

**SUN CONEC**  
-Singapore & Malaysia-

# MPO/MTP Connector

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**Make Connections Much Simpler**

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## Insertion Loss (IL) and Return Loss (RL)

Optical Performance		SM/APC	MM/APC	SM/UPC	MM/UPC
IL (dB)	Standard	0.7	0.7	0.7	0.7
	Low Insertion Loss	0.35	0.35	0.35	0.35
RL (dB)	Standard	60	40	50	20
	High Return Loss	65	45	55	25

## Fiber Endface Geometry Comparison

MTP Single Mode/Multimode					
Measurements Parameters			Limits		
			Minimum		Maximum
ROC	X-ROC		2000mm(Convex) -10000mm(Concave)		N/A
	Y-ROC		50mm		N/A
Angle	X-Axis		-0.15°		0.15°
	Y-Axis	APC	7.8°		8.2°
		Flat	-0.2°		0.2°
Fiber Height			1100nm		3000nm
Diff.Height			N/A		500nm
Adj.Height			N/A		300nm
Ferrule Length	PC		7.8mm		N/A
	APC		7.9mm		N/A
Core Dip			/		120mm
Geometry Limit(N)	APC(SM)		N/A		22.6(4 Fiber)
					17.9(8 Fiber)
					17.4(12 Fiber)
Minus Side Coplanarity (nm)		APC/PC	N/A		400
Fiber Tip Spherical Radius (mm)		APC/PC	1		∞

**OPTICAL PATCH CORD**

**CODE STANDARDS**

**MP-SCA-S-09-Z-A**

A-SIDE CONNECTOR TYPE		B-SIDE CONNECTOR TYPE		CORE COUNT		OUTER DIAMETER		MATERIALS		OPTICAL FIBER TYPE	
MP	MPO	MP	MPO	S	single-core	09	0.9	Z	LSZH	A	G652D
MT	MTP	MT	MTP	D	dual-core	12	1.2	V	PVC	B	G657A1
MJ	MTRJ	MJ	MTRJ	M	multi-core	20	2.0	O	OFNP	C	G657A2
						30	3.0			D	G657B3
										E	G655
										F	OM1
										G	OM2
										H	OM3-150
										J	OM3-300
										K	OM4
										L	OM5

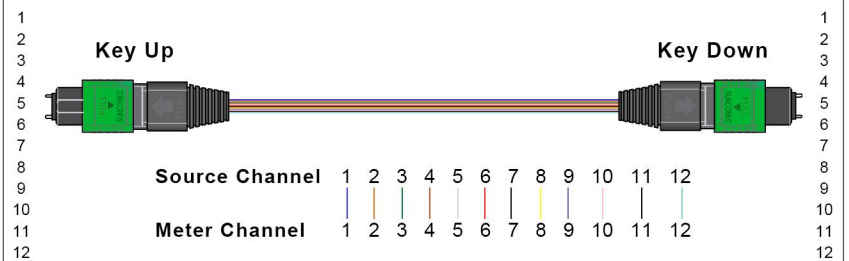
**Note:** Custom lengths available to meet your requirements.

**STANDARD PATCH CORD STRUCTURE**

**Method A: Patch Cord Polarity Flip**

Straight through MPO to MPO Polarity (TYPE A)

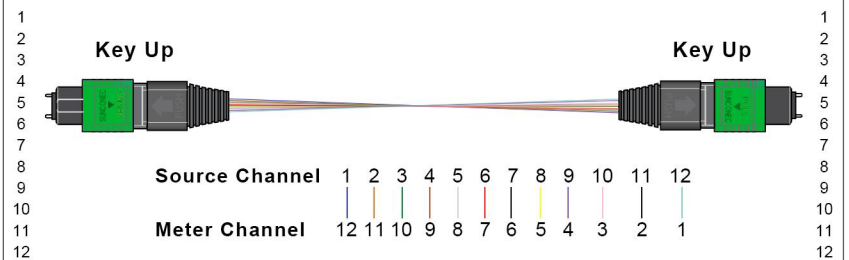
This is the most intuitive method, where all fibers connect from one end to the other in the same positional order. It is typically used for fan-out from equipment ports to backbone cables or for connecting cables of the same polarity within a patch panel.



