

CORNING

EDGE™ EXACT Solution



EDGE™ EXACT Solution Introduction

Every component adds latency to the network link. Every component matters.

Optical fibres and network components in the data centre cabling infrastructure contribute to latency, the time it takes for information to get to its destination and back again. They increase or decrease the total length of a network link. That difference in meters will be reflected into nanoseconds of latency across the entire network – possibly making a big difference in gaining or losing business for end users.

In the financial and high-frequency trading markets, the European Securities and Markets Authorities (ESMA) released the Markets in Financial Instruments Directive (MIFID II) in an effort to improve the functioning of the financial markets, making them more efficient, resilient, but also transparent. The EU regulation was put in place to create fair and non-discriminatory services, providing equivalent conditions for all customers subscribed to a trading application or venue.

According to the Commission Delegated Regulation (EU) 2017/573, MIFID II requires all traders and trading applications doing business in Europe to offer all users which have subscribed to the same colocation services access to their network under equivalent conditions including space, power, cooling, cable length, access to data, market connectivity, technology, technical support and messaging types. They are also obliged to publish the different types of latency access and take steps to monitor all connections and latency measurements, to ensure the nondiscriminatory treatment.

Passive components with tight physical tolerances and optical length control support traders to offer equivalent cable lengths and ultimately enable them to provide uniform latency to all of their customers.

The EXACT solution is an extension of our multi award-winning EDGE™ solutions portfolio, providing a reduced excess length cabling infrastructure where optical path system measurement is critical for the end-user service offering. Optical length solutions are offered in single-mode and multimode fibre, in various fibre counts, terminated with MPO/MTP® and LC Duplex Uniboot connectors on trunks, harnesses and modules. All products are manufactured to minimal physical tolerances and tested according to high-resolution photon-pulsing optics.

All EDGE EXACT products 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 optimised dust caps engineered to maintain the end-face cleanliness until the first mating connection. CleanAdvantage eliminates the need for scoping and cleaning before the initial field connection, reducing installation time and cost.

Feature	Benefit	Value
EXACT solutions reduce the fibre cabling tolerances up to 80% and add optical length control	EU trading venues can provide all users subscribed to the same colocation services access to their network under equivalent conditions regarding cable length	Fully compliant with MIFID II regulations for financial markets in the EU
	Reduction in the cabling infrastructure length variation	Supports the latency objectives and impact across the data center for all network operators
Bend-improved Corning® SMF-28® Ultra single-mode and Corning® ClearCurve® multimode fibres	Allow smaller form-factor components and tighter cable bends for slack storage and routing and high-density applications	Improves airflow and reduces risk of network downtime due to pinched or bent cables and assemblies while fully compatible to standard SMF and MM fibres
Ultra-low-loss EDGE connectivity	Improved performance specs allow for system design flexibility	Enables more mated pairs in the network link and/or longer link distances
EXACT components are fully compatible and carry the same footprint as standard EDGE solutions	EDGE EXACT solutions can be installed in the same data centre, same rack, same housing and be part of the overall data centre structured cabling solution	The modular system approach provide a secure investment and allows a mix of technologies as well as the integration of future technologies
EXACT solutions support connectivity with duplex and parallel architecture	Enables system migration from 10G to 100G and also allows to support select 400G applications	Allows re-use of existing network components and backbone cabling
CleanAdvantage technology and optimised dust caps	Eliminates the need for scoping and cleaning prior to initial field connection while providing pristine connector end-faces upon first install.	Ready to use products reduce installation time of up to 17% and cleaning consumables on site of up to 95%

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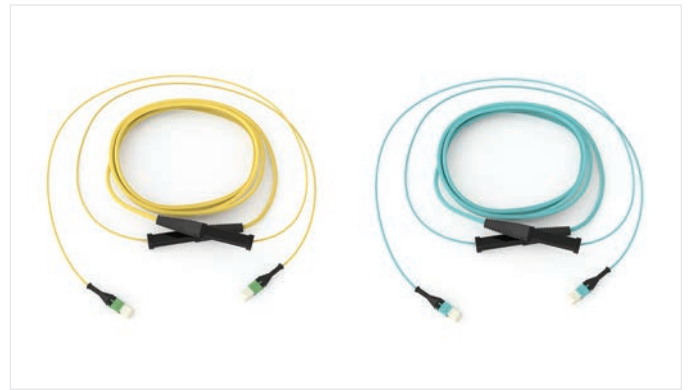
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EDGE™ EXACT MTP® Trunk

EDGE™ EXACT MTP® trunks provide the backbone of the EDGE solution with reduced optical tolerances. With non-pinned MTP connectors on both ends of the cable, these trunks are designed to interface with the EDGE solutions or Plug & Play™ systems modules. All trunks are manufactured with Corning® CleanAdvantage™ technology and shipped with strain-relief clips that allow for the tool-less installation in both EDGE solutions and Plug & Play systems housings. These trunks conform to TIA-568 Type-B polarity.

