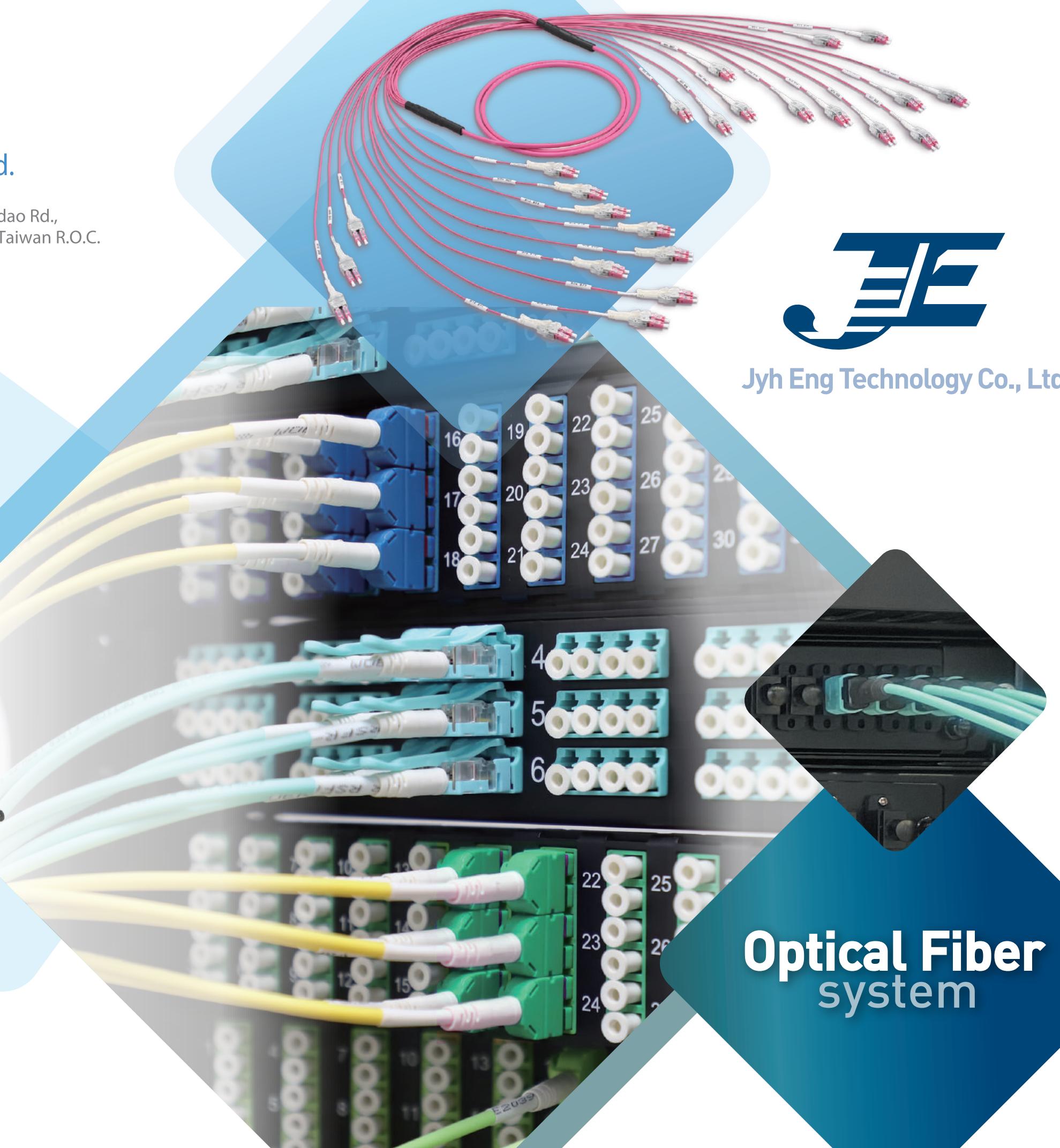
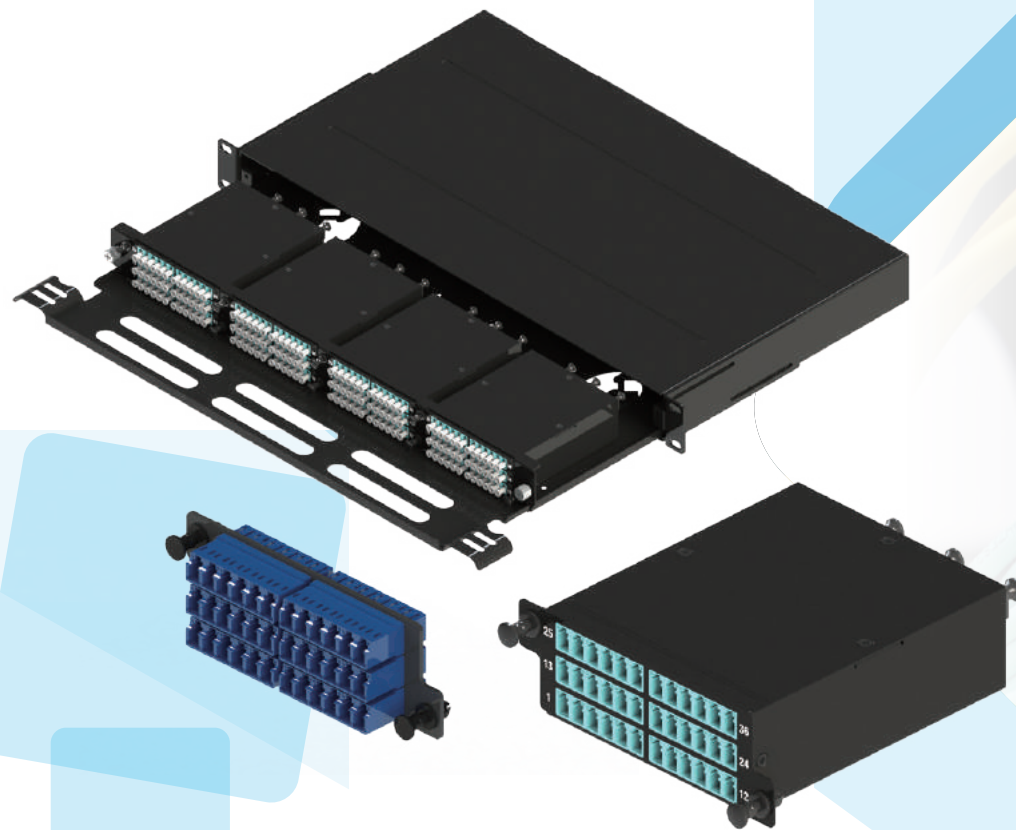




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Lujhou Dist., New Taipei City 247020, Taiwan R.O.C.
www.je-net.com.tw
Mail: sales@jyheng.com.tw



Jyh Eng Technology Co., Ltd.

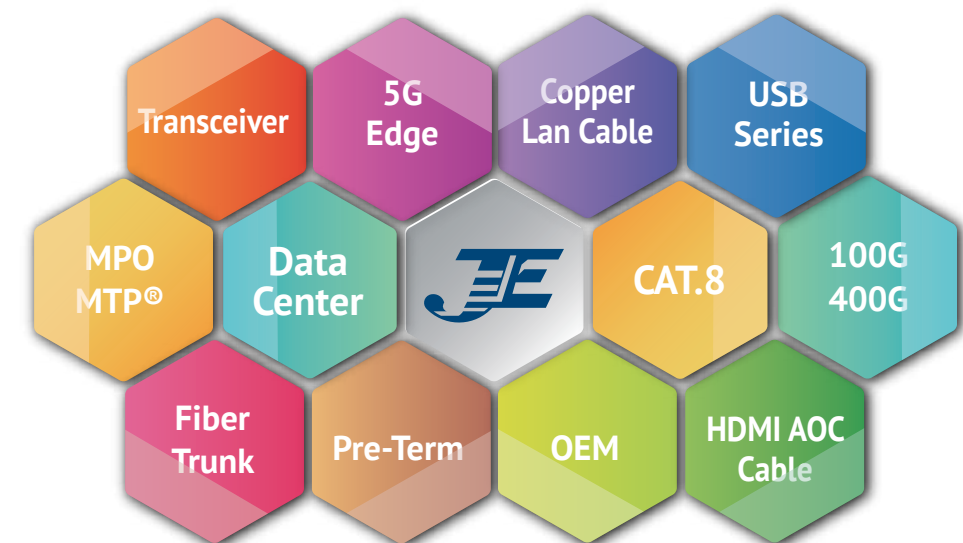


Optical Fiber
system

**We find ourselves at a time of great opportunity
as we learn from the past to continually
create an exciting future.**

To be a world-class leader in cabling industry

- **To customers**
Promise value-added quality and service
- **To business partners**
Make a win-win provision
- **To the earth**
Reduce, recycle, reuse



Wide selection of products

Jyh Eng provides a comprehensive selection of products that are designed for communication in twisted pair and fiber:

- √ Category 8 channel and component-rated level
- √ Category 7, 6A, 6 and C5E component-rated level
- √ EIA 19" Patch panel
- √ 10" Patch panel, un-shielded and shielded
- √ Keystone Jack
- √ Solid cable and stranded cable, up to 2000Mhz
- √ Fiber connectors, adaptors, patch cords and enclosure
- √ 5G Edge 25G/200G
- √ Transceiver, DAC/AOC cable and MTP®/MPO Cable
- √ Pre-terminated for Data center in 10G, 25G/40G, 100G and 400G
- √ OEM/ODM service, including design and production
- √ HDMI AOC Cable



Jy Eng Supports a Global Sales and Service Network

Jy Eng produces structured cabling system accessories to support customers in more than 54 countries. Founded in 1985, our headquarters is located in Taipei, Taiwan.

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Ontario Canada L5L 5Y6
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START

Establish by Bob Lin,
starting with Tel & C3
products

Fiber Products

ISO 9001: 2000 launch fiber
products

China Factory Expansion

Increase manufacturing capacity,
set up new production plant in
Dongguan

Copper Cable Production

Start mass production of
copper cable

Automation

Make AI production to
keystone jack & panel

New Production

SMT processing/new
production plant of PCB &
Die-casting parts

1985

1999

2005

2007

2009

2018

1994

2000

2006

2008

2016

2019~2023

Category 5

Produce C5 & C5E

China Factory Set-Up

Establish production
lines in China

ISO 14001:2004

Establish RoHS & Lead-Free
production lines

C6A 500MHz

Achieve an important tech-
nical advantage, approved
by ETL, 3P & DELTA

CAT8 2000MHz

Launch CAT8 2000MHz 40G
solution, GHMT certified

Thailand

New production plant in
Rayong, Thailand

Jyh Eng at a Glance

The brand to networking connection worldwide

For over 35 years, cabling industries have relied on Jyh Eng products in major device networking installation all over the world. Jyh Eng offers the complete solution and service, guaranteed by an excellent warranty and highly-specialized technical support, including copper and fiber.



Trusted Worldwide

Jyh Eng was established in 1985 and has offices in Taiwan, Canada, China and Thailand.

Working with a network of certificated manufacturers and distributors, Jyh Eng offers a world-class cabling products and OEM/ODM service to systems integrators, value-added resellers and leading manufacturers over 50 countries.

With ISO 9001:2015 and 14001:2015, Jyh Eng acquires customers' trust in business operation and environmental practices.

All products obtain standards, internationally recognized lab certifications, as well as specialized certifications depending on client requirements.

Jyh Eng's Green Products

Jyh Eng has dedicated to producing "green products" that satisfy the WEEE and RoHS2 directives. It is proud to be among the first in the cabling industry to be compliant with all. In addition, all Jyh Eng products carry UL, FCC, and CE certifications.

Quality Guarantee Quality Assurance Policy

Jyh Eng is engaged in the business of construction. The purpose of our QA policy is to confirm our commitment to meeting the quality standards expected by our customers in the delivery of the products and services that we supply to them.

Our quality system is based on the requirements of ISO 9001:2015 & ISO 14001:2015, and has been specifically tailored to suit our primary business.

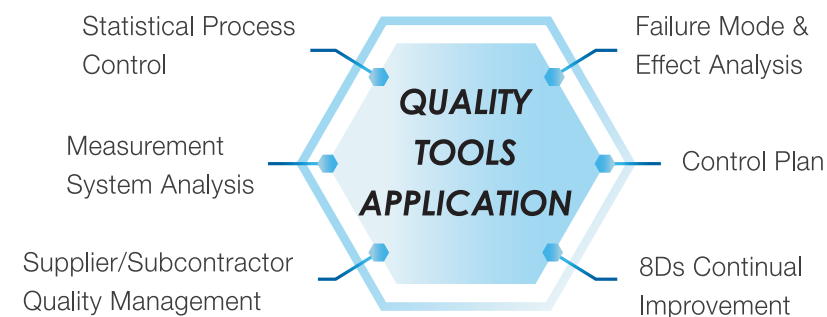
Quality Objectives

Use the Quality Management System as a tool in achieving best practice outcomes across the organization.

To implement this policy, we focus on the needs of our business with particular reference to consistently meeting our customers' requirements. Our quality management system provides mechanisms for detecting system shortfalls and for stimulating process improvements.



Procedures & Disciplines



The system is effectively implemented by undertaking relevant skills training and conduction appropriate quality awareness training.

Responsibilities for quality are established by communicating these responsibilities clearly to all employees.

The policy continues to be appropriate by initiating regular reviews to check its effectiveness and ongoing relevance.

ISO 9001:2015 & ISO 14001:2015

Jyh Eng meets the most comprehensive standard in design, purchasing, manufacturing, testing, documentation, shipping and service. Our ISO certification is a solid of our effort and result in striving for best quality from top to bottom and everywhere in between.

This also means; Jyh Eng's high quality products and services can help you to meet your ISO quality requirement and further your cost for quality inspection.



Warranty

15-year certificated performance warranty

When it comes to product performance, Jyh Eng guarantees that when customers install any of Jyh Eng's products that customers will get more than they ask for – customers will get what they want. In independent tests, Jyh Eng regularly surpasses the performance of competitors who claim performance to be their sole distinction.

The above warranty does not extend to products which have been subjected to negligence, accident, improper use, improper installation and improper storage causing the diminished performance of the product below the outlined transmission performance.

This warranty does not cover damages from special environment or condition, like humidity, high & low temperature, lightening and electrical power that exceed the standard operational range. Liability under this warranty will not exceed the purchase price of the products.

R & D

The world's best engineers and IT specialists

Jyh Eng's products acquire the advantage of being engineered in Taiwan and China, one of the world's hottest spots for high-end electronics and information technology. Companies around the world rely on the high quality of components developed and designed in Taiwan to maintain their own standards of quality and reliability. Industry specialists know that there is no better source for electronic components. With experience in cabling industry and access to talented labor pool, Jyh Eng has assembled an expert R & D team that has developed inovative technologies and set new standards for the industry:

- √ Automatic production lines
- √ 3P, GHMT, Delta and ETL Certification
- √ Patented design to eliminate AXT in high frequency
- √ The 1st leading manufacturer to integrate real production of twisted pair, optical fiber and metallic products
- √ The exclusive patented construct of the conductor reduces the NEXT noise
- √ Using Parallel PCB trace layout to strike a balance, in order to increase stability in high frequency
- √ Effective OEM/ODM design and management



Thailand
Factory

OPTICAL FIBER SYSTEM

Optical Fiber and Cable

Fiber Patch Cord, Adapter

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China
Factory

Optical Fiber

Single-mode fiber (SMF) and multimode fiber (MMF) are widely used in signal transmission. The differences between single-mode and multimode fiber are fiber core diameter, wavelength, light source, bandwidth, and transmission distance. Single-mode fibers use lasers or laser diodes. With multimode OM1 and OM2 fiber, the signal is transmitted by LED (light-emitting diodes) light source. The OM3, OM4, and OM5 are for use with VCSELs (vertical-cavity surface-emitting lasers). Compared with LED, VCSELs produces an energy output that is not uniform; it can change sharply across the face of the output.

Multimode Fiber Standards: IEC 60793-2-10, ANSI/TIA-492AAAx

Fiber Cable Type by ISO/IEC 11801	Core/Cladding Diameters (μm)	Glass Fiber Maximum Attenuation (dB/KM)			Cabled Maximum Attenuation (dB/KM)			Cabled Maximum Attenuation (dB/KM)				
								Overfilled Launch (OFL) Bandwidth		Effective Modal Bandwidth (EMB)		
		850 nm	953 nm	1300 nm	850 nm	953 nm	1300 nm	850 nm	953 nm	1300nm	850 nm	953 nm
OM1	62.5/125	3.0		1.0	3.5		1.5	200		500		
OM2	50/125	3.0		1.0	3.5		1.5	500		500		
OM3	50/125	2.5		0.8	3.0		1.5	1,500		500	2,000	
OM4	50/125	2.5		0.8	3.0		1.5	3,500		500	4,700	
OM5	50/125	2.5	1.8	0.8	3.0	2.3	1.5	3,500	1,850	500	4,700	2,470

Single-mode Fiber Standards: IEC 60793-2-50, ANSI/TIA-492CAAx

Fiber Cable Type by ISO/IEC 11801	Core/Cladding Diameters (μm)	Glass Fiber Maximum Attenuation (dB/KM)			Cabled Maximum Attenuation (dB/KM)		
		1310 nm	1383 nm	1550 nm	1310 nm	1383 nm	1550 nm
OS2	9/125	0.35	0.35	0.35	0.4	0.4	0.4

The following table shows the maximum transmission distance of SMF and MMF in different applications. MMF is usually used in building and in short- and medium-term distance runs. SMF is suitable for long-distance applications due to its small core diameter to pass one signal at a time.

Multimode Fiber

Ethernet Speed	Applications	IEEE Reference	Wavelength	Interface	Transceiver Module	Max. Distance (meter)		
			nm			OM3	OM4	OM5
10G	10GBase-SR	802.3ae-2002	850	SC / LC	SFP+/XENPAK/X2/XPAK/XFP	300	550	550
25G	25GBase-SR	802.3by-2016	850	LC	SFP28	70	100	100
40G	40GBase-SR4	802.3ba-2010	850	MPO-12	CFP/QSFP+	100	150	150
	40GBase-eSR4	non IEEE	850	MPO-12	QSFP+	300	400	400
	40GBase-SR2-BiDi	non IEEE	850 / 900	LC	QSFP+	-	-	200
	40GBase-SWDM4	non IEEE	850-940*	LC	QSFP+	-	-	440
50G	50GBase-SR	802.3cd-2018	850	LC	SFP56	70	100	100
100G	100GBase-SR10	802.3ba-2010	850	MPO-24	CXP/CFP/CFP2/CFP4/CPAK	100	150	150
	100GBase-SR4	802.3bm-2015	850	MPO-12	QSFP28/CFP2/CFP4/CPAK	70	100	100
	100GBase-SWDM4	non IEEE	850-940*	LC	QSFP28	-	-	150
	100GBase-SR2	802.3cd-2018	850	MPO-12	QSFP28	70	100	100
200G	200GBase-SR4	802.3cd-2018	850	MPO-12	QSFP56	70	100	100
	2x100GBase-SR4	Prop.	850	MPO-24	QSFP-DD	70	100	100
400G	400GBase-SR16	802.3bs-2017	850	MPO-32	CFP8	70	100	100
	400GBase-SR8	802.3cm-2020	850	MPO-16	OSFP/QSFP-DD	70	100	100
	400GBase-SR4.2 BiDi	802.3cm-2020	850 / 910	MPO-12	OSFP/QSFP-DD	-	-	150
	400GBase-VR4	802.3db-2022	850	MPO-12	QSFP-DD	30	50	50
	400GBase-SR4	802.3db-2022	850	MPO-12	QSFP-DD	60	100	100
800G	800GBase-VR8	802.3df	850	MPO-16	OSFP/QSFP-DD	30	50	50
	800GBase-SR8	802.3df	850	MPO-16	OSFP/QSFP-DD	60	100	100

* 850-940 Wavelength: 850, 880, 910, 940 nm

Single-mode Fiber

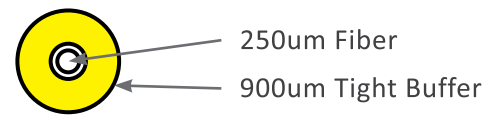
Ethernet Speed	Applications	IEEE Reference	Wavelength	Interface	Transceiver Module	Max. Distance
			nm			OS2
10G	10GBase-LR	802.3ae-2002	1310	SC / LC	SFP+/XENPAK/X2/XPAK/XFP	10 km
	10GBase-ER	802.3ae-2002	1550	SC / LC	SFP+/XENPAK/X2/XFP	40 km
25G	25GBASE-LR	802.3cc-2017	1310	LC	SFP28	10 km
	25GBASE-ER	802.3cc-2017	1550	LC	SFP28	40 km
40G	40GBase-LR4	802.3ba-2010	1271-1331*	LC	CFP/QSFP+	10 km
	40GBase-ER4	802.3bm-2015	1271-1331*	LC	QSFP+	40 km
	40GBASE-PLR4	non IEEE	1310	MPO-12	QSFP+	10 km
	40GBase-FR	802.3bg-2011	1550	LC	CFP	2 km
50G	50GBase-LR	802.3cd-2018	1304.5-1317.5	LC	SFP56	10 km
	50GBase-FR	802.3cd-2018	1304.5-1317.5	LC	SFP56	2 km
	50GBase-ER	802.3cn-2019	1304.5-1317.5	LC	SFP56	40 km
100G	100GBase-LR4	802.3ba-2010	1296-1309*	LC	QSFP28/CFP/CFP2/CFP4/CPAK	10 km
	100GBase-ER4	802.3ba-2010	1296-1309*	LC	QSFP28/CFP/CFP2	40 km
	100GBASE-PSM4	non IEEE	1310	MPO-12	QSFP28/CFP4	500 m
	100GBASE-CWDM4	non IEEE	1271-1331*	LC	QSFP28/CFP2/CFP4	2 km
	100GBASE-CLR4	non IEEE	1271-1331*	LC	QSFP28	2 km
	100GBASE-DR	802.3cd-2018	1311	LC	QSFP28	500 m
	100GBASE-FR1	802.3cu-2021	1311	LC	QSFP28	2 km
	100GBASE-LR1	802.3cu-2021	1311	LC	QSFP28	10 km
	100GBASE-ZR	802.3ct-2021	1546.119	LC	CFP	80 km
	200GBase-DR4	802.3bs-2017	1310	MPO-12	QSFP56	500 m
200G	200GBase-FR4	802.3bs-2017	1271-1331*	LC	QSFP56	2 km
	200GBase-LR4	802.3bs-2017	1296-1309*	LC	QSFP56	10 km
	200GBase-ER4	802.3cn-2019	1296-1309*	LC	QSFP56	40 km
	2x100GBASE-PSM4	Prop.	1310	MPO-24	QSFP-DD	500 m
	2x100GBASE-CWDM4	Prop.	1271-1331*	CS	QSFP-DD	2 km
400G	400GBase-DR4	802.3bs-2017	1310	MPO-12	CFP8/OSFP/QSFP-DD	500 m
				4 x SN	OSFP/QSFP-DD	500 m
	400GBase-XDR4	Prop.	1310	MPO-12	CFP8/OSFP/QSFP-DD	2 km
	400GBase-PLR4	Prop.	1310	MPO-12	CFP8/OSFP/QSFP-DD	10 km
	400GBase-2FR4	802.3bs-2017	1271-1331*	2 x CS	OSFP	2 km
	400GBase-FR8	802.3bs-2017	1273-1309*	LC	OSFP/QSFP-DD	2 km
	400GBase-LR8	802.3bs-2017	1273-1309*	LC	OSFP/QSFP-DD	10 km
	400GBASE-ER8	802.3cn-2019	1273-1309*	LC	QSFP-DD	40 km
	400GBase-FR4	802.3cu-2021	1271-1331*	LC	OSFP/QSFP-DD	2 km
	400GBase-LR4	802.3cu-2021	1271-1331*	LC	OSFP/QSFP-DD	10 km
800G	800GBASE-DR8	802.3df	1310	MPO-16	OSFP/QSFP-DD	500 m
	800GBASE-DR8-2	802.3df	1310	MPO-16	OSFP/QSFP-DD	2 km

* 1273-1309 Wavelength: 1273, 1277, 1282, 1286, 1295, 1300, 1304, 1309 nm
* 1271-1331 Wavelength: 1271, 1291, 1311, 1331 nm
* 1296-1309 Wavelength: 1295.56, 1300.05, 1304.59, 1309.14 nm

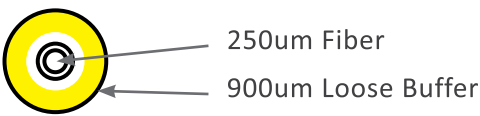
Simplex and Duplex Cable

Simplex and duplex optical fiber cables are mainly used for patch cord and backplane applications but can also be used for termination. Simplex cables are one fiber, tight-buffered (coated with a 600 or 900-micron buffer over the primary buffer coating) with Kevlar (aramid fiber) strength members and jacketed for indoor use. Zip-cord cables are two simplex cables connected in parallel.

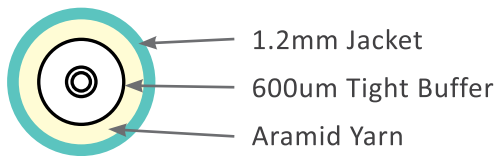
0.9mm Tight Buffer



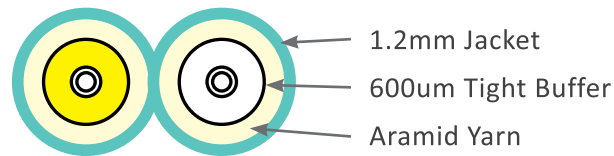
0.9mm Loose Buffer



1.2mm Simplex



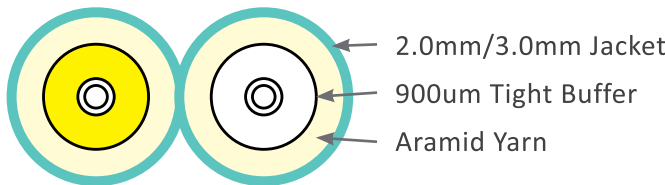
1.2mm Zip-cord



2.0mm/3.0mm Simplex



2.0/3.0mm Zip-cord



Round Duplex



SM 3.0mm Round Duplex Yellow



OM4 2.0mm Zip-cord Violet

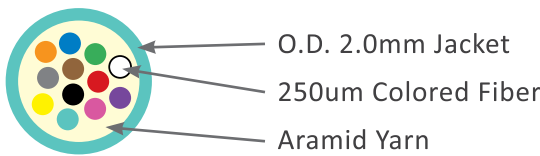


The figure is for reference only, not the actual scale.

Multi-fiber Cable

The optical fiber round cable has a small diameter. There are colored fibers in a single jacket and aramid as a strength member. The fiber cores have a bend-insensitive construction for improved performance and easy to install. These extremely flexible cables are designed for MTP®/MPO direct termination. They are typically used for patching in cabinets and racks to maximize high-density space.

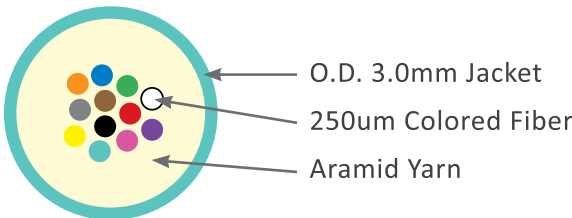
8C or 12C - 2.0mm Round Cable



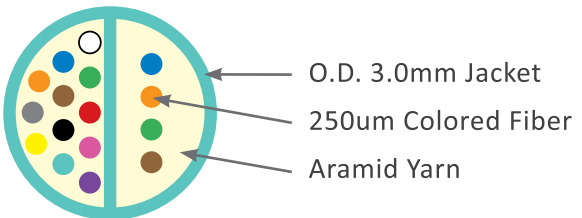
12C - 3.0mm Round Cable



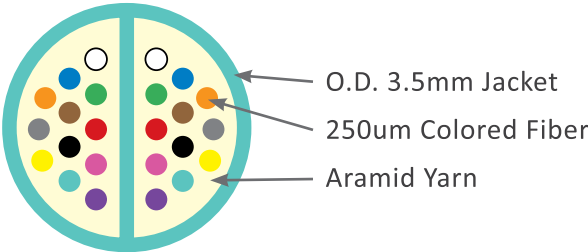
8C or 12C - 3.0mm Round Cable



16C - 3.0mm Round Cable



24C - 3.5mm Round Cable



32C - 3.5mm Round Cable



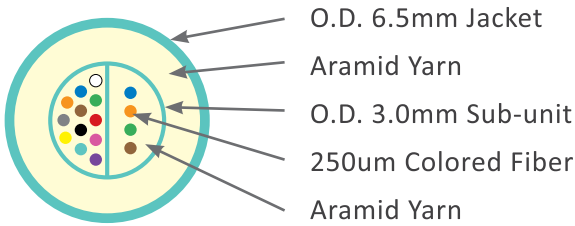
Fiber Count	Cable Diameter	Weight (KG/KM)	Strength		Crush Resistance Short-term (N/100mm ²)	MIN. Bending Radius (CM)	
			Long-term (N)	Short-term (N)		Installation	Long-term
8C	2.0 mm	3.3	100	200	500	6.0	2.0
12C	2.0 mm	4.3	100	200	500	6.0	2.0
8C	3.0 mm	8.2	200	300	500	9.0	3.0
12C	3.0 mm	8.7	200	300	500	9.0	3.0
16C	3.0 mm	8.8	200	300	500	9.0	3.0
24C	3.5 mm	11.3	200	300	500	10.5	3.5
32C	3.5 mm	11.9	200	300	500	10.5	3.5

The double-jacketed trunk cable has a more robust and durable sheath that can provide higher compressive strength. These cables are usually designed for longer cable lengths between cabinet applications or connect different building areas.

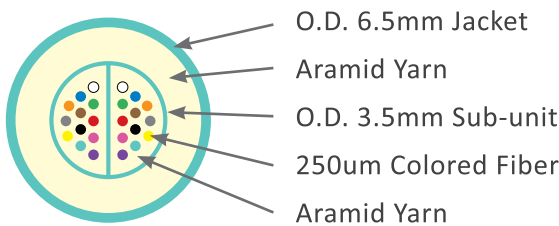
8C or 12C - 4.5mm Trunk Cable
8C or 12C - 6.5mm Trunk Cable



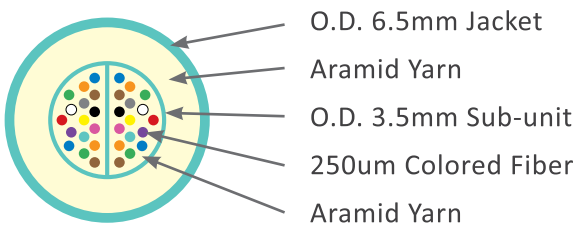
16C - 6.5mm Trunk Cable



24C - 6.5mm Trunk Cable



32C - 6.5mm Trunk Cable



Fiber Count	Cable Diameter	Weight (KG/KM)	Strength		Crush Resistance Short-term (N/100mm2)	MIN. Bending Radius (CM)	
			Long-term (N)	Short-term (N)		Installation	Long-term
8C	4.5 mm	20.9	200	300	1,000	13.5	4.5
12C	4.5 mm	21.2	200	300	1,000	13.5	4.5
8C	6.5 mm	41.6	300	400	1,000	19.5	6.5
12C	6.5 mm	41.8	300	400	1,000	19.5	6.5
16C	6.5 mm	42.0	300	400	1,000	19.5	6.5
24C	6.5 mm	21.0	300	400	1,000	19.5	6.5
32C	6.5 mm	21.6	300	400	1,000	19.5	6.5

Fiber Type	Cable Color
SM	Yellow
OM3	Aqua
OM4	Aqua Erika Violet
OM5	Lime Green
Options	Red Green

	Temperature Range
Installation	0°C to +50°C (32°F to +122°F)
Operation	0°C to +50°C (32°F to +122°F)
Storage	-20°C to +70°C (-4°F to +158°F)

This series consists of 2 to 12 sub-unit cables. 12 colored fibers with aramid yarn are positioned in a 2mm or 3mm sub-unit. 12 sub-units containing 12 color fibers are combined to make the cable up to 144 fibers for all data center applications. Each sub-unit is numbered for easy identification and installation.

