Visit www.molex.com to access more part numbers and product information, download sales drawings, product specifications, 3D models, place sample requests, and more.

molex®
one company › a world of innovation

Fiber Optics
Introduction

Design and Innovation
Molex's experience and resources provide customers a wide range of design, manufacturing, and value-added services. Our in-house capabilities include computer-aided design, product modeling and rapid prototyping. These capabilities ensure designed-in reliability and performance in conjunction with faster time-to-market response for customer designed products.

Product Lines
Our extensive product offering includes a full range of passive interconnect solutions, serving the Telecommunication, Data Communication, Medical, Industrial and CATV markets. Products include optical backplane solutions, flex circuitry, transceivers, custom and standard cable assemblies, and most fiber optic connector standards.
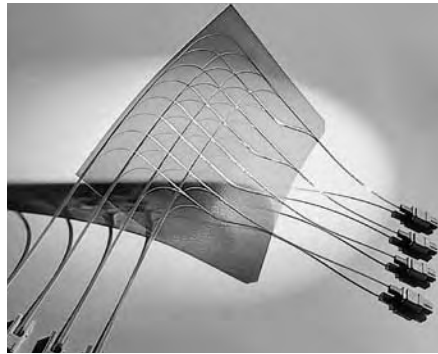
Optical Flex Circuitry
Our FlexPlane™ optical flex circuit provides one of the highest density interconnect systems on the market today. For high fiber count interconnects in backplanes, and cross connect systems, the FlexPlane's high density routing on a flexible, flame resistant substrate provides a manageable means of fiber routing from shelf-to-shelf.
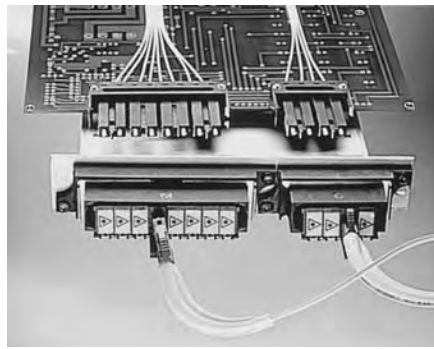
Backplane Solutions
To meet the demand for network bandwidth management and DWDM technology, we offer a variety of backplane interconnect solutions. The High Density Backplane MT (HBMT) interconnect system is designed to offer the versatility of a blind mating card edge connector. Based on the NTT-MT* ferrule and MTP† ribbon fiber connector, the blindmate Backplane MTP (BMTP) is suitable for multimode or singlemode applications. Our blindmate Backplane LC (BLC) systems are designed to provide high density using a small form factor connector and discrete ferrule solution. The widely field deployed Backplane SC and Backplane SC II (BSC and BSCII) systems integrate the NTT standard SC with blind mating PC board mountable connectors through custom Molex backplane adapters.
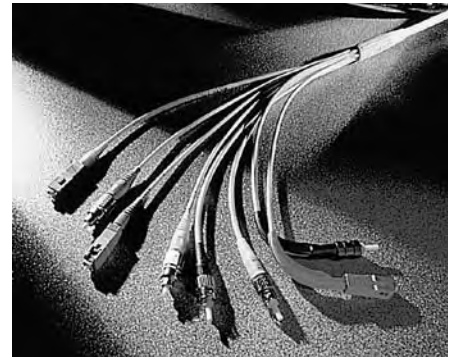
Connectors
Molex connectors provide high performance and reliability. The SC, SC/APC, SC Duplex, LC, MT-RJ, MTP†, MPO, FC, FC/APC, ST‡, ST II‡, FDDI and ESCON§ connectors are designed to industry standards. These designs utilize the latest engineered polymers, precision ceramics, and the finest metals. Our small form factor connectors are about 50% smaller than standard connectors.

Small Form Factor Connectors
Also in our offerings are small form factor connectors. Each is designed with unique features to address specific applications. The MT-RJ is the ideal small form factor duplex connector for Data Communication applications. The LC connector family offers a high performance connection within its small form factor package. The MTP/MPO connector provides a quick and reliable connection for multiple optical fibers.

Cable Assemblies
Exceptional performance in our cable assemblies is the result of advanced manufacturing processes and demanding specifications employed throughout the termination process. Each cable assembly is 100% optically tested and serialized for full traceability.

Contact
Datasheets, engineering drawings, termination procedures, application notes, etc., are all available online for your convenience. View our product information at www.molex.com/fiber or contact us at 1-800-A1-FIBER.

* NTT-MT is a trademark of NTT Advanced Technology Corporation
† MTP is a registered trademark of US Conec Ltd.
‡ ST, ST II are trademarks of OFS
§ ESCON is a registered trademark of International Business Machines Corporation

Fiber Optic Products

Q

Fiber Optics
Cable Assemblies

Features and Benefits
- Standard or custom assemblies
- Precision ferrule endface geometry
- Controlled fiber protrusion
- Factory polished, tested and serialized

Applications
- Telecommunication networks
- Data communication networks
- CATV networks

Overview

Many years in development and refinement, the advanced Molex termination process delivers exceptional performance for fiber optic terminations and cable assemblies. This process was developed to specifically control one of the most critical elements of fiber optic terminations—the ferrule endface geometry. Physical contact, fiber core alignment and termination reliability are greatly impacted by the radius, apex offset and concentricity of the ferrule. That is why pre-polished and pre-radiused ferrules are always used in Molex connectors.
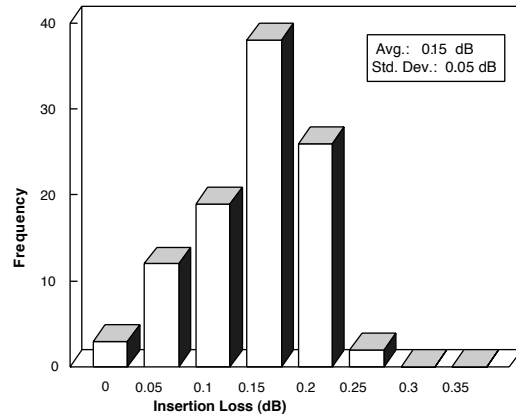
Fiber Optic Cable assemblies are available in Singlemode and Multimode fiber types. Molex manufactures standard single-ended pigtails or double-ended jumpers as well as having capabilities to build customized fiber assemblies. Customization can include special lengths, multiple fiber counts, staggered breakouts, custom breakout options, 45˚ or 90˚ bend boots, as well as specially tailored assemblies for almost any application. All assemblies are 100% inspected for optical characteristics and fiber endface finish. Inspection for endface geometry requirements is also available for any optical termination.

Assemblies suitable for data communication, telecommunication and CATV applications are terminated with connectors that are designed to and compatible with industry standards (EIA/TIA, IEC, ANSI, NTT and Telcordia Technologies).

Whatever application you have in mind, the Molex production team will make certain your assemblies, whether custom or standard, are delivered on time and to your exact specifications.

Specifications

Finish	Units	Insertion Loss		Return Loss
		Mean	Sigma	
Standard Multimode (Ceramic Ferrule)	dB	.34	.10	—
Enhanced Multimode (Ceramic Ferrule)		.17	.06	—
Super PC		.15	.05	≥ 45
Ultra PC		.15	.05	≥ 55
Angled Physical Contact (APC)		.25	.06	≥ 65

Avg.: 0.15 dB
Std. Dev.: 0.05 dB

SC Connector, 9/125μm Fiber
(Measured at 1550nm)

Fiber Optic Products

Q

Fiber Optic
Cable Assemblies
Cable Types

Simplex Cable
900μm Buffered Fiber

Optical Fiber
Acrylate Fiber Coating
Buffer Coating
to 900μm

Single Fiber Cable

Optical Fiber
Acrylate Fiber Coating
Dielectric Strength Member
Outer Jacket

900μm Buffer and KEVLAR*
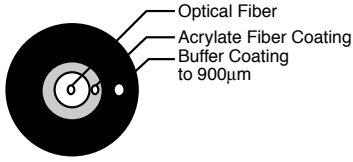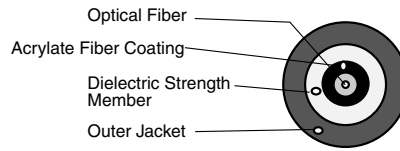
Optical Fiber with Acrylate Fiber Coating
Aramid Strength Members
900μm Buffer
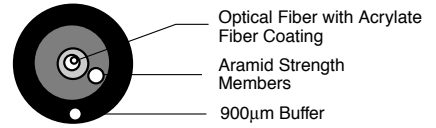
Duplex Cable
2-Fiber Zipcord Cable

Buffered Fiber
Dielectric Strength Member
Outer Jacket

Round Cable

Buffered Fiber
Dielectric Strength Member
Outer Jacket
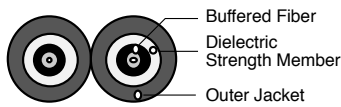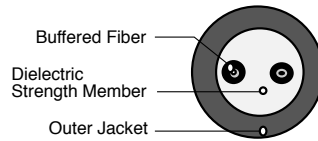
Breakout, Outside Plant and Distribution Cable
Breakout Cable†

Optical Fiber
Acrylate Fiber Coating
900μm Diameter Elastomeric Buffer
Aramid Strength Member
Color Coded Subcable Jacket
PVC Jacket
Central Strength Member

Distribution Cable†

Optical Fiber
Acrylate Fiber Coating
Color Coded 900μm Diameter Elastomeric Buffer
Aramid Strength Member
Outer Jacket
Central Strength Member
(Dependant on Fiber Count)
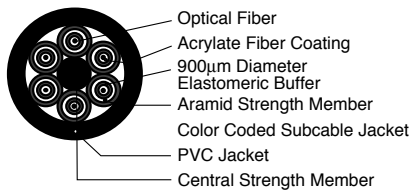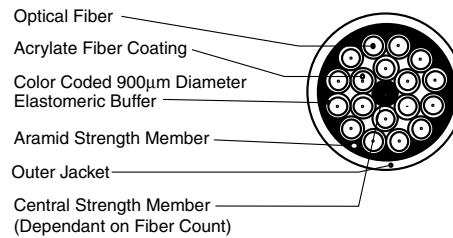
* KEVLAR is a registered trademark of E.I. duPont de Nemours & Company, Inc.
† Drawings are for illustration purposes. Please contact Molex Fiber Optics for details and options,
  in the U.S. (800)-A1-FIBER or outside the U.S. (630) 512-8787.

Fiber Optic Products

Q

molex

Optical Industrial Cable Assemblies and Adapters

106059 LC Duplex

Designed with rugged and compact housings, Molex's optical industrial assemblies incorporate the high performance of a fiber optic connection with the versatility of a rugged industrial connector. The assemblies guarantee an environmentally sealed optical connection with the combined push-pull insertion and bayonet-style mechanical latch. The bulkhead adapter mounts directly in a panel cut-out, serving as a sealed feed-through. The removable connector provides sealing between both the adapter mating-surface as well as the cable exiting the connector.

Molex's optical industrial assemblies are compatible with many fiber types and cable constructions and ideal for both indoor and outdoor applications. This assembly is particularly well-suited for long distances or remote connections.

Features and Benefits
- Provides moisture and dust protection allowing use in harsh industrial environments
- Sealed panel feed-through design allows easy installation into enclosures
- 100% optically tested to ensure quality performance assemblies
- Available in singlemode and multimode styles to work with any common fiber type
- Housing is NEMA 6P and IP67 rated ensuring dust and moisture protection
- Push-pull insertion with bayonet-style mechanical latch provides easy installation and removal
- Broad temperature range (-40 to +85°C) is ideal for indoor or outdoor applications
- Available with a single fiber SC, 2 fiber LC duplex or multifiber MPO interface.

