

FIBER OPTIC PRODUCTS

CATALOGUE

Optical fiber can be used as a medium telecommunication for and computer networking because it is flexible and can be bundled as cables.

It is especially advantageous for longdistance communications, because light propagates through the fiber with little attenuation compared to electrical cables.

This allows long distances to be spanned with few repeaters.

CONNECTORS **ADAPTERS** ATTENUATORS OTHERS

PIGTAIL

This catalogue introduces all basic information of each fiber optic components.

"HIGH-CAPACITY FIBER OPTIC NETWORKS WILL BE THE INFORMATION SUPERHIGHWAYS OF TOMORROW!"



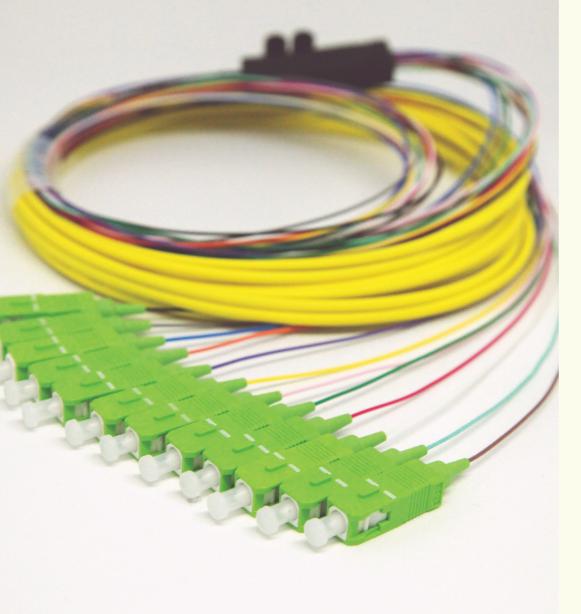
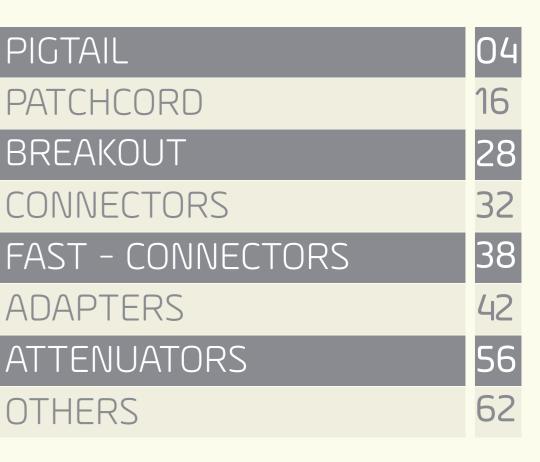
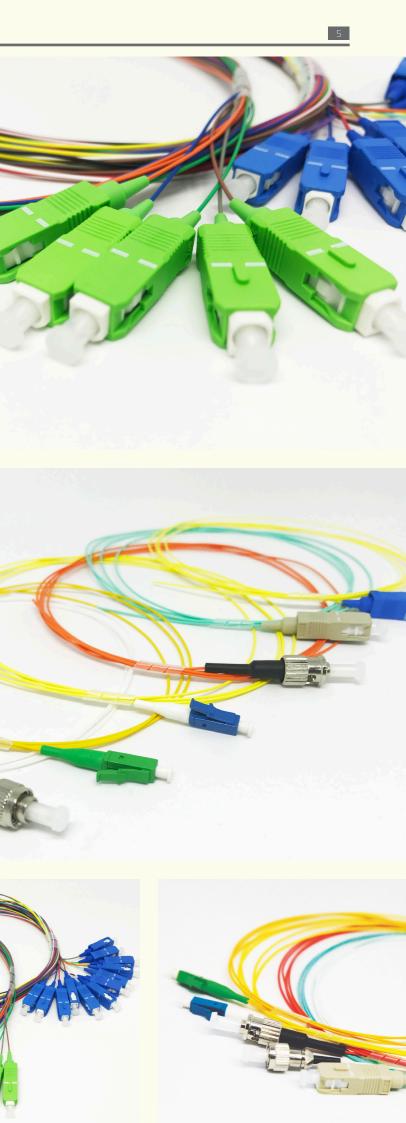


TABLE OF CONTENTS



YOU HAVE TO MAKE IT **DIFFERENT!**

DEFAILS



A fiber pigtail is a single, short optical fiber that has an optical connector preinstalled on one end and a length of exposed fiber at the other end

SC/UPC SINGLEMODE



SC/UPC MULTIMODE



SC/APC



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.
- -Polishing type: UPC and APC
- G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- Available as tight-buffer, semi-tight buffer or easy strop/ loose tube.
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM

A fiber pigtail is a single, short optical fiber that has an optical connector preinstalled on one end and a length of exposed fiber at the other end

LC/UPC SINGLEMODE



LC/UPC MULTIMODE



LC/APC



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.

