EDGE[™] Solutions for Enterprise Data Centers and Storage Area Networks

Corning EDGE[™] solutions create a fiber optic tip-to-tip solution for data centers and storage area networks (SANs) consisting of housings, modules, panels, trunks, harnesses, and jumpers.

CORNING



Awards

The DCS awards are designed to reward the product designers, manufacturers, suppliers, and providers operating in data center area and recognize the achievements of the vendors and their business partners. The winners were selected by public vote from the installation, distribution, consultant, and end user communities from around the world.



EDGE[™] Solutions Introduction

Data center operators have an exhaustive list of desirable parameters they employ to ensure the smooth and efficient operation of their facilities, and here at Corning, we strive to exceed their expectations. We interviewed over 3,000 operators and the outcome remained the same – the infrastructure must be reliable, high-quality, flexible, manageable, scalable, and visible to support a 24/7 year-round operation without question.

Corning award-winning EDGE[™] solutions are high-density preterminated optical cabling solutions that simplify installation and improve performance in the data center environment. EDGE solutions provide increased system density when compared to traditional preterminated systems and offer the highest port density in the market. Corning[®] ClearCurve[®] bend-optimized optical fiber is the core element ensuring reliability when designing custom-engineered components thanks to its significant reduction in macrobend loss even in the most challenging bend scenarios. This technology enables Corning to provide significantly greater density across the range combined with simple design and integration for LAN and SAN areas within the data center, while the preterminated components allow for reduced installation time and faster moves, adds, and changes (MACs).

Corning factory-terminated solutions provide improved system performance, ensure component compatibility, and yield consistent high quality. EDGE solutions consist of an extensive range of housings, trunks, modules, adapter panels, harnesses, jumpers, and accessories for extended flexibility.

The universally wired modular system components provide simplistic management for quick-and-easy networking MACs with none of the polarity concerns associated with special polarity-compensating components.

Deployment of a scalable optical connectivity solution allows an infrastructure to meet the requirements for current and future data rates. Scalability enables not only the physical expansion of the data center with respect to additional servers, switches, or storage devices, but also flexibility to the infrastructure to support a migration path for increasing data rates. As technology evolves and standards are completed to define data rates such as 40/100G Ethernet, Fibre Channel (32G and beyond), and InfiniBand (40G and beyond), the cabling infrastructures installed today must provide scalability to accommodate the need for more bandwidth in support of future applications.

Finally, infrastructure performance management is a method of monitoring traffic being transmitted and received along a link in a network providing real-time visibility. This can be done actively via electronic devices that replicate (also called mirroring or spanning) the link's data and sends it to the monitoring device, or it can be done using passive optical taps, or port taps, that simply transmit all of the data, sending it simultaneously to both its intended recipient and to the monitoring device. The monitoring device filters the data and sends it to various software tools for analytics, where it is then sent on to application-layer software for use by network administrators. Please refer to the tap module section for further information.

All EDGE Solutions products, with the exception of TAP Modules and 24F MTP single-mode assemblies are manufactured with Corning[®] CleanAdvantage[™] technology, a new cleaning process implemented at the factory that uses residue-free cleaning fluids. Corning's proprietary nozzle design enables a focused and directed spray to the end face, virtually cleaning the entire ferrule. All CleanAdvantage products are also shipped with optimized caps engineered to maintain the end face cleanliness until the first mating connection. CleanAdvantage eliminates the need for scoping and cleaning prior to the initial field connection, reducing installation time and cost.

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Features and Benefits

Removeable covers on the 1U and 2U Housings Provide easier access to modules and panels

EDGE[™] reverse polarity uniboot jumpers Enables quick-and-easy polarity management

New mounting system and improved mounting brackets Allows for one-person installation and depth adjustment in the rack

Bracket option for 23-in racks Offers the ultimate design flexibility

Snap-in strain-relief clips

Provides easier cable management

MTP[®] PRO connectors on harnesses and jumpers Allows for pinning and polarity changes in the field

MTP assemblies with reduced footprint and cable outside diameter

Reduces congestion in high-connectivity environment

Corning[®] ClearCurve[®] fiber creates smaller form-factor components for more rugged cabling Reduces congestion within and between racks for improved

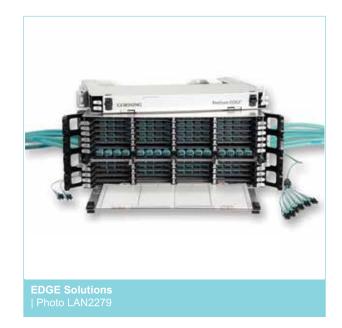
airflow and less risk of downtime due to pinched or bent cables

Corning[®] CleanAdvantage[™] technology and optimized caps

Eliminates the need for scoping and cleaning prior to initial field connection

EDGE Solutions

EDGE solutions are high-density preterminated optical cabling solutions offering industry-leading connector density. With unprecedented finger access, there is no need for additional tools enabling faster moves, adds, and changes (MACs).



Specifications

	Insertion Loss, Max. OM3/OM4/OM5	OS2
LC Connector	0.15 dB	0.25 dB
MTP Connector	0.35 dB	0.75 dB

MTP to LC Modules – Low Loss					
	Insertion Loss, Max. OM3/OM4/OM5	OS2			
Component Value	0.5 dB	1.0 dB			

Connected Mated Pair – Ultra-Low-Loss

	Insertion Loss, Max. OM3/OM4/OM5	OS2
LC Connector	0.10 dB	0.25 dB
MTP [®] Connector	0.25 dB	0.35 dB

*All MTP connectors on trunks are manufactured to meet ultra-low-loss values

MTP to LC Modules/MTP to LC Harnesses – Ultra-Low-Loss					
Insertion Loss, Max. OM3/OM4/OM5 OS2					
Component Value	0.35 dB	0.6 dB			

Conversion Module/Conversion Harness

	Insertion Loss, Max. OM4
Component Value	0.05 dB

EDGE[™] HD Housing

EDGE[™] HD housings are mountable in 19-in racks or cabinets and provide industry-leading high-density connectivity when combined with EDGE modules, panels, harnesses, trunks, and jumpers.

Sliding drawers

Allow unprecedented finger access, easier jumper/ harness routing, and port identification

Quick mounting system

Enables one-person installation and depth adjustment of the housing in the rack

Integrated strain-relief plate can rotate 90-degrees Makes it possible to install both EDGE solutions or

Plug & Play[™] system cable designs in your EDGE housings

Removable top covers on the 1U and 2U housings Provides easier access to modules and panels

Total flexibility in the same HD housing

- Accepts EDGE universal modules
- Accepts EDGE conversion modules
- Accepts EDGE Tap modules
- Accepts EDGE 2x, 4x, and 6x MTP[®] adapter
- Accepts EDGE 6x LC duplex adapter panels

High-port concentration with LC duplex and MTP Base-12 system

- 1U EDGE Housing EDGE-01U 48x LC duplex ports (96 fiber) 48x MTP ports (576 fiber)
- 1U EDGE Housing EDGE-01U-SP 72x LC duplex ports (144 fiber) 72x MTP ports (864 fiber)
- 2U EDGE Housing EDGE-02U 144x LC duplex ports (288 fiber) 144x MTP ports (1728 fiber)
- 4U EDGE Housing EDGE-04U 288x LC duplex ports (576 fiber) 288x MTP ports (3456 fiber)





EDGE-01U | Photo LAN1693





EDGE-02U | Photo LAN6656

E**DGE-04U** Photo LAN6680

Part Number	Height	Dimensions (W x D x H)	Packaging Dimensions (W x D x H)	Shipping	Number of Panels per Housing
EDGE-01U	1U	432mm x 561mm x 44 mm	565 mm x 657 mm x 171 mm	9.3 kg (20.4 lb)	8
EDGE-01U-SP	1U	432mm x 561mm x 44 mm	565 mm x 646 mm x 171 mm	8.2 kg (18 lb)	12
EDGE-02U	2U	432 mm x 561 mm x 88 mm	565 mm x 660 mm x 216 mm	10.9 kg (24 lb)	24
EDGE-04U	4U	432 mm x 561 mm x 177 mm	565 mm x 660 mm x 305 mm	16.8 kg (37 lb)	48

Notes:

1) When rear strain-relief plate is removed from part number EDGE-01U-SP, product depth reduces to 14.9 in.

2) EDGE-01U has sliding inner assembly. EDGE-01U-SP does not have sliding inner assembly.

EDGE[™] FX Housing

EDGE[™] FX housings are available in 1U, 2U, and 4U sizes that mount into 19-in racks or cabinets as well as two other housings that can mount in the floor. Combine these housings with the EDGE modules, panels, trunks, harnesses, and jumpers to experience an industry-leading solution. The reduced depth of the rack-mount housings allow for the back-to-back installation in 4-post racks or cabinets as well as third-party floor boxes.



