

Optical Fiber Adapter

TECHNICAL DATA SHEET

SC Adapter SM-DX-APC 2.5 mm SMF



## **SC Adapter SM-DX-APC 2.5 mm**

### **Product Description:**

The SC Adapter SM-DX-APC 2.5 mm Single Mode Fiber (SMF) is a high-precision fiber optic adapter designed to connect two SC/APC duplex single-mode fiber optic connectors with minimal insertion loss and superior return loss performance.



It features a precision zirconia ceramic alignment sleeve that ensures accurate fiber core alignment and stable optical transmission. The APC (Angled Physical Contact) polish minimizes back reflection, making this adapter ideal for high-speed optical communication systems, FTTH deployments, CATV networks, and telecom infrastructure.

The duplex configuration supports simultaneous transmit and receive (Tx/Rx) communication for efficient bidirectional optical connectivity.

### **Features:**

- SC/APC duplex single-mode adapter
- Precision zirconia ceramic alignment sleeve
- Duplex configuration for simultaneous Tx/Rx communication
- Low insertion loss and high return loss
- Excellent back reflection performance
- Snap-in installation for patch panels and ODFs
- High durability and repeatability

**Applications:**

- FTTH (Fiber to the Home)
- CATV optical systems
- Telecom and communication networks
- Data centers and enterprise networks
- Optical Distribution Frames (ODF)
- Fiber patch panels and structured cabling systems

**Benefits:**

- Ensures precise fiber core alignment
- Minimizes optical attenuation and back reflection
- Improves network reliability and transmission quality
- Supports stable high-speed optical communication
- Ideal for FTTH and CATV applications requiring APC performance
- Easy installation and maintenance
- Suitable for high-density fiber environments
- Long operational lifespan with stable performance

## Technical Specifications:

Parameter	Specification
Connector Type	SC Duplex (DX)
Fiber Type	Single Mode (SMF 9/125 $\mu\text{m}$ )
Ferrule Size	2.5 mm (SC Standard)
Polish Type	APC (8° Angled Physical Contact)
Insertion Loss	$\leq 0.2$ dB (Typical), $\leq 0.3$ dB Max
Return Loss	$\geq 60$ dB (APC)
Alignment Sleeve	Zirconia Ceramic
Mating Durability	$\geq 1000$ Cycles
Repeatability	$\leq 0.2$ dB Variation
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Humidity	Up to 95%
Compliance Standards	IEC 61754-4, TIA/EIA 604-3
RoHS Compliance	Yes
Color	Green (APC Identification)

## Environmental Specifications:

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Relative Humidity	Up to 95%
Flame Rating	UL94-V0 (Optional)
Vibration Resistance	Stable Optical Performance Under Vibration
Shock Resistance	High Mechanical Durability
Dust Protection	With Dust Caps
Corrosion Resistance	Resistant to Corrosion and Moisture
Indoor / Outdoor Use	Primarily Indoor Applications
RoHS Compliance	Yes