**Method B: Adapter Polarity Flip**

Reversed MPO to MPO Polarity (TYPE B)

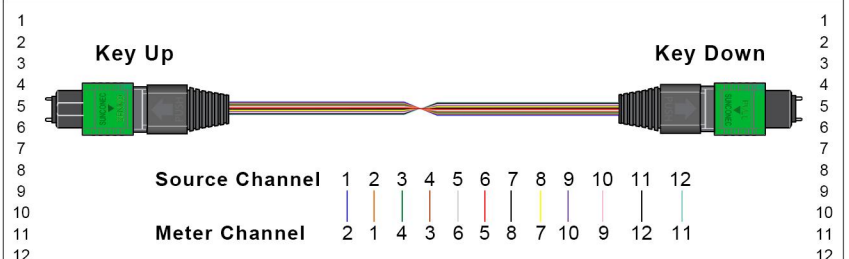
This method completely reverses the sequence of all fibers. It is the most commonly used and standard polarity type for backbone cables, ensuring a "reverse-and-reverse-again" fiber position throughout the entire link, thereby achieving correct end-to-end connectivity.



**Method C: Pair Polarity Flip**

Flipped Pairs MPO to MPO Polarity (TYPE C)

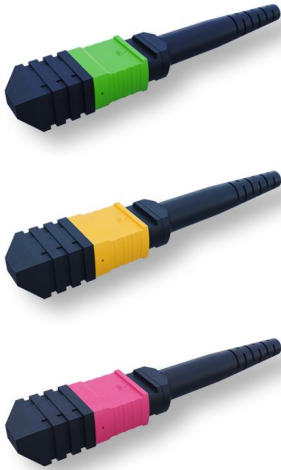
This method swaps adjacent fibers in pairs. It is primarily used for specific parallel duplex optical module applications or serves as an alternative to Type B in certain cabling architectures to achieve the same end-to-end connection result.



# MPO CONNECTOR

## CODE STANDARDS

**MO12-GN-20-BU**



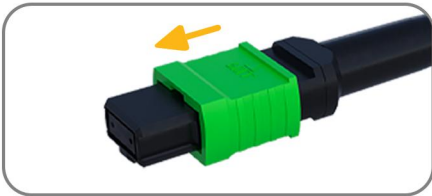
MPO Connector

CONNECTOR		ENCLOSURE COLOR		BOOT TYPE(mm)		BOOT COLOR	
MO12	12-fiber MPO connector	BU	BLUE	20	2.0 Standard	GN	GREEN
MO16	16-fiber MPO connector	GN	GREEN	30	3.0 Standard	BU	BLUE
MO24	24-fiber MPO connector	BG	BEGI			BG	BEGI
		AQ	AQUA GREEN			AQ	AQUA
						BK	BLACK

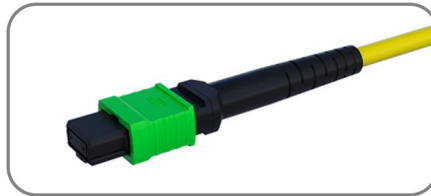
### Performance:

- Sun Conec's connectors strictly follow the test standards of Telcordia GR-326-CORE.
- The use of our different ferrule types (Premium, Super premium, Ultra premium) enables performance matching from standard to high and ultra-high performance interconnection requirements.
- The dimensional design complies with IEC 61754-7.
- Can be selected according to the material to meet the UL94 flame retardant standards.
- Insertion/return loss performance not only exceeds the top 10% of industry benchmarks, but also far exceeds the performance requirements of the Grade B interchange test in the IEC 61753-1 standard.

