

40G/100G INSTALLATION USING 8-COUNT FIBER CORE

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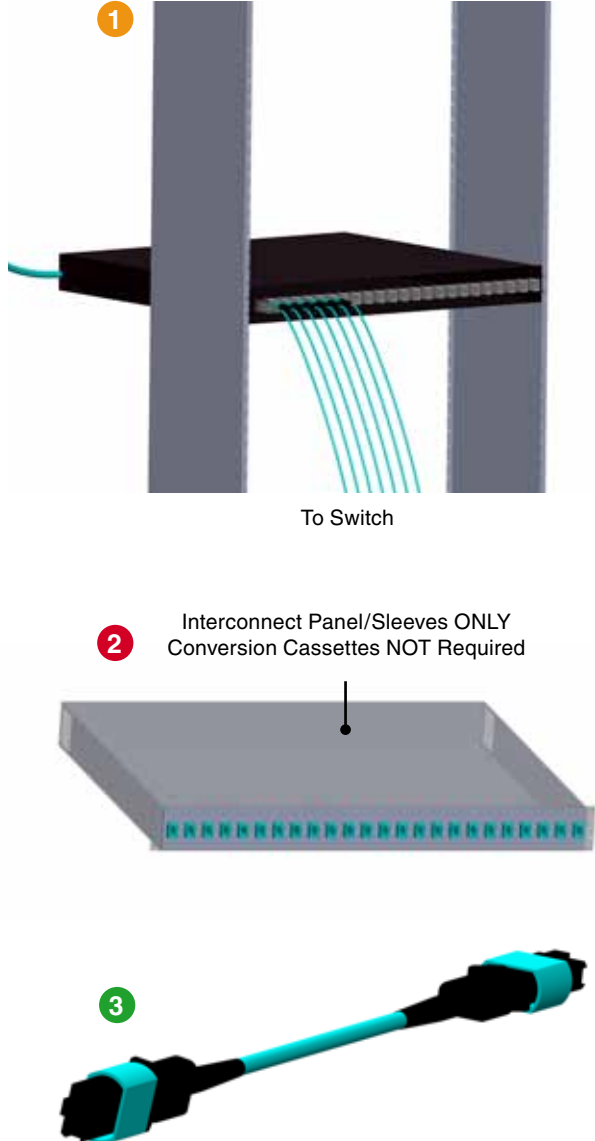
Standards require 4TX and 4RX fibers, separated by 4 dark fibers. This solution reduces the overall cost of the installation by using simple interconnect panels in racks containing switch gear. The panels may be housed in a patch panel if required. Cable containing 8 fiber based ribbons can be used to ensure 100% fiber utilization in the distribution network without requiring conversion cassettes as does the 12ct fiber core network. Connectorization to optical switch gear is completed using 8 Fiber MPO jumper assembly.

CABLE RECOMMENDATIONS

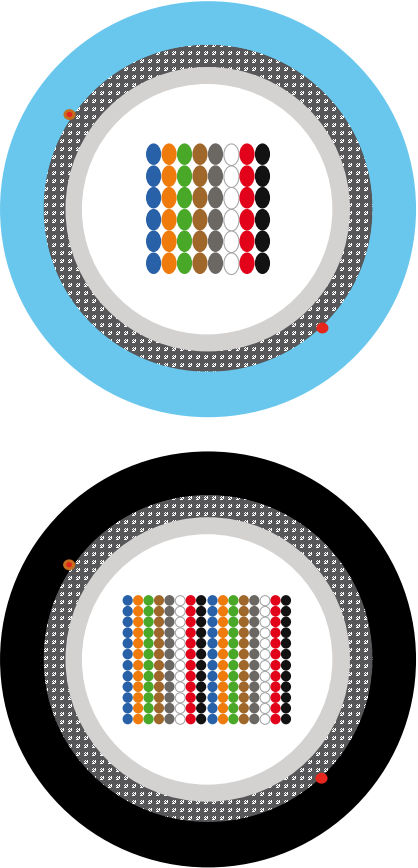
- 1. OFNR/OFNP Distribution Cable Containing 8 Fiber Ribbons (OM3, OM4 or Single-mode Fiber as Required)

HARDWARE RECOMMENDATIONS

- 1. Patch Panel – 1RU with up to 24 MPO Interconnect Adapters
- 2. 8 Fiber MPO to MPO Cable Assembly



Sumitomo Electric Lightwave recommends using 8 Fiber ribbon cables because they provide the best value in the smallest configuration possible. Some cables will contain 16 fiber ribbons, which can be split into 8 fiber subunits. Additionally, the cost of termination in the field is approximately 40% less than single fiber termination methods.