24C/36C/48C - 6.8mm Trunk Cable



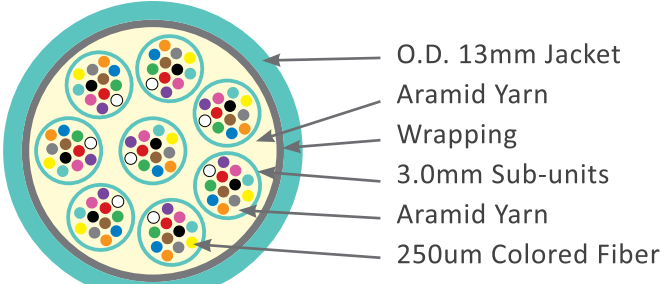
24C/36C/48C - 9.0mm Trunk Cable



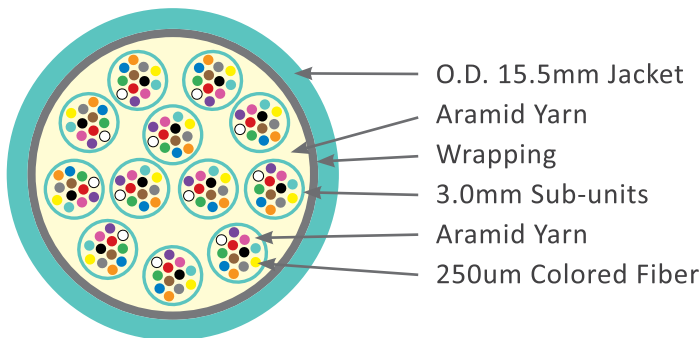
72C - 11.2mm Trunk Cable



96C - 13.0mm Trunk Cable



144C - 15.5mm Trunk Cable



Fiber Count	Cable Diameter	Number of Subunits	Subunit O.D.	Weight (KG/ KM)	Strength		Crush Resistance Short-term (N/100mm2)	MIN. Bending Radius (CM)	
					Long-term (N)	Short-term (N)		Installation	Long-term
24	6.8 mm	2	2.0mm	51.2	300	400	1,000	13.6	6.8
48	6.8 mm	4	2.0mm	55.7	300	400	1,000	13.6	6.8
24	9.0 mm	2	3.0mm	74.8	350	500	1,000	18.0	9.0
48	9.0 mm	4	3.0mm	77.7	350	500	1,000	18.0	9.0
72	11.2 mm	6	3.0mm	117.3	500	700	1,000	22.4	11.2
96	13.0 mm	8	3.0mm	148.5	500	700	1,000	26.0	13.0
144	15.5 mm	12	3.0mm	224.0	500	700	1,000	31.0	15.5

Fiber Patch Cord, Adapter

Jyh Eng provides a complete line of fiber patch cord & adapters, ST, SC, FC, LC, MTRJ, MTP® and MPO, for the flexibility to answer any factory termination need or others. Both single-mode and multimode are available. Each connector meets FOCIS and TIA/EIA-568.3-D standards and delivers pre-assembled from the factory to reduce installation time. Zirconia ferrules with pre-radius end faces allows for physical contact polishing supporting super or ultra PC performance (SPC or UPC).

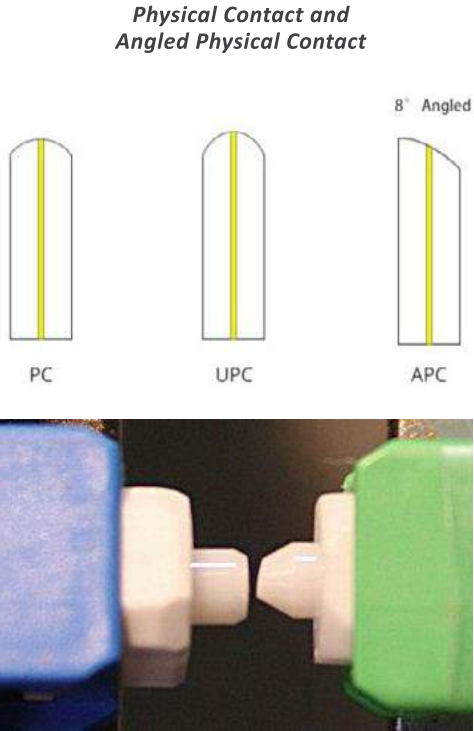
- Pigtail, simplex, and duplex are available
- Fiber cable from 1C, 2C, 8C, 12C, 24C, 48C and up to 288C
- UL OFNR and OFNP Jacket, CPR flame retardant
- UPC and APC polish meets the standard requirement
- Options with multimode OM3, OM4 and OM5 bend insensitive fiber and single-mode OS2 G.657.A1, G.657.A2 fiber

PC, UPC and APC

Whenever a connector is installed on the end of the fiber, the loss is incurred. Some of this light loss is reflected directly back down the fiber towards the light source that generated it. These back reflections, or Optical Return Loss (ORL), will damage the laser light sources and disrupt the transmitted signal. To reduce back reflections, we can polish connector ferrules to different finishes.

A typical hand-polished connector will measure at -30dB. This polish is referred to as a PC or Physical Contact polish, which for some systems is considered too high of an ORL measurement. To reduce the back reflection of a connector, we can machine polish it to UPC (Ultra Physical Contact) polish. Industry standard is a minimum of -55dB for UPC back reflection measurement.

If even less back reflection is required, an APC, or Angled Physical Contact polish, might be necessary. An APC connector has an 8°-angle cut into the ferrule. These connectors are identifiable by their green color. The industry standard minimum value for APC polished connectors is -60dB for measurement.



What is Optical Fiber Insertion Loss? What is it for?

Insertion loss (IL) is the amount of light lost (it is measured in dB) from the origination of a signal to the reception of that same signal. What happens if insertion loss is too high? Too high of an insertion loss will lead to what is known as “channel errors” that can cause equipment to go down and possibly cause data center downtime.

Is insertion loss important? Sure, knowing the insertion loss before you purchase, ask for insertion loss specifications and pay attention to the words like “typical” versus “maximum” insertion loss. Don’t consider the suppliers or manufacturer if they just supply statistics in typical readings or averages. You should look for the maximum insertion loss of a fiber product, as permits you to know the highest possible loss amounts that you will incur.

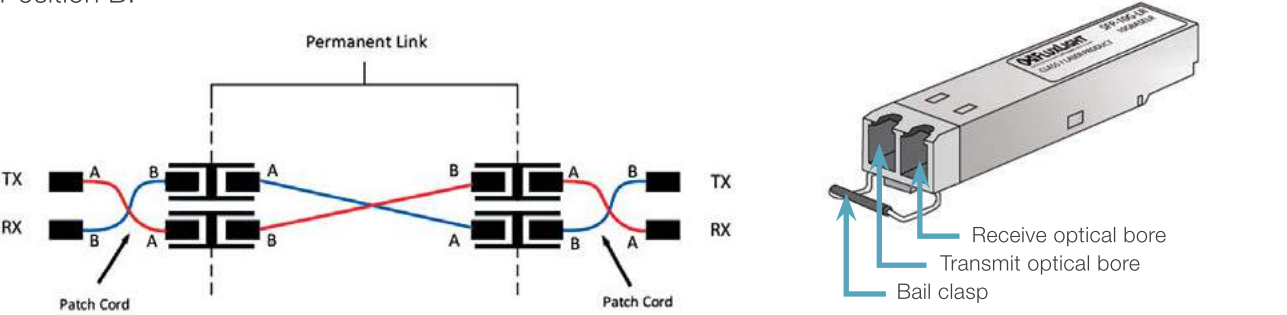
Jyh Eng provides high-quality LC, SC, FC, ST, MTRJ patch cord with low insertion loss and high return loss.

Pigtail & Patch Cord Test & Standard Ref

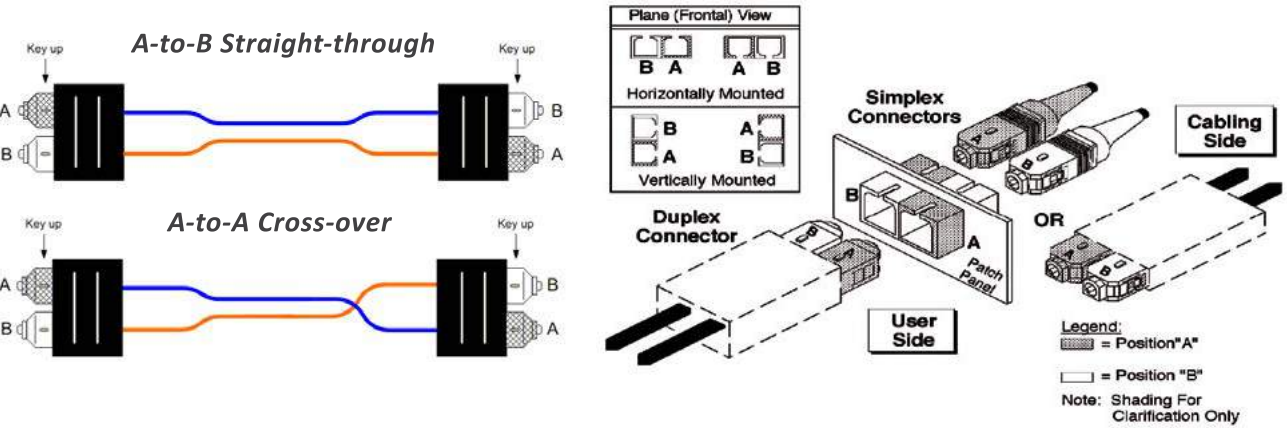
	LC			SC			FC			ST			MTRJ		
Refractive Index Standard	TIA/EIA-604-10			TIA/EIA-604-3			TIA/EIA-604-4			TIA/EIA-604-2			TIA/EIA-604-12		
Insertion Loss & Return Loss	Typical IL	IL	RL	Typical IL	IL	RL	Typical IL	IL	RL	Typical IL	IL	RL	Typical IL	IL	RL
Single Mode (UPC)	≤ 0.15dB	≤ 0.20dB	≥ 55dB	≤ 0.15dB	≤ 0.20dB	≥ 55dB	≤ 0.15dB	≤ 0.20dB	≥ 55dB	≤ 0.15dB	≤ 0.20dB	≥ 55dB	≤ 0.15dB	≤ 0.20dB	≥ 55dB
Single Mode (UPC Low Loss)	≤ 0.10dB	≤ 0.15dB	≥ 55dB	≤ 0.10dB	≤ 0.15dB	≥ 55dB	≤ 0.10dB	≤ 0.15dB	≥ 55dB	≤ 0.10dB	≤ 0.15dB	≥ 55dB	---	---	---
Single Mode (APC)	≤ 0.15dB	≤ 0.20dB	≥ 60dB	≤ 0.15dB	≤ 0.20dB	≥ 60dB	≤ 0.15dB	≤ 0.20dB	≥ 60dB	---	---	---	---	---	---
Multimode Mode (PC)	≤ 0.25dB	≤ 0.30dB	≥ 35dB	≤ 0.25dB	≤ 0.30dB	≥ 35dB	≤ 0.25dB	≤ 0.30dB	≥ 35dB	≤ 0.25dB	≤ 0.30dB	≥ 35dB	≤ 0.25dB	≤ 0.30dB	≥ 35dB
Multimode Mode (PC Low Loss)	≤ 0.10dB	≤ 0.15dB	≥ 35dB	≤ 0.10dB	≤ 0.15dB	≥ 35dB	≤ 0.10dB	≤ 0.15dB	≥ 35dB	≤ 0.10dB	≤ 0.15dB	≥ 35dB	≤ 0.10dB	≤ 0.15dB	≥ 35dB
3D Interferometer															
APC Polish Angle	8°(APC) ± 0.2°														
Ferrule ROC	PC Polish: Ø 2.5mm 10<R< 25mm , Ø1.25mm 7<R< 25mm (PC), 5<R<12mm (APC)														
Apex Offset	PC: < 50um														
Protrusion	PC: < 50nm, APC: < 50nm														
Undercut	PC: < 50nm, APC: < 50nm														

Polarity Methods

In order to successfully realize the multi-fiber connectivity of the duplex channel, it is essential to maintain a bi-directional transmission path. Each end of the optical fiber patch cord shall be identified to indicate Position A and Position B. The connector that plugs into the receiver (Rx) shall be considered Position A, and the connector that plugs into the transmitter (Tx) shall be considered Position B.



The optical fiber patch cord must provide the correct signal polarity; the transmit signal (Tx) on one side must match the corresponding receiver (Rx) on the other side. If the polarity does not match, signal transmission may be affected. The following illustrates the A-to-B version and A-to-A version. A-to-B version is recommended.



Production Machine

OpTek Laser Cleaver



EPOXY Auto-Injection



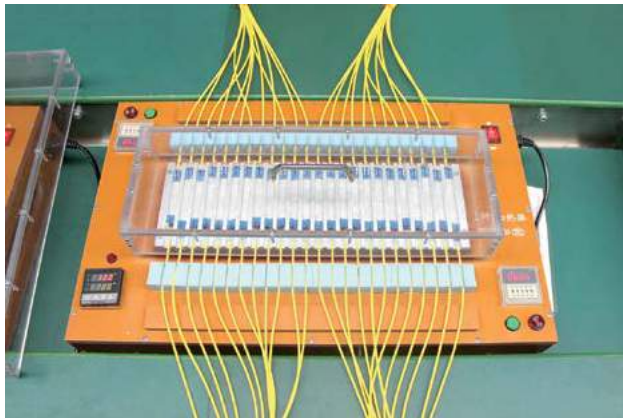
Centrifugal degassing: Remove bubbles from the syringe



SEIKOH GIKEN Polishing Machine



Curing Oven

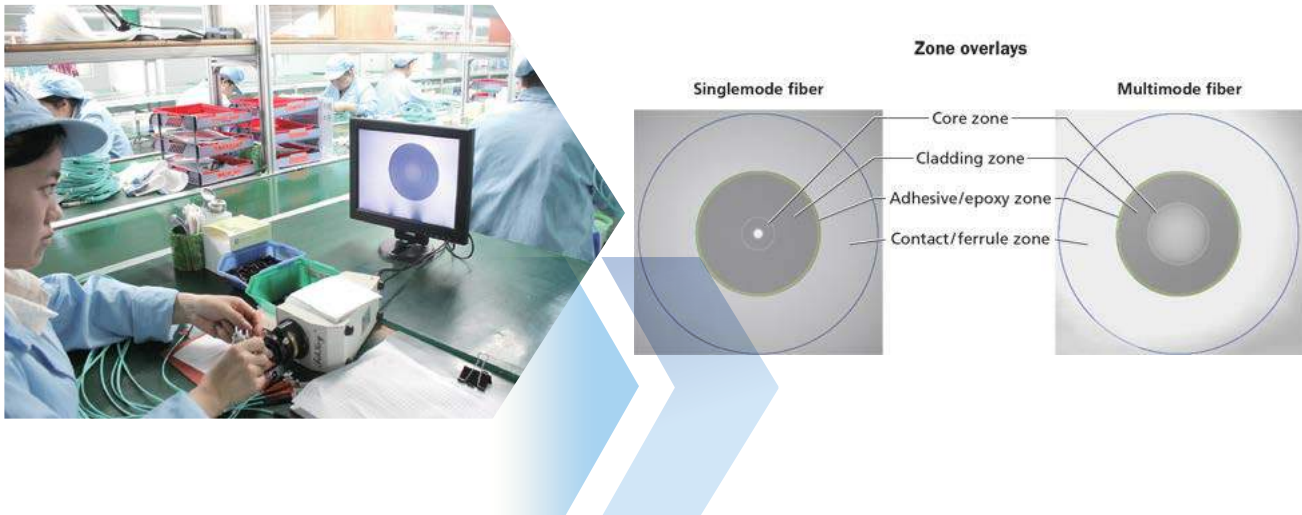


Heater



Test Equipment

400X microscope to ensure that the quality of the connector end-face meets the IEC 61300-3-35 standard.



3D Interferometer: Precise and quickly measure the radius of curvature, apex offset, and fiber height.



Single-mode Insertion Loss, Single-mode Return Loss, Multimode Insertion Loss



Test Report Printer



100%
Quality



7 Days - Fast Delivery

- ✓ Fast delivery times, ship in one week
- ✓ Manufactured in China, Thailand, and Taiwan, and delivered worldwide
- ✓ Competitive prices without compromising on quality
- ✓ High quality manufacturing and efficient connectivity solutions

SC Fiber Patch Cord

SC is a snap-in connector with a 2.5mm ferrule to help precise positioning. It's a snap-in connector that latches with a simple push-pull motion. It complies with FOCIS-3 (TIA-604-3), which is available in both simplex and duplex configuration.

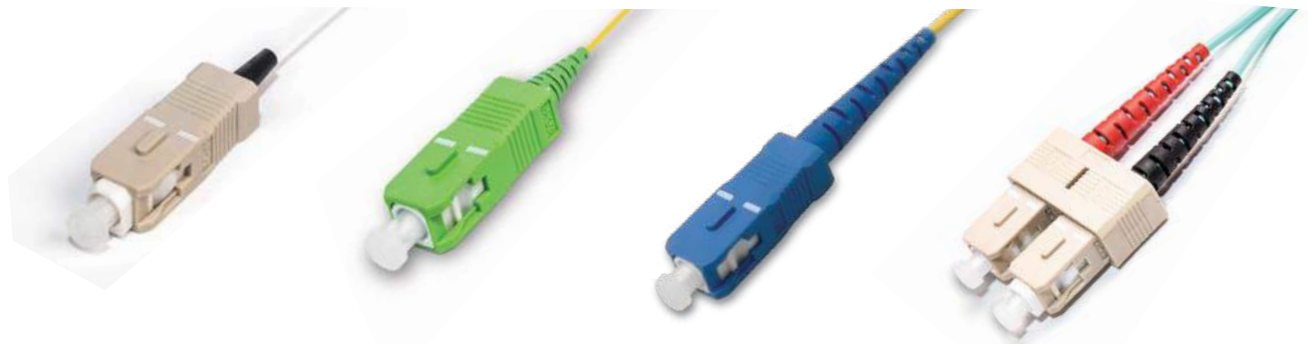
SC fiber patch cords are used for equipment cross-connects or interconnects in backbone, horizontal, work area applications and data room. SC is the one, recommended by TIA/EIA-568-B.3 at the wall outlet and the telecommunication closet. Multimode supports a robust and rapid termination for lower cost fiber to the desk applications. Single-mode connectors provide the flexible capacity.

SC 0.9mm Pigtail

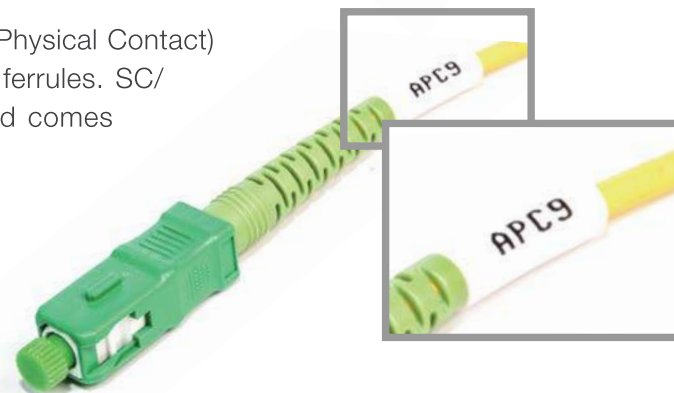
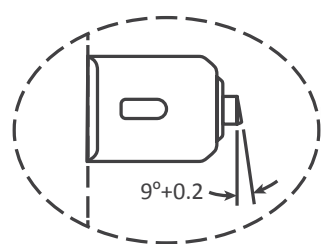
SC 0.9mm Mini Boot

SC 2.0mm/3.0mm Simplex

SC 2.0mm/3.0mm Duplex



Jyh Eng also provides SC/APC (Angle-polished Physical Contact) optical fiber patch cords in polished 9 degrees ferrules. SC/APC 9° series has high return loss (>65dB) and comes with an Indicator ring for easy identification.



FC Fiber Patch Cord

FC is designed according to NTT-FC standard and compliant with TIA/EIA-604 FOCIS-4. FC connector is screw-type, designed as a cylindrical metal connection nut with keyed sleeves.

The pre-assembled, one-piece body design and pre-polished ferrules provide quick and economic terminations for in-factory and in-the-field setting. Besides, the pre-polished ferrule and Jyh Eng termination method guarantees uniform end-face geometry.

FC is specifically proved for telecommunication applications, such as ATM testing, CATV, active device termination, FTTX, Fiber channel testing and optical switches.

FC 0.9mm Pigtail

FC 2.0mm/3.0mm Simplex

FC 2.0mm/3.0mm Duplex



ST Fiber Patch Cord

ST is compatible with TIA FOCIS-2. Its housing is round metal. ST has a bayonet mount and a long cylindrical 2.5mm ceramic ferrule to hold the fiber. Therefore, single-mode APC (Angle-polished Physical Contact) is not available.

ST 0.9mm Pigtail

ST 2.0mm/3.0mm Simplex

ST 2.0mm/3.0mm Duplex



MTRJ Fiber Patch Cord

MTRJ stands for Mechanical Transfer Registered Jack and is also popular for small form factor devices on account of its small size. It utilizes two fibers and integrates them into a single design that looks similar to a RJ45 connector. Alignment is completed through the use of two pins that mate with the connector.

MTRJ support a rugged solution for LANs, public networks, storage area networks and fiber-to-the-desk applications.



CS® Fiber Patch Cord

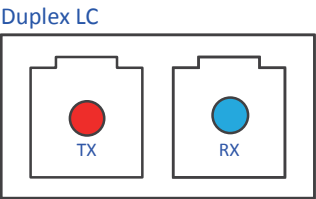
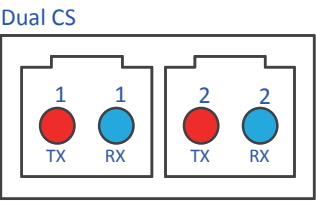
CS® connector is a Very Small Form Factor (VSFF) connector designed for OSFP/QSFP-DD transceivers for data centers. Compared to LC duplex connectors, it is 40% smaller and provides higher ports in switches and fiber panels.

CS® connector uses two standard 1.25mm ceramic ferrule in a unibody. The spring-loaded ferrule and floating structure help to ensure proper alignment and minimize insertion loss, providing excellent optical performance and durability. CS® Connector supports data rates up to 100 Gbps, which is higher than 10 Gbps maximum data rate of LC connector.

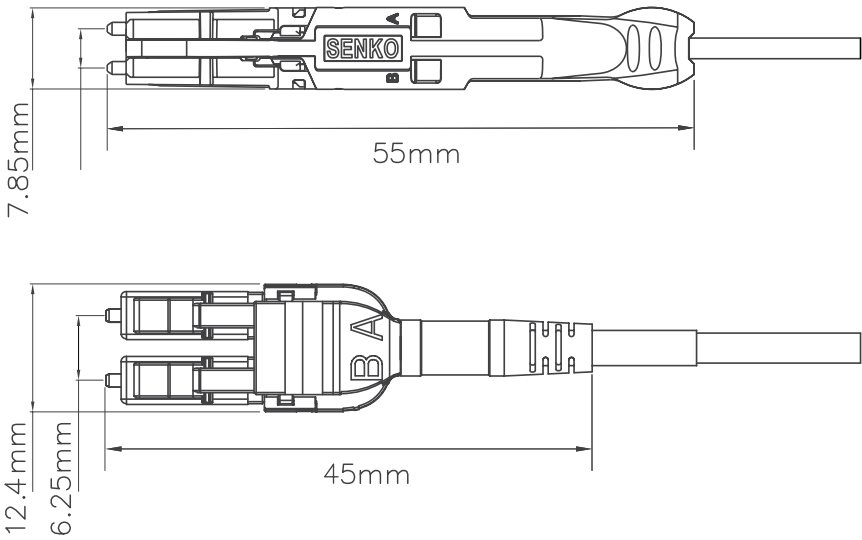
- √ Standards: ANSI/TIA-604-19 FOCIS 19
- √ Specificallyfor 200G/400G QSFP-DD and OSFP transceivers
- √ Supports two CS® Cables in a single transceiver, which means 4 fibers per transceiver
- √ G.657.A1 bend insensitive fiber and 10mm minimum bend radius
- √ Compliant to GR-326 Reliability Standards, IL ≤ 0.2dB, SM/UPC RL ≥ 55dB, SM/APC ≥ 60dB

CS® vs. Duplex LC

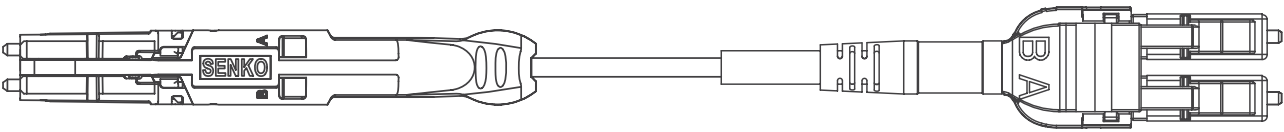
Transceiver Interface footprints



Connectors



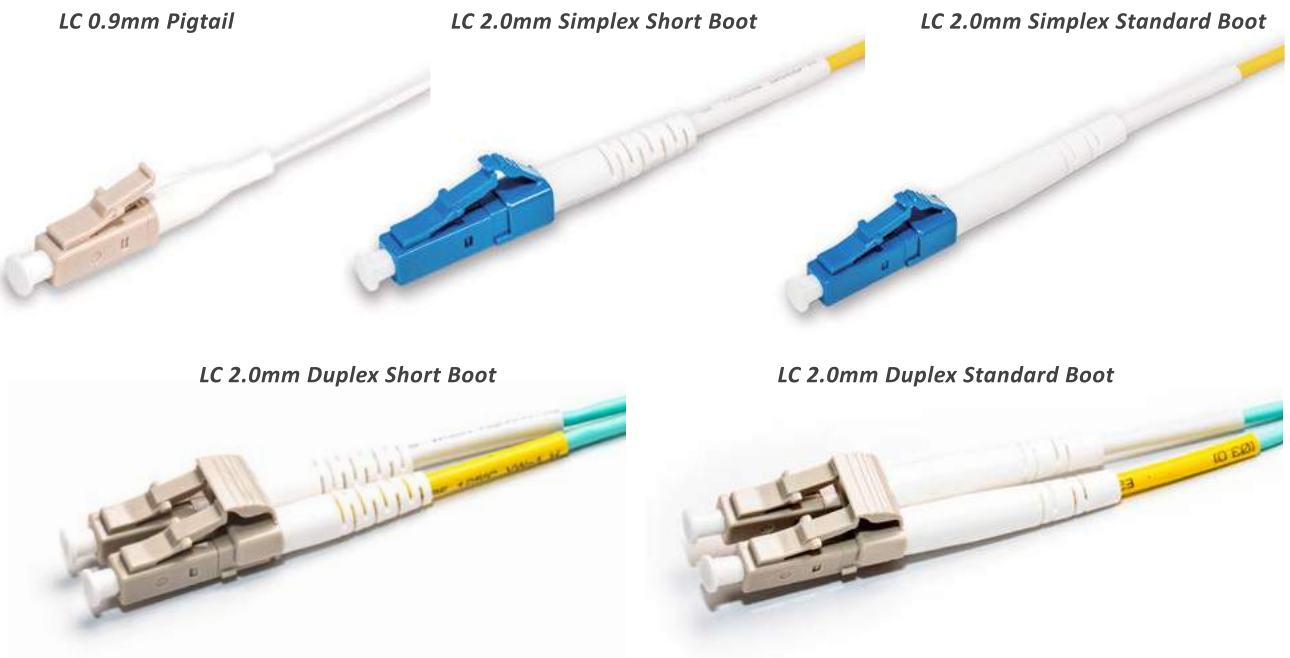
Jyh Eng provides CS® connector with length of 55mm and push-pull tab for superior manageability in high density applications. CS®-LC patch cord is easily backward compatible with QSFP-28 and QSFP-56 without fan-out or cassette modules.



*CS® is a Registered Trademark of Senko Advanced Components, Inc.

LC Fiber Patch Cord

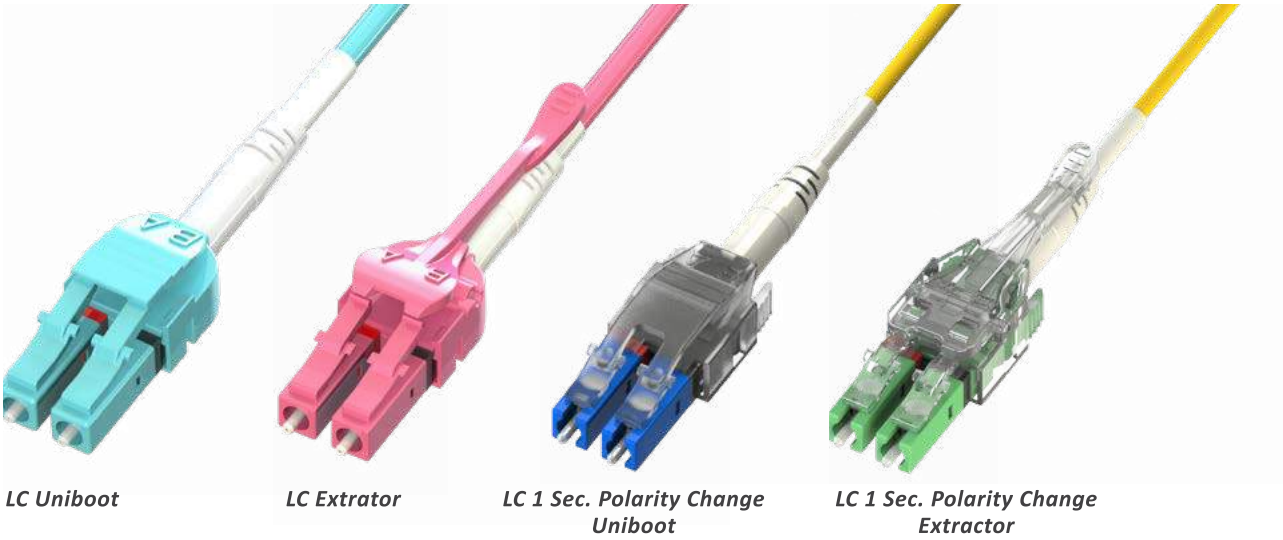
LC is a small form factor (SFF) connector that complies with TIA/EIA-604 FOCIS-10. It features a 1.25mm ceramic ferrule, which is half the size of an SC ferrule. LC connectors are compatible with transceivers and active networking components, which are ideal and commonly used in LANS, FTTH, and data centers.



Jyh Eng also provides uniquely designed LC for high-density applications: LC Uniboot, LC Extractor, LC 1 Second Polarity Change Uniboot, and Extractor. This series optimizes space utilization and is an ideal solution for high-density data center infrastructures.

