



## MTP® Connectors

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US Conec offers a full suite of MTP® brand connectors for a variety of applications and operating environments. While fully compliant with MPO intermateability standards, US Conec's novel patented features, enhanced precision and proven reliability ensure that MTP® brand connectors far exceed the performance of the standard MPO format.

### Features:

- US Conec designed and manufactured ferrules and components
- Industry leading precision components exceeding MPO standards requirements
- Novel features ensuring reliability and usability
- Unmatched process training and support infrastructure

## MTP® Overview

US Conec pioneered the high density structured cabling interconnect market with the MTP® connector platform. MTP® connectors are the proven and trusted MPO style format offering state-of-the-art multi-fiber and mechanical performance.

## US Conec Designed and Manufactured Ferrules and Components

At the core of an MTP® connector is a US Conec designed and manufactured MT ferrule. The MTP® connector components and associated termination processes are designed as a system to work seamlessly together ensuring a high factory yield and reliable cable assembly performance in the field.

## Precision Components Exceeding Standards Requirements

US Conec's MTP® connector components are engineered to occupy a fraction of the standardized allowable tolerance zones.

- Industry leading optical performance
- Minimized debris generation
- Optimal stability and repeatability

## Novel Features Ensuring Reliability and Usability

- Elliptical pins maximize durability and minimize installation time
- Floating ferrule with accurate pre-alignment ensures robust, stable connection
- Removable housing enables servicing and configurability
- Oval spring minimizes size and maximizes fiber clearance
- Centered forces ensure consistent, stable performance across all fibers



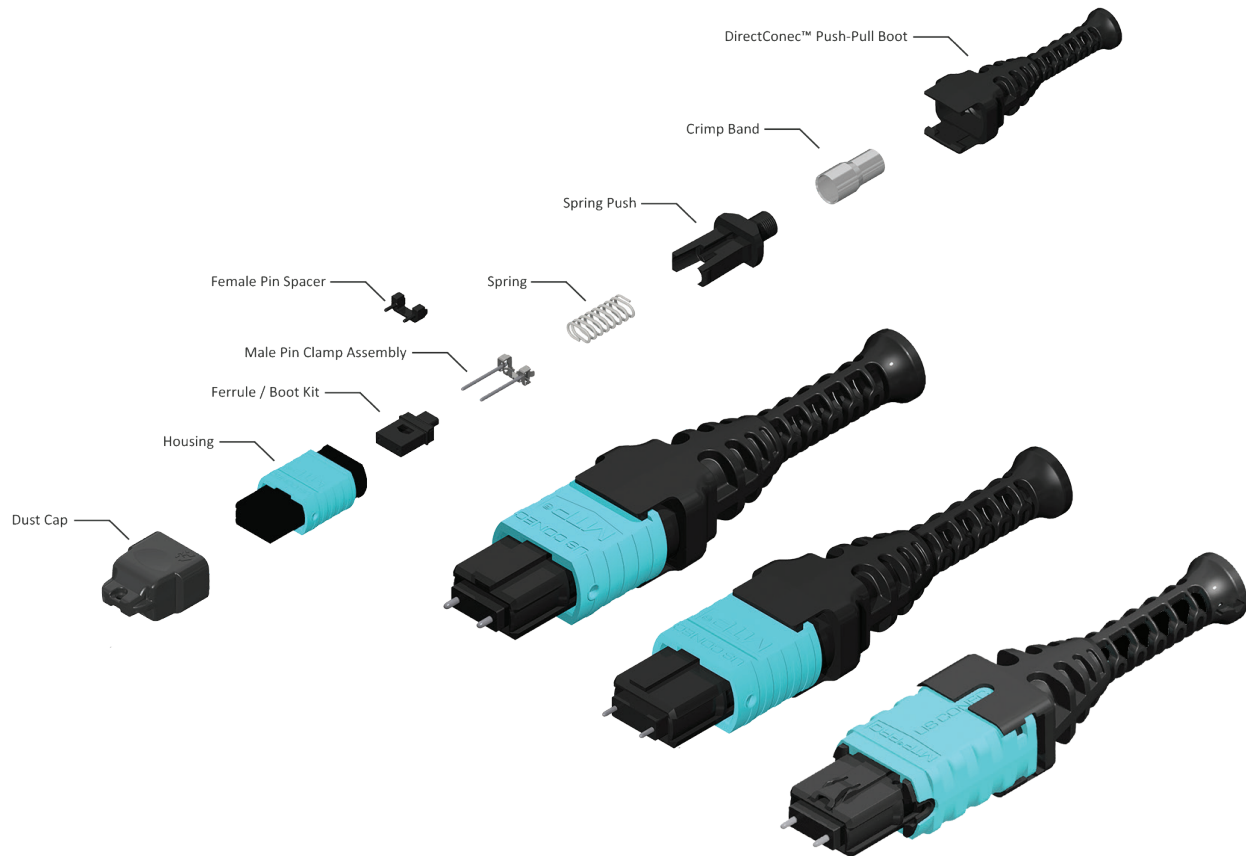
## Unmatched Process Training and Support Infrastructure

- Formal termination, testing and installation training
- Full suite of ancillary support products
- Product evaluations
- On-site field support
- Product selection and use guidance



## MTP® Solutions Universal Hardware

US Conec's flagship MTP® connector portfolio has proliferated multi-fiber technology globally to become the defacto high performance MT based connector for data center and carrier grade applications.



