

Common Splitter Losses Table



AI Overview

Typical insertion losses for optical splitters range from 3.5 dB for 1×2 splitters to over 22 dB for 1×64 splitters, depending on splitter type and configuration.

Typical Insertion Loss Values

The following table summarizes common insertion losses for PLC and FBT splitters under standard conditions (1310 nm wavelength, SC/APC connectors). Values include splitting loss and typical excess loss:

Splitter Type	Split Ratio	Theoretical Loss (dB)	Typical Loss (dB)	Max Loss (dB)
PLC / FBT	1×2	3.0	3.5	4.0
PLC / FBT	1×4	6.0	6.5	7.0
PLC / FBT	1×8	9.0	9.5	10.0
PLC / FBT	1×16	12.0	12.5	13.0
PLC / FBT	1×32	15.0	15.5	16.0
PLC / FBT	1×64	18.0	18.5	19.0

Notes:

- Theoretical loss is calculated as $10 \times \log_{10}(N)$, where N is the number of output ports.
- Typical loss includes manufacturing tolerances and minor excess loss.
- Max loss accounts for worst-case scenarios, including connector and adapter losses, and is used for conservative power budgeting .

Key Considerations

- PLC vs FBT Splitters: PLC splitters provide more uniform loss across all ports (± 0.8 dB), while FBT splitters may have higher variation (± 1.5 dB) and are more sensitive to wavelength and temperature .
- Temperature Effects: PLC splitters operate reliably from -40°C to $+85^{\circ}\text{C}$, with min...

Article Content

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AN10-006

Since the 0° power splitter is a reciprocal passive device it may be used as a power combiner simply by applying each signal

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Optical Splitter Loss Ratio 1:N

Optical Splitter Loss Ratio 1:N: Fiber Optic Splitters are used to divide the input optical fiber light at a certain ratio and

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Splitter Ratios: 1:8 vs 1:16 vs 1:32

Splitter ratios affect insertion loss and serviceability. Common ratios: ... For cascades, add losses and validate margin

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Understanding Optical Splitter Loss

Understanding splitter ratios and insertion loss is fundamental to building a reliable fibre

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Splitter Ratios and Loss: 50/50, 70/30, and Unequal Split Planning

The table below summarizes theoretical insertion loss, typical excess loss for PLC-type splitters, and ideal use cases for the most

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Ultimate Guide 2023: PLC Splitter / FBT Fiber Splitter

When you choose a fiber optic splitter for your application, regardless PLC Fiber Splitter &

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Parameter of Optical Splitter Loss

Parameter of Optical Splitter Loss : I have already written a very detailed article about optical splitter, whose link will be

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Understanding Power Splitters

Understanding Power Splitters How they work, what parameters are critical, and how to select the best value for your application.

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Optical Splitter Loss Calculator | EZ Virtual Tools

Calculate optical splitter insertion loss for PON, FTTH, and fiber distribution networks. Design passive splitter cascades for GPON,

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Fiber Optic Splitter Loss Table: A Comprehensive Guide to

A fiber optic splitter loss table provides essential loss values for different splitter types at specific wavelengths, enabling accurate

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PLC Splitter and download the loss chart of PLC splitter

A splitter with 1×2 certain ratio configuration means that it has one input and two outputs. There are 1×4 plc splitter, 1×8

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Why Fiber Optic Splitter Loss Table Is So Important?

Here is a table of typical loss for fiber coupler. Signal loss within a system is expressed using the decibel (dB) which is

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How to Calculate Splitter Loss in Optical Fiber

Theoretical loss indicates the optimal loss under ideal conditions, while practical loss reflects real-world factors such as

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Optical Splitter Loss Calculator

Optical splitters are common in building distribution networks, especially where one feeder must serve many rooms, floors, or

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Why Fiber Optic Splitter Loss Table Is So Important?

Do you know how to realize the performance of the FBT and PLC splitter? The primary important thing is to check its

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Optical Splitter Insertion Loss Table

The document contains tables listing the insertion loss in dBm for various splitting ratios of an optical splitter, ranging from 1% to

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Understanding Signal Loss in PLC Splitters: A Comprehensive Analysis

Understanding Signal Loss in PLC Splitters: A Comprehensive Analysis Planar Lightwave Circuit (PLC) splitters are

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Why Fiber Optic Splitter Loss Table is Important

Why Fiber Optic Splitter Loss Table is Important? Fiber Optical SplittersFiber splitters, known as fiber couplers, they are common

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Basic Knowledge about Split Ratio and Insertion Loss of Optical Splitter

Minimizing insertion loss from the optical splitter is crucial for conserving the power budget of a PON system. The table

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N-Way Power Divider Calculator

Power Dividers divide an input signal into multiple output signals. The number of output signals depends on the configuration of the

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Fiber Optic Splitter Loss Chart: Complete Guide (1×2 to 1×64)

Below, I'll give you the complete Fiber Optic Splitter Loss loss chart for 1×2 through 1×64 configurations, show you how

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Testing Splitter's & Directional Couplers

Fig. 1 - Trough loss and isolation are two important parameters of a splitter. A typical two-way splitter has a through loss of about 3.5

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Split Ratios and Splitting Level of Optical Splitters

Splitting Level In the PON network, there are two common splitter configurations—centralized approach and cascaded

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Basic Knowledge about Split Ratio and Insertion Loss of Optical Splitter

Optical splitters are vital in FTTH PON systems, distributing a single signal efficiently. Key parameters, Split Ratio and

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