Round Duplex Cable Diameter

	1.6mm	2.0mm	3.0mm
LC Uniboot/Extractor		√	√
LC 1 Sec. Polarity Change Uniboot/Extractor	√	√	



LC 1 Sec. Polarity Change Uniboot & Extractor

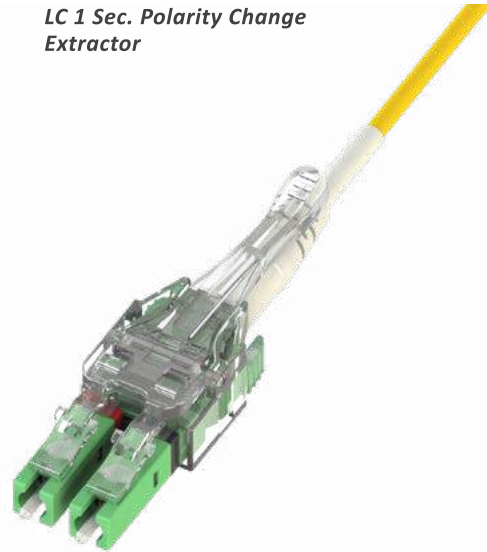
LC 1 Second Polarity Change Uniboot makes polarity switching easier, significantly saving time and money. The end user can quickly release the clip and reverse polarity throughout the process without any tools.

LC 1 Second Polarity Change Extractor has a 1-second polarity change function with an extractor, which provides more convenience for high-density construction.

LC 1 Sec. Polarity Change Uniboot

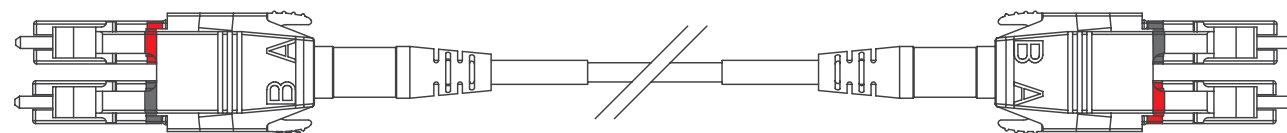


LC 1 Sec. Polarity Change Extractor



- ✓ Patented design, changing LC polarity in 1 second without twisting the fiber
- ✓ Particular Red/Black housing design, clear identification with polarity A-A and A-B
- ✓ Ultra Low Loss LC ferrule, IEC 61753-1 random mating IL Grade B
- ✓ LC Extractor see-saw tab design makes LC connector easy extraction in high-density construction without any tools
- ✓ 1.6mm cable O.D. improve airflow, routing and maximize value space
- ✓ Compared with traditional zip-cord cable, round duplex cable reduces the number of cables in half and optimizes space by 68%
- ✓ Simplifies cable management, Reduces weight and lower carriage costs
- ✓ Options with MM OM3, OM4, OM5 bend-insensitive fiber and SM OS2 G.657.A fiber

Polarity A-B (Tx-Rx) for 1 Sec. Uniboot and Extractor



Fiber #1 A (Red) ----- Fiber #1 B (Black)
Fiber #2 B (Black) ----- Fiber #2 A (Red)

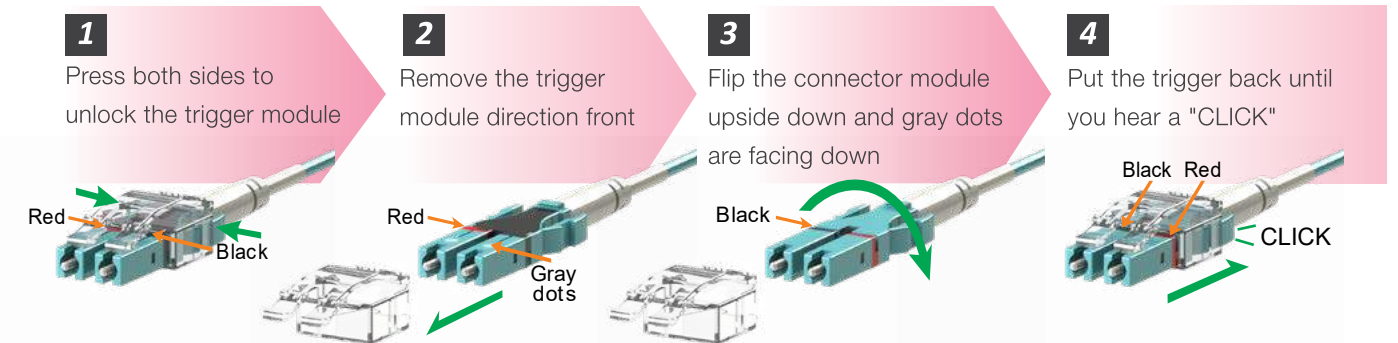
LC 1 Second Polarity Change Uniboot and Extractor Micro Cable Assembly provides several advantages:

- ✓ Flexible solution that is easily customized to meet specific length and connector type requirements
- ✓ "Plug and Play" solution eliminates in field termination, reduces installation cost and time
- ✓ 100% Factory terminated and tested to ensure consistent performance and quality
- ✓ Fiber counts from 8, 12, 24, 36 cores....up to 144 cores are available
- ✓ 2.0mm Breakout tubing, length up to 250cm

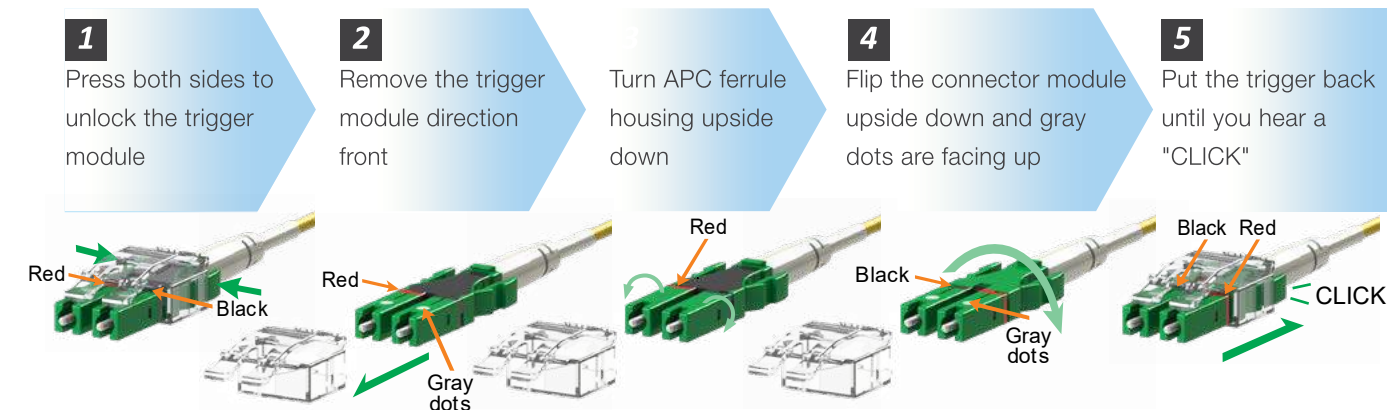


Polarity Switchable Steps

LC PC/UPC connector



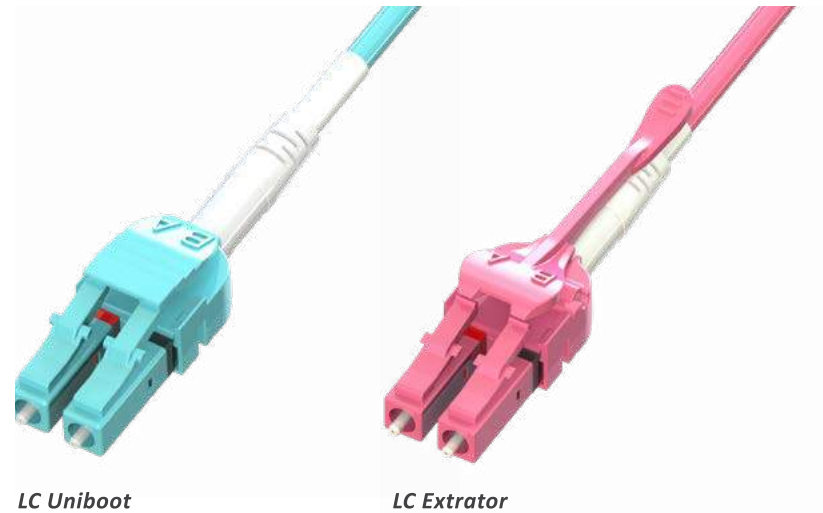
LC APC connector



LC Uniboot & LC Extractor

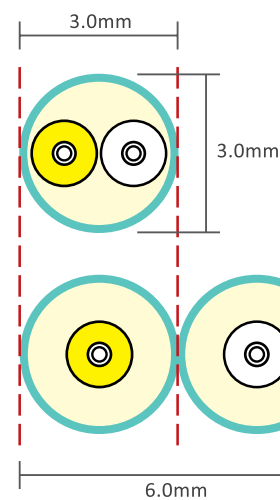
LC Uniboot has two LC connectors in the housing and one boot terminated on a unique 3.0mm “Dualan Cable”, allowing duplex transmission.

LC Extractor combined with LC Uniboot and patented “Seesaw Tab” design makes LC connectors easily inserted and removed from high-density structures without special tools. LC Extractor patch cords can move closer together, increasing density and maximizing valuable space.



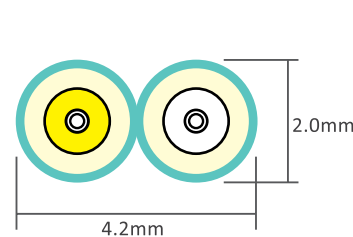
- ✓ Particular Red/Black housing design, clear identification with polarity A-A and A-B
- ✓ Ultra Low Loss LC ferrule, IEC 61753-1 random mating IL Grade B
- ✓ LC Extractor see-saw tab design makes LC connector easy extraction in high-density construction without any tools
- ✓ 3.0mm cable O.D. improve airflow, routing and maximize value space
- ✓ Compared with traditional zip-cord cable, round duplex cable reduces the number of cables in half and simplifies cable management
- ✓ Reduces weight and lower carriage costs
- ✓ Options with MM OM3, OM4, OM5 bend-insensitive fiber and SM OS2 G.657.A fiber

Structure Comparison: Dualan Cable vs Zip-cord Cable



Dualan Cable (Single Jacket Round Duplex Cable)

- ✓ Cable diameter: Ø 3.0mm with 2 x 0.9mm tight buffer
- ✓ Compared to 2.0mm zip-cord, it cuts tube counts in half and simplifies cable management; 50% less space than 3.0mm zip-cord

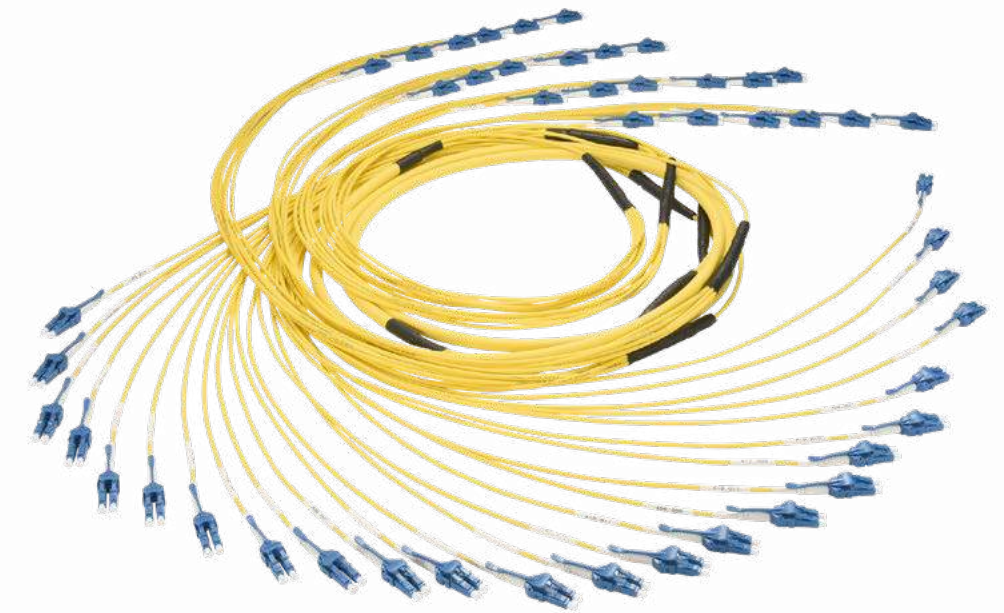


Traditional Zip-cord Cable

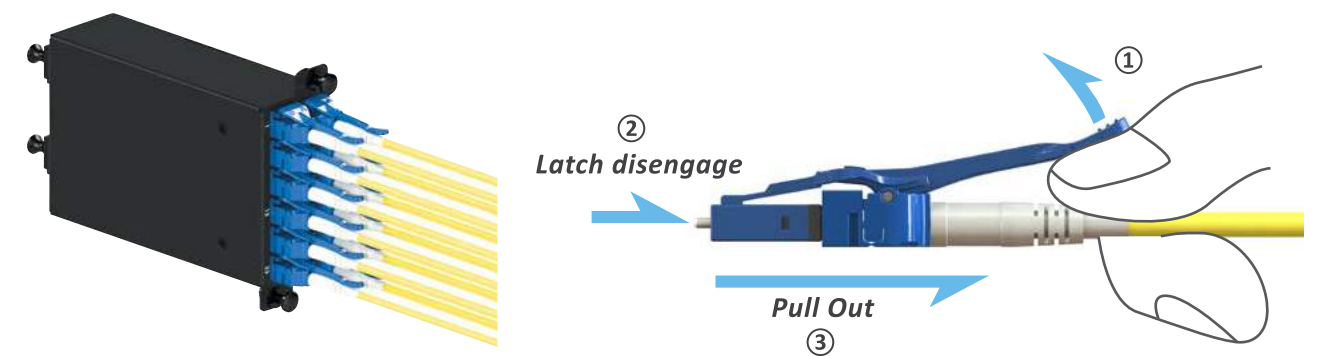
- ✗ Cable diameter: Ø 2.0mm x 4.2mm or Ø 3.0mm x 6.0mm

LC Uniboot and Extractor Micro Cable Assembly provides several advantages:

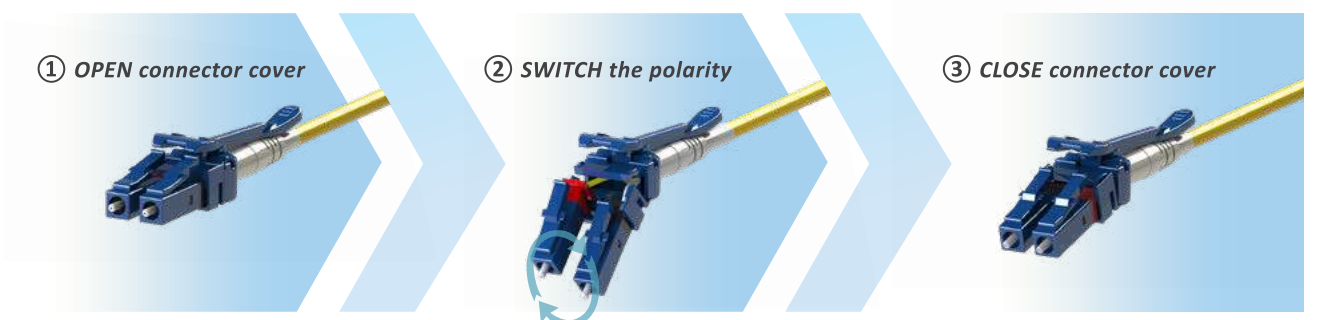
- ✓ Flexible solution that is easily customized to meet specific length and connector type requirements
- ✓ “Plug and Play” solution eliminates in-field termination, reduces installation cost and time
- ✓ 100% Factory terminated and tested to ensure consistent performance and quality
- ✓ Fiber counts from 8, 12, 24, 36 cores....up to 144 cores are available
- ✓ Customized 3.0mm breakout tube: staggered or flat, length from 30cm to 250cm



Remove LC Extractor From High-density Construction



Polarity Switchable Steps for LC Uniboot and LC Extractor



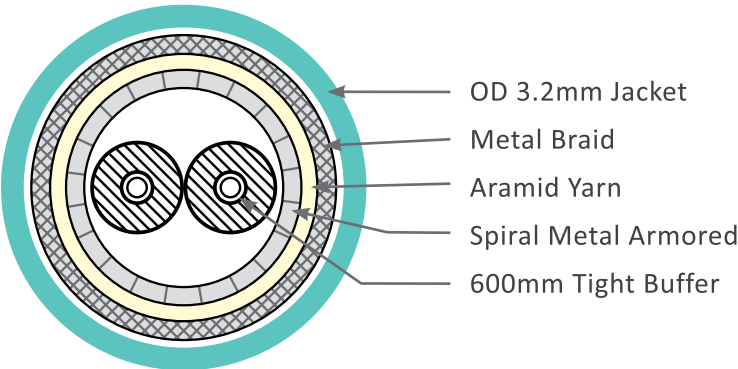
Armored Patch Cord

The outer diameter of the armored fiber patch cord is similar to the standard patch cord, and it has a special sheath and built-in metal armor, which can provide stronger protection for the fiber. The rugged armored cable prevents rodents from damaging the fiber.



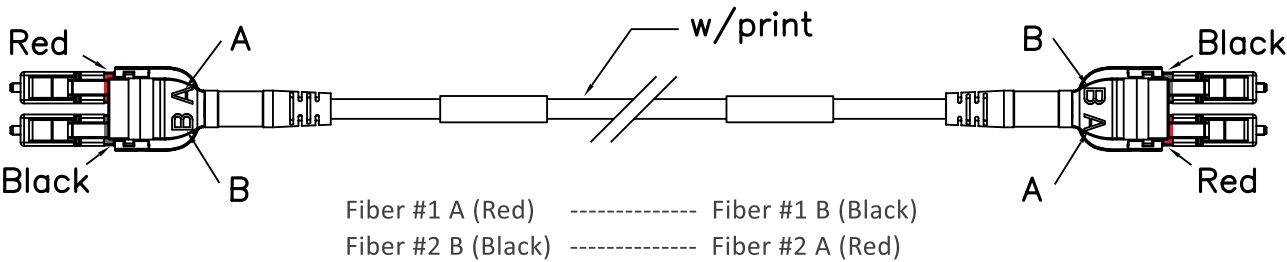
Cable specification

- √ 3.2mm 2C round duplex armored
- √ OFNR or LSFRZH Jacket
- √ Multimode OM3, OM4, OM5 bend-insensitive fiber and single-mode OS2 G.657.A fiber



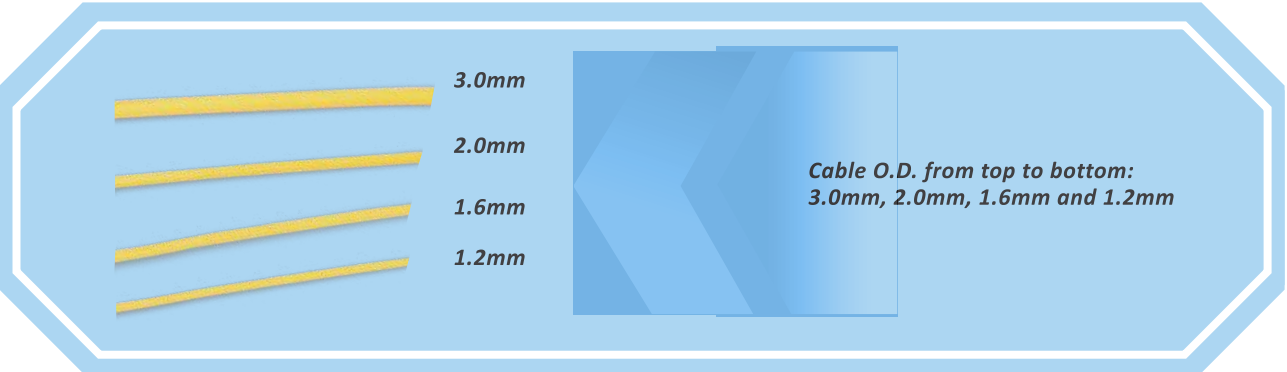
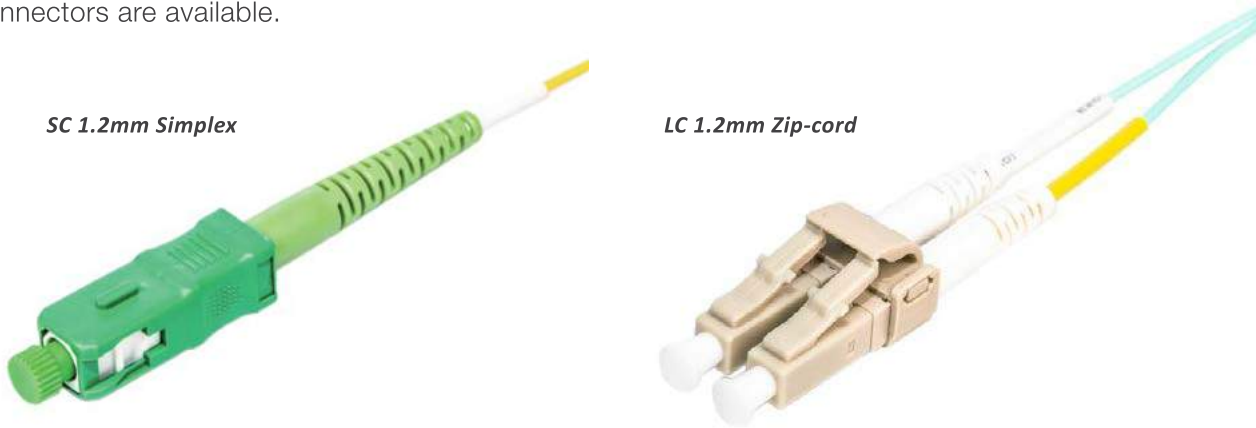
Performance

LC mated pair	BIMMF OM3/OM4/OM5	SM OS2 G.657.A
Insertion Loss	< 0.15 dB	< 0.15 dB
Return Loss	> 40 dB	> 55 dB



1.2mm Simplex & Zip-cord Patch Cord

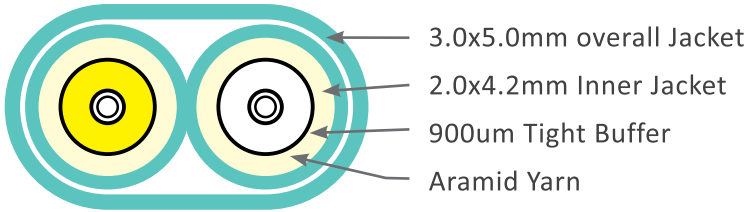
1.2mm bend-insensitive single-mode simplex and zip-cord patch cord are recommended for high-density applications. The patch cord is made of a 1.2mm ultra-small jacket, which can save more than 60% of space compared with standard 2.0mm cables. Although the cable diameter is small, it can meet the mechanical and performance requirements of GR-409 and GR-326. Both LC and SC connectors are available.



Flat Duplex Patch Cord

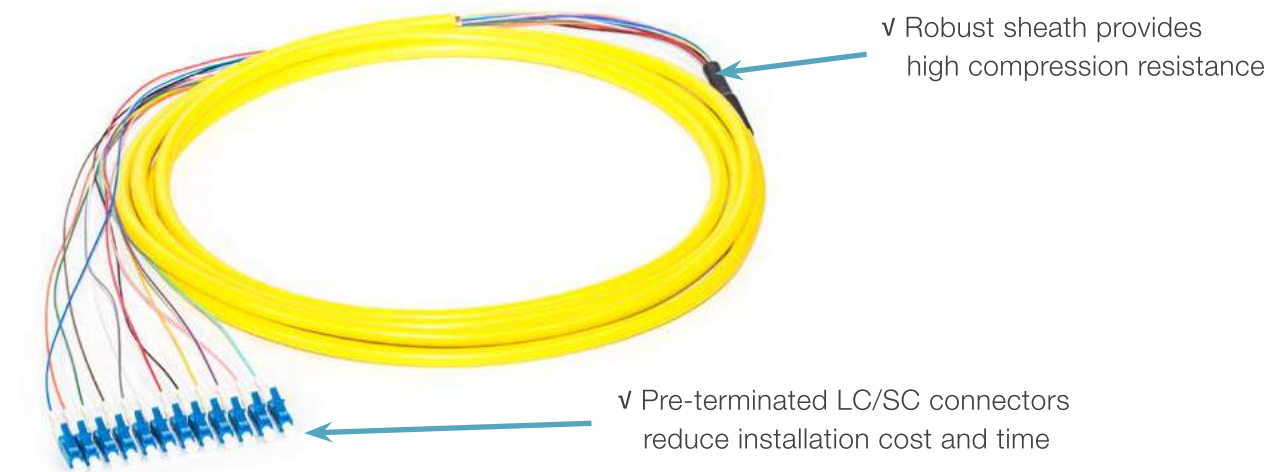
The ruggedized flat duplex patch cord, also called flat twin or duplex breakout cable, consists of a zip-cord cable. A ruggedized cable has an extra jacket that provides enhanced durability and good protection against kinking and crushing. Despite the increased durability, the cable is still flexible and compact.

It is recommended for frequent handling or internal optical fiber routing that requires a stiffer and more rugged cable. Provide single-mode and multimode fiber. ST, SC, FC, LC, MTRJ connectors are available.



900um Breakout Cable

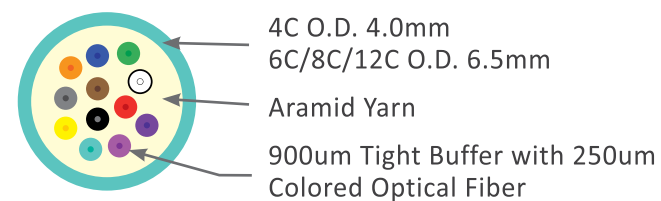
900um Breakout cables, also called distribution cables, have small tight buffers, which can be installed flexibly. These cables are for extended length and backbone in data centers. They are suitable for connection from one cabinet/zone to another, such as MDA and HDA. The standard breakout length can be staggered for better cable routing and management.



- ✓ 900um colored tight buffer is easy to identify and splice
- ✓ Suitable for indoor installation
- ✓ Small size is ideal for FTTH applications and data center high-density environments
- ✓ The number of fibers from 4C to 24C is available

Cable Structure

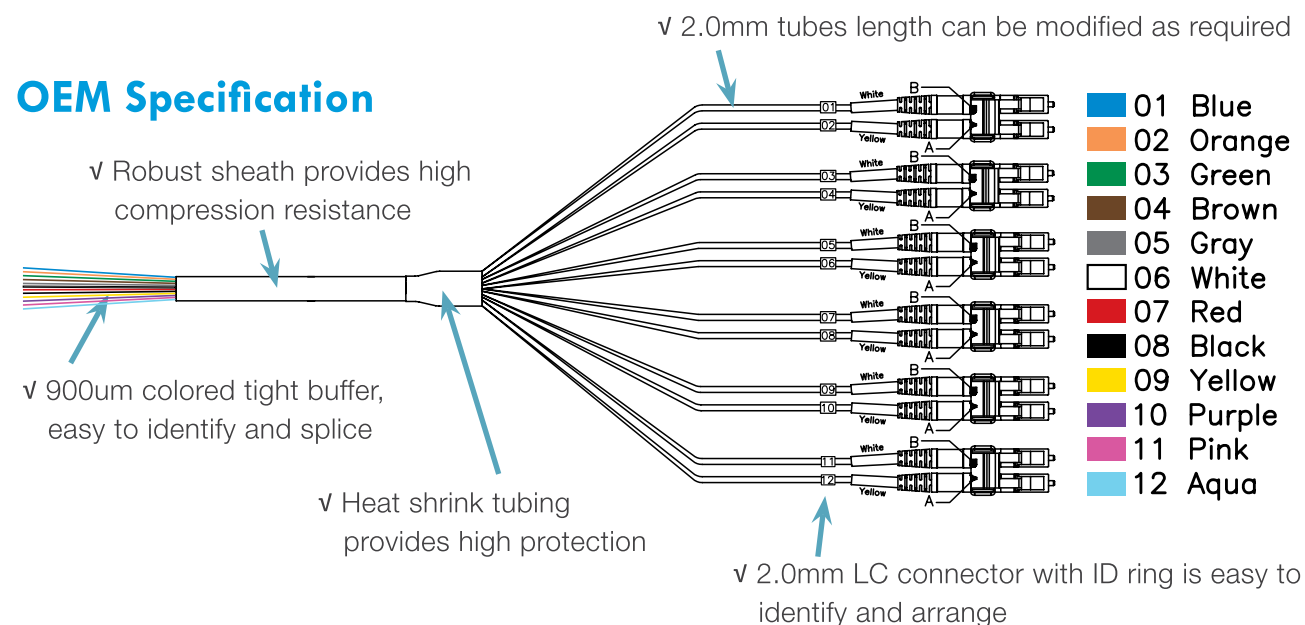
4C/6C/8C/12C Breakout Cable



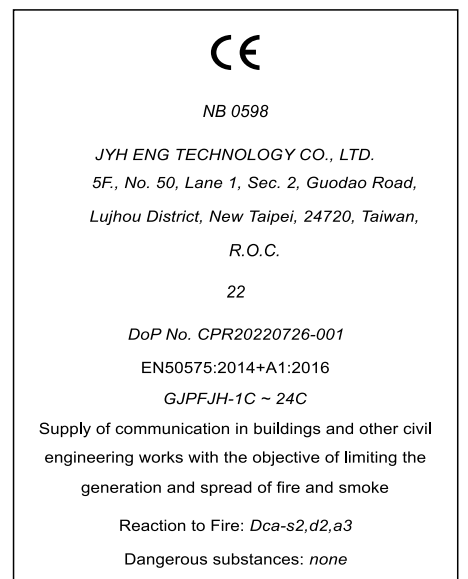
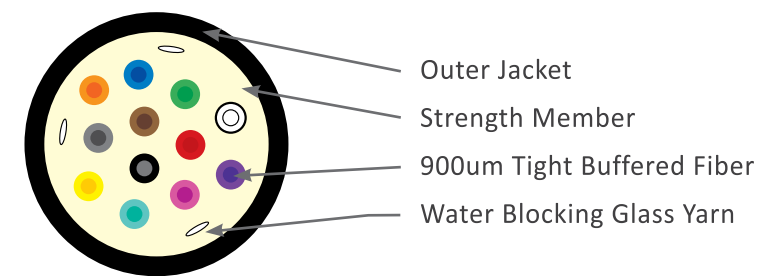
24C 8.0mm Breakout Cable



OEM Specification

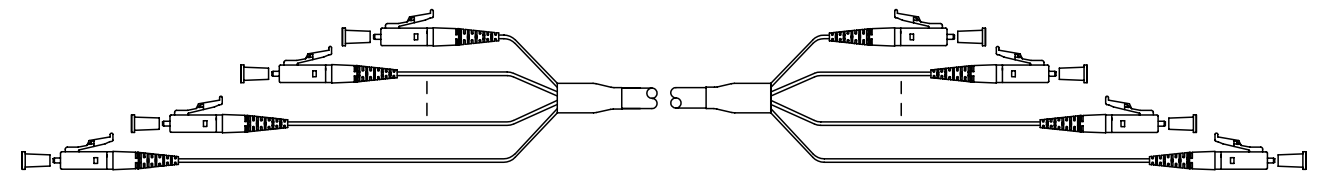


Pre-terminated indoor/outdoor cable CPR Dca



Indoor/outdoor fiber cables are suitable for both inside buildings and outdoor environments. These cables are more rugged and durable than standard indoor fiber optic cables and withstand environmental exposure, including moisture, temperature fluctuations, and UV radiation. Jyh Eng's indoor/outdoor fiber cables consist of a central core of optical fibers surrounded by protective layers, including strength members, water-blocking materials, and an outer jacket.