## OPTICAL DATA



Removable Housing



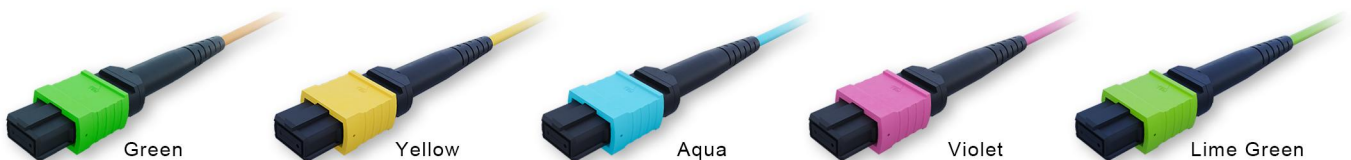
Maximize panel density



Various Boot Styles

ADAPTED CABLE OD	BOOT TYPE	PICTURE	ENGINEERING DRAWING
0.9 mm Simplex	Standard Boot		
3.0 mm Simplex	Standard Boot		
4.0 mm Simplex	Flat Boot		

## CONNECTOR BOOT COLOR



Green

Yellow

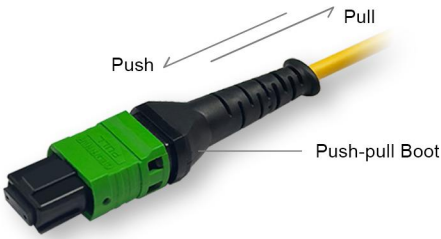
Aqua

Violet

Lime Green

## MPO PUSH-PULL CONNECTOR

### CODE STANDARDS



**MO12-GN-20-BU**

CONNECTOR		ENCLOSURE COLOR		BOOT TYPE(mm)		BOOT COLOR	
MO12	12-fiber MPO connector	BU	BLUE	20	2.0 Ferrule	GN	GREEN
MO16	16-fiber MPO connector	GN	GREEN	30	3.0 Ferrule	BU	BLUE
MO24	24-fiber MPO connector	BG	BEGI			BG	BEGI
		AQ	AQUA GREEN			AQ	AQUA GREEN
						BK	BLACK

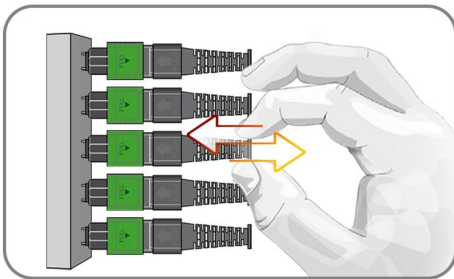


MPO PUSH-PULL Connector

#### Performance:

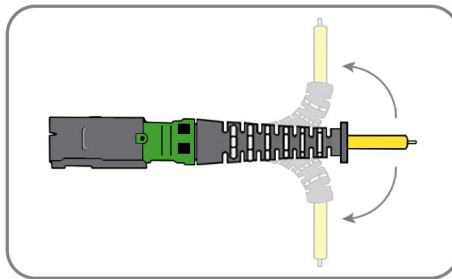
- High precision guide pins for exact alignment
- Compact design, up to 24 fiber ribbons
- Total length of connector is 54.5mm (including MT ferrule)
- Compliant with IEC61754, GR1435, TIA-604 standards
- Polishing does not require diamond film
- Easy to assemble and can be disassembled repeatedly
- Flex angle boot and other boot styles
- Spring Push with Slit for easier assembly

## FEATURE



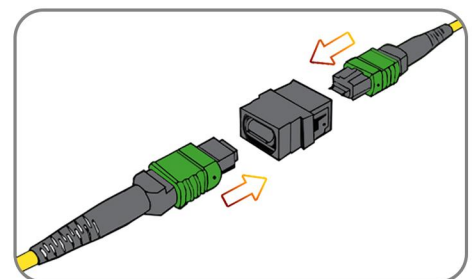
#### PUSH-PULL boot

Easy insertion and removal of high-density environment



#### 90 degree bending side pull 45N

SUN CONEC's push-pull boot withstands stress tests, maintaining insertion loss by controlling force and bend radius.



