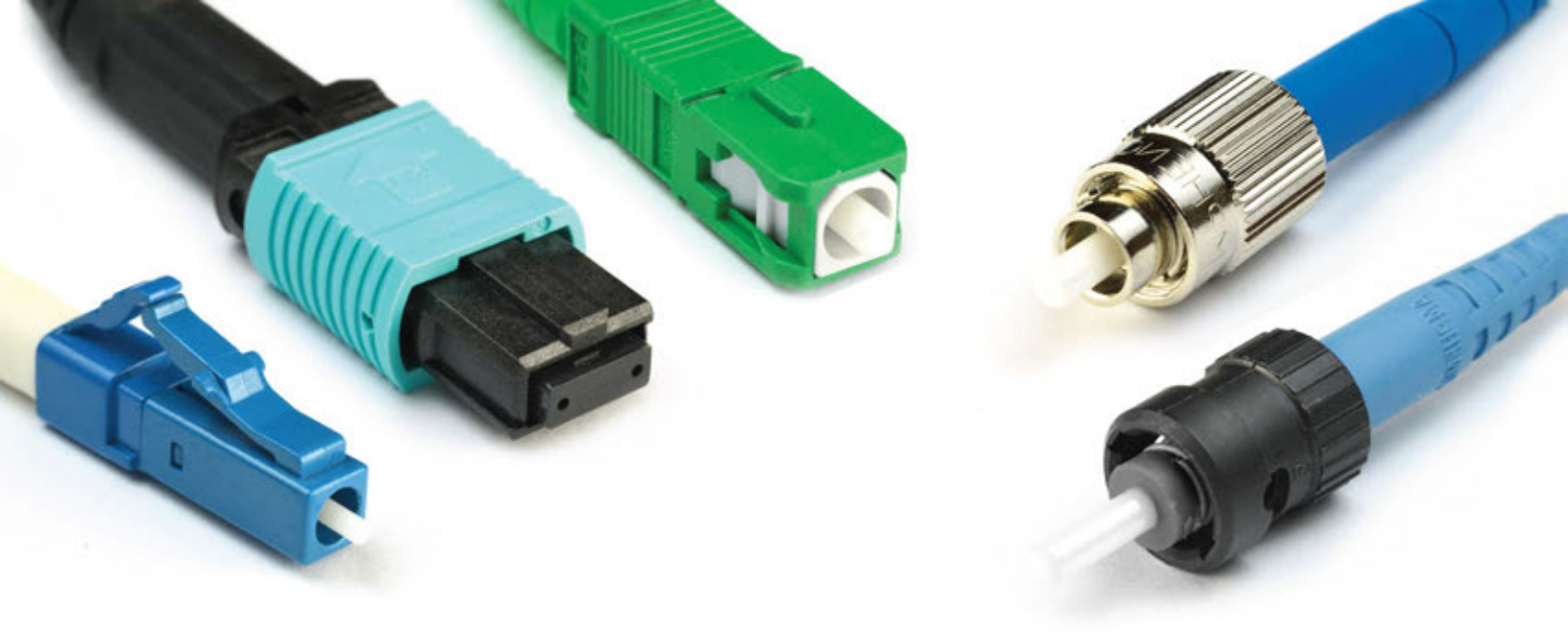
Contact Info

Amphenol
FIBER OPTIC PRODUCTS

INDOOR CONNECTORS AND ADAPTERS

Table of Contents



Amphenol

FIBER OPTIC PRODUCTS

CONNECTOR COMPONENTS

1. Boot
2. Ferrule
3. Connector Body
4. Coupling Nut or Sleeve
5. Dust Cap
6. Crimp

Amphenol FIBER OPTIC PRODUCTS

*SC Shown. Components may vary depending on connector type.

COMPANY OVERVIEW

A Worldwide Vision: Connecting People with Technology

Amphenol is one of the largest manufacturers of interconnect products in the world. Founded in 1932, Amphenol designs, manufactures, and markets electrical, electronic and fiber optic connectors, interconnect systems, as well as coaxial and specialty cables.

Market Diversification

Amphenol offers a diversified presence as a leader in high growth areas of the interconnect industry and provides solutions for customers in the automotive, broadband, industrial, information technology, data communications, military, aerospace, mobile devices, and mobile network markets.

Amphenol products are engineered and manufactured in the Americas, Europe, Asia, and Africa and offered through a worldwide sales and marketing organization.

The Amphenol Global Interconnect Systems group specializes in the communication and information processing industries, including the broadband, wireless, telecommunication, information technology and data communication markets. The Global Interconnect Systems group has a worldwide presence to satisfy the growing global logistics needs of today's markets.

Expanding Global Presence
Amphenol Global Interconnect Systems

Why choose Amphenol?
Experience, Customization, and Reliability

Experience
As a manufacturer with over 80 years of interconnect design and development, Amphenol leads innovation in connector technology. Utilizing this experience, Amphenol is able to develop cost-effective end-to-end solutions to satisfy a customer's full connectivity and cabling needs.

Customization
Amphenol's relationship begins at the design stage to understand the customer's needs and project requirements in order to develop a complete customized solution.

Reliability
Amphenol has a long history of total quality performance. Our high quality products, helpful customer service, and dependable product support from design through production result in satisfied customers.

OUR HISTORY

For over 80 years, Amphenol Corporation has been a premier provider of advanced technology interconnect products to the world's leading electronics companies. From our very first product in 1932 — tube sockets for radios — to our current broad array of interconnect products, antennas, and sensors, we have consistently striven to create leading-edge, innovative products for a diverse range of customers across a multitude of industries and end markets. Through our close collaboration with these customers, Amphenol Corporation has become the interconnect partner of choice in enabling the electronics revolution.

Amphenol Corporation is spread across more than 30 countries with more than 60,000 employees in greater than 100 facilities. Our long term track record of success reflects, in particular, the agile, entrepreneurial culture of our management team, which consistently demonstrates an unwavering commitment to creating value for our customers.

Amphenol Fiber Optic Products, a Division of Amphenol Corporation, has provided expertise and solutions in fiber optic interconnect applications for over 40 years. Servicing the Wireless, Telecom, IT/Datacom, Data Center and Medical markets, Amphenol Fiber Optic Products has continually lead in Quality, Service, Innovation and Customer Satisfaction through an unyielding desire to Connect People with Technology in conjunction with our business partners.

Thank you for partnering with the Amphenol team.



QUALITY FOCUS


M/M Connectors

In order to produce high quality, reliable connectors, there are a number of physical characteristics that must be addressed. Many of these issues have been thoroughly outlined in IEC, EIA/TIA, and Telcordia standards. They include acceptable parameters for intermateablity, insertion loss, return loss, radius of curvature, apex offset and fiber height. Other issues that contribute to long term reliability are ferrule/fiber fit, ferrule concentricity, and ferrule surface defects. The following diagrams illustrate some critical components of a fiber optic connector.

Misalignment

Fiber core alignment is critical to a cable assembly's ability to transmit light. Main causes of misalignment are typical mechanical issues associated with low quality connectors or fiber: fiber concentricity, hole tolerances, fiber eccentricity, and variations in core diameter.

Surface Defects

Visual defects are one of the most common causes of latent failures. Scratches, pits, and chips in the ferrule end-face can change over time, becoming more pronounced and migrating to critical areas of the fiber core, thus affecting performance. They are also a prime source for deposits of dust, moisture, and other contaminants.

Radius of Curvature

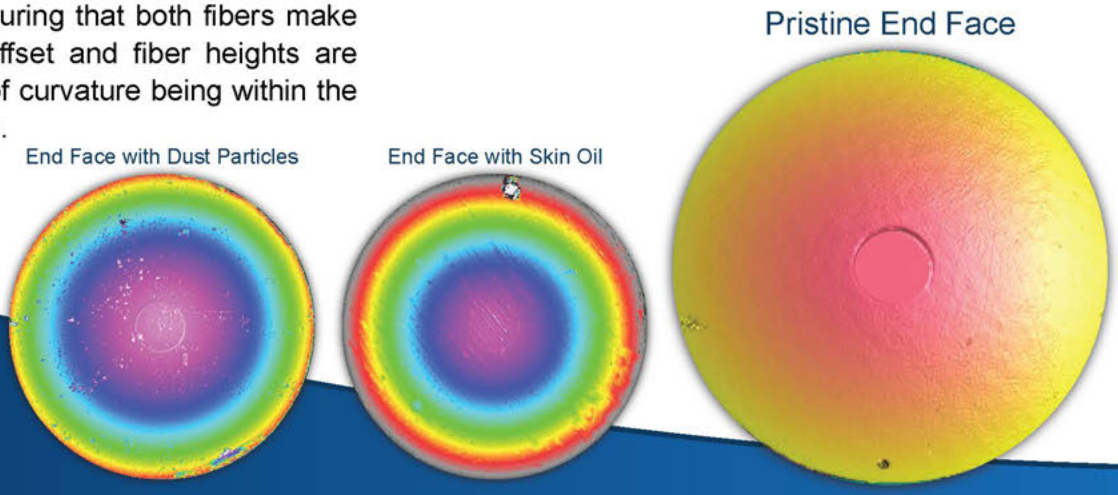
The end-face of the connector is given a specific radius during the polishing process. This radius provides the basis for ensuring that both fibers make contact. Both the apex offset and fiber heights are dependent on the radius of curvature being within the predetermined parameters.

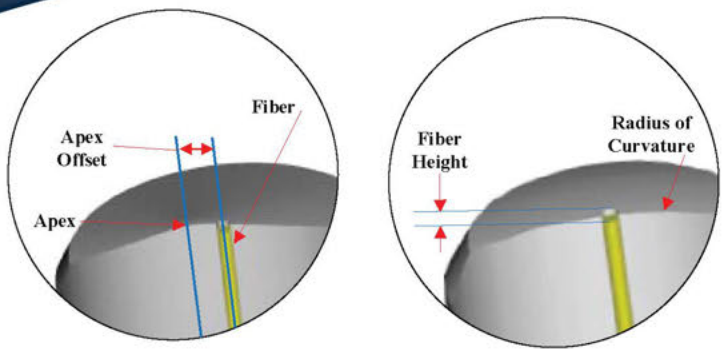
Fiber Height

Physical contact of the fiber is necessary for proper light transfer. The end-face geometry has strict fiber protrusion limits, as well as fiber undercut limits. These limits are based exclusively on a mathematical calculation of the radius of curvature. If the fiber is too high, damage to the end-face may occur. If the fiber is too low, the physical contact may never occur, causing increased attenuation and reflectance.

