InstaPATCH® 360 Pre-Terminated Fiber Solution

Data Center Solutions

COMMSCOPE®

Introduction

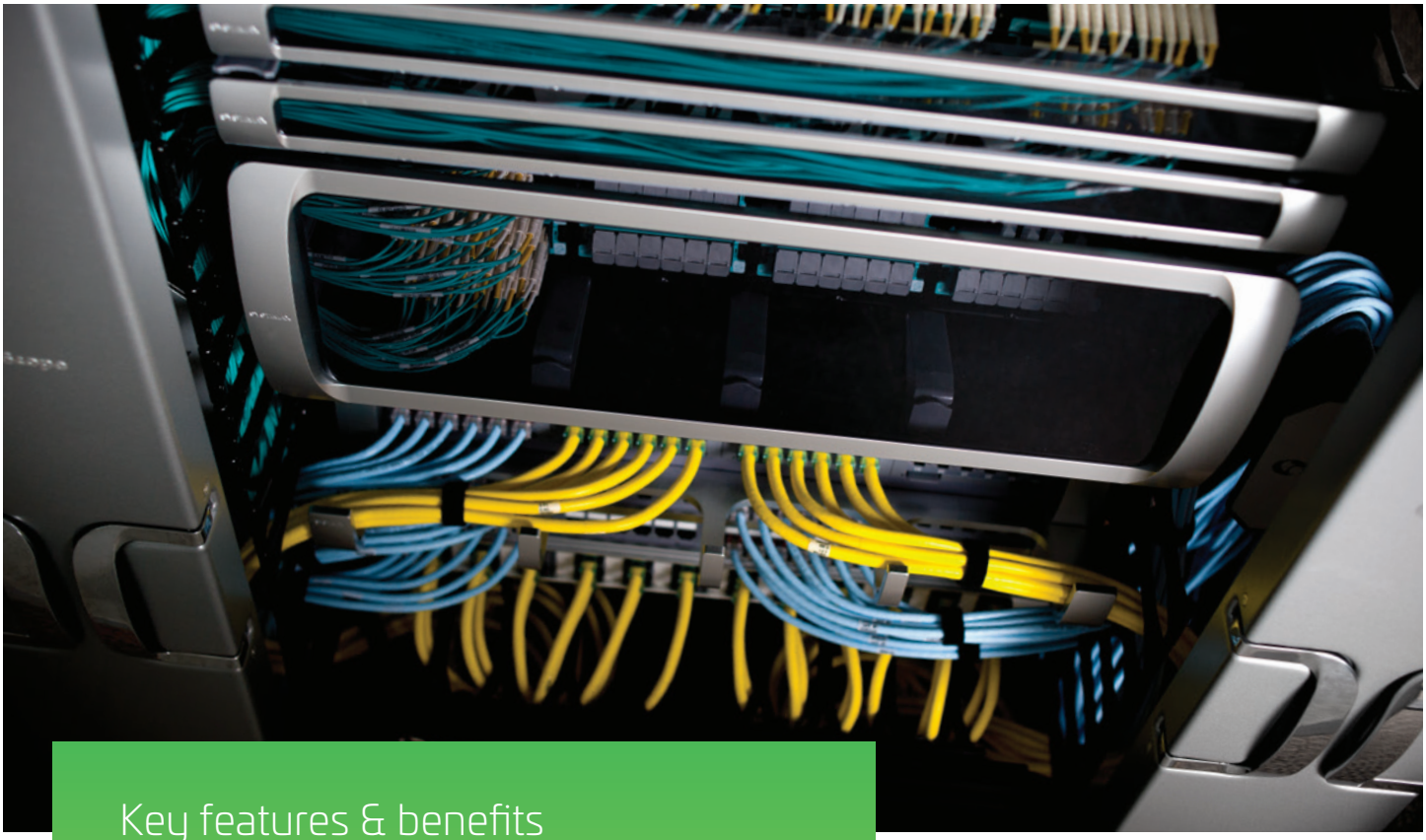
The information in this solution guide will be instrumental in helping you determine the right products to use in your network in order to meet your technical and business objectives. Easy-to-follow flowcharts will help you align your needs with ultra high, high and standard density solutions. Covering the entire InstaPATCH® 360 Solution, including modules, panels, shelves, cables and cords, this solution guide simplifies the design process to help you build an effective network around the InstaPATCH 360 Solution.

