

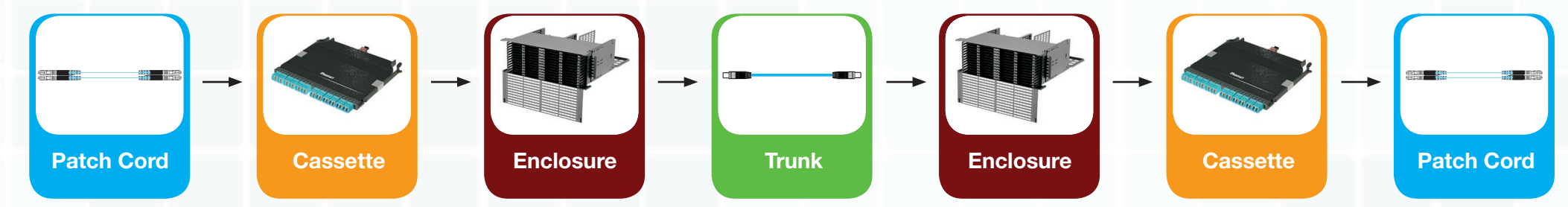
# START HERE

1. Choose your connectivity application solution (A, B, or C) below.
2. Build your chosen solution from components on pages 3, 4, and 5.

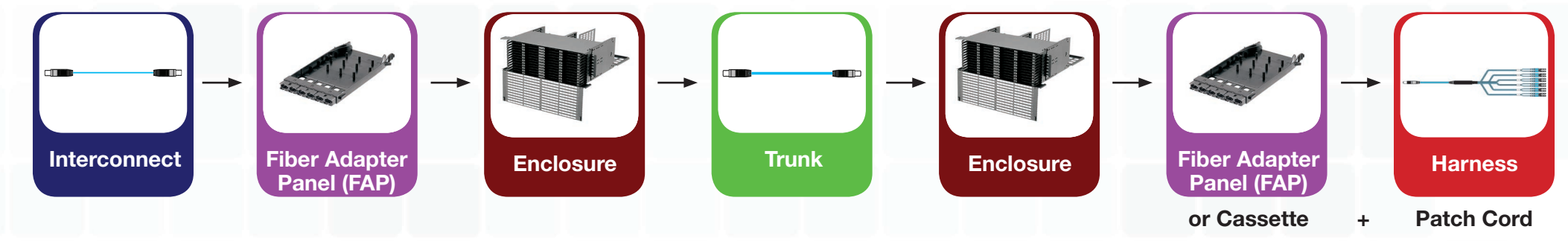


## Connectivity Solution

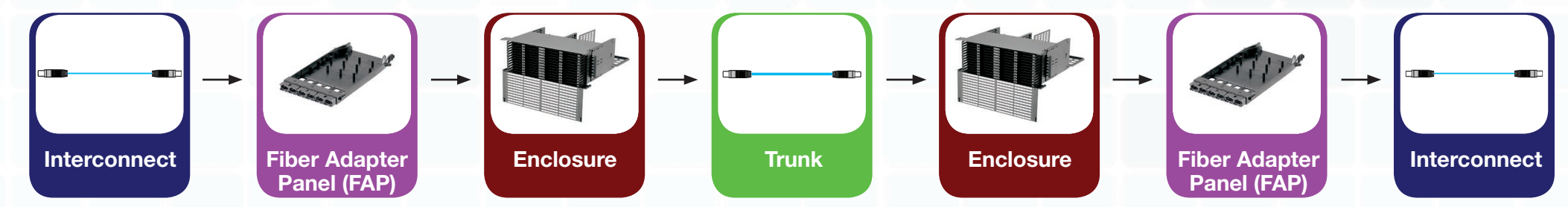
### A. Duplex Example (10G-10G), 40G BiDi, 4, 8, 16, 32G Fibre Channel SAN App



