
Fiber Patch Cables

They provide interconnect and cross-connect of applications over data centers, telecommunication networks, and enterprise environments



Fiber Patch Cables

Pre-terminated cables allow for the implementation of complete Plug & Play solutions to install even large cabling systems rapidly. The bend-insensitive fiber patch cable has less attenuation when bent or twisted compared with traditional fiber patch cable, making the installation and maintenance more efficient. Fiber patch cables provide interconnect and cross-connect of applications in entrance facilities, telecommunications rooms, data centers, at the desk and network applications to interconnect pre-terminated fiber cassettes in main distribution, horizontal distribution, and equipment distribution areas.

Features

- Available in LC/SC/FC/ST/LSH/MU/MTRJ Connectors
- Duplex Zipcord Construction Reduces Risk of Damage from Crimping
- Precision Zirconia Ferrule Connectors Ensure Low Loss
- Bend-insensitive Fiber Allows Tighter Cable Bends for Slack Storage and Routing
- Available in OS2, OM1, OM2, OM3, OM4, and OM5 Fiber
- Available in Riser (OFNR), Plenum (OFNP) and LSZH Cable Jacket
- Available in 0.9/1.2/1.6/1.8/2.0/3.0mm Cable Outside Diameter
- Available in Yellow, Aqua, Orange, Green, and so on Cable Colors
- Optical Testing Ensures Network Performance

Standards Compliance

Component	Governing Body	Standard Code
Cable	IEC, YD/T	60794-2-10, 1258.2
Connectors	IEC	61300-3-35, 61754-4, 61754-15
Single Mode Fiber	IEC	60793-2-50
Multimode Fiber	IEC	60793-2-10
Fiber and Connectors	RoHS	2011/65/EU

Transmission Distance

Data Rate	Interface Type	Fiber Mode	Wavelength	Maximum Distance
1G	1000BASE-LX	OS2	1310nm	10km
		OM5	850nm	550m
		OM4	1300nm	550m
		OM3	1300nm	550m
		OM2	1300nm	550m
		OM1	1300nm	550m
	1000BASE-SX	OM4	850nm	550m
		OM3	850nm	550m
		OM2	850nm	550m
		OM1	1300nm	275m
10G	10GBASE-SR	OM4	850nm	400m
		OM3	850nm	300m
		OM2	850nm	82m
		OM1	850nm	33m
	10GBASE-LRM	OM5	850nm	220m
		OM3	1300nm	220m
		OM2	1300nm	220m
		OM1	1300nm	220m
	10GBASE-LR	OS2	1310nm	10km
	10GBASE-ER	OS2	1550nm	30-40km
	10GBASE-ZR	OS2	1550nm	80-100km

Data Rate	Interface Type	Fiber Mode	Wavelength	Maximum Distance
40G	40G-BIDI	OM5	850nm	200m
		OM4	850nm	150m
		OM3	850nm	100m
	40GBASE-SR4	OM5	850nm	150m
		OM4	850nm	150m
		OM3	850nm	100m
	40G-SWDM4	OM5	850nm	440m
		OM4	850nm	350m
		OM3	850nm	240m
	40GBASE-LR4	OS2	1310nm	10km
100G	100GBASE-SR4	OM5	850nm	100m
		OM4	850nm	100m
		OM3	850nm	70m
	100G-SWDM4	OM5	850nm	150m
		OM4	850nm	100m
		OM3	850nm	75m
	100GBASE-SR10	OM4	850nm	125m
		OM3	850nm	100m
	100GBASE-LR4	OS2	1310nm	10km
	100GBASE-ER4	OS2	1310nm	40km

Construction

Connector Type				
Connector A	LC, SC, ST, FC, LSH, MU, MTRJ			
Connector B	LC, SC, ST, FC, LSH, MU, MTRJ			
Fiber Count	1 Fiber (Simplex), 2 Fibers (Duplex)			
Polish Type	UPC, APC			
Jacket Color				
OS2	Yellow			
OM5	Lime Green			
OM4/OM3	Aqua			
OM2/OM1	Orange			
Connector Color	LC	SC	ST	FC
Single Mode	Blue (UPC) Green (APC)	Blue (UPC) Green (APC)	Black (UPC) Green (APC)	Black (UPC) Green (APC)
Multimode	Beige	Beige	Black	Black