Based on CommScope's years of experience in fiber and pre-terminated solutions, the SYSTIMAX® InstaPATCH 360 Solution is the next generation of pre-terminated fiber solutions. Developed by CommScope Labs, the InstaPATCH 360 Solution is designed to support environments such as data centers that require rapid deployment and high performance. Built around pre-terminated panels, InstaPATCH 360 is a comprehensive, modular fiber connectivity solution that includes patch panels and shelves, individual modules, trunk cables, ruggedized fanouts, array cords and fiber patch cords.

Supporting today's demanding applications and the emerging applications of tomorrow, the InstaPATCH 360 Solution incorporates SYSTIMAX OptiSPEED® 62.5 µm multimode, LazrSPEED® 50 µm multimode and TeraSPEED® singlemode fiber technologies. The pre-terminated hardware of the SYSTIMAX LazrSPEED Solution is built with LazrSPEED 550 OM4 multimode fiber and supports 10 Gbps Ethernet applications, as well as 40 Gbps and 100Gbps Ethernet and emerging 16 Gbps Fibre Channel standards. The pre-terminated hardware provides "low-loss" performance, coupled with high bandwidth to give best-in-class application support. Trunk cables are available in LazrSPEED 550 and 300 performance grades to address the wide range of requirements of system operators.

InstaPATCH 360 modules are directly compatible with the SYSTIMAX G2 Modular Cassette System, supporting the installation of 24 MPO/LC modules to achieve 576 fibers in a four-rack unit shelf.

InstaPATCH 360 is another breakthrough in a long line of connectivity solutions from CommScope. A longtime leader in physical network infrastructure solutions, CommScope has high-performance products deployed in the world's most demanding environments.