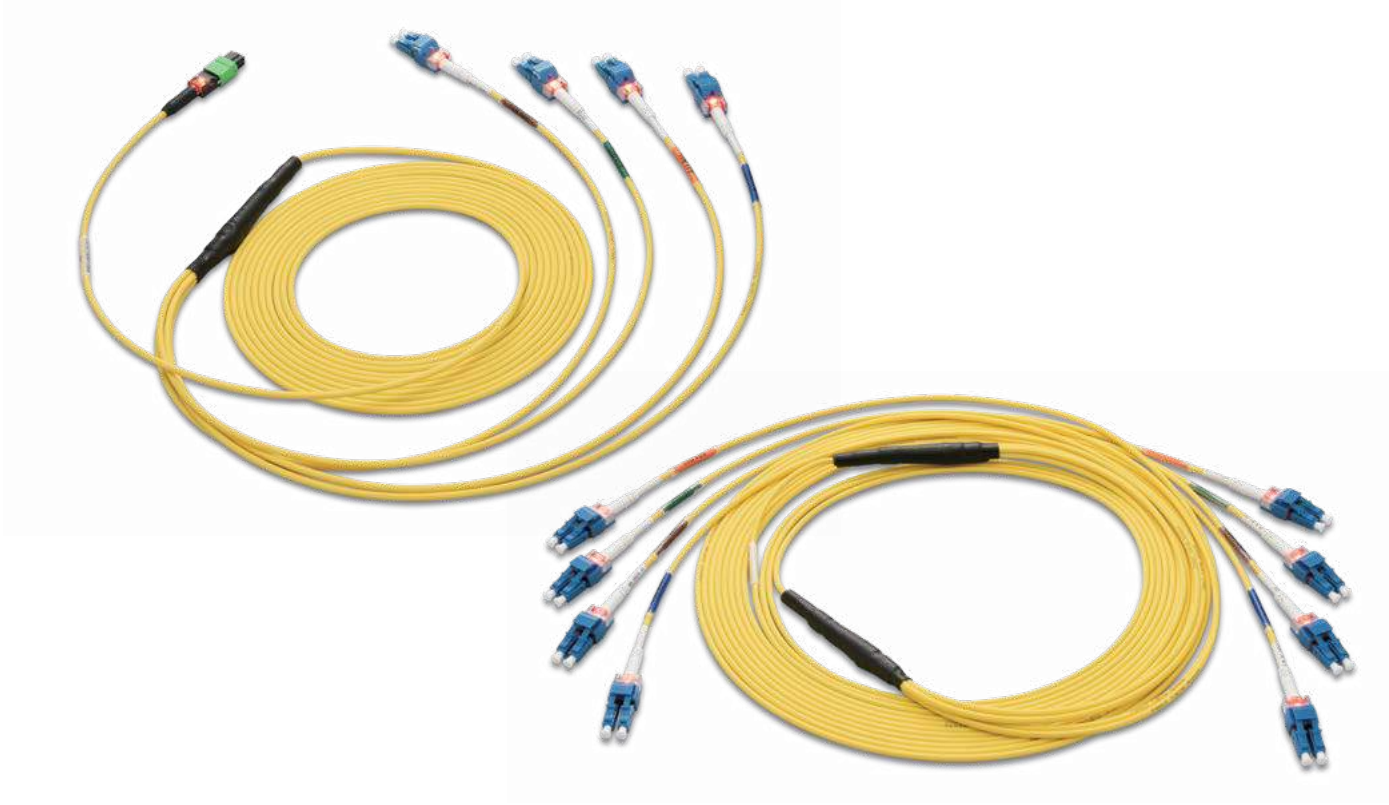
- ✓ The reinforcement is lightweight and flexible glass yarn, which allows for flexible routing and installation of cables while providing excellent rodent protection.
- ✓ Water-blocking yarn helps to prevent water from penetrating the cable core and causing damage.
- ✓ These cables are also UV resistant when used in outdoor environments exposed to light.
- ✓ CPR Class Dca-s2, d2, a3 certified by SGS Fimko OY means these cables are fire-resistant, which helps prevent the flame's spread and protect people and property in the event of a fire.



Pre-terminated fiber cable provides several advantages:

- ✓ Installing pre-terminated fiber cables is much faster than field-terminated cables because the connectors are already attached to the ends. It saves time and labor costs, especially in large-scale installations.
- ✓ Connectors are precision-engineered and quality-tested to ensure consistent performance across all cables, which leads to lower error rates and higher reliability.
- ✓ No need for expensive splicing or polishing equipment, which helps reduce installation costs.
- ✓ Pre-terminated fiber cables are flexible solutions customized to specific lengths and connector types, reducing overall project costs and waste.

Owl-Eyed Identification System

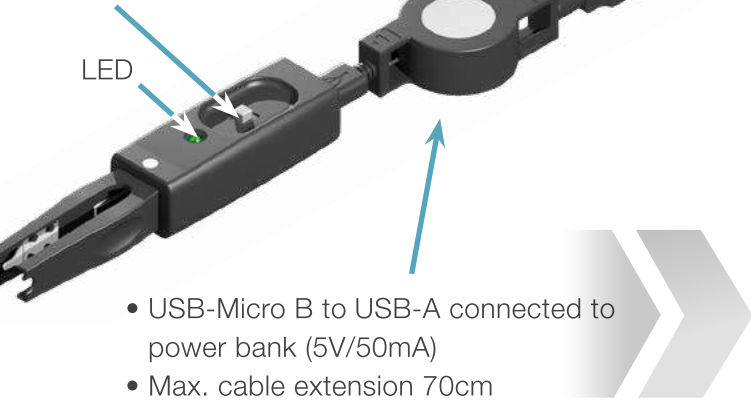


- ✓ LED-light is clearly visible, easily identify the termination point to the other
- ✓ Patented tracing design makes trouble shooting easy, saves time and cost
- ✓ Power source supports up to 150 meter distance of patch lead
- ✓ LED Connector available in ST, FC, SC, LC, MTP®/MPO
- ✓ Tracing can done on connected circuits without interfering the transmission performance.
- ✓ Eases decommissioning of connected, disconnected as well as one side unplugged assemblies

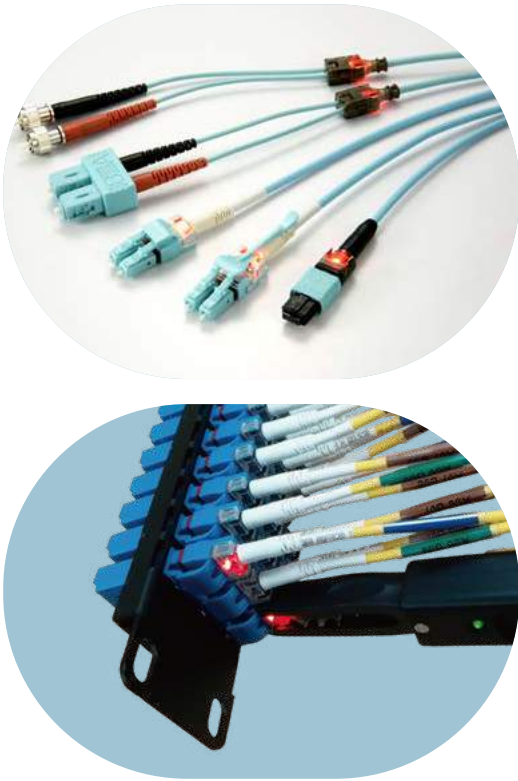
Power Source

Light Indicator Switch: 2 modes

- ✱ :flashes rapidly
- ✱ :remains on



- USB-Micro B to USB-A connected to power bank (5V/50mA)
- Max. cable extension 70cm



Fiber Adapters

The optical fiber adapter (also called coupler) includes an adapter body and a universal mating sleeve for quick connections of two fiber patch cords. By precisely ferrule-to-ferrule connects, the fiber optic adapters can transmit the light sources and minimize the insertion loss.

Jyh Eng provides high-quality ST, FC, SC and LC fiber adapters with low insertion loss.

Adapter Performance

	ST	FC	SC	LC	MTRJ
Intermateability Standard	TIA/EIA-604-2	TIA/EIA-604-4	TIA/EIA-604-3	TIA/EIA-604-10	TIA/EIA-604-12
Insertion force test Zirconia sleeve	200~600gf	200~600gf	200~600gf	100~250gf	NA
Insertion Loss	Multimode < 0.2 dB, Single-Mode < 0.2dB				
Thermal age: GR-326-CORD 4.4.2.1.	85°C for 168 hours < 0.2dB Change				
Temperature Cysling: IEC 60603-7-4	-40°C to + 70°C, 30min, 25 cycles < 0.2dB Change				
Damp Heat: IEC 60603-7-4	+65°C at 93% RH, 12 hours, +25°C at 93% RH, 10 hours, -10°C, 2 hours, 21 cycles < 0.25dB Change				
Salt Spray Test	Saline concentration: 5 %, PH: 6.8±0.45, value of spray: 1.0~2.0mL 80cm², Test hours: 8H;24H;48H;72H; 96H				

Zirconia Sleeve for Adapter

The signal is transmitted by LED and VCSELs (Vertical Cavity Surface Emitting Lasers) light source. It all requires a more accurate alignment to transmit effectively. For Jyh Eng's ST, SC, FC, LC adapters, we completely adopted zirconia sleeves instead of phosphor bronze alignment sleeves. It provides a tighter tolerance and guarantees a more accurate alignment when coupling two fiber end faces. The appropriate alignment sleeve for fiber application is the first step to stop significant loss of signal.



FC Adapter

FC Adapters are all threaded types. FC simplex D type metal is the most common.



ST Adapter

The typical ST adapter uses metal body with a precision alignment mechanism.



LC Adapters

Jyh Eng's LC duplex, quad and 6-port adapters are engineered in one-piece type. This one-piece housing feature prevents the breaking of the adapter due to the deficiency in the ultrasonic process. The true one-piece body optimizes side loading performance over conventional adapters.

LC duplex adapter is SC footprint type, which means it has the same external dimensions as the SC adapter.

LC Duplex Flangeless



LC Duplex Flange



LC Quad Flangeless

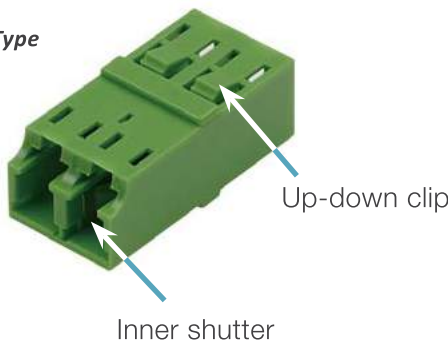


LC Quad Flange

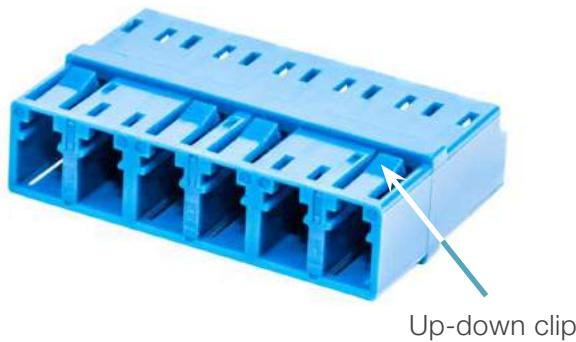


Jyh Eng also provides unique LC adapters with up-down clips design, suitable for high-density solutions.

LC Duplex HD Type



LC 6-port HD Type



Adapter Type	Flange	Flangeless
LD Duplex	✓	✓
LD Duplex HD Type	N/A	✓
LC Quad	✓	✓
LC 6-Port	N/A	✓
SC Simplex	✓	✓
SC Duplex	✓	✓

LC and SC Applications	Housing Color
MM OM1 and OM2	Ivory
MM OM3	Aqua
MM OM4	Violet
MM OM5	Lime Green
SM UPC	Blue
SM APC	Green

SC Adapter

By using high-quality zirconia sleeves, Jyh Eng can offer a reliable connection and performance when using SC patch cords and adapters.

SC Simplex Flangeless



SC Simplex Flange



SC Duplex Flangeless



SC Duplex Flange



RJ45 Snap-in Coupler

RJ45 snap in couplers use UL 94 V0 flame resistant materials. This series provides a flexible connection for workstation cabling termination on fiber optic patch cords and snaps easily into surface mount outlets, boxes, plates and configuration panels.

ST adapter



FC adapter



Blank insert



Keystone Jack



LC duplex adapter



F Connector



SC simplex adapter



Plug & Play, never Plug & Pray

Jyh Eng understands that the ultimate goal in data center networks is to have zero downtime or extreme network availability. The strict schedule constraints and budgets, demanding reliability and performance without compromise is a must. Jyh Eng delivers fast-deployment, with built-in reliability combined with guaranteed performance and headroom.

Save Time & Money

- No testing or troubleshooting required
- UP to 90% reduction in installation time and labor cost
- Fast delivery to meet short project turn-around deadlines

Easy & Plug & Play

- Easy to order: simplified ordering process eliminates errors
- Easy to install immediately
- Easy to configure: a complete range to choose from to build a system

Never Pray

- Built-in reliability with ultra-robust assemblies and connectors
- Strictly test process at the factory
- Fully trained employee in production line

Make it "Green"

- Small, flexible and efficient cable assembly design mean less cable to be deployed and no unnecessary slack
- Up to 50% material reduction in Data Center cabling topology
- All system components can be easily re-deployed and reused

Complexity in the data center increases expense and risk, so for new technology deployments to meet business requirements they must be simple to manage, maintain and make provision. Infrastructure reliability, performance, flexibility and availability are essential, and trade-off of one for the other are no longer accepted.

Deploying a modular, high-density, MTP®/MPO-based structured wired cabling system in the data center will significantly increase response to data center moves, adds and changes (MACs). Jyh Eng provides one complete range of MTP®/MPO products: adapters, connectors, array cable, trunk cable, distribution cable, direct harness, harness and trunk harness. Here, it is meant to provide you with an introduction to the practical application of MTP®/MPO technology. It shows the migration approach via 10 Gigabit to 40/100 Gigabit and even to 400 Gigabit.

MTP®/MPO Connector

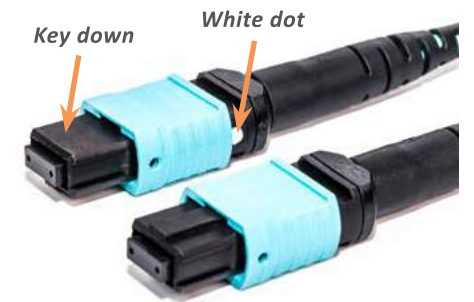
The MTP®/MPO connectors are multi-fiber transmission and are compatible with IEC-61754-7 and TIA-604-5. MPO stands for "multi-fiber push on". It was developed by Nippon Telegraph and Telephone (NTT) in the early 90's. MTP® is an MPO-style connector that is manufactured by US CONEC. A common misconception is that these are two different styles of connectors, in fact, they are the same footprint.

Both MPO and MTP® connectors are available in pinned and unpinned versions. The pinned MTP®/MPO is called male, and the MTP®/MPO without pin is female.



Left : female (unpinned) ; Right : male (with pin)

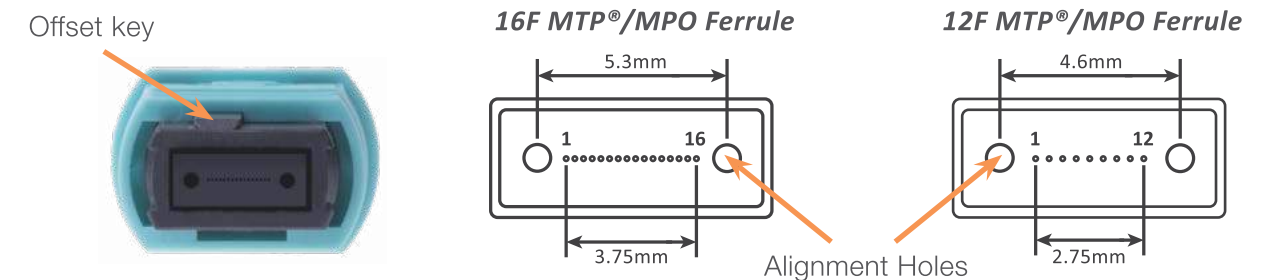
MTP®/MPO connectors have a key on one side of the connector body. When the key is at the top of the connector, it is the "key up" position. When the key is at the bottom, it is the "key down" position. Looking at the MTP®/MPO connector's front face with its key up, there is a white dot on the left side to indicated position 1.



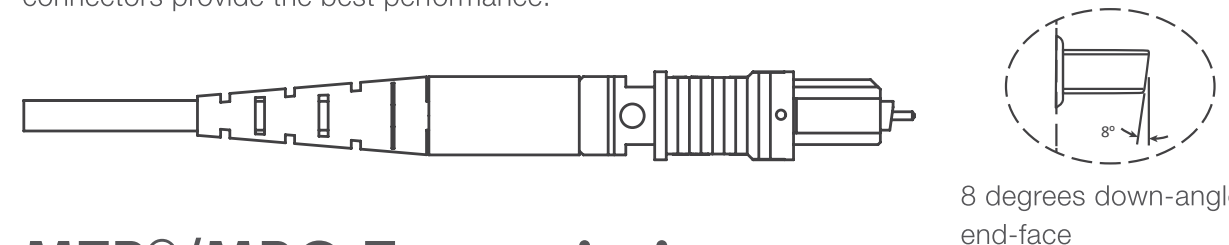
MTP®/MPO connectors have multiple fibers of 12F, 24F, 16F and 32F in a single interface. The position of 12F and 24F are shown below.



16F and 32F MTP®/MPO connectors have same external footprint as traditional 12F and 24F connectors with offset key. The offset key is to avoid an incorrect connection between the transceiver and cable.



The multimode MTP®/MPO connectors are usually flat polished, while single-mode connectors are 8 degrees angle polished (APC). Compared with single-mode UPC connectors, APC polished connectors provide the best performance.

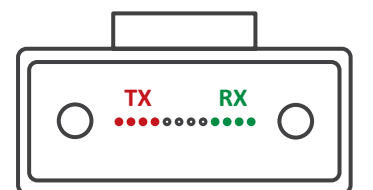


MTP®/MPO Transmission

The MTP®/MPO array patch cables are used to transmit optical signals between transceivers. Each of transceiver has the position of Tx and Rx channels. It is essential to understand the Tx and Rx channels in the transceiver.

The 12F MTP®/MPO connector is used for 40G QSFP+/QSFP28 direct connection, but only eight optical fibers are required. The four fibers on the left for transmission, the four on the right for signal reception, and the inner four fibers are not used. The transmission rate of each fiber is 10Gbp, so the data rate is as high as 40Gbps (4 x 10Gbps).

12F MTP®/MPO

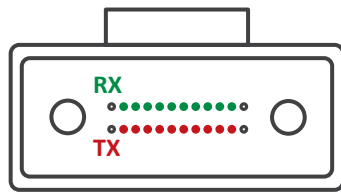


View into Transceiver, optical lane assignments for 40GBase-SR4, 40GBase-PLR4, 100GBase-SR4, 100GBase-PSM4

IEEE 802.3 recommends using 24F MTP®/MPO for 100GBASE-SR10, which is two rows of 12 fibers. For 100G applications that require 20 fibers, the ten fibers in the upper row receive and the ten fibers in the lower row transmit. (10 x 10Gbps). The first and the last fibers in each row are not used.

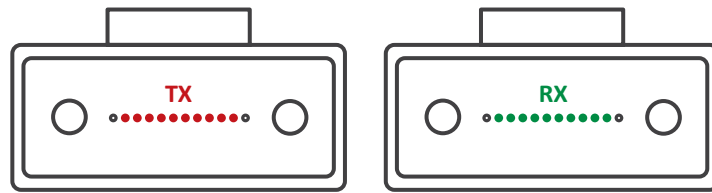
IEEE 802.3 also recognizes the use of two 12F MTP®/MPO connectors beside side by side with each other. The transmitter is on the left and the receiver is on the right. For vertically stacked MDI receptacles, the receiver is on the top and the transmitter is on the bottom.

24F MTP®/MPO



View into Transceiver, 100GBase-SR10 optical lane assignments

2 x 12F MTP®/MPO Channels Side by Side

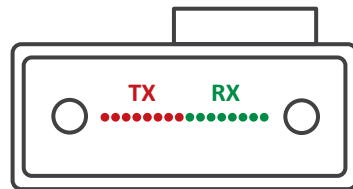


View into Transceiver, 100GBase-SR10 optical lane assignments

The 400GBASE-SR8 optics module uses a single row, angled (APC) 16F MTP®/MPO connector for use with parallel multimode fiber. Use 100% of the connector capacity: eight transmission and eight receiving fibers. Each fiber will run at 50Gbps (8 x 50Gbps)

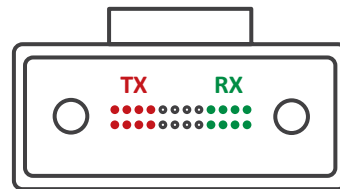
When the 24F MTP®/MPO connector supports 400GBASE-SR8, there are only 16 active channels within a total of 24 positions. There are four transmission fibers on the left side of each row and four receiving fibers on the right side of each row. The four center positions in each row are not used. Each fiber with a speed of 50Gbps will support 400GbE

16F MTP®/MPO



View into Transceiver, 400GBase-SR8 optical lane assignments

24F MTP®/MPO



View into Transceiver, 400GBase-SR8 optical lane assignments

【IEEE802.3bs-2017】The 16 transmit and 16 receiver optical lanes of 400GBase-SR16 shall occupy the positions depicted in Figure-123.4 when looking into the MDI receptacle with the connector key way feature on top. The interface contains 32 active lanes. The transmit optical lanes occupy the upper 16 positions. The receive optical lanes occupy the lower 16 positions.

Figure 123.4 400GBASE-SR16 optical lane assignments

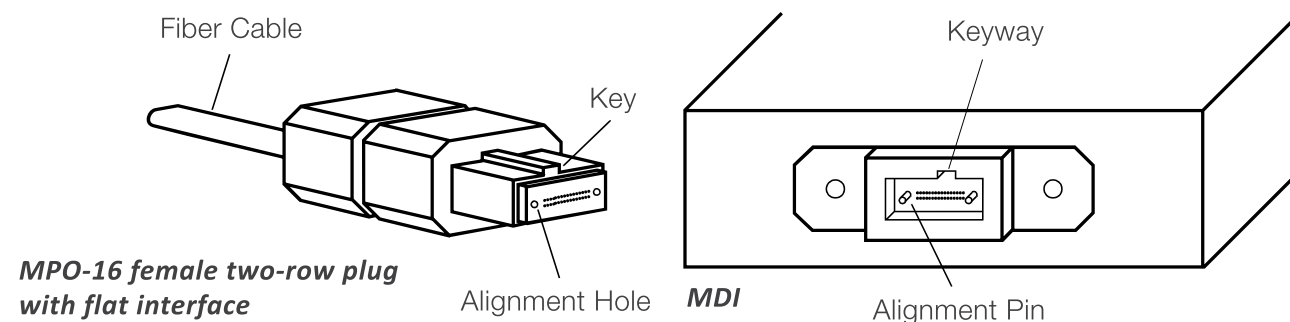
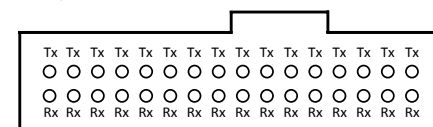


Figure 123.5 MPO-16 female two-row plug with flat interface, and MDI

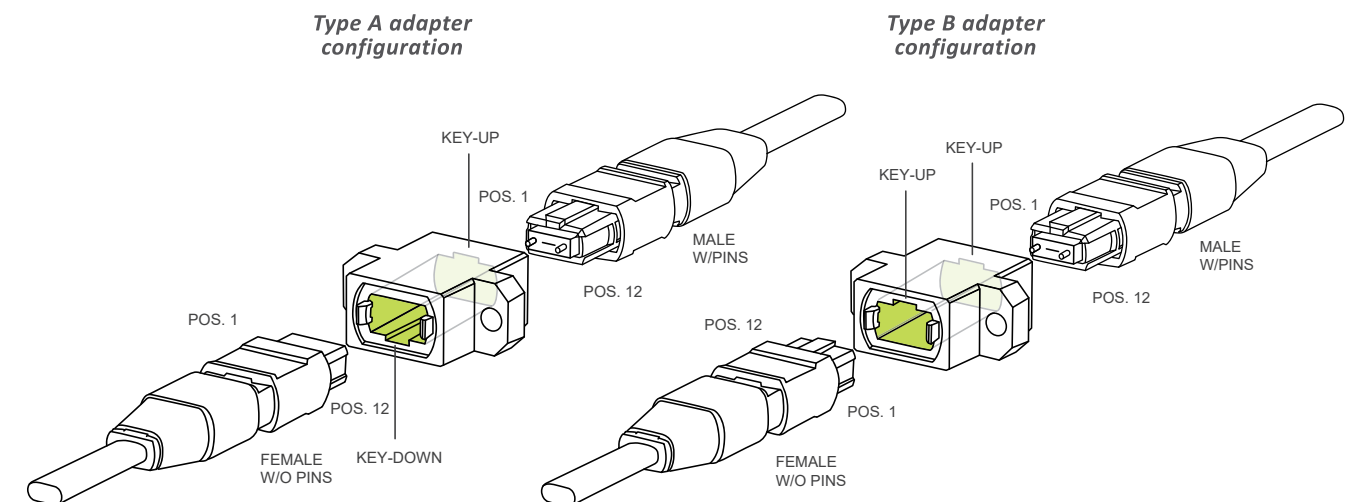
MTP®/MPO Adapter

There are two types of MTP®/MPO adapters, according to the placement of the key:

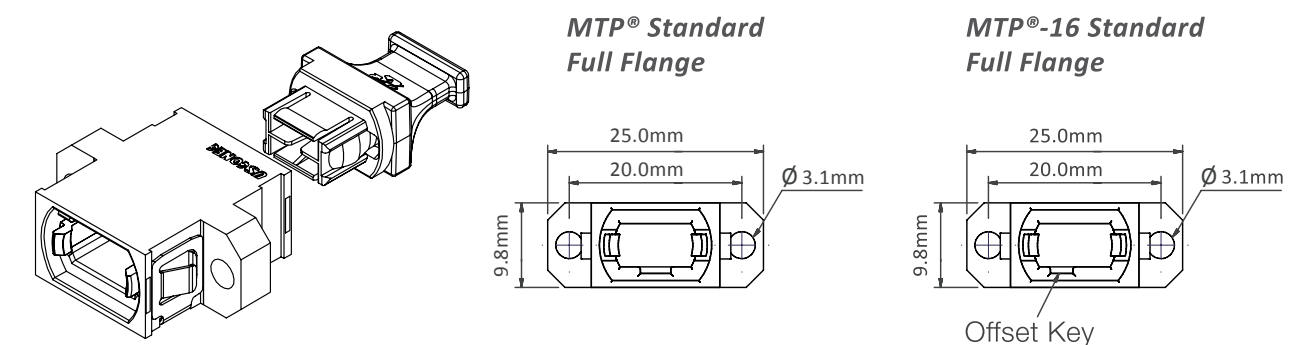
Type A Opposed-key: Key-up to Key-down, the key is up on one side, and the other is down. The two connectors are connected turned 180°.

Type B Aligned-key: Key-up to Key-up, the key is up at both sides. MTP® aligned-key adapters are light grey.

When making an MTP®/MPO connection, use one male connector and female connector plus one MTP®/MPO adapter. MTP®/MPO connector with guide pin is called male. Don't connect a male to a male; otherwise, the guide pin will hit against the pin and damage the connector.

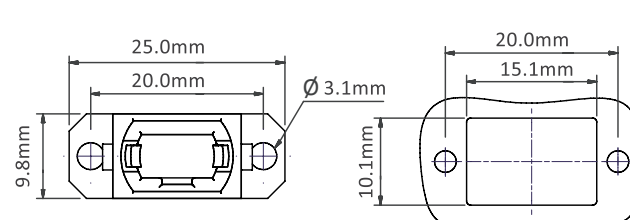


MTP® and MTP®-16 Standard Full Flange

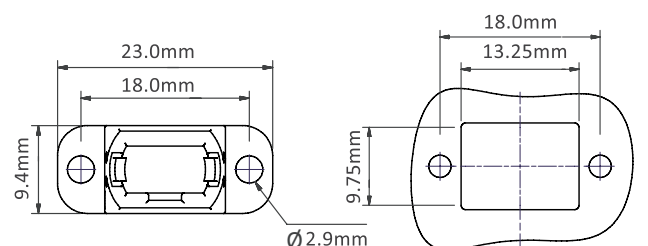


MTP® Standard Footprint and SC Footprint

MTP® Standard Type and Recommended Mounting Cutout



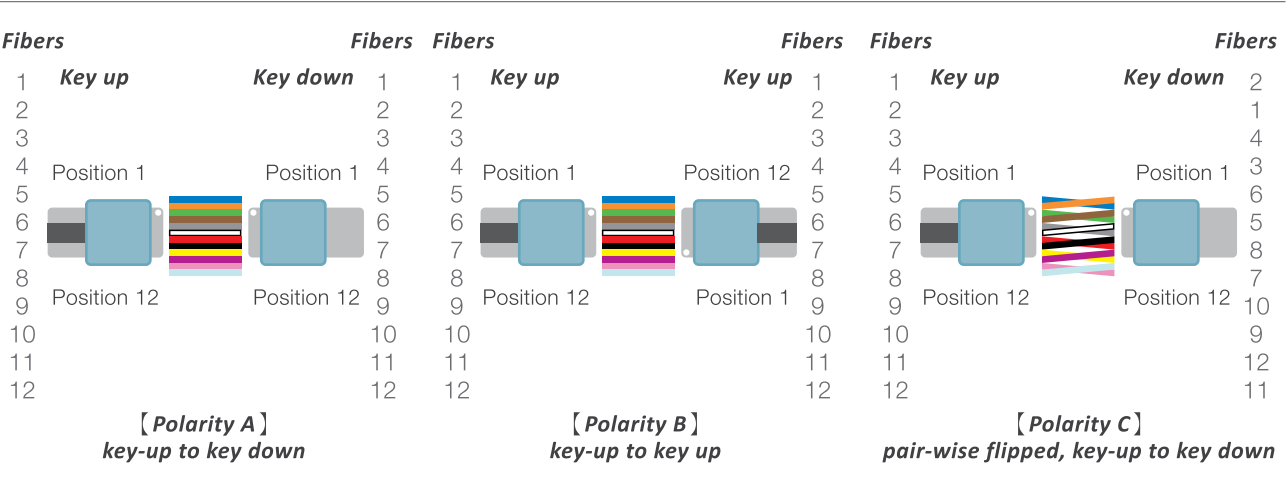
MTP® SC Footprint Type and Recommended Mounting Cutout



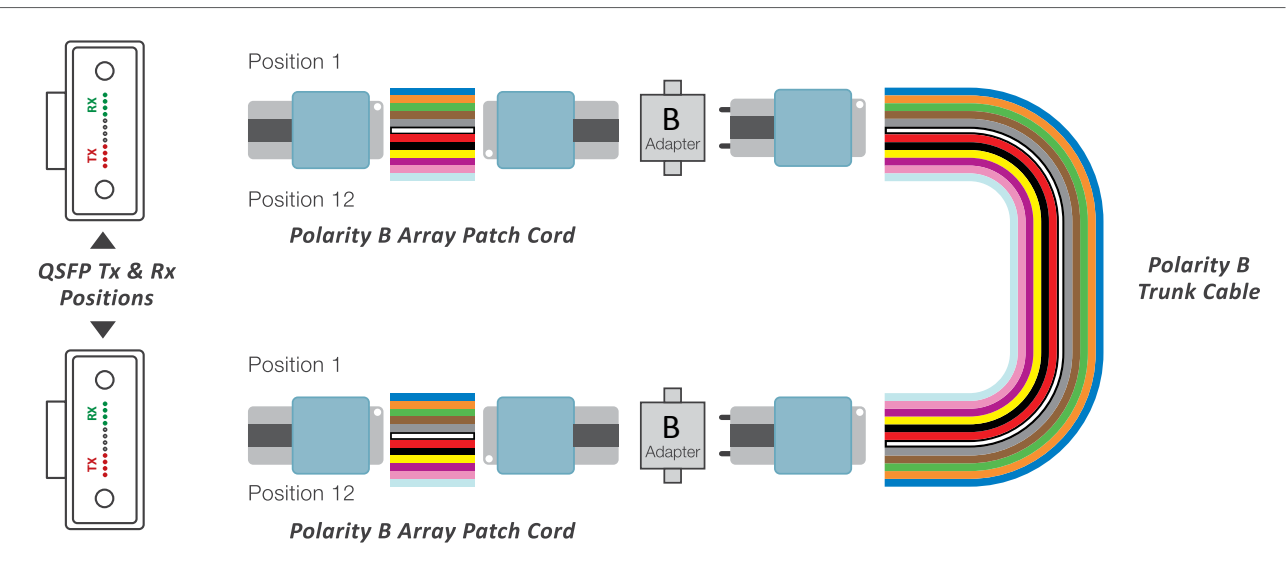
MTP®/MPO Polarity Methods

TIA-568-C defines three polarities, A, B, C. The primary purpose is to guarantee the right bi-directional allocation. When connecting two transceivers, you must always ensure the proper polarity, correct interconnection and orientation.

