Emerging Technology Increases Fiber Connections

New technology like 5G and IoT, IP migration, the move to 4K content and the shift from 40G to 100G Ethernet and emerging 400G technologies are changing the landscape in data centers, broadcast environments and entertainment venues.

More fiber connections are needed to handle these unavoidable demands. To ensure uptime and efficient operation and maintenance, there’s also an increasing need to effectively manage this growing number of fiber connections.

DCX Optical Distribution Frame

Handle high amounts of fiber connections and add density to fiber without compromising on ease of use with the new DCX Optical Distribution Frame. It optimizes the ROI of your fiber infrastructure, offering lower total cost of ownership in terms of capital and operating expenses.

Highest per-square-foot fiber density while maximizing signal integrity and usability
What makes the **DCX** System Innovative?

- **Highest fiber termination density** available in a small footprint, with 4,608 terminations per cabinet.
- **Maximum signal integrity** through bend radius control for incoming and outgoing cables.
- **Simple patch cord access** via pull-out trays and clearance around connector.
- **Futureproof functionality**, supporting migration from Base-12 to Base-8, Base 16 and Base-24 without infrastructure changes.
- **Flexibility of termination methods**, including MPO trunk cables, multi-fiber trunk cables with LC connectors, fusion splicing with pigtails or splice-on connectors.
DCX Cabinets

DCX Cabinets are fully configurable, front-access cabinets that serve as the main building block for a large fiber cross connect or as a high-density fiber interconnect. They protect fiber connections with a lockable front door and side panels that can be unclipped from the inside. Assemble side by side and back to back for scalability.

DCX Cabinet Components and Accessories

Order as a basic cabinet frame and dress on-site with doors, sides and cable management accessories. Pre-configured cabinets can be upgraded with additional cable entry brackets, cable distribution brackets and patch cord spools as fiber terminations increase. A patch cord management storage module can be inserted between side-by-side assemblies to manage patch cords that run to other cabinets. In-cabinet channel kits can create horizontal patch cord management channels.

Benefits

• Cable management accessories control bend radius of fiber cables and patch cords to protect signal integrity
• Place against a wall or in back-to-back arrangements to minimize use of floor space
• Simplify BOMs and save time during deployment with fully configured cabinets

Features

• Simple, easy-to-install accessories to dress incoming cables and patch cords
• Seismic frame made of 14 gauge steel meets Telcordia GR-63-CORE Zone 4 requirements
• Modular cabinets feature configurable item numbers

Unlimited Scalability with modular frames that act as building blocks
DCX Housings

DCX Housings are available in left-to-right and right-to-left cable flow configurations for optimized management. The housings have a front-access design with 12 trays that pull out for easy access to cables connected to the back of adapter frames and cassettes. Modular cassettes can be mixed on the same tray (Base-8, Base-12, Base-16 or Base-24), enabling easy and cost-effective migration and preventing density loss.

Benefits

• Enhance signal integrity due to built-in cable bend radius control and strain relief
• Simplify management with full access around each connection for easy insertion and removal
• Reduce human error and connection issues with labeling space at the front and inside the patch cord cover for easy port reference

Features

• 4U housing with front-access design and capacity of 576 fiber terminations (using LC connectors)
• Built-in cable and patch cord management on every tray
• Articulated cable channels provide protection and bend radius control for fiber cables entering housings
DCX Adapter Frames and Cassettes

DCX adapter frames and cassettes have a modular, compact design that allows for assembly of four (Base-12) or six (Base-8) cassettes per housing tray.

Benefits
- Optimize system density regardless of the termination method
- Lower network downtime for maintenance thanks to MPO cassette modularity; only 12 fibers are affected (as opposed to 24 or 36 fibers in other solutions)
- Flippable pre-terminated cassettes provide easy fiber polarity management and simplify system planning (only one part number)

Features
- Adapter frame available with LC, SC or MPO connector interface
- Pre-terminated cassettes available in four-port (Base-8) and six-port (Base-12)
- Splice cassettes available empty or preloaded with pigtails or splice holder and protectors

Easy and Efficient Fiber Polarity Management
- Symmetrical cassette design maintains sequential port numbering (flip it over)
- Same cassette on both ends simplifies planning
DCX Cabinets