1 CABLE OPTIONS

- a. Flexible Ribbon Cable with 8 Fiber Subunits
Example PN: SE-1RPR048-8-8 48F;
OFNR Ribbon Riser Cable, OM4 Fiber
Example PN: SE-1RUR192-7-8 192F;
OFNP Ribbon Riser Cable, OM3 Fiber
- b. Indoor/Outdoor Ribbon with 8F Subunits
Example PN: SE-5RGR096-B-8 96F;
Ribbon Indoor/Outdoor Riser Cable, SM Fiber

2 HARDWARE OPTIONS

- a. 1RU with 24, 8F MPO Interconnect Sleeves ONLY
Example PN: FT01SL-8M-4
- b. 2RU with 48, 8F MPO Interconnect Sleeves ONLY
Example PN: FT02SL-8M-8
- c. 4RU with 96 8F MPO Interconnect Sleeves ONLY
Example PN: FT04SL-8M-12

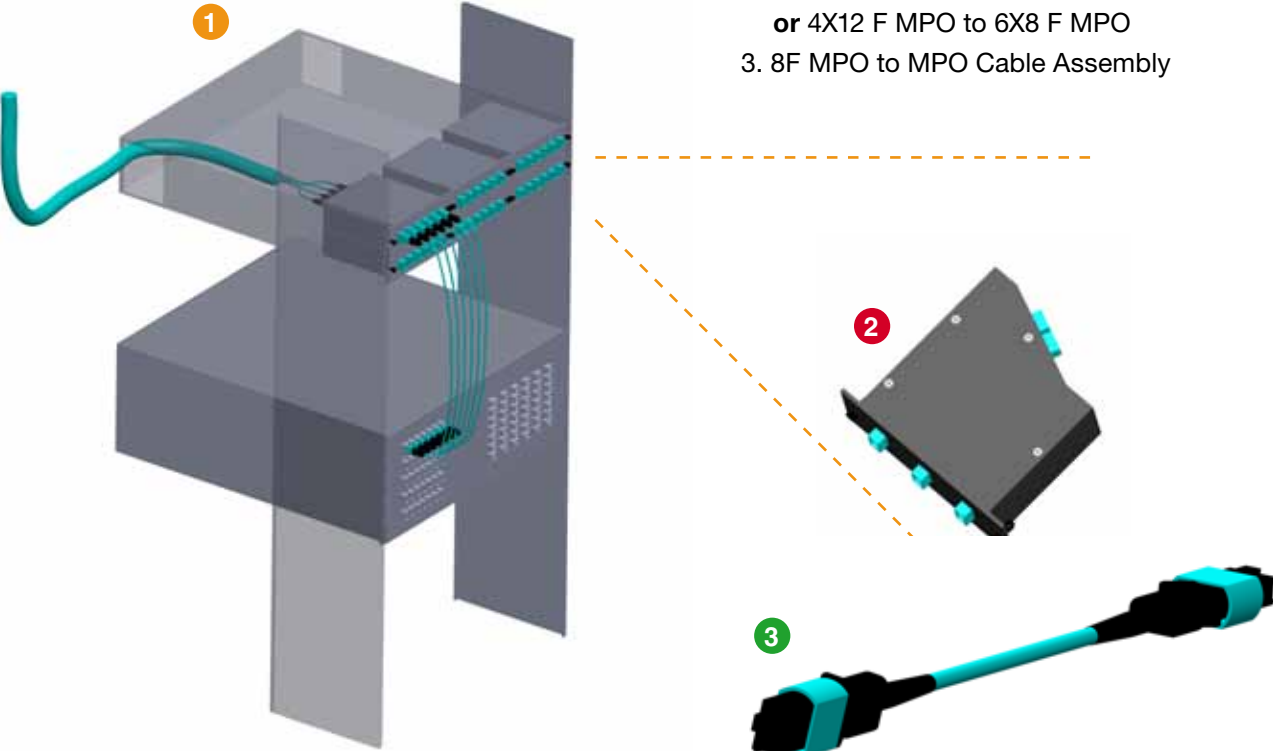
3 OTHER RECOMMENDED PRODUCTS

- a. Optical MPO Jumper w/8f Flat Ribbon Cord for Front Side Patching
Example PN: CA-3008IURXMY003F
- b. 8F Lynx2 MPO CustomFit® Splice- On Connector for Field Cable Termination
Example PN: LYNX2-MPO8M-MM03-RBN

40G/100G INSTALLATION USING 12-COUNT FIBER CORE

40G/100G INSTALLATION USING 12-COUNT FIBER CORE

This solution is designed for installing new 40G/100G ports utilizing 12 count fiber in the network core and can also be utilized when retrofitting existing data centers already running 1-10G systems across a 12 fiber based distribution network. In this case, the solution will allow for 100% utilization of the existing fiber plant and meet the newer 40/100G standard format.



CABLE TERMINATION RECOMMENDATIONS