#### Low-Loss ferrules

SM & MM typical insertion loss: 0.1 dB  
Maximum insertion loss: 0.25 dB



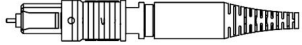



## MPO PUSH-PULL CONNECTOR BOOT

### RIBBON BOOTS






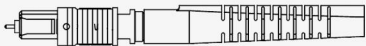
RIBBON FIBER	PICTURE		ENGINEERING DRAWING
Bare Ribbon			
Bare Ribbon Short			
Flat Ribbon Cable			

## MPO PUSH-PULL CONNECTOR BOOT







### 2.0MM ROUND BOOTS

RIBBON FIBER	PICTURE		ENGINEERING DRAWING
2.0mm Boot with Crimp			
2.0mm Boot without Crimp			



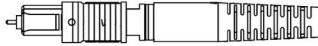



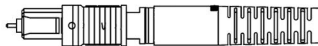
### 3.0MM ROUND BOOTS

RIBBON FIBER	PICTURE		ENGINEERING DRAWING
3.0mm Boot			
3.0mm Flex Angle			

### 3.6MM ROUND BOOTS

RIBBON FIBER	PICTURE		ENGINEERING DRAWING
3.6mm Boot			
3.6mm Flex Angle			

### 4.5/5.0/5.5MM ROUND BOOTS

RIBBON FIBER	PICTURE		ENGINEERING DRAWING
4.5mm Boot			
5.0mm Boot			
5.5mm Boot			

# SN-MT CONNECTOR

The SUN CONEC SN-MT extends the proven SN series by integrating 16×200 μm fibers into a single, compact ferrule. Delivering 2.7 times the density of an MPO16 connector while maintaining reliable alignment technology, it ensures low-loss performance for both single-mode and multimode APC applications—meeting the demanding patch-panel density requirements of modern hyperscale data centers.

Front View

ACCESSIBLE push-pull boot for fast and easy access

**2.7x**  
Density increase compared to MPO-16F

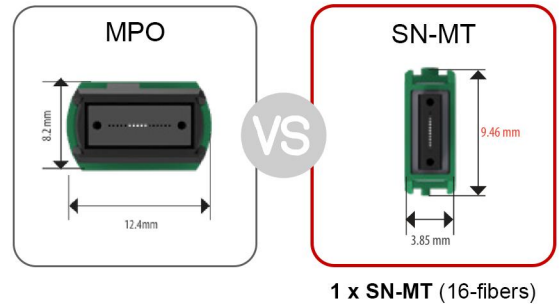
HYPERSCALE DENSITY  
2.7x denser than MPO-16F

HOOK MECHANISM

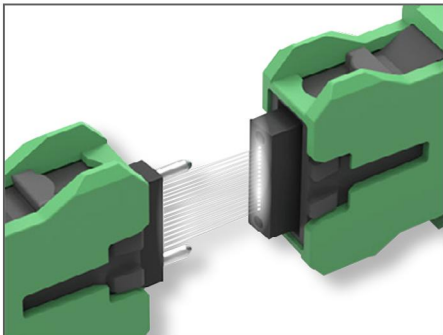
Faster Deployment Times

3,456 FIBERS PER 1RU

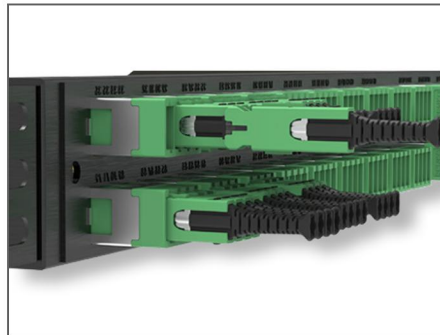
## Footprint size comparison with MPO



# OPTICAL DATA



**Precision Ferrules**



**Push-Pull Boot**



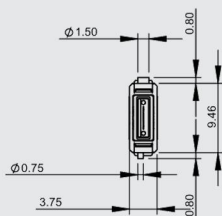
**Flex-Angle Boot**

**Performance:**

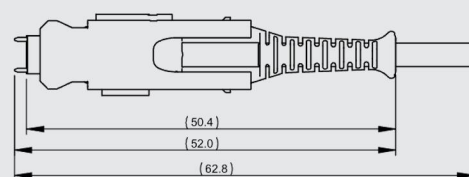
- Sun Conec's connectors strictly follow the test standards of Telcordia GR-326-CORE
- Designed to exceed the requirement of Verizon FOCTPR 9409 requirements
- The dimensional design complies with IEC 61754-13
- Unique push-pull boot for simple installation and removal
- The use of our different ferrule types (Premium, Super premium, Ultra premium) enables performance matching from standard to high and ultra-high performance interconnection requirements
- Effective size reduction compared to LC Duplex
- Wide range of connector and adapter types for legacy upgrades or greenfield applications