EDGE-01U-EMOD



Photo LAN265





EDGE-04U-FP | Photo REN1575



EDGE-SMH | Photo LAN2681



Part Number	Height Unit	Dimensions (W x D x H)	Packaging Dimensions (W x D x H)	Shipping Weight	Number of Panels per Housing
EDGE-01U-EMOD	1U	432 mm x 107 mm x 44.5 mm (17 in x 4.2 in x 1.75 in)	534 mm x 201 mm x 138 mm (21 in x 7.9 in x 5.4 in)	1.14 kg (2.5 lb)	8
EDGE-01U-EMOD-SP	1U	432 mm x 107 mm x 44.5 mm (17 in x 4.2 in x 1.75 in)	534 mm x 201 mm x 138 mm (21 in x 7.9 in x 5.4 in)	1.22 kg (2.7 lb)	12
EDGE-01U-FP	1U	488 mm x 439 mm x 43 mm (19.2 in x 17.3 in x 1.7 in)	584 mm x 470 mm x 152 mm (22.9 in x 18.5 in x 5.9 in)	4.4 kg (9.6 lb)	8
EDGE-02U-FP	2U	432 mm x 434 mm x 89 mm (17 in x 17.1 in x 3.5 in)	569 mm x 346 mm x 229 mm (22.4 in x 13.6 in x 9 in)	6.4 kg (14 lb)	16
EDGE-04U-FP	4U	432 mm x 434 mm x 178 mm (17 in x 17.1 in x 3.5 in)	567 mm x 346 mm x 320 mm (22.4 in x 13.6 in x 7.25 in)	9.6 kg (21 lb)	32
EDGE-FZB-04U	-	527 mm x 527 mm x 241 mm (20.75 x 20.75 in x 9.5 in)	656 mm x 643 mm x 356 mm (25.8 in x 25.3 in x 14 in)	17.8 kg (39 lb)	32
EDGE-SMH	-	152 mm x 102 mm x 25 mm (6 in x 4 in x 1 in)	229 mm x 184 mm x 57 mm (9 in x 7.25 in x 2.25 in)	1 kg (3 lb)	1

EDGE[™] Trunks

EDGE[™] MTP[®] trunks are preterminated cables with MTP connectors. Available in MTP to MTP or MTP to LC configurations, these trunks provide the backbone of the passive network infrastructure and enable rapid deployment for your campus LAN or data center facility.

All trunks are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with strain-relief clips, allowing for easy and quick tool-less installation in both EDGE solutions and Plug & Play[™] systems housings.



Features and Benefits

Snap-in strain-relief clips Provide easier cable management

Small outer diameter Improves cable tray fill ratio and allows for improved airflow

Low-loss connectivity Enables system design flexibility

Bend-improved fiber Allows tighter cable bends for slack storage and routing, less risk of downtime due to pinched or bent cables

Corning CleanAdvantage technology

and optimized dust cap

Eliminates the need for scoping and cleaning prior to initial field connection



EDGE MTP to MTP Trunk | Photo REN4958 and REN4957



Trunk Specifications

Approval and Listings	NFPA 262, National Electrical Code® (NEC®), OFNP, CSA FT-6
	EIA/TIA 568.3-D – includes low/high temperature soak of -10/60°C, humidity testing at 90-95 percent at 40°C, connector durability (500 matings) and connector pull testing
Trunk Performance	Trunks can be pulled up to 100 lbs using the grip

Mechanical Characteristics

weci	ianical characte						
Fiber Count	Nominal Outer Diameter	Pulling Grip Outer Diameter	Strain-Relief Bracket Size	Minimum Conduit Size with 18-in Elbow	Weight	Min. Bend Radius Installation 15 x OD	Min. Bend Radius Operation 5 x OD
Non-A	rmored Trunk Specifie	cations					
12	5.5 mm ± 0.3 (0.22 in)	41 mm (1.6 in)	1	2.5 in	32 kg/km (22 lb/1,000 ft)	82.5 mm (3.25 in)	27.5 mm (1.08 in)
24	7.7 mm ± 0.3 mm (0.30 in)	41 mm (1.6 in)	1	2.5 in	50 kg/km (34 lb/1,000 ft)	115.5 mm (4.55 in)	38.5 mm (1.52 in)
36	8.0 mm ± 0.3 mm (0.31 in)	41 mm (1.6 in)	1	2.5 in	56 kg/km (38 lb/1,000 ft)	120 mm (4.72 in)	40 mm (1.57 in)
48	8.5 mm ± 0.3 mm (0.33 in)	56 mm (2.2 in)	2	3.0 in	63 kg/km (42 lb/1,000 ft)	127.5 mm (5.02 in)	42.5 mm (1.67 in)
72	10.5 mm ± 0.3 mm (0.41 in)	56 mm (2.2 in)	2	3.0 in	93 kg/km (62 lb/1,000 ft)	157.5 mm (6.2 in)	52.5 mm (2.07 in)
96	11.9 mm ± 0.3 mm (0.47 in)	56 mm (2.2 in)	2	3.0 in	111 kg/km (75 lb/1,000 ft)	178.5 mm (7.03 in)	59.5 mm (2.34 in)
144	12.5 mm ± 0.3 mm (0.49 in)	56 mm (2.2 in)	2	3.0 in	130 kg/km (87 lb/1,000 ft)	187.5 mm (7.38 in)	62.5 mm (2.46 in)
192	13.5 mm ± 0.8 mm (0.53 in)	38.1 mm (1.5 in)	Heat-shrink	2.0 in	182 kg/km (122 lb/1,000 ft)	202.5 mm (7.97 in)	67.5 mm (2.66 in)
216	14.0 mm ± 0.8 mm (0.55 in)	38.1 mm (1.5 in)	Heat-shrink	2.0 in	195 kg/km (131 lb/1,000 ft)	210 mm (8.27 in)	70 mm (2.76 in)
288	16.0 mm ± 0.8 mm (0.63 in)	38.1 mm (1.5 in)	Heat-shrink	2.0 in	238 kg/km (160 lb/1,000 ft)	240 mm (9.45 in)	80 mm (3.15 in)
432	22.9 mm ± 0.8 mm (0.90 in)	48.3 mm (1.9 in)	Heat-shrink	2.5 in	400 kg/km (269 lb/1,000 ft)	343.5 mm (13.52 in)	114.5 mm (4.51 in)
576	24.5 mm ± 0.8 mm (0.96 in)	48.3 mm (1.9 in)	Heat-shrink	2 5 in	472 kg/km (317 lb/1,000 ft)	367.5 mm (14.47 in)	122.5 mm (4.82in)

Trunk Specifications (continued)

Mech	Mechanical Characteristics							
Fiber Count	Nominal Outer Diameter	Pulling Grip Outer Diameter	Strain-Relief Bracket Size	Minimum Conduit Size with 18-in Elbow	Weight	Min. Bend Radius Installation 15 x OD	Min. Bend Radius Operation 5 x OD	
Armore	ed Trunk Specification	าร						
12	11.3 mm (0.45 in)	51 mm (2.0 in)	Single	3.0 in	109 kg/km (73 lb/1,000 ft)	169.5 mm (6.67 in)	56.5 mm (2.22 in)	
24	13.7 mm (0.54 in)	51 mm (2.0 in)	Single	3.0 in	145 kg/km (97 lb/1,000 ft)	205.5 mm (8.09 in)	68.5 mm (2.70 in)	
36	13.7 mm (0.54 in)	51 mm (2.0 in)	Single	3.0 in	151 kg/km (102 lb/1,000 ft)	205.5 mm (8.09 in)	68.5 mm (2.70 in)	
48	15.1 mm (0.59 in)	51 mm (2.0 in)	Double	3.0 in	167 kg/km (113 lb/1,000 ft)	226.5 mm (8.92 in)	75.5 mm (2.97 in)	
72	16.6 mm (0.65 in)	51 mm (2.0 in)	Double	3.0 in	207 kg/km (140 lb/1,000 ft)	249 mm (9.80 in)	83 mm (3.27 in)	
96	17.3 mm (0.68 in)	51 mm (2.0 in)	Double	3.0 in	232 kg/km (156 lb/1,000 ft)	259.5 mm (10.22 in)	86 mm (3.41 in)	
144	18.8 mm (0.74 in)	51 mm (2.0 in)	Double	3.0 in	260 kg/km (175 lb/1,000 ft)	282 mm (11.10 in)	94 mm (3.70 in)	

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Transmission Performance

Fiber Type*	Multimode	Multimode	Multimode	Single-Mode
Fiber Core Diameter (µm) [†]	50	50	50	8.2
Fiber Category [‡]	OM3	OM4	OM5	OS2
Fiber Code	Т	Q	V	G
Wavelengths (nm)	850/1300	850/1300	850/953/1300	1310/1383/1550
Maximum Attenuation (dB/km)	2.8/1.0	2.8/1.0	2.8/1.0	0.4/0.4/0.3
Min. Overfilled Launch (OFL) Bandwidth MHz•km	1500/500	3500/500	3500/1850/500	-
Minimum Effective Modal Bandwidth (EMB) MHz•km	2000/-	4700/-	4700/2470/-	-
Serial 1 Gigabit Ethernet (m)	1000/600	1100/600	1100/600/-	5000/-/-
Serial 10 Gigabit Ethernet (m)	300/-	550/-	550/–/–	10000//40000
Induced Attenuation @ 7.5 mm Radius dB	< 0.2 (2 turns, 850 nm)	< 0.2 (2 turns, 850 nm)	< 0.2 (2 turns, 850 nm)	-

*Single-mode (OS2) fiber is ITU-T G.652.D compliant. †50 μm multimode fiber (OM3/OM4) meets 0.75 ns optical skew when used in all Corning Plug & Play™/EDGE™ systems solutions. ‡OM3/OM4 multimode fiber minimum effective modal bandwidth assumes 1.0 dB maximum total connector/splice loss.