-Polishing type: UPC and APC

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.

- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.

- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).

- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)

A fiber pigtail is a single, short optical fiber that has an optical connector preinstalled on one end and a length of exposed fiber at the other end.

FC/UPC SINGLEMODE



FC/APC SINGLE MODE



FC/UPC MULTIMODE



MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.
- -Polishing type: UPC and APC
- Available as tight-buffer, semi-tight buffer orr easy strop/ loose tube.
- Cable outer diameter (0.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors and length) and dust cap (color, shape)

OPTICAL PROPERTIES

- Maximum IL:
- Typical IL:
- Return Loss:

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.

SM <= 0.20dbB MM: <= 0.30dB

SM <= 0.15dbB MM: <= 0.20dB

SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

A fiber pigtail is a single, short optical fiber that has an optical connector preinstalled on one end and a length of exposed fiber at the other end

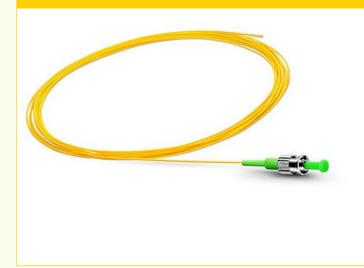
ST/UPC SINGLEMODE



ST/UPC MULTIMODE



ST/APC SINGLE MODE



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

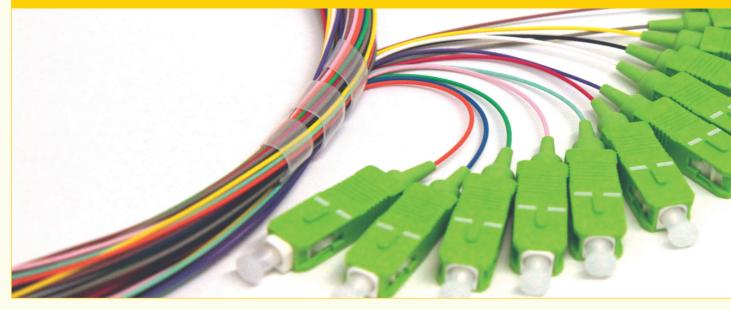
MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.
- -Polishing type: UPC and APC
- G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM

A fiber pigtail is a single, short optical fiber that has an optical connector preinstalled on one end and a length of exposed fiber at the other end.

MULTICOLOR PIGTAIL



OUTDOOR PIGTAIL



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.

-Polishing type: UPC and APC

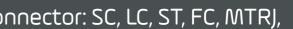
- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.

- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.

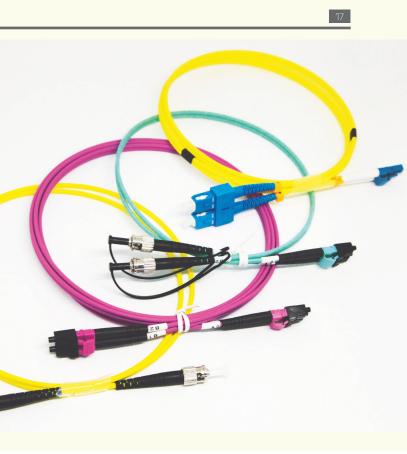
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).

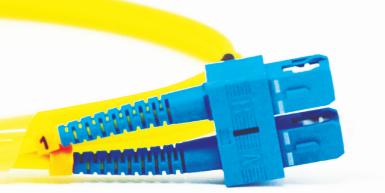
- Any length

- Available in 6 or 12 color bundles. - Several boots (colors, length) and dust cap (color, shape)



PATER CORD CONNENS

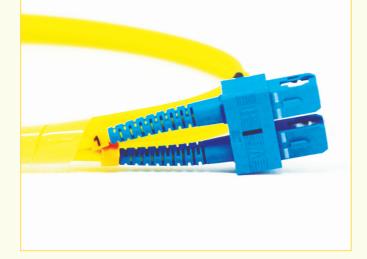






A fiber optic patch cord a fiber optic cable capped at either end with connectors that allow it to be rapidly and conveniently connected to CATV, an optical switch or other telecommunication equipment.