The breadth of qualified solutions includes cable diameters ranging from 2.0mm up to 5.5mm in a variety of performance grades and fiber counts, addressing the requirements of a wide range of environments and applications.

The new universal MTP® hardware package simplifies production and reduces inventory by harmonizing the internal component geometries. This enables our MTP® PRO connectors, MTP®-16 connectors and standard MTP® connectors to address all spring force requirements.

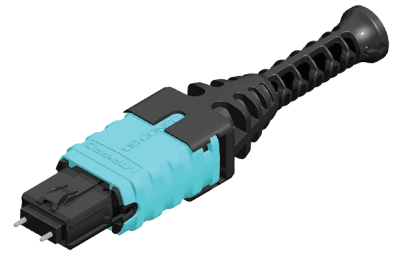
# MTP® Connector Options

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## MTP® PRO Connector

The state-of-the-art MTP® PRO connector brings simplified use to the MPO format by offering optimal field flexibility and enhanced performance while leveraging proven features and technology of US Conec's MTP® family.

- Field friendly pin configurability
- Simple one-step polarity change
- Geometry and material optimized to reduce debris generation
- Available with DirectConec™ push-pull boot



## MTP®-16 Connector

Trusted MTP® brand performance emerging MPO-16 fiber applications.

- Available in 1x16 and 2x16 fiber MT Ferrules
- Same external footprint as traditional MTP® connectors with offset key
- Optimized to reduce debris generation
- Available with DirectConec™ push-pull boot



## MTP® Round Cable Connectors

Broadest offering of MPO connectors on the market with trusted performance and reliability.

- Cable routing advantage over traditional ribbon based cables
- Supports 2.0mm - 5.5mm round cables
- Available for 2 x 3.0mm round cables or zip cables
- Available with DirectConec™ push-pull boot



## MTP® Angled Connector

Tightest cable exit of any MPO connector in industry when paired with the MTP® Angled Flange Adapter.

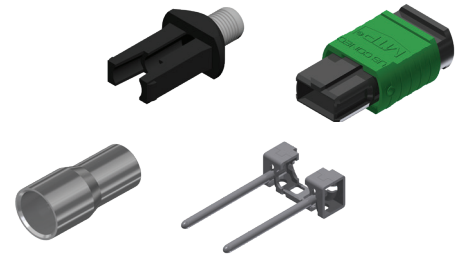
- Supports 3.0mm and 3.6mm round cables
- Ideal when space is limited in the front of the bulkhead or within a cabinet or enclosure
- Less than 30mm protrusion from faceplate when coupled with MTP® Angled Flange Adapter



## MTP® Enhanced Performance

US Conec offers a series of MTP® brand components engineered for extreme applications requiring special features.

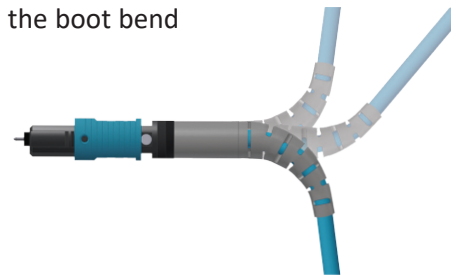
- Enhanced strength for rigid cables and direct pulling grip attachment
- Corrosion resistance
- Superior performance at extreme temperature cycling



## MTP® FLEX Boots

MTP® FLEX boots have an integrated bendable, rigid member which holds the boot bend in the desired cable exit orientation.

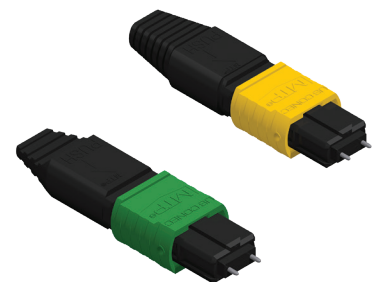
- Supports 3.0mm and 3.6mm round cables
- Stable 0° and 90° flexible positioning
- Endures multiple bends with no impact on optical performance



## MTP® Bare Ribbon & Oval Connectors

Proven ribbon solutions up to 16F with integrated strain relief.