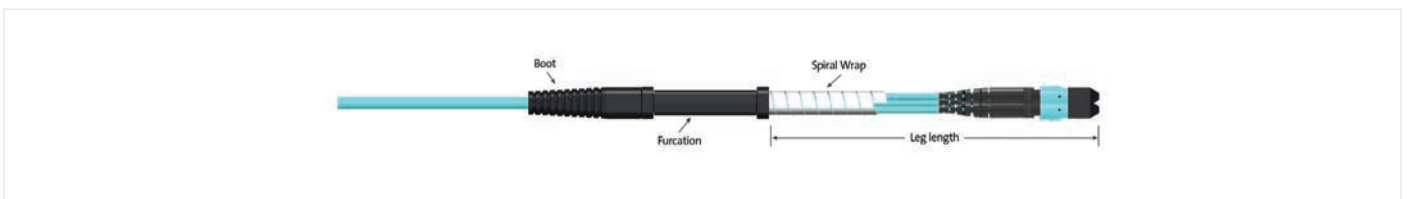


EDGE EXACT MTP Trunk SM and MM | Photos REN7953 and REN7954

Ordering Information

<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	L Z	8	8	U	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	M - EX
1	2	3	4	5	6	7	8		9	

- 1 Select grip.**
 G = Grip on first end only (packaged outside of reel)
 D = Grip on both ends
 Z = No grip
- 2 Select non-pinned MTP connector for first end (packaged outside reel).**
 75 = MTP multimode low-loss
 90 = MTP APC single-mode
- 3 Select non-pinned MTP connector for second end (packaged inside reel).**
 Select from options in item 2
- 4 Select fibre count.**
 12 = 12 fibres
 24 = 24 fibres
 36 = 36 fibres
 48 = 48 fibres
- 5 Select fibre type.**
 T = 50 µm multimode (OM3)
 Q = 50 µm multimode (OM4)
 V = 50 µm Wideband multimode (OM5)
 G = Single-mode (OS2)
- 6 Defines cable type.**
 LZ = LSZH™ cable
- 7 Defines trunk furcation leg length for first end.**
 8 = 840 mm
- 8 Defines trunk furcation leg length for second end.**
 8 = 840 mm
- 9 Select overall length in metres. 002-999**
 Trunk length is measured from furcation plug to furcation plug



EDGE EXACT Solutions Trunk Cable | Drawing ZA-6667

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

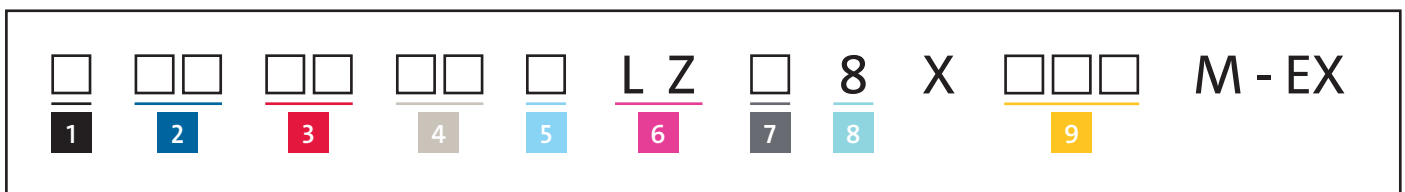
EDGE™ EXACT MTP® Extender Trunks

EDGE™ EXACT MTP® extender trunks provide additional distance for the backbone of the EDGE Solution with reduced optical tolerances. With a non-pinned MTP connector on one end of the cable, a pinned MTP connector on the other, and a TIA-568 Type-A polarity, these trunks are designed to interface with a EDGE solutions or Plug & Play™ systems module and an MTP trunk. All trunks are manufactured with Corning® CleanAdvantage™ technology and shipped with strain-relief clips that allow for the tool-less installation in both EDGE solutions and Plug & Play systems housings. Most often these extender trunks will be used in a zone distribution area (ZDA). These trunks conform to TIA-568 Type-A polarity.

