MTP® Cabling System

The MTP® cabling system, due to its modularity, offers installers and operators reduced time & effort for installations, modification and maintenance of a structured communication cabling for today´s and future demands of data centers (acc. to EN50173-5:2007 and ISO/IEC 24764:2010). The MTP® connector, specified and standardized in IEC 61754-7 and TIA/EIA 604-5, beside the LC fiber optic interface is the first choice for ITS (Information Telecomunication System) in tomorrow‘s bandwidth-hungry, high speed commercial buildings and data centers. It can be either used for parallel optics applications such as Infiniband with data rates up to 120 Gb/s and for the upcoming 40 Gb/s and 100 Gb/s Ethernet protocols via Multimode OM3, OM4 and OS2 fiber. Similar to the well-known MT-RJ connector, the MTP® houses several fibers in one single high-precision ferrule that can be PC or APC polished with a typical insertion loss of 0.25 dB, return loss of >60 dB for Singlemode and insertion loss = 0.2 dB return loss >30 dB for Multimode.

MTP® Brand Connectors

MTP® brand connectors provide quick connection for up to 12/24 or more optical fibers. Connection integrity is provided by adapter latches which are locked into place on the connector plug by a spring loaded sliding mechanism. Precision alignment is achieved with patented guide pins combined with the tightly controlled guide pin holes on MT ferrules. Removable housings allow for quick change of gender, ferrule cleaning, interferometry or connector re-polishing. MTP® brand connectors components are fully compliant with IEC Standard 61754-7 and TIA 604-5 – Type MPO.

Features

- Patented floating ferrule design ensures fiber contact integrity
- Terminates ribbon fiber or loose individual fibers

- Designed for low loss and standard loss SM and MM applications
- Patented elliptical guide pin tip to minimize ferrule debris
- Ruggedized round cable, oval cable and bare ribbon options available
- Compatible with MT ferrules in fiber counts 4~24
- Color coded housings available to differentiate fiber type, polish type and/or connector grand
- Housing is removable for quick change of pin clamps and easy ferrule cleaning / re-polishing
- Alignment achieved with high precision guide pins
- No-epoxy housing design
- Family of bulkhead adapters available

Specifications

	MM MT Elite® Multimode MT Ferrule	Standard Multimode MT Ferrule	SM MT Elite® Single-mode MT Ferrule	Standard Single-mode MT Ferrule
Insertion Loss	0.1dB Typical (All Fibers) 0.35dB Maximum (Single Fiber)	0.20dB Typical (All Fibers) 0.60dB Maximum (Single Fiber)	0.10dB Typical (All Fibers) 0.35dB Maximum (Single Fiber)	0.25dB Typical (All Fibers) 0.75dB Maximum (Single Fiber)
Optical Return Loss	> 20dB	> 20dB	> 60dB (8° Angle Polish)	> 60dB (8° Angle Polish)

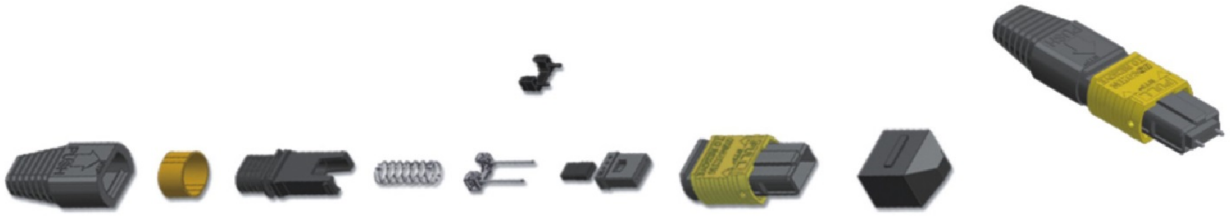
Round Strain Relief Hardware for Controlled Environments

ø3.0mm – 5.5mm Normal Cable OD

Round, multi-fiber interconnect cables with loose, individual fibers provide cable routing and performance advantages over traditional ribbon based cables. By eliminating the preferential bend associated with ribbon, round cables can be routed and mechanically loaded in any axis relative to the MTP® connector port. MTP® hardware components are designed for easy termination to the loose fiber cables via the use of a simple.

Oval Strain Relief Hardware

MTP® brand hardware easily terminates to ribbon based interconnect cables. The crimping mechanism is designed to accommodate a wide range of cable jacket materials and thicknesses.