Reference Information
Packaging: Cable Assemblies—Individual bag or spool
Adapters—Individual bag
Mates With: Standard LC, SC or MTP/MPO assemblies
Designed In: Inches

Optical
Insertion Loss: Singlemode—<0.35dB max. (0.13dB typical)
Multimode—<0.50dB max. (0.10dB typical)
Return Loss: Singlemode—45 to 55dB
Wavelength: Singlemode—1310 or 1550nm
Multimode—850 or 1300nm

Physical
Housing: Polymer or Zinc Die-cast with Electroless Nickel finish
Ferrule: Zirconia ceramic
Cable Type: Indoor/outdoor
Fiber Type: Singlemode or multimode

Applications
- Industrial
  - System controls
  - Monitoring
  - High Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) areas
- Medical equipment
- Telecommunication/CATV
  - FTTx
  - Outdoor system connections
- Other markets
  - Rugged test equipment
  - Mobile broadcasting or audio-visual equipment
  - Food processing
- Wifi and Wimax antenna connectors

Cable Assemblies (Connector reference part numbers)

Order No.	Style	Application	Ferrule Type	Fiber Count	Interface	Housing Material
106059-1100	Industrial LC	Indoor/Outdoor	Multimode	2	Male	Polymer
106059-1110			Singlemode			
106059-1130			APC			
106059-7100			Multimode			Metal
106059-7500			Singlemode			
106059-7900			APC			
106059-2020	Industrial SC		Multimode	1		Polymer
106059-2025			Singlemode			
106059-2026			APC			
106059-6100	Industrial MPO		Multimode	4		
106059-6105				8		
106059-6110				12		
106059-6115			Singlemode	4		
106059-6120				8		
106059-6125				12		

Adapters

Order No.	Style	Fiber Type	Sleeve Material	Application	Housing	Dust Cap
106059-0200	Industrial LC	Multimode	Metal	Bulkhead	Polymer	Polymer
106059-0210		Singlemode	Ceramic			
106059-0220		APC (SM)				
106059-3110		Multimode	Metal	In-Line		
106059-3100		Singlemode	Ceramic			
106059-7250		Multimode	Metal	Bulkhead	Metal	
106059-7650		Singlemode	Ceramic			
106059-7200		Multimode	Metal			Metal
106059-7600		Singlemode	Ceramic			
106059-2031	Industrial SC	Multimode	Metal	Bulkhead	Polymer	Polymer
106059-2030		Singlemode	Ceramic			
106059-2132		APC (SM)				
106059-4110		Multimode	Metal	In-Line		
106059-4100		Singlemode	Ceramic			
106059-6200	Industrial MPO	Singlemode/Multimode	N/A	Bulkhead		

Accessories

106059-0020	Dust Cap, Industrial optical assemblies (connector cap), Polymer

Note: 1. Optical industrial assemblies are supplied in a cable assembly form only
2. Above part numbers are for reference drawings only, all assemblies will be assigned custom part numbers

Sealed SFP Assemblies Integrated Optical and Electrical Receptacles

106501

Features and Benefits
- Compatible with ODVA compliant optical and Copper assemblies accommodating industry standard interface connectors and cable assemblies
- Accommodates Copper or optical SFP devices allowing for future upgrades or backwards compatibility
- IP-67 rated hardened user interface for providing dust and water protection
- Durable diecast receptacle housing with electrically conductive gasket provides EMI suppression
- Allows SFP device to be installed and/or removed from the front or back side of the receptacle allowing for convenient factory installations and easy field upgrades
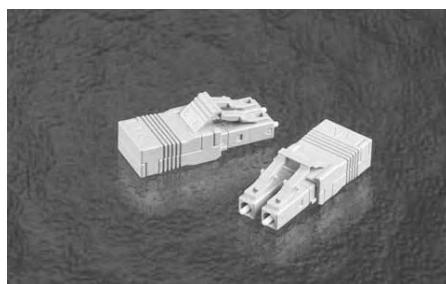
Applications
- Industrial
  - System controls
  - Monitoring
  - Data routers
- Telecommunication
  - Outdoor environment data routers, switches or networking equipment
  - FTTX connections
- Wireless base station and antenna feed
  - WiFi
  - WiMax
- Mobile communications equipment
  - Military
  - Broadcast
- Other markets
  - BPL (Broadband over power lines)
  - Food processing
  - Rugged test equipment

SFP ASSEMBLIES

Order No.	Protocol	Components	Copper Flex Length
106501-1000	Optical	Module, SFP cage, high-speed Copper-flex assembly	0.15m (6.000")
106501-2000	Electrical		
106501-3000	Optical or Electrical	Receptacle with panel nut	N/A

LC Loopback Assemblies

106052

The Molex family of LC Loopback assemblies provides a stable and convenient means for testing SFP and SFF devices in many applications. The rugged and compact design of the Molex Loopback assembly incorporates a contoured grip which allows for easy installation and removal, a durable thumblatch and compact size which will allow installation in ganged and belly-to-belly applications with no interference. Molex Loopback assemblies are available in singlemode, multimode 50/125μm and multimode 62.5/125μm fiber sizes.

Features and Benefits
- Protected fiber loop prevents damage to fiber
- Contoured handle/housing for easy insertion and removal of the loopback
- 100% testing ensures quality performance of all assemblies
- Available in singlemode and multimode styles
- Compact size allows for testing of ganged devices with no interference
- Overall length is less than a jacketed LC connector allowing ample panel to door clearance
- Attenuated singlemode versions are also available

Applications
- Fibre channel testing
- Gigabit Ethernet testing
- ATM testing
- High-speed device testing
- Device burn-in
- Lab testing
- System troubleshooting

Reference Information
Insertion Loss: <3.0dB (1.0dB typ.)
Return Loss: Singlemode >50dB
Wavelength: Singlemode—1310nm or 1550nm
　　　　　　　Multimode—850 or 1300nm

Order No.	Description
106052-0010	LC Loopback Assembly, Multimode 50/125 fiber IL <2.0 dB at 850nm and 1300nm
106052-0040	LC Loopback Assembly, Multimode 62.5/125 fiber IL <2.0 dB at 850nm and 1300nm
106052-0030	LC Loopback Assembly, Singlemode fiber IL <3.0 dB at 1310nm and 1550nm

Fiber Optic Products

Q

molex

Circular MT
Optical Cable Assemblies

106277 Circular MT
106275 1-by-3 Circular MT

Circular MT Connector and Receptacle

1-by-3 Circular MT Connector and Adapter

Molex's rugged, high-density circular MT cable assemblies are designed to meet requirements mandated by telecommunication, military, medical and many other industries. Utilizing the low-profile Circular MT or 1-by-3 circular connectors, these cable assemblies are designed to meet or exceed the mechanical specifications of traditional datacommunication and telecommunication interchassis connections.

The Circular MT recptacle and 1-by-3 circular MT adapter housings feature a deep, polarized mating cavity which will reduce alignment-pin hole damage that may occur during the mating process with traditional MT connector systems. The circular MT receptacle housing uses a jam nut for mounting versus the 1-by-3 circular MT adapter that is flange mount with screws. The shutter designed for the 1-by-3 adapter provides laser eye safety and has passed the TP-91 dust test specification.

Molex's circular MT cable assemblies offer a more robust MT ferrule-based interface versus ribbon-based optical interfaces, which have traditionally been rectangular.

The circular MT and 1-by-3 circular MT products ensure improved alignment benefits, increased pull-strength and the use of new round ribbon-cable constructions. Circular MT connectors willl be sold only as terminated cable assemblies.

Features and Benefits

- MT ferrules are recessed in the connector and receptacle housings ensuring scoop-proof mating which prevents damage to alignment pins and ferrule endface
- Aluminum connector and receptacle housings provide a robust interconnect with exceptional pull strength
- Stainless Steel locking mechanism provides a secure latch to prevent accidental demating
- Standard MT ferrules provide an industry-standard interface with high density and reliable performance
- Designed for round, multi-fiber jackets to provide improved fiber management

Reference Information
Packaging: Custom per assembly

Optical
Ferrule Type: MT Ferrule
Fiber Density: 12 to 72 fibers
Fiber Type:
    Single mode—9/125μm
    Multimode—50/125μm or 62.5/125μm
Insertion Loss:
    Single mode:
        8 Fiber: 0.12 dB typical <0.5dB max.
        12 Fiber: 0.15 dB typical <0.75dB max.
        24 Fiber: 0.20 dB typical <0.75dB max.
    Multimode
        12 Fiber: 0.15 dB typical <0.5dB max.
        24 Fiber: 0.22 dB typical <0.75dB max.
        36 Fiber: 0.30 dB typical <1.0dB max.
        72 Fiber: 0.35 dB typical <1.0dB max.

Mechanical
Durability: 200 matings

Physical
Housing: Nickel-plated aluminum

Applications
- Telecommunication equipment
  - Hubs, routers, data centers
- Instrumentation and medical equipment
  - Test equipment, switches, video systems
- Military
  - Communications equipment

Order No.	Component	Component Width	Component Length	† Cable Length	‡Fiber Density
106277-0001*	Circular MT Connector, Double-Ended Assembly	∅12.70mm (.500")	∅36.30mm (1.429")	3.00m (9.840')	24 Fiber
106277-1001*	Circular MT Receptacle, Single-Ended Assembly	∅19.05mm (.750")	∅28.70mm (1.130")		
106277-0000*	Circular MT Connector and Receptacle System	N/A	N/A		
106275-1000*	1-by-3 Circular MT Connector, Double-Ended Assembly	∅17.175mm (.676")	∅49.00mm (1.92")		3-by-12 Fiber MT = 36 Fibers
106275-1001*	1-by-3 Circular MT Adapter System Drawing	26.2-by-26.2mm (1.03 x 1.03")	38.80mm (1.527")	N/A	
106275-0000*	1-by-3 Circular MT Connector and Adapter System	N/A	N/A	3.00m (9.840')	

*Only sold as terminated cable assemblies. Circular connector and receptacle components will not be sold separately.
Part numbers and sales drawings will be established based on specific customer design requirements.
†Cable Length: Dependent upon customer design requirement
‡Fiber Density: Fiber counts range from 12 to 72 fibers, dependent upon customer design requirement

molex®

MT and MTP*/MPO
Cable Assemblies

Features and Benefits

- Precision alignment pins improve insertion loss performance
- Fanouts to simplex fiber connectors require no splicing resulting in cost reduction
- MTP to HBMT and BMTP cable assemblies provide a transition from the board to the backplane
- Color-coded housings ensure singlemode and multimode assemblies are easily distinguished
- Push-pull mating of MTP* for quick connections
- Variety of MTP adapters facilitate multiple mounting options for flexible board and panel layouts
- QSFP MT optical cable assemblies meet the QSFP interface specification

Applications

- Dense interconnect for datacommunication and telecommunication systems
- Chassis-to-chassis connections
- Miniature interconnection for optoelectronic modules

Reference Information

MTP/MPO sold as terminations only

* MTP is a registered trademark of US Conec Ltd.