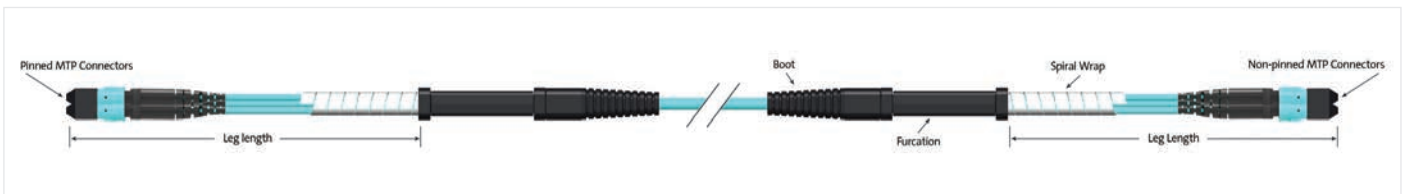


EDGE EXACT MTP Extender Trunk MM and SM | Photos REN7794 and REN3359

Ordering Information



- 1 Select grip.**
G = Grip on first end only (packaged outside of reel)
D = Grip on both ends
Z = No grip
- 2 Select pinned MTP connector for first end (packaged outside reel).**
93 = MTP multimode low-loss
89 = MTP APC single-mode
- 3 Select non-pinned MTP connector for second end (packaged inside reel).**
75 = MTP multimode low-loss
90 = MTP APC single-mode
- 4 Select fibre count.**
12 = 12 fibres
24 = 24 fibres
36 = 36 fibres
48 = 48 fibres
- 5 Select fibre type.**
T = 50 µm multimode (OM3)
Q = 50 µm multimode (OM4)
V = 50 µm Wideband multimode (OM5)
G = Single-mode (OS2)
- 6 Defines cable type.**
LZ = LSZH™ cable
- 7 Select trunk furcation leg length for first end to the front of panel (packaged outside of reel).**
B = 1000 mm for EDGE 4U housing
C = 1500 mm for EDGE 1U housing
- 8 Defines trunk furcation leg length for second end to rear panel (packaged outside of reel).**
8 = 840 mm
- 9 Select overall length in metres. 002-999**
Trunk length is measured from furcation plug to furcation plug



EDGE Extender Trunk Configuration | Drawing ZA-6668

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT Hybrid MTP® to LC Duplex Uniboot Trunks

EDGE™ EXACT Hybrid MTP® to LC Duplex Uniboot trunks combine non-pinned MTP connectors that connect to EDGE modules and duplex Uniboot LC connectors that connect directly to the electronics enabling more options for the cabling of data centres. Hybrid trunks are manufactured with Corning® CleanAdvantage™ technology. All trunks are produced and measured against reduced optical tolerances.

