

Fiber Optic Connector Type PC



Overview

PC connector stands for physical contact fiber connector, which allows the end faces of two fibers to be in direct contact with each other.

Key Takeaways

PC (Physical Contact) fiber optic connectors are polished to allow direct contact between fiber end faces, reducing air gaps but offering moderate return loss compared to newer UPC and APC connectors.

Overview of PC Connectors

A P

C connector stands for Physical Contact fiber connector, designed so that the end faces of two fibers touch directly, minimizing the air gap between them and improving light transmission efficiency. The fiber end face is slightly convex, appearing almost flat due to a large radius of curvature, with the optical fiber core at the highest point to ensure physical contact. This design reduces signal reflection but provides a return loss of around -40 dB, which is higher than UPC (-50 dB) and APC (-60 dB) connectors.

Comparison with Other Polish Types
UPC (Ultra Physical Contact): An improved version of PC with a more pronounced dome-shaped end face, offering better surface finish and lower return loss (~ -50 dB). Suitable for most digital and analog transmission systems.

AP

C (Angled Physical Contact): Features an 8° angled ferrule end face, significantly reducing back-reflection and achieving return loss around -60 dB. Ideal for high-frequency RF, CATV, and satellite applications. Applications PC connectors were widely used in OM1 and OM2 multimode fibers and early single-mode networks.

While largely replaced by UPC and APC connectors in modern high-performance systems, PC connectors may still be found in legacy networks or cost-sensitive applications where moderate return loss is acceptable.

Key Points

Polish Style: Slightly convex, physical contact end face. Return Loss: Approximately -40 dB. Advantages: Simple design, reduces air gaps, easy to manufacture.

Limitations: Higher back-reflection compared to UPC and APC, less suitable for high-speed or high-frequency applications. Connector Forms: Can be applied to SC, LC, ST, and FC connector types. In summary, PC connectors are the original physical contact fiber connectors, providing direct fiber-to-fiber contact with moderate performance.

They have been largely superseded by UPC and APC connectors for applications requiring lower return loss and higher signal fidelity.

Article Content

APC, UPC, PC Fiber Connector Types Comparison and

PC connector stands for physical contact fiber connector, which allows the end faces of two fibers to be in direct contact with each other. The

Understanding Fiber Connector Types: SC/APC, SC/PC,

The PC (Physical Contact) connector was one of the earliest fiber polish types. It features a slightly curved end face that helps reduce air gaps between

PC vs UPC vs APC Connector: Selecting the Right

PC fiber connector refers to the connector that is polished in the physical contact style. It is the most common polish type that is found on OM1

Fiber Optic Connectors Guide: 8 Types, PC/UPC/APC

Discover the 8 essential fiber optic connector types (LC, SC, FC, etc.), their key advantages, and differences. Learn how PC, UPC, and APC

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The PC (Physical Contact) connector was developed as an improvement over the early “flat” fiber connectors, which often left an air gap

PC vs UPC vs APC Fiber Connectors – What is the

This article explains the differences between PC, UPC, and APC fiber connector polishes and their typical reflectance loss values. Learn how

PC vs UPC vs APC: The Ultimate Guide to Fiber Optic

PC (Physical Contact) refers to a connector type manufactured through micro-spherical polishing: The ferrule surface is precision-ground into a slight spherical

PC vs APC vs UPC Connector: A Technical Comparison

PC connector stands for the fiber connector that uses the physical contact polishing technique. The history of PC connectors can date back to the 1980s, the oldest style among the

PC vs UPC vs APC Connector: Selecting the Right

In this article, we will compare PC, UPC, and APC connectors, discussing their features, advantages, and applications to help you select the

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Fiber Connector Types

Fiber connector types LC, SC, FC, ST, MTP, and MPO are widely used in past and present. What are the differences between them? Who is the

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LC Fiber Optics: Guide to LC Connectors, ULL Cables, MPO 2026

A guide to LC fiber optics. Learn LC connector geometry, UPC/APC polish types, ULL patch cords, MPO-LC transitions, high-density cassettes, duplex optics

Everything you need to know about fiber optic termination

Different connectors and splice termination procedures are used for singlemode and multimode connectors, so make sure you know what the fiber will be before you specify connectors or splices!

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