Order No.	Bandwidth See Table 1	QSFP Optical Cable Assembly Description	Length/M
106283-0001	Standard Bandwidth	MTP (female) to MTP (female), 3mm 8 fiber, OFNP	1
106283-0005			5
106283-0010			10
106283-0015			15
106283-0020			20
106283-0025			25
106283-0030			30
106283-1001	High Bandwidth	MTP (female) to MTP (female), 3mm 8 fiber, OFNP	1
106283-1005			5
106283-1010			10
106283-1015			15
106283-1020			20
106283-1025			25
106283-1030			30
106283-5001	Standard Bandwidth	MTP (female) to 4 Duplex LC, 3mm 8 fiber, OFNP	1
106283-5003			5
106283-5101	High Bandwidth	MTP (female) to 4 Duplex LC, 3mm 8 fiber, OFNP	1
106283-5103			5
106283-5201	Standard Bandwidth	MTP (female) to 8 Simplex LC	1
106283-5203			5
106283-5301	High Bandwidth	MTP (female) to 8 Simplex LC	1
106283-5303			5

Note: See Molex website for additional ordering information: www.molex.com/fiber/mtpca.html

Table 1

Fiber Type	Overfilled Launch Bandwidth, Min. (MHz-km)		1 Gigabit Ethernet Link Distance, Min. (m)		10 Gigabit Ethernet Link Distance, Min. (m)	
	850nm	1300nm	850nm	1300nm	850nm	1300nm
Standard Bandwidth	500	500	600	600	86	—
High Bandwidth	1500	500	900	550	300	—

Fiber Optic Products

Q

Array Connector and Adapter System
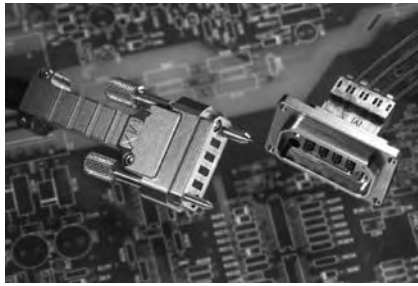
The Molex array connector and adapter system provides a high fiber density chassis-to-chassis interconnect solution. Constructed of nickel plated aluminum, the array connector system provides an extremely rugged interconnect that is designed to shield and isolate EMI.

Molex's Array connector and adapter system is utilized on the card front panel or chassis back panel. Robust polarized guide pins ensure consistent and repeatable mating. The Array System exceeds Telcordia 1435 Pull Test Requirements with a robust back shell and a variety of ribbon cable retention mechanisms. Multiple back shell options allow system design engineers to customize their cable management strategy.

Array terminations utilize the industry standard NTT developed MT ferrule as the optical interconnect. A high-density interconnection of 192 fibers is achieved by increasing the number of MT ferrules in the array connector either as a single or dual row of 4 to 8 MT ferrules per row. The individual MT ferrules may be populated with 4, 8, 12 or 24 fibers depending on the optical requirements.

Features and Benefits
- Aluminum nickel plated housing protects internal fibers while providing excellent EMI shielding
- Capable of aligning up to 576 fibers in a 1.30" (33.02mm) by 3.70" (93.98mm) footprint which increases real-estate on the chassis front or back panel
- Multiple back shell design allows for customization of the fiber routing in a system
- Utilizes industry standard NTT MT ferrules as the optical interface providing a scalable solution as the optical requirements increase
- Jackscrews secure connector and mating adapter providing a robust mechanical interface

Applications
- Datacommunication networks
- Telecommunication networks
- Chassis-to-chassis connections

Reference Information
Connector/Adapter Body Material: Aluminum Nickel plated
Connector Ferrule: 4, 8, 12 or 24 fiber available
Housing: UL V-0

Order No.	Description	Backshell Angle	Max. Fiber Density
106009-0250*	1 x 4 Array Interconnect System	Straight	48
106009-0320*	1 x 6 Array Interconnect System		72
106009-0420*	1 x 8 Array Interconnect System	90 Degree	192

*Only sold as terminated cable assemblies. Array connectors will not be sold separately.
Part numbers. and drawings will be established based on specific customer design requirements.

Fiber Optics
Optical Flex Circuit and Backplane Solutions

Flexplane™ Optical Flex Circuit
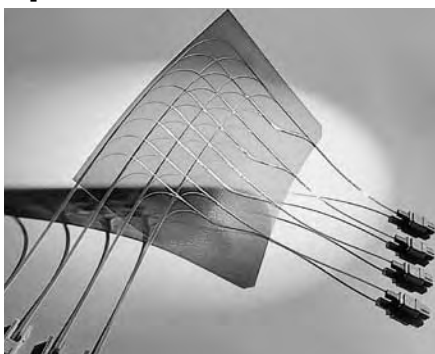
Features and Benefits
- Diverse substrate size, shape and packaging provides efficient and manageable solutions to high-fiber count systems
- Compatible with mass and discrete-fiber terminations to ensure customized solutions
- Available in virtually any routing scheme to provide a variety of design alternatives
- Direct or fusion splice terminations available to eliminate additional insertion loss
- Compatible with MT ferrules, an ideal solution for high-density applications using Molex's backplane HBMT and BMTP interconnect systems
- Singlemode, multimode or hybrid versions provide a variety of options
- Entire circuit is 100% insertion loss (IL) and continuity tested to ensure correct pin-out prior to shipment
- Flame Retardant Flex Plane: Meets UL Optical Fiber Branching Device (File #E236312)

Applications
- Computing equipment
- Telecommunications equipment: transmission, switching, multiplexing
- Broadband equipment: amplifiers

Contact Molex Fiber Optics for configuration and part numbers, in the U.S. (800) A1-FIBER or outside the U.S. (630) 512-8787.

Order No.	Description	Substrate Width	Substrate Length	Substrate Height
106401-0000†	Standard Routing 8-by-8 Perfect Shuffle	74.00mm (2.193")	137.00mm (5.394")	1.50mm (.059")
106404†	Flame-Retardant Standard Shuffle Series	Standard or 3D versions are also available as Flame-Retardant FlexPlane assemblies		
106406-0000†	3D Routing 8-by-8 Perfect Shuffle	32.00mm (1.260")	71.00mm (2.795")	3.00mm (.118")
106404†	Flame-Retardant 3D Shuffle Series	Standard or 3D versions are also available as Flame-Retardant FlexPlane assemblies		

† Only sold as terminated assembles. Part numbers and sales drawings will be established based on specific customers design requirements.

MTP-CPI
(Coplanar Interconnect)

106088
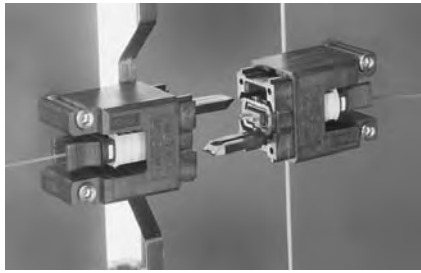
Features and Benefits

- Hermaphroditic design allows the same interconnect housing to be used on front and rear blades simplifying procurement and inventory
- No mating frame required in the backplane to simplify design and assembly
- Inner housing is spring loaded, providing generous Z-float which compensates for card tolerances
- MTP connector optical interface meets industry standard interface specifications for multi-fiber and parallel optical transceiver applications

Applications

- Internetworking equipment
  - Routers
  - Hubs
  - Servers
- Telecommunication equipment
  - Central office
  - Wireless infrastructure
  - Multi-platform service systems (DSL, cable data)
- Test and measurement equipment

Reference Information

Packaging: Individual
Mates With:
  - The MTP-CPI is hermaphroditic
  - MTP cable assemblies are sold separately (MTP specifications can be found on the Molex website at: www.molex.com/fiber/mtpca.html)

Optical

Insertion Loss (IL):
  Dependent on the fiber type and performance requirements (MTP specifications can be found on the Molex website at: www.molex.com/fiber/mtpca.html)

Mechanical

Mating Force: 10.0 lbf (44.48N)
Durability: 200 mates

Physical

Housing: Thermoplastic Polyphenylene Sulphide (PPS)
RoHS Compliant

Molex's new coplanar connector allows front cards to be replaced without disrupting cabling at the rear of the chassis, resulting in maintenance flexibility and minimal service interruption. The MTP*-CPI (coplanar interconnect) provides a smooth transition from the front blade active devices (LEDs, lasers and receivers) to the rear transition module (RTM).

Molex developed the MTP-CPI to meet the dimensional requirements of the Advanced Telecom Computing Architectures (Advanced TCA or ATCA), zone 3, connector specification. ATCA is an emerging standard focused on developing a new blade (board) and chassis (shelf) form factor optimized for high-speed communication systems. The principal objective is to provide standardized platform architecture for central office or service provider applications. For more information on ATCA, please visit www.picmg.org.

Molex selected the MTP connector interface for use in the ATCA midplane application because of its optical density and interoperability between vendors. The MTP connector is the industry standard connector system for multi-fiber and parallel optical transceiver applications.

The MTP-CPI is not limited to ATCA applications and may be used in any coplanar application. The new MTP-CPI is mounted directly to the card with a simple pass-through cutout in the backplane. The MTP-CPI is a hermaphroditic design, which simplifies the procurement. With the use of the MT ferrule in the MTP connector, fiber counts from 8 to 72 fibers can be achieved. Molex MTP cable assemblies are sold separately.

*MTP is a registered trademark of US Conec LTD

Order No.	Component	Mounting Style	Dimension (L x W x H)
106088-0100	Connector	Rear Mount	21.57mm (.849") x 21.31mm (.839") x 17.64mm (.694")
106088-0200		Side Mount	14.35mm (.565") x 32.24mm (1.269") x 17.64 (.694")
106088-0800	Removal Clip	N/A	N/A

MTP-CPI Cable Assemblies

MTP cable assemblies sold separately. See Molex website for ordering information: www.molex.com/fiber/mtpca.html

molex

MTP* Backplane Interconnect System (BMTP)

Features and Benefits

- Patented dual shutter design for dust and eye safety protection
- Singlemode and multimode compatible
- Integrates with HDM electrical connector system
- Telcordia GR-1435-core compliant
- Generous mechanical float in the X, Y and Z axis
- Compatible with optical flex circuit technology
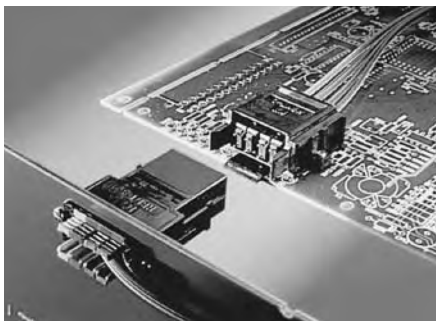- Utilizes standard MTP connector as user interface

Applications

- High density blind mate interconnect for data and telecommunication applications
- Integrated optical and HDM electrical systems
- Total optical backplane solution when used with Molex's FlexPlane optical flex circuit

Number of Connectors	BMTP Backplane	BMTP Daughter Card	Arrangement
1 position	106186-0017	106086-5220	2 guide pins
2 position	106186-0021, 106185-0027	106086-5226	
3 position	106186-0022	106086-5221	1 guide pin with spacer
3 position	106186-0025	106086-5225	1 guide pin without spacer
4 position	106186-0013	106086-5213	2 guide pins with spacer

*MTP is a registered trademark of US Conec Ltd.
Note: BMTP connectors are offered as terminated cable assemblies only. Contact Molex sales for customized cable designs

High Density Backplane MT Interconnect System (HBMT)

Features and Benefits

- Patented dual shutter design for dust and eye safety protection
- Singlemode and multimode compatible
- Telcordia GR-1435-core compliant
- Generous mechanical float in the X, Y and Z axis
- Compatible with optical flex circuit technology
- Utilizes standard MT ferrule as the optical interface