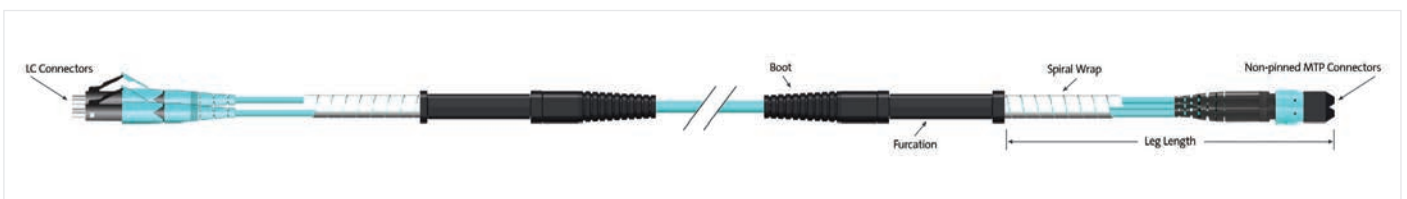


EDGE EXACT Hybrid MTP Trunk MM | Photo REN7796

Ordering Information

□	□□	□□	□□	□	L Z	8	□	W	□□□	M - EX
1	2	3	4	5		6	7		8	

- 1 Select grip.**
G = Grip on first end only (packaged outside of reel)
Z = No grip
- 2 Select non-pinned MTP connector for first end (packaged outside reel).**
75 = MTP multimode low-loss
90 = MTP APC single-mode
- 3 Select LC connector for second end (packaged inside reel).**
79 = LC Duplex, uniboot multimode
78 = LC UPC Duplex, uniboot, single-mode
- 4 Select fibre count.**
12 = 12 fibres
24 = 24 fibres
36 = 36 fibres
48 = 48 fibres
- 5 Select fibre type.**
T = 50 µm multimode (OM3)
Q = 50 µm multimode (OM4)
V = 50 µm Wideband multimode (OM5)
G = Single-mode (OS2)
- 6 Defines trunk furcation leg length for first end to front of panel (packaged outside of reel).**
8 = 840 mm
- 7 Select trunk furcation leg length on the single-fibre end 2 mm dual-fibre with LC uniboot (packaged outside of reel).**
J = 300 mm, available only upon special request
K = 600 mm
L = 1000 mm, standard
M = 1200 mm
- 8 Select overall length in metres. 002-999**
Trunk length is measured from furcation plug to furcation plug



EDGE Solutions Hybrid Trunk Configuration | Drawing ZA-6669

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT Hybrid MTP® to LC Duplex Uniboot Extender Trunks

EDGE™ EXACT Hybrid MTP® to LC Duplex Uniboot trunks combine pinned MTP connectors that connect into MTP trunks and duplex Uniboot LC connectors that connect directly into the electronics providing more options for the cabling of data centres. These hybrid extender trunks are manufactured with Corning® CleanAdvantage™ technology and most often used in a zone distribution area (ZDA). All trunks are produced and measured against reduced optical tolerances.

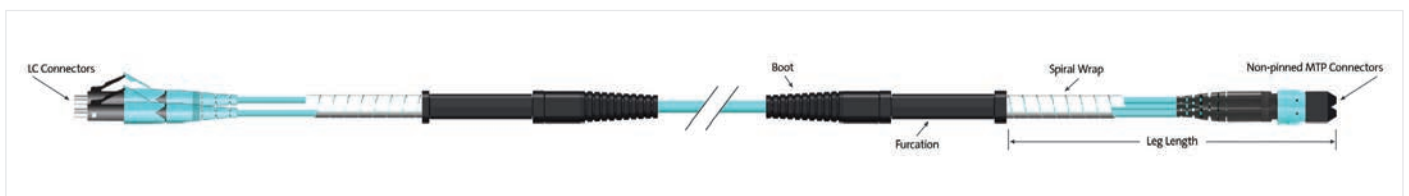


EDGE EXACT Hybrid MTP Extender Trunk | Photo REN7962

Ordering Information



- 1 Select grip**
G = Grip on first end only (packaged outside of reel)
Z = No grip
- 2 Select pinned MTP connector for first end (packaged outside reel).**
93 = MTP multimode low-loss
89 = MTP APC single-mode
- 3 Select LC connector for second end (packaged inside reel).**
79 = LC Duplex, uniboot multimode
78 = LC UPC Duplex, uniboot, single-mode
- 4 Select fibre count.**
12 = 12 fibres
24 = 24 fibres
36 = 36 fibres
48 = 48 fibres
- 5 Select fibre type.**
T = 50 µm multimode (OM3)
Q = 50 µm multimode (OM4)
V = 50 µm Wideband multimode (OM5)
G = Single-mode (OS2)
- 6 Defines trunk furcation leg length for first end to front of panel (packaged outside of reel).**
8 = 840 mm
- 7 Select trunk furcation leg length on the single-fibre end 2 mm dual-fibre with LC uniboot (packaged outside of reel).**
J = 300 mm, available only upon special request
K = 600 mm
L = 1000 mm, standard
M = 1200 mm
- 8 Select overall length in metres. 002-999**
Trunk length is measured from furcation plug to furcation plug



EDGE Solutions Hybrid Trunk Configuration | Drawing ZA-6669

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT LC Duplex Uniboot to LC Duplex Uniboot Trunks