	LC	SC	ST	FC
OS2 (UPC)				
OS2 (APC)				
OM5				
OM4/OM3				
OM2/OM1				

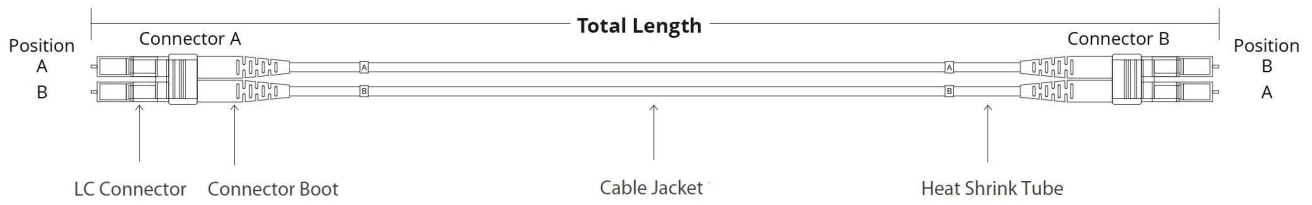
Fiber Optic Connectors Guidance

Connectors	Appearance	Long Form	Typical Applications
LC		Lucent Connector Little Connector Local Connector	<ul style="list-style-type: none"> • High-density applications (data centers, SFP/SFP+ modules) • Telecom and enterprise networks • FTTH (Fiber to the Home)
SC		Subscriber Connector Square Connector Standard Connector	<ul style="list-style-type: none"> • Datacom & telecom networks • PON (Passive Optical Networks) • CATV (Cable TV) and GPON
ST		Straight Tip	<ul style="list-style-type: none"> • Older LAN/WAN installations • Industrial applications (rugged design) • Legacy multimode fiber systems
FC		Ferrule Connector Fiber Channel	<ul style="list-style-type: none"> • High-vibration environments (industrial) • Test & measurement equipment • Early single-mode telecom systems
LSH		Low-Shrinkage-Hybrid	<ul style="list-style-type: none"> • Less telecom and datacom uses • Specialized applications requiring low shrinkage
MU		Miniature Unit	<ul style="list-style-type: none"> • Japanese telecom systems • High-density patch panels • Optical switches & transceivers
MTRJ		Mechanical Transfer Registered Jack	<ul style="list-style-type: none"> • Enterprise LANs (early 2000s) • Duplex multimode connections • Space-constrained environments

Performance Characteristics

	OS2	OM5/OM4/OM3/OM2	OM1
Fiber Core Diameter	9/125µm	50/125µm	62.5/125µm
Wavelength	1310/1550nm	850/1300nm	
Fiber Grade	G.657.A1, G.657.A2	Bend Insensitive	G.651
Min. Bend Radius (Optical Fiber)	10mm (G.657.A1) 7.5mm (G.657.A2)	7.5mm	15mm
Min. Bend Radius (Fiber Cable)	10/5D (Dynamic/Static)		20/10D (Dynamic/Static)
Cable Jacket	Riser (OFNR), Plenum (OFNP), LSZH		
Cable Outside Diameter	0.9mm (Simplex), 1.2mm, 1.6mm, 1.8mm (MTRJ), 2.0mm, 3.0mm		
Cable Type	Tight-Buffered		
Connector Durability	1000 times		
Tensile Strength (Long/Short Term)	90/150N (Duplex), 60/100N (Simplex)		
Insertion Loss	≤0.30dB (Standard), ≤0.12dB (Grade B), ≤0.08dB (Ultra Low Loss)		
Return Loss	UPC/APC≥50/60dB UPC/APC≥55/75dB (LSH)	UPC≥30dB UPC≥35dB (MTRJ)	
Attenuation at 1310nm	≤0.4dB/km	-	-
Attenuation at 1550nm	≤0.3dB/km	-	-
Attenuation at 850nm	-	≤3.5dB/km	
Attenuation at 1300nm	-	≤1.5dB/km	
Operating Temperature	Plenum (OFNP): -10 to 60°C (14 to 140°F) Riser (OFNR)/LSZH: -10 to 70°C (14 to 158°F)		
Storage Temperature	Plenum (OFNP): -10 to 70°C (14 to 158°F) Riser (OFNR)/LSZH: -20 to 70°C (-4 to 158°F)		

Fiber Patch Cables Options



Cable Length Tolerances

Cable Length	Duplex/Simplex
≤0.5m	+5cm/-0cm
0.5m < L ≤ 5m	+10cm/-0cm
5m < L ≤ 10m	+15cm/-0cm
10m < L ≤ 30m	+20cm/-0cm
30m < L ≤ 100	+1%/-0cm
> 100m	+1.5%/-0cm