Applications

- High density blind mate interconnect for data and telecommunication systems
- Total optical backplane solution when used with Molex's FlexPlane optical flex circuit

Order No.	Type	Description
106105-0100	HBMT connector	HBMT daughter card connector housing, rivet mount
106105-1100		HBMT daughter card connector housing, screw mount
106105-2100		HBMT daughter card connector housing, rivet mount, floating
106105-0000	HBMT adapter	HBMT motherboard adapter housing, rivet mount
106105-1000		HBMT motherboard adapter housing, screw mount
106105-2000		HBMT motherboard adapter housing, screw mount, fixed

Note: HBMT connectors are offered as terminated cable assemblies only. Contact Molex sales for customized cable designs

Fiber Optic Products

Q

Fiber Optics
Optical Flex Circuit and Backplane Systems

LC Backplane Connector System (BLC)
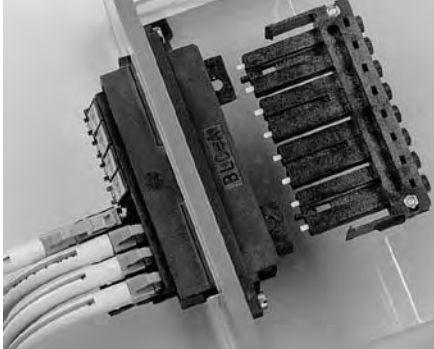
Features and Benefits
- Small form factor LC interface: 1/2 scale of SC connector, RJ-45 latching, uses 1.25mm ferrule
- High performance: 2, 4 and 8 fiber terminations
- Discrete tunable ferrule
- Highly stable interconnect: connection isolated to daughtercard
- Generous axial alignment
- Built-in dust and eye protection
- Low insertion loss:
  < 0.20 dB typical MM
  < 0.15 dB typical SM

Applications
- Computing equipment
- Telecommunications equipment: transmission, switching, multiplexing
- Broadband equipment: amplifiers

| Order No.	Type	Description
106045-5000	BLC Connector	Connector, 2 position, 126μm Singlemode Zirconia Ferrules for 900μm buffered fiber, color black
106044-5000		Connector, 4 position, 126μm Singlemode Zirconia Ferrules for 900μm buffered fiber, color black
106046-5000		Connector, 8 position, 126μm Singlemode Zirconia Ferrules for 900μm buffered fiber, color black
106045-3000		Connector, 2 position, 127μm Multimode Zirconia Ferrules for 900μm buffered fiber, color black
106044-3000		Connector, 4 position, 127μm Multimode Zirconia Ferrules for 900μm buffered fiber, color black
106046-3000		Connector, 8 position, 127μm Multimode Zirconia Ferrules for 900μm buffered fiber, color black
106048-5000	BLC/APC Connector	Connector, 2 position, 126μm Singlemode Zirconia APC Ferrules for 900μm buffered fiber, color green
106047-5000		Connector, 4 position, 126μm Singlemode Zirconia APC Ferrules for 900μm buffered fiber, color green
106049-5000		Connector, 8 position, 126μm Singlemode Zirconia APC Ferrules for 900μm buffered fiber, color green
106145-1100	BLC Adapter	Adapter, 2 position, Singlemode Zirconia Ceramic alignment sleeves, color black
106144-1100		Adapter, 4 position, Singlemode Zirconia Ceramic alignment sleeves, color black
106146-1100		Adapter, 8 position, Singlemode Zirconia Ceramic alignment sleeves, color black
106145-0100		Adapter, 2 position, Multimode Phosphor Bronze alignment sleeves, color black
106144-0100		Adapter, 4 position, Multimode Phosphor Bronze alignment sleeves, color black
106146-0100		Adapter, 8 position, Multimode Phosphor Bronze alignment sleeves, color black
106145-1500	BLC/APC Adapter	Adapter, 2 position, Singlemode APC Zirconia Ceramic alignment sleeves, color green
106144-1500		Adapter, 4 position, Singlemode APC Zirconia Ceramic alignment sleeves, color green
106146-1500		Adapter, 8 position, Singlemode APC Zirconia Ceramic alignment sleeves, color green

Note 1: BLC connectors are supplied in cable assembly form only
Note 2: Above connector part numbers are for reference drawing only, all assemblies will be assigned custom part numbers

Fiber Optic Products

Q

molex

Fiber Optics
Optical Flex Circuit and Backplane Systems

SC Backplane Connector System (BSC/BSCII)
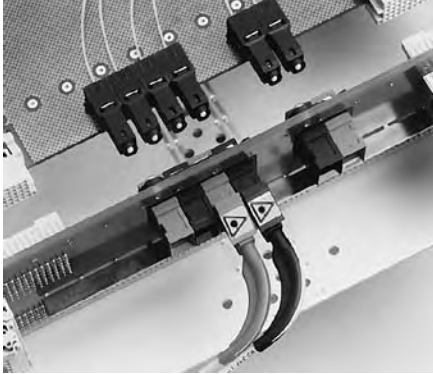
Features and Benefits
- System based on NTT-SC* standard
- System integrates: BSC or BSCII backplane connector, backplane adapter, NTT-SC standard connector
- Backplane connector: PC board mountable, blind mate coupling, removable ferrule assembly, stackable design for multiple channels, floating ferrule design is self-aligning, tunable feature for BSCII
- Backplane adapters: traditional SC style, SC style with shutter
- Low insertion loss:
  <0.20 dB typical MM
  <0.15 dB typical SM

Applications
- Telecommunications equipment: transmission, switching, multiplexing
- Broadband equipment: amplifiers
- Computing equipment

	Product	Order No.	Type	Description
BSC	Connectors	106070-3000	BSC Backplane Connector	128μm, MM, Zirconia PC ferrule, 900μm, buffered fiber
		106070-5000		126μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
		106075-2000	BSC/APC Backplane Connector	125.5μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
		106075-5000		126μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
	Adapters	106170-0000	BSC Backplane Adapter	Singlemode Zirconia Ceramic alignment sleeve, black housing
		106171-0000		Multimode Phosphor Bronze alignment sleeve, black housing
		106170-0020	BSC/APC Backplane Adapter	Singlemode APC Zirconia Ceramic alignment sleeve, green housing
		106170-0030	BSC Backplane Adapter	Singlemode Zirconia Ceramic alignment sleeve, red housing
		106171-0030		Multimode Phosphor Bronze alignment sleeve, red housing
		106170-0400		Singlemode Zirconia Ceramic alignment sleeve, black housing with shutter
		106171-0400		Multimode Phosphor Bronze alignment sleeve, black housing with shutter
		106170-0420	BSC/APC Backplane Adapter	Singlemode APC Zirconia Ceramic alignment sleeve, green housing with shutter
		106170-0430	BSC Backplane Adapter	Singlemode Zirconia Ceramic alignment sleeve, red housing with shutter
		106171-0430		Multimode Phosphor Bronze alignment sleeve, red housing with shutter
BSCII	Connectors	106071-3000	BSCII Backplane Connector	128μm, MM, Zirconia PC ferrule, 900μm, buffered fiber
		106071-2300	BSCII Backplane Connector	125.5μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
		106076-2300	BSCII/APC Backplane Connector	125.5μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
		106076-5000	BSCII/APC Backplane Connector	126μm, SM, Zirconia PC ferrule, 900μm, buffered fiber
	Adapters	106170-2000	BSCII Backplane Adapter	Singlemode Zirconia Ceramic alignment sleeve, black housing
		106171-2000		Multimode Phosphor Bronze alignment sleeve, black housing
		106170-2030		Singlemode Zirconia Ceramic alignment sleeve, red housing
		106171-2030		Multimode Phosphor Bronze alignment sleeve, red housing
		106170-2400		Singlemode Zirconia Ceramic alignment sleeve, black housing with shutter
		106171-2400		Multimode Phosphor Bronze alignment sleeve, black housing with shutter
		106170-2430		Singlemode Zirconia Ceramic alignment sleeve, red housing with shutter
		106171-2430		Multimode Phosphor Bronze alignment sleeve, red housing with shutter

Fiber Optic Products

Q

* NTT-SC is a trademark of NTT Advanced Technology Corporation

Fiber Optics
Connectors and Adapters

FC Connectors and Adapters

Features and Benefits
- Designed to NTT-FC* standards
- 1-piece body design: reduces termination time; field installable
- Pre-polished ceramic ferrules: Minimum polishing needed. Maintains endface geometry, physical contact
- Low insertion loss:
  < 0.15 dB typical SM
  < 0.34 dB typical MM
  < 0.17 dB typical MM enhanced

Applications
- Telecommunication networks
- CATV networks
- Active device termination
- Instrumentation

Order No.	Type	Description
106053-0000	FC Connector	127μm, MM, Zirconia PC+ ferrule, 3mm cable
106053-5000		126μm, SM, Zirconia PC ferrule, 3mm cable
106053-5500		126μm, SM, Zirconia PC ferrule, 900μm buffered fiber
106053-5400		126μm, SM, Zirconia PC ferrule, 90˚ yellow boot, 3mm cable
106053-0500		127μm, MM, PC+ ferrule, 900μm buffered fiber
106053-0400		127μm, MM, PC+ ferrule, 3mm 90° Boot
106152-0100	FC Adapter	Zirconia alignment sleeve, square mounting flange
106152-1000		Zirconia alignment sleeve, "D" hole mount
106156-1000		Phosphor Bronze alignment sleeve, "D" hole mount
106156-0100		Phosphor Bronze alignment sleeve, square mount flange

FC/APC (Angled Physical Contact) Connectors and Adapters

Features and Benefits
- NTT-FC† connector design
- 1-piece body design for quick and easy assembly
- Precision APC ferrule—superior performance
- Low insertion loss: < 0.25 dB typical SM
- Low return loss: < 60 dB
- Compatible with all APC hardware: Standard NTT-FC key Tight-fit key (compatible with other manufacturers)

Applications
- Telecommunication networks
- CATV networks

Order No.	Type	Description
106056-5000	FC/APC Connector	126μm, Zirconia APC ferrule, standard key, 3mm cable
106055-5000		126μm, Zirconia APC ferrule, tight-fit key, 3mm cable
106056-5500		126μm, Zirconia APC ferrule, standard key, 900μm buffered fiber
106055-5400		126μm, Zirconia APC ferrule, tight-fit key, 3mm cable, 90˚ green boot
106055-5500		126μm, Zirconia APC ferrule, tight-fit key, 900μm buffered fiber
106152-2000	FC/APC Adapter	Zirconia alignment sleeve, square mounting flange, tight-fit key
106152-3000		Zirconia alignment sleeve, "D" hole mount, tight-fit key

*† NTT-FC is a trademark of NTT Advanced Technology Corporation

molex

ST Connectors and Adapters

Features and Benefits

- High performance singlemode and multimode pre-polished ferrules
- ST* compatible bayonet coupling
- Field installable
- Low insertion loss:
  <0.34 dB typical MM
  <0.17 dB typical MM enhanced
  <0.15 dB typical SM
- Variety of connector styles: straight 3mm boot, 90° boot and 900mm buffered fiber

Applications

- Local Area Networks (LANs)
- Data processing networks
- Premise applications
- Instrumentation
- Telecommunications