<table>
<thead>
<tr>
<th>Description</th>
<th>Maximum Capacity</th>
<th>Belden Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCX Cabinet Basic Structure: Seismic, 84&quot; x 36&quot; x 15&quot;, Left-Right, White. No Top or Bottom Panels, No Doors, No Side or Rear Panels, No Cable Distribution Bracket, No Patch Cord Spools</td>
<td>8</td>
<td>2304 (4608)</td>
</tr>
<tr>
<td>DCX Cabinet Basic Structure: Seismic, 84&quot; x 36&quot; x 15&quot;, Right-Left, White. No Top or Bottom Panels, No Doors, No Side or Rear Panels, No Cable Distribution Bracket, No Patch Cord Spools</td>
<td>8</td>
<td>2304 (4608)</td>
</tr>
<tr>
<td>DCX Cabinet Configured, No Side Panels: Seismic, 84&quot; x 36&quot; x 15&quot;, Left-Right, White, including Top Panel with Brush + 4 Cable Entry Brackets, Bottom Panel with Brush + 4 Cable Entry Brackets, Bifold Plexi Door, Full Rear Panel, 8 Cable Distribution Brackets, 8 Patch Cord Spools</td>
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<td>2304 (4608)</td>
</tr>
<tr>
<td>DCX Cabinet Configured, No Side Panels: Seismic, 84&quot; x 36&quot; x 15&quot;, Right-Left, White, including Top Panel with Brush + 4 Cable Entry Brackets, Bottom Panel with Brush + 4 Cable Entry Brackets, Bifold Plexi Door, Full Rear Panel, 8 Cable Distribution Brackets, 8 Patch Cord Spools</td>
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</tr>
<tr>
<td>DCX Cabinet Fully Configured: Seismic, 84&quot; x 36&quot; x 15&quot;, Left-Right, White, including Top Panel with Brush + 4 Cable Entry Brackets, Bottom Panel with Brush + 4 Cable Entry Brackets, Bifold Plexi Door, Solid Side Panels, Full Rear Panel, 8 Cable Distribution Brackets, 8 Patch Cord Spools</td>
<td>8</td>
<td>2304 (4608)</td>
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<tr>
<td>DCX Cabinet Fully Configured: Seismic, 84&quot; x 36&quot; x 15&quot;, Right-Left, White, including Top Panel with Brush + 4 Cable Entry Brackets, Bottom Panel with Brush + 4 Cable Entry Brackets, Bifold Plexi Door, Solid Side Panels, Full Rear Panel, 8 Cable Distribution Brackets, 8 Patch Cord Spools</td>
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<td>2304 (4608)</td>
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DCX Cabinets Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Belden Part Number</th>
</tr>
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<tbody>
<tr>
<td>DCX Cable Entry Bracket - Top (4 Brackets for 24 cables) White</td>
<td>DCX-TOPE-KIT03W</td>
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<tr>
<td>DCX Cable Entry Bracket - Bottom (4 Brackets for 24 cables) White</td>
<td>DCX-BOTE-KIT02W</td>
</tr>
<tr>
<td>DCX Cable Distribution Attachment Kit (1 Bracket w/2 Plastic Holders up to 24 LPM Transitions Per Holder) Black</td>
<td>DCX-CABV-KIT01B</td>
</tr>
<tr>
<td>DCX Patch Cord Spool Kit (1 Fixed Spool + Management Bar) Black</td>
<td>DCX-SP00-KIT01B</td>
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<tr>
<td>DCX Horizontal In-Cabinet Channel Kit Left-Right (1 Patch Cord Tray) White</td>
<td>DCX-HINC-KIT01W</td>
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<tr>
<td>DCX Horizontal In-Cabinet Channel Kit Right-Left (1 Patch Cord Tray) White</td>
<td>DCX-HINC-KIT02W</td>
</tr>
<tr>
<td>DCX Patch Cord Storage Module White W/Black Door w/ 8 Spools</td>
<td>DCX-PCST-MOD01W</td>
</tr>
<tr>
<td>DCX Cabinet Ganging Kit for Line Up (Side-by-Side or Back-to-Back)</td>
<td>DCX-GANG-KIT01</td>
</tr>
</tbody>
</table>

DCX Cabinets

Building a SmartPart Number

```
DCX
1. Choose Type
2. Choose Cable Flow
3. Choose Color
4. Choose Top Panel
5. Choose Bottom Panel
6. Choose Doors
7. Choose Side Panel
8. Choose Rear Panel
9. Choose Cable Attachment
10. Choose Spools

<table>
<thead>
<tr>
<th>Type</th>
<th>Cable Flow</th>
<th>Color*</th>
<th>Top Panel</th>
<th>Bottom Panel</th>
<th>Doors**</th>
<th>Side Panel</th>
<th>Rear Panel</th>
<th>Cable Attachment</th>
<th>Side Panel</th>
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</table>

*By default top, bottom, side, rear panels are powder coated to match frame color
**By default door, cable distribution brackets and spool metal supports are black medium texture

Note: Standard white enclosures will have black doors/standard black enclosures will have black doors
Consult factory for special color options and/or enclosure configurations
```
## DCX Housings