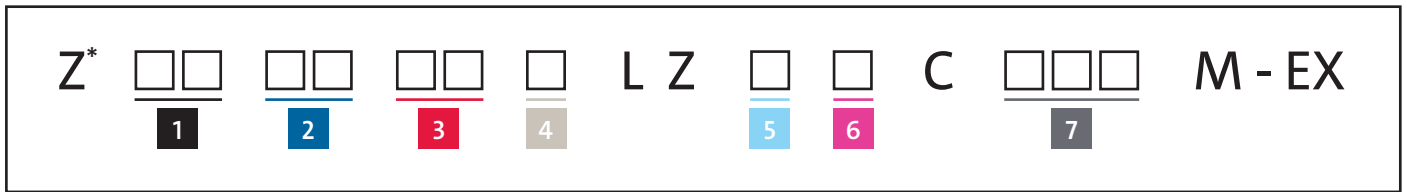
EDGE™ EXACT LC Duplex Uniboot trunks provide traditional backbone cabling for EDGE solutions and are designed to interface with both EDGE or Plug & Play™ LC Duplex adapter panels.

All trunks are manufactured with Corning® CleanAdvantage™ technology and shipped with strain-relief clips that allow for the tool-less installation in both EDGE solutions and Plug & Play systems housings. All trunks are produced and measured against reduced optical tolerances.



EDGE EXACT LC Duplex Uniboot Trunk | Photo LAN7262

Ordering Information



1 Select LC connector for first end (packaged outside reel).
 79 = LC Duplex, Uniboot multimode
 78 = LC UPC duplex, Uniboot, single-mode

3 Select standard fibre count.
 12 = 12 fibres
 24 = 24 fibres
 36 = 36 fibres
 48 = 48 fibres

6 Select trunk furcation leg length on the second end 2 mm dual-fibre with LC uniboot (packaged outside of reel).
 Select from options in number 5.

2 Select LC connector for second end (packaged inside reel).
 79 = LC Duplex, Uniboot multimode
 78 = LC Duplex, Uniboot, single-mode

4 Select fibre type.
 T = 50 µm multimode (OM3)
 Q = 50 µm multimode (OM4)
 G = Single-mode (OS2)

7 Select overall length in metres. 002-999
 Trunk length is measured from furcation plug to furcation plug

5 Select trunk furcation leg length on the first end 2 mm dual-fibre with LC Uniboot (packaged outside of reel).
 J = 300 mm, available only upon special request
 K = 600 mm
 L = 1000 mm, standard
 M = 1200 mm

*LC Uniboot trunks with reverse polarity option are shipped without pulling grip.

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

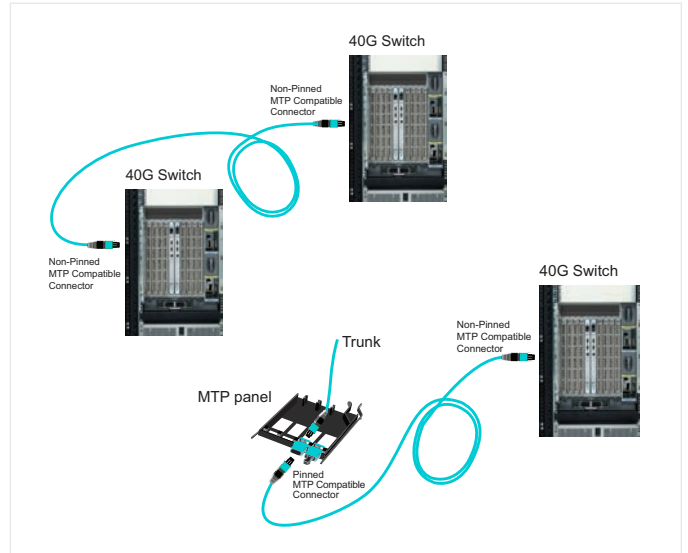
EDGE™ EXACT MTP® PRO Patch Cords

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

These patch cords are manufactured using Corning® CleanAdvantage™ technology and shipped with optimised dust caps, eliminating the need for cleaning and scoping prior to the initial field connection. They are built with MTP PRO push-pull connectors, allowing for a simple one-step colour-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 colour identification while maintaining product integrity.