Apex Offset

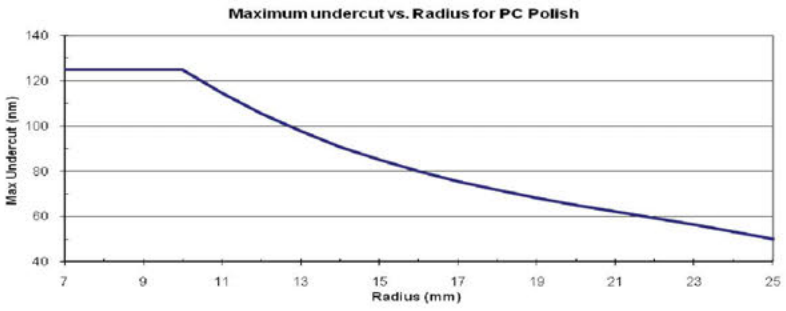
Physical contact connectors feature a radius on the end-face. The peak of the radius is known as the apex. The relationship from the apex to the 'perfect' center of the ferrule is known as the apex offset. Strict control of this specification is mandatory in order to precisely control the distance of each fiber from the surface of the connector and to ensure physical contact upon mating.





Telcordia & IEC Endface Geometry Requirements

- **APC Connectors**
  - Apex Offset ≤ 50um
  - Radius of Curvature 5mm – 12mm
  - Fiber Height ≤ 100nm
- **PC Connectors**
  - Apex Offset ≤ 50um
  - Radius of Curvature
    - **Telcordia** 7mm – 25mm
    - **IEC** 10mm – 25mm
  - Fiber Height
    - Protrusion
      - **Telcordia** ≤50nm
      - **IEC** ≤ 100nm
    - Undercut is equal to **$-0.02R^3 + 1.3R^2 - 31R + 325$,** where R is the radius of curvature. When the ROC is between 7mm – 10mm, the undercut is not to exceed 125nm.



SINGLEMODE		IL Typical	IL Maximum	RL Typical	RL Maximum
SC, FC, LC & ST	ultra (UPC)	0.15dB	0.30dB	-61dB	-55dB
	angle (APC)	0.23dB	0.50dB	-70dB	-65dB
MPO	angle	0.5dB	0.75dB	-65dB	-65dB
	premium angle (PAPC)	0.15dB	0.35dB	-55dB	-55dB
MULTIMODE					
SC, FC, LC & ST	super	0.25dB	0.50dB		
MT-RJ & MPO	super	0.35dB	0.75dB		

CONNECTOR CHART





CONNECTOR TYPE	LC	SC	MPO	FC	ST
Compliance	IEC 61754-20 TIA 604-10	IEC 61754-4 TIA 604-3	IEC 61754-7 TIA/EIA 604-5	IEC 61754-13 TIA 604-4	IEC 61754-2 TIA 604-2
Mech./Therm. Perform.					
Tensile Load (N)	67.5	67.5	45	67.5	67.5
Mating Durability	1000	1000	200	1000	1000
Operating Temperature	-40° to +85° C	-40° to +85° C	-40° to +85° C	-40° to +85° C	-40° to +85° C
Flammability					
UL 94 V - 0	●	●	●	●	●
Color of Housing					
SC/UPC	Blue	Blue			
SC/APC	Green	Green	Green		
MM	Black/Beige	Beige	Beige		
OM3	Beige	Beige	Aqua		
OM4	Beige	Beige	Aqua		
Features					
Cable Diameter (mm)	0.9 - 3	0.9 - 3	2-5.5	0.9 - 3	0.6 - 3
Insertion Loss (dB)					
MM typ. ≤	0.25	0.25	0.50	0.35	0.25
max	0.50	0.50	0.75	0.50	0.50
SM (UPC) typ. ≤	0.15	0.15		0.15	0.15
max	0.30	0.30		0.30	0.30
SM (APC) typ. ≤	0.23	0.23	0.50	0.23	0.23
max	0.50	0.50	0.75	0.50	0.50
Return Loss (dB)					
Singlemode UPC >	-55	-55		-55	-55
APC >	-65	-65	-55	-65	-65

CONNECTORS AND ADAPTERS

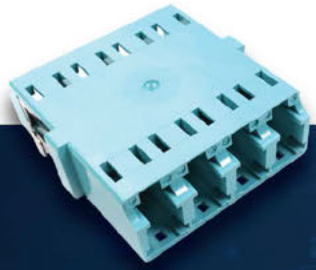
ST Connectors

FC Connectors

LC Connectors

SC Connectors

MPO Connectors



LC Adapters

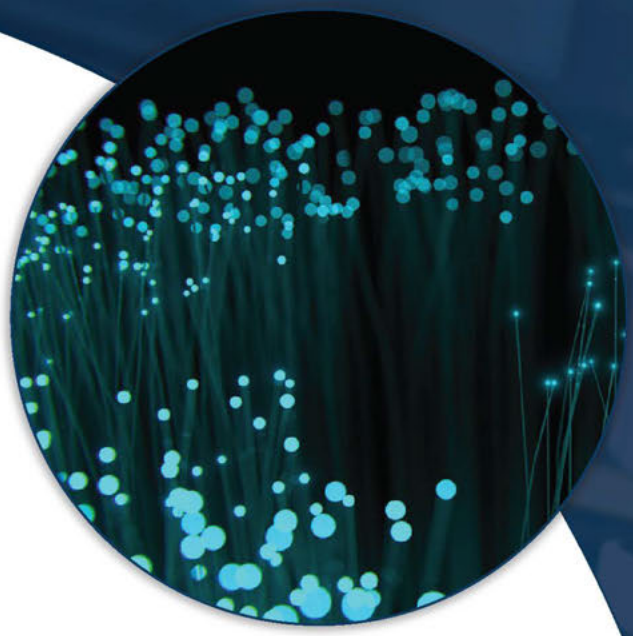
SC Adapters

MPO Adapters

ST Adapters

FC Adapters

FIBER ADVANTAGES



Large bandwidth
0.5 GHz to > 50 GHz (1 Km length)

Low loss
A few dB/Km down to less than 0.5 dB/Km

"Graceful Growth"
Fiber optic systems can be easily expanded

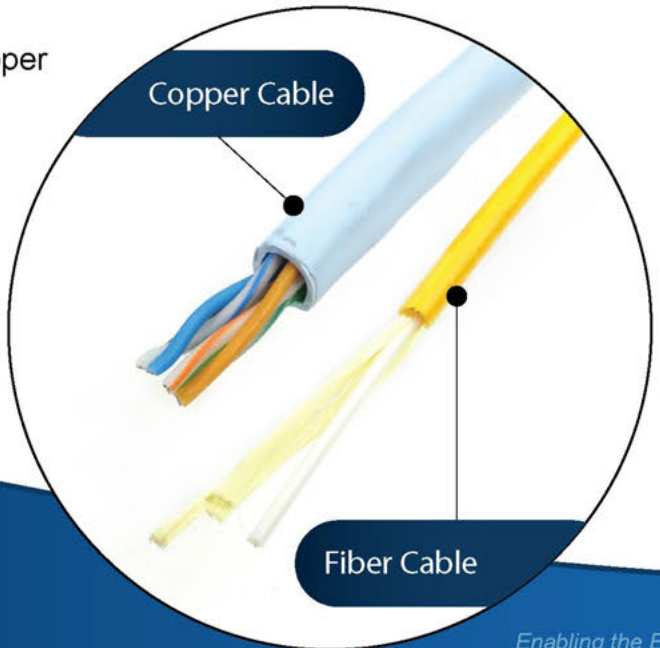
Security
Immune to EMI and RFI and crosstalk

Reliability
Fiber is not subject to fading

- Nonconductive
- Fewer splices, reducing splice time per circuit
- No performance degradation due to moisture, corrosion, oxidation, etc.
- Energy efficient due to fewer repeaters and less terminal equipment required
- Economical
- EMI and RFI immunity

Small size
Fiber cable's speed is not connected to its size, wheras copper requires additional cable to acheive higher speeds

Light weight
Fiber is considerably lighter than copper



SAFETY INFORMATION

PRECAUTIONS

Safety Glasses

CAUTION: Wear safety glasses to protect your eyes from accidental injury when handling chemicals and cutting fiber. Glass fiber is very sharp and can damage the eye easily.

CHEMICAL PRECAUTIONS

Isopropyl Alcohol

CAUTION: Isopropyl alcohol is flammable with a flashpoint at 54°F. It can cause irritation to eyes on contact. In case of eye contact, flush eyes with water for at least 15 minutes. Inhaling fumes may cause mild dizziness. In case of ingestion, consult a physician.