## SN-MT STANDARD DRAWING

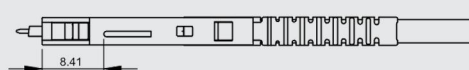
Front View



Side View

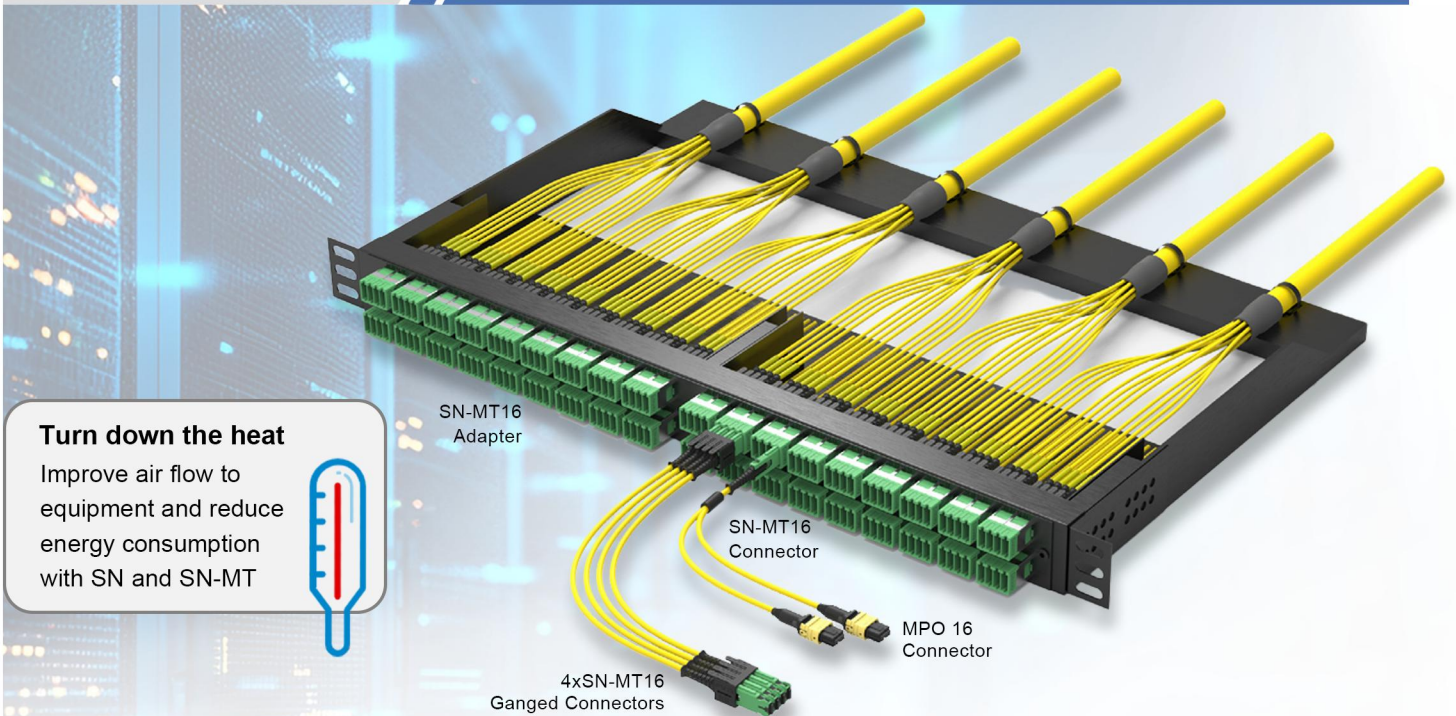


Top View



**Note:** 1. All dimensions are in mm  
2. Specifications subject to change without notice

**DISTINCTIVE ADVANTAGES**



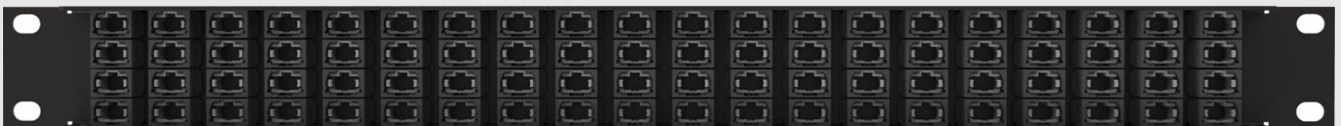
**Turn down the heat**

Improve air flow to equipment and reduce energy consumption with SN and SN-MT

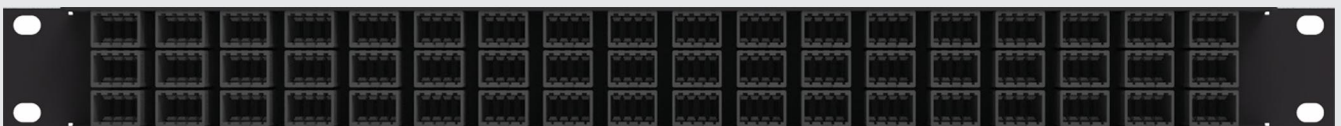


**SN-MT Density Comparison with MPO in 1RU Panel**

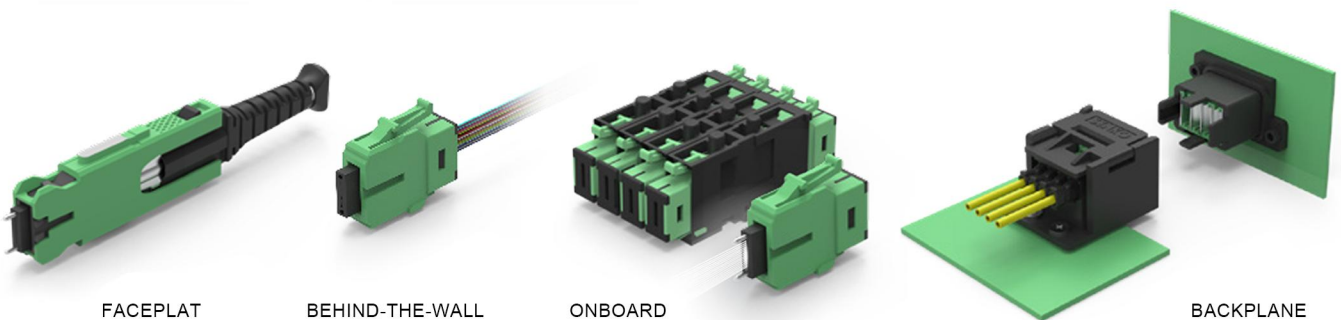
MPO 80-port: total 1280F with MPO-16F, total 2560F with MPO 32F