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of Modules</th>
<th>Total LC Duplex Ports</th>
<th>Belden Part Number</th>
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<tbody>
<tr>
<td>DCX Housing 4U, Left-Right Cable Flow, with 12 Trays, Trunk &amp; Patch Cord Management</td>
<td>48 72</td>
<td>288</td>
<td>DCX-04FM-LR</td>
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<tr>
<td>DCX Housing 4U, Right-Left Cable Flow, with 12 Trays, Trunk &amp; Patch Cord Management</td>
<td>48 72</td>
<td>288</td>
<td>DCX-04FM-RL</td>
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</tbody>
</table>

## DCX Adapter Frames

### Description

<table>
<thead>
<tr>
<th>Patch Ports (fibers)</th>
<th>Belden Part Number</th>
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<tbody>
<tr>
<td>MPO Type-A (Key-Up/Key-Down)</td>
<td>FF3D04MP FF4D04MP FFSD04MP</td>
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<tr>
<td>LC Duplex</td>
<td>FF3D04LD FF4D04LD FFSD04LD FFSD04LA</td>
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<tr>
<td>SC Duplex</td>
<td>FF3D03SD FF4D03SD FFSD03SD FFSD03SA</td>
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</table>

### Building a Smart Part Number

1. Choose Fiber Type
   - 3 OM3
   - 4 OM4
   - S OS2

2. Choose Product Family
   - D DCX

3. Choose Port Count (Patch Side)
   - 04 4-port
   - 06 6-port

4. Choose Connector (Patch Side)
   - LD LC Duplex
   - LA LC/APC Duplex
   - SD SC Duplex
   - SA SC/APC Duplex
   - MP MPO Up/Down
DCX Pre-Terminated Cassettes

**Description** | **Belden Part Number**
--- | ---
Patch Ports (fibers) | OM3 Aqua Adapters | OM4 Erika Violet Adapters | SM Blue Adapters | SM/APC Green Adapters
**LC Duplex to MPO-12 (12f) Female Type-A (Base-12)** | 6 (12) | FC3D06LDMF | FC4D06LDMF | FCSD06LDMF | FCSD06LAMF
**LC Duplex to MPO-12 (8f) Female SR4 (Base-8)** | 4 (8) | FC3D04LD4F | FC4D04LD4F | FCSD04LD4F | FCSD04LA4F

**DCX Pre-Terminated Cassettes**

Building a SmartPart Number

1. Choose Fiber Type
2. Choose Product Family
3. Choose Port Count (Patch Side)
4. Choose Connector (Patch Side)
5. Choose Configuration

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Product Family</th>
<th>Port Count (Patch Side)</th>
<th>Connector (Patch Side)</th>
<th>Connector (Trunk Side)</th>
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<td>4-port</td>
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<td>MF</td>
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<tr>
<td>4</td>
<td>OM4</td>
<td>6-port</td>
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<tr>
<td>S</td>
<td>OS2</td>
<td></td>
<td>SD</td>
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</table>

**DCX Splice Cassettes**

**Description** | **Belden Part Number**
--- | ---
Patch Ports (fibers) | OM3 Aqua Adapters | OM4 Erika Violet Adapters | SM Blue Adapters | SM/APC Green Adapters
**LC Duplex - Includes 250 μm pigtails, splice tray and heat shrink splice protector sleeves** | 6 (12) | FC3D06LDFP | FC4D06LDFP | FCSD06LDFP | FCSD06LAFP
**LC Duplex - Empty (pigtails, trays, protector sleeves sold separately)** | 6 (12) | FC3D06LDFS | FC4D06LDFS | FCSD06LDFS | FCSD06LAFS

**DCX Splice Cassettes**

Building a SmartPart Number

1. Choose Fiber Type
2. Choose Product Family
3. Choose Port Count (Patch Side)
4. Choose Connector (Patch Side)
5. Choose Configuration

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Product Family</th>
<th>Port Count (Patch Side)</th>
<th>Connector (Patch Side)</th>
<th>Configuration</th>
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<tbody>
<tr>
<td>3</td>
<td>OM3</td>
<td>6-port</td>
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<td>OM4</td>
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<td>LA</td>
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<tr>
<td>S</td>
<td>OS2</td>
<td></td>
<td>SD</td>
<td></td>
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**Choose Configuration**
- FP: Preloaded
- FS: Empty
### FiberExpress MPO Trunks (Base-12, Base-8)

Building a SmartPart Number

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<td>M</td>
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<td>4</td>
<td>010M</td>
<td>P</td>
<td>U</td>
<td>E</td>
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</table>

*If selecting Base-12 Connectors, choose from Base-12 Connector Count. If selecting Base-8 Connectors, choose from Base-8 Connector Count.*