1) Improved attenuation and bandwidth options available. Notes:

2) Bend-insensitive single-mode fibers available on request.3) Contact a Corning Customer Care Representative for additional information.

Optical Performance Multimode

	Connector Polish	End Face	Reflectance	Max. Insertion Loss	Operation
MTP [®] Trunks	PC	Flat	≤ -20 dB	≤ 0.25 dB*	-10°C to 60°C

Optical Performance Single-Mode

	Connector Polish	End Face	Reflectance	Max. Insertion Loss	Operation
MTP Trunks	APC	Angled	≤ -65 dB	≤ 0.35 dB*	-10°C to 60°C

*Note: IL in pre-connectorized products is measured in the factory through two mated pairs.

Trunk Shipping Information

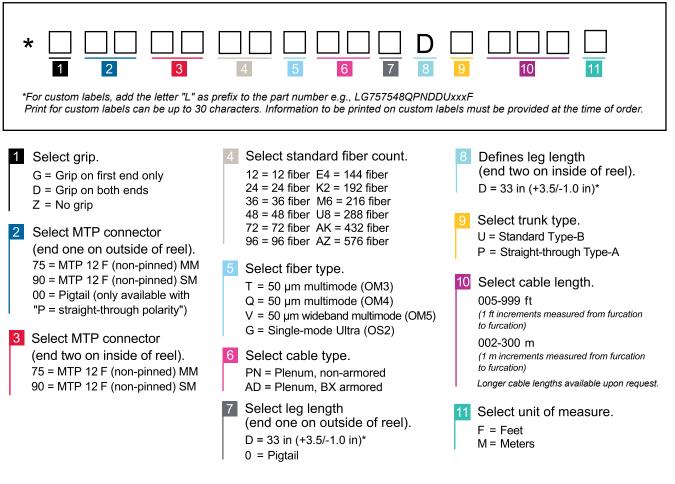
Reel Capacities – 12 to 144 Fibers (Armored)						
Packaging Method		Box H	AA (32)	AB (36)	AC (42)	Z (48)
Packaging Material		Corrugated box	Plastic reel	Plastic reel	Plastic reel	Plywood reel
Reel Diameter (in)		-	32	36	42	48
Reel Width (in)		-	20	20	20	35.5
Box Dimensions (in))	31 x 31.5 x 7	-	-	-	-
Fiber Count		Capacities (ft)				
12		10-50	51-3,227	3,228-4,957	4,958-6,100	-
24		10-50	51-2,196	2,197-3,372	3,373-4,100	-
36		10-50	51-1,496	1,497-2,380	2,381-4,100	-
48		10-50	51-1,450	1,451-2,300	2,301-4,000	-
72		10-50	51-1,250	1,251-2,297	2,298-2,850	2,851-5,600
96		10-50	51-940	940-1,530	1,531-2,580	2,581-2,900
144		10-50	51-680	680-1,240	1,241-2,200	2,201-2,500
Reel Capacitie	es – 12 to 14	4 Fibers (No	n-Armored)			
Packaging Method	Box E	Small EDGE [™]	Medium EDGE	Large EDGE	AA (32)	AB (36)
Packaging Material	Corrugated Box	Plastic Reel	Plastic Reel	Plastic Reel	Plastic Reel	Plastic Reel
Reel Diameter (in)	-	19.5	19.5	19.5	32	36
Reel Width (in)	-	5	10	16	20	20
Box Dimensions (in)	21 x 21 x 3.3	-	-	-	-	-
Fiber Count	Capacities (ft)					
12	10-75	76-1,200	1,201-2,255	2,256-3,500	3,501-5,306	5,037-10,988
24	10-75	76-600	601-1,100	1,101-1,800	1,801-2,569	2,570-5,607
36	10-75	76-550	551-1,050	1,051-1,700	1,701-2,378	2,379-5,193
48	10-75	76-450	450-999	1,000-1,500	1,501-2,109	2,110-4,599
72	10-75	76-300	301-600	601-999	1,000-1,381	1,382-3,015
96	10-75	76-250	251-500	501-800	801-1,076	1,077-2,345
144	10-75	76-200	201-400	401-700	700-974	975-2,125
Reel Capacitie	es – 192 to 5	76 Fibers (N	on-Armored)		
Packaging Method		Box H	AA (32)	AB (36)	AC (42)	Z (48)
Packaging Material		Corrugated box	Plastic reel	Plastic reel	Plastic reel	Plywood reel
Reel Diameter (in)		-	32	36	42	48
Reel Width (in)		-	20	20	20	35.5
Box Dimensions (in))	31 x 31.5 x 7	-	-	-	-
Fiber Count		Capacities (ft)				
192		10-202	203-836	837-1,824	1,825-3,271	3,272-8,800
216		10-172	173-777	778-1,696	1,697-3,041	3,042-8,200
288		10-137	138-593	594-1,299	1,300-2,394	2,395-6,200
432		10-66	67-292	293-633	634-1,246	1,247-3,000
576		10-61	61-252	253-554	555-1,089	1,090-2,685

MTP® Trunks

EDGE[™] MTP[®] trunks provide the backbone of the EDGE solution. With non-pinned MTP connectors on both ends, these trunks are designed to interface with the EDGE solutions or Plug & Play[™] systems modules. All MTP trunks are manufactured with Corning[®] CleanAdvantage[™] and shipped with strain-relief clips to allow easy tool-less installation. MTP trunk pulling grips can be pulled using up to 100 lbs of pulling tension while providing complete protection for the connectors.

EDGE MTD Truck I Photo PEM408

Ordering Information



*For fiber counts above 144 F, the legs will be staggered starting at 33 in.



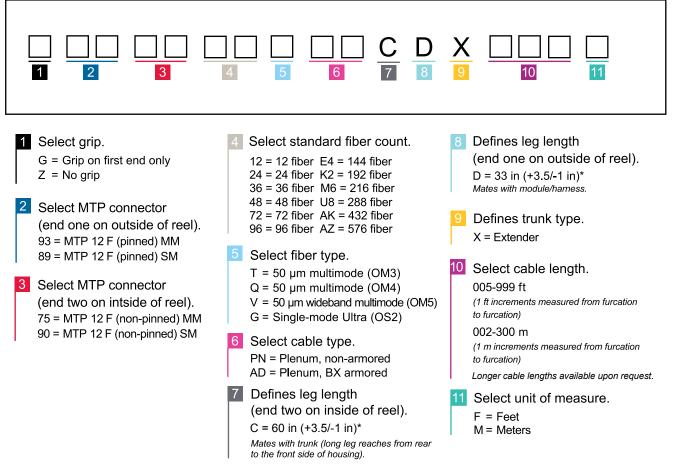
MTP[®] Extender Trunks

EDGE[™] MTP[®] extender trunks provide additional distance for the backbone of the EDGE solution. With a non-pinned MTP connector on one end, a pinned connector on the other, and a TIA-568 Type-A polarity, these trunks are designed to interface with an EDGE solutions or Plug & Play[™] systems module and an MTP trunk. All extender trunks are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with strain-relief clips to allow easy tool-less installation.

MTP extender trunks are most often used in a zone distribution area (ZDA).



Ordering Information



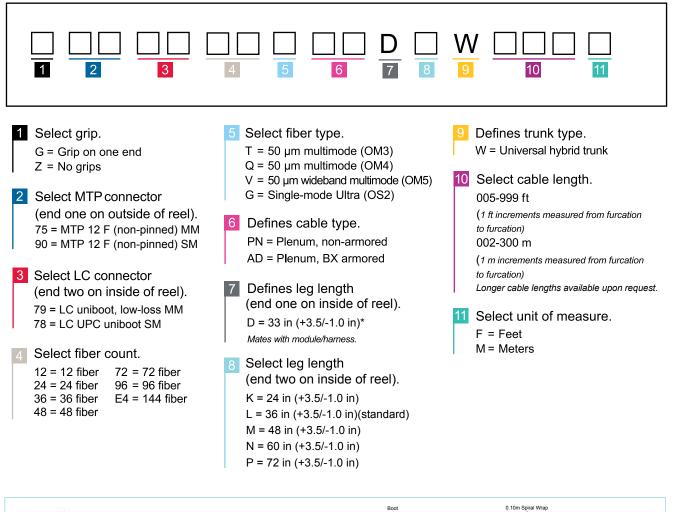
*For fiber counts above 144 F, the legs will be staggered starting at 33 in.