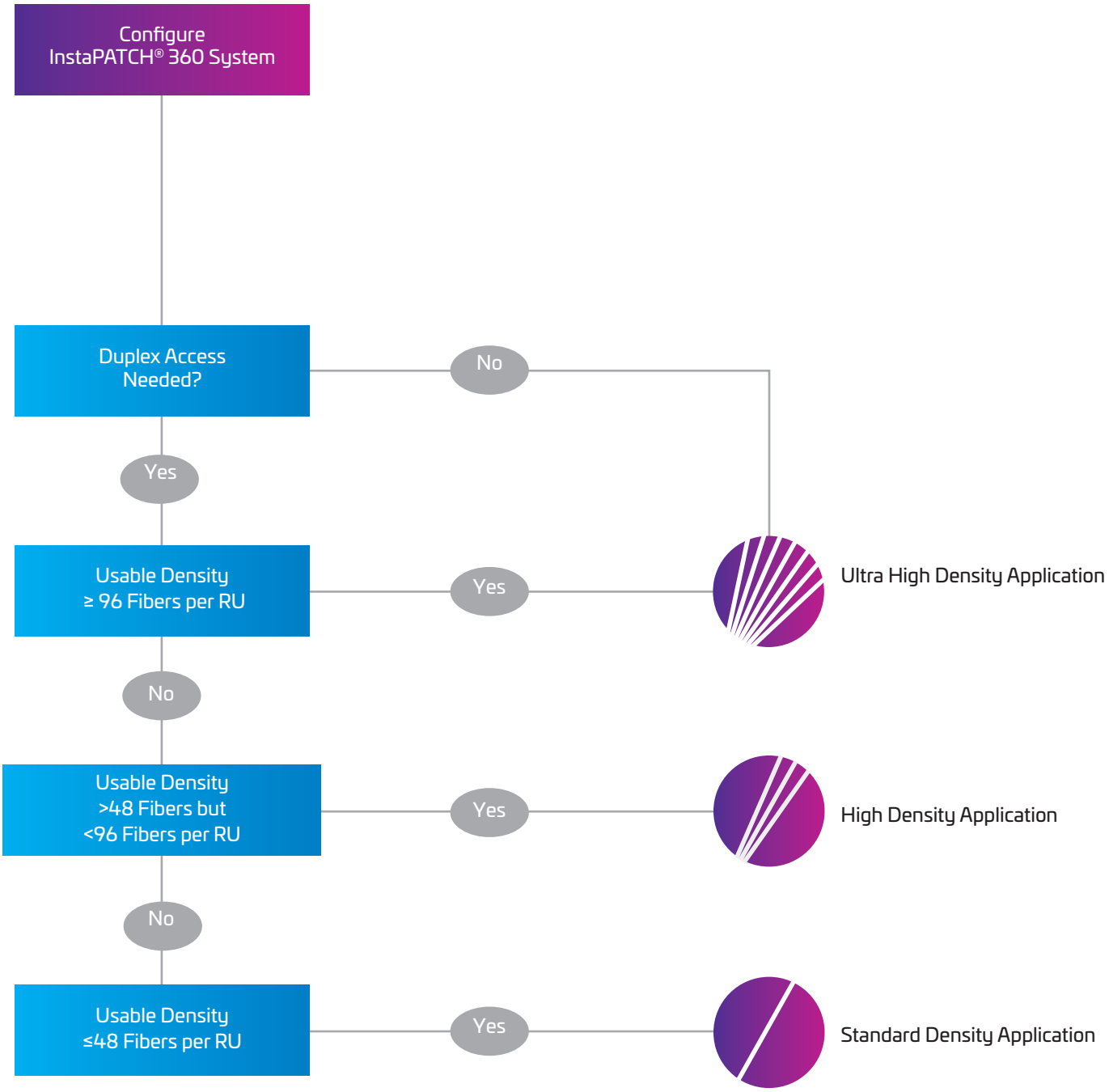
Key features & benefits

- Pre-terminated solution slashes labor for a lower total installed system cost
- Factory terminated and tested cable and apparatus for instant field connections with guaranteed quality and performance
- Increased density reduces space by 50%
- Supports easy reconfiguration for moves, adds and changes
- Improved fiber patch cord management and improved labeling capabilities
- Designed for administrative convenience – guaranteed transmit-to-receive connectivity
- Excellent cable management and rear access while minimizing bulk, complexity and potential restrictions to air flow
- iPatch-ready – upgradeable to intelligent infrastructure management after the initial installation
- Backed by best-in-industry SYSTIMAX warranty