**Examples:**

- FM3MB450MPUEA - FX MPO Trunk, OM3, MPO-12 (Male to Male), Type-B, 4 MPO (48 Fibers), 50 m, OFNP, Mini-distribution (2.0 mm Sub-units), Fan-out: 1.0 m x In-line, Aqua Jacket
- FM4MB350MPUEE - FX MPO Trunk, OM4, MPO-12 Base-8 (Male to Male), Type-B, 3 MPO (24 Fibers), 50 m, OFNP, Mini-distribution (2.0 mm Sub-units), Fan-out: 1.0 m x In-line, Yellow Jacket
- FM4MB050MPUEY - FX MPO Trunk, OM4, MPO-12 Base-8 (Male to Male), Type-B, 12 MPO (96 Fibers), 50 m, OFNP, Mini-distribution (2.0 mm Sub-units), Fan-out: 1.0 m x In-line, Yellow Jacket

### FiberExpress Multi-Fiber Trunks

Building a SmartPart Number

**Examples:**

- A44LD7LD7P050M - FX Multi-Fiber Trunk, OM4, 48 Fibers, LC Duplex, Jacketed 1.6 mm x 1.0 m - LC Duplex, Jacketed 1.6 mm x 1.0 m, OFNP, 50 m, Aqua Jacket
- A39LD7LD7P050M - FX Multi-Fiber Trunk, OM3, 96 Fibers, LC Duplex, Jacketed 1.6 mm x 1.0 m - LC Duplex, Jacketed 1.6 mm x 1.0 m, OFNP, 50 m, Aqua Jacket
- A59LD7LD7P050M - FX Multi-Fiber Trunk, OS2, 96 Fibers, LC Duplex, Jacketed 1.6 mm x 1.0 m - MPO-12 (M), Jacketed 1.6 mm x 1.0 m, OFNP, 50 m, Yellow Jacket
# FiberExpress Patch Cords

**Building a Smart Part Number**

1. Choose Fiber Type
   - **FP**
   - **3**

2. Choose Connector 1
   - LD

3. Choose Connector 2
   - LD

4. Choose Length
   - 03M5

5. Choose Fire Rating
   - R

6. Choose Cable Construction
   - 1

7. Choose Polarity
   - X

8. Choose Jacket Color
   - A

### Fiber Type

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Connector 1</th>
<th>Connector 2</th>
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<tbody>
<tr>
<td>3</td>
<td>LD LC Duplex</td>
<td>LC Duplex</td>
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<tr>
<td>4</td>
<td>LD LC Simplex</td>
<td>LC Simplex</td>
</tr>
<tr>
<td>5</td>
<td>LA LC/APC Duplex</td>
<td>LA LC/APC Duplex</td>
</tr>
<tr>
<td></td>
<td>SA SC Duplex</td>
<td>SC Duplex</td>
</tr>
<tr>
<td></td>
<td>SB SC Simplex</td>
<td>SC Simplex</td>
</tr>
<tr>
<td></td>
<td>SF SC/APC Duplex</td>
<td>SF SC/APC Simplex</td>
</tr>
<tr>
<td></td>
<td>MF MPO-12 (F) Base-8</td>
<td>MF MPO-12 (F) Base-12</td>
</tr>
</tbody>
</table>

### Length

- 100M to 1000M Meters (use M as decimal)

### Fire Rating

- R: Riser
- P: Plenum

### Cable Construction

- 0: Simplex Cord 1.6 mm
- 1: Duplex Zipcord 1.6 mm
- 6: Round 2.0 mm

### Polarity

- X: A/B (Cross)
- A: A/A (Straight)
- B: Type-B

### Jacket Color

- Y: Yellow
- A: Aqua
- E: Erika Violet

### Examples:

- **FPSLDDL03MS5R1XY** - FX Patch Cord, OM3, LC Duplex - LC Duplex, 3.5 m, OFNR, Duplex Zip 1.6 mm, A-To-B, Yellow Jacket
- **FPSLBD03MS5R9BSY** - FX Patch Cord, OS2, LC Simplex/APC - LC Simplex/APC, 3.5 m, OFNP, Simplex 1.6 mm, A-To-A, Yellow Jacket
- **FP44F4F15MS5P6BE** - FX Patch Cord, OM4, MPO-12 Base-8 (F) - MPO-12 Base-8 (F), 15.5 m, OFNP, Round 2.0 mm, Type-B, Erika Violet Jacket
- **FP3LDLD03MS5R1XA** - FX Patch Cord, OM3, LC Duplex - LC Duplex, 3.5 m, OFNR, Duplex Zip 1.6 mm, A-To-B, Aqua Jacket
DCX

Highest per-square-foot fiber density while maximizing signal integrity and usability

Find out more at belden.com/dcx