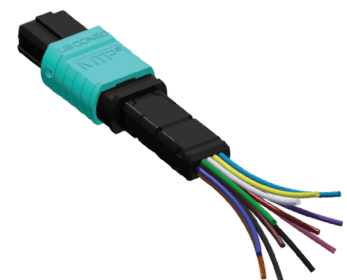
- Termination directly to bare ribbon fiber or oval jacket cable
- Compatible with high fiber count and large universal springs



## 900 Micron MTP® Connector

Compact multi-fiber to single fiber breakout solutions.

- 900 micron tight-buffered fiber terminated directly into cable exit
- Reliable termination is ideal for fiber distribution hub
- Eliminates need for traditional breakout hardware in breakout applications



## MTP® Adapters

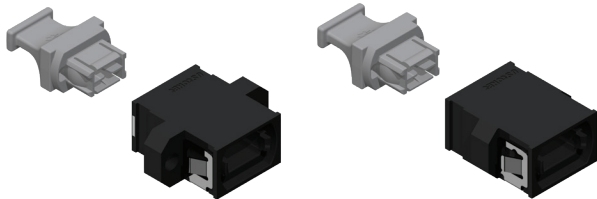
Debris impacts fiber optic connector performance in multiple ways. The less susceptible to generating debris through repeated matings, the less likely that debris will interfere with performance. US Conec offers a full line of MPO bulkhead adapters in a variety of single port and ganged configurations that are designed to minimize debris generation and exceed TIA-604-5, TIA-604-18, and IEC 61754-7-x requirements.

### Features:

- One piece adapter design maximizes coupling strength while minimizing debris generation
- All adapters compatible with MTP Elite® brand connectors and standard grade MTP® brand connectors
- Available in black, beige, green, aqua, blue, red, magenta, yellow, heather violet, munsell violet, and gray
- Compatible with all US Conec MTP® brand connectors in fiber counts ranging from 4 to 72
- Optimal coarse alignment exceeds TIA-604-5, TIA-604-18, IEC 61754-7-1, IEC 61754-7-2, IEC 61754-7-3, and IEC 61754-7-4 to minimize pin to ferrule debris generation
- EMI versions available

## MTP® Adapter Options

### Standard Footprint

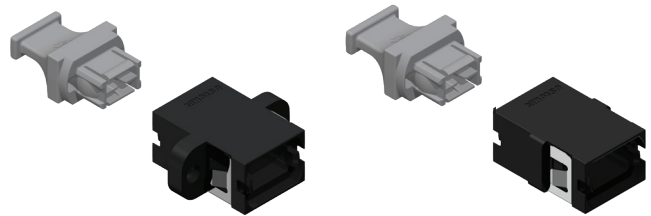


Full Flange Adapter

Reduced Flange Adapter

*Available for use with FOCIS 5 and FOCIS 18 (MTP®-16)*

### SC Footprint

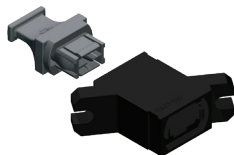


Full Flange Adapter

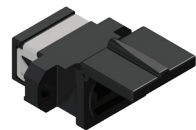
Reduced Flange Adapter

*Available for use with FOCIS 5 and FOCIS 18 (MTP®-16)*

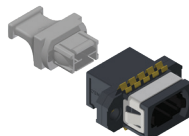
### Specialty: Shuttered, EMI, SC Duplex, and Ganged



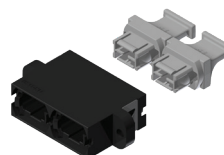
Full Flange Angled Adapter



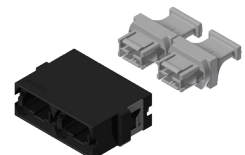
Shuttered Adapter



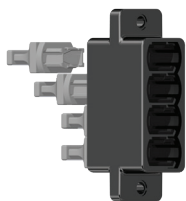
EMI Adapter



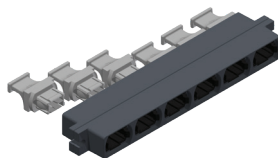
SC Duplex Footprint Full Flange Adapter



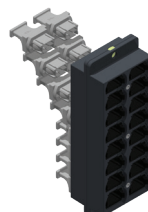
SC Duplex Footprint Reduced Flange Adapter



Ganged 1x4 Straight Adapter



Ganged 1x6 Straight Adapter



Ganged 2x8 Straight Adapter



Ganged 1x2 Angled Adapter



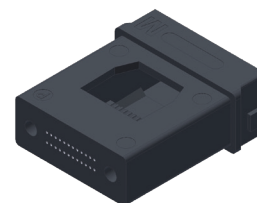
Ganged 1x4 Angled Adapter

## MT Ferrule Performance

US Conec manufactures durable, composite, Polyphenylene Sulfide (PPS) based thermoplastic ferrules available with up to 72 fiber holes that terminate 125 micrometer optical fiber. The ferrules are used in conjunction with US Conec's industry hailed, MTP® brand, MPO type connectors; however, they are also suitable for custom designed passive or active fiber coupling packages. US Conec offers MT ferrules in multiple performance grades tailored to specific application and fiber count requirements. Both singlemode and multimode ferrules.