【TIA-568.3-D】 The figure below shows the 12F MTP®/MPO polarity A, B and C backbone patch cables.



Polarity B female-to-female array patch cables are usually used to directly connect two transceivers with a short distance of 5 meters to 10 meters. In most cases, the connection between the two transceivers requires a longer link. Method B indirect parallel connection is as follows:



To connect two 400G-SR8 QSFP-DD, it needs enhanced return loss performance to support next-generation high-speed link applications. US Conec announces the release of 16 fiber multimode MT Elite® ferrule optimized for angled physical contact (APC). The new 1x16 multimode APC MT Elite® ferrule enables return loss of > 50dB and low insertion loss performance.

- Jyh Eng also provides the following solutions, please contact our sales.
- √ 24F, 16F and 32F polarity methods and customized polarity methods
 - √ 10G, 25G, 40G, 100G, 200G and 400G direct connectivity solutions, interconnect solutions and optimized solutions
 - √ 10G to 40G interconnect solutions, 40G to 100G interconnect solutions, 10G to 100G interconnect solutions

MTP®/MPO Production Machine and Test Equipment

OPTEK Multi-fiber Laser Cutting



Domaille Polishing Machine



SEIKOH GIKEN Polishing Machine



EXFO 24 port Multimode Insertion Loss & Return Loss



JDSU 24 port Single-mode Insertion Loss & Return Loss



EXFO 32 port Multimode Insertion Loss & Return Loss



JDSU 32 port Single-mode Insertion Loss & Return Loss



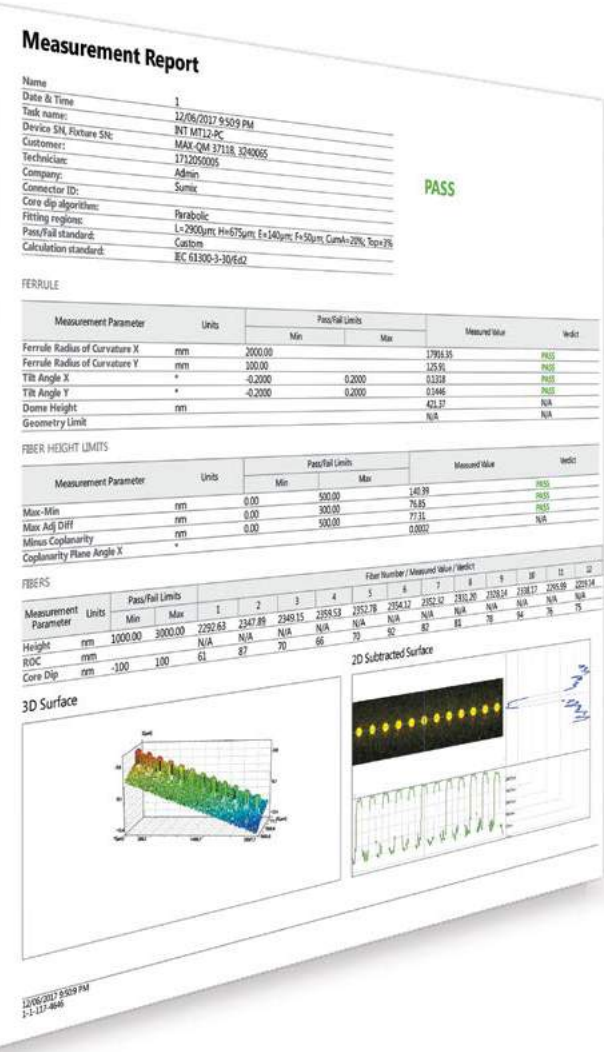
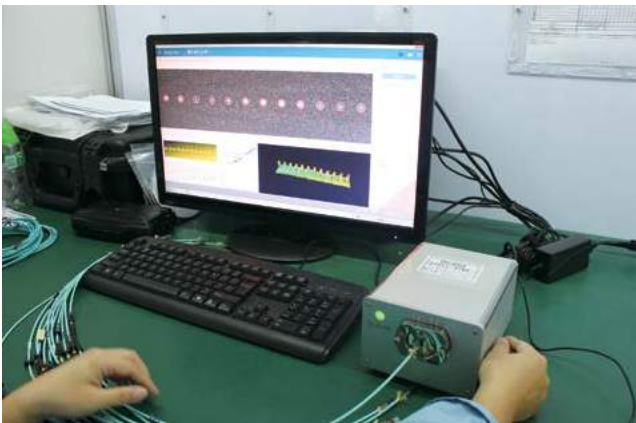
400X microscope to ensure that the quality of the connector end-face meets IEC 61300-3-35 standard.



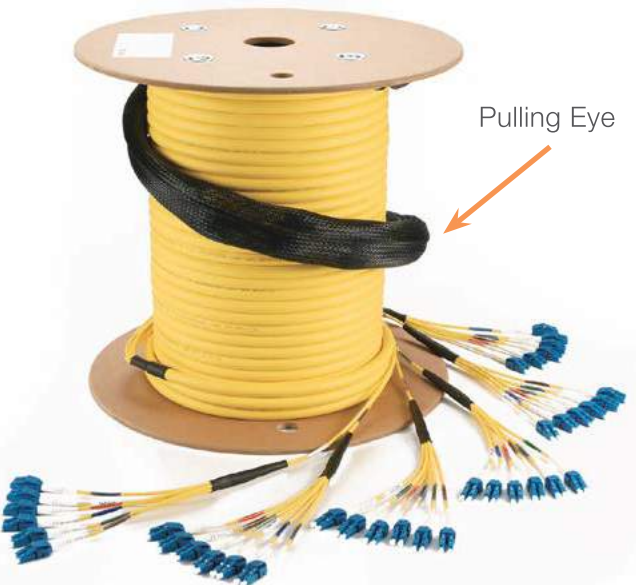
Polarity Check



SUMIX multi-fiber 3D Interferometer: Precise and quickly measure the radius of curvature, apex offset, and fiber height.



When the cable is too long, we will pack the cable on the reel instead of a plastic bag. This packaging can protect the fiber cables during transportation. Moreover, the pulling eyes option also assists in pulling the fiber cable during installation.



Pulling Eye

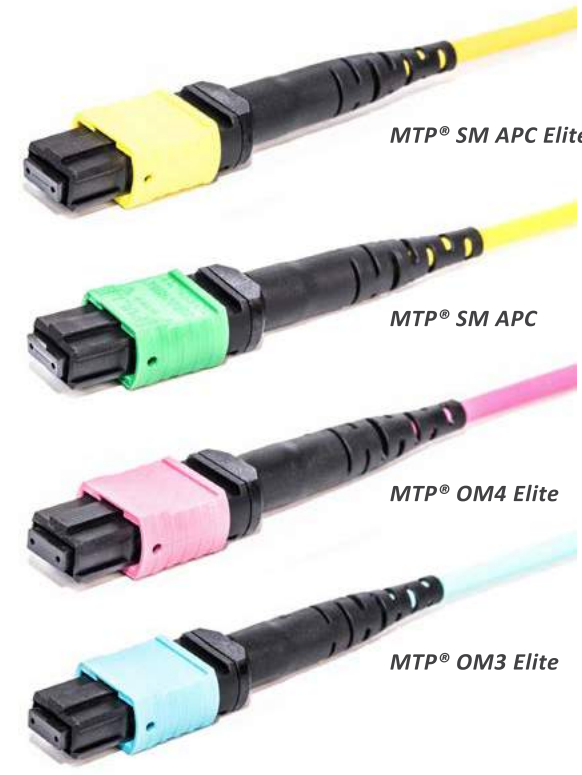
MTP®/MPO Array Cable

MTP®/MPO array cables with a single jacket are sometimes called round cables due to the cable jacket's shape. These small diameter cables are typically used for patching in cabinets and racks to maximize high-density space.

Cable O.D	2.0mm	3.0mm	3.5mm
8C/12C	✓	✓	
16C		✓	
24C/32C			✓



- ✓ MTP® and MPO are available
- ✓ Available for 8F, 12F, 16F, 24F and 32F in one MTP®/MPO connector interface
- ✓ Support polarity method A, B, C and customized polarity methods; option for male or female
- ✓ Options with multimode OM3, OM4, OM5 bend-insensitive fiber and single-mode OS2 G.657.A fiber
- ✓ Flexible micro cable reduces weight and carriage costs
- ✓ Parallel optic transmission 40G / 100G / 400G Ethernet
- ✓ “Plug and Play” solution eliminates in-field termination, reduces installation cost and time
- ✓ 100% Factory terminated and tested to ensure superior performance and quality



MTP® SM APC Elite

MTP® SM APC

MTP® OM4 Elite

MTP® OM3 Elite

The 400G-SR8 module uses a single-row, angled (APC) MTP®-16 connector with parallel multi-mode fiber.



The MTP® Push-Pull tabs are compatible with MTP® and Jyh Eng MPO connectors for easy insertion and extraction in high-density applications.



MTP®/MPO Trunk Cable



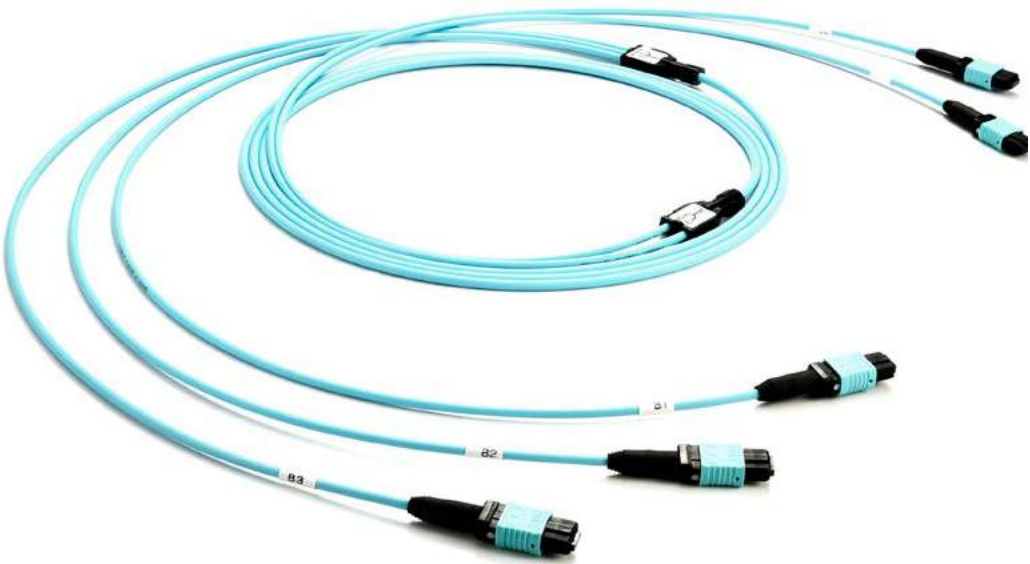
MTP®/MPO double-jacketed backbone cables have a more robust dual jacket sheath, providing higher compressive strength. These cables are typically designed for longer lengths between horizontal applications and to connect different distribution areas.

All MTP®/MPO cabling are pre-terminated, and factory inspected and tested to ensure superior performance and quality. It provides a proper plug-and-play solution for fast and efficient field deployment, reducing installation costs and time.

- ✓ MTP® and MPO are available
- ✓ Fiber counts from 8, 12, 24, 36 cores.....up to 144 cores are available
- ✓ Support polarity method A, B, C and customized polarity methods; option for male or female
- ✓ Options with multimode OM3, OM4, OM5 bend-insensitive fiber and single-mode OS2 G.657.A fiber
- ✓ Parallel optic transmission 40G / 100G / 400G Ethernet
- ✓ “Plug and Play” solution eliminates in-filed termination, reduces installation cost and time
- ✓ 100% Factory terminated and tested to ensure superior performance and quality
- ✓ Transmission performance:

MTP®/MPO Mated Pair	BIMMF OM3/OM4/OM5			OS2 G.657.A		
	Std. Loss	Low Loss	Ultra Low Loss	Std. Loss	Low Loss	Ultra Low Loss
Insertion Loss	< 0.50 dB	< 0.35 dB	< 0.25 dB	< 0.75 dB	< 0.35 dB	< 0.25 dB
Return Loss	> 20 dB	> 25 dB	> 25 dB	> 60 dB	> 60 dB	> 60 dB

MTP®/MPO QSFP+ Conversion Cables



QSFP+ Conversion cables are a pre-terminated solution that allows networks to utilize 100% MTP®/MPO trunks when migrating to 40G, 100G and 400G.

- ✓ Parallel optic transmission 40G / 100G / 400G Ethernet
- ✓ Standard polarity method and customized polarity methods are welcome
- ✓ 1x24F to 2x12F / 1x24F to 3x8F / 2x12F to 3x8F are available
- ✓ Options with multimode OM3, OM4, OM5 bend-insensitive fiber and single-mode OS2 G.657.A fiber
- ✓ 100% Factory terminated and tested to ensure superior performance and quality

1 x 24F to 2 x 12F				1 x 24F to 3 x 8F				2 x 12F to 3 x 8F			
End A Position (Key up)	Fiber Color	End B Position (Key down)		End A Position (Key up)	Fiber Color	End B Position (Key down)		End A Position (Key up)	Fiber Color	End B Position (Key up)	
1	Blue	B1	1	1	Blue	B1	1	A1	1	Blue	12
2	Orange		2	2	Orange		2		2	Orange	11
3	Green		3	3	Green		3		3	Green	10
4	Brown		4	4	Brown		4		4	Brown	9
5	Gray		5	5	Gray	B2	1		5	Gray	4
6	White		6	6	White		2		6	White	3
7	Red		7	7	Red		3		7	Red	2
8	Black		8	8	Black		4		8	Black	1
9	Yellow		9	9	Yellow	B3	1		9	Yellow	12
10	Purple		10	10	Purple		2		10	Purple	11
11	Pink		11	11	Pink		3		11	Pink	10
12	Aqua		12	12	Aqua		4		12	Aqua	9
13	Blue	B2	1	13	Blue	B1	12	A2	1	Blue	4
14	Orange		2	14	Orange		11		2	Orange	3
15	Green		3	15	Green		10		3	Green	2
16	Brown		4	16	Brown		9		4	Brown	1
17	Gray		5	17	Gray	B2	12		5	Gray	12
18	White		6	18	White		11		6	White	11
19	Red		7	19	Red		10		7	Red	10
20	Black		8	20	Black	B3	9		8	Black	9
21	Yellow		9	21	Yellow		12		9	Yellow	4
22	Purple		10	22	Purple		11		10	Purple	3
23	Pink		11	23	Pink		10		11	Pink	2
24	Aqua		12	24	Aqua		9		12	Aqua	1

MTP®/MPO to LC Harness

MTP®/MPO to LC harness series is for direct connection or the transition from trunk backbone assemblies to the fiber rack system. MTP®/MPO on one side and single-fiber connectors on another side. MTP®/MPO is available in 12, 16, 24, and 32-fiber interfaces. LC side can use single boot duplex LC or high-density LC series: LC uni-boot, LC extractor, LC 1 second polarity change. Rx and Tx on the LC side are assembled in pairs. Flexible micro cables are easy to manage, high-density data center applications and blade services.

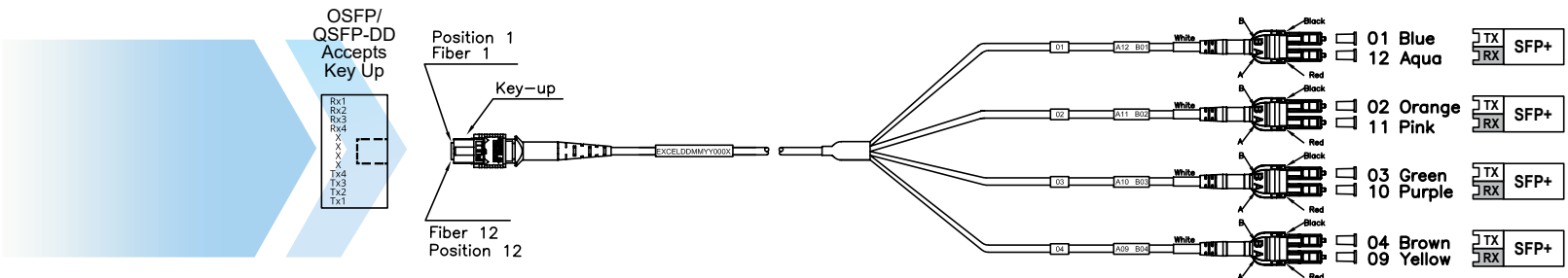


16F MTP® Elite Angled (non-pinned) Female to 8 x LC UPC Duplex Short Boot, MM OM4 Breakout Cable, LSZH

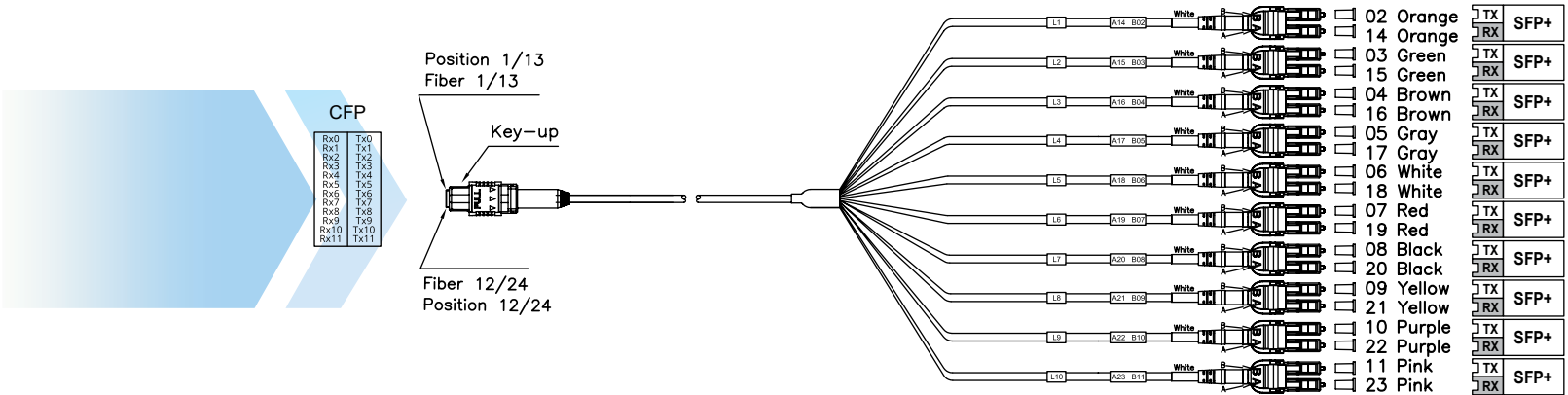


[Direct Connection Application]

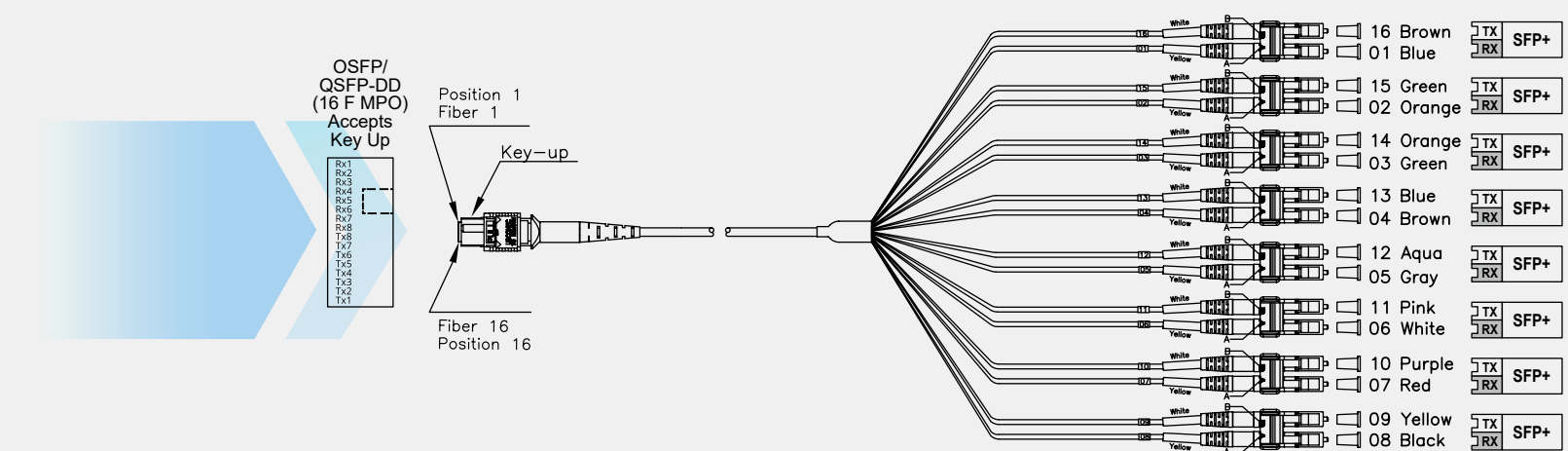
QSFP+ to SFP+ Solution: 8F MTP®/MPO to LC harness can directly connect between 1x40G QSFP+ transceivers and 4x10G SFP+ transceivers. Each fiber cable transmits 10Gbps for 10G to 40G migration.



CFP/CXP to SFP+ Solution: 24F MTP®/MPO to LC migration path from 1x100G CFP/CXP to 10x10G SFP+ for 100G to 10G parallel transmission.



OSFP/QSFP-DD to SFP+ Solution: 16F MTP® to LC migration path from 1x400G OSFP/QSFP-DD to 16x25G SFP+ for 400G to 10G parallel transmission. Highest density physical contact for multi-fiber connectors.

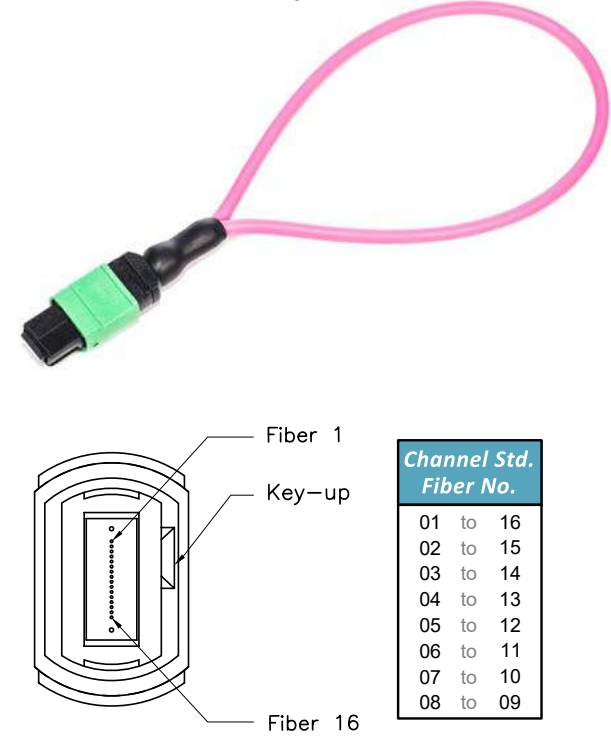


MTP®/MPO Loopback

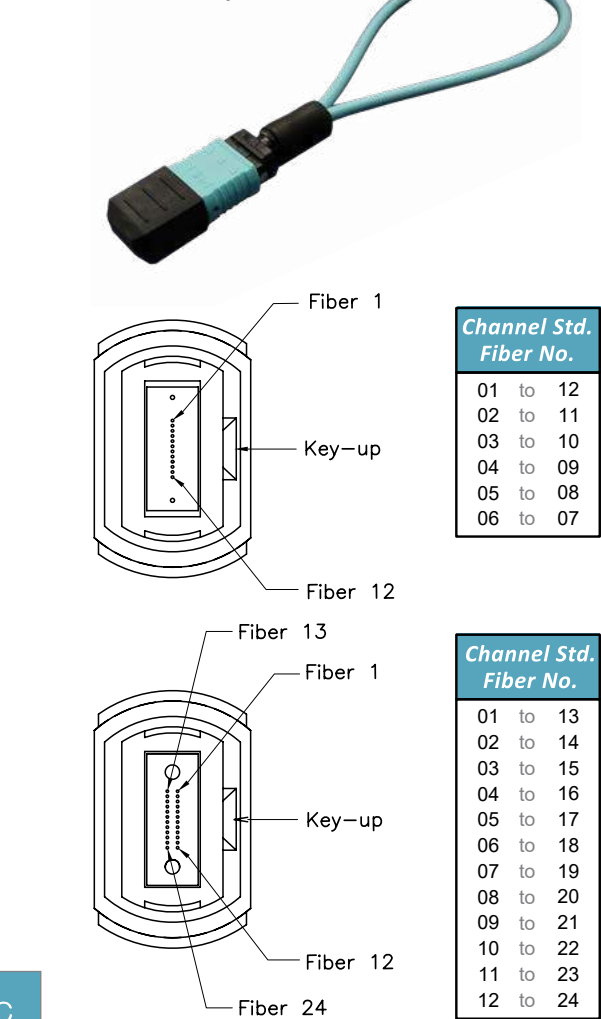
MTP®/MPO Loopback is widely used in the testing environment, especially in parallel optical 40G, 100G, and 400G networks. The device allows verification and testing to a transceiver with the MTP®/MPO interface –based 40G BASE-SR4 QSFP+, 100G BASE-SR10 CXP/CFP, and 400G-SR8 OSFP/QDD devices. MTP®/MPO Loopback links the Transceivers (TX) and Receivers (RX) positions of the MTP®/MPO transceivers interface, which can facilitate and speed up the IL test of the optical network segment by connecting it to MTP®/MPO patch cables.

MTP®/MPO Loopback specified for direct connection to MTP®/MPO transceiver must be female (without PIN), as the transceiver feature PINs.

MTP®-16 APC OM4 Loopback



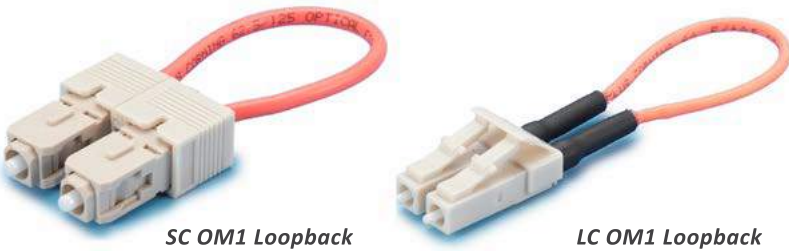
MPO-24 OM3 Loopback



Performance

	MM	MM Low Loss	SM APC
MTP®/MPO	< 0.75 dB	< 0.5 dB	< 0.75 dB
LC/SC	< 0.5 dB	< 0.3 dB	

SC and LC Loopback are also available.



SC OM1 Loopback

LC OM1 Loopback

MT-MT Patch Cord

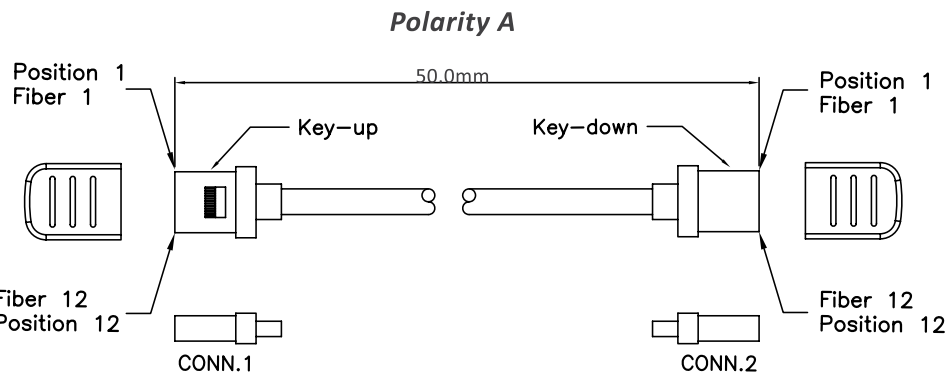
For QSFP+SR4, QSFP+CSR4, CFP-SR4 & AOC

Jyh Eng manufactures 8, 12 & 24-fiber MT-MT patch cords used in the parallel fiber optic module- (QSFP+SR4, QSFP+CSR4 and CFP-SR4) the connection to the optical lens and external port. Flexible options of OM3, OM4, OM5 fiber and low loss MT ferrule, achieve and guarantee low attenuation. With accurate tolerance for length ($\pm 1\text{mm}$) and MT ferrule ($\pm 0.5\text{mm}$), it guarantees to satisfy coupling in the very small space of the module.