- 1. Re-Terminate Existing 12Fiber Subunits with MPO Connectors if Needed
 - a. Lynx2 MPO CustomFit® Splice-On Connector for Field Termination of Fibers
 - b. MPO Ribbon Pigtail

HARDWARE RECOMMENDATIONS

- 1. Patch Panel–Existing
- 2. Conversion Cassette 2X12F MPO to 3X8F MPO, or 4X12 F MPO to 6X8 F MPO
- 3. 8F MPO to MPO Cable Assembly

Sumitomo Electric Lightwave recommends using conversion cassettes of the correct format to replace existing interconnect panels or 12 fiber cassettes. With this conversion, 100% of the existing fiber plant will be utilized. The cassettes will reformat the signal to the 40G/100G lane requirements. An 8 fiber patch cord will then connect the cassette to the optical modules on the switch. For optimum results and ease of installation, the front side patch cord should employ an 8 fiber flat ribbon cord. Polarity method B is built into the cassettes.



1 CABLE TERMINATION OPTIONS*

- a. Lynx2 MPO Splice-On Connector (Male and Female Available)
 - I. OM3/OM4 Fiber
PN LYNX2-MPO12M-MM03-RBN
OM3/OM4 Fiber
PN LYNX2-MPO12M-MM03-RC3.0
 - II. SM Fiber PN LYNX2-MPO12M-SMSL-RBN
- b. MPO – Ribbon Pigtail
 - I. OM3 Fiber PN BOR-B012MPO7
 - II. OM4 Fiber PN BOR-B012MPO8
 - III. SM Fiber PN BOR-B012MPOD

2 HARDWARE OPTIONS

- a. Conversion Cassettes**
 - I. 2X12 to 3X8F MPO OM4 PN FTMP-MP2-3-OM4-B
 - II. 4X12 to 6X8F MPO OM3 PN FTMP-MP4-6-OM3-B
 - III. 8X24 to 24X8F MPO 1RU Conversion Cassette