Product	Order No.	Type	Description
ST Polymer Nut Connectors	106010-0200	ST Connector	Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable
	106010-0500		Multimode 127μm PC+ Zirconia Ceramic ferrule, for 900μm buffered fiber
	106010-0400		Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, 90° boot
	106010-3200		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable
	106010-3500		Multimode 128μm PC Zirconia Ceramic ferrule, for 900μm buffered fiber
	106010-3400		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, 90° boot
	106010-5200		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable
	106010-5500		Singlemode 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber
	106010-5400		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, 90° boot
ST Metal Nut Connectors	106012-0200		Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable
	106012-0500		Multimode 127μm PC+ Zirconia Ceramic ferrule, for 900μm buffered fiber
	106012-0400		Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, 90° boot
	106012-3200		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable
	106012-3500		Multimode 128μm PC Zirconia Ceramic ferrule, for 900μm buffered fiber
	106012-3400		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, 90° boot
	106012-5200		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable
	106012-5500		Singlemode 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber
	106012-5400		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, 90° boot
ST Adapters	106110-0000	ST Adapter	Singlemode Zirconia Ceramic alignment sleeve, polymer body
	106112-0000		Multimode Phosphor Bronze alignment sleeve, polymer body
	106113-0000		Multimode Polymer alignment sleeve, polymer body
	106110-1000		Singlemode Zirconia Ceramic alignment sleeve, metal body
	106112-1000		Multimode Phosphor Bronze alignment sleeve, metal body
	106113-1000		Multimode Polymer alignment sleeve, metal body

* ST is a trademark of OFS

Fiber Optic Products

Q

Fiber Optics
Connectors and Adapters

SC Connectors and Adapters
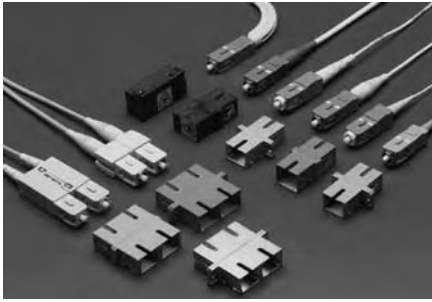
Features and Benefits
- Pre-assembled body design reduces termination time
- Field installable
- Pre-polished ceramic ferrules: minimizes polishing time
  Maintains endface geometry, physical contact
- Tunable
- Meets EIA/TIA, IEC and NTT-SC* standards
- Three adapter styles: industry standard, small flanged and shuttered
- Low insertion loss:
  < 0.15 dB typical SM
  < 0.34 dB typical MM
  < 0.17 dB typical MM enhanced

Applications
- Telecommunication networks
- CATV networks
- Data communication networks
- Active device termination

Product	Order No.	Type	Description
One Piece SC Simplex Connectors	106063-0060		Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, color beige
	106063-0560		Multimode 127μm PC+ Zirconia Ceramic ferrule, for 900μm buffered fiber, color beige
	106063-0460		Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, color beige, 90° boot
	106063-3060		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, color beige
	106063-3560		Multimode 128μm PC Zirconia Ceramic ferrule, for 900μm buffered fiber, color beige
	106063-3460		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, color beige, 90° boot
	106063-5000		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, color blue
	106063-5500		Singlemode 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber, color blue
	106063-5400		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, color blue, 90° boot
Tunable SC Simplex Connectors	106032-0060	SC Simplex Connector	Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, color beige
	106032-0960		Multimode 127μm PC+ Zirconia Ceramic ferrule, 2mm cable, color beige
	106032-0160		Multimode 127μm PC+ Zirconia Ceramic ferrule, 1.6mm cable, color beige
	106032-0560		Multimode 127μm PC+ Zirconia Ceramic ferrule, for 900μm buffered fiber, color beige
	106032-3060		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, color beige
	106032-3960		Multimode 128μm PC Zirconia Ceramic ferrule, 2mm cable, color beige
	106032-3160		Multimode 128μm PC Zirconia Ceramic ferrule, 1.6mm cable, color beige
	106032-3560		Multimode 128μm PC Zirconia Ceramic ferrule, for 900μm buffered fiber, color beige
	106032-5000		Singlemode 126μm Zirconia Ceramic ferrule, 3mm jacketed cable, color blue
	106032-5900		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue
	106032-5100		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue
	106032-5500		Singlemode 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber, color blue
SC Simplex Adapters	106161-0000	SC Simplex Adapter	Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount
	106160-5000		Multimode Phosphor Bronze alignment sleeve, color beige, screw mount
	106170-0150		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount
	106171-0100		Multimode Phosphor Bronze alignment sleeve, color black, snap mount
	106161-0500		Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount, with shutter
	106170-0550		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount, with shutter
	106171-0500		Multimode Phosphor Bronze alignment sleeve, color black, snap mount, with shutter

* NTT-SC is a trademark of NTT Advanced Technology Corporation

molex

www.molex.com/fiber

Fiber Optics
Connectors and Adapters

SC Duplex Connectors and Adapters
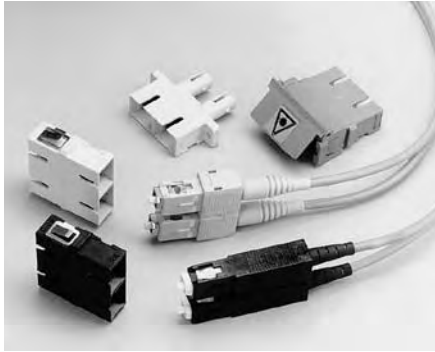
Features and Benefits
- Utilizes standard NTT-SC* connectors
- Meets EIA/TIA 568A and IEC 874-19 standards
- Easy to assemble 1-piece SC connector body
- Low insertion loss:
  < 0.15 dB typical SM
  < 0.34 dB typical MM
  < 0.17 dB typical MM enhanced
- Rugged duplex housing provides uniform and smooth mating
- Optional adapter styles: SC to SC and SC to ST† snap mount or flange mount

Applications
- Telecommunication networks
- Data communication networks
- Fibre Channel

Product	Order No.	Type	Description
SC Duplex Connectors	106066-0000	Duplex SC Connector	Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, color beige
	106066-3000		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, color beige
	106066-5000		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, color blue
SC Duplex Connectors (Fibre Channel)	106034-0000	SC Duplex Fibre Channel Connector	Multimode 127μm PC+ Zirconia Ceramic ferrule, 3mm cable, color beige
	106034-0900		Multimode 127μm PC+ Zirconia Ceramic ferrule, 2mm cable, color beige
	106034-0100		Multimode 127μm PC+ Zirconia Ceramic ferrule, 1.6mm cable, color beige
	106034-3000		Multimode 128μm PC Zirconia Ceramic ferrule, 3mm cable, color beige
	106034-3900		Multimode 128μm PC Zirconia Ceramic ferrule, 2mm cable, color beige
	106034-3100		Multimode 128μm PC Zirconia Ceramic ferrule, 1.6mm cable, color beige
	106034-5000		Singlemode 126μm Zirconia Ceramic ferrule, 3mm cable, color blue
	106034-5900		Singlemode 126μm Zirconia Ceramic ferrule, 2mm cable, color blue
	106034-5100		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm cable, color blue
SC Duplex Adapters	106167-0110	SC Duplex Adapter	Multimode Phosphor Bronze alignment sleeve, color beige, snap mount
	106167-0010		Multimode Phosphor Bronze alignment sleeve, color beige, screw mount
	106166-0100		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount
	106166-0000		Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount
	106167-0610		Multimode Phosphor Bronze alignment sleeve, color beige, snap mount, with shutter
	106167-0510		Multimode Phosphor Bronze alignment sleeve, color beige, screw mount, with shutter
	106166-0600		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount, with shutter
	106166-0500		Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount, with shutter
SC-ST Duplex Adapters	106167-1110	SC-ST Duplex Adapter	Multimode Phosphor Bronze alignment sleeve, color beige, snap mount
	106167-1010		Multimode Phosphor Bronze alignment sleeve, color beige, screw mount
	106166-1100		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount
	106166-1000		Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount
	106167-1610		Multimode Phosphor Bronze alignment sleeve, color beige, snap mount, with shutter
	106167-1510		Multimode Phosphor Bronze alignment sleeve, color beige, screw mount, with shutter
	106166-1600		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount, with shutter
	106166-1500		Singlemode Zirconia Ceramic alignment sleeve, color blue, screw mount, with shutter

Fiber Optic Products

Q

* NTT-SC is a trademark of NTT Advanced Technology Corporation
† ST is a trademark of Lucent Technologies

Fiber Optics
Connectors and Adapters

SC/APC (Angled Physical Contact) Connectors and Adapters

Features and Benefits
- 1-piece body design: minimizes termination time, field installable
- Meets NTT-SC* standard
- APC ferrule provides superior performance
  Low insertion loss: <0.25 dB typical
  Low return loss: >60 dB typical
- Zirconia ceramic and Phosphor Bronze sleeves
- Shuttered adapters: shield against exposure to laser radiation; dust cover for unused ports
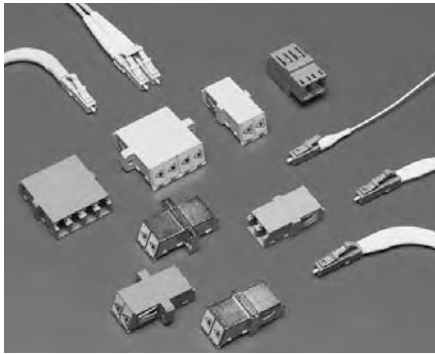
Applications
- Telecommunication networks
- CATV networks

Product	Order No.	Type	Description
Simplex SC/APC	106065-5000	SC/APC Simplex Connector	Singlemode APC 126μm Zirconia Ceramic ferrule, 3mm cable, color green
	106065-5500		Singlemode APC 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber, color green
	106161-3000	SC/APC Simplex Adapter	Singlemode APC Zirconia Ceramic alignment sleeve, color green, screw mount
	106170-0120		Singlemode APC Zirconia Ceramic alignment sleeve, color green, snap mount
	106161-3500		Singlemode APC Zirconia Ceramic alignment sleeve, color green, screw mount, with shutter
	106170-0520		Singlemode APC Zirconia Ceramic alignment sleeve, color green, snap mount, with shutter
Duplex SC/APC	106060-5000	SC/APC Duplex Connector	Singlemode APC 126μm Zirconia Ceramic ferrule, 3mm cable, color green
	106166-0150	SC/APC Duplex Adapter	Singlemode APC Zirconia Ceramic alignment sleeve, color green, snap mount
	106166-0050		Singlemode APC Zirconia Ceramic alignment sleeve, color green, screw mount
	106166-0650		Singlemode APC Zirconia Ceramic alignment sleeve, color green, snap mount, with shutter
	106166-0550		Singlemode APC Zirconia Ceramic alignment sleeve, color green, screw mount, with shutter

Fiber Optic Products

Q

* NTT-SC is a trademark of NTT Advanced Technology Corporation

molex

Fiber Optics
Connectors and Adapters

LC Connectors and Adapters

Features and Benefits
- Versatile RJ-45 latching connector system
- Zirconia 1.25mm ceramic ferrule
- Tunable: optimizes insertion loss performance
- Simplex and duplex styles
- GR 326 tested

Applications
- Telecommunication and data communication equipment
- Local Area Networks (LANs)
- Wide Area Networks (WANs)
- Device terminations
- Premise distribution