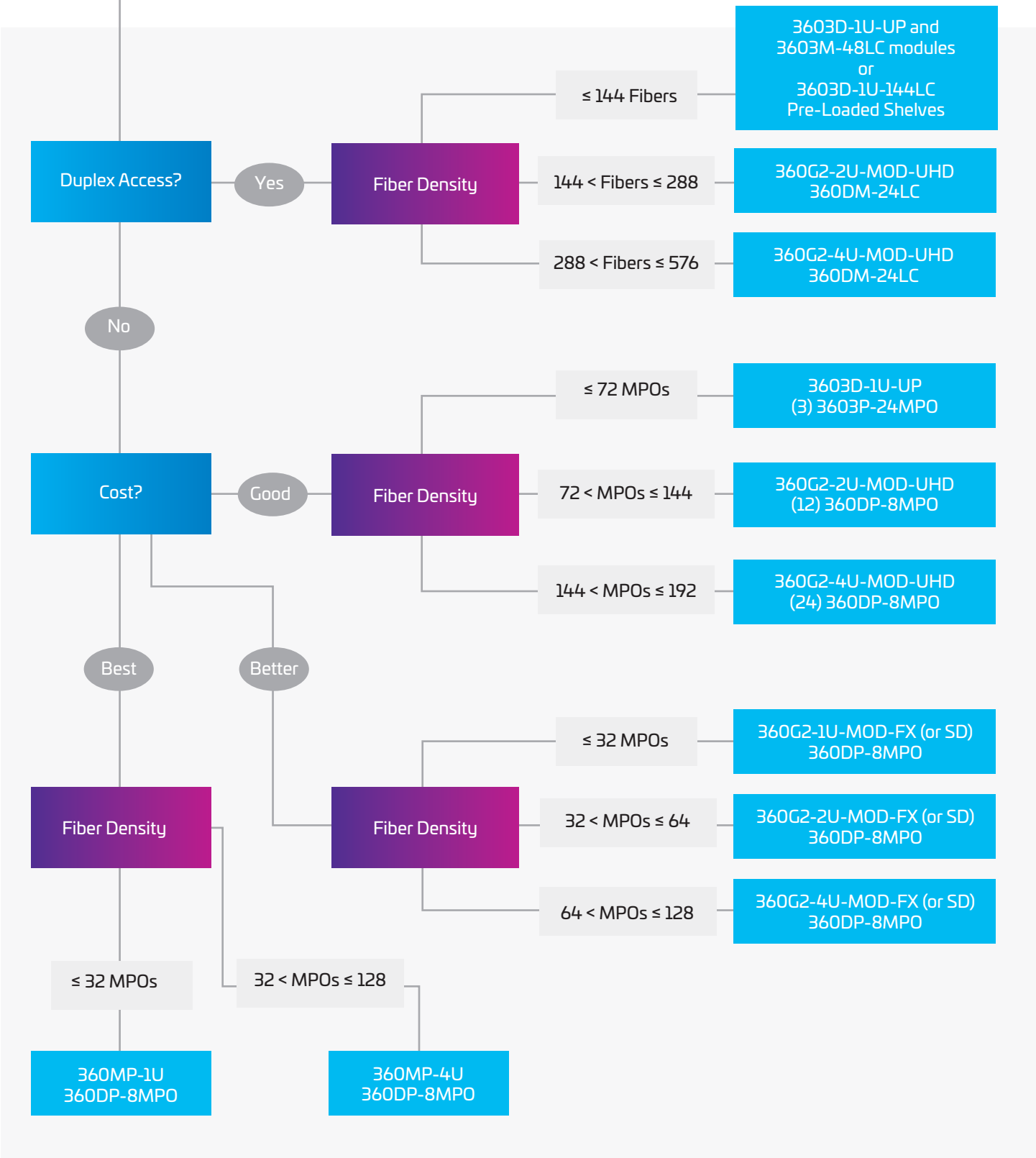
Explanation of terms

Specific glossary terms include:

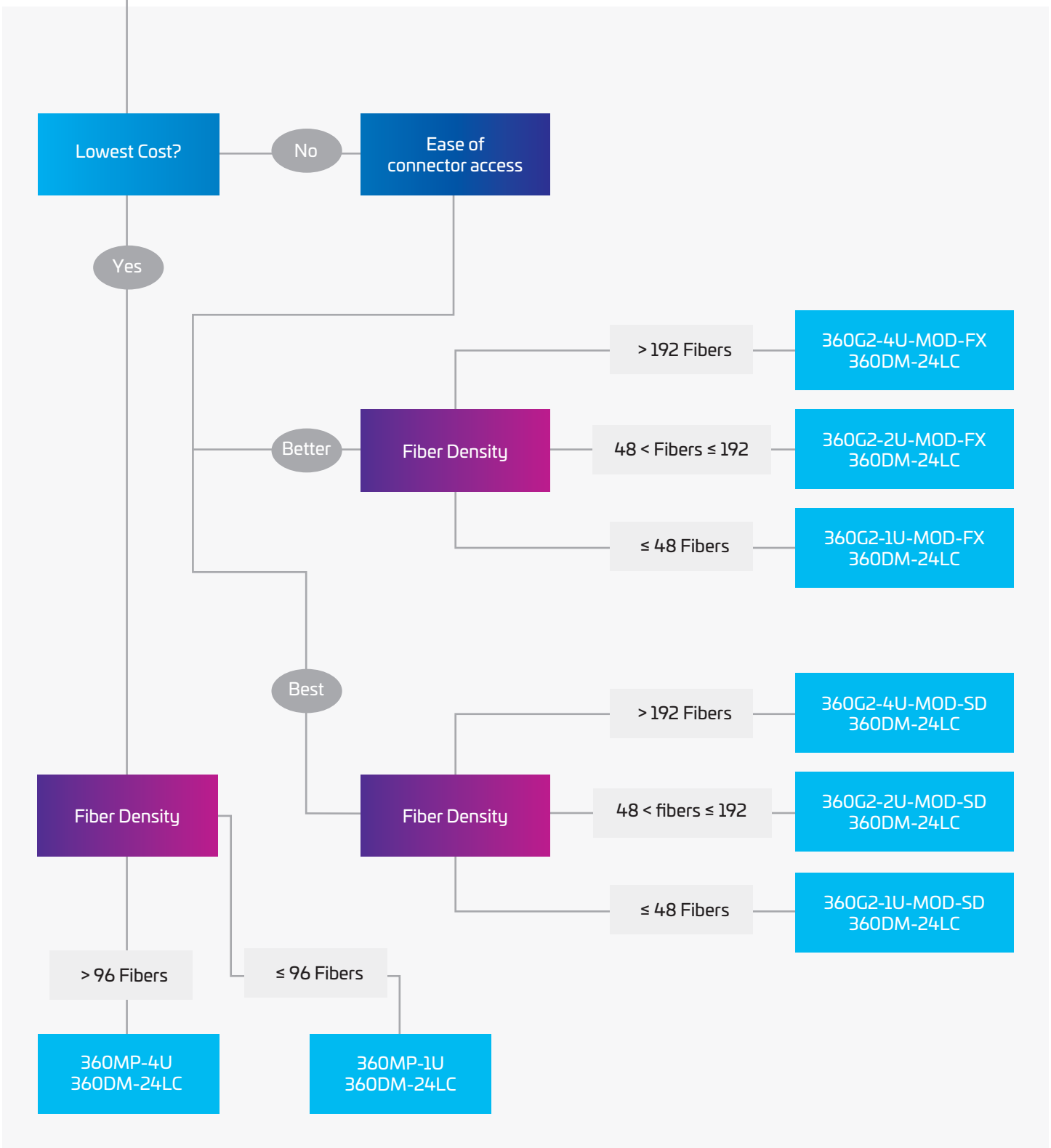
- **Density**
  - Ultra High >96 fibers per rack unit
  - High 48 to 96 fibers per rack unit
  - Standard ≤48 fibers per rack unit
- **Duplex patching**
  Standard 2 fiber (tx/rx) channel for 10G and lower speeds, 2 fibers – 2 connectors on each end to transmit and receive.
- **Dynamic patching**
  For high moves, adds and changes, where changes are expected regularly throughout the service life, for example a cross-connect. Good human factors because networks change frequently.
- **Static patching**
  For infrequent moves, adds and changes, for example patching to bring equipment into service. Only likely to change if equipment is replaced or repaired. Opposite of dynamic patching.
- **Patch cord**
  A 2 fiber cord typically with LC connectors on each end. Used at cross-connect or as an equipment cord. Used in both dynamic and static patching.
- **MPO array fan-out**
  A 12 fiber cord typically with MPO connectors on one end and duplex LC connectors on the other end. Recommended in the static patching section of the network reducing complexity and cost through the elimination of modules and patch cords.
- **MPO array cord/equipment cord**
  12 or 24 fiber cord with MPO connectivity on both ends. Required for 40G and 100G Ethernet systems. Used in both dynamic and static patching.