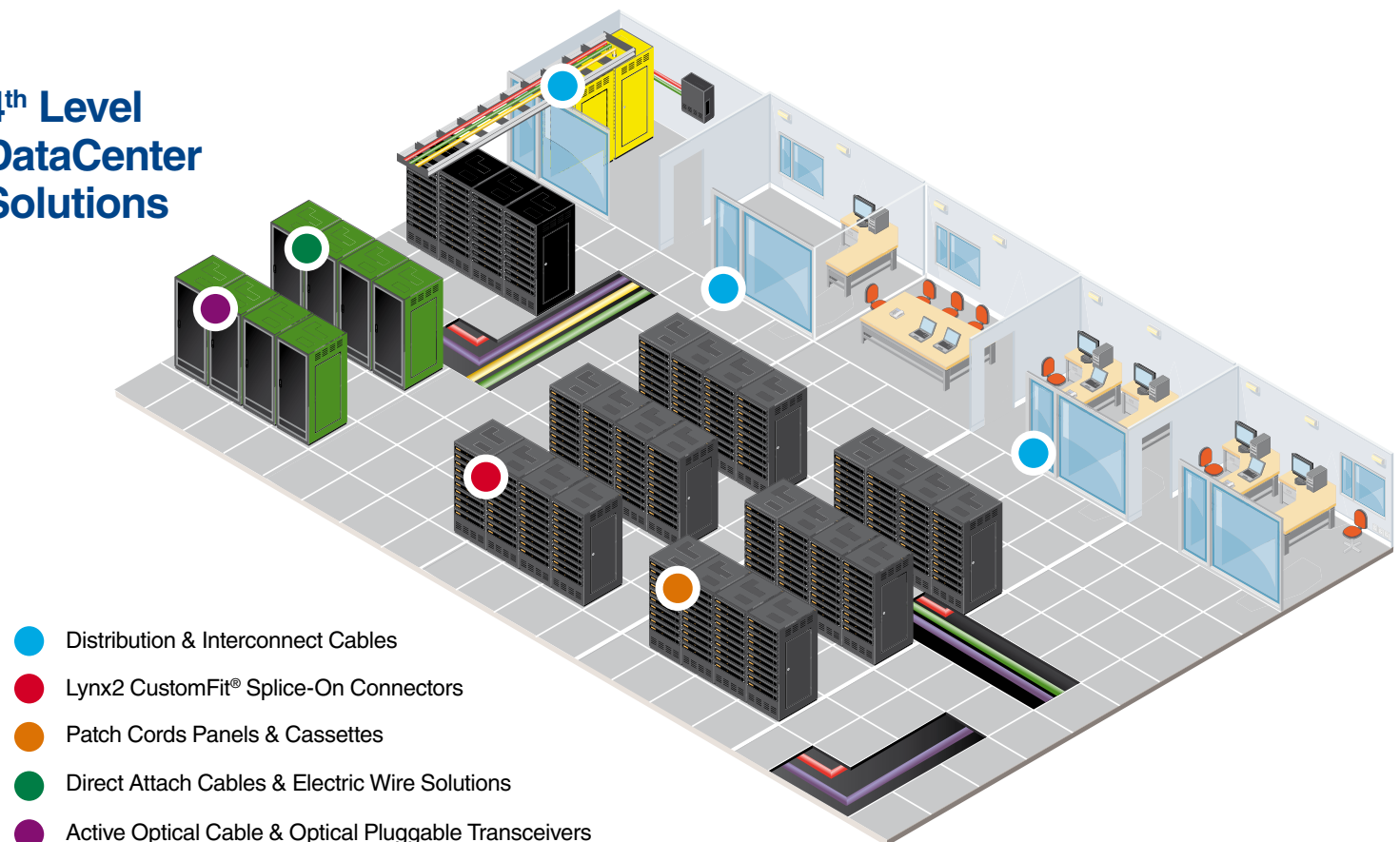
3 OTHER RECOMMENDED PRODUCTS

- a. MPO Jumper 8f Flat Ribbon Cord for Front Side Patching
Example PN: CA-2008IURXMY003F
- b. 8F Lynx2 MPO Splice-On Connector for Field Cable Termination
Example PN: LYNX2-MPO8F-MM03-RC3.0

*Note, existing cable plant must contain 250µm fibers to be able to terminate with a field installable MPO or ribbon pigtail. Existing 900µm fibers cannot be spliced using a mass fusion splicer.
**Conversion cassettes can utilize 8F, 12F or 24F MPO connectors.

1-10G DATA CENTER INSTALLATION

4th Level DataCenter Solutions



Sumitomo Electric Lightwave provides the latest and most advanced integrated and end-to-end optical fiber solutions that leverage your existing network's physical layer infrastructure — while quickly, easily, and most cost effectively allowing you to support 10G today and 40G/100G tomorrow.