Epoxy Adhesives

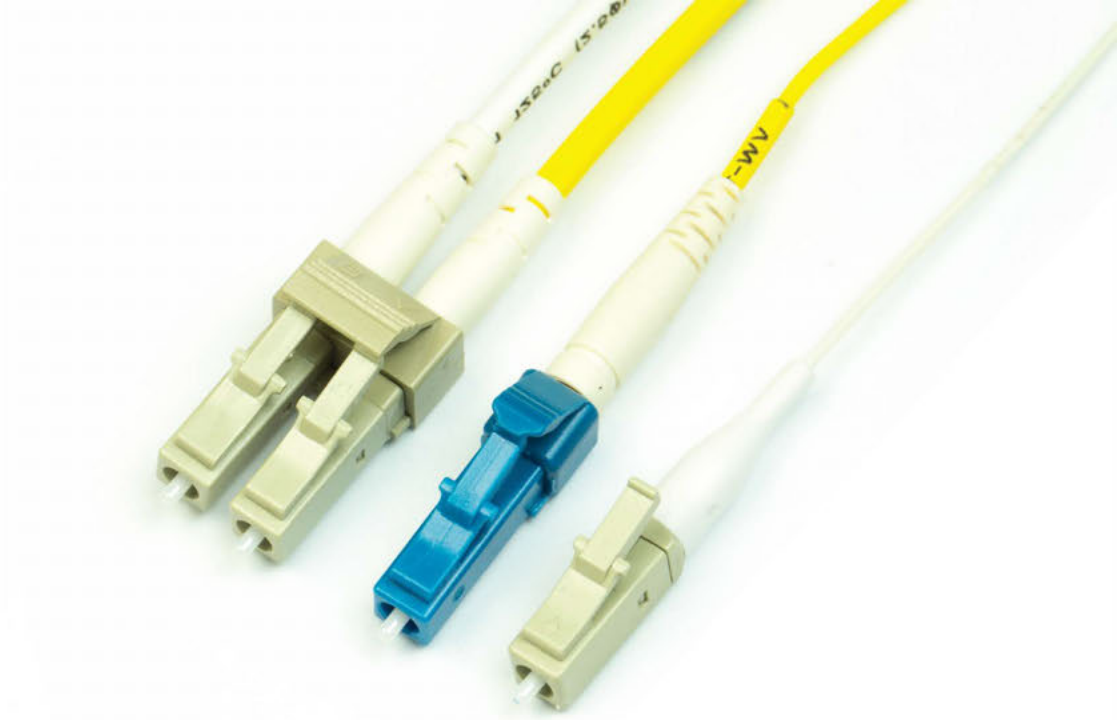
CAUTION: Uncured epoxy adhesives consisting of resin and hardener components may cause dermatitis, skin sensitization, or other allergic reactions. Prevent all contact with skin or eyes. The use of disposable plastic or rubber gloves is recommended while using the epoxy. If contact occurs, flush immediately with plenty of water. Get medical attention for eyes. Avoid heat except during curing. KEEP OUT OF THE REACH OF CHILDREN. Avoid prolonged inhalation of vapors and use adequate ventilation.

Fiber Precautions

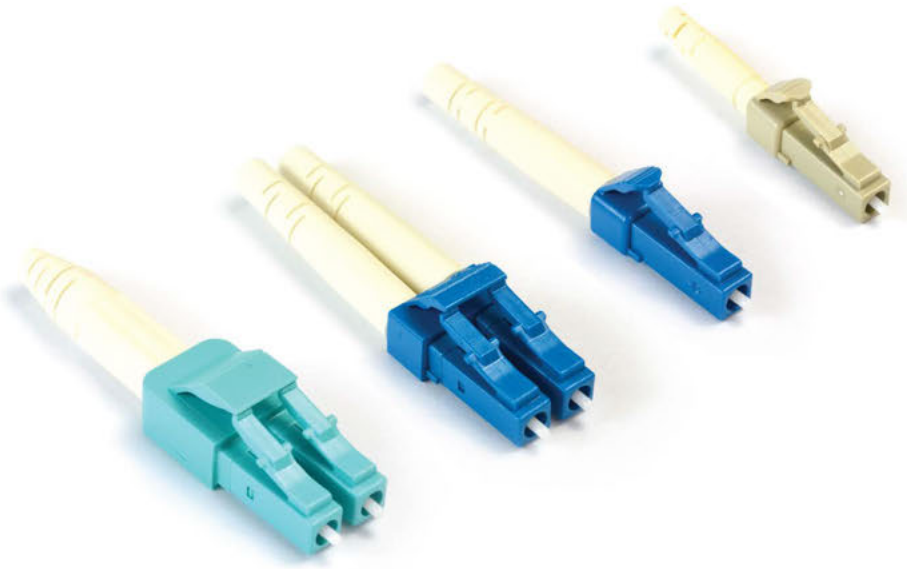
CAUTION: Cleaved glass fibers are very sharp and can pierce the skin easily. Do not let cut pieces of fiber stick to your clothing or drop in the work area where they can cause injury later. Use tweezers to pick up cut or broken pieces of the glass fibers and place them on a loop of tape kept for that purpose alone. Good housekeeping is very important.

Laser Handling Precautions

WARNING: Never look directly into the end of a fiber that may be carrying laser light. Laser light is invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.



LC CONNECTORS



LC CONNECTORS

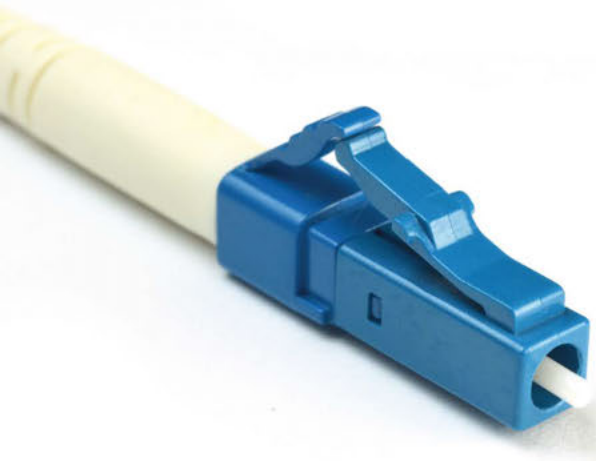
Amphenol's data communications fiber optic LC small form factor (SFF) connectors utilize the familiar RJ-45 latching mechanism. The LC connector is almost half the size of the popular SC connector, providing great space savings in the network. With accelerated growth demanding greater bandwidth in less physical space, LC connectors have emerged as a viable solution for high density frames and patch panels.

Amphenol's LC connectors are a high density low cost solution without any sacrifice of performance. Amphenol LC connectors are compliant to EIA/-TIA-604-10 and IEC 61754-20.

Features and Benefits

- Easy RJ45 coupling mechanism enables quick installation and the audible click signifies when connector is locked in place
- Pull proof design prevents signal interruption
- Small form factor size enables increased density compared to standard connectors
- Duplex version utilizes a removable flexible clip providing a float between channels A and B
- Singlemode and multimode versions
- Available with 900µm, 900µm Behind the Wall (BTW), 1.2mm, Micro, 1.6/2.0mm, or 3.0mm boots
- Multiple boot color options
- Angled boots also available (50 degree, 90 degree, and flexible boot from 0 to 90 degree)

Amphenol FIBER OPTIC PRODUCTS



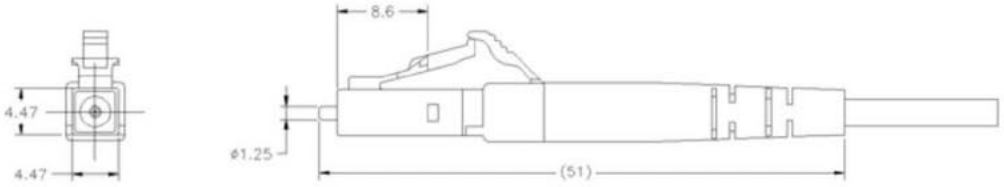
Specifications

Insertion Loss:	≤ 0.15dB typical, singlemode ≤ 0.25dB typical, multimode
Return Loss:	Ultra (UPC) ≤ -55dB*
Durability:	< 0.2dB change, 500mating cycles
Temperature:	<0.3dB change, -40 to +85°C

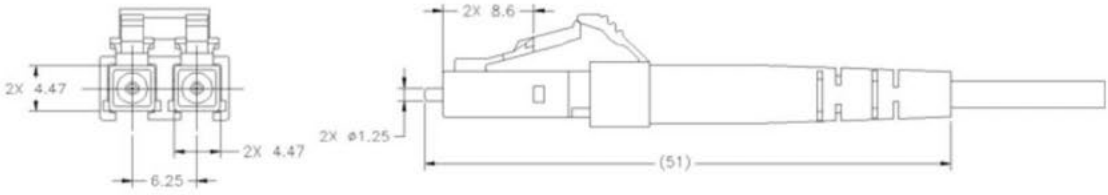
Intermateability:
Amphenol LC Connectors are mechanically and optically intermateable with industry standard LC connectors and adapters and conform to TIA/EIA, IEC, and Telcordia specifications.
*Performance is polish dependent

LC Connector Ordering Information

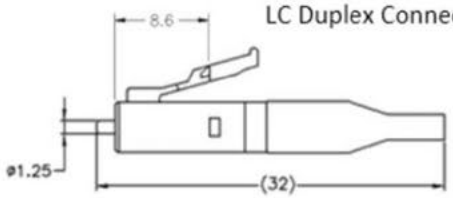
Part # (LC Simplex)	Description	Recommended Cable Diameter	Body Clip	Boot
956-332-500314	LC Simplex Connector, Multimode, 127µm Zirconia Ferrule	3.0mm	Beige	Standard White
956-331-590314	LC Simplex Connector, Singlemode, 125.5µm Zirconia Ferrule	3.0mm	Blue	Standard White
956-332-500214	LC Simplex Connector, Multimode, 127µm Zirconia Ferrule	1.6/2.0mm	Beige	Standard White
956-334-500214	LC Simplex Connector, Multimode, 127µm Zirconia Ferrule	1.6/2.0mm	Black	Standard White
956-331-590214	LC Simplex Connector, Singlemode, 125.5µm Zirconia Ferrule	1.6/2.0mm	Blue	Standard White
956-342-500924	LC Simplex BTW Connector, Multimode, 127µm Zirconia Ferrule	900µm	(BTW) Beige	900µm White
956-341-590924	LC Simplex BTW Connector, Singlemode, 125.5µm Zirconia Ferrule	900µm	(BTW) Blue	900µm White
Part # (LC Duplex)				
956-322-502314	LC Duplex Connector, Multimode, 127µm Zirconia Ferrule	3.0mm	Beige	Standard White
956-321-592314	LC Duplex Connector, Singlemode, 125.5µm Zirconia Ferrule	3.0mm	Blue	Standard White
956-322-502214	LC Duplex Connector, Multimode, 127µm Zirconia Ferrule	1.6/2.0mm	Beige	Standard White
956-324-502214	LC Duplex Connector, Multimode, 127µm Zirconia Ferrule	1.6/2.0mm	Black	Standard White
956-321-592214	LC Duplex Connector, Singlemode, 125.5µm Zirconia Ferrule	1.6/2.0mm	Blue	Standard White
956-312-502924	LC Duplex Connector, Multimode, 127µm Zirconia Ferrule	1.6/2.0mm	Beige	900µm White
956-311-592924	LC Duplex Connector, Singlemode, 125.5µm Zirconia Ferrule	1.6/2.0mm	Blue	900µm White