Hybrid MTP® to LC Uniboot Trunks

EDGE[™] MTP[®] to LC uniboot hybrid trunks combine non-pinned MTP connectors, which connect to EDGE modules, and LC uniboot connectors, which connect directly to the electronics. These trunks enable additional options for cabling of data centers. All hybrid trunks are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with strain-relief clips to allow easy tool-less installation.







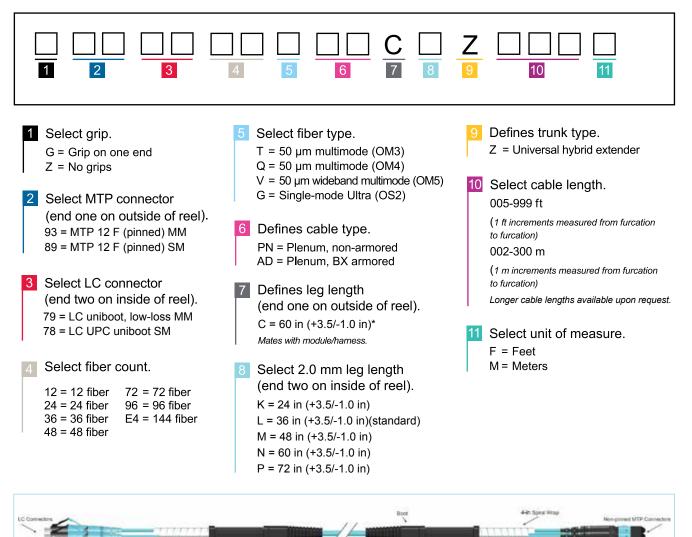
Hybrid MTP[®] to LC Uniboot Extender Trunks

EDGE[™] MTP[®] to LC uniboot hybrid extender trunks combine pinned MTP connectors, which connect to MTP trunks, and LC uniboot connectors, which connect directly to the electronics. These trunks enable additional options for cabling of data centers and are most often used in a zone distribution area (ZDA). All hybrid trunks are manufactured with Corning[®] CleanAdvantage[™] technology.



Hybrid MTP to LC Uniboot Extender Trunks | Photo REN7078

Ordering Information



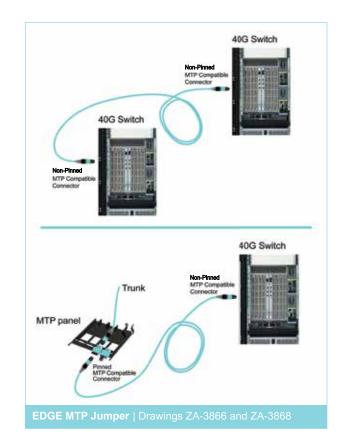
EDGE Solutions Hybrid Extender Trunk Configuration | Drawing ZA-3871

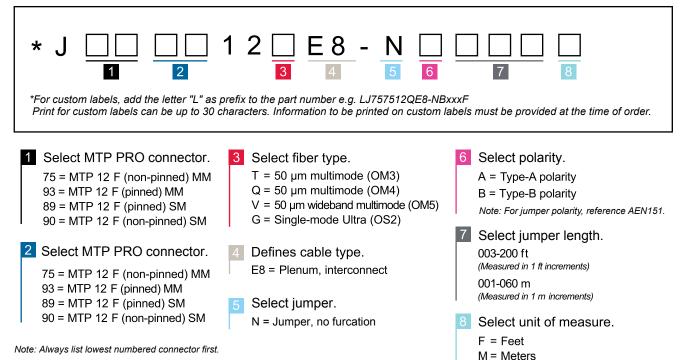
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MTP® Jumpers

EDGE[™] MTP[®] jumpers are used to create a connection between MTP adapter panels, conversion modules, and electronics, typically providing connectivity within the rack or within the row. These plenum-rated cable assemblies feature a smaller (2.0 mm) outside diameter than traditional 12-fiber jumpers to improve finger access as well as reduce congestion and increase airflow in the horizontal and vertical rack space. EDGE 12-fiber MTP jumpers have the same connector size and cable footprint as LC duplex jumpers used today. The density, airflow, and cable management advantages of EDGE solutions is preserved as you migrate to higher data rates.

These jumpers are manufactured using Corning[®] CleanAdvantage[™] technology and shipped with optimized caps, eliminating the need for cleaning and scoping prior to the initial field connection. They are built with MTP PRO connectors, allowing for a simple one-step color-coded polarity change without removing the connector housing. The connector also provides the capability for field-friendly pinning configuration changes with safe handling of pins and easy color identification while maintaining product integrity.

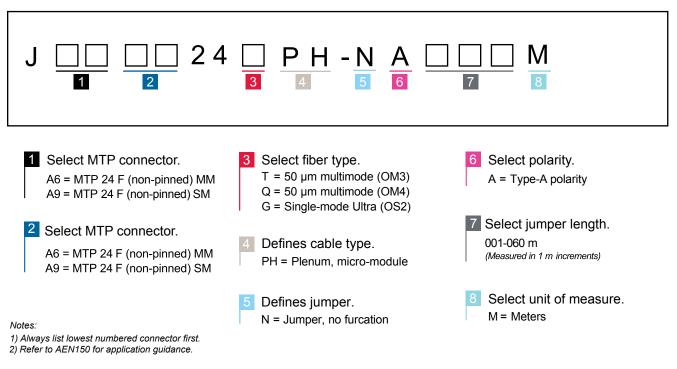




MTP[®] 24-F Jumpers

EDGE[™] 24-fiber MTP jumpers allow for seamless migration to 100G when used in direct-connect architectures between electronics. The assemblies are plenum-rated and feature a 3.3 mm outside diameter. Multimode 24-fiber jumpers are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with an optimized dust cap.





EDGE[™] Harnesses

One of the critical challenges facing data center owners, operators, and maintenance personnel in high-density (HD) computing areas is how to provide high-port-concentration deployments to support the latest generation of high-speed switches without losing them under a mass of jumpers.

EDGE[™] staggered and nonstaggered harnesses are ultra-slim 12-fiber (2.0 mm OD) preterminated cable with an MTP[®] PRO connector on one end and six LC uniboot connectors on the other. The majority of the harness is a single cable which breaks out into six, 2-fiber legs to enable connectivity to the switch ports. Stagger options replicate the specific switch ports to save on excess cable length. MTP PRO allows for a simple one-step color-coded polarity change feature without removing the connector housing. The connector also provides the capability for field-friendly pinning configuration changes with safe handling of pins and easy color identification while maintaining product integrity.

Specially designed harnesses are available for numerous distribution switches including Cisco, Arista, Brocade, Juniper, and HP using SFP+ (LC interfaces) for Ethernet or Fibre Channel with duplex transmission for port mirroring, aggregation, fabric, or breakout applications.

EDGE conversion harnesses and 24-fiber harnesses ensure 100% trunk fiber utilization at 40 and 100G. These solutions allow for design flexibility with various breakout configurations to meet your connectivity needs. EDGE Tap harnesses, in conjunction with EDGE Tap modules, offer a network monitoring solution that integrates directly into the EDGE structured cabling footprint, with increased rack space utilization and density.

Features and Benefits

Slim, round 2-fiber interconnect cable Improves airflow and reduces congestion

MTP PRO connectors

Allows for pinning and polarity changes in the field

Low-loss connectivity

Enables system design flexibility

Bend-improved fiber

Allows tighter cable bends for slack storage and routing, less risk of downtime due to pinched or bent cables

Corning[®] CleanAdvantage[™] technology and optimized caps

Eliminates the need for scoping and cleaning prior to initial field connection

Conversion harnesses transition connectivity from 12 to 8 fibers

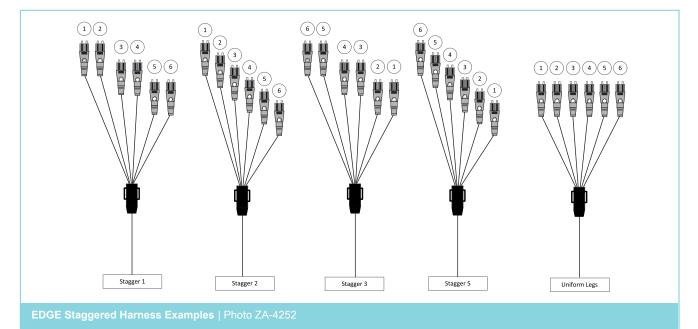
Ensures 100% utilization of trunks at 40 and 100G



EDGE MTP to LC Uniboot Harness nonstaggered | Photo REN6458



EDGE 2x3 Conversion Harness | Photo REN7137



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EDGE[™] MTP[®] to LC Uniboot Staggered Harnesses

EDGE[™] MTP[®] to LC uniboot staggered harnesses provide breakout from 12-fiber MTP PRO connectors to LC uniboot connectors. These harnesses are available in five stagger configurations to meet various port-replication needs.