SC/UPC SINGLEMODE







SC/APC SINGLEMODE



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

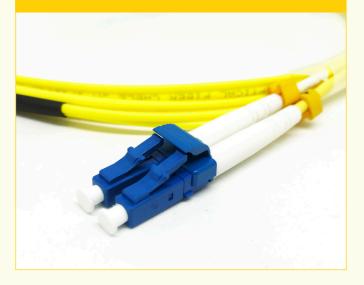
- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.
- -Polishing type: UPC and APC
- G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)



- Any type of fiber: SM G652D, SM G655, SM G657A1, SM

A fiber optic patch cord a fiber optic cable capped at either end that connectors with allow it to be rapidly and conveniently connected to CATV, an optical switch or other telecommunication equipment.

LC/UPC SINGLEMODE





LC/APC SINGLEMODE



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.
- -Polishing type: UPC and APC
- G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM

A fiber optic patch cord a fiber optic cable IS capped at either end that connectors with allow it to be rapidly and conveniently connected to CATV, an optical switch or other telecommunication equipment.

FC/APC SINGLEMODE



FC/UPC SINGLEMODE



FC/UPC MULTIMODE



MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU. -Polishing type: UPC and APC
- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- loose tube.
- duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors and length) and dust cap (color, shape)

OPTICAL PROPERTIES

- Maximum IL: - Typical IL:
- Return Loss:

- Available as tight-buffer, semi-tight buffer orr easy strop/

- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or

SM <= 0.20dbB MM: <= 0.30dB

SM <= 0.15dbB MM: <= 0.20dB

SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

A fiber optic patch cord a fiber optic cable capped at either end connectors that with allow it to be rapidly and conveniently connected to CATV, an optical switch or other telecommunication equipment.

ST/UPC SINGLEMODE



MTRJ

ST/UPC MULTIMODE



OPTICAL PROPERTIES

- Maximum IL: SM <= 0.20dB MM: <= 0.30dB

- Typical IL: SM <= 0.15dB MM: <= 0.20dB

- Return Loss: SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU.

-Polishing type: UPC and APC

- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.

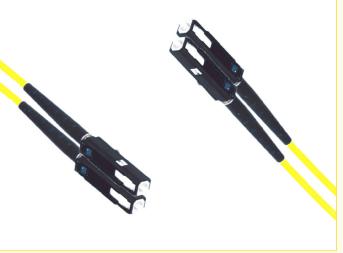
- Available as tight-buffer, semi-tight buffer orr easy strop/loose tube.

- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available. -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).

- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors, length) and dust cap (color, shape)



MU/UPC



A fiber optic patch cord a fiber optic cable is capped at either end that connectors with allow it to be rapidly and conveniently connected to CATV, an optical switch or other telecommunication equipment.

MPO



FLAT TWIN



ARMOURED

MAIN FEATURES

- Available with any type of connector: SC, LC, ST, FC, MTRJ, MU. -Polishing type: UPC and APC
- Any type of fiber: SM G652D, SM G655, SM G657A1, SM G657A2, SM G657B3, MM OM1, MM OM2, MM OM3, MM OM4.
- loose tube.
- Cable outer diameter (O.D): 0.9mm, 2.0mm, 3.0mm (simplex or duplex zipcord), customized O.D. available.
- -Jacket available in LSZH (Low Smoke Zero Halogen), LSZH-FH (Flame Retardant UL94 V=0), PE or PVC Riser/Plenum (flame-retardant PVC).
- Any length
- Available in 6 or 12 color bundles.
- Several boots (colors and length) and dust cap (color, shape)

OPTICAL PROPERTIES

- Maximum IL:
- Typical IL:
- Return Loss:

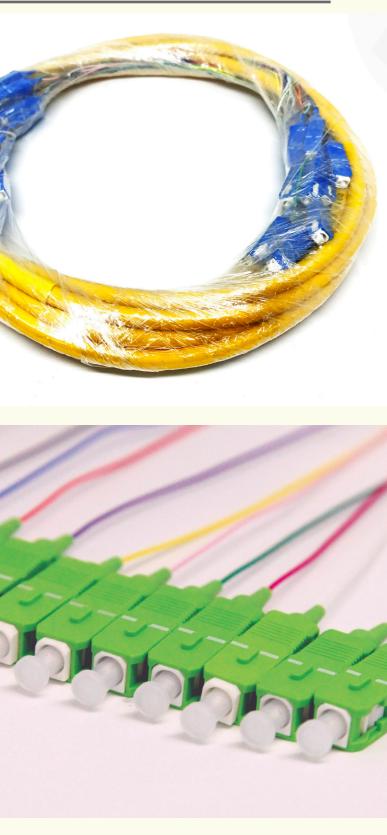
- Available as tight-buffer, semi-tight buffer orr easy strop/

SM <= 0.20dbB MM: <= 0.30dB

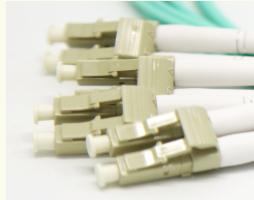
SM <= 0.15dbB MM: <= 0.20dB

SM(UPC) >= 55.0 dB, (APC) >= 60.0dB.