Bare Ribbon With Boot & Short Bare Ribbon Without Boot Hardware

Two MTP® brand hardware kits are available for on-card or intra-card multi-fiber connector applications suitable for termination directly to bare ribbon fiber. The bare ribbon package with the boot provides bend relief to the cable while the short MTP® bare ribbon connector offers the smallest PCB surface area consumption available on the market

MTP® Brand Bulkhead Adapters

MTP® brand adapters that provide quick connection for up to 72 optical fibers. Connection integrity is provided by adapter latches which are locked into place by a spring loaded sliding mechanism on the MTP® brand connector plug. Precision alignment is achieved with patented MTP brand connector guide pins combined with the tightly controlled guide pin holes on US Conec`s MT ferrules. Numerous single port and ganged confiugurations are available to satisfy a variety of applications. US Conec`s MTP brand adapters are fully compliant with IEC standard 61754-7 and TIA 604-5 – Type MPO.

Description & standrads

- One piece adapter design maximizes coupling strength while minimizing debris generation
- All adapers compatible with MTP Elite® brand connnectors and standard grade MTP® brand connectors

- Available In black, red , aqua, beige, green, blue and gray
- Supplied with either one or two thermoplastic non-debris generating dust plugs
- Compatible with all US Conec MTP® brand connectors in fiber counts ranging from 4 to 72
- Optimal coarse alignment to minimize pin to ferrule debris generation
- EMI versions available

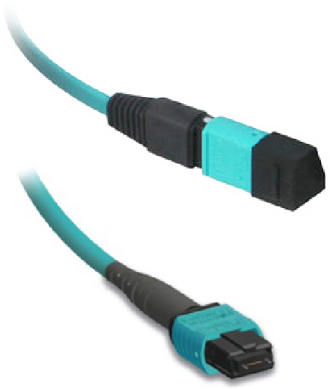
Applications & standards

- Array trunk cabling
- Array fiber to fiber cassettes
- High fiber density card edge access
- Optical switching interframe connections
- Meets IEC standard 61754-7
- Meets TIA/EIA 604-5 Type-MPO
- Structured cabling per TIA-568C
- Parallel Optics
  -Optical internetworking Forum(OIF) Compliant
  -Infiniband Compliant
  -10G Fibre Channel Compliant
  -40G and 100G IEEE 802.3
  -SNAP 12
  -POP 4
  -QSFP
  -CXP

MTP® Patch Cords

The single-mode and multi-mode MTP® products are multifiber connectors used in high-density backplane and Printed Circuit Board(PCB) applications in data and telecommunications system. The MTP® connector offers up to 12 times the density of standard connectors, providing sinificant space and cost savings.

MTP® patchcord utilize precision molded MT ferrules, wi th metal guide pins and precise housing dimensions to ensure fiber alignment when mating. The MTP® can be mass terminated in combination of 4, 8, 12 or 24 fiber ribbon cables. The MTP® Adapter comes standard in black.

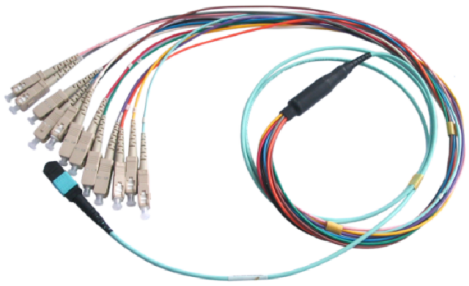


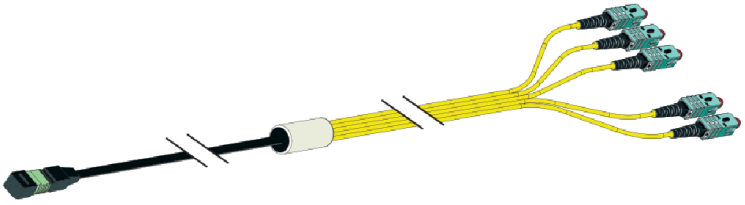
Specifications

	OS2		OM2/OM3/OM4	
	IL in dB at 1310nm	RL in dB at 1310nm	IL in dB at 850nm	RL in dB at 850nm
Patch cord MTP/PC			<0.6 (typ. 0.3)	>25
Patch cord MTP/APC	<0.7 (typ. 0.3)	>50		

