse to combine signals, but in FTTH, its main role is distribution from the Optical Line Terminal (OLT) to multiple Optical Network Terminals (ONTs) at user homes.

Types of Splitters

- PLC (Planar Lightwave Circuit) Splitters:** Provide uniform signal distribution, suitable for large splits like 1:32 or 1:64.
- FBT (Fused Biconical Taper) Splitters:** Made by fusing and tapering fibers, ideal for small splits like 1:2 or 1:4, with customizable ratios.

Split Ratios and Insertion Loss

Split ratio defines how the input signal is divided among outputs (e.g., 1:4, 1:32). Higher ratios distribute the signal to more users but increase insertion loss, reducing signal strength. Insertion loss is the attenuation caused by splitting and excess loss, typically ranging from 0.1 to 2 dB per port.

Steps to Connect Optical Cables Using a Splitter

- Identify the Input Fiber:** Connect the fiber coming from the OLT to the splitter's input port. Ensure the fiber is clean and properly terminated.
- Connect Output Fibers:** Attach fibers from the splitter's output ports to the ONTs at user locations. The number of outputs used depends on the split ratio and the number of subscribers.
- Choose the Splitting Architecture:**
 - Centralized Splitting:** The splitter is located in a central distribution box, with one input from the OLT and multiple outputs to ONTs. This allows flexible reassignment via jumpers.
 - Distributed (Cascaded) Splitting:** Splitters are placed closer to users, often in pedestals or closu...

Article Content

Introduction to Passive Optical Network Splitter Architectures

This involves having 2 or more splitter combinations to arrive at the target split ratio. A classic example is the use of a 1x4 and 1x8 splitter to comprise a 1x32 final ratio.

How to Design FTTH Network Split Level and Split Ratio?

Learn how to design an efficient FTTH network by optimizing split levels and split ratios. Get deployment strategies for high-performance fiber

How Fibre Optics Transmits Data at Lightning Speeds

Quick Answer: Why Fibre Optics Is So Fast Fibre optic cables send data as laser or LED light pulses through thin strands of ultra-pure glass, travelling at approximately 200,000 kilometres

Optical Line Terminals Selection Guide: Types,

Optical line terminals, also called optical line terminations (OLTs), serve as endpoints for passive optical networks (PONs). They convert electrical signals

Datacom: Global ICT Solutions Provider

Datacom 1URack mount SC/APC, LC/APC splitter provides a compact solution for FTTH application. The Datacom Rack Mount splitter ensures network reliability

ODN: Optical Distribution Network Explained

Unlike active networks with powered components, ODNs use unpowered splitters and cables to distribute signals—making them cost-efficient,

AUA-9 1Mw Power FTTH Fiber Optic Optical Power Meter Cable Tester

AUA-9 1Mw Power FTTH Fiber Optic Optical Power Meter Cable Tester Description This type of Handheld optical power meter is a compact and an easy-to-use testing instrument for optical fiber

Optical Splitters in PON Networks | FTTH Guide

Learn how optical splitters are used in PON networks, including centralized and cascaded FTTH deployment strategies and key factors.

Optical Splitters Demystified: The Silent Heroes

An Optical Splitter, also known as a beam splitter, is a passive optical device that divides a single input optical signal into two or more output

Fiber Optic Splitters for PON Networks: 2025 Guide

In this guide, you'll learn how fiber splitters function in PON networks, the difference between PLC and FBT types, and how to choose the best model

High Density Junction Box Rack-Mounted 144 Ports LC Splitter Sliding ...

Whether you're upgrading a telecom network, expanding a data center, or deploying a new fiber-to-the-home (FTTH) system, the need for reliable, scalable, and space-efficient termination solutions has

The FOA Reference For Fiber Optics

Rather than telling you how to design a FTTH network, we will illustrate some of the different network architectures, construction methods, etc. possible, then offer

Ultimate Guide to Optical Splitters for FTTH & GPON

Optical splitters are a fundamental component of FTTH, GPON, and next-generation PON networks. Understanding splitter technologies, split ratios, insertion loss metrics, packaging

The FOA Reference For Fiber Optics

This drawing shows the location of the hardware used in creating a typical PON network. This drawing also defines the network jargon for cables: a "feeder"

Fiber End Face Cleaning Box Pigtail Cleaner Cassette Fiber Wiping

Summary SC/ST/FC/LC Compatible: Works with various connector types for versatile use. Fiber Wiping Tool: Provides precise and effective cleaning for FTTH and optic fiber applications. A-550 Model:

How Does a Fiber Optic Splitter Work

This post provides a introduction to how does a fiber optic splitter work, and optical fiber splitter application in FTTH.

Fiber-optic splitter

Fiber-optic splitter A fiber-optic splitter, also known as a beam splitter, is based on a quartz substrate of an integrated waveguide optical power distribution device, similar to a coaxial cable transmission

Comprehensive Engineering Guide to the 12-SC Fiber

In a ToR scenario, the ODF receives a 12-core MTP/MPO to SC breakout trunk cable from the main distribution area (MDA). The SC front panel

How to Design Your FTTH Network Splitting Level and

This article may help you solve FTTH splitting level and ratio design problems. Choose Optical Splitter: PLC Splitter or FBT Splitter? Before we start

Optical Splitters Demystified: The Silent Heroes

explains how optical splitters enable FTTH, their types (FBT vs. PLC), key ratios, and how they integrate with LINK-PP optical modules for a

Fiber to the Home (FTTH): A Comprehensive Guide

Fiber to the home (FTTH) is the use of fiber optic cable to directly connect to customer homes or premises. FTTH provides an end-to-end fiber optic

Fiber Optic Pigtails in FTTH & ODN: Selection Guide

Master FTTH & ODN network deployment with our guide on fiber optic pigtails. Learn types, splicing workflows, and why they lower TCO over patch cords.

Fiber Optic Splitter: How It Works & Types Guide

Learn how fiber optic splitters work, types (PLC, FBT), and uses in FTTH/data centers. Understand signal splitting, key specs, and how to choose the right splitter.

Contact Us

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