EDGE EXACT MTP Patch Cord | Photo REN7928



EDGE EXACT MTP Patch Cord | Drawings ZA-3866 and ZA-3868

Ordering Information

J □□ □□ 1 2 □ E Z - N □ □□□ M - EX

1
2
3
4
5

- 1 Select MTP connector.**
 75 = MTP 12 F (non-pinned) multimode
 93 = MTP 12 F (pinned) multimode
 89 = MTP 12 F (pinned) single-mode
 90 = MTP 12 F (non-pinned) single-mode

- 2 Select MTP connector.**
 75 = MTP 12 F (non-pinned) multimode
 93 = MTP 12 F (pinned) multimode
 89 = MTP 12 F (pinned) single-mode
 90 = MTP 12 F (non-pinned) single-mode

- 3 Select fibre type.**
 T = 50 µm multimode (OM3)
 Q = 50 µm multimode (OM4)
 V = 50 µm wide band multimode (OM5)
 G = Single-mode Ultra (OM2)

- 4 Select polarity.**
 A = TIA-568 Type-A
 B = TIA-568 Type-B
- 5 Select patch cord length.**
 001-305 metres
(Measured in 1m increments)

For patch cord polarity, reference [AEN151](#).
 Always list lowest numbered connector first.
 For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT Trunk Harnesses

The EDGE™ EXACT trunk harness is designed to facilitate an interconnection 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 Push-Pull connector to connect into a trunk. This solution can be used in an equipment distribution area (EDA).

EDGE trunk harnesses are manufactured with Corning® CleanAdvantage™ technology.



EDGE EXACT Trunk Harness | Photo REN7795

Ordering Information



- 1** Select MTP® connector.
93 = MTP (pinned) multimode low-loss
89 = MTP (pinned) APC single-mode
- 2** Select the breakout connector type
79 = LC Uniboot, low-loss MM
78 = LC Uniboot SM
- 3** Select fibre type.
T = 50 µm multimode (OM4)
V = 50 µm Wideband multimode (OM5)
G = Single-mode (OS2)
- 4** Defines cable type.
LZ = LSZH™, harness
- 5** Select leg length in mm (leg OD is 2.0 mm). Uniform leg length is 150 mm. For longer lengths, please select from the following:
J = 300 mm
K = 600 mm
L = 900 mm
M = 1200 mm
N = 1500 mm
P = 1800 mm
Furcation legs are colour-coded by fibre type.
- 6** Defines harness polarity.
A = Type A
- 7** Select overall length in metres. 001-060 meters

Harness length is measured from MTP connector to furcation plug and therefore does not include LC leg length.
For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT Module Harnesses

The EDGE™ EXACT 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 push-pull 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).

EDGE EXACT module harnesses are manufactured with Corning® CleanAdvantage™ technology.



EDGE EXACT Module Harness | Photo REN7795

Ordering Information



1 Select MTP® connector.
 75 = MTP (non-pinned) multimode low-loss
 90 = MTP (non-pinned) APC single-mode

2 Select the breakout connector type
 79 = LC Uniboot, low-loss MM
 78 = LC Uniboot SM

3 Select fibre type.
 T = 50 µm multimode (OM4)
 V = 50 µm Wideband multimode (OM5)
 G = Single-mode (OS2)

4 Defines cable type.
 LZ = LSZH™, harness

5 Select leg length in mm (leg OD is 2.0 mm)
Uniform leg length is 150 mm.
For longer lengths, please select from the following:
 J = 300 mm
 K = 600 mm
 L = 900 mm
 M = 1200 mm
 N = 1500 mm
 P = 1800 mm

Furcation legs are colour-coded by fibre type.

6 Defines harness polarity.
 B = Type B

7 Select harness length.
 001-060 meters

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

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT Universal Modules

Features

- Breaks out 12-fibre MTP® terminations from the rear into LC Duplex connectivity at the front
- Ultra-low-loss connectivity enables system design flexibility
- Internal wiring (universal polarity) ensures correct fibre polarity throughout the system
- LC Duplex adapters with translucent inward folding shutters
 - provide reliable dust protection
 - allow fibre identification with visual fault locator (VFL)
 - eye safety by diffusing laser light
 - single-handed LC Duplex operation
 - no contact with connector end face
- Easily swappable with MTP panels to:
 - accommodate changing requirements while leaving trunk cable infrastructure in place
 - migrate to MTP ports for parallel optics
- Manufactured with Corning® CleanAdvantage™ technology



EDGE EXACT MTP to LC Module | Photo REN6521

Optical Performance

Part Number	Endface Type	Module Insertion Loss, Max	Fibre category	Adapter Colour Front
ECM-UM12-05-93Q-EX	PC	0.35 dB	50 µm multimode (OM4)	Turquoise
ECM-UM12-04-89G-EX	APC	0.6 dB	SM (OS2)	Blue