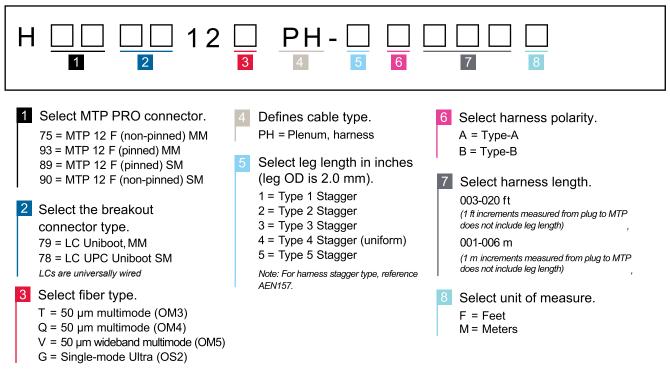
The EDGE module harness is designed to create a crossconnect point near the electronics by enabling port replication. This harness uses LC uniboot connectors to interface with the electronics and a non-pinned MTP PRO connector to connect into the back of a module. With port replication, the installation will look the same even after multiple moves, adds, and changes (MACs). This solution can be used in a horizontal distribution area (HDA).

The EDGE trunk harness is designed to facilitate an interconnect point when the electronics are located in a separate area than the cross-connect or patching field. This harness uses LC uniboot connectors to interface with the electronics and a pinned MTP PRO connector to connect into a trunk. This solution can be used in an equipment distribution area (EDA).



EDGE MTP to LC Uniboot Staggered Harnesses | Photo REN7076

Ordering Information



A EDGE harness should have Type-A polarity and a pinned MTP PRO connector when connecting to a trunk. A EDGE harness should have Type-B polarity and a non-pinned MTP PRO connector when connecting to a module.

Harness length is measured from MTP connector to furcation plug and therefore does not include LC leg length.

EDGE[™] MTP[®] to LC Uniboot Nonstaggered Harnesses

EDGE[™] MTP[®] to LC uniboot nonstaggered harnesses provide breakout from 12-fiber MTP PRO connectors to LC uniboot connectors. These harnesses come with nonstaggered legs in several length options.

The EDGE module harness is designed to create a cross-connect point near the electronics by enabling port replication. This harness uses LC uniboot connectors to interface with the electronics and a non-pinned MTP PRO connector to connect into the back of a module. With port replication, the installation will look the same even after multiple moves, adds, and changes (MACs). This solution can be used in a horizontal distribution area (HDA).

The EDGE trunk harness is designed to facilitate an interconnect point when the electronics are located in a separate area than the cross-connect or patching field. This harness uses LC uniboot connectors to interface with the electronics and a pinned MTP PRO connector to connect into a trunk. This solution can be used in an equipment distribution area (EDA).

Ordering Information



hoto REN64

12 PH -2 6 Select harness polarity. Select MTP PRO connector. Defines cable type. A = Type-A 75 = MTP 12 F (non-pinned) MM PH = Plenum, harness 93 = MTP 12 F (pinned) MM B = Type-B 89 = MTP 12 F (pinned) SM Select leg length in inches 90 = MTP 12 F (non-pinned) SM (leg OD is 2.0 mm). 7 Select the harness length. 003-200 ft J = 12 in (+3.5/-1.0 in) 2 Select the breakout (1 ft increments measured from plug to MTP, K = 24 in (+3.5/-1.0 in) does not include leg length) connector type. L = 36 in (+3.5/-1.0 in) 001-060 m 79 = LC uniboot, MM M = 48 in (+3.5/-1.0 in)(1 m increments measured from plug to MTP, 78 = LC UPC Uniboot SM does not include leg length) N = 60 in (+3.5/-1.0 in) LCs are universally wired P = 72 in (+3.5/-1.0 in) Select unit of measure. 3 Select fiber type. R = 98 in (+3.5/-1.0 in) F = Feet $T = 50 \ \mu m \ multimode \ (OM3)$ Furcation legs are color coded by fiber type. M = Meters $Q = 50 \ \mu m$ multimode (OM4) $V = 50 \,\mu\text{m}$ wideband multimode (OM5) G = Single-mode Ultra (OS2)

An EDGE **harness** should have **type-A polarity** and a **pinned MTP PRO** connector when connecting to a **trunk**. An EDGE **harness** should have **type-B polarity** and a **non-pinned MTP PRO** connector when connecting to a **module**.

Harness length is measured from MTP connector to furcation plug and therefore does not include LC leg length.

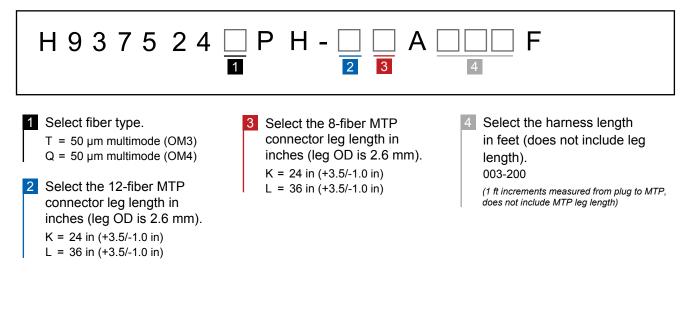
Conversion Harnesses

EDGE[™] conversion harnesses are plenum-rated preterminated harnesses that provide conversion from 12- to 8-fiber connectivity for full-fiber utilization. These harnesses are offered as a 2x3 MTP[®] harness (two 12-fiber MTP PRO connectors on one end, three 8-fiber MTP PRO connectors on the other) for connection to electronics with MPO-style ports.

EDGE conversion harnesses are a TIA-568 Type-A component. They are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with optimized caps, eliminating the need for scoping and cleaning prior to initial field connection.



EDGE 2x3 Conversion Harness Photo REN7137



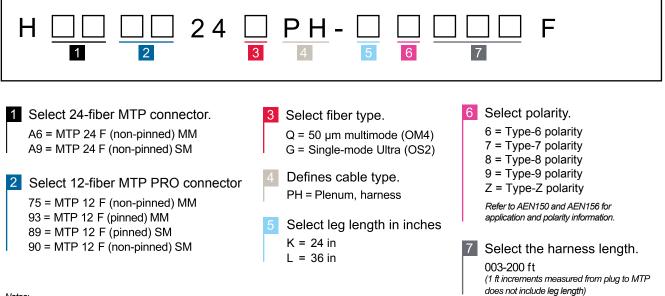
24-Fiber "Y" Harnesses

EDGE[™] solutions 24-fiber "Y" harnesses are plenum-rated preterminated assemblies that provide conversion from 24- to 12-fiber connectivity for full-fiber utilization of an existing Base-12 backbone. These harnesses are offered as a 1x2 MTP® assembly (one 24-fiber MTP connector on one end, two 12-fiber MTP PRO connectors on the other), creating the connection from the patch panel to 20-fiber/24-fiber switch ports.

Multimode 24-fiber "Y" harnesses are manufactured with Corning[®] CleanAdvantage[™] technology.



Ordering Information



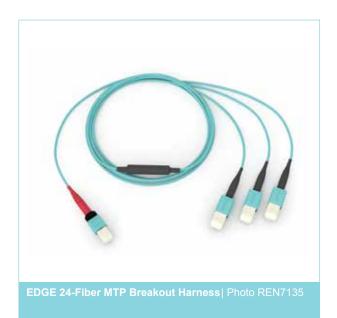
Notes:

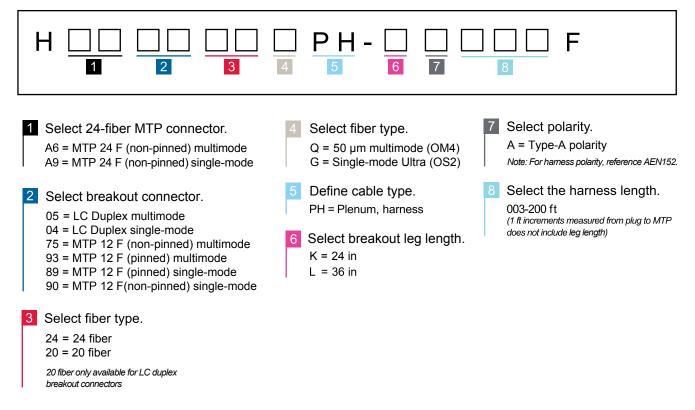
Type-6 and Type-7 polarity are only available with Non-Pinned 12-fiber MTP PRO for connector 2. Type-Z, Type-8, and Type-9 polarity are only available with Pinned 12-fiber MTP PRO for connector 2. Type-6 and Type-8 polarity are only available for multimode.

24-Fiber MTP[®] Breakout Harnesses

EDGE[™] solutions 24-fiber MTP[®] breakout harnesses are plenum-rated preterminated harnesses that provide conversion from 24- to 8-fiber connectivity. These harnesses are offered as a 1x3 MTP assembly (one 24-fiber MTP connector on one end, three 8-fiber MTP PRO connectors on the other), allowing for connectivity between the 24-fiber switch ports to three 8-fiber ports. These harnesses can also be used to breakout 24-fiber ports using Base-8 structured cabling. The MTP breakout harness is also available as a 20 F 1x10 assembly with 1 24 F MTP on one end and 10 2 F LC Duplex connectors on the other.