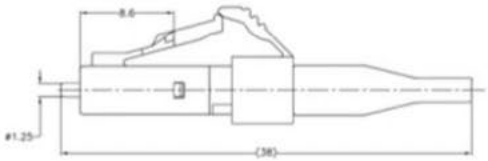
LC Simplex Connector with 1.6/2.0mm Boot



LC Duplex Connector with 1.6/2.0mm Boots



LC Simplex Behind the Wall (BTW) Connector with 900µm Boot



LC Duplex Connector with 900µm Boot

LC VARIATIONS

Connector Body

Simplex

Duplex

Micro

Uniboot-F

Uniboot-S

Mini

Flippable Uniboot

Boots

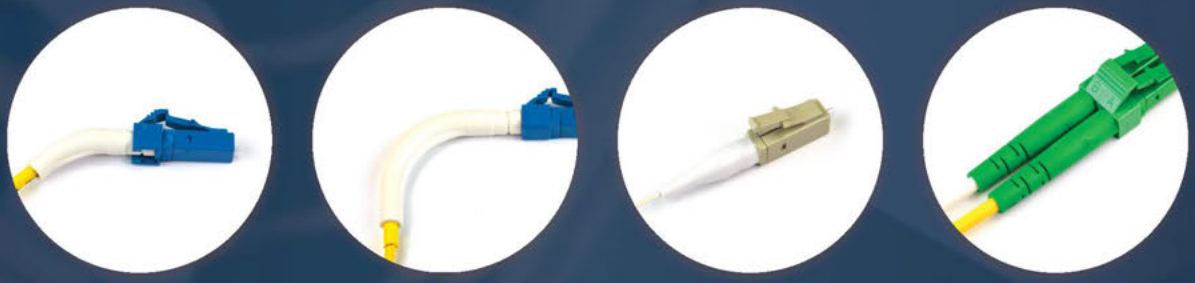
Flex Boot (Uniboot)

Flex Boot

Short

1.2mm

Uniboot



45°

90°

900µm

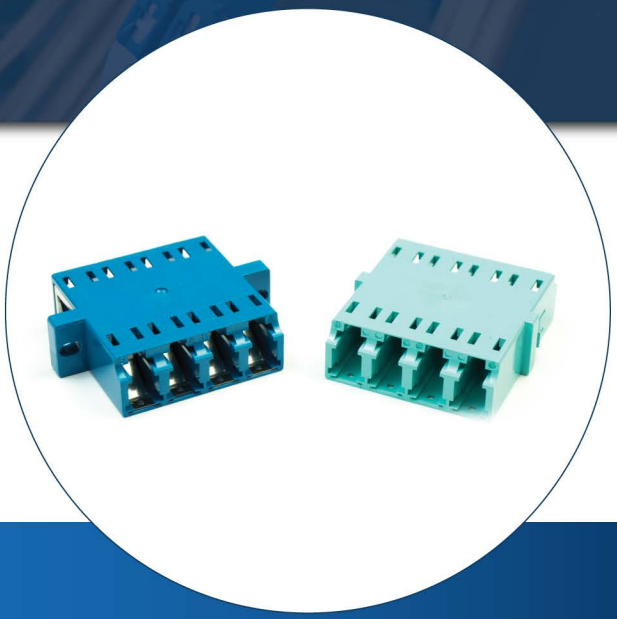
2.0mm

Accessories

Push/Pull Tab

LC Adapters

Amphenol's complete range of LC adapter options provides the perfect solution for your high-density network needs. The one-piece design is more durable than the typical two-piece design. The adapters meet EIA/TIA, IEC, and Telcordia standards. Amphenol patented* internal shutters are available on most types of adapters.



PART NUMBER SUMMARY

956	•	3	•	X	•	X	•	5	•	X	•	X	•	X	•	0
				Shutter Type		**Alignment Sleeve**		**Footprint**		**Flange**		**Color**				

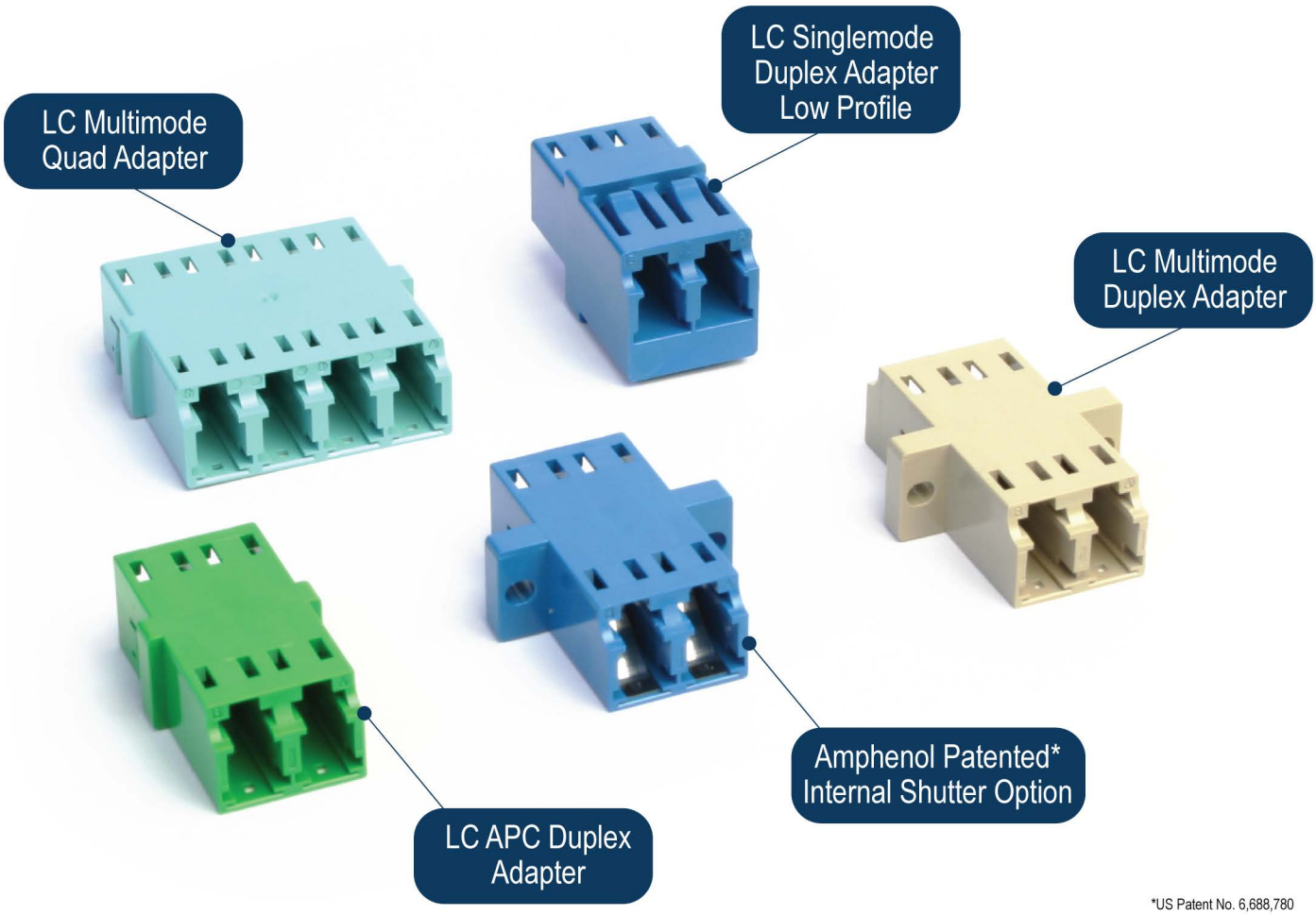
Shutter Type
- 8: Non-Shuttered
- 9: Shuttered