Configure InstaPATCH® 360 System
Duplex Access Needed?
No
Yes
Usable Density ≥ 96 Fibers per RU
Yes
Ultra High Density Application
No
Usable Density >48 Fibers but <96 Fibers per RU
Yes
High Density Application
No
Usable Density ≤48 Fibers per RU
Yes
Standard Density Application

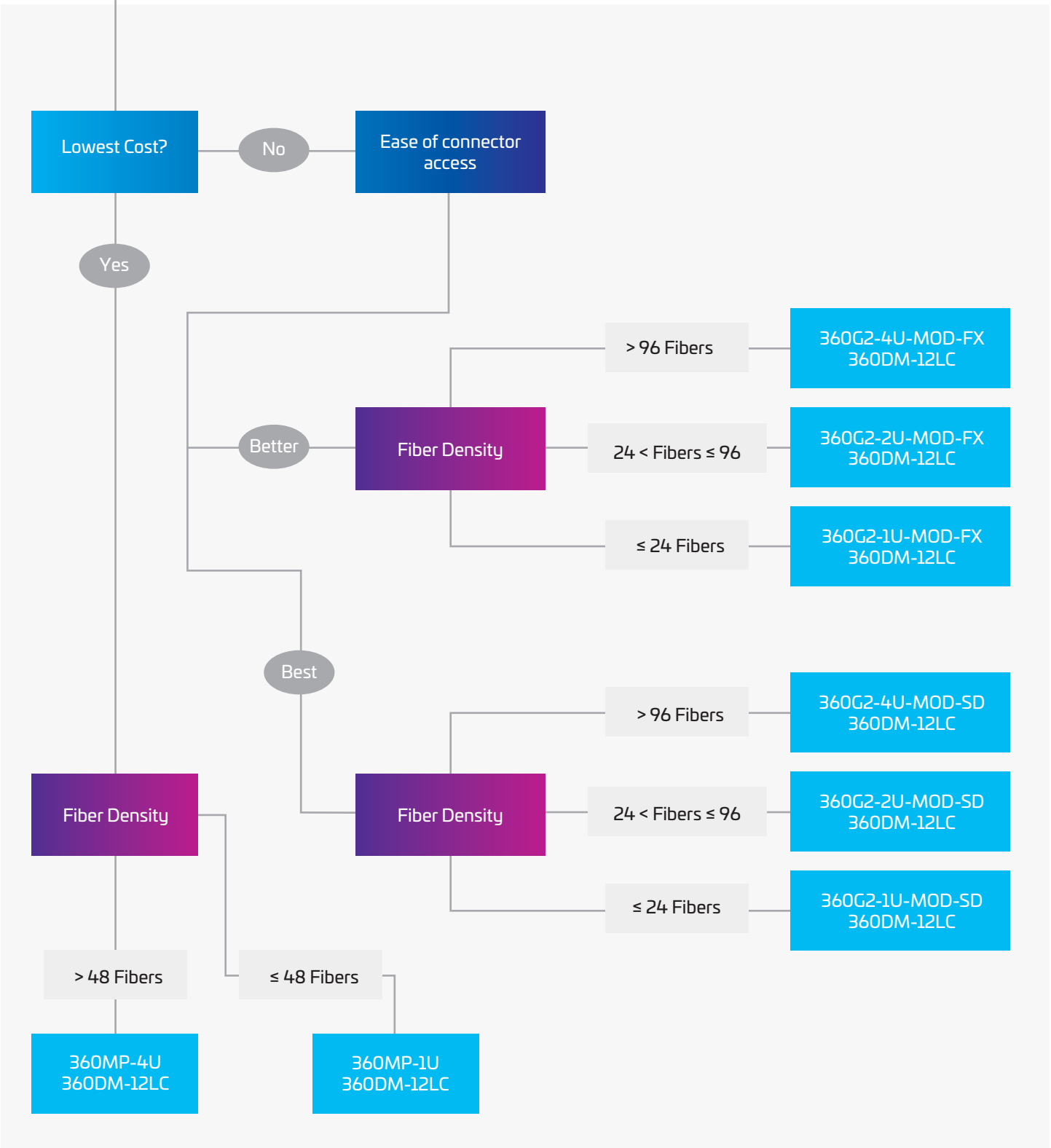
Ultra High Density Application



High Density Application



Standard Density Application



Modules, Panel and/or Shelves

The tables below show the capacity for each InstaPATCH® shelf based on connector selection and height option. Select a shelf based on capacity and select appropriate number of modules.

SYSTIMAX 360 G2 Panels and Shelves

Material ID	Description	Product Number
360 Modular Panels		
760193755	360MP 1U Panel, accepts 4 modules	360MP-1U-PANEL
760113001	360MP 1U Panel Angled, accepts 4 modules	360MP-1U-Angled
760193862	360MP 4U Panel, accepts 16 modules	360MP-4U-PANEL
360G2 Modular Shelves		
760193763	360G2 1U Fixed modular cassette shelf, accepts 4 modules	360G2-1U-MOD-FX *
760193771	360G2 1U Sliding modular cassette shelf, accepts 4 modules	360G2-1U-MOD-SD*
760173682	360G2 2U Sliding Shelf, accepts 12 modules	360G2-2U-MOD-UHD
760193847	360G2 2U Fixed modular cassette shelf, accepts 8 modules	360G2-2U-MOD-FX
760193854	360G2 2U Sliding modular cassette shelf, accepts 8 modules	360G2-2U-MOD-SD
760173690	360G2 4U Sliding Shelf, accepts 24 modules	360G2-4U-MOD-UHD
760193870	360G2 4U Fixed modular cassette shelf, accepts 12 modules	360G2-4U-MOD-FX