Multimode 24-fiber breakout harnesses are manufactured with Corning[®] CleanAdvantage[™] technology.





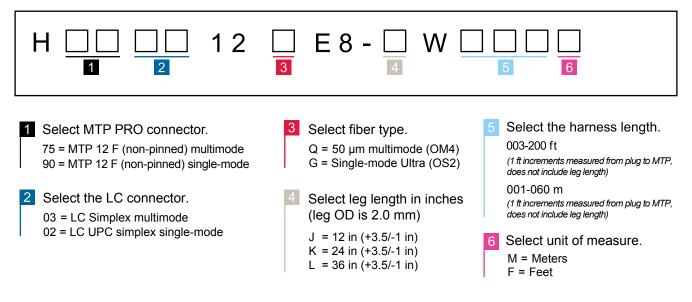
Tap Module Harness

The EDGE[™] Tap harness is used to breakout the 12-fiber MTP[®] tap port at the rear of the EDGE Tap module into LC duplex connectors. These duplex connectors then can be easily separated into simplex connectors to plug into monitoring electronics.

The use of harnesses provides a solution that occupies less space than traditional jumpers, as the cable end of the harness is much smaller than the size of equivalent jumpers. This reduced cabling bulk improves airflow for increased cooling and facilitates easier moves, adds, and changes (MACs).

The MTP PRO connector allows for pinning and polarity changes in the field.

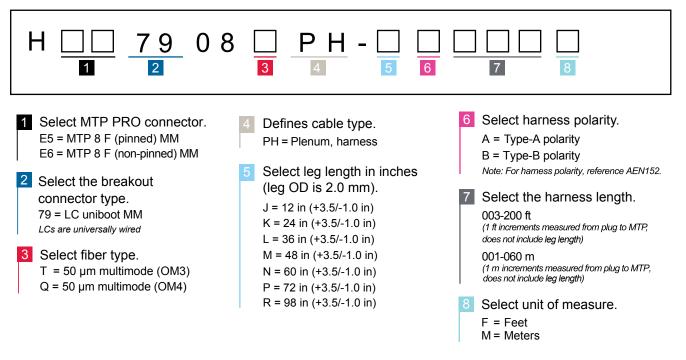




EDGE8® MTP® to LC Harness

The EDGE8® MTP® to LC uniboot harness is for connection to electronics with LC-style ports and for use in aggregation of 10G ports to a 40G port. These harnesses have a pinned or non-pinned MTP PRO connector on one end and four LC uniboot connectors on the other. These harnesses are uniquely wired to manage polarity within and maintain transmit-to-receive connectivity.





EDGE[™] Modules

EDGE[™] modules provide the interface between the MTP[®] connector on the trunk and the LC duplex jumpers that connect directly into the electronics. LC duplex adapters on EDGE modules feature hinged VFL-compatible shutters that move up and out of the way when the connector is inserted. Specially designed indents in the shutters ensure that the end faces of the connectors are never touched. These shutters replace the standard dust caps that are typically never replaced after initial removal, exposing the interior end faces to dust particles and possible damages.

EDGE conversion and mesh modules ensure 100 percent trunk fiber utilization at 40 and 100G. These solutions allow for design flexibility with various breakout configurations to meet your connectivity needs.

Features and Benefits

Shuttered LC adapters

Creates one-hand operation while eliminating the need to remove and store dust caps

VFL-compatible shutters

Decreases time needed to test and troubleshoot a link

Rear-loading capability

Reduces the time to prepare and install modules into fiber housings

High density

Enables 576 fibers in a 4U housing and 144 fibers in a 1U

Low insertion loss performance

Improved performance specs allow for more mated pairs and/or longer link distances

Universal wiring

Decreases complexity and risks associated with managing polarity during moves, adds, and changes

Corning[®] CleanAdvantage[™] technology and optimized caps

Eliminates the need for scoping and cleaning prior to initial field connection (excludes mesh modules and TAP modules)

Conversion modules transition connectivity from 12 to 8 fibers

Ensures 100% utilization of trunks at 40 and 100G

Conversion modules offer the industry's best rack density for parallel optics 72 MTP ports per 1U enable higher-revenue generation per rack unit





| Photo REN7071

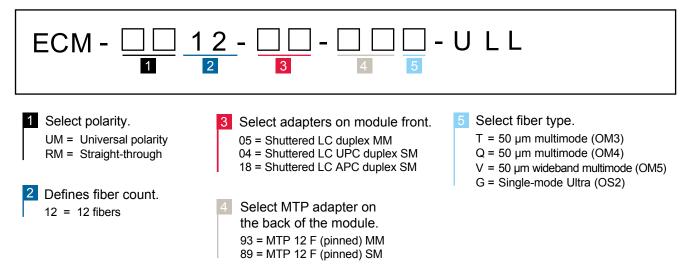
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Ultra-Low-Loss Modules

EDGE[™] ultra-low-loss modules provide an interface between the MTP connector on an MTP trunk and the LC duplex jumpers that connect directly to the electronics. These modules allow for extended-reach capabilities in high-speed serial duplex transmission. They feature VFL-compatible LC shuttered adapters and are manufactured with Corning[®] CleanAdvantage[™] technology.

The OM3/OM4/OM5 EDGE ultra-low-loss modules are specified to 0.35 dB compared to 0.5 dB for the low-loss EDGE module. The OS2 EDGE ultra-low-loss modules are specified to 0.60 dB compared to 1.0 dB for the standard EDGE module.



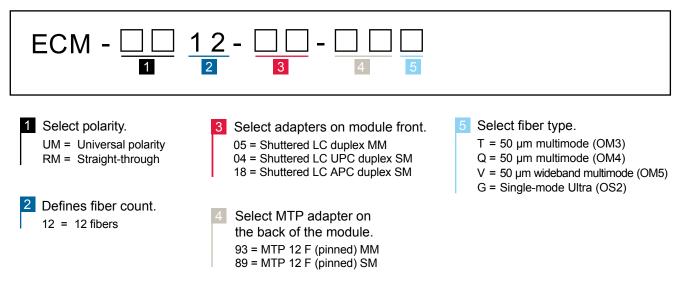


Low-Loss Modules

EDGE[™] low-loss modules provide an interface between the MTP[®] connector on an MTP trunk and the LC duplex jumpers that connect directly to the electronics. These modules feature VFL-compatible LC shuttered adapters and are manufactured with Corning[®] CleanAdvantage[™] technology.

They are specified to 0.5 dB for multimode (OM3/OM4/OM5) and 1.0 dB for single-mode (OS2).





Conversion Modules

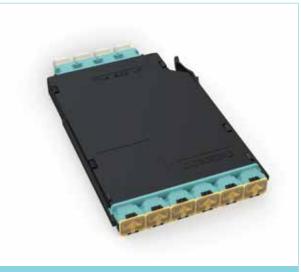
EDGE[™] conversion modules have 12-fiber MTP[®] adapters in the rear for mating to backbone trunks and breakout to 8-fiber MTP adapters in the front for connectivity to electronics. These conversion modules fully utilize all fibers in each Base-12 set in the trunk by breaking out Base-12 MTP adapters at the rear of the module into a proportionate number of Base-8 MTP adapters at the front.

EDGE conversion modules are available in two configurations: 2x3 (two 12-fiber MTP adapters in the rear and three 8-fiber MTP adapters in the front) and 4x6 (four adapters in the rear and six in the front).

These modules come from the factory as a TIA-568 Type-B component. However, EDGE conversion modules also offer on-site MTP connectivity changes to manage field polarity. The front of the module features reversible translucent shuttered adapters. These modules are manufactured with Corning[®] CleanAdvantage[™] technology and shipped with optimized MTP caps on the rear side of the module.



EDGE 2x3 Conversion Module | Photo REN7106



EDGE 4x6 Conversion Module | Photo REN707*

Ordering Information

Part Number	Adapter Type Front	Adapter Color Front	Adapter Type Back	Fiber Category
ECM-UM24-93-93Q	Shuttered MTP	Aqua	MTP	50 µm MM (OM4)
ECM-UM48-93-93Q	Shuttered MTP	Aqua	MTP	50 µm MM (OM4)

Note: For application reference, please refer to AEN150, AEN151, and AEN152

Mesh Modules

EDGE[™] 4x4 mesh modules are used to break out four-channel parallel ports to create a duplex fabric, eliminating the need to break the MTP[®] into LC connectivity. The mesh modules contain four 8-fiber MTPs in the rear for mating to backbone trunks and break out to four 8-fiber MTPs in the front for connectivity to the electronics. These modules allow customers to take advantage of higher port densities per switch with lower power consumption and a lower cost per 10G port. They also improve their ability to create port diversification when using QSFP+ transceivers for 10G applications.