Alignment Sleeve
- 0: Ceramic

Footprint
- 4: Quad in LC Duplex Footprint
- 5: Duplex in LC Simplex Fotprint

Flange
- 0: No Flange
- 1: Flange

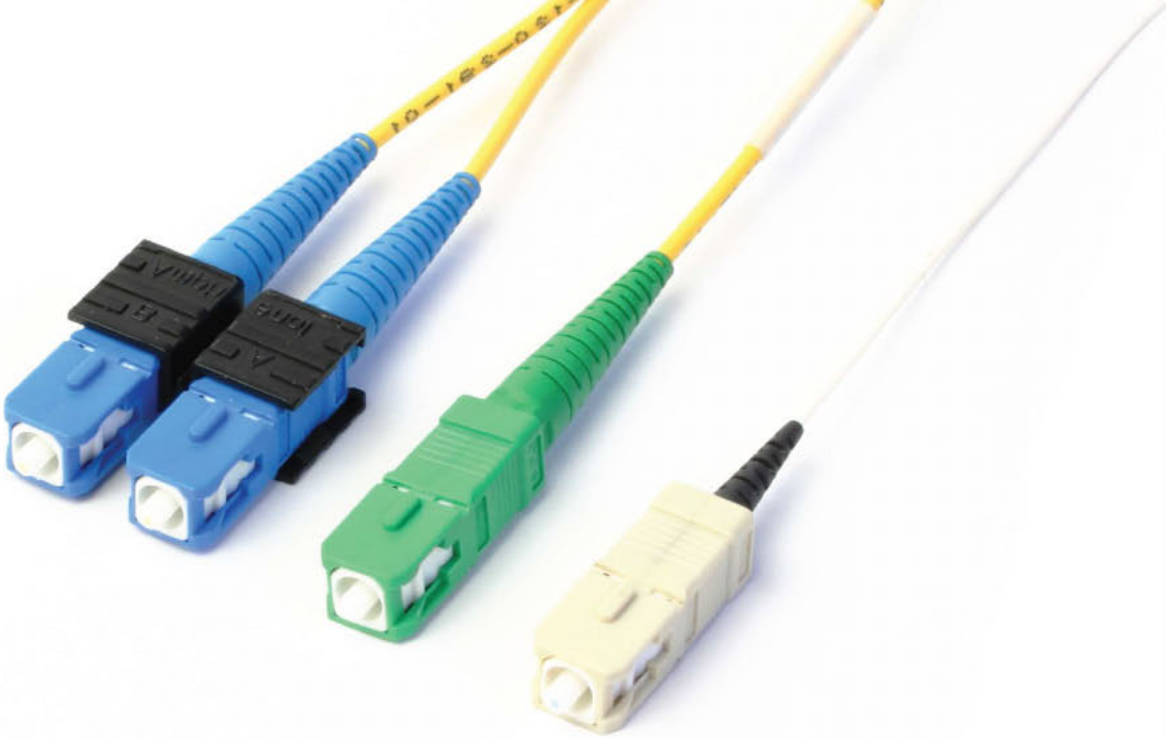
Color
- 0: Black
- 1: Blue
- 2: Green
- 5: Beige
- A: Aqua



*US Patent No. 6,688,780

Amphenol

FIBER OPTIC PRODUCTS

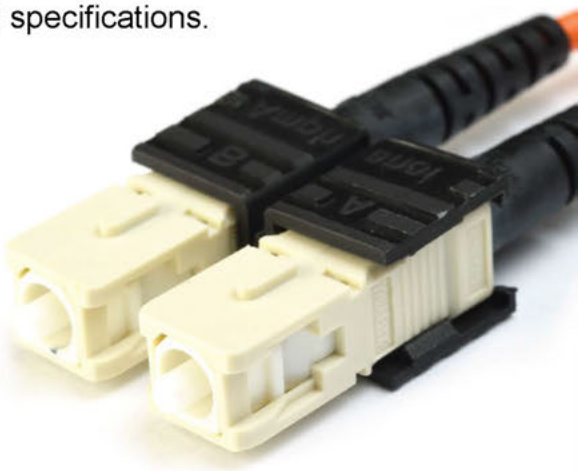


SC CONNECTORS

SC CONNECTORS

Amphenol's premier high-performance fiber optic 954 Series SC connector utilizes a push/pull retention feature enabling easy insertion and removal, making it ideally suited for high-density applications. The SC connector features an internal cavity and epoxy injection tube that virtually eliminates the possibility of improper epoxy application, thus providing higher manufacturing yields and superior quality.

Amphenol's 954 Series SC connectors are compliant to EIA/TIA-604-3, IEC 61754-4, and fully tested by a third party test lab per Telcordia GR-326 CORE specifications.



Features and Benefits

- Third party tested per Telcordia GR-326 CORE
- Easy push pull coupling mechanism enables quick installation and the audible click signifies when connector is locked in place
- Pull proof design prevents signal interruption
- Teflon tube in rear of connector insures clean epoxy injection
- Duplex version utilizes a removable flexible clip providing a float between channels A and B
- High temperature and UL 94-V0 rated plastic housing and boots available in multiple colors
- Tight tolerance ferrules for low loss performance
- Available in singlemode, angled singlemode, and multimode versions
- Available with 900µm, 1.2mm, 2.0mm, 3.0mm, flex, and 45/90 degree boots in multiple colors

Amphenol FIBER OPTIC PRODUCTS

Specifications

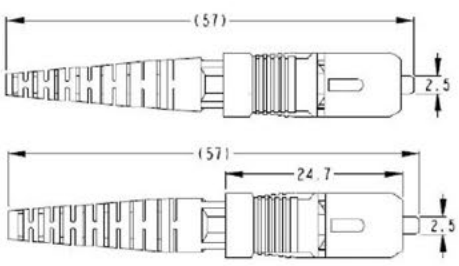
Insertion Loss:	≤ 0.15dB typical, singlemode ≤ 0.23dB typical, APC ≤ 0.25dB typical, multimode
Return Loss:	Ultra (UPC) ≤ -55dB* Angle (APC) ≤ -65dB*
Durability:	< 0.2dB change, 500mating cycles
Temperature:	<0.3dB change, -40 to +85°C

Intermateability:
Amphenol 954 Series SC Connectors are mechanically and optically intermateable with NTT- SC type products and conform to ANSI, TIA/EIA, IEC, and Telcordia specifications.
*Performance is polish dependent

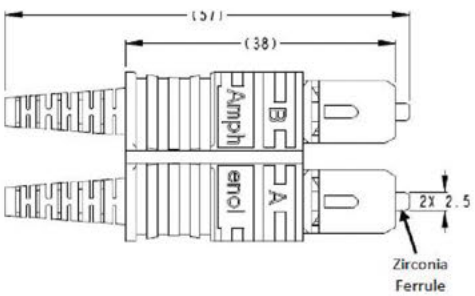
SC CONNECTORS

SC Connector Ordering Information

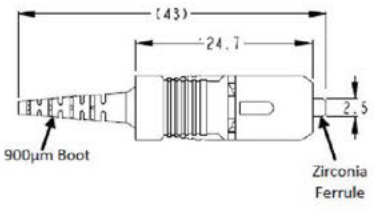
Part # (SC Simplex)	Description	Ferrule Hole Size	Recommended Cable Diameter	Coupling Sleeve Color	Boot Color
954-101-57203B	SC Simplex Connector, Multimode	128µm	3mm	Beige	Black
954-101-57293B	SC Simplex Connector, Singlemode	125.5µm	3mm	Blue	Black
954-101-57293L	SC Simplex Connector, Singlemode	125.5µm	3mm	Blue	Blue
954-103-57393G	SC/APC Simplex Connector, Singlemode, Conical Ferrule	125.5µm	3mm	Green	Green
954-101-57202B	SC Simplex Connector, Multimode	128µm	2mm	Beige	Black
954-101-57292B	SC Simplex Connector, Singlemode	125.5µm	2mm	Blue	Black
954-101-57292L	SC Simplex Connector, Singlemode	125.5µm	2mm	Blue	Blue
954-103-57392G	SC/APC Simplex Connector, Singlemode, Conical Ferrule	125.5µm	2mm	Green	Green
954-101-57209B	SC Simplex Connector, Multimode	128µm	900µm	Beige	Black
954-101-57299B	SC Simplex Connector, Singlemode	125.5µm	900µm	Blue	Black
954-101-57299L	SC Simplex Connector, Singlemode	125.5µm	900µm	Blue	Blue
954-103-57399G	SC/APC Simplex Connector, Singlemode, Conical Ferrule	125.5µm	900µm	Green	Green
Part # (SC Duplex)					
954-101-58203B	SC Duplex Connector, Multimode	128µm	3mm	Beige	Black
954-101-58293B	SC Duplex Connector, Singlemode	125.5µm	3mm	Blue	Black
954-101-58293L	SC Duplex Connector, Singlemode	125.5µm	3mm	Blue	Blue
954-103-58393G	SC/APC Duplex Connector, Singlemode, Conical Ferrule	125.5µm	3mm	Green	Green
954-101-58202B	SC Duplex Connector, Multimode	128µm	2mm	Beige	Black
954-101-58292B	SC Duplex Connector, Singlemode	125.5µm	2mm	Blue	Black
954-101-58292L	SC Duplex Connector, Singlemode	125.5µm	2mm	Blue	Blue
954-103-58392G	SC/APC Duplex Connector, Singlemode, Conical Ferrule	125.5µm	2mm	Green	Green
954-101-58209B	SC Duplex Connector, Multimode	128µm	900µm	Beige	Black
954-101-58299B	SC Duplex Connector, Singlemode	125.5µm	900µm	Blue	Black
954-101-58299L	SC Duplex Connector, Singlemode	125.5µm	900µm	Blue	Blue
954-103-58399G	SC/APC Duplex Connector, Singlemode, Conical Ferrule	125.5µm	900µm	Green	Green