MTP Harness

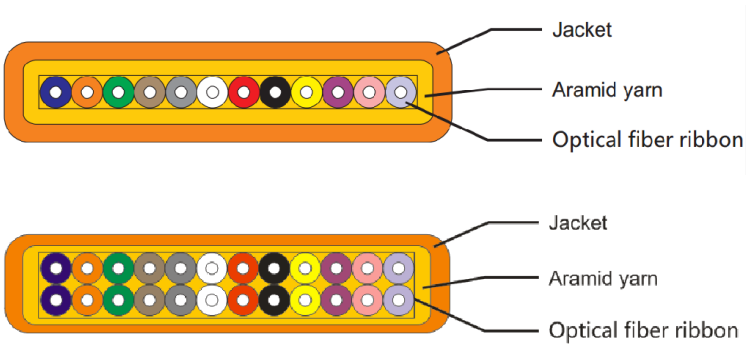
	OS2		OM2/OM3/OM4	
	IL in dB at 1310nm	RL in dB at 1310nm	IL in dB at 850nm	RL in dB at 850nm
MTP/PC			<0.6 (typ. 0.3)	>25
MTP/APC	<0.7 (typ. 0.3)	>50		
SC/PC	<0.3	>50	<0.3	>35
SC/APC	<0.3	>60		
LC/PC	<0.3	>50	<0.3	>35
LC/APC	<0.3	>60		

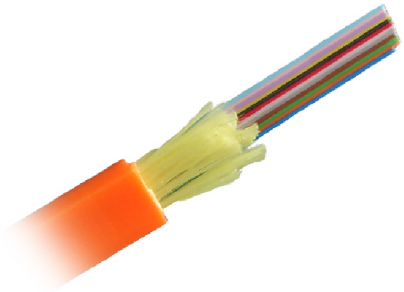




Fiber Optic Cables for MTP® Patch Cords

Fiber Ribbon Indoor Elliptical Optical Cable





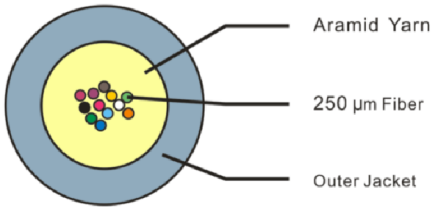
Description

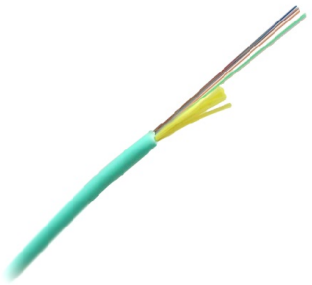
- The fiber ribbon is evenly bound wi th hi gh modulus soft aramid yarn as strength member.
- Its rectangular outer sheath is shaped by a special material extrusi on technique.
- Flame-retardant jacket, easy to strip, small bending radius, good performance under stress.

Technical Specification

Fiber Count	Dimension of optical cable (mm)		Nominal weight (kg/km)	Min. Bending Radius (mm)		Max. Tension (N)	
	Width	Height		Dynamic	Static	Short-term	Long-term
12	4.6±0.3	2.2±0.3	11.6	60	30	150	80
24	4.8±0.3	2.5±0.3	13	30	20	150	80

Micro Interconnect Cordage Multi-fiber Optic Cable





Description

When you need a compact cordage solution for data centers or other high-density, high-bandwidth applications, look to the Micro Interconnect Cordage Multi-fiber Optic Cable.

Designed for use with multifiber connectors, this cordage helps save on energy costs and valuable space while offering outstanding performance. The cable features 2 to 24 color-coded 250 µm optical fibers. the individual fibers are identified by easily-distinguishable TIA-598 compliant colors.

The fibers are surrounded by aramid yarn for reinforcement and then covered with a fl ame-retardant outer jacket to complete the construction.

Features

- Small diameter, lightweight cordage allows ease of deployment and termination
- Ideal for use in high-density, high-bandwidth applications and optimized for use with multi-fi ber connectors
- RoHS compliant and environmentally friendly; free of heavy metals and polybrominated fire retardants
- Available in fiber counts from 2 to 24
- OM3/OM4 Laser-Optimized Multimode Fiber, as well as AllWave®
- FLEX+Zero Water Peak (ZWP) Single Mode Fiber, and other multimode fibers

Technical Specification

Fiber Count	Cable Diameter (mm)	Nominal weight (g/m)	Min. Bending Radius (mm)		Max. Tension (N)		Max. Crushing Resistance (N/100mm^2)	
			Dynamic	Static	Short-term	Long-term	Short-term	Long-term
2~4	2.4±0.3	4.6	20D	10D	100	60	1000	300
6~12	2.9±0.3	8.0	20D	10D	180	90	1000	300
24	3.8±0.3	11.2	20D	10D	210	100	1000	300