### Features:

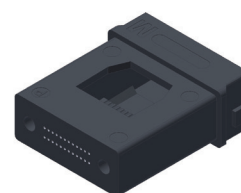
- High density; fiber pitch: 0.25mm
- Extremely low hygroscopic material for exceptional environmental stability
- Mold marks to indicate fiber type and ferrule grade
- Pre-angled SM
- MM MT Elite® optimized for 10G, 40G, 100G and 400G applications
- SM MT Elite® PA meets IEC 61755-3-31 Grade B requirements



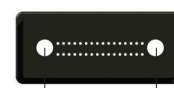
24 Fiber, Multimode MT Ferrule

## MT-16 Ferrules

US Conec continued innovation in multi-fiber connectivity led to the now standardized MT-16 format common in emerging 400G Tx/Rx link designs. US Conec's full line of MT-16 products bring the same industry leading multi-fiber performance on traditional MTs to the higher density MT-16 format.



MT-16 Ferrule



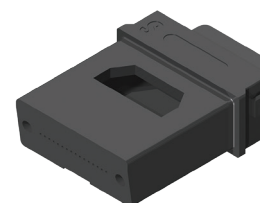
2 x 16 Fiber Ferrule



2 x 12 Fiber Ferrule

## Pre-Angled SM APC MT and MT-16 Ferrules

Singlemode APC ferrules from US Conec are offered with the 8° angle pre-molded into the ferrule endface. These pre-angled ferrules eliminate a polishing step in addition to the need for supporting multiple polishing jigs for SM production lines. The end result in more throughput, less capital investment and superior performance.



16 Fiber, Pre-Angled Singlemode MT-16 Ferrule

Specifications

Ferrule Type	Random Mated Attenuation <sup>1</sup> (≥ 97% dB)	Mean Random Mated Attenuation (dB)	Return Loss (dB)
Single-mode MT Elite® PA	≤0.25 <sup>2,3</sup>	≤0.12 <sup>2,3</sup>	≥60
Single-mode	≤0.50 <sup>2,4</sup>	≤0.25 <sup>2,4</sup>	≥60
Multimode MT Elite®	≤0.25	≤0.12	≥25
Multimode	≤0.45	≤0.20	≥25

Per IEC 61755-3-31, predicted performance yield will vary at different ferrule fiber counts (e.g., For 12F, IEC Grade B estimated attenuation of 0.35dB with 93% yield).

<sup>1</sup> IEC 61755-1 defines Grades based on ≥97% random mated loss probability of channels meeting or exceeding loss specification.

<sup>2</sup> IEC 61755-3-31 is defined for up to 12 fibers for SM APC only.

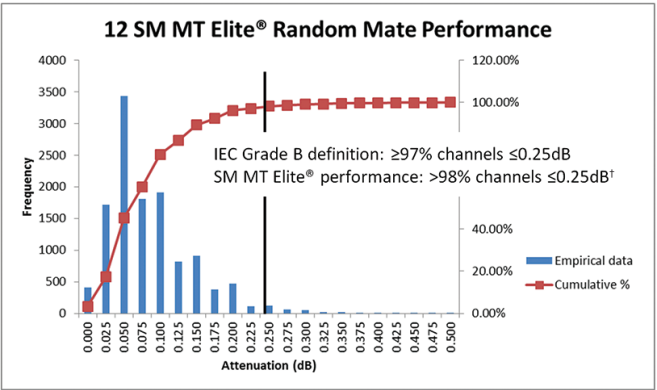
<sup>3</sup> Exceeds IEC 61755-1 Grade B performance.

<sup>4</sup> Meets IEC 61755-1 Grade C performance.

MT Ferrule Options

Fiber Type	Performance	Fiber Count
MM	Standard MM	1x4
		1x8
		1x12
		2x12
		4x12
		6x12
	MM MT Elite®	1x12
		2x12
SM	Standard SM	1x4
		1x8
		1x12
		2x12
	SM MT Elite® PA	1x8
		1x12
		2x12

SM MT Elite® Empirical Data<sup>†</sup>



This data illustrates US Conec ferrules outperforming the standard over high volume production. <sup>†</sup>Actual empirical random intermate data collected on US Conec ferrules over 38 lots with uncharacterized, randomly selected fiber.

MT-16 Ferrule Options

Fiber Type	Performance	Fiber Count
MM	Standard MM	1x16
		2x16
	MM MT Elite®	1x16
		2x16
SM	Standard SM	1x16
		2x16
	SM MT Elite® PA	1x16



\*80µm ferrules available upon request

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