760193896	360G2 4U Sliding modular cassette shelf, accepts 12 modules	360G2-4U-MOD-SD
760193888	360G2 4U Fixed Shelf, accepts 16 modules	360G2-4U-MOD-FX-16

* iPatch Ready

InstaPATCH 360MP-4U Panel

InstaPATCH 360MP-1U Panel

InstaPATCH 360G2-4U UHD Shelf

InstaPATCH® 360 G2 Modules

Material ID	Description	Product Number	Fiber Count	Fiber Type
InstaPATCH 360 Modules				
760109884	InstaPATCH 360 Module, 24LC-LS	360DM-24LC-LS	24	50µm
760109892	InstaPATCH 360 Module, 24LC-SM	360DM-24LC-SM	24	Singlemode
760109900	InstaPATCH 360 Module, 24LC-MM	360DM-24LC-MM	24	62.5µm
760109926	InstaPATCH 360 Module, 12LC-LS	360DM-12LC-LS	12	50µm
760109934	InstaPATCH 360 Module, 12LC-SM	360DM-12LC-SM	12	Singlemode
760109942	InstaPATCH 360 Module, 12LC-MM	360DM-12LC-MM	12	62.5µm
760109967	InstaPATCH 360 Module, 12SC-LS	360DM-12SC-LS	12	50µm
760109975	InstaPATCH 360 Module, 12SC-SM	360DM-12SC-SM	12	Singlemode
760109983	InstaPATCH 360 Module, 12SC-MM	360DM-12SC-MM	12	62.5µm

SYSTIMAX 360G2-1U Modular Shelf

InstaPATCH 360 Module

InstaPATCH® 360 G2 Adapter Panels

Material ID	Description	Product Number	Adapter Count
Adapter Panels			
760109462	G2 Adapter Panel, Blank, PK of 4	360G2 MOD PANEL BLANK	N/A
760107490	G2 Adapter Panel, 2MPO	360DP-2MPO	2
760107508	G2 Adapter Panel, 4MPO	360DP-4MPO	4
760107516	G2 Adapter Panel, 6MPO	360DP-6MPO	6
760107524	G2 Adapter Panel, 8MPO	360DP-8MPO	8

SYSTIMAX 360 G2 Adapter Panel

Modules, Panel and/or Shelves (cont.)