SC Simplex Connector
with 2.0mm and 3.0mm Boots



SC Duplex Connector
with 3.0mm Boots



SC Simplex Connector
with 900µm Boot

SC VARIATIONS

Connector Body

Simplex

Duplex

Boots

GR-326 Certified

Standard

Short

45°

90°

Flex Boot

Amphenol FIBER OPTIC PRODUCTS

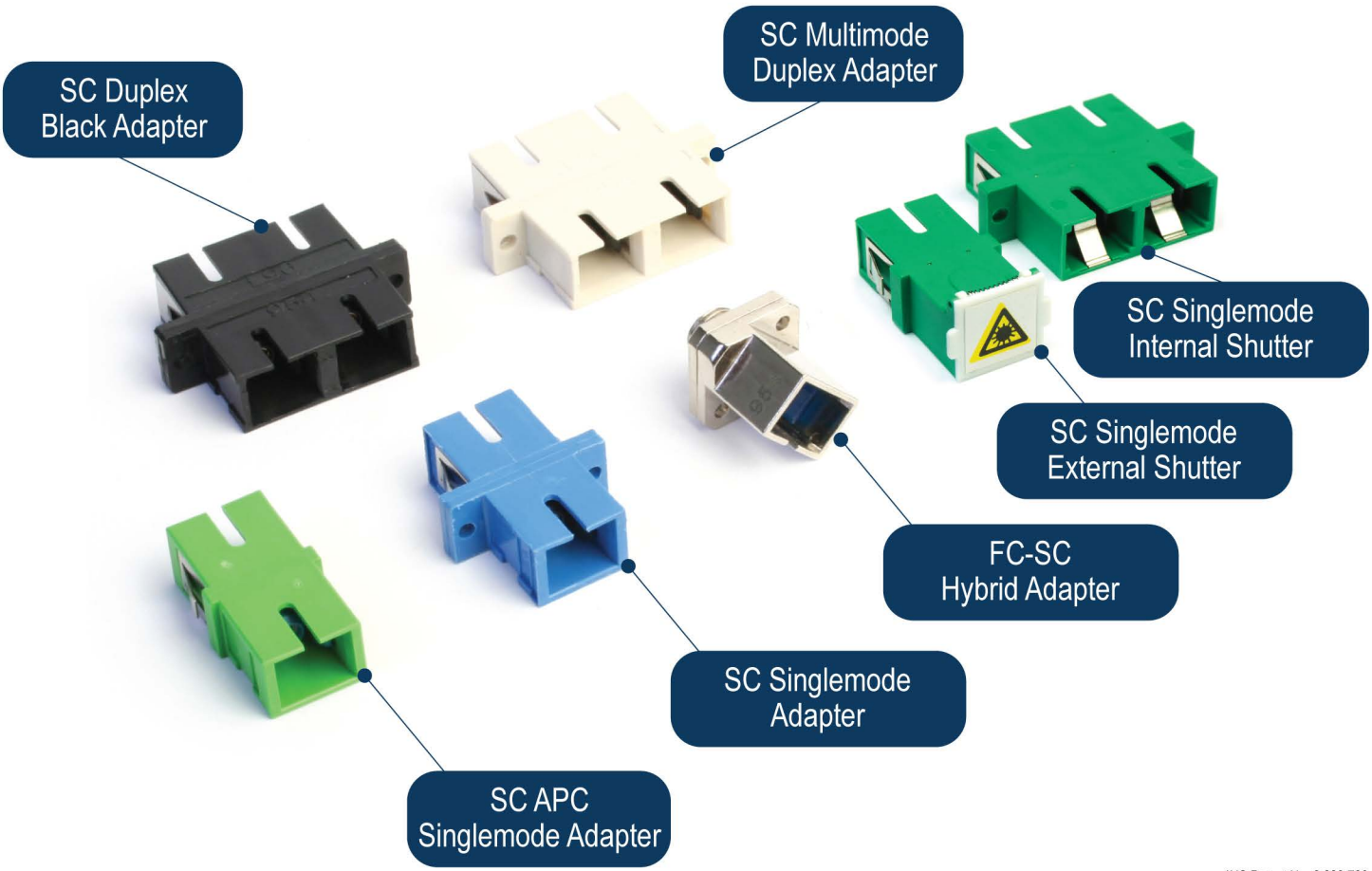
SC Adapters

Amphenol's complete range of SC adapter options provides the perfect solution for your high density network needs. The one-piece design is more durable than the typical two-piece design. The adapters meet EIA/TIA, IEC, and Telcordia standards. Amphenol patented* internal shutters are available on most types of adapters.

PART NUMBER SUMMARY

954 • 1 • X • X • 5 • X • X • X • 0

Shutter Type	Alignment Sleeve	Footprint	Flange	Color
7: External Door 8: Non-Shuttered 9: Internal Shutter	0: Ceramic	0: Simplex 2: Duplex	0: No Flange 1: Flange	1: Blue 3: Green E: Beige C: Aqua 8: Black



*US Patent No. 6,688,780

Amphenol
FIBER OPTIC PRODUCTS

MPO CONNECTORS

MPO CONNECTORS

MPO connectors are becoming increasingly popular due to their high density applications in the marketplace.

MPO connectors offer a higher fiber density than standard connectors, providing space and cost savings for the network.

Amphenol's MPO connectors are offered with 8, 12, and 24 fiber count options.

Amphenol's MPO connectors are available for ribbon or round style cables. Amphenol's MPO connectors meet TIA/EIA 604-5 and IEC 61754-7 standards.

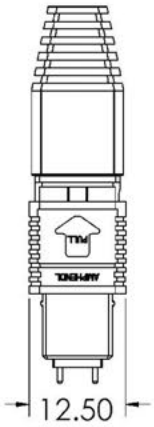
Features and Benefits

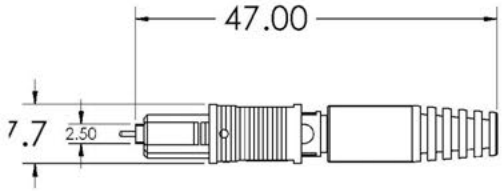
- Angled boots for round cable (50 degree, 90 degree, and flexible boot from 0 to 90 degree)
- Optional Amphenol push/pull tab for installation in tighter spaces
- Available in a wide variety of connector types, cable designs, and lengths
- Singlemode and Multimode versions

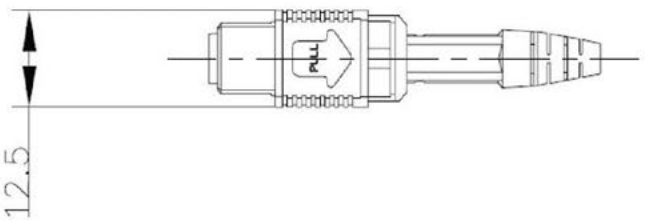
Specifications

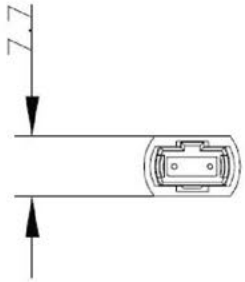
Insertion Loss:	≤0.75dB, APC ≤0.50dB, M/M ≤0.35dB, Low Loss
Return Loss:	≤-55dB S/M Angle (APC)
Durability:	< 0.2dB change, 200 mating cycles

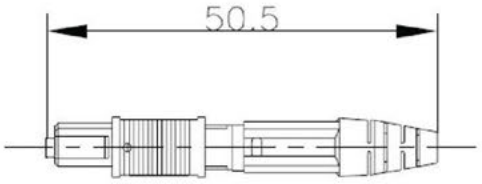
Amphenol FIBER OPTIC PRODUCTS





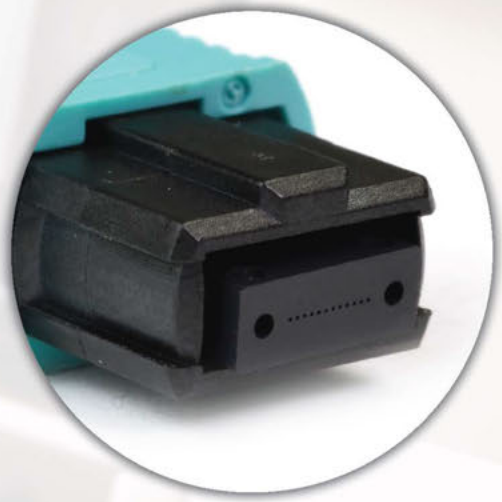






MPO VARIATIONS

Fiber Count



12 Fiber

24 Fiber

Cable Type

Round

Ribbon

Boots

Standard

Flex Boot

Ribbon Boot

45°

90°

2.0mm

Amphenol
FIBER OPTIC PRODUCTS

MPO Adapters

Amphenol's MPO adapters provide a wide variety of packaging options for connecting high-density MPO/MTP® connectors. Made in both die-cast and thermoplastic, Amphenol MPO adapters are precision manufactured to ensure intermateability with industry standard assemblies and connectors. Available with various flange styles, Amphenol MPO adapters meet the challenges and mechanical requirements of highly dense system designs while maintaining industry standard footprints.

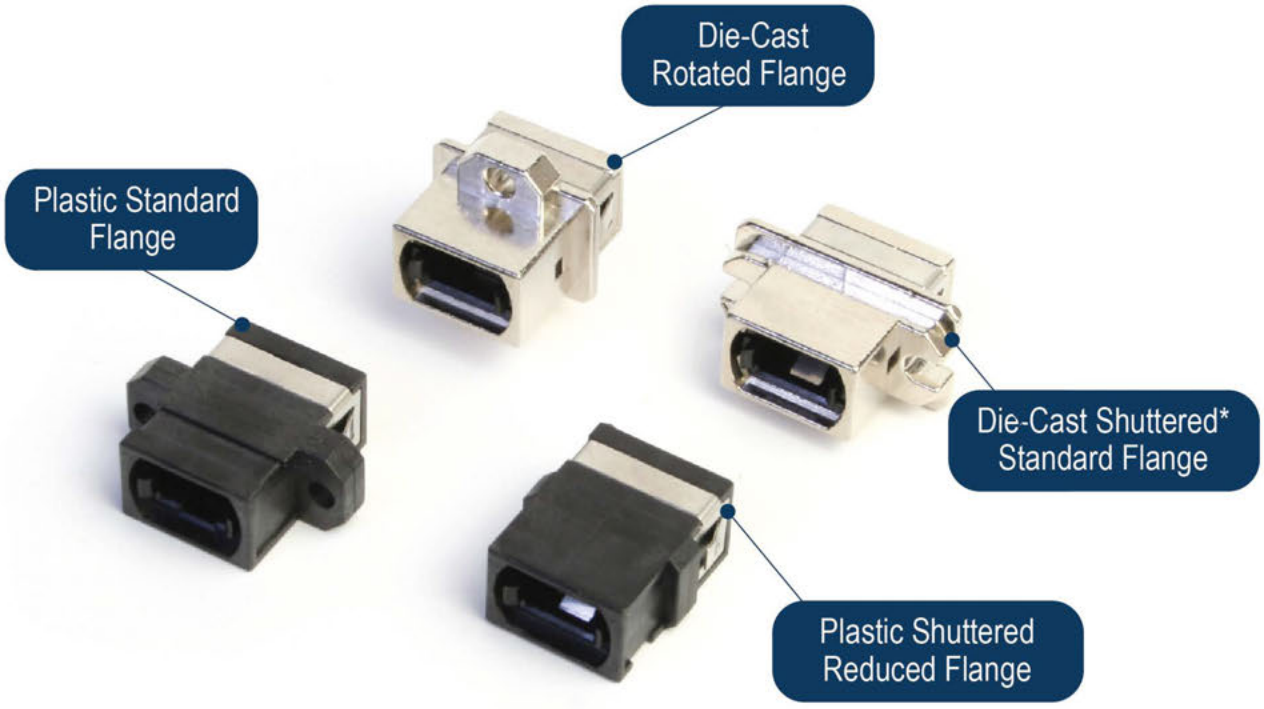
PART NUMBER SUMMARY

954 • 1 • 2 • X • 5 • X • X • 0

Material
0: Plastic
1: Die-Cast

Shutter Type
1: Shuttered
0: Non-Shuttered

Flange
1: Standard Flange
2: Rotated Flange
3: Reduced Flange
4: Rotated Reduced Flange