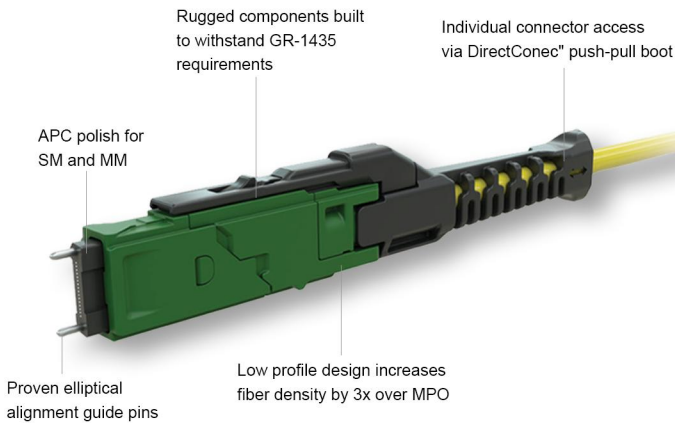
SN-MT 216-port: total 3456F with SN-MT 16F



**HIGH-DENSITY CONNECTOR DEPLOYMENT CONFIGURATIONS**



# MMC CONNECTOR



SUN CONEC's MMC connector is a Very Small Form Factor (VSFF) multi-fiber optical connector designed for termination of single-mode and multimode fiber cables up to 2.5mm in diameter. The MMC connector employs novel TMT ferrule technology harmonized with the MT or MT-16 alignment structure. Individual connector access in the most extremely dense connector environments is easily accomplished using revolutionary DirectConec™ push-pull boot technology.