### B. Parallel to Duplex Example (40G-10G), (100G-10G), (100G-40G), (128G-32G)

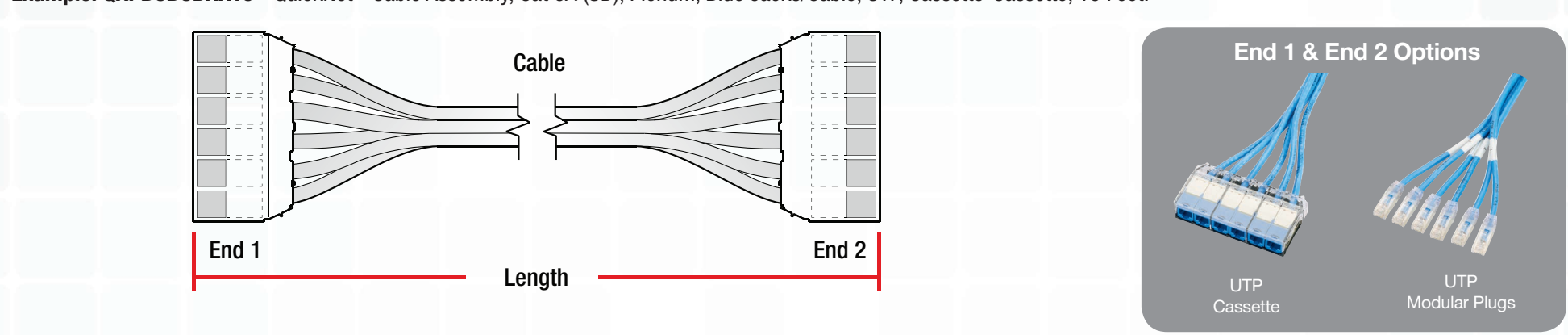


### C. Parallel to Parallel Example (40G-40G), (100G-100G)



## QuickNet™ Copper Trunks and Direct Attach Copper (DAC) Assemblies

**QuickNet™ Copper Trunks**  
**Selection Guide for QuickNet™ Cable Assembly Semi-Custom Part Numbers**  
 Example: QXPBCBCBXX10 - QuickNet™ Cable Assembly, Cat 6A (SD), Plenum, Blue Jacks/Cable, UTP, Cassette-Cassette, 10 Feet.



**Performance Level of Cable**  
 C = Category 6 UTP  
 X = Category 6A (TX8A-SD™ 10Gig™) UTP MaTriX  
 Z = Category 6A (TX8A™ 10Gig™) UTP MaTriX

**Cable Flame Rating**  
 R = Riser  
 P = Plenum

**Cable Color**  
 B = Blue  
 W = White

**Termination Method/Color**  
 End 1 or End 2 Options:  
 CLCL = Cassette Black to Cassette Black  
 CBCB = Cassette Blue to Cassette Blue  
 CWCW = Cassette White to Cassette White  
 CBPX = Cassette Blue to Plug

**Custom Labeling**  
 X = No Custom Labels

**Assembly Options**  
 X = No Options Requested

**Assembly Length**  
 10' to 296' (one foot increments)  
 (10', 196' for small diameter)

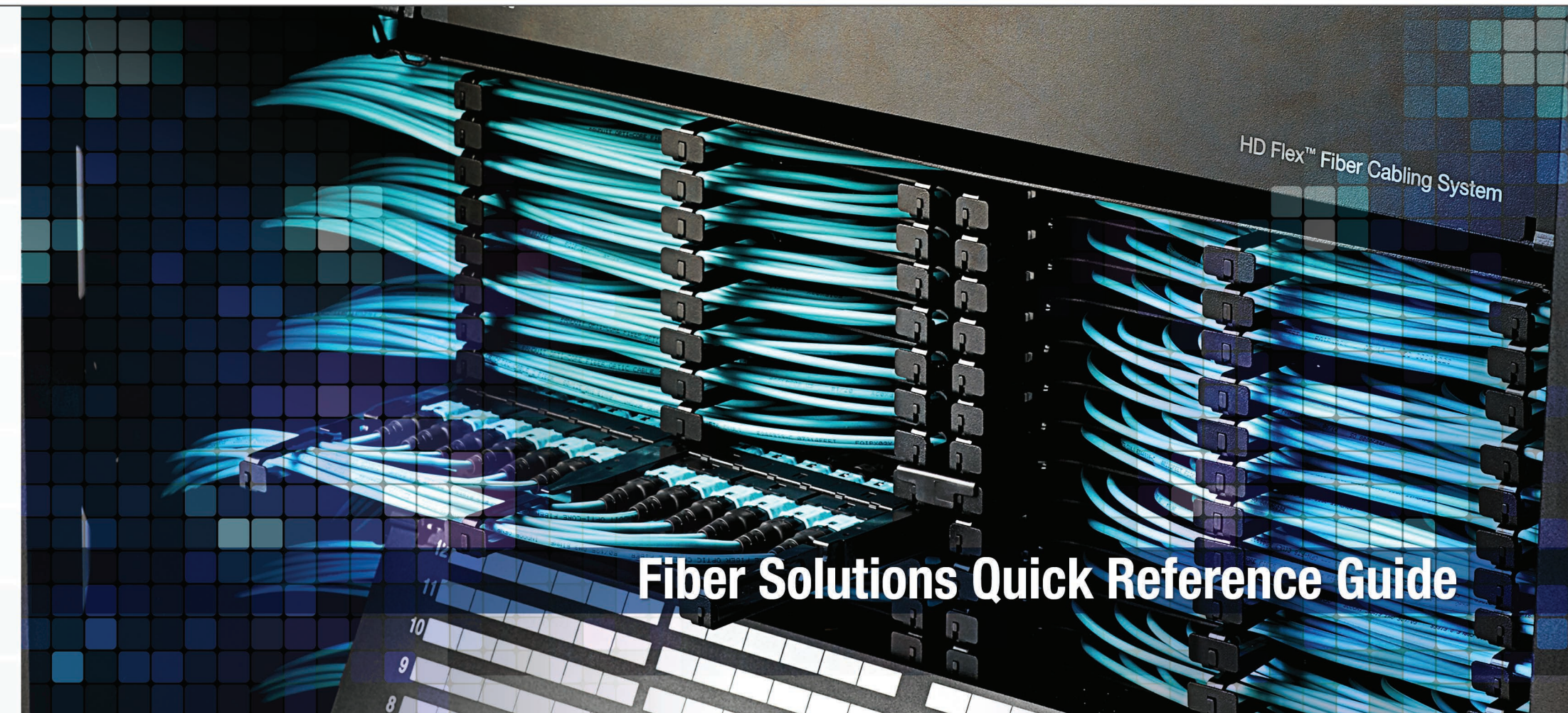
## Direct Attach Copper (DAC) Cable Assemblies

