

Article Overview

An SC dual-ended (duplex) fiber optic coupler connects two SC-terminated fiber cables, supporting both single-mode and multimode fibers for reliable optical signal transmission.

Overview

An SC duplex coupler is designed to link two fiber optic cables with SC connectors, allowing for easy connection and disconnection without permanent splicing. It is commonly used in premise LANs, FTTH networks, and data centers where duplex fiber communication is required. Duplex couplers ensure proper alignment of fiber cores using ceramic or metal sleeves, minimizing insertion loss and maintaining high return loss.

Key Features

- o Connector Type: SC duplex (dual-ended) with push-pull coupling for secure connections.
- o Fiber Compatibility: Supports single-mode (SMF) and multimode fibers (OM1, OM2, OM3, OM4).
- o Sleeve Material: Zirconia ceramic sleeves for single-mode and high-performance multimode fibers; PhBr metal sleeves for OM1/OM2 multimode fibers.
- o Insertion Loss: Typically around 0.12 dB for single-mode and 0.15 dB for multimode, with return loss >50 dB for single-mode and >26 dB for multimode.
- o Housing: Precision-molded polymer housing ensures long-term mechanical and optical stability.
- o Mounting Options: Can be fixed using stainless steel quick-mount clamps or flanged versions with screw holes for secure installation.

Applications

- o Data Centers: High-density patching and network interconnections.
- o FTTH/FTTX Networks: Subscriber connections and optical distribution frames.
- o Premise LANs: Duplex fiber links for backbone or horizontal cabling.
- o Field Termination: Some SC duplex couplers allow field installation using epoxy or anaerobic adhesives for fast deployment.

Advantages

- o Easy Installation: Push-pull SC design allows quick connection and disconnection.
- o Reliable Alignment: Ceramic sleeves maintain precise fiber alignment under temperature changes and rough handling.



Fiber optic coupler SC dual-ended connection

o Versatility: Compatible with both simplex and duplex cable assemblies, supporting multiple fiber types .
o Standards Compliance: Meets IEC 61754-4, GR-326, TIA-568.3-D, and TIA-604-3 standards for optical performance . In summary, an SC dual-ended (duplex) fiber optic coupler is a versatile and reliable component for connecting SC-terminated fibers in both single-mode and multimode networks, providing low insertion loss, high return loss, and secure mechanical performance suitable for a wide range of networking applications .

Discover the differences between SC and LC adapter/coupler for singlemode and

Make sure you're choosing the correct fiber optic connector for peak performance. Learn more about fiber connector types in our guide.

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect

Get low-loss fiber optic adapters/couplers with good repeatability and durability for precisely mating two

Mouser offers inventory, pricing, & datasheets for SC Duplex Fiber Optic Connectors.

Connect an SC duplex multimode network cable to an SC Duplex multimode fiber optic network cable. Couplers are female to female.

Find out the difference among fiber optic connector types LC, ST, SC including which is push-pull, which uses a

Unlock the world of fiber optic networking with our comprehensive guide on SC Duplex

Meets or exceeds industry standards If you are looking for a reliable and cost-effective way to connect fiber optic cables in your

The DataPro 1442-FF coupler is a duplex multimode fiber optic adaptor with dual ST jacks at one end and dual SC jacks at the other.

Optical cable adapters/couplers to connect fiber optic patch cables in single mode or multimode ST, SC, LC, FC connectors.

Fiber optic coupler that allows the splicing of cables with the minimum possible loss. Allows splicing of multi-mode duplex (MM)



Fiber optic coupler SC dual-ended connection

ST - SC Duplex Multimode Fibre Adapter The ST - SC Duplex Multimode Fibre Adapter allows you to seamlessly connect two fiber

This coupler provides a simple and easy way to link together two fiber optic cables with SC connectors. Can be used with duplex or

Fiber optic couplers are optical devices that connect three or more fiber ends, dividing one input between two or more outputs, or

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