BREAKOUT







BREAKOUT

Breakout fiberoptic cable is an optical fiber cable containing several jacketed simplex optical fibers packaged together inside an outer jacket.

The design of breakout cable adds strength for ruggedized drops, however the cable is larger and more expensive than distribution-style cable.



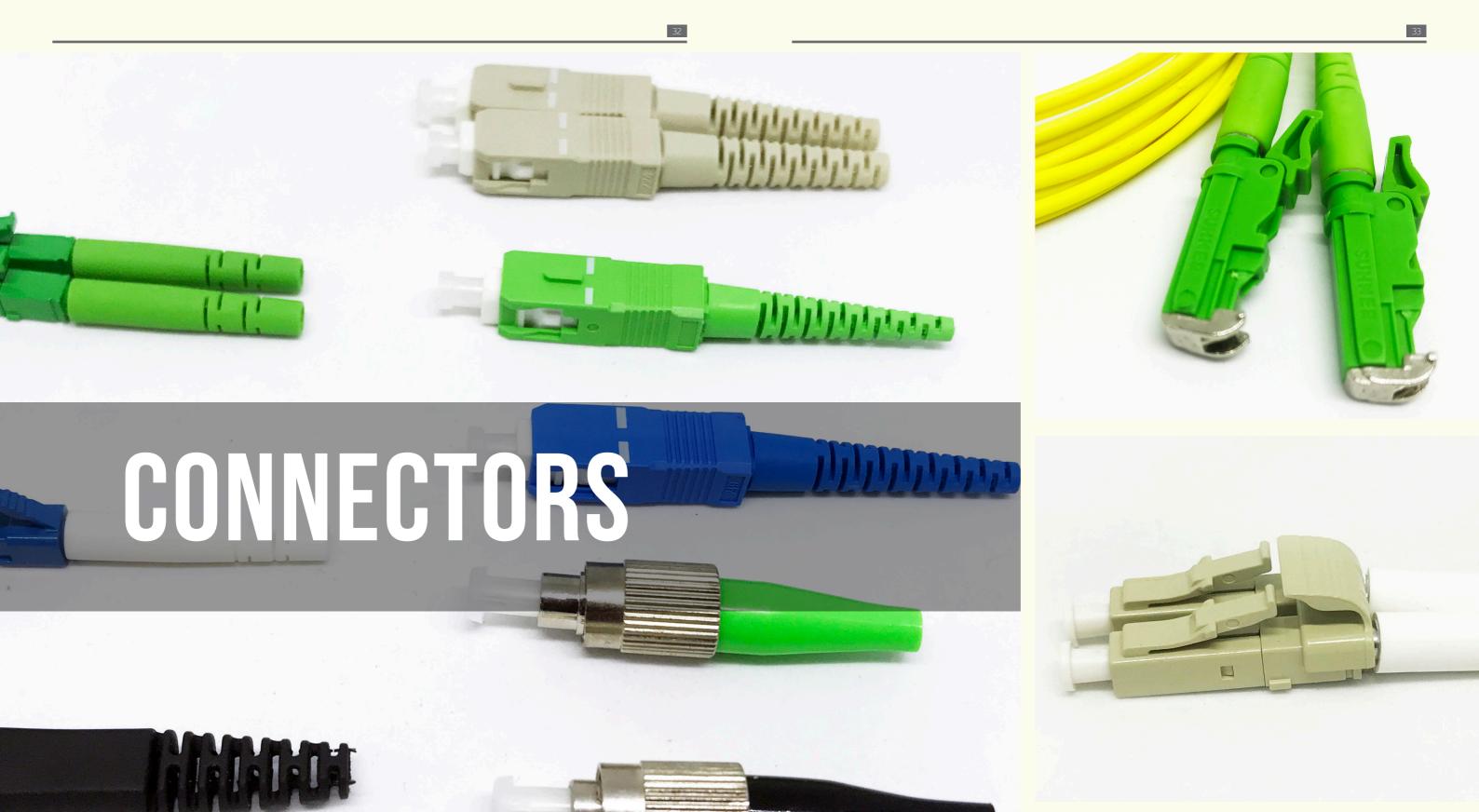






MAIN FEATURES

Available types of connector:
SC, LC, ST, FC, MTRJ, MU.
Concentricity: <0.8 um(SM)
and <4.0mm (MM), ferrules
checked and assembled.
With 2.5 mm high-precision
ceramic ferrule (SC, ST, FC) or
1.25 mm (LC)
Polishing type: UPC and APC
(LC, SC, FC)
Duplex or Simplex (SC, LC)
For cable 0.D. in the range
0.9 - 3.0mm
Several boots (colors, length)