Standard Fiber Patch Cables Options

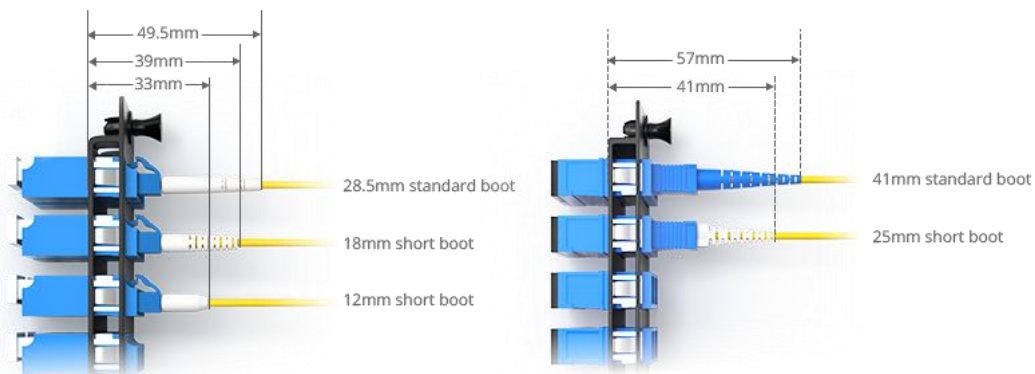
Fiber Type	Fiber Count	Connector A	Connector B	Cable Jacket	Cable Diameter	Cable Color
• OS2	• Simplex	• LC UPC	• LC UPC	• Riser (OFNR)	• 0.9mm	• Yellow
• OM5	• Duplex	• SC UPC	• SC UPC	• LSZH	• 1.2mm	• Aqua
• OM4		• FC UPC	• FC UPC	• Plenum (OFNP)	• 1.6mm	• Black
• OM3		• ST UPC	• ST UPC		• 1.8mm	• Blue
• OM2		• LSH UPC	• LSH UPC		• 2.0mm	• Brown
• OM1		• MU UPC	• MU UPC		• 3.0mm	• Green
		• LC APC	• LC APC			• Orange
		• SC APC	• SC APC			• Red
		• FC APC	• FC APC			• Rose
		• ST APC	• ST APC			• Slate
		• LSH APC	• LSH APC			• Violet
		• MTRJ UPC Female	• MTRJ UPC Female			• White
		• MTRJ UPC Male	• MTRJ UPC Male			

Grade B Fiber Patch Cables Options

Fiber Type	Fiber Count	Connector A	Connector B	Cable Jacket	Cable Diameter	Cable Color
• OS2	• Simplex	• LC UPC	• LC UPC	• Riser (OFNR)	• 0.9mm	• Yellow
		• SC UPC	• SC UPC		• LSZH	• 1.2mm
	• Duplex	• FC UPC	• FC UPC	• Plenum (OFNP)	• 1.6mm	• Black
		• MU UPC	• MU UPC		• 2.0mm	• Blue
		• LC APC	• LC APC		• 3.0mm	• Brown
		• SC APC	• SC APC		• Green	
		• FC APC	• FC APC		• Orange	
		• Red				
		• Rose				
		• Slate				
		• Violet				
	• White					

Short Boot Fiber Patch Cables Options

Fiber Type	Fiber Count	Connector A/B	Cable Jacket	Cable Diameter	Cable Color
• OS2	• Simplex	• LC UPC with Standard Boots	• Riser (OFNR)	• 0.9mm	• Yellow
• OM4	• Duplex	• LC UPC with 12mm Short Boots	• LSZH	• 1.2mm	• Aqua
• OM3		• LC UPC with 18mm Short Boots	• Plenum (OFNP)	• 1.6mm	• Black
		• SC UPC with Standard Boots		• 2.0mm	• Blue
		• SC UPC with 25mm Short Boots	• 3.0mm	• Brown	
		• LC APC with Standard Boots	• Green		
		• LC APC with 12mm Short Boots	• Orange		
		• LC APC with 18mm Short Boots	• Red		
		• SC APC with Standard Boots	• Rose		
		• SC APC with 25mm Short Boots	• Slate		
			• Violet		
		• White			



Ultra Low Loss Fiber Patch Cables Options

Fiber Type	Fiber Count	Connector A	Connector B	Cable Jacket	Cable Diameter	Cable Color
• OM4	• Simplex	• LC UPC	• LC UPC	• Riser (OFNR)	• 0.9mm	• Yellow
• OM3	• Duplex	• SC UPC	• SC UPC	• LSZH	• 1.2mm	• Aqua
• OM2		• FC UPC	• FC UPC	• Plenum (OFNP)	• 1.6mm	• Black
		• ST UPC	• ST UPC		• 2.0mm	• Blue
					• 3.0mm	• Brown
						• Green
						• Orange
						• Red
						• Rose
						• Slate
						• Violet
						• White

Note:

- 0.9mm cable diameter just for simplex (1 Fiber) fiber patch cables.
- 1.8mm cable diameter just for MTRJ connector.
- APC polish type just for OS2 fiber patch cables.
- When one end of the short boot fiber patch cable is a standard boot, the other end can only be a short boot.
- Fiber patch cables have no polarity for simplex and default A-B polarity for duplex. In addition, OS2/OM4/OM3 can customize A-A polarity.