Passive SFP+	Active SFP+	Passive QSFP+	QSFP+ to 4 SFP+ Breakout Assemblies
PSF1PXA0.5M**	PSF1AXA3M**	PQSFPXA1MBU	PHQ4SFPXA1MBL
PSF1PXA1M**	PSF1AXA5M**	PQSFPXA2MBU	PHQ4SFPXA1.5MBL
PSF1PXA1.5M**	PSF1AXD7M**	PQSFPXA3MBU	PHQ4SFPXA2MBL
PSF1PXA2M**	PSF1AXD8M**	PQSFPXA4MBU	PHQ4SFPXA2.5MBL
PSF1PXA2.5M**	PSF1AXD9M**	PQSFPXC5MBU	PHQ4SFPXA3MBL
PSF1PXA3M**	PSF1AXD10M**	PQSFPXD6MBU	PHQ4SFPXA3.5MBL
PSF1PXA3.5M**		PQSFPXD7MBU	

**• High speed solution, most cost effective interconnect for Data Centers**  
**• 10GbE SFP+ and 40GbE QSFP+ copper cable assemblies**  
**• Used at Access or Leaf layers, primarily Top of Rack architectures**  
**• 100% production tested to exceed industry requirements**

**• Custom cords, low lead-time**  
**\*\*BL (Black), BU (Blue), GR (Green), OR (Orange), RD (Red), WH (White)**

**Panduit Corp.**  
 World Headquarters  
 Tinley Park, IL 60487  
 800.777.3300  
 www.panduit.com



## Fiber Solutions Quick Reference Guide

### Solution Design Questions

- What applications will you be running?**
- 10GBASE-SR
  - 40GBASE-SR4/100GBASE-SR4, BiDi
  - 4, 8, 16, 32G Fiber Channel
- What Fiber Type are you looking for?**
- Multimode**
- OM3 50/125um
  - OM4 50/125um
  - OM4+ 50/125um (Signature Core™ Fiber Optic Cabling System)
- Singlemode**
- OS2 9/125um
- What Polarity method will you deploy?**
- Method A
  - Method B
- What level of performance are you looking for in your cable assemblies?**
- Maximum Insertion Loss (per mated pair)**
- Standard Singlemode MPO .75dB
  - Standard Multimode MPO .50dB
  - Optimized Multimode MPO .35dB
  - Standard Singlemode LC .35dB
  - Standard Multimode LC .25dB
  - Optimized Multimode LC .15dB
- What will your link/channel look like?**
- Longest length?
  - How many cassettes or FAP's?
  - Will there be a cross connect? How many?
  - How many patch cords will each link require?
  - How long are your patch cords?
- What Fiber Density are you looking for?**
- HD Flex™ Fiber Cabling System 144 LC Fibers Per 1 RU, available in 1 RU, 2 RU, and 4 RU
  - QuickNet™ SFQ System 96 Fibers Per 1 RU
  - Opticom® Fiber System 96 Fibers Per 1 RU, available in 1 RU, 2 RU (192 Fibers) and 4 RU (288 Fibers)
- Key System Features:**
- **HD Flex™ Fiber Cabling System** Highest Port Density, Maximizes Real Estate Usage
  - **QuickNet™ SFQ System** Accepts Copper and Fiber, Mounts in Panel without an Enclosure
  - **Opticom® Fiber System** Traditional Cassette Design, Most Available Connector Spacing

**Fiber Standards**  
 Panduit® laser optimized OM3, OM4 multimode fibers meet domestic and international standards. Signature Core™ Fiber Optic Cabling System exceeds domestic and international standards for optical fiber. This includes TIA-492AAAB, TIA-492AAAC, TIA-492AAAD and IEC 60793-2-10 and supports a diverse set of legacy and contemporary applications including Ethernet, Fiber Channel, InfiniBand and FICON (Fiber connection), among others.

Application	Reach Table		
	Connectivity Budget (dB)		
	1.5*		
	Fiber Category		
	OM3	OM4	OM4 + Signature Core™
	Maximum Channel Length (M)		
10 Gb/s Ethernet (10GBASE-SR)	300	400	550
40 and 100 Gb/s Ethernet (40/100GBASE-SR4/10)	100	125	165
4G Fiber Channel (SAN)	380	400	500
8G Fiber Channel (SAN)	150	190	250
16G Fiber Channel (SAN)	100	125	200
Cisco^ 40G BiDi	100	135	200
100 Gb/s Ethernet (4x25) (100GBASE-SR4)	70	100	125
10 Gb/s Ethernet (10GBASE-SR)	300	400	550

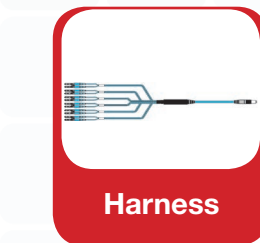
\*2 mated connector pairs @ .75dB/ea = 1.5dB.  
 ^Cisco is a registered trademark of Cisco Technology, Inc.

