

Patchcord Duplex FC/PC-SC/APC | FiberHK

 fiberhk.com/product_fhk/patchcord-duplex-fc-pc-sc-apc



Patchcord Duplex FC/PC-SC/APC

Sales No. PC-DX-FCP-SCA

Manufacturer: FiberHK

Product Category: Patchcord | Duplex

Precision Engineered Fiber Optic Solutions

FHK operates a state-of-the-art cable assembly facility specializing in the manufacture of high-performance patch cords and pigtails. Utilizing premium-grade connectors and optical cables, each assembly undergoes

Rigorous Testing

IEC-compliant optical performance validation

Traceable Quality

Unique ID with certified test reports

Standardized Production

ISO-certified manufacturing processes

Features

- Configuration Options: Simplex & duplex patch cords
- Cable Specifications: PVC/LSZH jackets with $\varnothing 0.9/2.0/3.0$ mm diameters
- Fiber Types:
 - Single-mode: OS2 (G.652D/G.657):
 - Multimode: OM1/OM2/OM3/OM4/OM5
- Compliance: RoHS, REACH
- Certification: IEC 61300 / IEC 61753 / TIA-568.3-D
- Connectors: SC/LC/FC/ST/MU/MPO (UPC/APC polish)
- Performance: ≤ 0.3 dB IL, -40°C to $+85^{\circ}\text{C}$ operating range

Applications

- Telecom Infrastructure: 5G fronthaul, FTTH, OLT connections
- Cloud Data Centers: Spine-leaf architecture, 400G Ethernet
- Broadcast & Media: 4K/8K video production, OB vans
- Industrial Automation: PLC networks, robotic cells
- Enterprise Networks: Campus backbones, PoE++ systems
- Test Laboratories: Optical component validation
- Defense Systems: Secure comms, drone command links
- Medical Imaging: Endoscopy, laser surgery systems
- Smart Transportation: Traffic management, V2X comms

General Mechanical Specifications for Fiber Optic Patch Cords

Parameter	Single Mode (SM)	Multimode (MM)	Test Standard
Insertion Loss	≤0.3 dB	≤0.3 dB	IEC 61300-3-4
Return Loss	≥50 dB (PC/UPC)	≥35 dB (OM3/OM4)	IEC 61300-3-6
	≥60 dB (APC)	≥30 dB (OM1)	
Repeatability	≤0.1 dB	≤0.1 dB	IEC 61300-3-28
Durability	≤0.2 dB change (500 matings)	≤0.2 dB change (500 matings)	IEC 61300-3-28
Interchangeability	≤0.2 dB	≤0.2 dB	IEC 61300-3-32
Tensile Strength	>100 N (SC/FC/ST)	>100 N (SC/FC/ST)	IEC 61300-3-12
	>80 N (LC/MU)	>80 N (LC/MU)	
Operating Temperature	-40°C ~ +85°C	-40°C ~ +85°C	IEC 61753-1
Bend Radius	≥30 mm (static)	≥30 mm (static)	IEC 61753-1
	≥15 mm (dynamic)	≥15 mm (dynamic)	

1. LC/MU connectors have lower tensile strength due to miniaturized design.
2. APC connectors require higher return loss (≥60 dB).
3. Test conditions: 1310/1550nm (SM), 850/1300nm (MM), 45-75% RH.

Special Specifications for MPO/MTP Connectors

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
Insertion Loss	≤0.5 dB	≤0.5 dB	Average of 12/24 fibers
Core-to-Core Variation	≤0.3 dB	≤0.3 dB	Loss deviation within connector
Alignment Accuracy	≤1.0 μm	≤1.5 μm	Guide pin precision (IEC 61754-7)
Mating Force	≤40 N	≤40 N	With push-pull housing
End Face Geometry	Radius: 10-25 mm	Same as left	3D interferometry (IEC 61300-3-35)
	Apex Offset: ≤50 μm		

Additional Specifications for Pigtailed

Parameter	Requirement	Test Method
Fusion Splice Strength	>1.0 GPa	IEC 60793-1-31
Bare Fiber Length	1.0±0.1 m (Up to 3m customized)	N/A
Coating Diameter	245±10 μm (Standard)	IEC 60793-1-20

Parameter	Requirement	Test Method
Thermal Aging	≤0.1 dB change (85°C/85%RH, 500h)	IEC 61300-2-42
End Face Scratches	Max Scratch: ≤5 μm	Microscopy (IEC 61300-3-35)