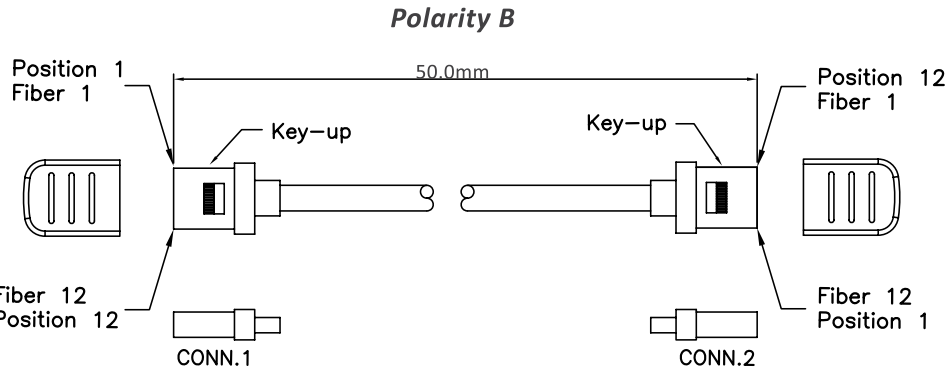
Performance

	MM	MM Low Loss
Insertion Loss	< 0.5 dB	< 0.3 dB
Return Loss		



Polarity A - key up to key down

End A Position	Fiber Color	End B Position
1	Blue	1
2	Orange	2
3	Green	3
4	Gray	4
5	Brown	5
6	White	6
7	Red	7
8	Black	8
9	Yellow	9
10	Purple	10
11	Pink	11
12	Aqua	12



Polarity B - key up to key up

End A Position	Fiber Color	End B Position
1	Blue	12
2	Orange	11
3	Green	10
4	Gray	9
5	Brown	8
6	White	7
7	Red	6
8	Black	5
9	Yellow	4
10	Purple	3
11	Pink	2
12	Aqua	1

ODVA Series

This rugged connector complies with the ODVA (Open Device Vendor Association) interoperability interface specification to support Ethernet. It is designed for use in harsh environments. The connector has a bayonet coupling mechanism for quick connection.

ODVA LC Adapter

- ✓ Ruggedized sealing system for Fiber-to-the-Antenna and industrial applications
- ✓ Duplex LC Receptacle
- ✓ Robust bayonet locking for easy, fast and secure mating
- ✓ Waterproof, dust proof and corrosion resistant

Specifications

Mating mechanism	bayonet style locking	
Housing material	high performance plastic	
Technology	LC with Zr. Sleeve	
Operating temperature	-20°C to +70°C	
Mating durability	IEC 61300-2-2	100 cycles
Ingress protection (mated)	IEC 60529	IP67
Performance standards	RoHS & REACH	compliant



Optical performance

Insertion loss	Single-mode	≤ 0.20 dB
	Multimode	≤ 0.20 dB

ODVA MTP®/MPO Adapter

- ✓ Ruggedized sealing system for Fiber-to-the-Antenna and industrial applications
- ✓ MTP®/MPO Receptacle
- ✓ Robust bayonet locking for easy, fast and secure mating
- ✓ Waterproof, dust proof and corrosion resistant

Specifications

Mating mechanism	bayonet style locking	
Housing material	high performance plastic	
Operating temperature	-20°C to +70°C	
Mating durability	IEC 61300-2-2	100 cycles
Ingress protection (mated)	IEC 60529	IP67
Performance standards	RoHS & REACH	compliant



Optical performance

Insertion loss	≤ 0.30 dB
----------------	-----------

ODVA MTP®/MPO Connector Assembly

- ✓ Ruggedized sealing system for Fiber-to-the-Antenna and industrial applications
- ✓ Open bulkhead for easy access to SFP
- ✓ Positive mechanical feedback to operator when fully mated
- ✓ MTP®/MPO interface
- ✓ Robust bayonet locking for easy, fast and secure mating
- ✓ Waterproof, dust proof and corrosion resistant



Specifications

Mating mechanism	bayonet style locking	
Housing material	high performance plastic	
Technology	MT Ferrules with full PPS thermoplastic	
Mechanical performance	tensile load	150 N
	static side load	30 N
Operating temperature	-40°C to +70°C	
Mating durability	IEC 61300-2-2	100 cycles
Ingress protection (mated)	IEC 60529	IP67
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10g
Performance standards	IEC 61753-1 cat. E	compliant
	Telcordia GR 3120	compliant

Optical performance

Insertion loss	Single-mode	≤ 0.75 dB
	Single-mode Low Loss	≤ 0.35 dB
	Multimode	≤ 0.50 dB
	Multimode Low Loss	≤ 0.35 dB
Return loss	Single-mode	APC ≥ 60 dB
	Multimode	UPC ≥ 20 dB

ODVA LC Connector Assembly

- ✓ Ruggedized sealing system for Fiber-to-the-Antenna and industrial applications
- ✓ Open bulkhead for easy access to SFP
- ✓ Positive mechanical feedback to operator when fully mated
- ✓ Duplex LC interface
- ✓ Robust bayonet locking for easy, fast and secure mating
- ✓ Waterproof, dust proof and corrosion resistant



Specifications

Mating mechanism	bayonet style locking	
Housing material	high performance plastic	
Technology	LC with full ceramic ferrules	
Mechanical performance	tensile load	150 N
	static side load	30 N
Operating temperature	-40°C to +70°C	
Mating durability	IEC 61300-2-2	100 cycles
Ingress protection (mated)	IEC 60529	IP67
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10g
Performance standards	IEC 61753-1 cat. E	compliant
	Telcordia GR 3120	compliant

Optical performance

Insertion loss	Single-mode	≤ 0.20 dB
	Single-mode Low Loss	≤ 0.15 dB
	Multimode	≤ 0.30 dB
	Multimode Low Loss	≤ 0.15 dB
Return loss	Single-mode	UPC ≥ 55 dB
		APC ≥ 60 dB

ODVA MTP®/MPO to LC Connector Assembly



- ✓ Ruggedized sealing system for Fiber-to-the-Antenna and industrial applications
- ✓ Open bulkhead for easy access to SFP
- ✓ Positive mechanical feedback to operator when fully mated
- ✓ MTP®/MPO and duplex LC interface
- ✓ Robust bayonet locking for easy, fast and secure mating
- ✓ Waterproof, dust proof and corrosion resistant

Specifications

Mating mechanism	bayonet style locking	
Housing material	high performance plastic	
Technology	MT Ferrules with full PPS thermoplastic	
	LC with full ceramic ferrules	
Mechanical performance	tensile load	150 N
	static side load	30 N
Ingress protection (mated)	-40°C to +70°C	
Mating durability	IEC 61300-2-2	100 cycles
Ingress protection (mated)	IEC 60529	IP67
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10g
Performance standards	IEC 61753-1 cat. E	compliant
	Telcordia GR 3120	compliant

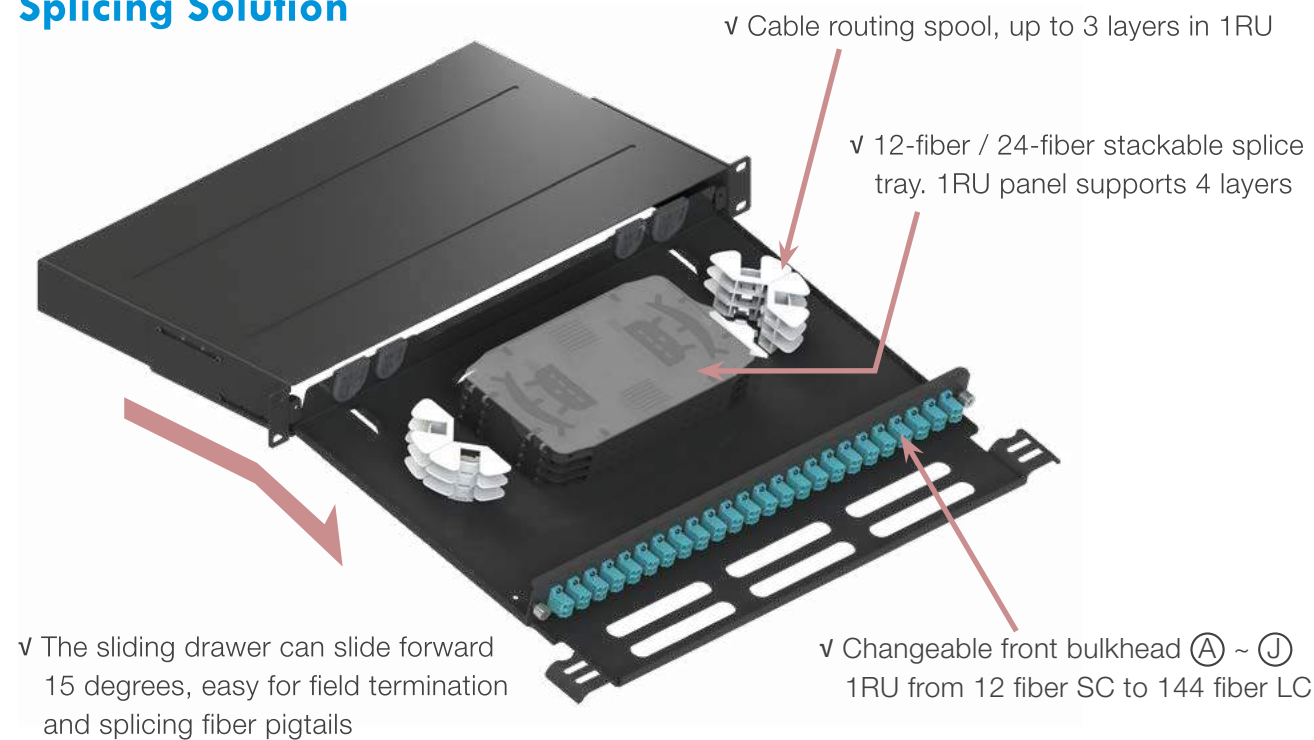
Optical performance

Insertion loss (MTP®/MPO)	Single-mode	≤ 0.75 dB
	Single-mode Low Loss	≤ 0.35 dB
	Multimode	≤ 0.5 dB
	Multimode Low Loss	≤ 0.35 dB
Return loss (MTP®/MPO)	Single-mode	APC ≥ 60 dB
	Multimode	PC ≥ 20 dB
Insertion loss (LC)	Single-mode	≤ 0.2 dB
	Single-mode Low Loss	≤ 0.15 dB
	Multimode	≤ 0.3 dB
	Multimode Low Loss	≤ 0.15 dB
Return loss (LC)	Single-mode	UPC ≥ 55 dB
		APC ≥ 60 dB

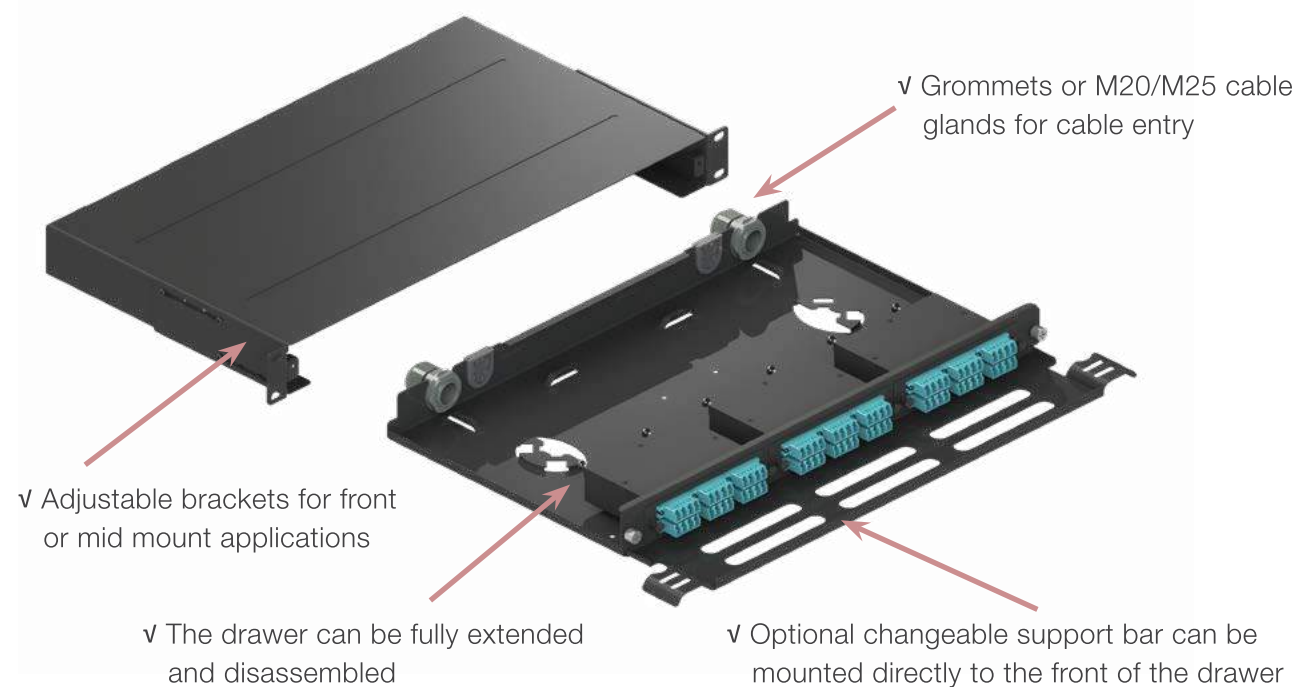
Multi-Function 10D Fiber Patch Panel

This series is designed to increase flexibility for any environment in the data center. Stylish and innovative design is ideal for today's most advanced networks and setting. The changeable front bulkhead supports both cassette and adapter plate. The maximum capacity is 144 fiber LC connectors. An optional cable support bar helps route and organize cables on enclosures. With the convertible ears, this panel facilitates the recessed depth, up to 60mm. The sliding tray glides 15 degrees forward (with stop) and backward and removes easy field terminations and splicing.

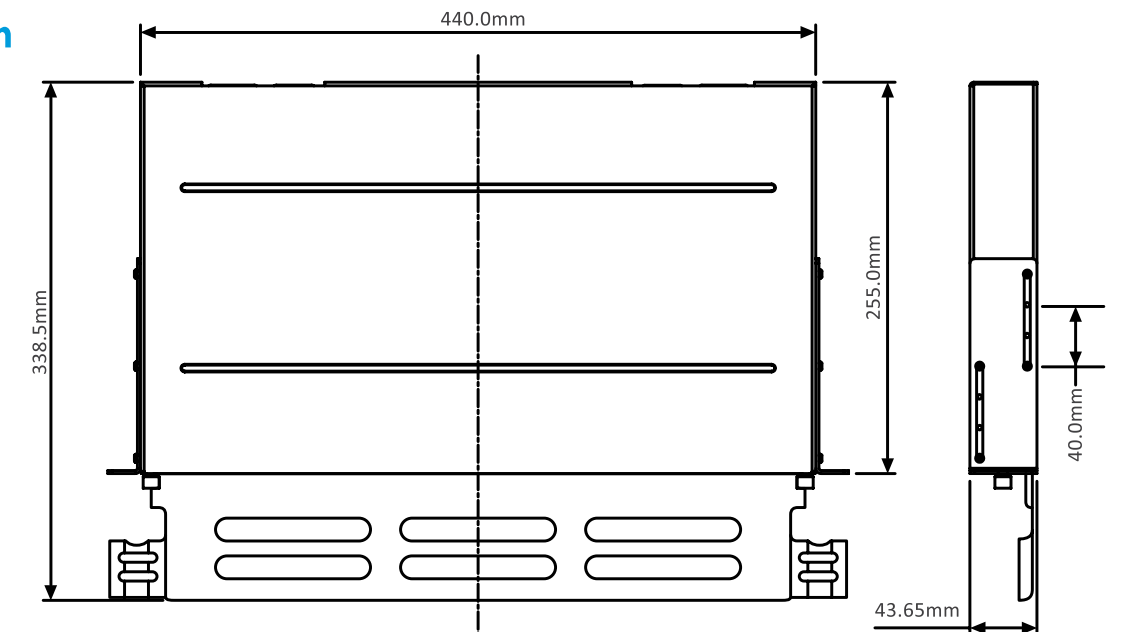
Splicing Solution



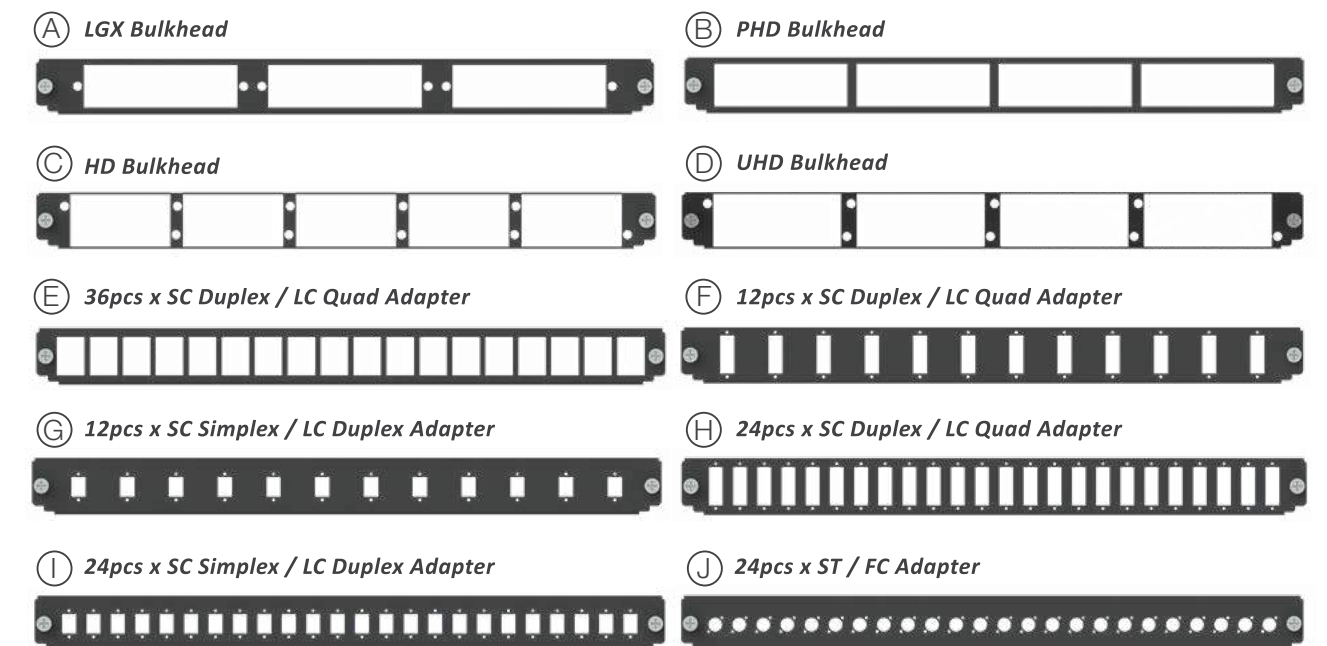
Cassette/Adapter Plates Solution



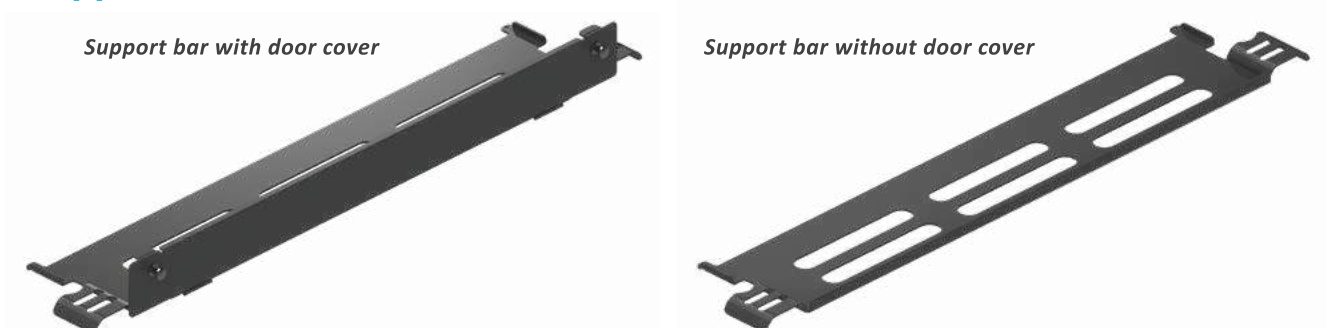
Dimension



Changeable Front Bulkhead



Support Bar



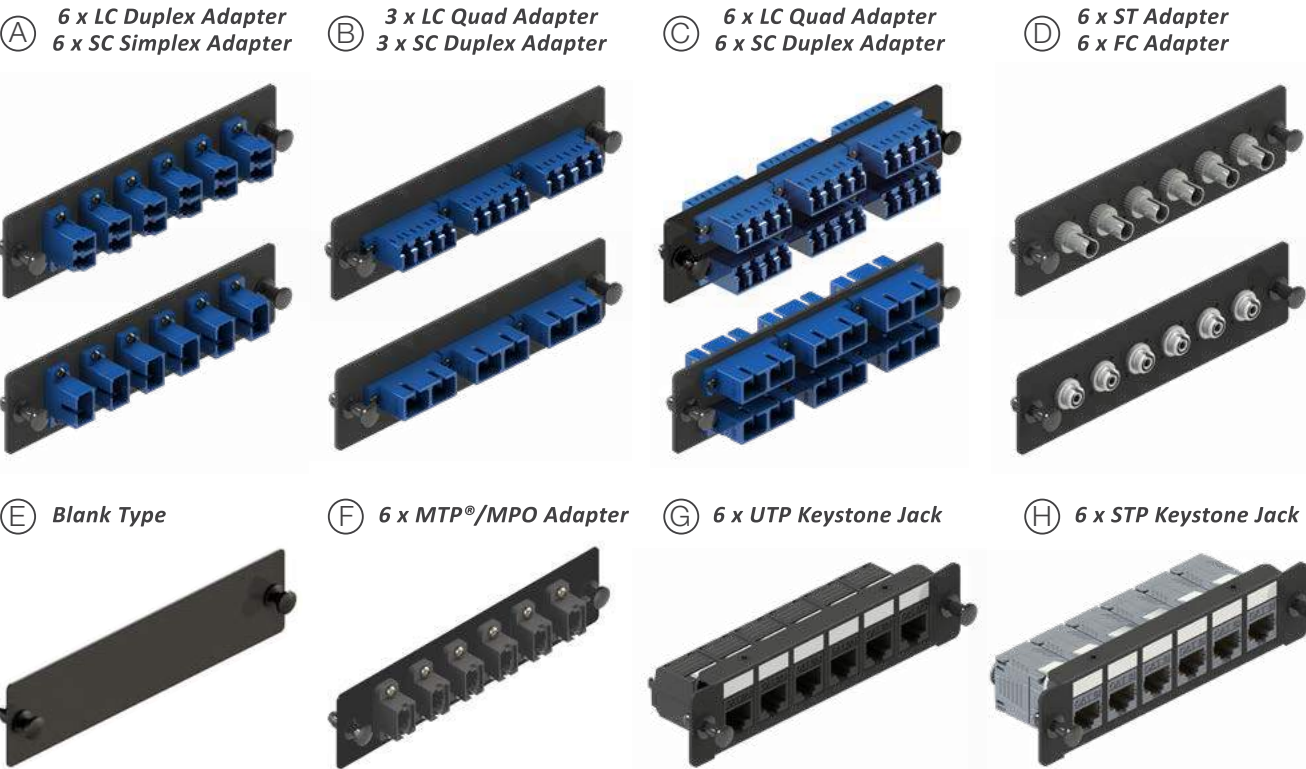
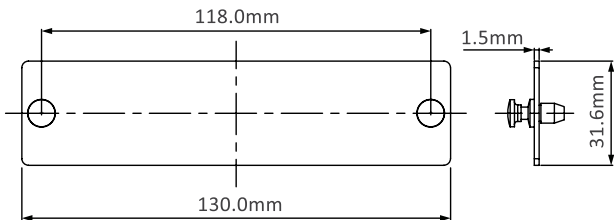
Multi-Function 10D Fiber Patch Panel – LGX Solutions

The LGX format is an industry-standard for fiber cassette and adapter plate, which can be installed in LGX compatible racks, panels and wall-mounted enclosures. Multi-Function 10D fiber patch panel supports 3 slots LGX cassettes or adapter plates, and the maximum port number is up to 72 fiber LC connectors.



LGX Adapter Plates

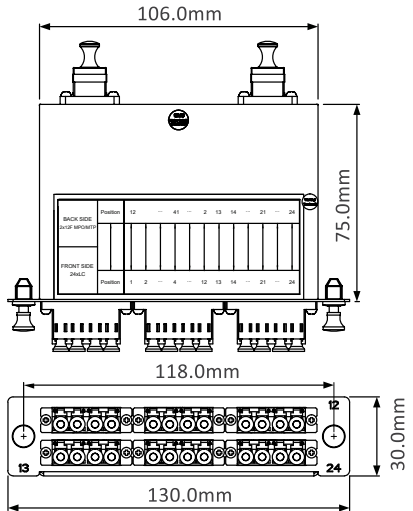
LC, SC, FC, ST, and MTP®/MPO adapter plates and keystone jack types can meet fiber and copper applications on the same 1RU fiber panel.



LGX Cassettes

- ✓ SM OS2 G.657.A and MM OM3/OM4/OM5 bend-insensitive fiber grades
- ✓ Supports polarity method A/B/C and customized wiring
- ✓ 100% Factory terminated and tested to ensure superior performance and quality
- ✓ Both MTP® and MPO are available
- ✓ Transmission performance:

Harness	BIMMF OM3/OM4/OM5			OS2 G.657.A		
	Insertion Loss		Return Loss	Insertion Loss		Return Loss
	Std. Loss	Low Loss		Std. Loss	Low Loss	
LC	< 0.30 dB	< 0.15 dB	> 35 dB	< 0.20 dB	< 0.15 dB	> 55 dB
MTP®/MPO	< 0.50 dB	< 0.35 dB	> 20 dB	< 0.75 dB	< 0.35 dB	> 60 dB



- I 12F MTP® to 8C LC Cassette
 - ✓ 1 x MTP® adapter on rear and 4 x Duplex LC adapter on the front
 - ✓ 1 x 12F MTP® male (pinned) to 8C LC harness
- J 12F MTP® to 12C LC Cassette
 - ✓ 1 x MTP® adapter on rear and 6 x Duplex LC adapter on the front
 - ✓ 1 x 12F MTP® male (pinned) to 12C LC harness
- K 2 x 12F MTP® to 24C LC Cassette
 - ✓ 2 x MTP® adapters on rear and 6 x Quad LC adapters on the front
 - ✓ 2 x 12F MTP® male (pinned) to 24C LC harness
- L 1 x 24F MTP® to 24C LC Cassette
 - ✓ 1 x MTP® adapters on rear and 6 x Quad LC adapters on the front
 - ✓ 1 x 24F MTP® male (pinned) to 24C LC harness
- M 2 x 12F MTP® to 3 x 8F MTP® Migration Cassette
 - ✓ 2 x MTP® adapters on rear and 3 x MTP® adapters on the front
 - ✓ 2 x 12F MTP® male to 3 x 8F MTP® male Y cable
- N 2 x 24F MTP® to 4 x 12F MTP® Migration Cassette
 - ✓ 2 x MTP® adapters on rear and 4 x MTP® adapters on the front
 - ✓ 2 x 24F MTP® male to 4 x 12F MTP® male Y cable
- O 2 x 24F MTP® to 6 x 8F MTP® Migration Cassette
 - ✓ 2 x MTP® adapters on rear and 6 x MTP® adapters on the front
 - ✓ 2 x 24F MTP® male to 6 x 8F MTP® male Y cable

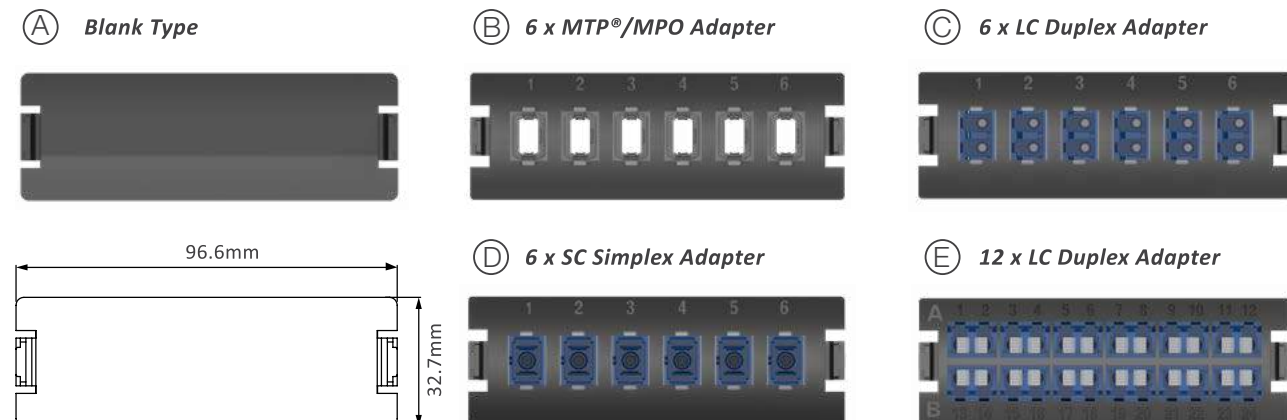


Multi-Function 10D Fiber Patch Panel – Plastic High-density Solutions

The plastic cassette is designed to quickly and easily splice LC/SC pigtails. It can be directly installed on the fiber panel drawer without any mounting brackets. Plastic High-density solution supports 4 slots cassettes or adapter plates. The maximum port number in 1RU is 96 fiber LC connectors.