Solutions represented throughout this guide apply to the most common configurations only. Other configurations available. Contact Panduit Customer Service at 800-777-3300 for details.

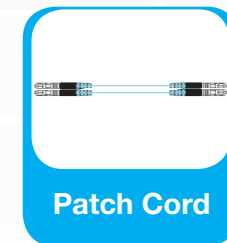
For more information regarding Signature Core™ Fiber Optic Cabling System, contact [DC-DIST-MEDIA-SUPPORT@panduit.com](mailto:DC-DIST-MEDIA-SUPPORT@panduit.com).



Choose Your Harness and Patch Cords



Harness



Patch Cord

Harnesses*	12 Fiber Plenum, Male PanMPO™ Connector to LC (Push-Pull or Uniboot) (24") equal breakout
FZTRP8NQSONF010	OM4 Male PanMPO™ Connector to LC push-pull, Optimized IL - 10 feet
FXTRP8NUSSNF010	OM3 Male PanMPO™ Connector to LC uniboot, Standard IL - 10 feet
FXTRP8NQSONF010	OM3 Male PanMPO™ Connector to LC push-pull, Optimized IL - 10 feet
F9TRP6NQSSNF010	OS2 Male MPO to LC push-pull, Standard IL - 10 feet
Harnesses*	8 Fiber Plenum 4 to 1 Conversion Harness, Male PanMPO™ Connector to LC (Push-Pull) (24") equal breakout
FZ8RP8NQSVNF010	OM4 Male PanMPO™ Connector to LC push-pull, Optimized IL - 10 feet
FX8RP8NQSVNF010	OM3 Male PanMPO™ Connector to LC push-pull, Optimized IL - 10 feet
F98RP6NQSQNF010	OS2 Male MPO Connector to LC push-pull, Standard IL - 10 feet

\*For female PanMPO™ Connector, change "8" in position 6 to "7".  
 For female MPO, change "9" in position 6 to "5".  
 \*To change from LC push-pull to uniboot connector, change the "Q" in position 8 to a "U".  
 Available in lengths from 3 ft. to 30 ft.

Choose Your System Solution

HD Flex™ Fiber Cabling System

- Has the capacity to do 144 LC fibers in 1 RU, 288 fibers in 2 RU, and 576 in 4 RU
- Maximizes real estate usage



Cassette

Cassettes			
<b>HD Flex™ 12 Fiber Cassette MPO to LC Duplex</b>		<b>HD Flex™ Cassette (2) 12F MPO to 12 LC Duplex</b>	
FHCZO-12-10AS	OM4, Method A, Optimized IL	FHCZO-24-10AS	OM4, Method A, Optimized IL
FHCZO-12-10AF	OM4, Method A, Pair Flipped, Optimized IL	FHCZO-24-10AF	OM4, Method A, Pair Flipped, Optimized IL
FHCZO-12-10BN	OM4, Method B, Optimized IL	FHCXO-24-10AS	OM3, Method A, Optimized IL
FHCXO-12-10AS	OM3, Method A, Optimized IL	FHCXO-24-10AF	OM3, Method A, Pair Flipped, Optimized IL
FHCXO-12-10AF	OM3, Method A, Pair Flipped, Optimized IL	FHC9N-24-10AS	OS2, Method A, Standard IL
FHCXO-12-10BN	OM3, Method B, Optimized IL	FHC9N-24-10AF	OS2, Method A, Pair Flipped, Standard IL
FHC9N-12-10AS	OS2, Method A, Standard IL	FHCZO-24F-10AS	OM4, Method A, Optimized IL
FHC9N-12-10AF	OS2, Method A, Pair Flipped, Standard IL	FHCZO-24F-10AF	OM4, Method A, Pair Flipped, Optimized IL
<b>HD Flex™ 4 to 1 Conversion Cassette; 1 MPO to 4 LC Duplex (parallel to duplex optics)</b>		<b>HD Flex™ Cassette (1) 24F MPO to 12 LC Duplex</b>	
FHC3ZO-08-10BN	OM4, Method B, Optimized IL	FHCXO-24F-10AS	OM3, Method A, Optimized IL
FHC3XO-08-10BN	OM3, Method B, Optimized IL	FHCXO-24F-10AF	OM3, Method A, Pair Flipped, Optimized IL
FHC39N-08-10AN	OS2, Method A, Standard IL	FHC9N-24F-10AS	OS2, Method A, Standard IL
		FHC9N-24F-10AF	OS2, Method A, Pair Flipped, Standard IL

QuickNet™ SFQ System

- Has the ability to do 96 fibers in 1 RU
- Has no enclosures in its solution
- Has the ability to do both fiber and copper in the same patch panel

See copper on the back page.