What differentiates Sumitomo Electric Lightwave's 4th Level data center and network solutions from other systems is the enablement of flexible, Real-Time, On-Site infrastructure design. Regardless of the size of your data center, 4th Level solutions will help you to meet upcoming exponential growth and optimize the bandwidth demands of your network today as you simultaneously build your data center for the future — with superior quality products and unprecedented service and support.

CONTACTS:
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1-10G DATA CENTER INSTALLATION CENTER

This solution is designed to support 1-10G data networks and to ensure that the end user will be able to upgrade easily the existing infrastructure to 40G/100G with minimal cost and disruption. The network utilizes single fiber channels; one transmit-one receive. A typical termination utilizes LC connectors. To future enable the network, consideration should be given to the base fiber count installed. Therefore, if the network may be upgraded in the future to higher speeds, an 8 fiber subunit should be considered since it will work not only for the 1/10G installation, but will also support upgrades to 40G seamlessly and allow for 100% fiber utilization at all times.

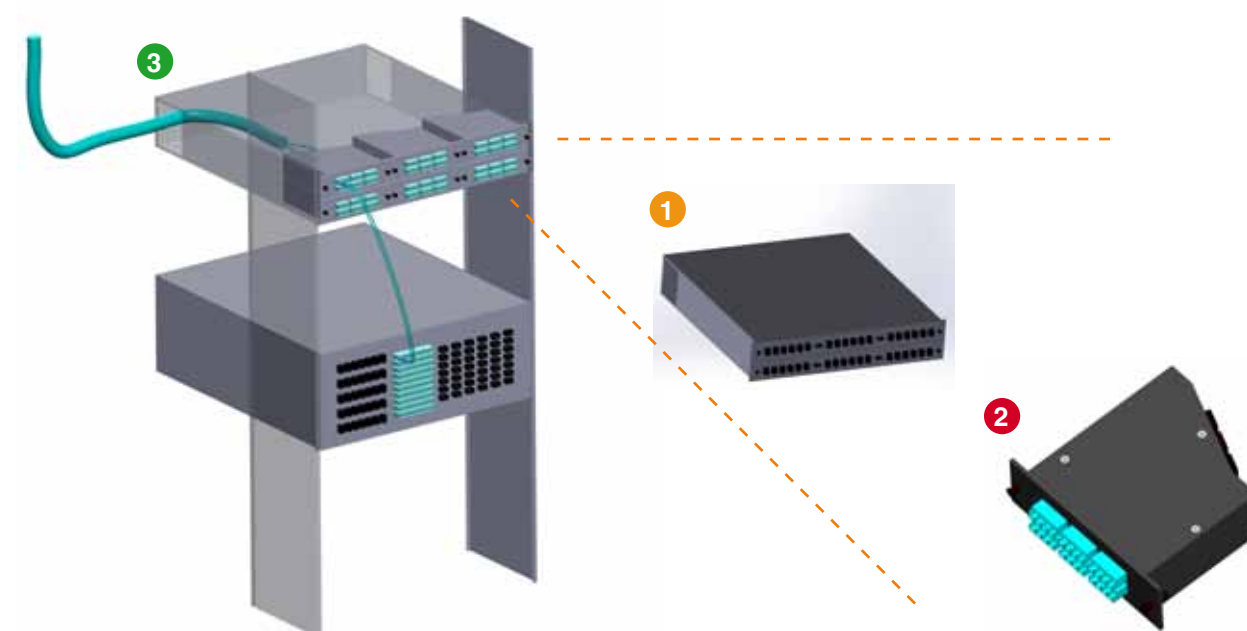
For future upgrades, use of a 3X8 to 24F LC cassette is highly recommended. Of course, if the 12 fiber based solution is desired, it can also be upgraded to meet 40/100G networks as outlined earlier.