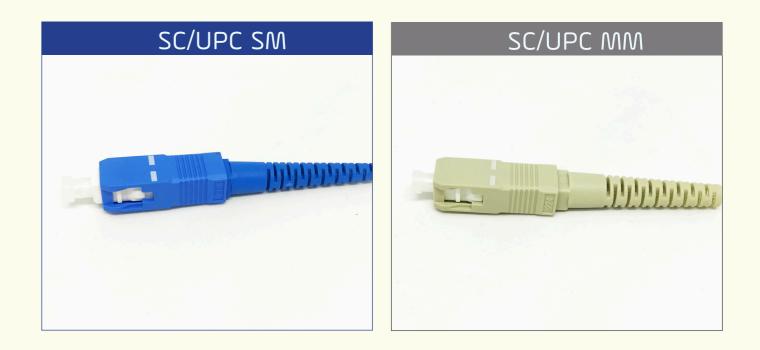


CONNECTORS

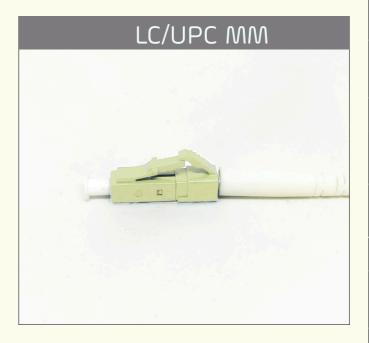
An optical fiber connector terminates the end of an optical fiber, and enables quicker connection and disconnection than splicing. The connectors mechanically couple and align the cores of fibers so light can pass. Better connectors lose very little light due to reflection or misalignment of the fibers.



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MAIN FEATURES

Available types of connector:
SC, LC, ST, FC, MTRJ, MU.
Concentricity: <0.8 um(SM)
and <4.0mm (MM), ferrules
checked and assembled.
With 2.5 mm high-precision
ceramic ferrule (SC, ST, FC) or
1.25 mm (LC)
Polishing type: UPC and APC
(LC, SC, FC)
Duplex or Simplex (SC, LC)

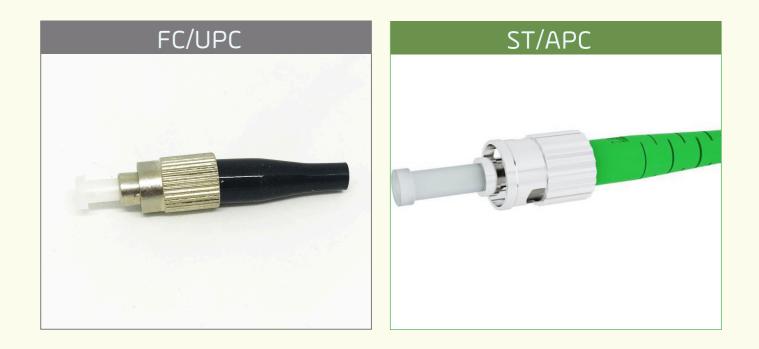
- For cable O.D. in the range O.9 - 3.0mm

- Several boots (colors, length)

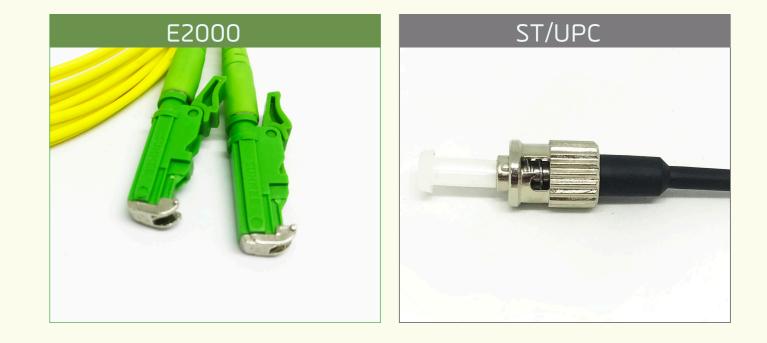
CONNECTORS

An optical fiber connector terminates the end of an optical fiber, and enables quicker connection and disconnection than splicing. The connectors mechanically couple and align the cores of fibers so light can pass. Better connectors lose very little light due to reflection or misalignment of the fibers.











FAST CONNECTORS



FAST CONNECTORS

An optical fiber connector terminates the end of an optical fiber, and enables quicker connection and disconnection than splicing. The connectors mechanically couple and align the cores of fibers so light can pass. Better connectors lose very little light due to reflection or misalignment of the fibers.