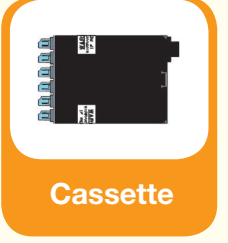


Cassette

Cassettes			
<b>Quicknet™ SFQ 12 Fiber Cassette, MPO to LC Duplex</b>		<b>Quicknet™ SFQ 12 Fiber cassette, MPO to LC Duplex (continued)</b>	
FQZO-12-10AS	OM4, Method A, Optimized IL	FQXO-12-10B2	OM3, Method B - B2 (1-12 array)
FQZO-12-10AF	OM4, Method A, Pair Flipped, Optimized IL	FQ9N-12-10AS	OS2, Method A, Standard IL
FQZO-12-10B1	OM4, Method B - B1 (1-1 array), Optimized IL	FQ9N-12-10AF	OS2, Method A, Pair Flipped, Standard IL
FQZO-12-10B2	OM4, Method B - B2 (1-12 array), Optimized IL	<b>Quicknet™ SFQ 4 to 1 Conversion Cassette; 1 MPO to 4 LC Duplex (parallel to duplex optics)</b>	
FQXO-12-10AS	OM3, Method A, Optimized IL	FQ3ZO-08-10NMBN	OM4, Optimized IL
FQXO-12-10AF	OM3, Method A, Pair Flipped, Optimized IL	FQ3XO-08-10NMBN	OM3, Optimized IL
FQXO-12-10B1	OM4, Method B - B1 (1-1 array), Optimized IL	FQ39N-08-10NMAN	OS2, Optimized IL

Opticom® Fiber System

- Has the ability to do 96 fibers in 1 RU, 192 fibers in 2 RU, and 288 fibers in 4 RU
- Allows the user to have more space to work with



Cassette

Cassettes			
<b>Opticom® 12 Fiber, MPO to LC Duplex</b>		<b>Opticom® 24 Fiber, (2) 12F MPO to LC Duplex</b>	
FC2ZO-12-10AS	OM4, Method A, Optimized IL	FC2ZO-24-10AS	OM4, Method A, Optimized IL
FC2ZO-12-10AF	OM4, Method A, Pair Flipped, Optimized IL	FC2ZO-24-10AF	OM4, Method A, Pair Flipped, Optimized IL
FC2ZO-12-10B1	OM4, Method B - B1 (1-1 array), Optimized IL	FC2ZO-24-10B1	OM4, Method B - B1 (1-1 array), Optimized IL
FC2ZO-12-10B2	OM4, Method B - B2 (1-12 array), Optimized IL	FC2ZO-24-10B2	OM4, Method B - B2 (1-12 array), Optimized IL
FC2XO-12-10AS	OM3, Method A, Optimized IL	FC2XO-24-10AS	OM3, Method A, Optimized IL
FC2XO-12-10AF	OM3, Method A, Pair Flipped, Optimized IL	FC2XO-24-10AF	OM3, Method A, Pair Flipped, Optimized IL
FC2XO-12-10B1	OM4, Method B - B1 (1-1 array), Optimized IL	FC2XO-24-10B1	OM3, Method B - B1 (1-1 array), Optimized IL
FC2XO-12-10B2	OM3, Method B - B2 (1-12 array)	FC2XO-24-10B2	OM3, Method B - B2 (1-12 array)
FC29N-12-10AS	OS2, Method A, Standard IL	FC29N-24-10AS	OS2, Method A, Standard IL
FC29N-12-10AF	OS2, Method A, Pair Flipped, Standard IL	FC29N-24-10AF	OS2, Method A, Pair Flipped, Standard IL
<b>Opticom® 4 to 1 Conversion Cassette; 2 MPO to 8 LC Duplex (parallel to duplex optics)</b>			
FC3ZO-16-10NMBN	OM4, Method B, Optimized IL		
FC3XO-16-10NMBN	OM3, Method B, Optimized IL		

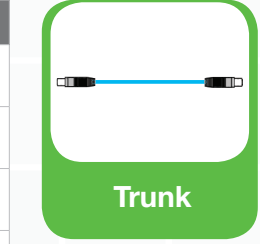
FAPs	Description	Enclosures	Description
<b>HD Flex™ LC FAP, with 6 LC Duplex Adaptors</b>			
FHSXN-12-10N	Multimode adaptors in Aqua with zirconia sleeves (LC pigtails not included)	FLEX1U06	1 RU 6-port HD Flex™ Enclosure
FHS9N-12-10N	Singlemode adaptors in Blue with zirconia sleeves (LC pigtails not included)	FLEX1U12	1 RU 12-port HD Flex™ Enclosure
<b>HD Flex™ MPO FAP Cassettes</b>			
FHMP-6-ABL	6 MPO Adaptors, Black, Method A	FLEX2U06	2 RU 6-port HD Flex™ Enclosure
FHMP-6-BCG	6 MPO Adaptors, Charcoal Gray, Method B	FLEX2U12	2 RU 12-port HD Flex™ Enclosure
FHMP-6-ARD	6 MPO, Adaptors, Red, 24F MPO, Method A	FLEX4U06	4 RU 6-port HD Flex™ Enclosure
		FLEX4U12	4 RU 12-port HD Flex™ Enclosure
Splice Cassettes*	Description	Panels	Description
<b>HD Flex™ LC Splice Cassette, 6 LC Duplex, Preloaded with Fiber</b>			
FHSZO-12-10P	OM4, Optimized IL	FLEX1UPN06	1 RU 6-port HD Flex™ Panel
FHSXO-12-10P	OM3, Optimized IL	FLEX1UPN12	1 RU 12-port HD Flex™ Panel
FHS9N-12-10P	OS2, Standard IL	FLEX2UPN06	2 RU 6-port HD Flex™ Panel
		FLEX2UPN12	2 RU 12-port HD Flex™ Panel
		FLEX4UPN06	4 RU 6-port HD Flex™ Panel
		FLEX4UPN12	4 RU 12-port HD Flex™ Panel