Key Differences by Connector Type

Type	Ferrule Diameter	Mating Cycles	IP Rating	Typical Applications	Locking Mechanism
E2000	Ø1.25 mm	>500	IP68	Data Centers and Cloud Computing Infrastructure	Push-pull latch
LC	Ø1.25 mm	>500	IP40	High-density (SFP modules)	Latch
SC	Ø2.5 mm	>1,000	IP50	Data centers/Telecom	Push-pull
FC	Ø2.5 mm	>1,000	IP67	High-vibration environments	Threaded
MPO	6.4×2.4 mm	>500	-	40G/100G SR4 modules	Push-pull with guide pins
MU	Ø1.25 mm	>500	-	Japan market	Push-pull
ST	Ø2.5 mm	>500	IP54	Legacy networks	Bayonet

Critical Notes Table

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
Insertion Loss	≤0.5 dB	≤0.5 dB	Average of 12/24 fibers
Core-to-Core Variation	≤0.3 dB	≤0.3 dB	Loss deviation within connector
Alignment Accuracy	≤1.0 μm	≤1.5 μm	Guide pin precision (IEC 61754-7)
Mating Force	≤40 N	≤40 N	With push-pull housing
End Face Geometry	Radius: 10-25 mm Apex Offset: ≤50 μm	Same as left	3D interferometry (IEC 61300-3-35)

Availability

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
Insertion Loss	≤0.5 dB	≤0.5 dB	Average of 12/24 fibers
Core-to-Core Variation	≤0.3 dB	≤0.3 dB	Loss deviation within connector
Alignment Accuracy	≤1.0 μm	≤1.5 μm	Guide pin precision (IEC 61754-7)

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
Mating Force	≤40 N	≤40 N	With push-pull housing
End Face Geometry	Radius: 10-25 mm Apex Offset: ≤50 μm	Same as left	3D interferometry (IEC 61300-3-35)

Purchase Information

Product Type	Fiber Type	Fiber Spec	Structure	Conn A	Polish A	Conn B	Polish B	Diam (mm)	Length	Example Code
Patch cord	SM	9/125	Simplex	E2000	APC	E2000	APC	0.9	0.5M 1M	PC-SM-SX-SCA-SCA-09-1M
	MM	50/125	Duplex	FC	UPC	FC	UPC	2.0	1.5M 2M	
		62.5/125		LC	PC	LC	PC	3.0	3M 5M	
				MPO		MPO			10M 20M	
				MU		MU			25M 30	
				SC		SC			Custom lengths available	
				ST		ST				

Product Type	Fiber Type	Fiber Spec	Structure	Conn A	Polish A	Tail End	Diam (mm)	Length	Example Code
Pigtail	SM	9/125	Simplex	E2000	APC	BF	0.9	0.5M 1M	PT-SM-SX-SCA-BF-09-1M
	MM	50/125	Duplex	FC	UPC		2.0	1.5M 2M	
		62.5/125		LC	PC	3.0	3M 5M		
				MPO				10M 20M	
				MU				25M 30	
				SC				Custom lengths available	
				ST					

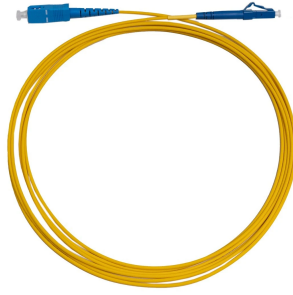


FAQ

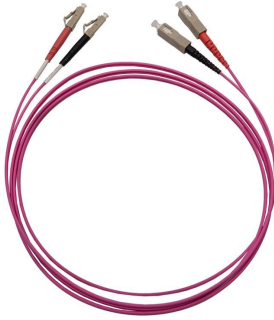


Send us your message

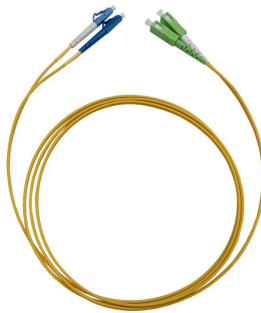
Associated Products



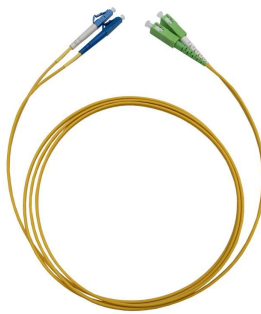
SC Series



SC Series



SC Series



SC Series