**Performance:**

- 3x cabling port density over the MPO format
- TMT Elite™ low-loss, IEC Grade B insertion loss performance (0.25dB 97% random intermate)
- Tested to Telcordia GR-1435
- 250 μm pitch for compatibility with standard 250 μm and smaller OD optical fibers
- APC for both SM and MM applications
- Cables up to 2.5mm OD

# OPTICAL DATA

## Footprint size comparison with MPO

**MPO**

**72 x MPO ports**

- 864 fibers in 1RU using 12F MPO connectors
- 1,152 fibers in 1RU using 16F MPO connectors
- 1,728 fibers in 1RU using 24F MPO connectors

VS

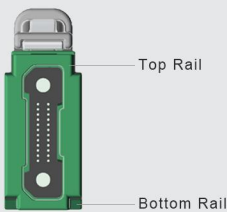
**MMC**

**264 x MMC ports (>3x MPO in 1RU)**

- 3,168 fibers in 1RU using 12F MMC connectors
- 4,224 fibers in 1RU using 16F MMC connectors
- 6,336 fibers in 1RU using 24F MMC connectors

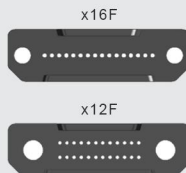
## FEATURES

**Simplified Polarity Management**



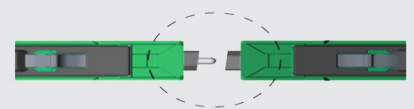
- Bottom rail features ensure connector is installed in correct polarity orientation.

**Proven Alignment Structure**



- The TMT ferrule format is compliant with the IEC 61755 and 61754 precision alignment structure for MT Ferrules.

**Angle End-Face Mating**



- MMC solutions enable Low Loss, IEC Grade B insertion loss performance and are APC for superior return loss.

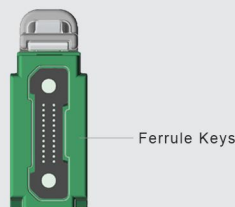
**High Density Footprint**



1U Panel Max Density with (66) 4-port MMC Adapters	
16F MMC	4224 Fibers
24F MMC	6336 Fibers

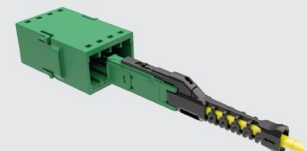
- The MMC connector with DirectConec™ Push-Pull Boot enables functional high density applications.

**Error-Free Assembly**



- The TMT ferrule is keyed to the MMC housing for error-free assembly.

**MMC Engagement Length**



- Long precision engagement ensures ferrule stability, enabling a single latch design that maintains the industry-standard 250μm optical pitch.

## MPO-LC (24-CORE)

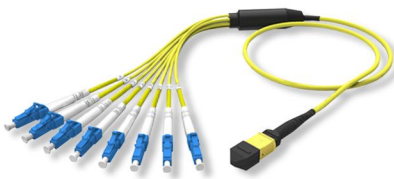
### CODE STANDARDS

**MP-SCA-S-09-Z-A**

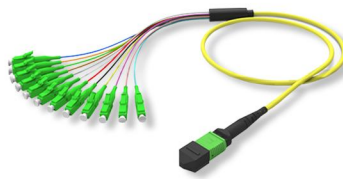
A-SIDE CONNECTOR TYPE		B-SIDE CONNECTOR TYPE		CORE COUNT		FANOUT DIAMETER		MATERIALS		OPTICAL FIBER TYPE	
MP	MPO	LCU	LC/UPC	S	simplex	09	0.9	Z	LSZH	A	G652D
MT	MTP	LCA	LC/APC	D	duplex	12	1.2	V	PVC	B	G657A1
MJ	MTRJ					16	1.6	O	OFNP	C	G657A2
						20	2.0			D	G657B3
						30	3.0			E	G655
										F	OM1
										G	OM2
										H	OM3-150
										J	OM3-300