FAPs	Description	Panels	Description
<b>Quicknet™ SFQ MPO FAPs, with 6 MPO Adaptors</b>			
FQMAP45BL	4 MPO Adaptors, Black, Method A	QAPP24BL	QuickNet™ Panel, Angled, 24-port, 1 RU
FQMAP65BL	6 MPO Adaptors, Black, Method A	QAPP48HDBL	QuickNet™ Panel, Angled, 48-port, 1 RU
FQMAP85BL	8 MPO Adaptors, Black, Method A	QPP24BL	QuickNet™ Panel, Flat, 24-port, 1 RU
FQMAP46CG	4 MPO Adaptors, Charcoal Gray, Method B		
FQMAP66CG	6 MPO Adaptors, Charcoal Gray, Method B		
FQMAP86CG	8 MPO Adaptors, Charcoal Gray, Method B		
FQMAP45RD	4 MPO, Adaptors, Red, 24F MPO, Method A		
FQMAP65RD	6 MPO, Adaptors, Red, 24F MPO, Method A		
FQMAP85RD	8 MPO, Adaptors, Red, 24F MPO, Method A		

FAPs	Description	Enclosures	Description
<b>Opticom® MPO FAPs, with 6 MPO Adaptors</b>			
FAPH**12BLMPO	FAP with ** MPO Adaptors, Black, Method A, horizontal	FCE1U	Rack Mount Fiber Enclosure 1 RU
FAPV**12BLMPO	FAP with ** MPO Adaptors, Black, Method A, vertical	FCE1UA	Rack Mount Fiber Enclosure, Open Access 1 RU
FAPH**12CGMPO	FAP with ** MPO Adaptors, Charcoal Gray, Method B	FCE2U	Rack Mount Fiber Enclosure 2 RU
FAPH**24RDMPO	FAP with ** MPO Adaptors, Red, 24F MPO Method A	FCE4U	Rack Mount Fiber Enclosure 4 RU
<b>Opticom® LC Duplex FAPs</b>			
FAP6WAQDL CZ	6 multimode adaptors, Aqua, zirconia split sleeves	CFAPPB1	Fiber Adapter Panel 1 RU, Holds 4 FAPs
FAP8WAQDL CZ	6 multimode adaptors, Aqua, zirconia split sleeves	CFAPPB2	Fiber Adapter Panel 2 RU, Holds 8 FAPs
FAP12WAQDL CZ	12 multimode adaptors, Aqua, zirconia split sleeves		
FAP12WBUL CZ	6 Singlemode adaptors, Blue, zirconia split sleeves		

