COETZER OPTICAL SYSTEMS (Pty) Ltd

Fiber Optic Cable Square Connector

Overview

Fiber optic connectors are used to connect two runs of fiber optic cable and consist of an adapter assembly and two plugs.

Key Takeaways

The SC (Subscriber Connector) is a square-shaped fiber optic connector with a push-pull mechanism, widely used in telecom and data networks for reliable, low-loss connections.Overview

The SC connector, also known as the square connector, standard connector, or subscriber connector, is a fiber optic connector designed for quick and reliable connections. It features a 2.5 mm ceramic ferrule that aligns the fiber cores precisely, ensuring minimal signal loss and high durability . Its push-pull latching mechanism allows easy insertion and removal, making it ideal for maintenance and flexible network configurations .

Design and Features
• Shape: Square or rectangular housing for compact and stable connections .

• Ferrule: 2.5 mm ceramic ferrule compatible with both single-mode and multi-mode fibers .

• Coupling Mechanism: Push-pull design with a locking tab to secure the cable .

• Durability: Rated for up to 1000 mating cycles with low insertion loss (~0.25 dB) and minimal reflection .

• Configurations: Available in simplex (single fiber) and duplex (two fibers for full-duplex communication) setups .
Applications

SC connectors are widely used in:

• FTTH (Fiber to the Home) deployments

• Telecom networks

• Data centers

• Gigabit Ethernet and GPON networks

• RF video transmission where low return loss is critical
Advantages
• Ease of use: Quick push-pull connection and disconnection

• Reliable performance: Low insertion loss and high return loss

• Durable: Long-lasting ceramic ferrule and robust housing

• Standardized: Conforms to TIA/EIA 568B.3 standards, ensuring compatibility across equipment
Comparison to Other Connectors
• LC Connector: Smaller 1.25 mm ferrule, ideal for high-density applications

• ST Connector: Twist-on mechanism, less common in modern networks

• SC remains popular for its simplicity, durability, and ease of installation, though LC connectors are preferred in high-density environments . The SC connector has been a dominant fiber optic connector since its development by NTT in the mid-1980s and continues to be widely used due to its reliability and standardized design .

Article Content

Fiber Connectors

Fiber Optic Cable Connectors are used to connect two runs of fiber optic cable. The most popular versions include, push-on Square

1 Pack FC Bare Fiber Optic Adapter Square Fiber Coupler Connector

These products fit for optical fiber accessories required for building optical fiber networks, optical communication system, optical

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A fiber optic connector is a mechanical device used to align and join optical fibers, enabling light to pass through with

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About this item □Package includes□1 Pack FC Bare Fiber Optic Adapter. □Material□ Made of high-quality metal, good corrosion

Fiber Connectors

Hardened Fiber Optic Connectors (HFOC), for outdoor use, became popular in the United States for FTTH applications in the early

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Fiber optic connectors are an essential component of any fiber optic network, allowing for the connection and transmission of optical

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