*US Patent No. 6,688,780

FC CONNECTORS

FC CONNECTORS

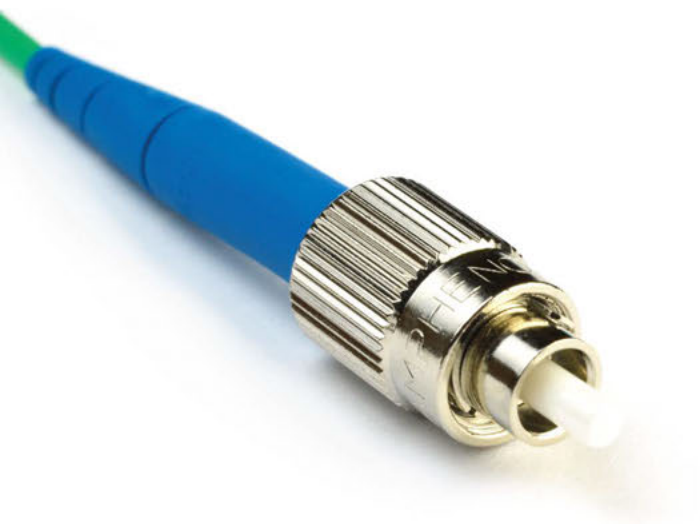
Amphenol's 944 Series fiber optic FC connectors effectively terminates optical fiber in a variety of network applications. The connector is secured using a threaded coupling nut, providing a significant increase in pull-out performance. The FC connector also features an internal cavity and epoxy injection tube that virtually eliminates the possibility of improper epoxy application, thus providing higher manufacturing yields.

Every aspect of the connector system is precision manufactured to produce reliable and consistent performance. The 944 series is available in tunable or non-tunable PC versions for flexibility in specific performance requirements. The FC/APC connector system features a tight-fit keyway that prohibits the possible mis-mating between FC/PC and FC/APC connectors.

Features and Benefits

- One-piece construction
- Non-optical disconnect feature design prevents signal interruption
- Teflon tube in rear of connector ensures clean epoxy injection
- High precision zirconia ferrules minimize insertion loss and return loss values
- Available in singlemode, angled singlemode, and multimode versions
- Available with 900µm, 2.0mm, or 3.0mm, 45/90 degree, and flex boots
- Tunable version available
- Stainless steel ferrules also available
- Compliant to IEC 61754-13 and TIA/EIA 604-4 specifications

Amphenol
FIBER OPTIC PRODUCTS



Specifications

Insertion Loss:	≤ 0.15dB typical, singlemode ≤ 0.23dB typical, APC ≤ 0.25dB typical, multimode
Return Loss:	Ultra (UPC)≤ -55dB* Angle (APC)≤ -65dB*
Durability:	< 0.2dB change, 500mating cycles
Temperature:	<0.3dB change, -40 to +85°C

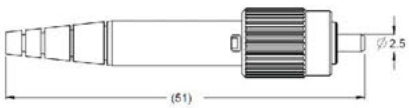
Intermateability:
Amphenol FC connectors are mechanically and optically intermateable with industry standard FC connectors and adapters and conform to TIA/EIA, IEC, and Telcordia specifications.

*Performance is polish dependent

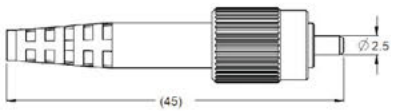
FC CONNECTORS

FC Connector Ordering Information

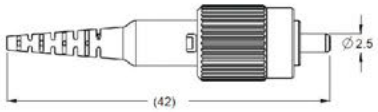
Part # (FC Connectors with Ceramic Ferrules)	Description	Recommended Cable Diameter	Body Clip	Boot
944-601-53203B	FC Connector, Multimode, 128µm Zirconia Ferrule	128µm	3mm	Black
944-601-53293B	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	3mm	Black
944-601-53293L	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	3mm	Blue
944-603-53393G	FC/APC Connector, Singlemode, 125.5µm Zirconia Conical Ferrule	125.5µm	3mm	Green
944-601-53202B	FC Connector, Multimode, 128µm Zirconia Ferrule	128µm	2mm	Black
944-601-53292B	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	2mm	Black
944-601-53292L	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	2mm	Blue
944-603-53392G	FC/APC Connector, Singlemode, 125.5µm Zirconia Conical Ferrule	125.5µm	2mm	Green
944-601-53209B	FC Connector, Multimode, 128µm Zirconia Ferrule	128µm	900µm	Black
944-601-53299B	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	900µm	Black
944-601-53299L	FC Connector, Singlemode, 125.5µm Zirconia Ferrule	125.5µm	900µm	Blue
944-603-53399G	FC/APC Connector, Singlemode, 125.5µm Zirconia Conical Ferrule	125.5µm	900µm	Green
Part # (FC Connectors with Stainless Steel Ferrules)				
944-602-50128-P	FC Connector, Multimode, 128µm Stainless Steel Ferrule	128µm	3mm	Black
944-602-50144-P	FC Connector, Multimode, 144µm Stainless Steel Ferrule	144µm	3mm	Black
944-602-50231-P	FC Connector, Multimode, 231µm Stainless Steel Ferrule	231µm	3mm	Black



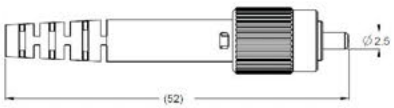
FC Connector with 2.0mm Boot



FC Connector with 3.0mm Boot



FC Connector with 900um Boot



FC Connector with Stainless Steel Ferrule and 3.0mm Boot

FC VARIATIONS

Connector Body

Standard

Boots

High Performance

Standard

900µm

45°

90°

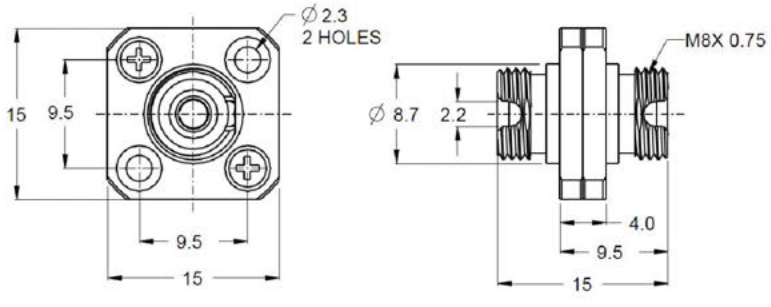
Flex Boot

Amphenol
FIBER OPTIC PRODUCTS

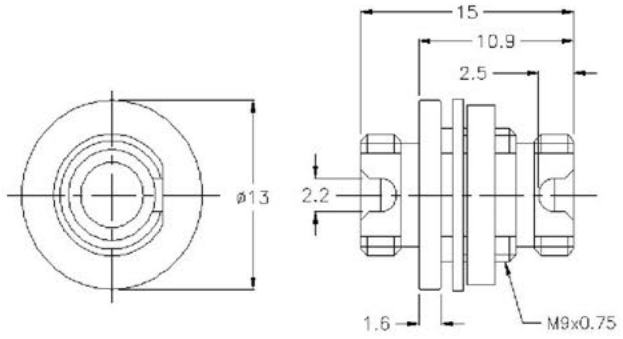
FC Adapters

Amphenol FC adapters are precision manufactured to produce reliable and consistent performance. The FC adapters are mechanically and optically intermateable with NTT FC type products and conform to JIS C 5970.
Available in bulkhead feed-through designs. These adapters are available with high precision zirconia or phosphor bronze alignment sleeves. Flange mount or D-hole mount adapter styles are available (standard or tight fit key configurations for APC).

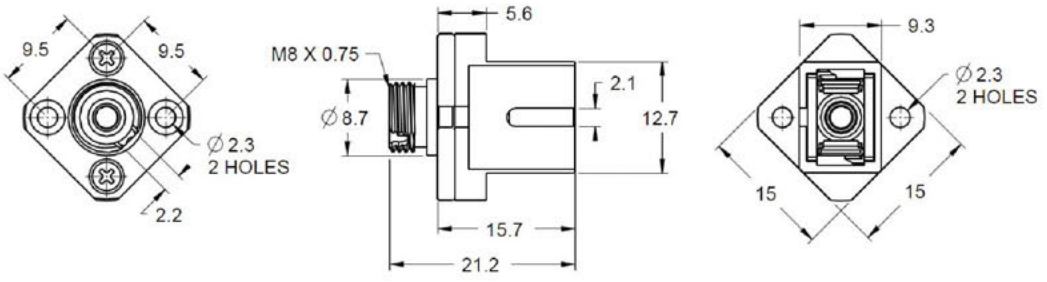
Part # (FC Adapter)	Description	Alignment Sleeve Material	Flange Type	Body
944-120-6000	FC Simplex adapter, metal body, singlemode	Zirconia 3.0mm	Square, Screw mount	Metal
944-120-6001	FC Simplex adapter, metal body, multimode	Phosphor Bronze	Square, Screw mount	Metal
944-125-6003	FC Simplex adapter, metal body, singlemode	Zirconia	Feed-through, D-hole	Metal
944-125-6002	FC Simplex adapter, metal body, multimode	Phosphor Bronze	Feed-through, D-hole	Metal
944-125-6004	FC/APC Simplex adapter, singlemode, Tight Keyway	Zirconia	Feed-through, D-hole	Metal
Part # (FC Hybrid Adapter)				
954-944-5001	SC-FC Hybrid simplex adapter, singlemode	Zirconia	Square, Screw mount	Metal
954-944-5000	SC-FC Hybrid simplex adapter, multimode	Phosphor Bronze	Square, Screw mount	Metal
Part # (Accessories)				
944-120-1014	FC Dust Cap with Chain, Coupling Nut with Cap			



FC Square Adapter Screw Mount



FC D Hole Adapter



SC - FC Hybrid Adapter

*US Patent No. 6,688,780

Amphenol
FIBER OPTIC PRODUCTS

ST CONNECTORS

ST CONNECTORS

Amphenol's 953 Series fiber optic ST and STII connector utilizes a bayonet style mating concept to provide a secure, robust coupling mechanism. The enclosed spiral slotted coupling nut allows easy insertion in densely packed patch panels.