EDGE MM Mesh Module | Photo REN890



EDGE SM Mesh Module | Photo REN899

Part Number	Adapter Type Front	Adapter Color	Adapter Type Back	Fiber Category
EMM-MM32-9393Q	Shuttered MTP (Pinned)	Aqua	MTP (Pinned)	50 µm MM (OM4)
EMM-MM32-9375Q	Shuttered MTP (Pinned)	Aqua	MTP (Non-pinned)	50 µm MM (OM4)
EMM-SM32-8989G	Shuttered MTP (Pinned)	Black	MTP (Pinned)	Single-mode (OS2)
EMM-SM32-8990Q	Shuttered MTP (Pinned)	Black	MTP (Non-pinned)	Single-mode (OS2)

MTP® Adapter Panels

EDGE[™] MTP[®] adapter panels provide a simple interface to mate MTP connectors. This occurs when connecting MTP trunks to MTP extender trunks, MTP trunks to trunk harnesses, and in 40G multimode networks when MTP trunks are connected to 40G jumpers.

EDGE 72-fiber MTP panels feature reversible translucent shuttered MTP adapters at the front of the panel.





Part Number	Fiber Count	Fiber Category
EDGE-CP24-E3	24	50 µm Multimode (OM3/OM4)
EDGE-CP24-EY	24	50 µm Multimode (OM5)
EDGE-CP24-90	24	Single-mode (OS2)
EDGE-CP48-E3	48	50 µm Multimode (OM3/OM4)
EDGE-CP48-EY	48	50 µm Multimode (OM5)
EDGE-CP48-90	48	Single-mode (OS2)
EDGE-CP72-U3	72	50 µm Multimode (OM3/OM4)
EDGE-CP72-UY	72	50 µm Multimode (OM5)
EDGE-CP72-U1	72	Single-mode (OS2)

EDGE[™] Tap Modules

EDGE[™] Tap modules, part of EDGE solutions for data centers and storage area networks (SAN), enable passive optical tapping of the network while reducing downtime and link loss, and increasing rack space utilization and density compared to other optical tap options.

Unlike other passive optical taps that must be added as separate devices in the network link, the EDGE Tap module integrates the coupler technology for passive optical tapping into a structured cabling component – the module. Monitored ports can be added without disrupting the system's live traffic. Elimination of the tap as a separate device reduces insertion loss in the link. EDGE Tap modules use an advanced splitter technology for multimode to reduce insertion loss compared to traditional splitter technology.

Featuring the EDGE solutions high-density module footprint, EDGE Tap modules are available in multiple configurations for network monitoring at 1G, 10G, or 40G. These tap modules enable up to 72 monitored links per one rack unit and fit seamlessly into EDGE solutions hardware for maximum cable management and better utilization of rack space.



Features and Benefits

Network monitoring and tap splitters integrated into the structured cabling

Eliminates need for additional rack space and downtime associated with port tap changes

Rear-exiting, MTP[®] connector-based tap ports Zero-rack-space impact results in higher revenue generation per rack unit

Advanced splitter technology

Maintains equal modal power distribution, reducing insertion loss for increased link reach

EDGE[™] solutions-based footprint

Integrates seamlessly into an existing EDGE solutions infrastructure

Universal polarity management

Eliminates the frustration of needing to flip connector pairs or modules

Application defined split ratio

Part

Number

ETM-5A-Q

ETM-7A-Q

ETM-5A-G

ETM-7A-G

ETM-5B-Q

ETM-7B-Q

ETM-5B-G

ETM-7B-G

ETM-5B-Q-BD

ETM-5A-Q-BD

Provides 50/50 split ratio for Ethernet (DC LAN) and 70/30 split ratio for Fibre Channel (DC SAN) environments

EDGE Tap Module Specifications

Fiber

Туре

OM4

OM4

OM4

OS2

OS2

OM4

OM4

OM4

OS2

OS2

70/30

50/50

50/50

70/30

50/50

70/30

1.8/5.8

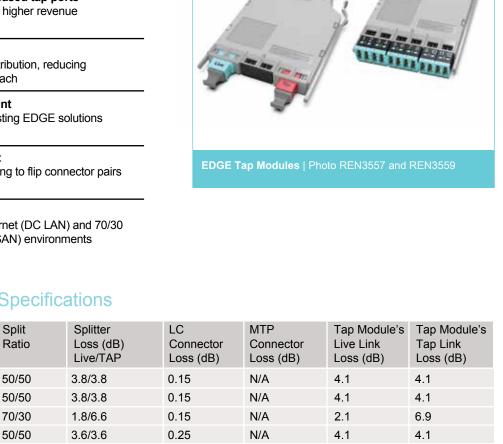
3.8/3.8

3.8/3.8

1.8/6.6

3.6/3.6

1.8/5.8



N/A

0.35

0.35

0.35

0.75

0.75

2.5

4.3

4.3

2.3

4.6

2.8

ETM-5C-Q ON	M4 5	50/50	3.8/3.8	N/A	0.35	4.5	4.5
ETM-5C-Q-R ON	M4 5	50/50	3.8/3.8	N/A	0.35	4.5	4.5
ETM-7C-Q ON	M4 7	70/30	1.8/6.6	N/A	0.35	2.5	7.3
ETM-7C-Q-R ON	M4 7	70/30	1.8/6.6	N/A	0.35	2.5	7.3
ETM-5C-G OS	S2 5	50/50	3.6/3.6	N/A	0.75	5.1	5.1
ETM-5C-G-R OS	S2 5	50/50	3.6/3.6	N/A	0.75	5.1	5.1
ETM-7C-G OS	S2 7	70/30	1.8/5.8	N/A	0.75	3.3	7.3
ETM-7C-G-R OS	S2 7	70/30	1.8/5.8	N/A	0.75	3.3	7.3

0.25

0.15

0.15

0.15

0.25

0.25

Multimode losses are for 850 nm. Single-mode losses are for 1310 nm. 6.5

4.5

4.5

7.3

5.1

7.3

LC Duplex to LC Duplex Tap Modules

EDGE[™] LC duplex to LC duplex Tap modules enable port monitoring access for traditional LC duplex systems. These modules allow the customer to manage the monitoring ports via the jumper infrastructure at the front of the cabinets.

LC duplex to LC duplex Tap modules feature two red LC duplex adapters for tapping and four aqua or blue LC duplex adapters for live ports. These modules are also available for BiDi applications with two duplex adapters for tapping and two duplex adapters for live ports.



LC to LC Multimode Tap Module | Photo REN3556



LC to LC Single-Mode Tap Module | Photo REN3563



LC to LC Duplex BiDi Tap Module | Photo REN3554

Part Number	Description	Units per Delivery
ETM-5A-Q	EDGE Tap Module, 50 µm multimode (OM4), 50/50 split ratio (live/tap), 12-fiber LC duplex ports; four aqua LC duplex adapters and two red LC duplex ports at the front of the module. Enables monitoring of two ports.	1/1
ETM-5A-Q-BD	EDGE Tap Module, 50 µm multimode (OM4), 50/50 split ratio (live/tap), 8-fiber LC duplex ports; two aqua LC duplex adapters and two red LC duplex ports at the front of the module. Enables monitoring of one port for BiDi links.	1/1
ETM-7A-Q	EDGE Tap Module, 50 µm multimode (OM4), 70/30 split ratio (live/tap), 12-fiber LC duplex ports; four aqua LC duplex adapters and two red LC duplex ports at the front of the module. Enables monitoring of two ports.	1/1
ETM-5A-G	EDGE Tap Module, single-mode (OS2), 50/50 split ratio (live/tap), 12-fiber LC duplex ports; four blue LC duplex adapters and two red LC duplex ports at the front of the module. Enables monitoring of two ports.	1/1
ETM-7A-G	EDGE Tap Module, single-mode (OS2), 70/30 split ratio (live/tap), 12-fiber LC duplex ports; four blue LC duplex adapters and two red LC duplex ports at the front of the module. Enables monitoring of two ports.	1/1

MTP® to LC Duplex Tap Modules

EDGE[™] MTP[®] to LC duplex Tap modules are designed for parallel optic infrastructure, for Ethernet duplex applications up to 100G, and Fibre Channel duplex applications up to 32G.

MTP to LC duplex Tap modules have one pinned MTP adapter labeled LIVE and one pinned red MTP adapter labeled Tap on the rear side, which enables monitoring of six LIVE LC duplex ports on the front side. MTPs on the rear side allow for easy Tap link integration into the infrastructure.



MTP to LC Duplex Multimode Tap Module | Photo REN3557



MTP to LC Duplex Single-Mode Tap Module | Photo REN3565



MTP to LC Duplex BiDi Tap Module

Part Number	Description	Units per Delivery
ETM-5B-Q	EDGE Tap Module, 50 µm multimode (OM4), 50/50 split ratio (live/tap), 12-fiber LC duplex ports, one pinned MTP adapter labeled Live, one pinned red MTP adapters labeled Tap, enables monitoring of six ports.	1/1
ETM-5B-Q-BD	EDGE Tap Module, 50 μm multimode (OM4), 50/50 split ratio (live/tap), 12-fiber LC duplex ports, one pinned MTP adapter labeled Live, two pinned red MTP adapters labeled Tap, enables monitoring of six ports for BiDi links	1/1
ETM-7B-Q	EDGE Tap Module, 50 µm multimode (OM4), 70/30 split ratio (live/tap), 12-fiber LC duplex ports; one pinned MTP adapter labeled Live, one pinned red MTP adapters labeled Tap, enables monitoring of six ports.	1/1
ETM-5B-G	EDGE Tap Module, single-mode (OS2), 50/50 split ratio (live/tap), 12-fiber LC duplex ports; one pinned MTP adapter labeled Live, one pinned red MTP adapters labeled Tap, enables monitoring of six ports.	1/1
ETM-7B-G	EDGE Tap Module, single-mode (OS2), 70/30 split ratio (live/ tap), 12-fiber LC duplex ports; one pinned MTP adapter labeled Live, one pinned red MTP adapters labeled Tap, enables monitoring of six ports.	1/1

MTP® to MTP Connector Tap Modules

EDGE[™] MTP[®] to MTP Tap modules are designed for parallel optic infrastructure, for Ethernet 40G and 100G applications, and Fibre Channel applications 32G and beyond.