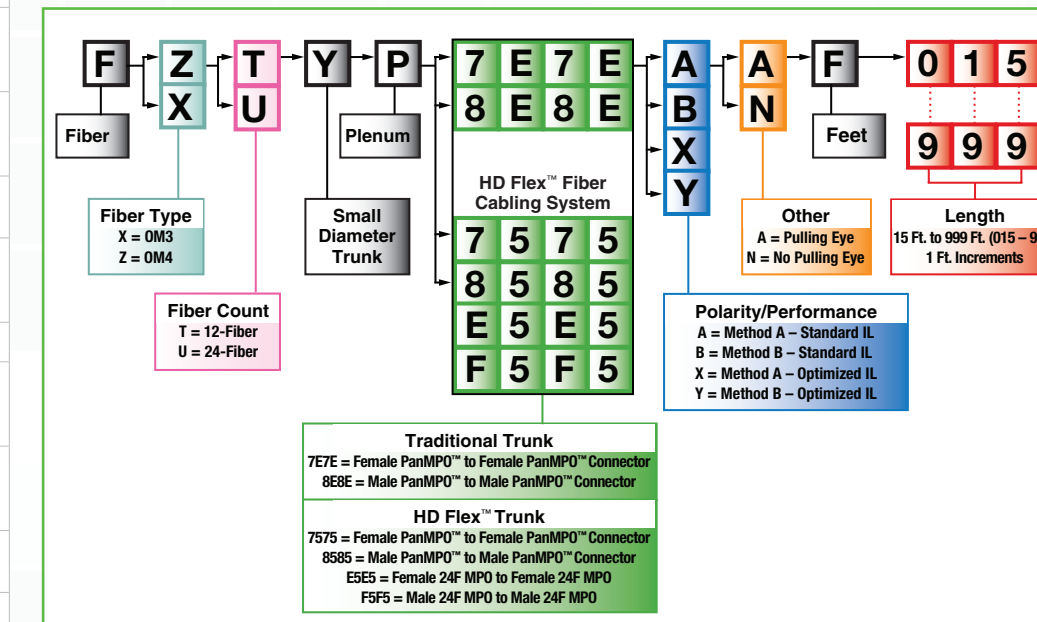
Fiber Management Accessories	
FLEX-PLATE1U	1 RU HD Flex™ Enclosure Trunk Slack Plate
FLEX-PLATE4U	4 RU HD Flex™ Enclosure Trunk Slack Plate
FLEX-FCM1UA	1 RU HD Flex™ Front Cable Manager
FLEX-FCM2UA	2 RU HD Flex™ Front Cable Manager
FLEX-FCM4UA	4 RU HD Flex™ Front Cable Manager
FLEX-0RUBR06	HD Flex™ Zero RU bracket, 6-port (Includes 1 FLEX-0RUCH06)
FLEX-0RUCH06	HD Flex™ Zero RU cassette holder, 12-port (for adding more cassettes to FLEX-0RUBR06)
FLEX-0RUBR12	HD Flex™ Zero RU bracket, 12-port (Includes 1 FLEX-0RUCH12)
FLEX-0RUCH12	HD Flex™ Zero RU cassette holder, 12-port (for adding more cassettes to FLEX-0RUBR12)
FHSBBL06W	HD Flex™ blanking panel, 6-port
FOCBRUA	Zero RU Bracket Quicknet™, Holds 2 Quicknet™ Cassettes or Adaptors
FEABRU	Zero RU Bracket Opticom®, Holds 1 Opticom™ Cassette or FAP
QPPABL	Quicknet™ Patch Panel Adapter, accepts Mini-Com™ Modules
QPPBBL	Quicknet™ Patch Panel Blank
FOCRCM	Quicknet™ Cassette Rear Cable Manager (2 post rack only)
FOSP45-C	Splice Sleeve (45mm), (100 pc)
FOSP61-C	Splice Sleeve (61mm), (100 pc)
FOSPR40-L	Splice Sleeve (Ribbon), (50 pc)
FOSMF	Fiber optic splice module for FRME rack mount enclosures
FSC24	Splice chip, 24 position.
FST6	Fiber splice tray 6" (152mm)
FSTK	Fiber splice tray - 6 mechanical or fusion splices
FST24	Fiber splice tray - 24 mechanical or fusion splices
FOSMH1U	Fiber optic splice module handler, 1 RU
FOSMH4U	Fiber optic splice module handler, 4 RU
FSTHS	Fiber splice tray holder - used with FSTK
FMS1	Fiber management slack spool kit (2 per bag)
HLS-75R0	Hook & Loop roll, 75'L (22.9m), .75"W (19.1mm), Black

Choose Your Trunk

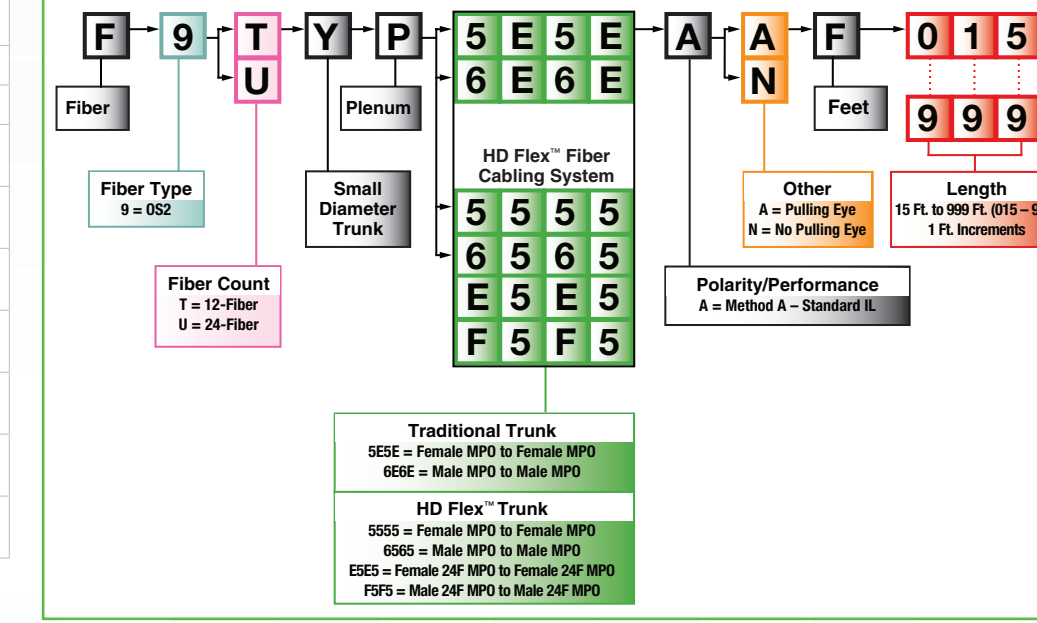


Trunk

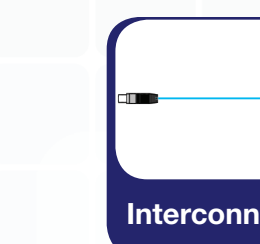
Multimode Trunks (Build your Part Number Below)



