

FC/APC(male) To FC/UPC(Female)

SM-9/125 Single-mode Fiber Hybrid Adapter



1. Product DeFcription

This hybrid fiber adapter provides an interface conversion between an FC/APC male connector and an FC/UPC Female connector for single-mode 9/125 μm optical fiber systems. It is designed for low insertion loss and high return loss performance, and is widely used in FTTH networks, optical test instruments, CATV links, and telecommunication transmission systems.

2. Optical Specifications

Parameter	Wavelength	Specification	Unit
Insertion Loss (Typ.)	1310 nm	≤ 0.3	dB
Insertion Loss (Typ.)	1550 nm	≤ 0.3	dB
Return Loss	1310 nm	≥ 55	dB
Return Loss	1550 nm	≥ 55	dB
Operating Wavelength Range	—	1260 – 1650	nm

3. Mechanical & General Specifications

Item	Specification
Fiber Type	Single-mode (SM) 9/125 μm
Connector A (Input)	FC/APC — Male
Connector B (Output)	FC/UPC — Female
Ferrule Material	Zirconia Ceramic
Housing Material	Plastic (ABS / PC blend)
Insertion / Extraction Force	$\leq 30\text{ N}$
Durability (Mating Cycles)	≥ 1000 cycles
Tensile Strength	$\geq 50\text{ N}$

4. Environmental Specifications

Parameter	Condition	Value
Operating Temperature	—	-25 °C ~ +70 °C
Storage Temperature	—	-40 °C ~ +85 °C
Relative Humidity	Non-condensing	$\leq 95\%$ RH
Vibration	10 – 55 Hz, 1.5 mm amplitude	No damage
Temperature Cycling	-25 °C $\leftrightarrow$ +70 °C, 5 cycles	IL change $\leq 0.2\text{ dB}$

5. Typical Applications

- FTTH (Fiber to the Home) access networks
- Optical fiber test and measurement instruments
- CATV and optical communication transmission systems
- Local area networks (LAN) and data centers
- Patch panel and equipment interface conversion

6. Ordering Information

Part Number	DeFCription	Fiber	Connector
JW-FCUPC-FCAPC-SM	FC/APC(M) to FC/UPC(F) Hybrid Adapter	SM 9/125	FC/UPC ♀ $\leftrightarrow$ FC/APC ♂

7. Notes

1. All specifications are measured at $23 \pm 2\text{ °C}$ unless otherwise stated.
2. Insertion loss values are typical; maximum values may be specified upon request.
3. Specifications are subject to change without prior notice.