Solution Configuration for EDGE Housings

Part Number	Height	Number of 1/10G Ports	Number of 40GBASE-LR4 Ports	Number of 100GBASE-LR4 Ports	Number of Modules	Number of Fibres
EDGE-01U	1U	48	48	48	8	96
EDGE-01U-SP	1U	72	72	72	12	144
EDGE-02U	2U	144	144	144	24	288
EDGE-04U	4U	288	288	288	48	576
EDGE-01U-FP	1U	48	48	48	8	96
EDGE-02U-FP	2U	96	96	96	16	192
EDGE-04U-FP	4U	192	192	192	32	384

Note: 40 and 100G with single-mode application is based on cWDM with two fibres (LC duplex).

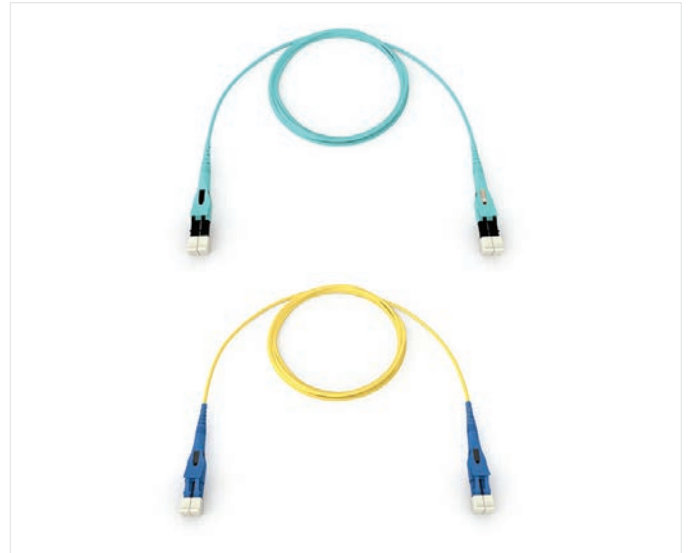
For OM4 heather violet cable jacket, please add -VI at the end of the part number.

EDGE™ EXACT LC Duplex Uniboot Patch Cords

Reverse polarity LC Duplex Uniboot patch cords allow for the quick-and-easy conversion from a TIA-568 A-B polarity to a TIA-568 A-A polarity without exposing the fibres or needing any tools. The patch cords come with a straight-through polarity from the factory, but can be easily converted into a flipped cable with no tools. The uniboot design allows one cable to carry 2 fibres, reducing the cable bulk when routing.

Features

- Slim round 2-fibre interconnect cable with Uniboot style duplex connectors for improved handling in high-density applications
- Low-loss connectivity enables system design flexibility
- Corning® ClearCurve® multimode or single-mode fibres, to withstand tight bends and challenging cable routes
- Corning® CleanAdvantage™ technology and optimised caps eliminate the need for scoping and cleaning prior to initial field connection



EDGE EXACT LC Uniboot Patch Cords MM/OM4 and SM | Photos REN6462 and REN6461

Optical Performance

Fibre Type	LC Connector Insertion Loss	Reflectance
OM3, OM4, OM5	0.1 dB	≤ -20 dB
OS2	0.25 dB	≤ -58 dB

Ordering Information

E
 □□
 □□
0 2
□
N Z 2 0
□□□
M - EX

- 1** **Select connector one type.**
 57 = SC Duplex multimode (OM3/OM4/OM5)
 79 = LC Duplex multimode (OM3/OM4/OM5)
 78 = LC Duplex single-mode (OS2)

3 **Select fibre type.**
 T = 50 µm multimode (OM3)
 Q = 50 µm multimode (OM4)
 V = 50 µm Wideband multimode (OM5)
 G = Single-mode (OS2)

5 **Select cable length in metres.**
 Standard lengths are 001, 002, 003, 004, 005, 007, 008, and 010

2 **Select connector two type.**
 79 = LC Duplex multimode (OM3/OM4/OM5)
 78 = LC Duplex single-mode (OS2)

4 **Defines cable type.**
 LZ = LSZH™ cable

For OM4 heather violet cable jacket, please add -VI at the end of the part number.

CORNING



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