Singlemode Trunks (Build your Part Number Below)

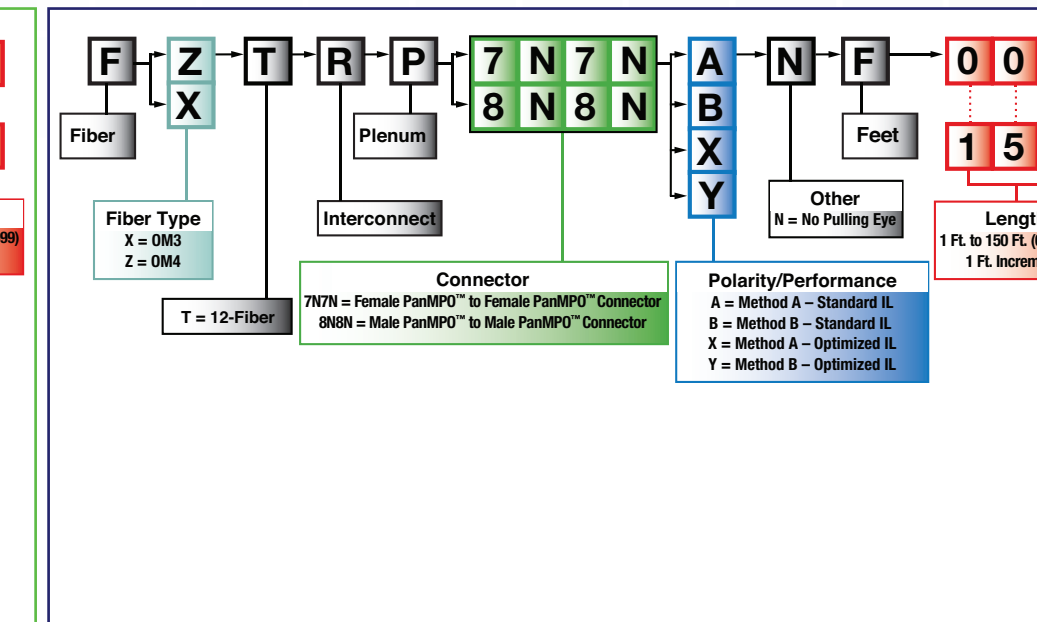


Choose Your Interconnect

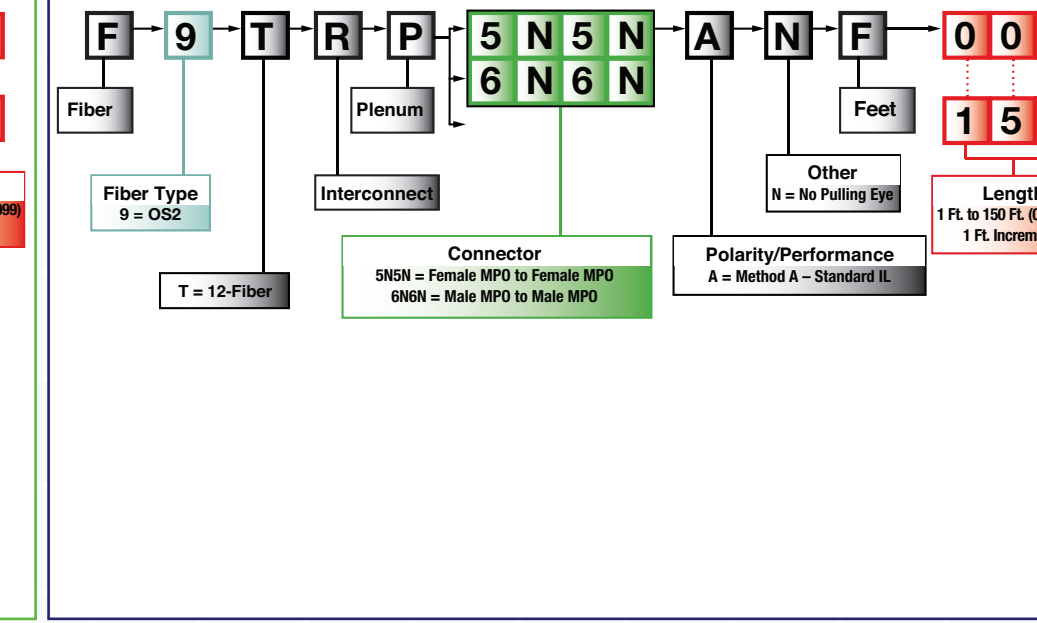


Interconnect

Multimode Interconnects (Build your Part Number Below)



Singlemode Interconnects (Build your Part Number Below)



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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Other Similar products are found below :

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[FC-S-002.0-DX-A-18-Y](#) [G-E2A-E2A-S-003.0-SX-A-18-Y](#) [NKO2S-XP-0-31](#) [100CQQF3020](#) [956-322-502214](#) [DK-2511-03](#) [DK-2511-05](#)  
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