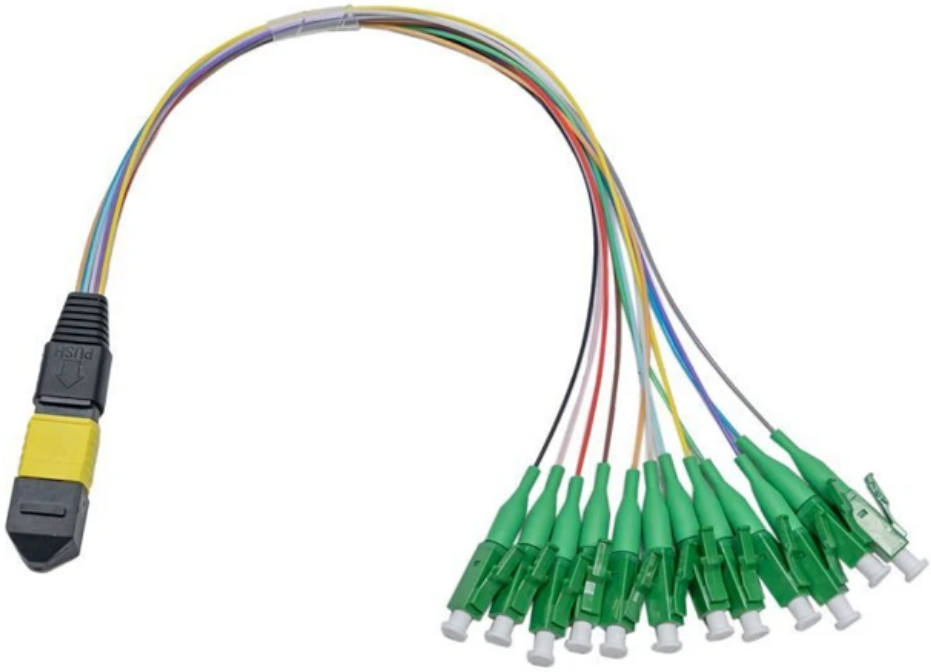
Patchcord MPO/APC-LC/APC-12

fiberhk.com/product_fhk/patchcord-mpo-apc-lc-apc-12/



Patchcord MPO/APC-LC/APC-12
Sales No. PC-MPOA-LCA-12
Manufacturer: FiberHK
Product Category: Patchcord | 12

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 Ø0.9/2.0/3.0mm 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: ≤0.3dB IL, -40°C to +85°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

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
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 Pigtails

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
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

Parameter	Single Mode (SM)	Multimode (MM)	Key Requirement
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		

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)
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		

Purchase Information

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

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

Product Specification (PDF)

PRODUCT COMPLIANCE STATEMENT

CONFLICT MINERALS POLICY

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FAQ
▶
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