Product	Order No.	Type	Description
Connectors	106024-3500	LC Simplex Connector	Multimode 127μm Zirconia Ceramic ferrule, for 900μm buffered fiber, color beige
	106024-3000		Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige
	106024-3300		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige
	102024-3250		Multimode 127μm Zirconia Ceramic ferrule, 3mm jacketed cable, color beige
	106024-3400		Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige, 90° boot
	106024-3600		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, 90° boot
	106024-7180		Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige, 45° boot
	106024-7185		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, 45° boot
	106024-5500		Singlemode 126μm Zirconia Ceramic ferrule, for 900μm buffered fiber, color blue
	106024-5000		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue
	106024-5300		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue
	106024-5250		Singlemode 126μm Zirconia Ceramic ferrule, 3mm jacketed cable, color blue
	106024-5400		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue, 90° boot
	106024-5600		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, 90° boot
	106024-7140		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue, 45° boot
	106024-7145		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, 45° boot
	106025-3000	LC Duplex Connector	Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige
	106025-3300		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige
	106025-3250		Multimode 127μm Zirconia Ceramic ferrule, 3mm jacketed cable, color beige
	106025-3400		Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige, 90° boot
	106025-3600		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, 90° boot
	106025-7470		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, Tight 90° beige boot
	106025-7471		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, Tight 90° white boot
	106025-7180		Multimode 127μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color beige, 45° boot
	106025-7185		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, 45° boot
	106025-3800		Multimode 127μm Zirconia Ceramic ferrule, 2mm jacketed cable, color beige, 2-piece duplex clip
	106025-3150		Multimode 127μm Zirconia Ceramic ferrule, 3mm jacketed cable, color beige, 2-piece duplex clip
	106025-5000		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue
	106025-5250		Singlemode 126μm Zirconia Ceramic ferrule, 3mm jacketed cable, color blue
	106025-5300		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue
	106025-5400		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue, 90° boot
	106025-5600		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, 90° boot
	106025-7454		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, Tight 90° white boot
	106025-7140		Singlemode 126μm Zirconia Ceramic ferrule, 1.6mm jacketed cable, color blue
	106025-7145		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, 45° boot
	106025-5800		Singlemode 126μm Zirconia Ceramic ferrule, 2mm jacketed cable, color blue, 2-piece duplex clip
	106025-5150		Singlemode 126μm Zirconia Ceramic ferrule, 3mm jacketed cable, color blue, 2-piece duplex clip
	106025-2320	LC Duplex Single Boot Connector	Singlemode 125.5μm Zirconia Ceramic ferrule, 3.3mm jacketed duplex cable, color blue, Single cable boot
	106025-2370		Singlemode 125.5μm Zirconia Ceramic ferrule, 3.3mm jacketed duplex cable, color blue, 90° Single cable boot
	106025-2360		Multimode 127μm Zirconia Ceramic ferrule, 3.3mm jacketed duplex cable, color beige, Single cable boot
	106025-2380		Multimode 127μm Zirconia Ceramic ferrule, 3.3mm jacketed duplex cable, color beige, 90° Single cable boot

LC Connectors and Adapters

Product	Order No.	Type	Description
Polymer Body Adapters	106124-0010	LC Simplex Adapter	Multimode Phosphor Bronze alignment sleeve, color beige, snap mount
	106124-1000		Singlemode Zirconia Ceramic alignment sleeve, color blue, snap mount
	106124-1200		Multimode Zirconia Ceramic alignment sleeve, color Aqua, snap mount
	106124-1050		Singlemode APC Zirconia Ceramic alignment sleeve, color Green, snap mount
	106125-0110	LC Duplex Adapter	Multimode Phosphor Bronze alignment sleeves, color beige, large mounting hole snap mount
	106125-1100		Singlemode Zirconia Ceramic alignment sleeves, color blue, large mounting hole snap mount
	106125-0010		Multimode Phosphor Bronze alignment sleeves, color beige, low profile snap mount
	106125-1000		Singlemode Zirconia Ceramic alignment sleeves, color blue, low profile snap mount
	106125-0210		Multimode Phosphor Bronze alignment sleeves, color beige, retainer mount
	106125-1200		Singlemode Zirconia Ceramic alignment sleeves, color blue, retainer mount
	106126-1400		Singlemode Zirconia Ceramic Alignment sleeves, color blue, SC style snap mount
	106126-0410		Multimode Phosphor Bronze alignment sleeves, color beige, SC style snap mount
	106126-1450		Singlemode APC Zirconia Ceramic Alignment sleeves, color green, SC style snap mount
	106126-1300		Singlemode Zirconia Ceramic Alignment sleeves, color blue, SC style screw mount
	106126-0310		Multimode Phosphor Bronze alignment sleeves, color beige, SC style screw mount
	106126-1350		Singlemode APC Zirconia Ceramic Alignment sleeves, color green, SC style screw mount
	106127-1400		Singlemode Zirconia Ceramic Alignment sleeves, color blue, SC style snap mount, with shutters
	106127-0410		Multimode Phosphor Bronze alignment sleeves, color beige, SC style snap mount, with shutters
	106127-1450		Singlemode APC Zirconia Ceramic Alignment sleeves, color green, SC style snap mount, with shutters
	106127-1300		Singlemode Zirconia Ceramic Alignment sleeves, color blue, SC style screw mount, with shutters
	106127-0310		Multimode Phosphor Bronze alignment sleeves, color beige, SC style screw mount, with shutters
	106127-1350		Singlemode APC Zirconia Ceramic Alignment sleeves, color green, SC style screw mount, with shutters
	106127-1610		Multimode Phosphor Bronze alignment sleeves, color Aqua, SC style snap mount, with shutters
Metal Body Adapters	106126-1690	LC Duplex Adapter	Singlemode Zirconia Ceramic Alignment sleeves, metal body, SC style snap mount
	106126-0690		Multimode Phosphor Bronze alignment sleeves, metal body, SC style snap mount
	106126-1590		Singlemode Zirconia Ceramic Alignment sleeves, metal body, SC style screw mount
	106126-0590		Multimode Phosphor Bronze alignment sleeves, metal body, SC style screw mount
	106127-1690		Singlemode Zirconia Ceramic Alignment sleeves, metal body, SC style snap mount, with shutters
	106127-0690		Multimode Phosphor Bronze alignment sleeves, metal body, SC style snap mount, with shutters
	106127-1590		Singlemode Zirconia Ceramic Alignment sleeves, metal body, SC style screw mount, with shutters
	106127-0590		Multimode Phosphor Bronze alignment sleeves, metal body, SC style screw mount, with shutters

Fiber Optic Products

Q

molex

Quad LC Optical Adapter

106123 Series
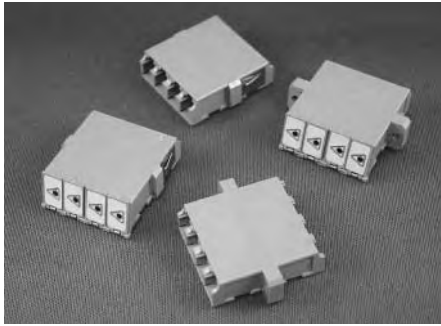
Molex's new Quad LC Adapter provides multiple connection options from a single adapter

Designed for high-density applications, Molex's Quad LC Adapter provides a 4-position LC adapter solution. Four LC ports are provided in 1 adapter, allowing for multiple LC connectors to be mated within the adapter. Connection options include 4 simplex LC connectors, 2 simplex and 1 duplex LC connectors or 2 duplex LC connectors.

The quad LC adapter is available in either a snap-mount or screw-mount installation style. Individual shutters on one side of the adapter are available as an eye-safety option, providing protection even when the adapter is not fully populated. The adapter is available with either Phosphor Bronze or Zirconia Ceramic alignment sleeves to accommodate either single mode, multimode or Angle Polish (APC) connectors. Mounting dimensions of the quad LC adapter are identical to the duplex SC adapter and can be used as a direct drop-in replacement.

Features and Benefits

- Four LC ports, which provide multiple simplex or duplex connection options
- Ceramic or Phosphor Bronze alignment sleeves which accommodates single mode and multimode operation
- Safety shutters available to prevent eye injury when a connector is not installed
- Snap or screw-style mounting, which allows for installation flexibility
- SC duplex compatible mounting to provide a direct drop-in replacement solution for density upgrade

Applications

- Telecommunications
  - Hubs
  - Servers
  - Routers
- Other Markets
  - Optical DVI
  - Storage servers
  - Local Area Networks (LANs)
  - Premise distribution

Order No.	Mode	Alignment Sleeve	Mounting Style	Housing Color	Shutters
106123-0200	Singlemode	Zirconia Ceramic	Screw	Blue	Yes
106123-1200	Multimode	Phosphor Bronze	Screw	Beige	Yes
106123-2200	Singlemode	Zirconia Ceramic	Screw	Green	Yes
106123-3200	Multimode	Phosphor Bronze	Screw	Aqua	Yes
106123-0400	Singlemode	Zirconia Ceramic	Snap	Blue	Yes
106123-1400	Multimode	Phosphor Bronze	Snap	Beige	Yes
106123-2400	Singlemode	Zirconia Ceramic	Snap	Green	Yes
106123-3400	Multimode	Phosphor Bronze	Snap	Aqua	Yes
106123-0100	Singlemode	Zirconia Ceramic	Screw	Blue	No
106123-1100	Multimode	Phosphor Bronze	Screw	Beige	No
106123-2100	Singlemode	Zirconia Ceramic	Screw	Green	No
106123-3100	Multimode	Phosphor Bronze	Screw	Aqua	No
106123-0300	Singlemode	Zirconia Ceramic	Snap	Blue	No
106123-1300	Multimode	Phosphor Bronze	Snap	Beige	No
106123-2300	Singlemode	Zirconia Ceramic	Snap	Green	No
106123-3300	Multimode	Phosphor Bronze	Snap	Aqua	No

Fiber Optic EMI Adapters

106114 - MPO
106115 - LC
106116 - SC
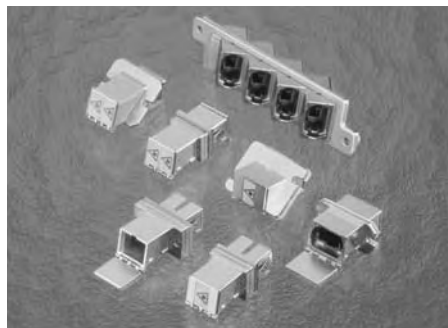
EMI (Electro Magnetic Interference) shielding adapters are designed to address mechanical designers' requirements to limit EMI emissions from the equipment front panel. The adapters are constructed of diecast bodies with an EMI gasket that seals the adapters to the panel. EMI adapters increase the shielding effectiveness while enhancing the front panel aesthetics compared to traditional plastic adapters.

Our extensive adapter product line includes SC, LC and MPO styles. The family includes both straight- and angled-mount versions in both snap-in and screw-mount configurations. The straight-mount designs meet industry standard mounting dimensions. The angled mounting design cut-outs are unique to each adapter. LC adapters are available in duplex and quad configurations, SC and MPO adapters are available in simplex configurations, with the MPO style also available in a quad pack configuration. External shutters are standard on most adapters, ensuring dust protection and eye laser safety.