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MAIN FEATURES

Available types of connector:
SC, LC, ST, FC, MTRJ, MU.
Concentricity: <0.8 um(SM)
and <4.0mm (MM), ferrules
checked and assembled.
With 2.5 mm high-precision
ceramic ferrule (SC, ST, FC) or
1.25 mm (LC)
Polishing type: UPC and APC
(LC, SC, FC)
Duplex or Simplex (SC, LC)

- For cable O.D. in the range 0.9 - 3.0mm

- Several boots (colors, length)





Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).

SC/APC SX ZIRCONIA WITH FLANGE



SC/APC DX ZIRCONIA WITH FLANGE



SC/APC SX ZIRCONIA WITHOUT FLANGE WHITEGREEN



SC/UPC SX ZIRCONIA WITHOUT FLANGE



MAIN FEATURES

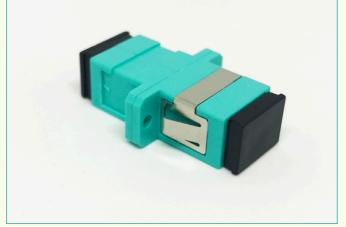
Available types of connector: SC, LC, ST, FC, MTRJ, MU.
With zirconia ceramic sleeve or phosphore bronze sleeve
Regular adapters F-F and hybrid types

- Female-Female & Female-male
- Simplex, Duplex, quadruplex
- Plastic or metal
- With or without flange
- Several colors available for the plastic housing and the dust cap
- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).

SC OM3 SX ZIRCONIA WITH FLANGE

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LC/APC SX ZIRCONIA WITH FLANGE



LC/UPC SM DX ZIRCONIA
WITH FLANGE LC/UPC OM3 DX ZIRCONIA
WITHOUT FLANGE Image: Comparison of the second second

LC/UPC OM3 QUAD ZIRCONIA WITH FLANGE







MAIN FEATURES

Available types of connector: SC, LC, ST, FC, MTRJ, MU.
With zirconia ceramic sleeve or phosphore bronze sleeve
Regular adapters F-F and hybrid types

- Female-Female & Female-male
- Simplex, Duplex, quadruplex
- Plastic or metal
- With or without flange
- Several colors available for
- the plastic housing and the dust cap
- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).

FC/UPC SMALL D



FC/UPC SM SX SQUARE METAL ZIRCONIA RED BOOT









MAIN FEATURES

Available types of connector: SC, LC, ST, FC, MTRJ, MU.
With zirconia ceramic sleeve or phosphore bronze sleeve
Regular adapters F-F and hybrid types

- Female-Female & Female-male
- Simplex, Duplex, quadruplex
- Plastic or metal
- With or without flange
- Several colors available for
- the plastic housing and the dust cap
- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).



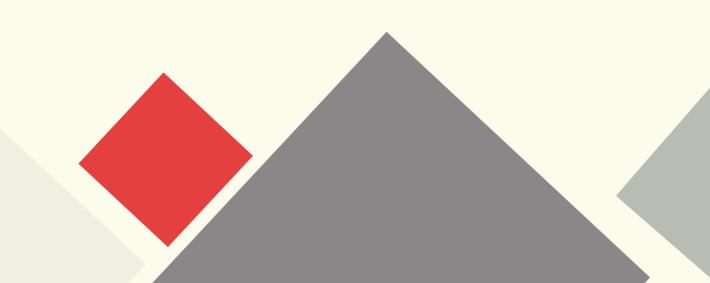
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SC/UPC DX METAL ZIRCONIA WITH FLANGE







MAIN FEATURES

- Available types of connector: SC, LC, ST, FC, MTRJ, MU. - With zirconia ceramic

sleeve or phosphore bronze sleeve

- Regular adapters female-female and hybrid types

- Female-Female and Female-male

- Simplex, Duplex, quadruplex

- Plastic or metal

- With or without flange

- Several colors available for the plastic housing and the dust cap

- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

HYBRID ADAPTERS

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).

SC/UPC - LC/UPC SM SX FEMALE - FEMALE METAL



SC/UPC - LC/UPC SM SX FEMALE - MALE METAL



SC/UPC-ST/UPC SM DX FEMALE-FEMALE



MAIN FEATURES

- Available types of connector: SC, LC, ST, FC, MTRJ, MU. - With zirconia ceramic

sleeve or phosphore bronze sleeve

- Regular adapters female-female and hybrid

types

- Female-Female and Female-male

- Simplex, Duplex, quadruplex

- Plastic or metal

- With or without flange

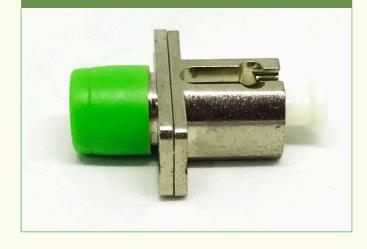
- Several colors available for the plastic housing and the dust cap

- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

HYBRID ADAPTERS

Fiber optic adapters (also called couplers) are designed to connect two fiber optic cables together. They come in versions to connect single fibers together (simplex), two fibers together (duplex), or sometimes four fibers together (quad).