The ST connector has been used extensively in telecom, data premise installation, and test lab applications. Special attention has been given to every ST performance parameter, increasing product repeatability and exceeding industry standards. The ST connector is available with a plastic or die cast body with a ceramic or stainless steel ferrule.

Features and Benefits

- The ST connector body and coupling nut are precision molded with a flame retardant polymer for a durable and light weight product
- The STII connector body and coupling nut are precision zinc die cast and nickel plated for superior strength and corrosion resistance
- High precision zirconia ferrules minimize insertion loss and return loss values
- Available in singlemode and multimode versions
- Available with 900µm, 2.0mm, or 3.0mm, 45/90 degree, and flex boots
- Stainless steel ferrules also available on both the ST and STII connector

Amphenol
FIBER OPTIC PRODUCTS

Specifications

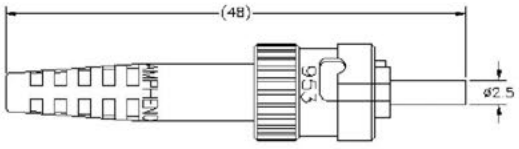
Insertion Loss:	≤ 0.15dB typical, singlemode ≤ 0.25dB typical, multimode
Return Loss:	Ultra (UPC) ≤ -55dB*
Durability:	< 0.2dB change, 500mating cycles
Temperature:	<0.3dB change, -40 to +85°C

Intermateability:
Amphenol 953 Series ST connectors are mechanically and optically intermateable with NTT- FC type products and conform to TIA/EIA and IEC specifications.
*Performance is polish dependent

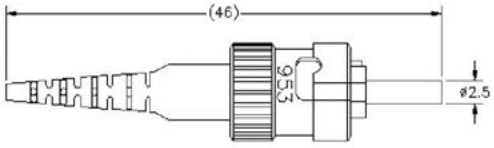
ST CONNECTORS

ST Connector Ordering Information

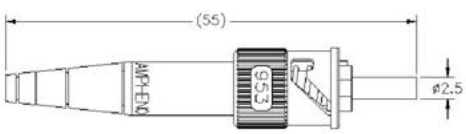
Part # (ST II with Ceramic Ferrule)	Description	Ferrule Hole Size	Recommended Cable Diameter	Body and Nut Material	Boot Color
953-101-5306-P	STII Connector, Singlemode, 126µm Zirconia Ferrule	126µm	3mm or 900µm	Die-cast	Black
953-101-5310-P	STII Connector, Multimode, 128µm Zirconia Ferrule	128µm	3mm or 900µm	Die-cast	Black
953-101-5316-P	STII Connector, Singlemode, 126µm Zirconia Ferrule	126µm	2mm	Die-cast	Black
953-101-5309-P	STII Connector, Multimode, 128µm Zirconia Ferrule	128µm	2mm	Die-cast	Black
Part # (ST II with Stainless Steel Ferrule)					
953-106-50128-P	STII Connector, Multimode, 128µm Stainless Steel Ferrule	128µm	3mm or 900µm	Die-cast	Black
953-106-50144-P	STII Connector, Multimode, 144µm Stainless Steel Ferrule	144µm	3mm or 900µm	Die-cast	Black
953-106-50231-P	STII Connector, Multimode, 231µm Stainless Steel Ferrule	231µm	3mm or 900µm	Die-cast	Black
Part # (ST with Ceramic Ferrule)					
953-101-5006-P	ST Connector, Singlemode, 126µm Zirconia Ferrule	126µm	3mm or 900µm	Plastic	Plastic
953-101-5010-P	ST Connector, Multimode, 128µm Zirconia Ferrule	128µm	3mm or 900µm	Plastic	Plastic
Part # (ST with Stainless Steel Ferrule)					
953-107-50128-P	ST Connector, Multimode, 128µm Stainless Steel Ferrule	128µm	3mm or 900µm	Plastic	Black
953-107-50144-P	ST Connector, Multimode, 144µm Stainless Steel Ferrule	144µm	3mm or 900µm	Plastic	Black
953-107-50231-P	ST Connector, Multimode, 231µm Stainless Steel Ferrule	231µm	3mm or 900µm	Plastic	Black



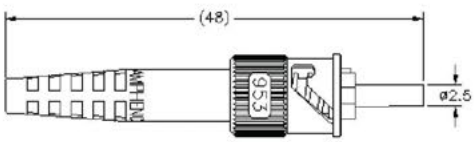
ST Connector with 3.0mm Boot



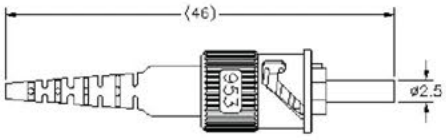
ST Connector with 900µm Boot



STII Connector with 2.0mm Boot



STII Connector with 3.0mm Boot



STII Connector with 900µm Boot

ST VARIATIONS

Connector Body

ST

STII

STII Long Body

Boots

High Performance

Standard

Short

45°

90°

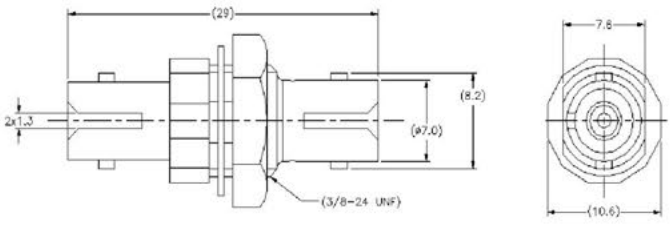
Flex Boot

Amphenol
FIBER OPTIC PRODUCTS

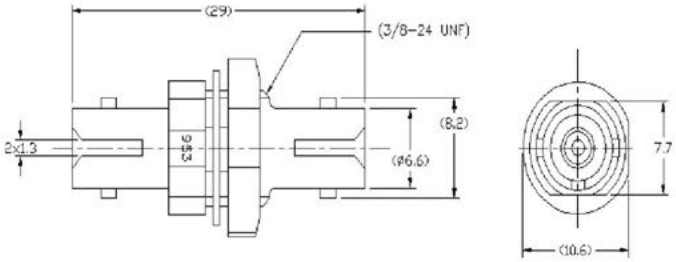
ST Adapters

Amphenol ST adapters are manufactured to be mechanically and optically intermateable with ST and STII products. Ideally suited for Datacom and Telecom applications in densely packed patch panels.

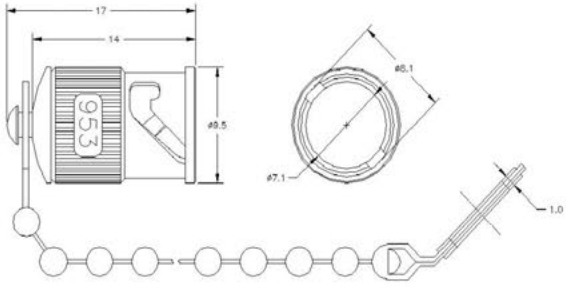
Part # (ST Adapter)	Description	Alignment Sleeve Material	Flange Type	Body
953-120-5000	ST adapter, plastic body, singlemode, D-hole	Zirconia	Feed-through, D-hole	Black Plastic
953-120-5003	ST adapter, metal body, singlemode, D-hole	Zirconia	Feed-through, D-hole	Metal
953-122-5002	ST adapter, plastic body, multimode, D-hole	Phosphor Bronze	Feed-through, D-hole	White Plastic
953-122-5003	ST adapter, metal body, multimode, D-hole	Phosphor Bronze	Feed-through, D-hole	Metal
Part # (ST Hybrid Adapter)				
954-953-5000	SC-ST hybrid simplex adapter, singlemode	Zirconia	Screw mount	Blue/Black Plastic
954-953-5001	SC-ST hybrid simplex adapter, multimode	Phosphor Bronze	Screw mount	Blue/Black Plastic
Part # (Accessories)				
953-1061	ST dust cap with chain, 0.130" diameter ring			
953-1079	ST dust cap with chain, 0.380" diameter ring			



ST Plastic Adapter, Feed-through, D-Hole



ST Metal Adapter, Feed-through, D-Hole



ST Dust Cap with Chain (953-1061)

*US Patent No. 6,688,780

Amphenol

FIBER OPTIC PRODUCTS

CONVERSION TABLE

Conversion Chart	
Length	
1 meter (m) = 100cm	1,000mm
1 millimeter (mm)	.001m
1 centimeter (cm)	.01m
1 decimeter (dm)	.10m
1 decameter (dam)	10mm
1 hectometer (hm)	100m
1 kilometer (km)	1,000m
Weight	
1 gram (g) = 100cg	1,000mg
1 milligram (mg)	.001g
1 centigram (cg)	.01g
1 decigram (dg)	.10g
1 decagram (dkg)	10g
1 hectogram (hg)	100g
1 kilogram (kg)	1,000g

Conversion Chart		
Meters	Yards	Inches
1.000	1.093	39.37
.914	1.000	36.00
Centimeters	Inches	Feet
1.00	.394	.0328
2.54	1.000	.0833
30.48	12.00	1.00
	Kilometers	Miles
	1.000	.621
	1.609	1.000


Amphenol
FIBER OPTIC PRODUCTS