Features and Benefits

- Diecast adapter housing provides greater than -50dB shielding effectiveness at 4Ghz
- Aperture is reduced to the lowest possible size permitted by the connector ferrule profile, minimizing EMI
- EMI gasket provides an EMI seal from the adapter to the panel
- Shutters are included with most styles to provide dust protection and eye safety
- Screw or snap mount style adapters provide mounting flexibility
- Mounting orientation available as straight or 45˚ angled, allowing for lower cable exit profile

Applications

- Telecommunication equipment
- Datacommunication equipment
- Any front panel application where EMI is an issue
- Test Equipment
  -Offers a more robust and visually appealing adapter than traditional plastic adapters

Physical
Adapter Body Material: Zinc diecast/polymer
Plating: Electroless Nickel
Housing: UL 94V-0

Reference Information
Mates With: Industry standard fiber optic connectors

Order No.	Type	Description
106116-2000	SC EMI Adapter	Zirconia Ceramic Alignment Sleeve, Snap Mount, with shutters on one side
106116-2200		Phosphor Bronze Alignment Sleeve, Snap Mount, with shutters on one side
106116-2100		Zirconia Ceramic Alignment Sleeve, Screw Mount, with shutters on one side
106116-2400		Phosphor Bronze Alignment Sleeve, Screw Mount, with shutters on one side
106116-4500		Zirconia Ceramic Alignment Sleeve, 45˚ angled Single Screw Rear Mount, with shutters on one side
106116-4510		Phosphor Bronze Alignment Sleeve, 45˚ angled Single Screw Rear Mount, with shutters on one side
106116-1000	SC Duplex EMI Adapter	Zirconia Ceramic Alignment Sleeve, Screw Mount, with shutters on one side
106114-1100	MPO EMI Adapter	Screw Mount with shutter on one side
106114-1200		Snap Mount with shutter on one side
106114-3000		Screw Mount with shutter on one side, 45˚ Angled
106114-4000		Snap Mount with shutter on one side, 45˚ Angled
106114-0100		Single Screw, Rear Mount with Shutter on one side, 45˚ Angled
106114-3200	MPO Quad EMI Adapter	Screw Mounted, 4 port ganged, 45˚ angled Sawtooth style
106115-3100	LC Duplex EMI Adapter	Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on one side, 45˚ angled
106115-3106		Phosphor Bronze Alignment Sleeves, Screw Mount, Shutters on one side, 45˚ angled
106115-1100	LC Duplex EMI Adapter	Zirconia Ceramic Alignment Sleeves, Screw Mount
106115-1106		Phosphor Bronze Alignment Sleeves, Screw Mount
106115-1110		Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on one side
106115-1120		Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on both sides
106115-1126		Phosphor Bronze Alignment Sleeves, Screw Mount, Shutters on both sides
106115-2100		Zirconia Ceramic Alignment Sleeves, Snap Mount
106115-2106		Phosphor Bronze Alignment Sleeves, Snap Mount
106115-2110		Zirconia Ceramic Alignment Sleeves, Snap Mount, Shutters on one side
106115-2116		Phosphor Bronze Alignment Sleeves, Snap Mount, Shutters on one side
106115-2120		Zirconia Ceramic Alignment Sleeves, Snap Mount, Shutters on both sides
106115-2126		Phosphor Bronze Alignment Sleeves, Snap Mount, Shutters on both sides
106115-3200		Zirconia Ceramic Alignment Sleeves, Single Screw Rear Mount, Shutters on one side, 45˚ mount
106115-3206		Phosphor Bronze Alignment Sleeves, Single Screw Rear Mount, Shutters on one side, 45˚ mount
106115-4100		Zirconia Ceramic Alignment Sleeves, Snap Mount, Shutters on one side, 45˚ angled
106115-4107		Phosphor Bronze Alignment Sleeves, Snap Mount, Shutters on one side, 45˚ angled
106115-3201	LC/APC Duplex EMI Adapter	Zirconia Ceramic Alignment Sleeves, Single Screw Mount, Shutters on one side, 45˚ mount, Green
106115-5100		Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on one side, 45˚ angled, Green
106115-6100		Zirconia Ceramic Alignment Sleeves, Snap Mount, Shutters on one side, 45˚ angled, Green
106123-0500	LC Quad EMI Adapter	Zirconia Ceramic Alignment Sleeves, Snap Mount, Shutters on one side
106123-0600		Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on one side, Front mount
106123-0700		Zirconia Ceramic Alignment Sleeves, Screw Mount, Shutters on one side, Rear mount
106100-9000	Multi-Format EMI Adapter	Zirconia Ceramic Alignment Sleeves, Single Screw Mount, Internal Shutters, 45˚ mount (LC/MU/LX.5)

Fiber Optic Products

Q

Small Multimedia Interface (SMI) Optical Interconnects

106108 Transceiver
501266 Adapter
88531 Cable Assemblies
85994 Tooling Kit

1- SMI adapter 2- AMI connector inner housing 3- SMI connector outer housing 4- SMI connector POF cable clamp 5- SMI through-hole transceiver 6- Assembled SMI connector 7- SMI surface-mount lead transceiver

Features and Benefits

- Non-metallic POF cabling interconnects are immune to EMI and RFI, lightweight and easy to handle
- Push-pull positive latching with safe-release mechanism for consumer applications offer secure, safe and easy mate de-mate
- Easy no-epoxy, no-polish, field-termination process with specialized tooling has quick, simple, easy field terminations for installers
- Data speeds up to 250 Mbps over 50 meters to provide high-speed, long distance signals for IEEE1394 and Ethernet applications
- SMI transceiver with digital integrated fiber optic transmit (Tx) and receive (Rx) modules, and integrated digital signaling reduces board layout requirements, minimizing design requirements
- Available in IEEE1394 and Ethernet 10 to 100 Mbps versions which provides increased versatility and market applications
- Designed to IEC-671754-21 SMI interface standard

Reference Information

Packaging: Tray, 50 per
Mates With:
   Transceiver—106108 series
   Adapter—501266 series
   Cable Assemblies—88531 series
Designed In: Millimeters

Optical

Insertion loss: 2.0 dB max.
Plastic Optical Fiber Compatibility: SI 0.3 and 0.5NA

Electrical

Data Rate:
   S200 IEEE1394 (250 Mbps)
   10/100 Ethernet (125 Mbps)
   Industrial Datalink (250 Mbps)
Distance: 50.00m (164.041')

Mechanical

Insertion Force: SMI connector-to-transceiver—29.4N (3.0 kgf) max.
Extraction Force: SMI connector-to-transceiver—4.9N to 29.N (0.5 to 3.0 kgf) max.
Durability: 500 cycles

Physical

Housing: High-temperature thermo plastic
Plating:
   Solder Tail Area—Tin
   Underplating—Nickel
Shelf Life: 12 months in sealed, un-opened bag with desiccants

Transceiver

Order No.	PCB Mounting Style	Signalling Type
106108-2100	Through Hole	IEEE 1394 integrated digital FOT S200
106108-2200	Surface Mount	
106108-3100	Through Hole	Ethernet integrated digital FOT S200
106108-3200	Surface Mount	
106108-4100	Through Hole	Industrial Datalink IDL 300K
106108-4200	Surface Mount	

Cable Assemblies

Order No.	Cable Type	Length
88531-9800		1.00m (3.280')
88531-9801		2.00m (6.561')
88531-9802		3.00m (9.842')
88531-9803	2.20mm diameter zip cord 0.30 Numerical Aperture	5.00m (16.404')
88531-9804		10.00m (32.808')
88531-9805		20.00m (65.616')
88531-9806		30.00m (98.425')
88531-9807		50.00m (164.041')

Adapter

Order No.	End-to-End
501266-0000	SMI-to-SMI

Media Converter Kit

Order No.	Description
106108-8010	Media converter with SMI ethernet, EU power supply, 6" Category 5 cables
106108-8020	Media converter with SMI ethernet, US power supply, 6" Category 5 cables
106108-8030	Media converter with OptaLock ethernet 1.50mm black, EU power supply, 6" Category 5 cables
106108-8040	Media converter with OptaLock ethernet 1.50mm black, US power supply, 6" Category 5 cables
106108-8050	Media converter with OptaLock ethernet 2.20mm black, EU power supply, 6" Category 5 cables
106108-8060	Media converter with OptaLock ethernet 2.20mm black, US power supply, 6" Category 5 cables

Tooling

Order No.	Component	Contents
85994-0212	Field Termination Kit	50 SMI connectors, termination tooling
85994-0214	Replacement Cutter	Replacement cutting head for hand-termination tool
106108-6004	Bulk Pack	50 SMI connectors

Fiber Optic Products

Q

Universal Optical Adapter

106154

Populate multiple optical-connector interfaces with Molex's Universal Optical Adapter

The Universal Optical Adapter allows customers to interchange one half of the optical interface to suite the application. All of the functionality and performance benefits from a standard optical adapter are maintained in this versatile design. he universal optical adapters are now available with more options, including die-cast LC housing and interchangeable LC user interfaces.

The universal adapter allows for a common panel-mounting hole with the option of either an internally mounted SC or LC connector to be mated with a SC, ST, FC or LC connector on the opposite side. This design allows the user interface to be converted between the four connector styles as needed. The universal adapter can also be used to mate SC/APC (angle-polished endface) to SC/APC and FC/APC terminations. When the customer interface is removed, the alignment sleeve may be easily extracted, exposing the ferrule and endface of the internally-mounted SC or LC connector. With the sleeve removed, the customer has access to clean the internally mated connector without disconnecting it from the adapter and without entering the enclosure, providing a safe and fast method to ensure proper optical performance.

The universal optical adapter is offered in two options, as a pre-assembled adapter as well as individual components, providing the OEM design flexibility.

The first option, pre-assembled adapters, are provided ready to install and use. The second option is to only populate the internal-adapter side, allowing customized configuration prior to shipping or by the customer after delivery. Electro Magnetic Interference (EMI) shielding is available on select adapters.

Both options use a common SC or LC interface with the same mounting detail, benefiting OEM's by minimizing the number of panel designs required for different-style adapters. In addition, simplified stock management will result with fewer part numbers and stock quantities.