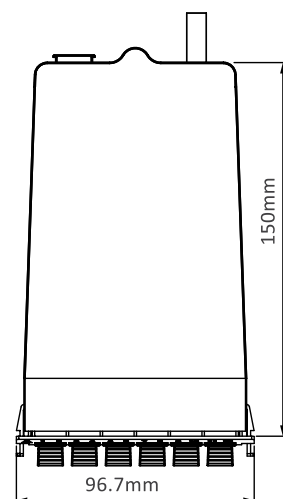


Plastic High-density Adapter Plates

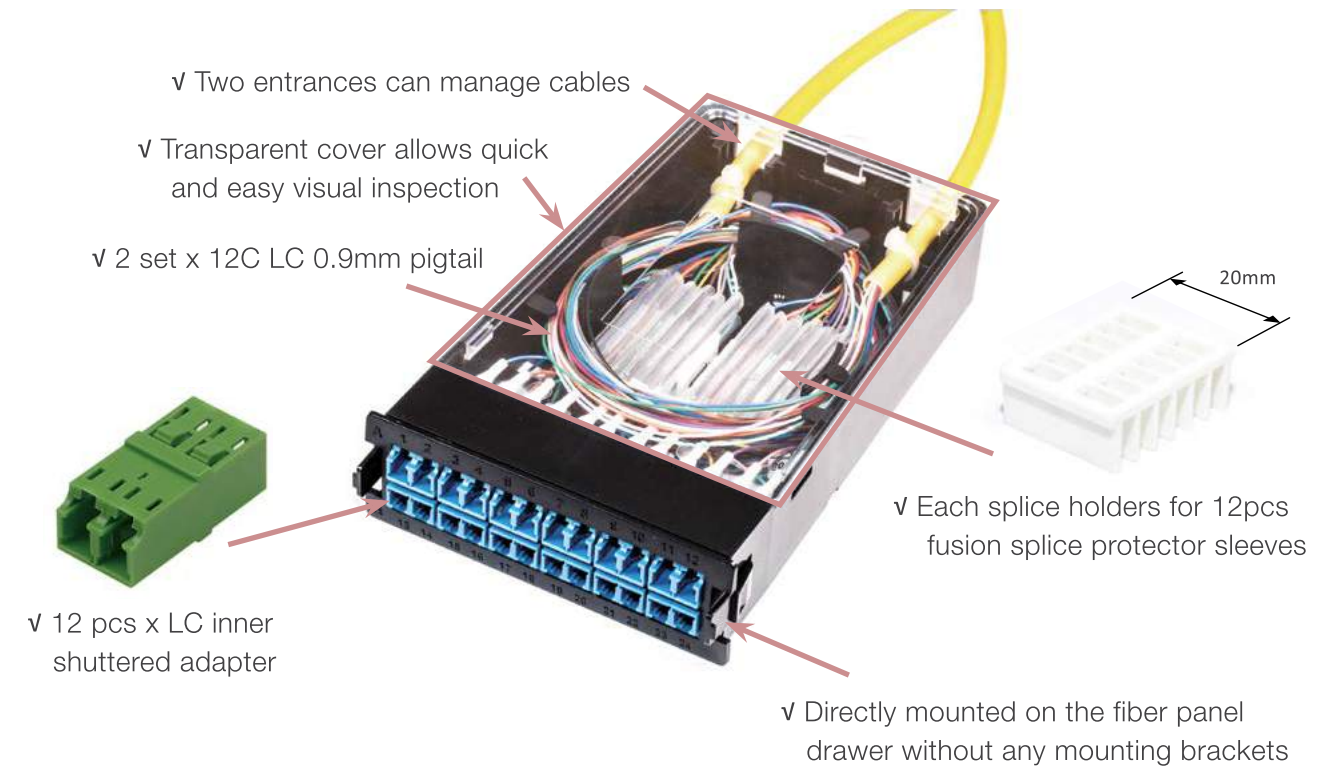


Plastic High-density Splice Cassettes

(F) 6 x SC Simplex Adapter (G) 6 x LC Duplex Adapter (H) 12 x LC Duplex Adapter



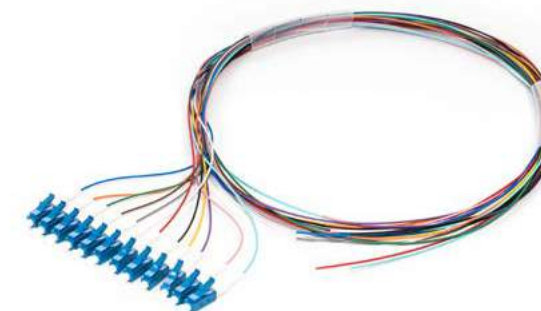
Plastic High-density Splice Cassettes



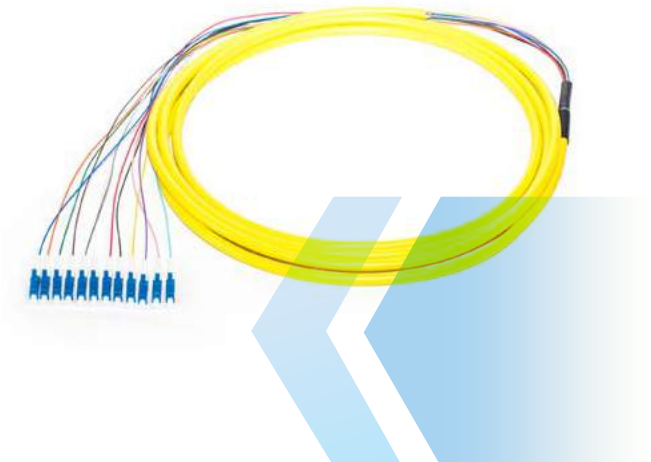
- ✓ Each plastic high-density splice cassette can terminate up to 24 fibers
- ✓ The splicing holder is designed to accommodate 12pcs fusion splice protector sleeves
- ✓ Transparent cover allows quick and easy visual inspection
- ✓ The new configuration design can be installed in the fiber panel drawer without any mounting bracket.
- ✓ Detachable adapter plate and cassette provide quick installation and cable management.
- ✓ Suitable for various cable applications, including micro-distribution, tight buffer and loose tube cables

Related Products

12C LC 0.9mm pigtail

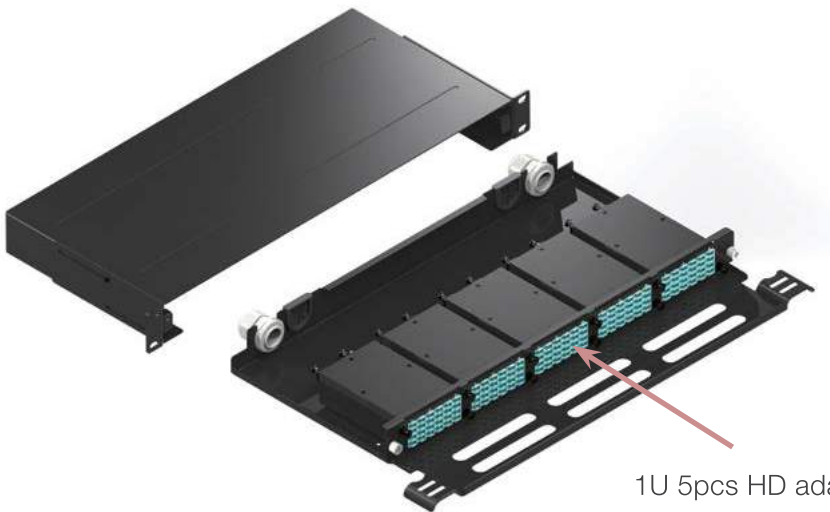


12C Breakout Cable



Multi-Function 10D Fiber Patch Panel – High-density Solutions

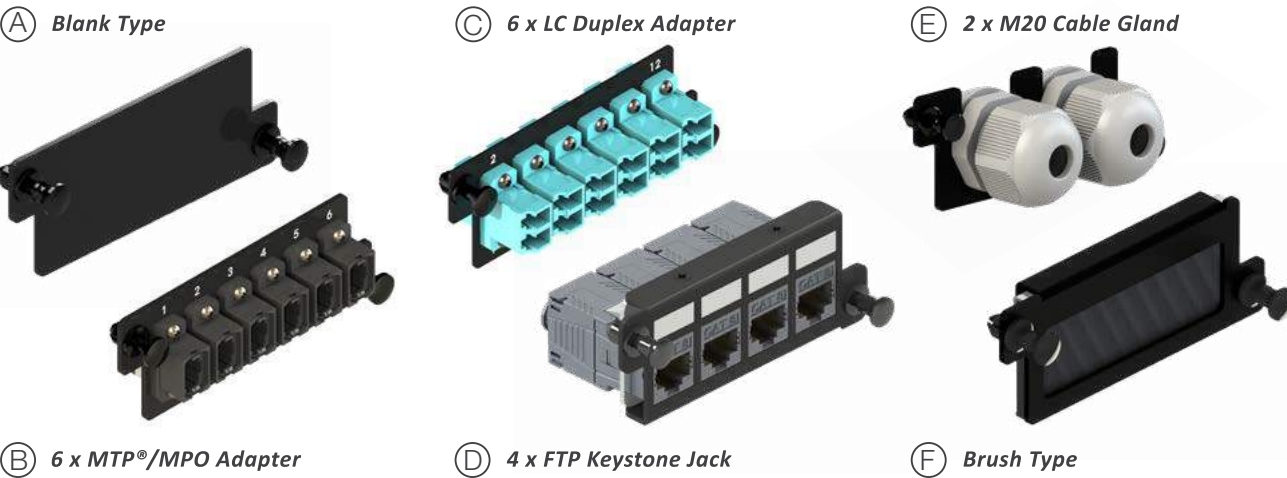
Multi-Function high-density fiber patch panel is constructed by flexible design to achieve diversified applications, like in-filed fiber termination, per-termination fiber cassette and RJ-45 keystone termination. The maximum port number of 1RU multi-function fiber patch panel is up to 120 fibers LC connectors.



1U 5pcs HD adaptor plate / cassette, up to 120 fiber LC connectors

High-Density Adapter Plates

Jyh Eng provides blank, MTP®/MPO adapter plate and keystone jack types to meet fiber and copper applications on the same 1RU fiber panel.



High-Density Cassettes

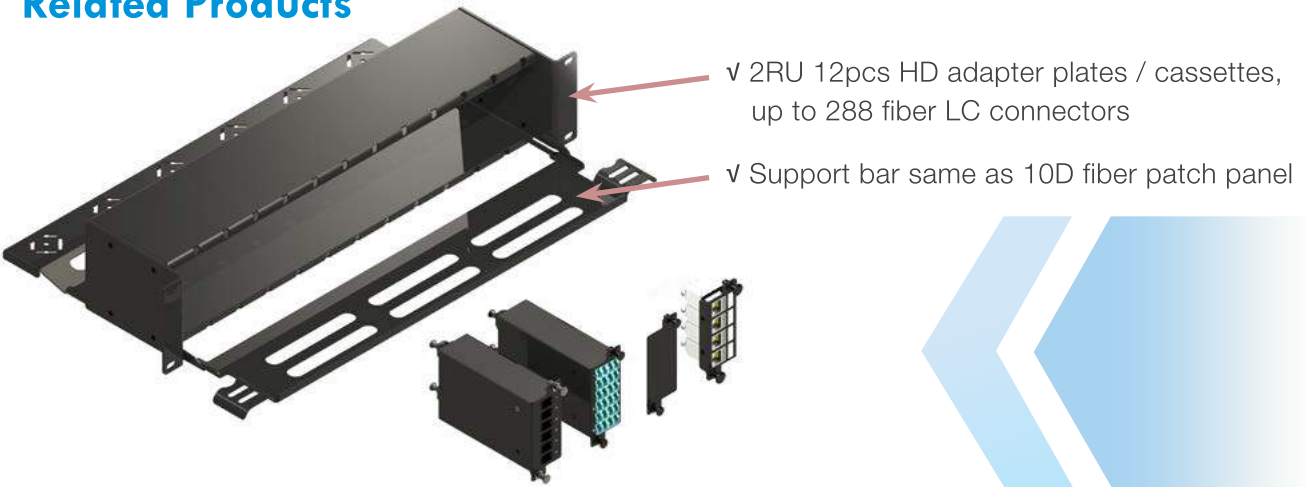
- √ SM OS2 G.657.A and MM OM3/OM4/OM5 bend-insensitive fiber grades
- √ Supports Polarity method A/B/C and customized wiring
- √ 100% Factory terminated and tested to ensure superior performance and quality
- √ Transmission performance:

Harness	BIMMF OM3/OM4/OM5			OS2 G.657.A		
	Insertion Loss		Return Loss	Insertion Loss		Return Loss
	Std. Loss	Low Loss		Std. Loss	Low Loss	
LC	< 0.30 dB	< 0.15 dB	> 35 dB	< 0.20 dB	< 0.15 dB	> 55 dB
MTP®/MPO	< 0.50 dB	< 0.35 dB	> 20 dB	< 0.75 dB	< 0.35 dB	> 60 dB

- Ⓒ 12F MTP® to 8C LC Cassette
 - √ 1 x MTP® adapter on rear and 4 x Duplex LC adapter on the front
 - √ 1 x 12F MTP® male (pinned) to 8C LC harness
- Ⓓ 12F MTP® to 12C LC Cassette
 - √ 1 x MTP® adapter on rear and 6 x Duplex LC adapter on the front
 - √ 1 x 12F MTP® male (pinned) to 12C LC harness
- Ⓘ 2 x 12F MTP® to 24C LC Cassette
 - √ 2 x MTP® adapters on rear and 6 x Quad LC adapters on the front
 - √ 2 x 12F MTP® male (pinned) to 24C LC harness
- Ⓢ 1 x 24F MTP® to 24C LC Cassette
 - √ 1 x MTP® adapters on rear and 6 x Quad LC adapters on the front
 - √ 1 x 24F MTP® male (pinned) to 24C LC harness
- Ⓚ 2 x 12F MTP® to 3 x 8F MTP® Migration Cassette
 - √ 2 x MTP® adapters on rear and 3 x MTP® adapters on the front
 - √ 2 x 12F MTP® male to 3 x 8F MTP® male Y cable
- Ⓛ 2 x 24F MTP® to 4 x 12F MTP® Migration Cassette
 - √ 2 x MTP® adapters on rear and 4 x MTP® adapters on the front
 - √ 2 x 24F MTP® male to 4 x 12F MTP® male Y cable
- Ⓜ 2 x 24F MTP® to 6 x 8F MTP® Migration Cassette
 - √ 2 x MTP® adapters on rear and 6 x MTP® adapters on the front
 - √ 2 x 24F MTP® male to 6 x 8F MTP® male Y cable



Related Products



Multi-Function 10D Fiber Patch Panel – Ultra High-Density Solutions

Jyh Eng's new ultra high-density patch panel offers the user superior versatility and robustness. It combines optical fiber and copper applications in the same 1U rack unit, which is ideal for flexible deployment in data centers. The maximum capacity is 144 LC fiber connectors or 24-port keystone Jack. The plates and cassettes are easily plugged in and extracted from the panel for easy connector installation.



1RU 4pcs cassette / plate, up to 144 fiber LC connectors or 24port keystone jack

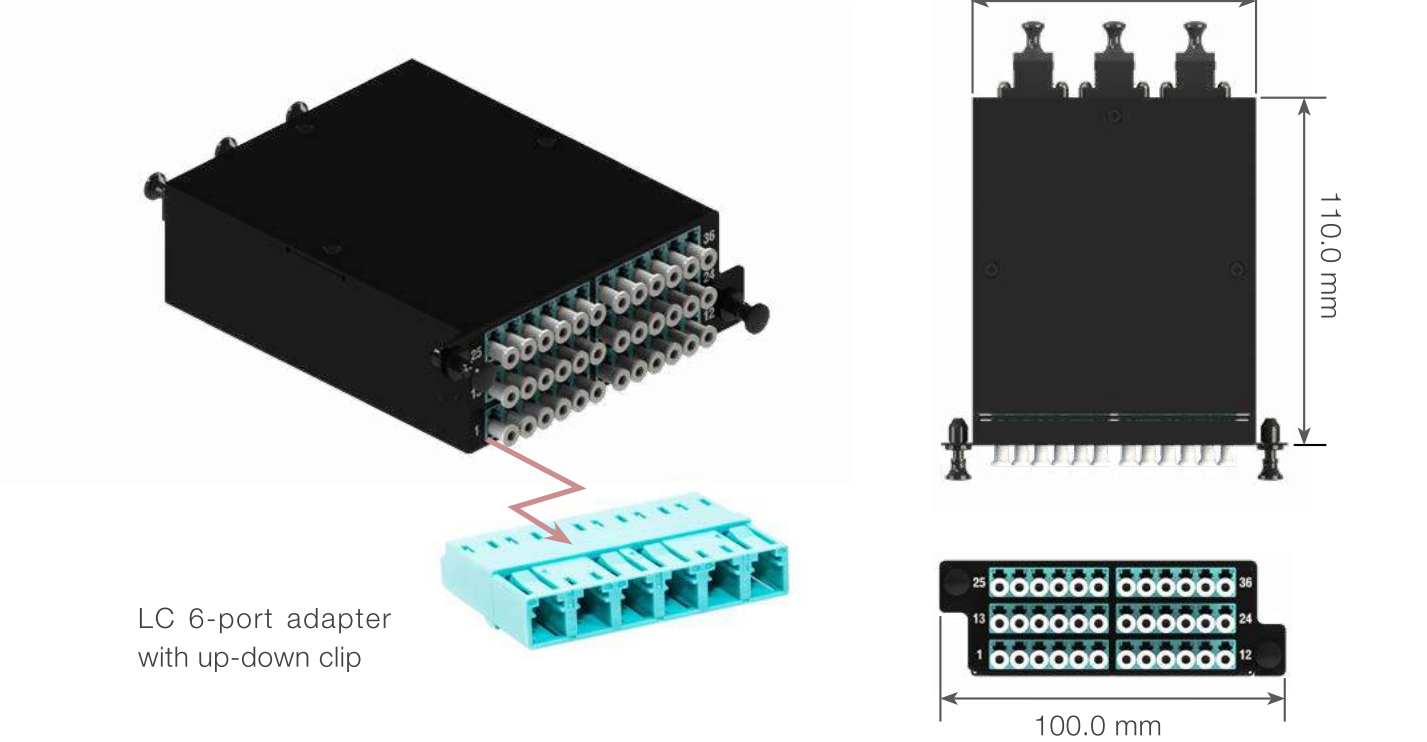
Keystone Jack Plates



Adapter Plates



36-fiber MTP® to LC Cassette

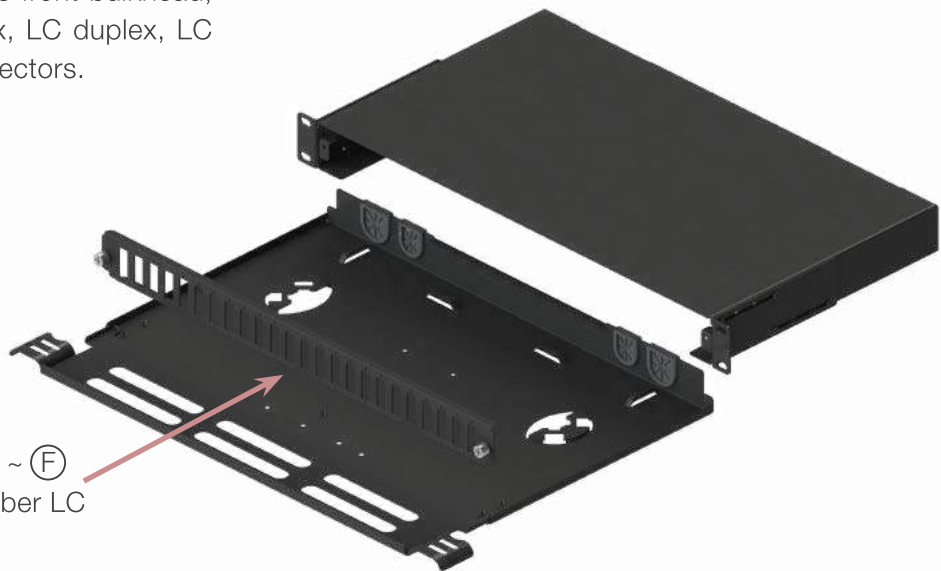


- ✓ Both MTP® and MPO are available
- ✓ Each Cassette can terminate up to 36 fiber LC Connectors
- ✓ SM OS2 G.657.A and MM OM3/OM4/OM5 G.651 bend-insensitive fiber grades
- ✓ Supports polarity method A/B/C and customized wiring
- ✓ 100% Factory terminated and tested to ensure superior performance and quality
- ✓ Transmission performance :

Harness	BIMMF OM3/OM4/OM5			SM OS2 G.657.A		
	Insertion Loss		Return Loss	Insertion Loss		Return Loss
	Std. Loss	Low Loss		Std. Loss	Low Loss	
LC	< 0.30 dB	< 0.15 dB	> 35 dB	< 0.20 dB	< 0.15 dB	> 55 dB
MTP®/MPO	< 0.50 dB	< 0.35 dB	> 20 dB	< 0.75 dB	< 0.35 dB	> 60 dB

Multi-Function 10D Fiber Patch Panel – Changeable Front Bulkhead Solutions

1RU Multi-Function fiber patch panel is constructed by flexible design to achieve diversified applications, in-field fiber termination with various front bulkhead, like ST, FC, SC simplex, SC duplex, LC duplex, LC Quad. 1RU up to 144 fiber LC connectors.



✓ Changeable front bulkhead (A) ~ (F)
1RU from 12 fiber SC to 144 fiber LC

- (A) 12pcs x SC Duplex / LC Quad Adapter
- (B) 12pcs x SC Simplex / LC Duplex Adapter
- (C) 24pcs x SC Duplex / LC Quad Adapter
- (D) 24pcs x SC Simplex / LC Duplex Adapter
- (E) 24pcs x ST / FC Adapter
- (F) 36pcs x SC Duplex / LC Quad Adapter

Accessories

The following accessories are optional and sold separately.



Cable Routing Spool,
1 set = 4pcs

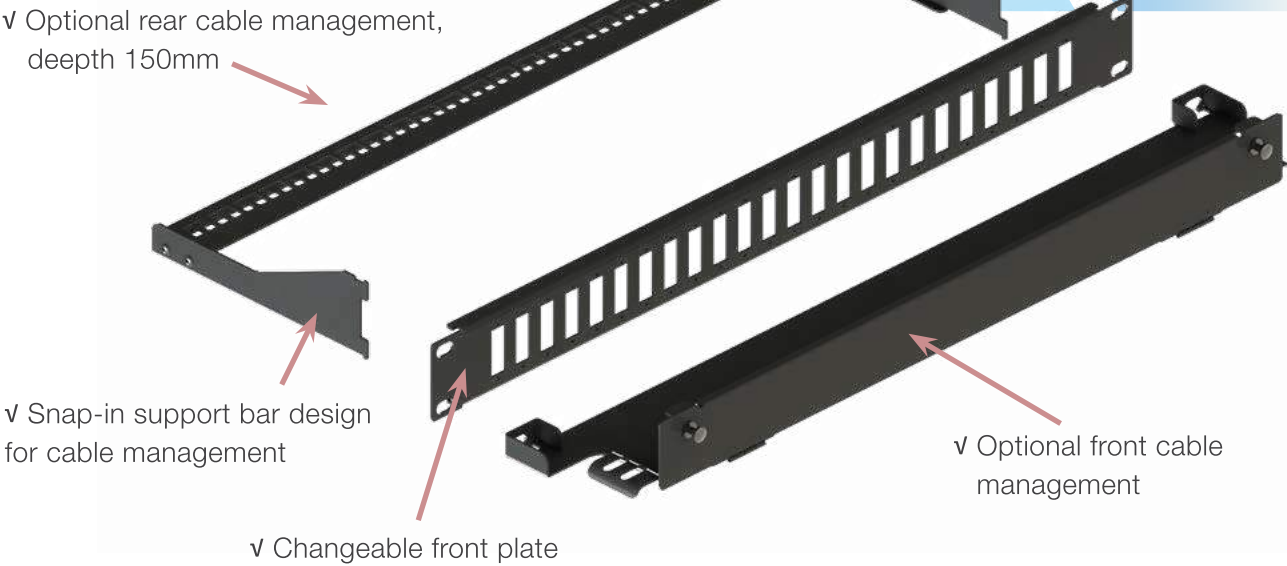
Cable Gland
• M20 fits Cable O.D. 7.5-13mm
• M25 fits Cable O.D. 13-18mm

Fusion Splice Protection Sleeve,
45mm & 60mm

12F & 24F Splice Tray

1RU 19" Simplified Patch Panel

This cost-effective series consists of a changeable front plate and a support bar. It can be flush-mounted on a 19-inch rack or cabinet. The pass-through design is easy to mate and disconnect the patch cords.



✓ Optional rear cable management,
depth 150mm

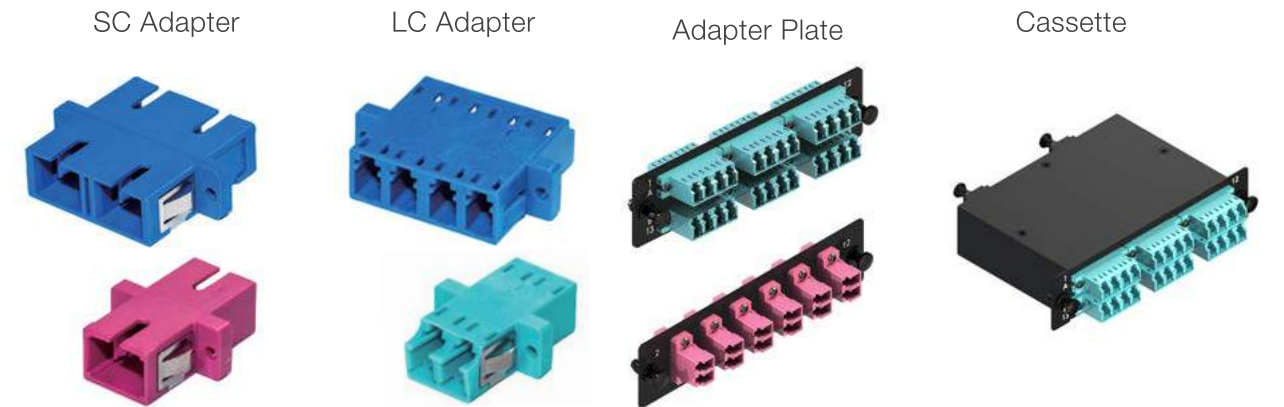
✓ Snap-in support bar design
for cable management

✓ Changeable front plate

✓ Optional front cable
management

- (A) 24pcs x SC Duplex / LC Quad Adapter
- (B) 24pcs x SC Simplex / LC Duplex Adapter
- (C) LGX Adapter Plates or Cassettes

Related Products



SC Adapter

LC Adapter

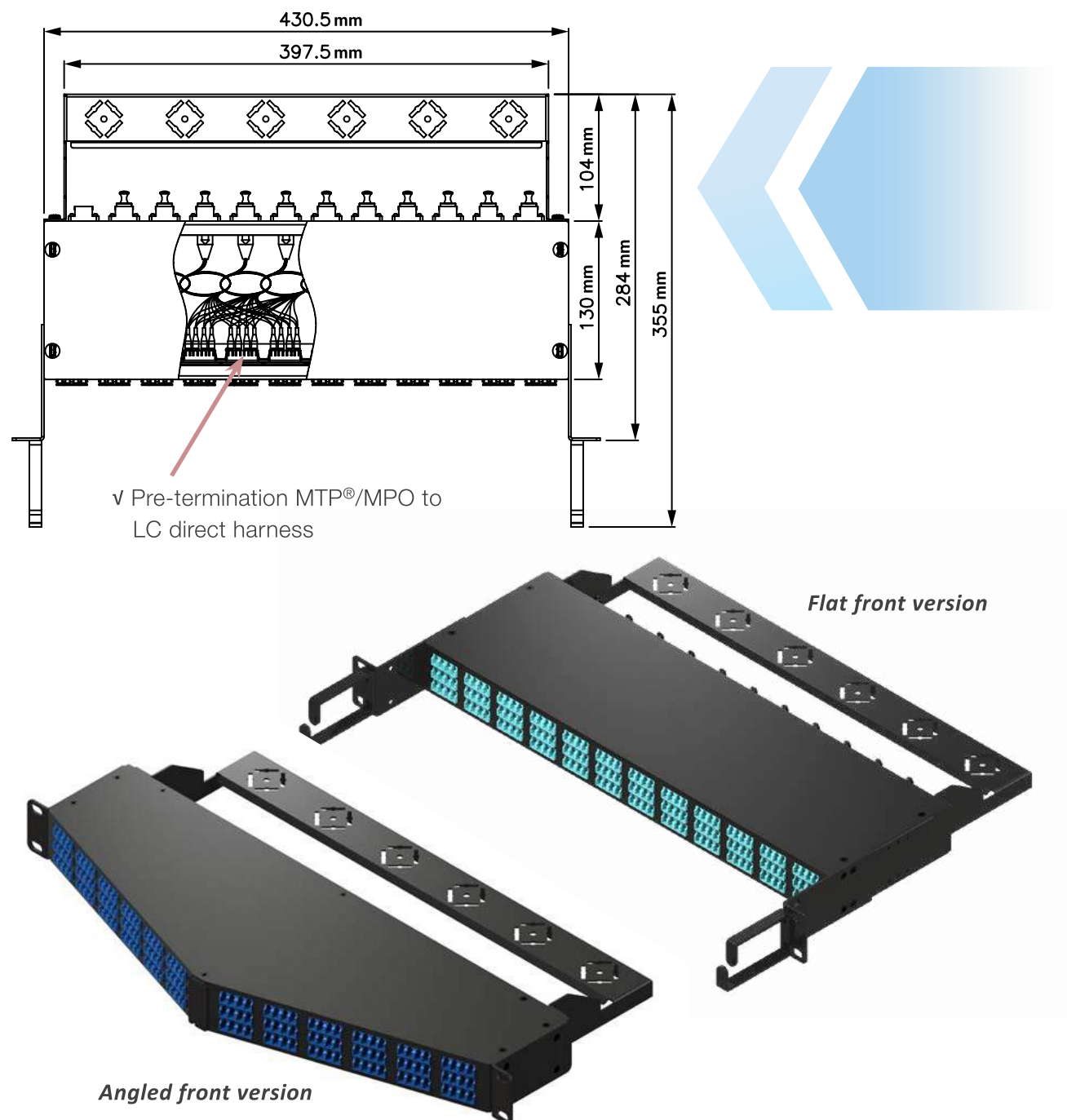
Adapter Plate

Cassette

1RU 144 Fiber MTP®/MPO to LC Patch Panel

This series provides high-quality performance and high-density MTP®/MPO to LC pre-termination solution in 1RU. The panel has 144 fiber LC connectors at the front and 12pcs x MTP®/MPO-12F male (pinned) at the rear, easy to install, and rapid deployment of the high-density data center.