LC/UPC - FC/APC SM SX FEMALE - FEMALE



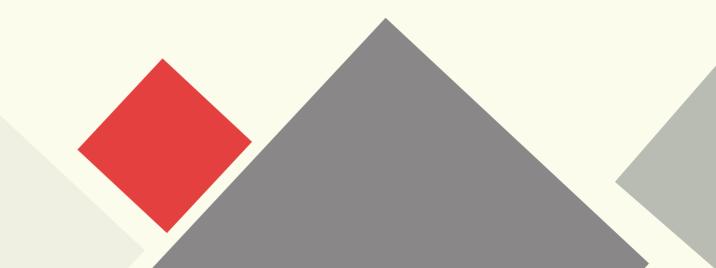


SC/APC-FC/UPC MM SX FEMALE - FEMALE



FC/UPC - ST/UPC SM SX FEMALE - FEMALE





MAIN FEATURES

- Available types of connector: SC, LC, ST, FC, MTRJ, MU. - With zirconia ceramic

sleeve or phosphore bronze sleeve

- Regular adapters female-female and hybrid

types

- Female-Female and Female-male

- Simplex, Duplex, quadruplex

- Plastic or metal

- With or without flange

- Several colors available for the plastic housing and the dust cap

- Insertion loss: < 0.20 dB
- Durability: > 1000 matings.

ATTENUATORS



ATTENUATORS

An optical attenuator , or fiber optic attenuator, is a device used to reduce the power level of an optical signal, either in free space or in an optical fiber.

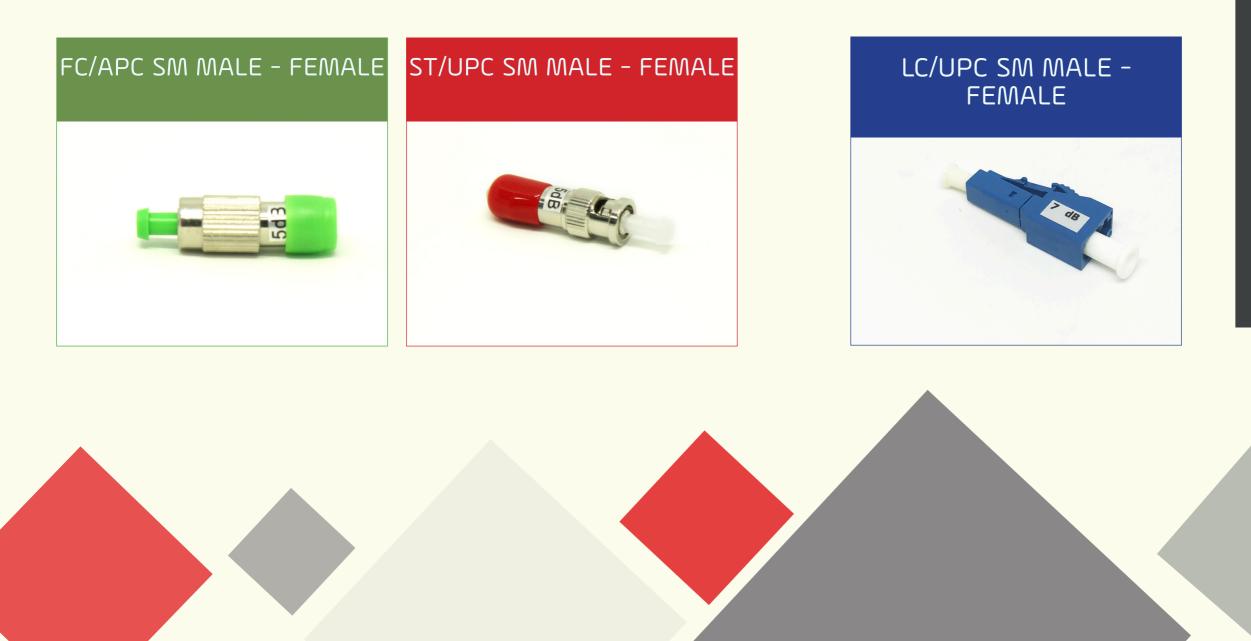
SC/APC SM MALE - FEMALE

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LC/APC SM MALE - FEMALE





MAIN FEATURES

Available for connector types: SC, LC, ST, FC, MU.
With 2.5mm zirconia ceramic ferrule (SC) or
1.25 mm (LC)
Any number of dB for
the attenuation in the
range 1-20dB
Metalic (connector
style) or plastic (adapter
style)
Return Loss: SM UPC
>= 50dB, APC >= 60.0dB
Durability: 500 cycles.

