

# FTTH uses low insertion loss splitters to combat electrical tracking



## Overview

PLC splitters, offering precise and even splits with minimal loss in a compact package, are typically a more suitable solution for today's FTTH networks compared to FBT splitters. In the backbone of modern Fiber-to-the-Home (FTTH) networks, optical splitters serve as the unsung heroes that enable cost-efficient connectivity for millions of subscribers. By dividing a single optical signal from a central Optical Line Terminal (OLT) into multiple outputs for Optical Network. Insertion loss (IL) refers to the optical power lost when a signal passes through the splitter from the input port to the output ports. Mathematically: where  $IL(i)$  is the insertion loss at the  $i$ -th output port,  $P(out,i)$  is the optical power at the  $i$ -th output port, and  $P(in)$  is the optical power. In broadband landscape, designing an efficient FTTH network means more than just laying fiber. Let's dive into the key considerations. Conversely, it can also combine multiple signals into one. Whether you're deploying a Passive Optical Network (PON), connecting MDUs, or expanding fiber access in rural zones, the right splitter configuration can dramatically affect. The FTTH network serves as the infrastructure enabling data transmission in the form of light signals over optical fiber from the operator's switching equipment directly to a home or business.

## Article Content

Mar 05, 2026

### How to Design Your FTTH Network Splitting Level and Ratio?

Learn about the critical role of optical splitters, understand different splitting levels and ratios, and discover how to make strategic design decisions to ensure optimal network performance.

Jan 19, 2026

### PLC Splitter Performance: IL & RL for PON Networks

Learn how insertion loss (IL) and return loss (RL) impact PLC splitter performance in FTTx and PON networks, with standards, factors, and selection tips.

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### Optical Splitters Demystified: The Silent Heroes ...

For most modern FTTH applications, PLC splitters are the preferred choice due to their compact size, reliability, and better performance across a ...

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### Optical Splitters: Split Ratios, Splitting Architectures & PON Network ...

In the backbone of modern Fiber-to-the-Home (FTTH) networks, optical splitters serve as the unsung heroes that enable cost-efficient connectivity for millions of subscribers.

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### Optical Splitters Demystified: The Silent Heroes Powering Your FTTH ...

For most modern FTTH applications, PLC splitters are the preferred choice due to their compact size, reliability, and better performance across a wider range of wavelengths.

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### Understanding Optical Splitter Loss

Understanding splitter ratios and insertion loss is fundamental to building a reliable fibre optic network. The key takeaway is that every split reduces optical power, and this loss must be ...

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### Fiber Optic Splitters – Selection Guide for FTTH Networks

Learn how to choose the right fiber optic splitter for FTTH and FTTX deployments. Compare PLC splitter ratios, packaging types, and installation options.

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### How to Choose the Right PLC Splitter for Your Network Needs

Explore the fundamental roles, specifications, and designs of PLC splitters in network infrastructure, focusing on their critical functions in FTTH deployments and special applications. ...

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### 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 for your rollout in 2025.

Nov 16, 2025

### Optimising FTTH Design: Split Levels & Split Ratios

Designing FTTH isn't just "drop fiber to homes and done". You've got to strategically choose how many you split (split ratio), and where you split (split level), in tandem with understanding your geography, ...

Dec 02, 2025

### Understanding PLC Splitter Loss: What You Need to Know for FTTH ...

Insertion loss defines the loss of signals when a device, such as an optical fiber splitter, is inserted into the fiber system. If the loss is less, the device performs better and maintains signal ...

## Contact Us

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