**Note:** Custom lengths available to meet your requirements.

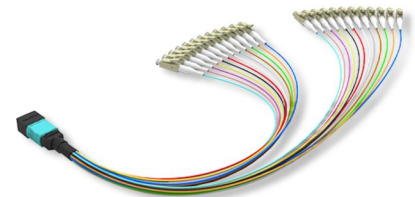
### MPO-TYPE FIBRE OPTIC CONNECTOR PATCH CORD



Mini-Cable / Ribbon Cable with (Breakout Cable) 2.0/3.0mm Furcation



Mini-Cable / Ribbon Cable with (Breakout Cable) 0.9mm Furcation



MPO/MTP-0.9mm Furcation

## OPTICAL DATA

BRANCH TYPE	PICTURE	ENGINEERING DRAWING
Even Length		
Staggered Length		

### COLOR RECOMMENDATION



**SM**  
(G657A1 with yellow Sheath.  
Other fiber type, like  
G652D/G657A2/G657B3  
can be customized too)



**OM3**  
(With aqua Sheath)



**OM4**  
(With aqua, violet or pink sheath)



**OM5**  
(with lime green sheath)

## MPO-LC/UNIBOOT (24-CORE)

### CODE STANDARDS

**MP-SCA-S-09-Z-A**

A-SIDE CONNECTOR TYPE		B-SIDE CONNECTOR TYPE		CORE COUNT		OUTER DIAMETER		MATERIALS		OPTICAL FIBER TYPE	
MP	MPO	UN	UNIBOOT	S	simplex	20	2.0	Z	LSZH	A	G652D
MT	MTP			D	duplex	30	3.0	V	PVC	B	G657A1
MJ	MTRJ							O	OFNP	C	G657A2
										D	G657B3
										E	G655
										F	OM1
										G	OM2
										H	OM3-150
										J	OM3-300

**Note:** Custom lengths available to meet your requirements.

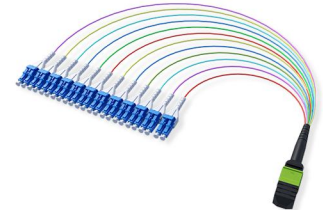
### MPO-TYPE FIBRE OPTIC CONNECTOR PATCH CORD



Ribbon Cable to MPO-LC/UNIBOOT  
2.0-3.0mm Sleeve Fanout



Ribbon Cable to MPO-LC/UNIBOOT  
0.9mm Sleeve Fanout



MPO-LC/UNIBOOT 0.9mm Furcation

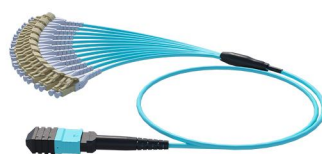
## OPTICAL DATA

BRANCH TYPE	PICTURE	ENGINEERING DRAWING
Even Length		
Staggered Length		

### COLOR RECOMMENDATION



**SM**  
(G657A1 with yellow Sheath.  
Other fiber type, like  
G652D/G657A2/G657B3  
can be customized too)



**OM3**  
(With aqua Sheath)



**OM4**  
(With aqua, violet or pink sheath)



**OM5**  
(with lime green sheath)

# SUN CONEC

**-Singapore & Malaysia-**



## **Sale and Service**

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"Integrity in Sales, Excellence in Service."

Trust is the foundation of our growth. By prioritizing superior quality and responsive service, we build lasting relationships with our clients.

Our unwavering commitment:

"To cooperate sincerely and share prosperity with all partners."

## **Rontaray Ningbo**

---

Headquarters / RD Center  
Ferrule & Sleeve Factory  
Email:info@rontaray.com

## **Rontaray Hunan**

---

Assembly Factory  
Patch cord/MPO/Fast connector  
Email:info@rontaray.com

## **Sunconec Singapore**

---

Sales Company  
Email:official@sunconec.com

## **Sunconec Malaysia**

---

Ferrule & Sleeve Factory  
Medical optical imaging/MT Ferrule  
Email:official@sunconec.com

WWW.RONTARAY.COM  
WWW.SUNCONEC.COM