

Fiber optic connector APC interface



AI Overview

SC/APC connectors feature an 8° angled ferrule end face that minimizes back reflection, making them ideal for high-frequency and high-bandwidth optical networks.

OverviewThe SC/APC (Subscriber Connector/Angled Physical Contact) is a fiber optic connector designed for precise alignment and low-loss signal transmission. The SC connector uses a push-pull mechanism for easy installation and removal, with a rectangular body that locks securely in place. The APC designation refers to the 8-degree angled polish on the ferrule end face, which directs reflected light into the fiber cladding rather than back toward the source, significantly reducing optical return loss (ORL) to typically ≥ 60 dB compared to ~ 50 dB for UPC connectors.

Key Technical Features

- Ferrule Material:** Most SC/APC connectors use zirconia ceramic sleeves for precise fiber alignment.
- Insertion Loss:** Typically low, around 0.2–0.3 dB, ensuring minimal signal attenuation.
- Return Loss:** High return loss (>60 dB) reduces signal reflections, critical for analog CATV, PON, and RF applications.
- Color Coding:** SC/APC connectors are usually green, distinguishing them from SC/UPC (blue) and multimode connectors (beige or aqua).

ApplicationsSC/APC connectors are widely used in:

- FTTH (Fiber to the Home) networks for high-bandwidth residential connections.
- CATV and L-Band satellite systems, where back reflection can degrade analog signals.
- High-frequency RF and PON architectures, where signal fidelity is critical.
- Telecom and data communications networks, including patch panels and optical distribution frames.

Practical Considerations

- Compatibility:** Never mate an APC connector with a UPC connector; the angled and flat faces will not align properly, causing high loss and potential damage.
- Simplex vs Duplex:** SC/APC connectors are available in simplex (single fiber) or duplex (two fibers) configurations, depending on network requirements.
- Maintenance:** Regular cleaning is essential to maintain low insertion loss and high return loss, especially in high-power or high-frequency applications.

Article Content

Go4Fiber Ltd-One Stop Fiber Optic Superstore

EXFO OX1 Optical Fiber Multimeter, Last Mile Installation Optical Explorer - PRO version 1310/1550 nm, SC/APC Click-Out Optical Connector OX1-PRO-I-88 Availability: Call for price

NVIDIA/Mellanox MMS4A00 Compatible 1.6T 2 x DR4/DR8 OSFP224

Dual MPO-12/APC Connectivity: Each of the two 800G ports utilizes a dedicated MPO-12/APC interface for connection to single-mode fiber infrastructure. Silicon Photonics Technology: Implements a SiPh

Fiber Connectors

Fiber connectors are often used as the terminations of optical fiber cables to provide non-permanent connections between fiber-coupled devices (a kind of removable

Fiber Panels, Modules & Cassettes

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SC/APC Series Connectors

The iFiber Optix SC/APC Series Fiber Optic Connectors combine the familiar push-pull SC interface with an angled 8° APC ferrule end-face — delivering ultra-low

Small Form-factor Pluggable

Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module

APC, UPC, PC Fiber Connector Types Comparison and

What is an APC Connector? APC connector is the most widely used fiber connector type today. "APC" stands for Angled Physical Connect. The angle

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APC adapters and couplers for fibre optic connections

In this category, specialist retailers, installers and network operators will find fibre optic APC adapters and couplers for single-mode fibre optic connections (OS2, simplex).

Understanding SC/APC Fiber Optic Connectors: A

Discover everything you need to know about SC/APC fiber optic connectors in our comprehensive guide. Learn about their applications, benefits,

Fiber Optic Patch Cord

Fiber Optic Patch Cord In this category, you will find various duplex and simplex LC/SC/FC/ST/Uniboot LC/MDC fiber optic patchcords, which are used to

1X4 SC/APC Fiber Optic FTTH Splitter FBT Optical Coupler 1:4 SC APC ...

Compact and Easy Installation, The compact structure and standardized SC/APC interfaces make the splitter easy to handle, route, and install in splice closures, distribution cabinets, and optical terminal

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Understanding Fiber Connector Types ST SC LC FC

Detailed illustration of APC (Angled Physical Contact) fiber optic connector structure, showing angled ferrule alignment for minimized back reflection in high-precision

The FOA Reference For Fiber Optics

Fiber optic joints or terminations - where cables are terminated - are made two ways: 1) connectors that mate two fibers to create a temporary joint and/or

Fiber Optic Connector Adapters / Fiber Optic Connectors / Connectors ...

In addition to their connector-matching functionality, some fiber optic connector adapters feature an outer shroud or shield that provides increased environmental resistance. This added protection helps

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Fiber Optic Rotary Joints for defense and industrial rotating links—high isolation, low delta IL, IP67/IP68, MIL-STD tested.

FC/APC Fiber Connectors: Single Mode

The "APC" stands for "angled physical contact" because these connectors allow the surfaces of two connected fibers to be in direct contact with each other and

Pre-Terminated FTTH Flat Drop Cable | Manufacturer

Factory-assembled pre-terminated FTTH flat drop cable with SC/UPC or SC/APC connectors for fast plug. Wholesale from AIMIFIBER Fiber Optic Cable.

SC/APC Fiber Optic Adapter: A Beginner's Guide

Learn what an SC/APC Fiber Optic Adapter is, how it works, key specs, types, and how to choose the right one for your network.

SC/APC Fiber Optic Adapter: A Beginner's Guide

An SC/APC fiber optic adapter is a passive mechanical interface used to join two SC connectors that have angled physical contact (APC) ferrules,

Optical fiber connector

An optical fiber connector is a device used to link optical fibers, facilitating the efficient transmission of light signals. An optical fiber connector enables quicker

FI-7000 FiberInspector Pro Fiber Optic Inspection

Fluke Networks FI-7000 FiberInspector Pro fiber optic inspection scope featuring 1-second automated PASS/FAIL certification of fiber optic connector end-faces.

3M Fiber Optic Patch Cords and Pigtails

3MTM Fiber Optic Patch Cords and Pigtails 3MTM Patch Cords provide the interface between distribution cables and active optical equipment. Patch cords are offered in simplex and duplex cable

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