

Optical Fiber Adapter

TECHNICAL DATA SHEET

SC Adapter SM-DX-UPC 2.5mm SMF



SC Adapter MM-OM4-SX-UPC 2.5mm

Product Description:

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



It features a precision zirconia ceramic alignment sleeve that ensures accurate fiber alignment and stable signal transmission. The duplex configuration supports simultaneous transmit and receive (Tx/Rx), making it ideal for telecom networks, FTTH systems, data centers, and optical distribution applications.

Features:

- SC/UPC duplex single-mode adapter
- Precision zirconia ceramic alignment sleeve
- Duplex configuration for simultaneous Tx/Rx communication
- Low insertion loss and stable optical performance
- Snap-in installation for patch panels and ODFs
- High durability and repeatability
- Compact lightweight design

Applications:

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

Benefits:

- Ensures accurate fiber core alignment
- Minimizes optical attenuation and signal loss
- Supports stable high-speed data transmission
- Improves network reliability and efficiency
- Easy installation and maintenance
- Suitable for high-density fiber environments
- Durable construction for long operational lifespan



Technical Specifications:

Parameter	Specification
Connector Type	SC Duplex (DX)
Fiber Type	Single Mode (SMF 9/125 μm)
Ferrule Size	2.5 mm (SC Standard)
Polish Type	UPC (Ultra Physical Contact)
Insertion Loss	≤ 0.2 dB (Typical), ≤ 0.3 dB Max
Return Loss	≥ 50 dB (UPC)
Alignment Sleeve	Zirconia Ceramic
Mating Durability	≥ 1000 Cycles
Repeatability	≤ 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	Blue (UPC 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