ATTENUATORS

An optical attenuator , or fiber optic attenuator, is a device used to reduce the power level of an optical signal, either in free space or in an optical fiber.

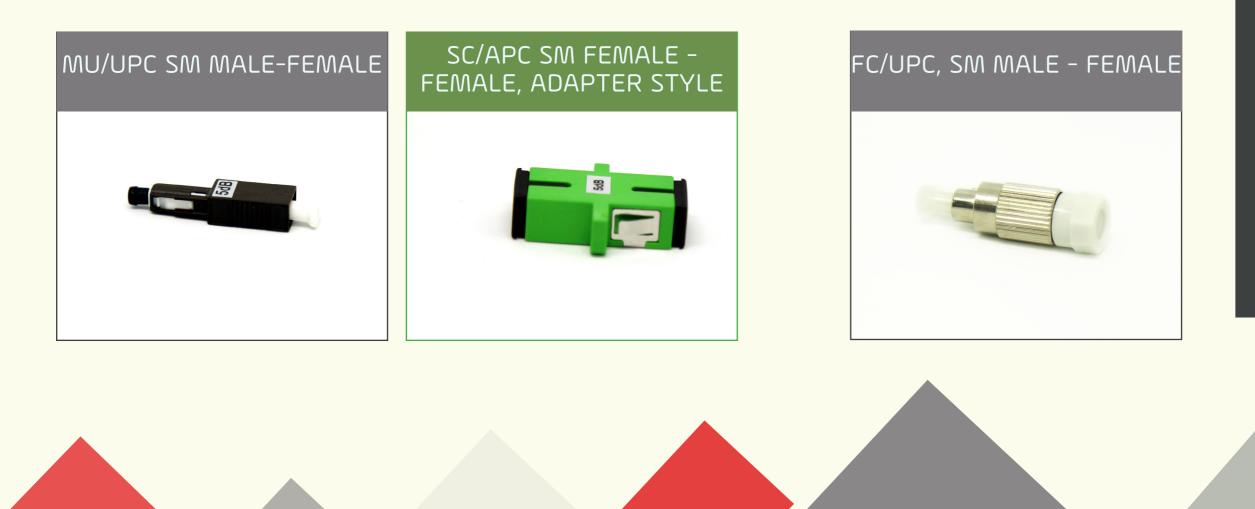
SC/UPC SM MALE - FEMALE

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LC/UPC SM FEMALE -FEMALE ADAPTER STYLE



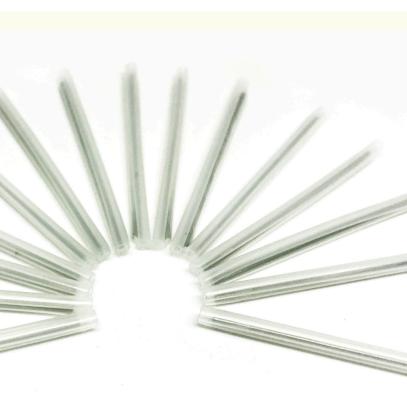


MAIN FEATURES

Available for connector types: SC, LC, ST, FC, MU.
With 2.5mm zirconia ceramic ferrule (SC) or
1.25 mm (LC)
Any number of dB for the attenuation in the range 1-20dB
Metalic (connector style) or plastic (adapter style)
Return Loss: SM UPC
>= 50dB, APC >= 60.0dB
Durability: 500 cycles.

OTHERS







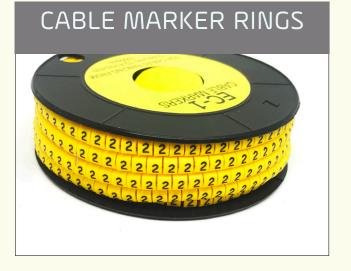


LC COVER DUST CAP

64











SPLICE PROTECTORS



VELCRO TIE ROLL







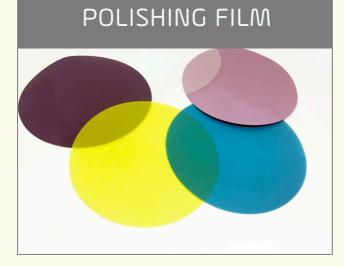
CABLE CUTTER





























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