Ultrahigh Density MTP® System

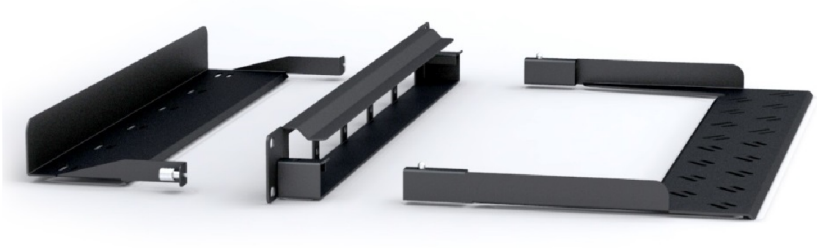
Description

The fiber system has a higher and higher demand on fiber optic connectors with the changes from single mode fiber to multimode fiber, from 10G to 40G, 100G. Ethernet transmission of 40G and 100G also becomes the developing trend in data center cabling system. Traditional connectors are more and more difficult to achieve Multi-Fiber and High-performance. According to the International standard, high density MTP® connector has been a standard port in the Ethernet transmission of 40G and 100G.

3c-link develops a high density MTP® cabling solution with its constant innovation in the field. The MTP/MPO is a standard mini, high-density connector, equipped with Multi-core ribbon fiber, which makes the connection stable and reliable. The connection and testing of high density connector with ribbon cable are finished in factory, so that it can be plugged and played with the equipments on site directly, and support the rapid deployment at users' data center, which makes MTP® cabling system become an ideal solution with the growing demands on high-capacity cabling data center. Simple installation, fast construction, compact design, high precision, plugs and play, etc.

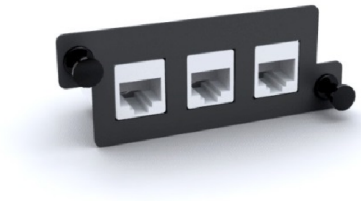
Features

- This cabling system is modular in design, the higher density, special designed ultra-small MTP® modular box which saves more space
- It has larger capacity- each modular box can allocate 24pcs LC adapters and switch to MTP® connection
- The capacity of 1U standard size is 120ports of LC connector, for 2U, it reaches 288ports, saves more space for large data centers, reduces more combined cost
- Using unique tool-free installation design so that patching system can be fast assembled and installed without any tools and complex operations
- Factory pre- terminated so that there is no need to wind cable and splice fiber, it can be plugged and played on site, which can save labor cost



Separable & Tool-less Installation

- The cabling system could achieve not only the standard patching of MTP/MPO, but also the application of optoelectronic hybrid, supporting RJ45 module and achieving the function of network patch panel make its applied ranges broader



RJ45 Cabling Module

Baffle board

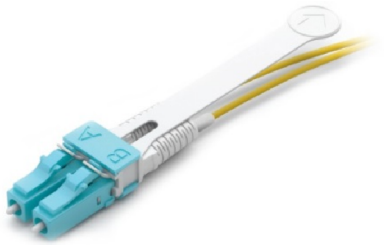
Specifications

Model	Dimension(L×W×H)	Capacity
MP2-LC-120-1U	483mm×335mm×1U	120
MP2-LC-288-2U	483mm×335mm×2U	288

LC-HD / HIGH DENSITY CONNECTOR

Description

The LC-HD duplex Push-Pul Tab is a Push -Pull Tab designed for the LC-HD Switchable Connector. This Push-Pull tab option allows the LC-HD Switchable Connector to be pushed and pulled from the Push Pull Tab instead of the connector, maximazing its effectiveness in high densily applications.



Features

- Easy to release trigger connectors

  The LC-HD's lever design utilizes a flexible "pull-tab" allowing for the connector to be disengaged easily from densely loaded panels without the need for special tools.

- Stackable adapters

  In the days before the LC-HD connector, the LC adapter spacing was limited by the room required to reach LC connectors with the human fingers or with special tools. The overall height of standard LC connectors also required a small vertical space above and below the LC adapters. The low profile LC-HD, together with it's pull tab allow LC adapters to be stacked with absolutely no vertical space.

- 60% increase in density

  Because the LC-HD connector can be removed using a simple pull tab, it eliminates the need for finger access to the LC connectors latch mechanism, therefore LC adapters can now be mounted much closer than spacing required in the past.