CABLE RECOMMENDATIONS

1. OFNR/OFNP Distribution Cable Containing 8/12F Ribbons or Single Fibers*** OM3, OM4 or Single-mode Fiber as Required

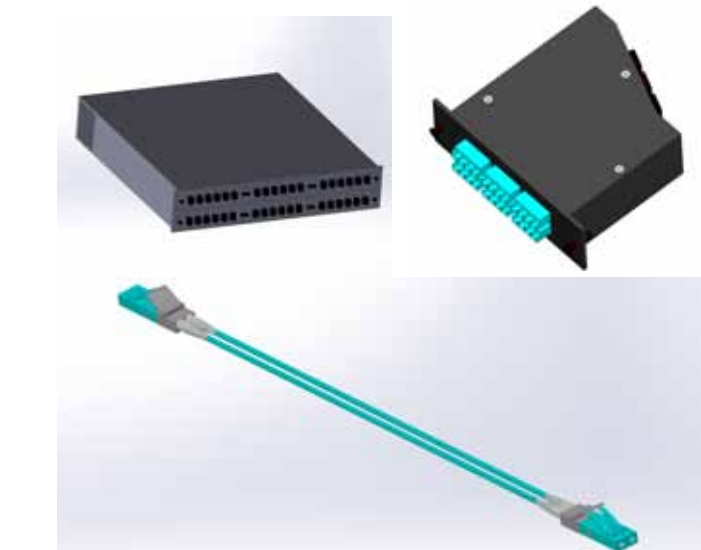
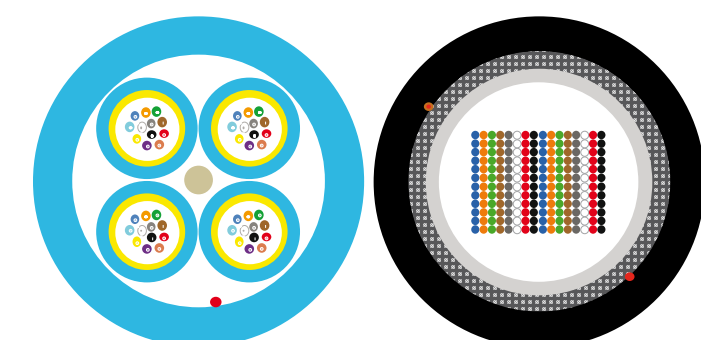
HARDWARE RECOMMENDATIONS

1. Patch Panel – 1/2/3/4RU as Needed for Fiber Count
2. 8F/12F MPO to LC Cassettes (1X12F or 2X24F)
3. LC Duplex Patch Cords



*** Any cable construction can be used for 1/10G installations. However, termination and future growth concerns are best addressed by using ribbon cables.

Sumitomo Electric Lightwave recommends using ribbon cables because they provide the best value in the smallest configuration possible. Additionally, the cost of termination in the field is approximately 40% less than single fiber termination methods. However, either base cable subunit can be effectively utilized in this scenario.



1 CABLE OPTIONS

- a. Distribution Cable with 12F Subunits (250µm or 900µm fibers)
Example PN: SE-1WUA048-8; 48F, OFNR Riser Cable, OM4 fiber
- b. Indoor/Outdoor Ribbon with 12F Subunits
Example PN: SE-5RGR096-B-A 96F Ribbon Indoor/Outdoor Riser Cable, SM fiber

2 HARDWARE OPTIONS

- a. 1/2/4RU Patch Panels
Example PN: FT02SL-8M
- b. 2X12F MPO to LC Cassette OM4, PN: FTLCD-MP24COM4-L2
3X8F MPO to LC Cassette OM3, PN FTLCD-MP24COM3-L3
- c. LC Lynx2 Splice-On Connector for Field Cable Termination for Single Fiber Termination
Example PN: LYNX2-LCPCM5-250900

3 OTHER RECOMMENDED PRODUCTS

- a. LC Duplex Patch Cord, OM3 1M
Example PN: CA-3002IUZ001M



4th Level DataCenter Solutions Guide

Advanced, Integrated, and End-to-End Optical Fiber Solutions...
Enabling Flexible, Real-Time, On-Site Infrastructure Design.