Features and Benefits

- Die-cast SC and LC panel housing with EMI shielding provides EMI and Radio Frequency Interference (RFI) shielding on the internal SC and LC adapter side
- Interchangeable SC, ST, FC and LC user interfaces allows fast and easy conversion for multiple applications
- Easy front-access to the alignment sleeve and internally mated connector endface allows easy inspection and cleaning without entering the enclosure
- Available as individual components allows for customized configuration prior to shipping or after delivery to customer

Reference Information

Packaging: Individual bag or tray
Mates With: Connectors:
  SC Tunaable, Series 106032
  SC Non-tunable, Series 106063
  SC/APC, Series 106065
  FC, Series 106053
  FC/APC, Series 106055
  ST, Series 106010
  STII, Series 106012
  LC, Series 10024
Designed In: Millimeters

Mechanical

Durability: >200 mate and demate cycles
Insertion Loss: ≤0.2dB typical
Mounting Style: Snap

Physical

Panel Housing: Zinc Die-cast
Plating: Nickel
User Interface: Polymer
Alignment Sleeve: Zirconia Ceramic, Phosphor Bronze
  or Metal

Development Kit

Order No.	Description
106154-0000	Development Kit, Universal EMI Adapter 2.5mm version

Universal EMI Adapter Assemblies

Order No.	Description	Housing Color
106154-1000	SC-SC Universal EMI Adapter, Ceramic	Blue
106154-1001	SC-SC Universal EMI Adapter, Phosphor Bronze	Beige
106154-1005	SC/APC Universal EMI Adapter, Ceramic	Green
106154-1010	SC-FC Universal EMI Adapter, Ceramic sleeve	Blue
106154-1011	SC-FC Universal EMI Adapter, Phosphor Bronze	Beige
106154-1015	SC/APC-FC/APC Universal EMI Adapter, Ceramic	Green
106154-1030	SC-LC Universal EMI Adapter, Metal sleeve	Beige
106154-1530	LC-LC Universal EMI Adapter, Ceramic sleeve	Blue
106154-1531	LC-LC Universal EMI Adapter, Metal sleeve	Beige
106154-1535	LC/APC-LC/APC Universal EMI Adapter, Ceramic sleeve	Green
106154-1500	LC-SC Universal EMI Adapter, Metal sleeve	Beige
106154-1510	LC-FC Universal EMI Adapter, Metal sleeve	Beige
106154-1520	LC-ST Universal EMI Adapter, Metal sleeve	Beige

Universal Adapter Assemblies (no EMI shielding)

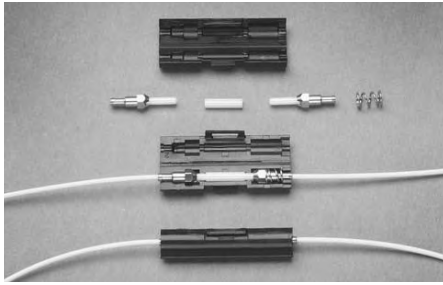| Order No.	Description	Housing Color
106154-1000	SC-SC Universal EMI Adapter, Ceramic	Blue
106154-1105	SC/APC Universal EMI Adapter, Ceramic	Green
106154-1101	SC-SC Universal EMI Adapter, Phosphor Bronze	Beige
106154-1110	SC-FC Universal EMI Adapter, Ceramic	Blue
106154-1115	SC/APC-FC/APC Universal EMI Adapter, Ceramic	Green
106154-1111	SC-FC Universal EMI Adapter, Phosphor Bronze	Beige
106154-1120	SC-ST Universal EMI Adapter, Ceramic	Blue
106154-1121	SC-SC Universal EMI Adapter, Phosphor Bronze	Beige
106154-1130	SC-LC Universal Adapter, Metal sleeve	Beige
106154-1630	LC-LC Universal Adapter, Ceramic sleeve	Blue
106154-1631	LC-LC Universal Adapter, Metal sleeve	Beige
106154-1635	LC/APC-LC/APC Universal Adapter, Ceramic sleeve	Green
106154-1600	LC-SC Universal Adapter, Metal sleeve	Beige
106154-1610	LC-FC Universal Adapter, Metal sleeve	Beige
106154-1620	LC-ST Universal Adapter, Metal sleeve	Beige

Accessory Components

Order No.	Description	Housing Color
106154-0010	SC Base, Universal EMI Adapter, Ceramic Sleeve	Metal
106154-0012	SC Base, Universal EMI Adapter, Phosphor Bronze Sleeve	Metal
106154-0013	SC Base, Universal EMI Adapter, 1.25 to 2.5mm Metal sleeve	Metal
106154-0015	SC Base, Universal NON-EMI Adapter, Ceramic Sleeve	Metal
106154-0016	SC Base, Universal NON-EMI Adapter, Phosphor Bronze Sleeve	Metal
106154-0020	SC User Half, Universal Adapter	Blue
106154-0022	SC User Half, Universal Adapter	Beige
106154-0025	SC User Half, Universal Adapter	Green
106154-0031	FC User Half, Universal Adapter	Blue
106154-0033	FC User Half, Universal Adapter	Beige
106154-0036	FC User Half, Universal Adapter	Green
106154-0041	ST User Half, Universal Adapter	Blue
106154-0043	ST User Half, Universal Adapter	Beige
106154-0006	Dust Cap/Removal tool, Universal Adapter	Black
106154-0050	Sleeve Assembly, 2.5mm Ceramic	Metal
106154-0051	Sleeve Assembly, 2.5mm Phosphor Bronze	Metal
106154-0210	LC Base, Universal EMI Adapter, 1.25mm Ceramic sleeve	Metal
106154-0212	LC Base, Universal EMI Adapter, 1.25mm Metal sleeve	Metal
106154-0213	LC Base, Universal EMI Adapter, 1.25 to 2.5mm Metal sleeve	Metal
106154-0017	SC Base, Universal Adapter, 1.25 to 2.5mm Metal sleeve	Metal
106154-0215	LC Base, Universal Adapter, 1.25mm Ceramic sleeve	Metal
106154-0216	LC Base, Universal Adapter, 1.25mm Metal sleeve	Metal
106154-0217	LC Base, Universal EMI Adapter, 1.25 to 2.5mm Metal sleeve	Metal
106154-0130	LC User Half, Universal Adapter	Blue
106154-0131	LC User Half, Universal Adapter	Beige
106154-0132	LC/PAC User Half, Universal Adapter	Green
106154-0052	Sleeve Assembly, 1.25mm Ceramic	Blue
106154-0053	Sleeve Assembly, 1.25mm Metal	Blue
106154-0054	Sleeve Assembly, 1.25mm to 2.5mm Metal	Blue

molex

SnapMate™ Optical Interconnect System

106073

Features and Benefits

- Ceramic ferrule and alignment sleeve provides high-precision components with industry-proven low insertion loss
- Low-profile housing minimizes required mounting space on PCB and allows air-flow path to be virtually unobstructed
- Re-usable housing (over 5 mating cycles) allows for testing and reconfigration to achieve optimum performance

Reference Information

Packaging: Individual bag
Designed In: Millimeters

Mechanical

Durability:
    Plugs—≥ 200 mate and de-mate cycles
    Housing—5 cycles min.
Insertion Loss: ≤ 0.15dB typical

Physical

Housing: UL-94 V-0 rated polymer
Ferrule: Zirconia ceramic
Alignment Sleeve: Zirconia ceramic

Applications

- Telecommunication equipment
  - Servers
  - Switches
  - Routers
- Other markets
  - Storage servers
  - Test equipment
  - OEM equipment

Order No.	Mode	Components
106073-0020	Singlemode	Complete Kit: (1) Housing, (2) LC Plugs with Ceramic Ferrules, (1) Spring, (1) Alignment Sleeve
106073-0021		(1) Housing, (1) Alignment Sleeve
106073-0022		(1) LC Plug with Ceramic Ferrule, (1) Spring
106073-0023		(1) LC Plug with Ceramic Ferrule

MT-RJ Connectors and Adapters
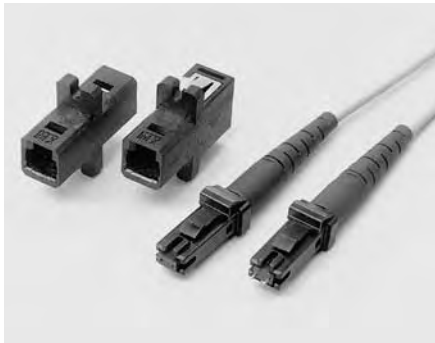
Features and Benefits

- Versatile connector system with a RJ-45 form factor
- Duplex ferrule
- Increases port density required on computer and networking-related hardware, panels, wall plates and in closets by 50%
- Meets TIA-568A standards

Applications

- Premise infrastructure: backbone, horizontal
- Local Area Networks (LANs)
- Device terminations
- Telecommunication networks

Order No.	Type	Description
106002-3030	MT-RJ Connector	MM, male, black boot
106002-3430		MM, male, 90˚ black boot
106003-3030		MM, female, black boot
106003-3430		MM, female 90˚ black boot
106102-0000	MT-RJ Adapter	Standard MT-RJ cut-out
106102-0100		Simplex SC cut-out with clip

Fiber Optic Products

Q

LumaCore™ 1.25mm (.049") Optical Terminus

106387

Features and Benefits

- Unique quarter-turn retention feature allows the terminus to be installed and removed from a connector solution with a simple push and turn
- All retention features are integrated on-board the terminus assuring simplicity and reliability in final connector products
- Available in a large array of connector configurations from simplex/duplex LC styles, circular Mil-C-38999, D-subminiature, Micro-D and backplane mount or custom applications
- 1.25mm precision Zirconia ceramic ferrrule available with a broad range of ferrule hole sizes from 125.5 to 650 microns
- Suitable for multimode and singlemode applications: PC, UPC and APC end face geometry capable
- Plastic fiber capable

Reference Information

Ferrule: Zirconia ceramic
Body Materials: Copper Alloy
Plating: Gold/Nickel
Spring: Stainless Steel

MXL38999™
Circular Optical Connectors

Features and Benefits

- Unique quarter turn retention feature allows LumaCore terminus to be installed and removed from a connector solution with a simple push and turn
- Metallic inserts enhance EMI performance of the connector when installed into enclosures
- Receptacles available in both jam nut and flange-mount configuration with geometry per mil-C-38999
- Plug connectors include an anti-vibration ratchet mechanism in the triple start acme thread coupling ring
- Available in aluminum, stainless steel and composite construction
- Removable alignment sleeve assembly for ease of maintenance and cleaning
- Suitable for multimode and singlemode applications: PC, UPC and APC end face geometry capable
- Precision stainless steel guide pins ensure accurate optical cavity alignment, during and after mating
- Mil-C-38999 Series III plug to receptacle sealing and accessory threads are standard

Reference Information

Body Materials:
    Aluminum Alloy (Olive Drab Cadmium or Nickel Plated)
    Stainless Steel (Passivated)
    Composite Plastic
Shell Certifications: QPL per DSCC Mil-DTL-38999 Series III
Insert Material: Aluminum Alloy
Guide Pins: Precision-ground Stainless Steel
Alignment Sleeves: Zirconia Ceramic
Sealing Gasket: Fluorosilicone Elastomer
External Dimensions: per Mil-DTL-38999 (Contact Molex for external and mounting dimensions)

Fiber Optic Products

Q

molex

LC2
Metallic Optical Connectors

106387

Features and Benefits

- All metal housing provides a robust connector design which resists breakage
- 1.25mm (.049") LumaCore terminus includes a high-performance ceramic ferrule, available for singlemode, multimode and angle-polish applications
- Removable connector housing enables direct inspection of fiber bonding areas and replacement of connector body components without fiber re-termination
- Multiple boot styles support many cable sizes and applications including 900μm, 1.60mm, 2.00mm and 3.00mm as well as 45 and 90˚ configurations

Applications

- Telecommunication/Datacommunication
  - Base stations
  - Vault I/O's
  - Wireless antennas
  - Video transmission
- Industrial
  - Factory automation
  - Sensors
  - Process equipment
  - Security cameras
- Aerospace
  - Avionics
  - Communications
  - Satellites
  - Data terminals
  - Signal processors
  - Sensors
  - Space systems

Order No.	Mode	Type	Ferrule Size	Housing Color	Cable Diameter	Boot
106387-1904	Singlemode	Simplex	126μm	Blue	900μm	Straight
106387-1929					1.60mm (.063")	
106387-1304					2.00mm (.079")	
106387-1329					3.00mm (.118")	
106387-1989					1.60mm (.063")	90˚
106387-1364					2.00mm (.079")	
106387-1979					1.60mm (.063")	45˚
106387-1354					2.00mm (.079")	
106387-2102	Multimode		127μm	Gold	900μm	Straight
106387-2127					1.60mm (.063")	
106387-1502					2.00mm (.079")	
106387-1527					3.00mm (.118")	
106387-2187					1.60mm (.063")	90˚
106387-1562					2.00mm (.079")	
106387-2177					1.60mm (.063")	45˚
106387-1552					2.00mm (.079")	