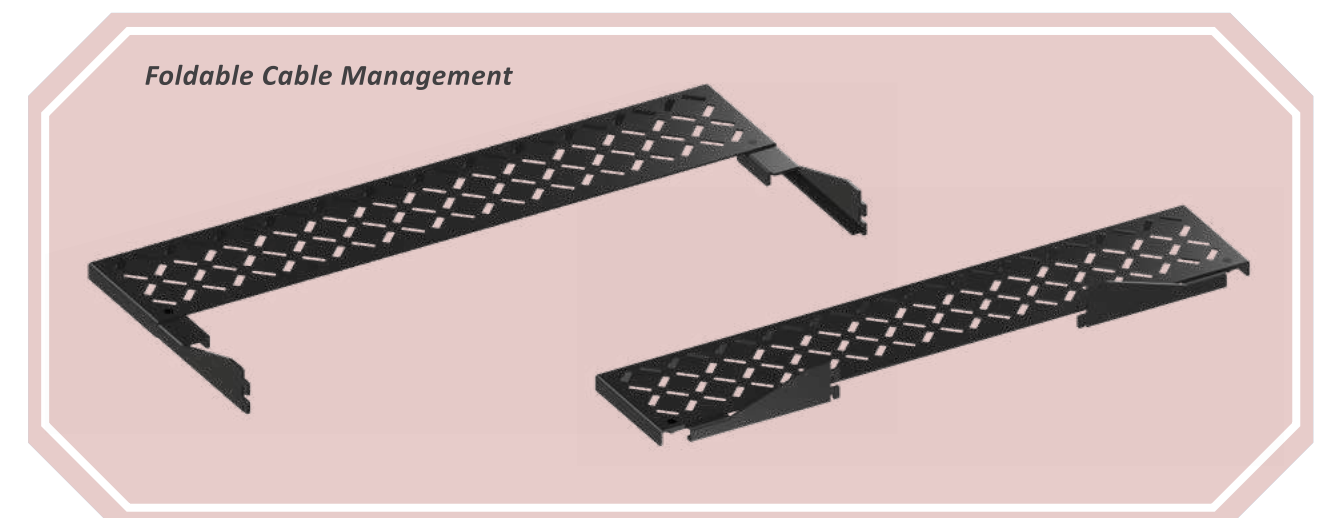
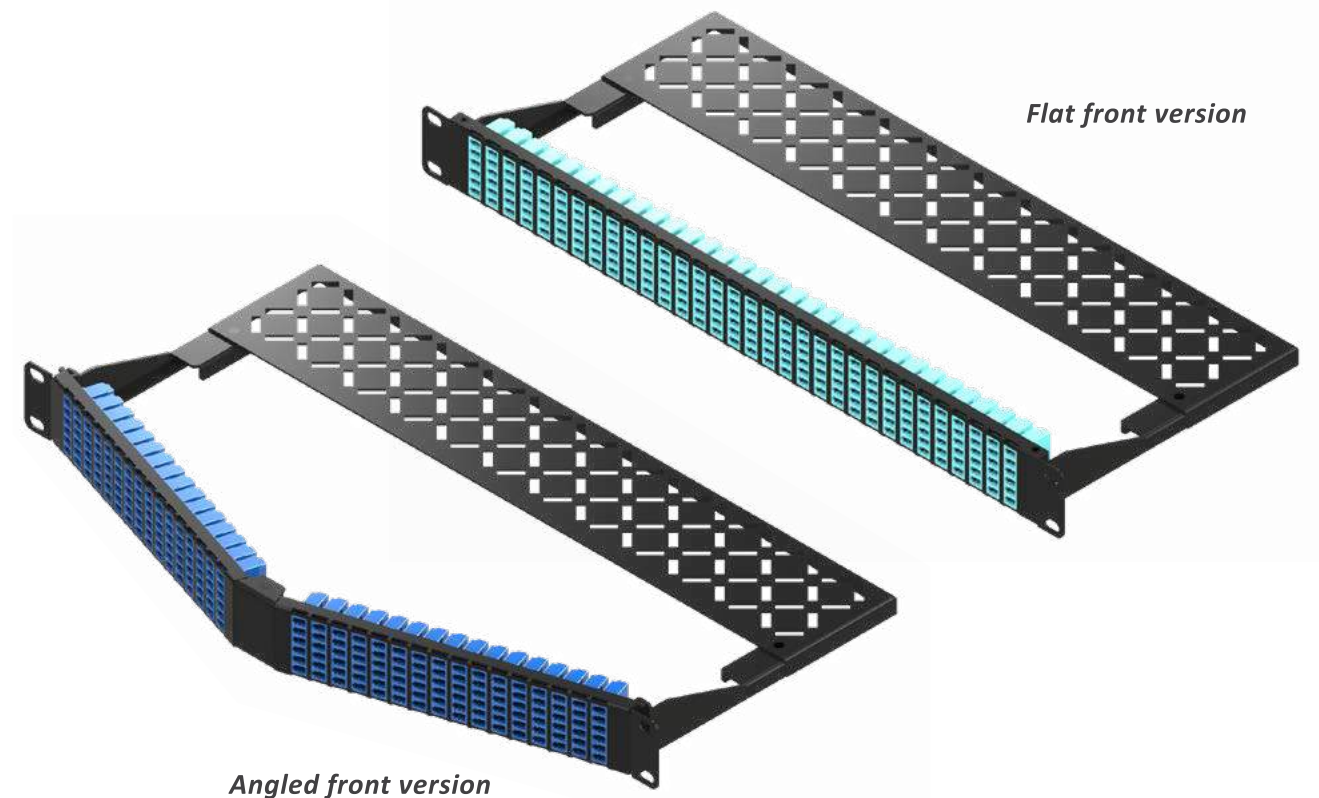
- ✓ 144 fiber LC connectors in 1RU, with flat front version and angled front version
- ✓ Angled design divert cables to two separate directions, makes cable management more efficient
- ✓ Rear cable management can easily hold cables
- ✓ “Plug and Play” solution eliminates in-filed termination, reduces installation cost and time
- ✓ Options with multimode OM3, OM4, OM5 bend-insensitive fiber and single-mode OS2 G.657.A fiber
- ✓ 100% Factory terminated and tested to ensure superior performance and quality



1RU 192 Fiber LC Patch Panel

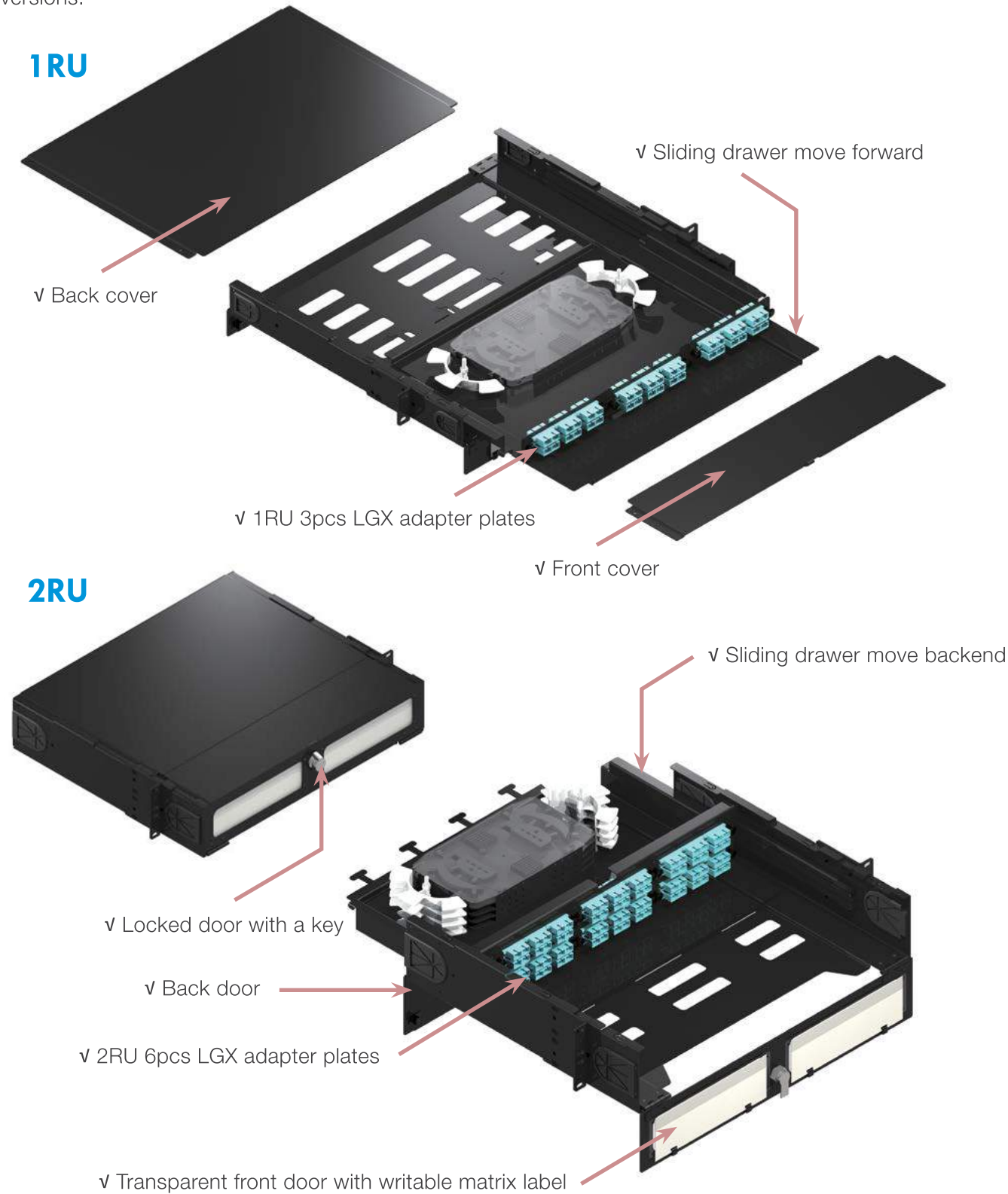
This series provides 192 fiber high-density LC pass-through solution in 1RU. The individual 6-port LC adapter is easy to mate and disconnect the patch cords.

- ✓ LC 6-port adapter design for 1RU up to 192 fiber LC connectors
- ✓ Both of flat and angled front plates are available
- ✓ Angled design reroutes cables into two separate directions and minimizes LC jumper band radius to rack for efficient cable management
- ✓ Removable and foldable cable management saves transportation costs and inventory space
- ✓ LC 6-port adapter with ceramic sleeve, IL < 0.2dB
- ✓ LC 6-port adapter available in green, blue, aqua, erika-violet and lime green colors



Bi-Direction Sliding Fiber Enclosure

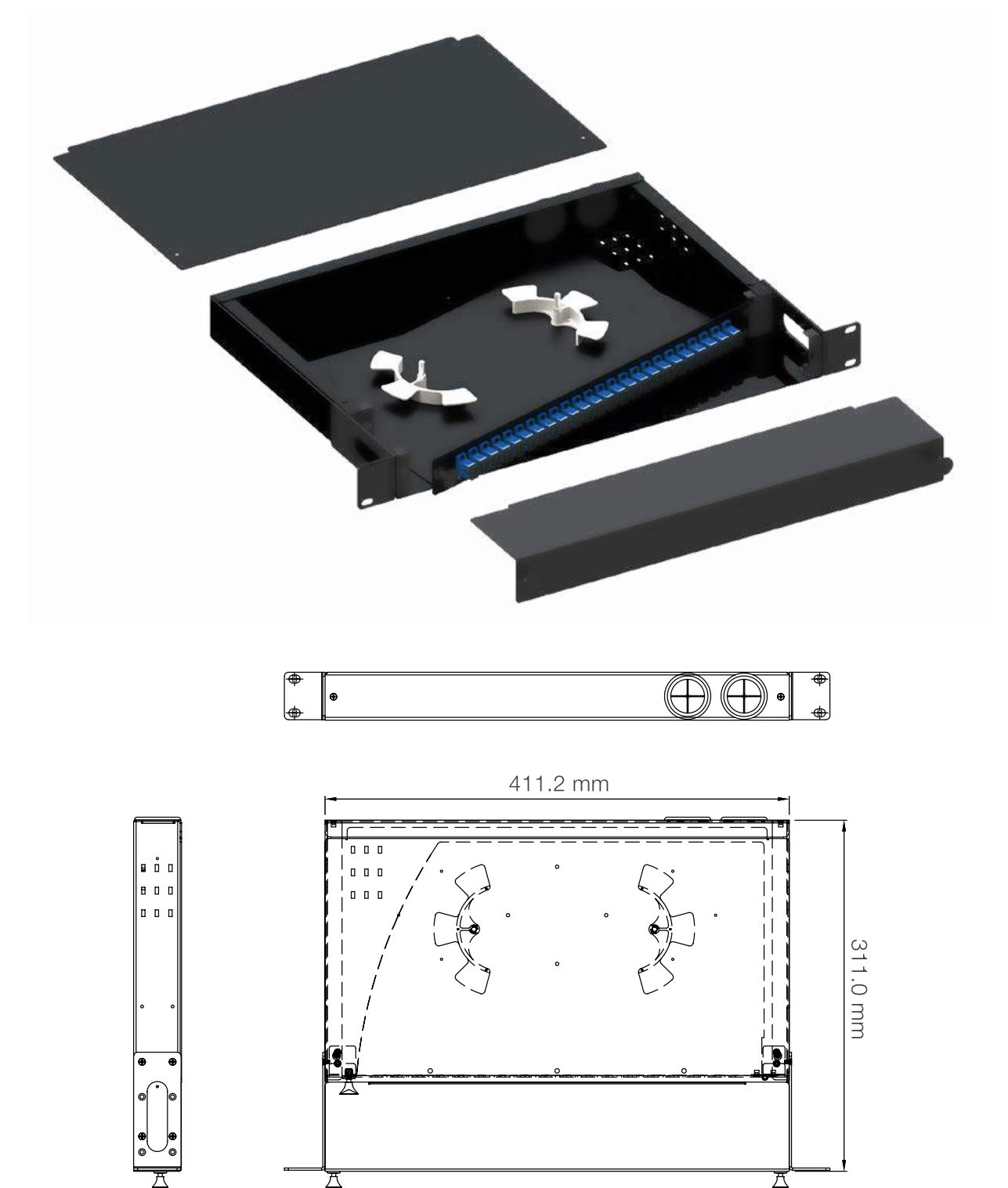
The Bi-Direction sliding fiber enclosure is equipped with a bidirectional sliding drawer, which can access optical fibers in the front and rear. After termination, it can be closed with a hinged front door and back cover to keep it away from dust and prevent disconnection due to accidental touch. The structure is compact and secured with a key. The panel is compatible with LGX fiber adapter plates, cassettes and RJ45 keystone jack plates. This fiber enclosure shall be available in 1RU and 2RU versions.



Swing-out Fiber Patch Panel

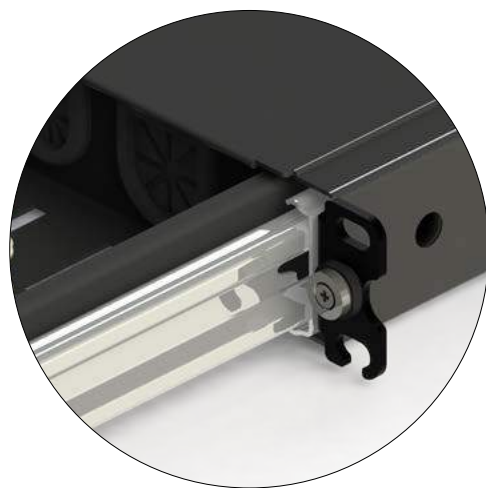
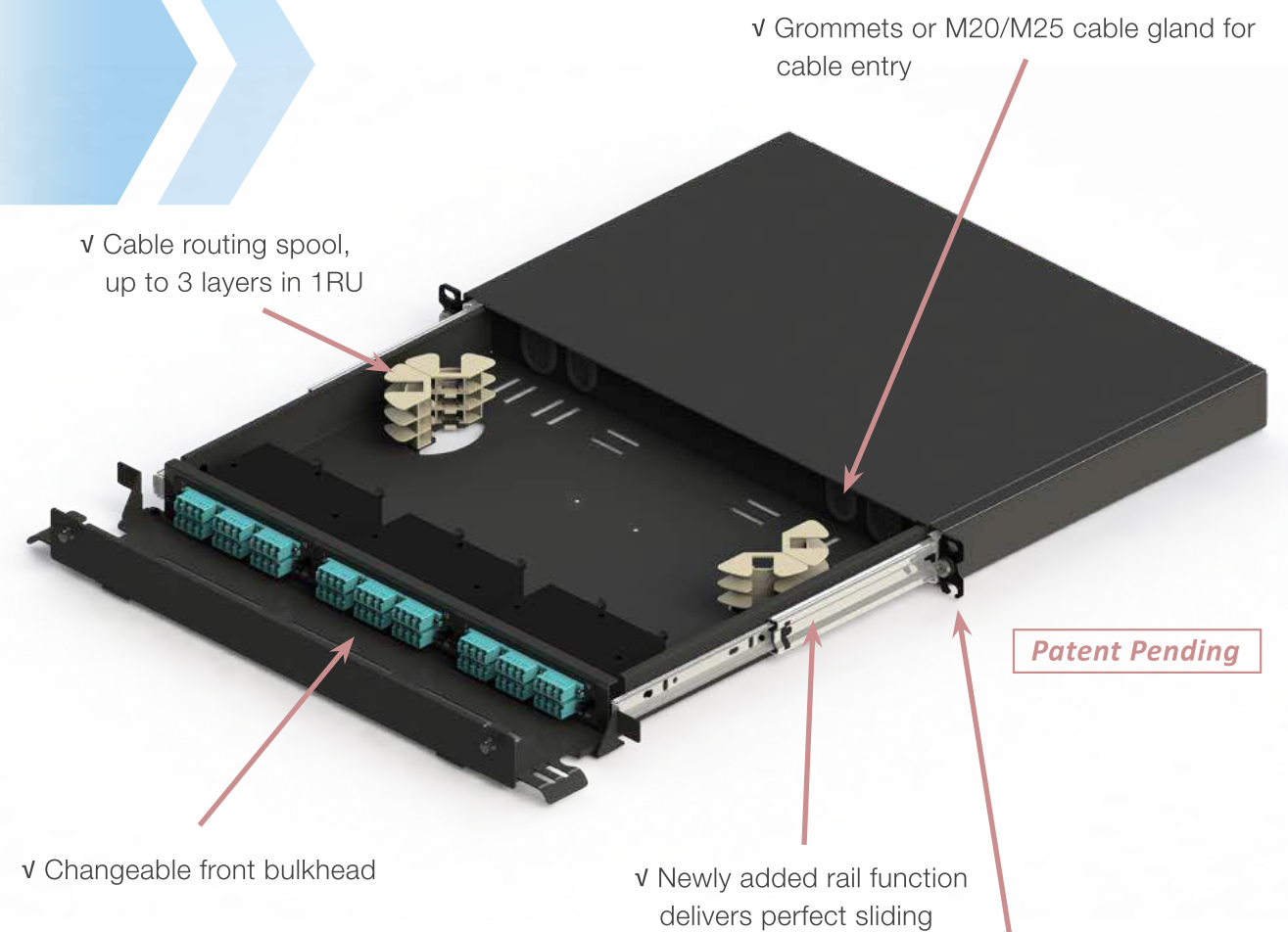
The Swing-Out Patch panel is constructed of durable cold-rolled sheets and complies with the 19-inch standard. Once installed, the swing-out drawer provides easy front access to the terminations and rework without disturbing existing cables or fibers. The panel accommodates 24 LC duplex or SC simplex adapters and up to 48 optic fibers.

It is available as a field-terminated patch panel with adapters and splice trays fully loaded. It can also be equipped with pre-terminated fiber cables according to customer specifications.



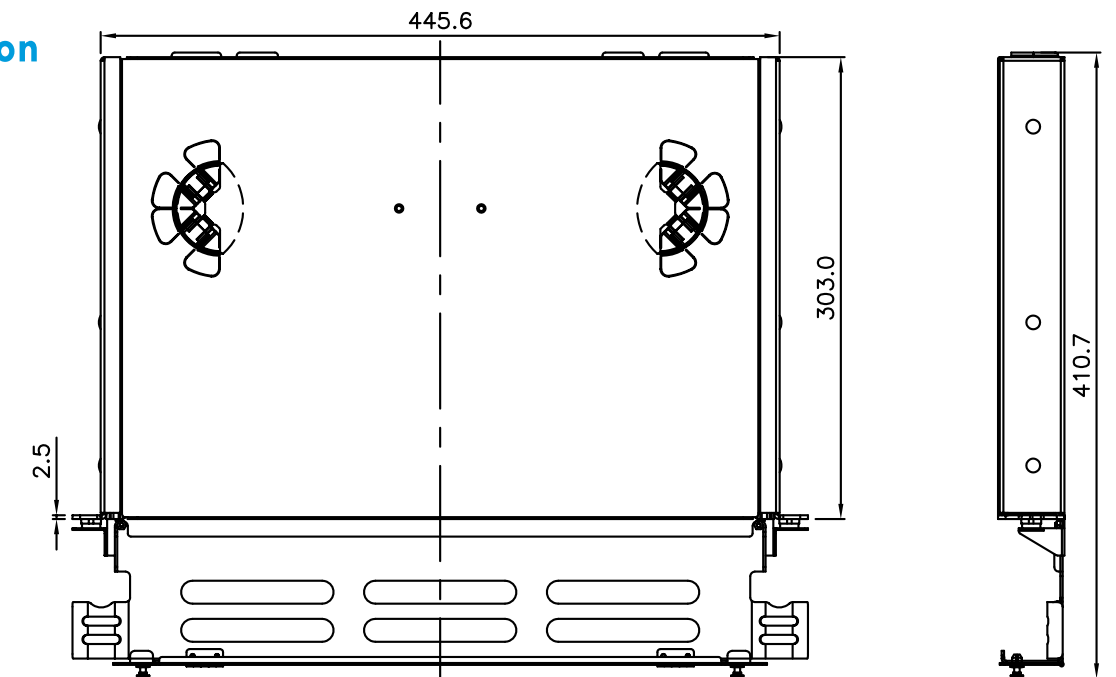
Sliding Fiber Panel with Rail

Jyh Eng's existing Multi-Function 10D fiber patch panel is now more user-friendly with rail function. The purpose of the rail system is to enhance the versatility, robustness and easy sliding for fiber installation of the original 10D fiber patch panel.

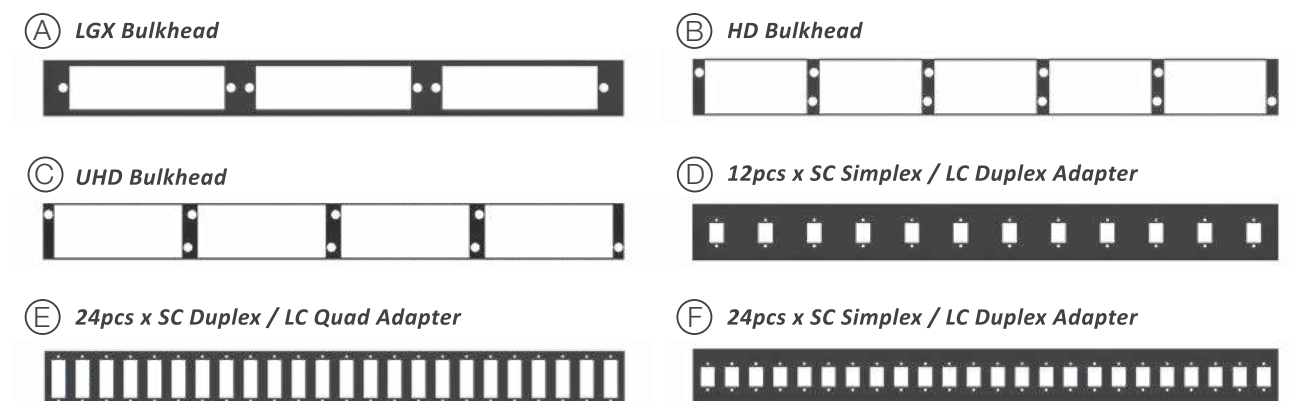


- ✓ Magnets allow firm attachment when closing the drawer
- ✓ Open screw holes offer easily pre-sit against the rack

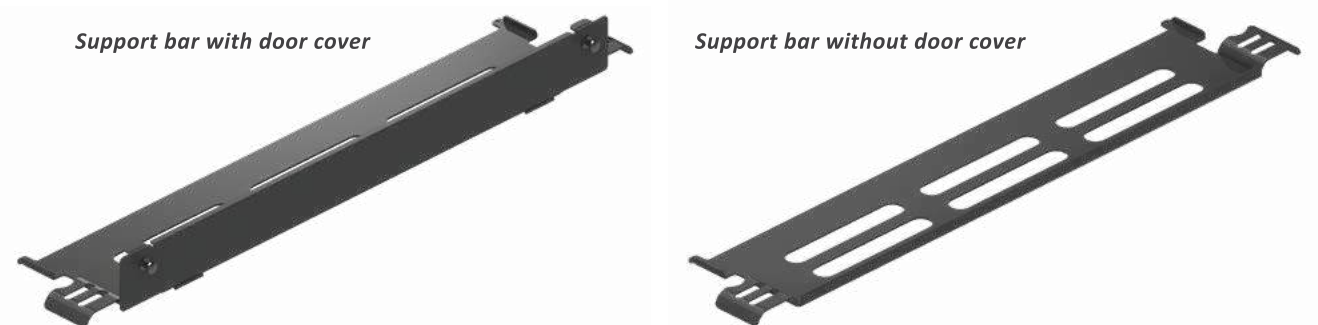
Dimension



Changeable Front Bulkhead



Support Bar



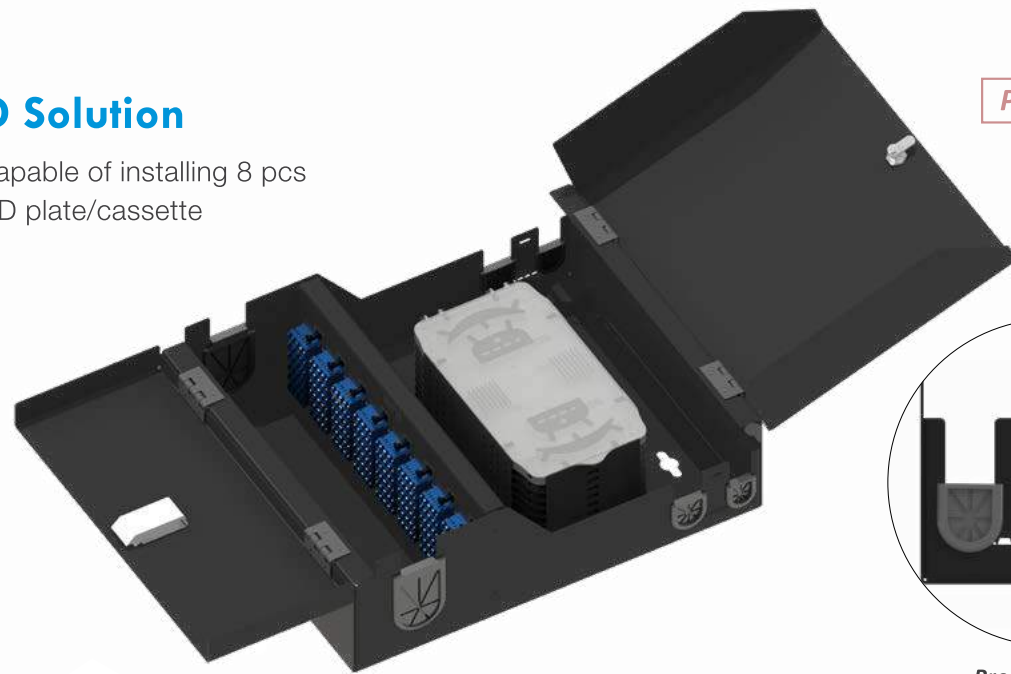
Wall Mounted Box

This wall-mounted box is designed for indoor installation, management and termination of optical fiber cables. It is made of durable metal housing and has a door locked with a key. Up to six LGX plates/cassettes or eight HD plates/cassettes can be installed.

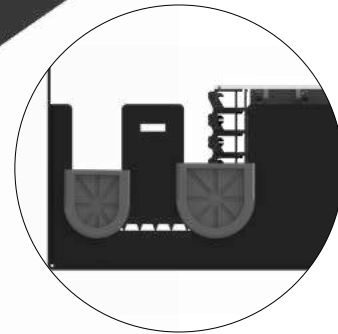
- ✓ Removable pins for mounting cable routing spools or splice trays
- ✓ Splice tray protects spliced fibers and stores extra pigtails, up to 8 layers
- ✓ Pre-cut design enables additional space expansion, to fit copper cables if needed
- ✓ Cable routing spool, easy to install and manage cables, up to 4 layers
- ✓ Cable entry fits M20/M25 cable glands
- ✓ Locked door with a key

HD Solution

- ✓ Capable of installing 8 pcs HD plate/cassette



Patent Pending

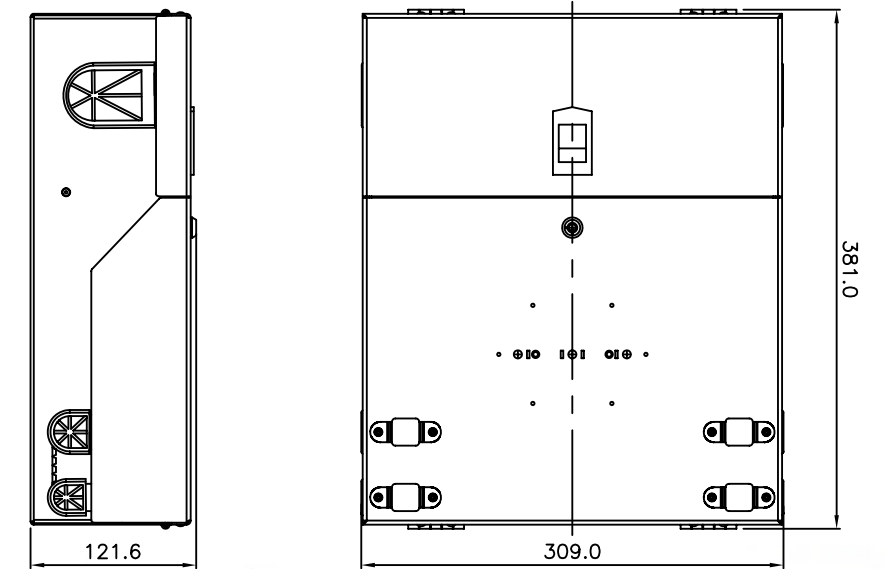


Pre-cut design



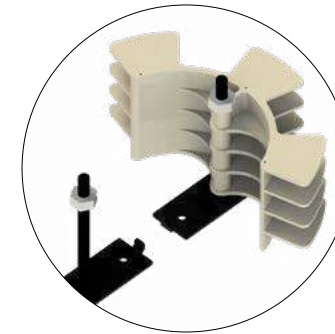
* Please refer to page 58 to reach more info.

Dimension

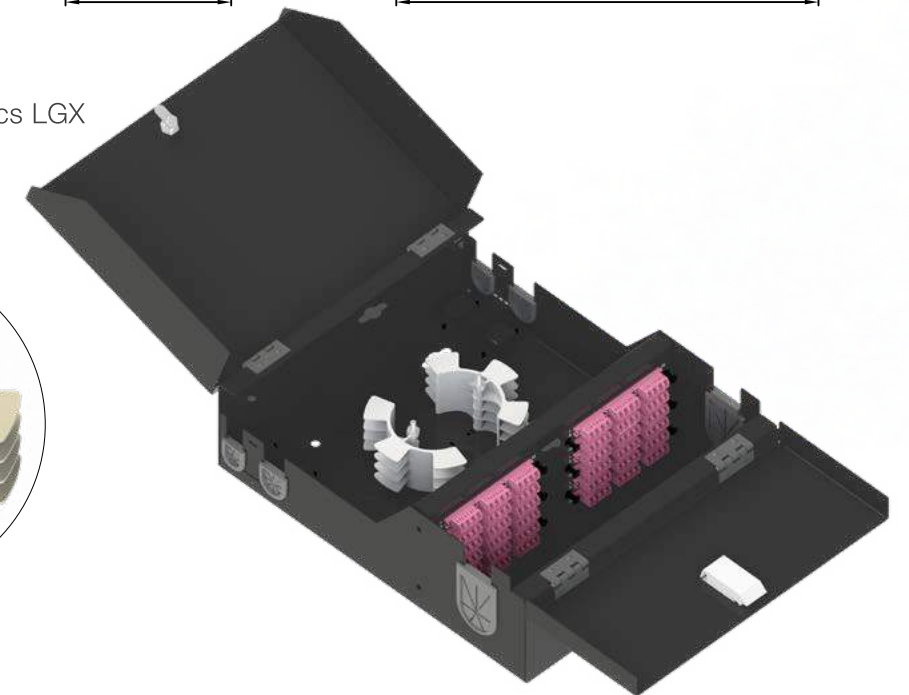


LGX Solution

- ✓ Capable of installing 6 pcs LGX plate/cassette



Removable pins



* Please refer to page 54 to reach more info.

Antimicrobial Series

ISO 22196

Jyh Eng Antimicrobial Series is certified by ISO 22196:2011, which uses a specialized antibacterial additive that protects against the growth and spread of bacteria on plastic surfaces. This antibacterial additive is combined with raw materials, such as PVC, ABS, LSZH, Zn, Au, Ni, PC, etc., so that its antimicrobial properties last for the product's entire life without reapplying or maintenance while being utterly harmless to humans and animals.

Antimicrobial Series is intended for use in applications where bacterial contamination is a concern, such as medical equipment, food processing facilities, public spaces, and other settings where hygiene is critical.

Jyh Eng's Antimicrobial Series includes the following products:

- ✓ Fiber: Adapters, Cables
- ✓ Copper: RJ45 snap-in coupler, Faceplates, Cables



ISO 846

ISO 22196 and ISO 846 are international standards related to plastics but differ in their focus and scope. ISO 22196 focuses specifically on the antibacterial activity of plastic surfaces. ISO 846 covers the deterioration of plastic materials by fungi and mildew.

ISO 846 is intended for use in applications where fungi or mildew growth can be problematic, such as in construction materials or other outdoor applications. Some types of fungi and mildew can cause cable materials' degradation, leading to premature failure. Using antimicrobial cables can help prevent this degradation and extend the life of the cables.

Jyh Eng provides 900um LSZH optic fiber cables complying with ISO 846 specifications, suitable for LC/SC/ST/FC pigtails. This cable also complies with IEC 60811-501 for UV resistance when used in environments exposed to light.

- ✓ For example, non-bacterial material showed visible but unusual fungal growth covering 25-50% of the sample surface by the end of the test.