MTP to MTP Tap modules provide two options to connect the monitoring equipment from the front or rear of the rack to support duplex or parallel optic deployments.



MTP to MTP Multimode Tap Module | Photo REN3559



MTP to MTP Single-Mode Tap Module | Photo REN3571

Part Number	Description	Units per Delivery
ETM-5C-Q	EDGE Tap Module, 50 µm multimode (OM4), 50/50 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the front of the module, one pinned MTP adapter labeled Live at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-7C-Q	EDGE Tap Module, 50 µm multimode (OM4), 70/30 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the front of the module, one pinned MTP adapter labeled Live at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-5C-G	EDGE Tap Module, Single-mode (OS2), 50/50 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the front of the module, one pinned MTP adapter labeled Live at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-7C-G	EDGE Tap Module, Single-mode (OS2), 70/30 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the front of the module, one pinned MTP adapter labeled Live at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-5C-Q-R	EDGE Tap Module, 50 µm multimode (OM4), 50/50 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled at the front of the module, one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-7C-Q-R	EDGE Tap Module, 50 µm multimode (OM4), 70/30 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live at the front of the module, one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-5C-G-R	EDGE Tap Module, Single-mode (OS2), 50/50 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live at the front of the module, one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1
ETM-7C-G-R	EDGE Tap Module, Single-mode (OS2), 70/30 split ratio (live/tap), 12-fiber MTP ports; one pinned MTP adapter labeled Live at the front of the module, one pinned MTP adapter labeled Live and one pinned red MTP adapter labeled Tap at the rear of the module. Enables monitoring of six duplex or one parallel port(s).	1/1

Reverse Polarity Uniboot Duplex Jumpers

EDGE[™] reverse polarity uniboot duplex jumpers allow for quick-and-easy conversion from a TIA-568 A-B polarity to a TIA-568 A-A polarity without exposing the fibers or needing any tools. This jumper comes with a straight-through polarity from the factory, but you can convert it to a flipped jumper with no tools. This uniboot design allows one cable to carry both fibers, reducing jumper bulk when routing.

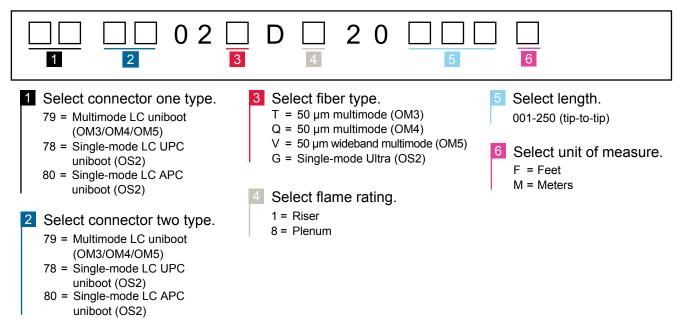
Features

- Slim round 2-fiber interconnect cable
- Uniboot-style duplex connectors
- Improved handling in high-density applications
- Low-loss connectivity enables system design flexibility
- Enabled by bend-sensitive Corning[®] ClearCurve[®] multimode or Corning[®] SMF-28e[®] Ultra single-mode fibers
- Designed to withstand tight bends and challenging cable routes



Photo REN6462 and REN6461

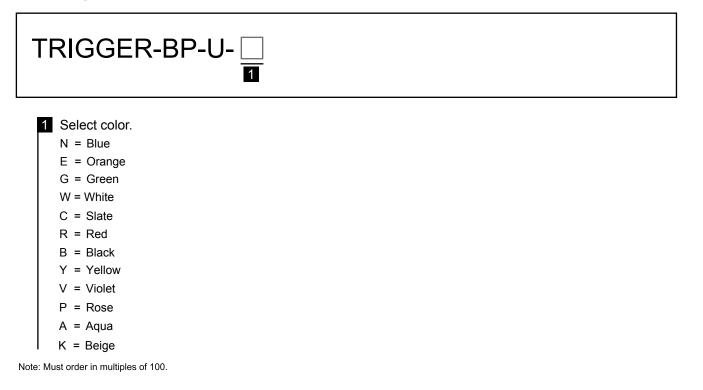
LC Uniboot Jumper Specifications					
Connector	Connector Code	Typical Connector Attenuation (dB)	Return Loss (dB)		
MM LC uniboot	79	0.10	≤ 26		
SM LC UPC uniboot	78	0.25	≤ 55		
SM LC APC uniboot	80	0.25	≤ 65		



Reverse Polarity LC Duplex Clips

All reverse polarity uniboot LC duplex connectors come with a removable clip. We offer a total of 12 colors to allow for easy link identification or fabric segmentation.





Housing Accessories

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Part Number	Product Description	Units per Delivery	
PC1-BKT-23	EDGE [™] Extension and Flush-Mount Bracket for mounting 1U housings into 23-in racks or cabinets	1/1	
PC2-BKT-23	EDGE Extension and Flush-Mount Bracket for mounting 2U housings into 23-in racks or cabinets	1/1	0000
PC4-BKT-23	EDGE Solutions Mounting Bracket for mounting 4U housings into 23-in racks or cabinets	1/1	000 00 000 • • • • • •
EDGE-EMOD-STRN	EDGE Solutions Strain-Relief Bracket, EMOD, 1U	1/1	/
EDGE-CDF-RJ04-BKT	EDGE Solutions Strain-Relief Bracket, accommodating four EDGE solutions clip parking positions	1/1	
EDGE-CDF-RJ08-BKT	EDGE Solutions Strain-Relief Bracket, accommodating eight EDGE solutions clip parking positions	1/1	
EDGE-CDF-RJ12-BKT	EDGE Solutions Strain-Relief Bracket, accommodating 12 EDGE solutions clip parking positions	1/1	
EDGE-BKT-WT-2RU	Wire Tray Mounting Bracket for up to 2U of housing mounting space	1/1	
EDGE-BKT-WT-4RU	Wire Tray Mounting Bracket for up to 4U of housing mounting space	1/1	

Housing Accessories

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Part Number	Product Description	Units per Delivery	
EDGE-BKT-LR-2RU	Ladder Rack Mounting Bracket for up to 2U of housing mounting space	1/1	
EDGE-BKT-LR-4RU	Ladder Rack Mounting Bracket for up to 4U of housing mounting space	1/1	
CJP-01U-P	Pretium [™] Jumper Management Panel 1U; provides jumper management in a 1.75-in rack space	1/1	Repairing to
CJP-02U-P	Pretium Jumper Management Panel 2U; provides jumper management in a 3.5-in rack space	1/1	1,,
EDGE-01U-FLSH-BKT	EDGE [™] Extension and Flush-Mount Bracket for EDGE-01U	1/1	
EDGE-SMH-SLK	EDGE Single-Module Housing Slack Storage and Splicing Accessory, used in conjunction with the EDGE-SMH and EDGE panel in order to facilitate pigtail splicing or storage of slack beneath the EDGE single- module housing.	1/1	

Cleaning Accessories

Part Number	Product Description	Units per Delivery	
CLEANER-PORT-LC	Single-Fiber Port Cleaner for LC, keyed LC, and MU connector end faces for both UPC and APC polishes	1/1	
2104466-01	Fiber Optic Cleaning Tool used to clean MTP® connector end faces as well as MTP connectors installed in a module	1/1	

MTP[®] PRO Accessories

Part Number	Product Description	Units per Delivery	
MTPPRO-TOOL	Field tool to perform pinning and polarity changes of MTP [®] PRO connectors	1/1	\$
MTPPRO-PEX-MME-NOPINS	MTP PRO Pin Exchanger Kit, MM MTP Elite, empty (without pins)	1/1	ALL DESCRIPTION OF
MTPPRO-PEX-MME-PINS	MTP PRO Pin Exchanger Kit, MM MTP Elite, loaded (with pins)	1/1	AND DESCRIPTION OF
MTPPRO-PEX-SME-NOPINS	MTP PRO Pin Exchanger Kit, SM MTP Elite, empty (without pins)	1/1	and a state of the
MTPPRO-PEX-SME-PINS	MTP PRO Pin Exchanger Kit, SM MTP Elite, loaded (with pins)	1/1	and a state of the



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