The tables below show the capacity for each InstaPATCH® shelf based on connector selection and height option. Select a shelf based on capacity and select appropriate number of modules.

SYSTIMAX 360 Ultra High Density Products

Material ID	Description	Product Number
SYSTIMAX 360 Ultra High Density Fiber Shelves		
760110999	UHD Fiber Shelf, 1U, Empty	3603D-1U-UP
Pre-loaded UHD Shelves for MPO Trunks		
760136457	UHD Fiber Shelf with 3 InstaPATCH 360 Ultra High Density Modules, 48 fiber, LC, LazrSPEED, Polarity A	3603D-1U-144LC-LS-A
760136465	UHD Fiber Shelf with 3 InstaPATCH 360 Ultra High Density Modules, 48 fiber, LC, LazrSPEED, Polarity B	3603D-1U-144LC-LS-B
760136432	UHD Fiber Shelf with 3 InstaPATCH 360 Ultra High Density Modules, 48 fiber, LC, TeraSPEED, Polarity A	3603D-1U-144LC-SM-A
760136440	UHD Fiber Shelf with 3 InstaPATCH 360 Ultra High Density Modules, 48 fiber, LC, TeraSPEED, Polarity B	3603D-1U-144LC-SM-B
760136473	UHD Fiber Shelf with 3 InstaPATCH 360 24-Port MPO Adapter Panels	3603D-1U-72MPOs
Pre-Loaded Shelves for LC Trunks		
760139675	UHD Fiber Shelf, 1U, with three Ultra High Density Adapter Panels (48 fiber, LC, LazrSPEED)	3603D-1U-144LC-LS-P
760139683	UHD Fiber Shelf, 1U, with three Ultra High Density Adapter Panels (48 fiber, LC, TeraSPEED)	3603D-1U-144LC-SM-P
InstaPATCH 360 Ultra High Density Modules		
760111013	InstaPATCH 360 UHD Module 48f LC LazrSPEED	3603M-48LC-LS
760111039	InstaPATCH 360 UHD Module 48f LC TeraSPEED	3603M-48LC-SM
SYSTIMAX 360 Ultra High Density Adapter Panels		
760111088	UHD Adapter Panel, 48 fiber, LC, LazrSPEED	3603P-48LC-LS
760111104	UHD Adapter Panel, 48 fiber, LC, TeraSPEED	3603P-48LC-SM
760111153	UHD Adapter Panel, 24 x MPO	3603P-24MPO
Accessories for SYSTIMAX 360 Ultra High Density Fiber Shelves		
760112003	Fiber Cord Management Sleeve	CMS-2-02
760148734	Kit, UHD Shelf Stabilizer	3603D-STBLZR

SYSTIMAX 360-1U UHD Shelf

Additional Housing Options

Material ID	Description
760117564	UMB - 360 InstaPATCH Universal Mounting Bracket Kit, accepts up to 4 modules
760074047	InstaPATCH® Plus In-line Adapter Housing MPO(f)-MPO(m) with two MPO adapters
760128942	Covers and 1/2" SMBs for 360G2
760125959	Covers and 3/4" SMBs for 360G2
760058677	Rack mounted bracket, six cables with 1/2" fittings (48, 72, 96 & 144 fiber trunks; 12, 24 & 48 fiber armored trunks)
760058685	Rack mounted bracket, six cables with 3/8" fittings (12 and 24 fiber trunks)
760058701	Rack mounted bracket, five cables with 3/4" fittings (72, 96 and 144 fiber armored trunks)
760058693	Grounding kit for use with armored InstaPATCH 360 trunks, grounding strap and attachments included

InstaPATCH In-line MPO Adapter Housing

UMB-360 InstaPATCH Panel

Cable Assemblies

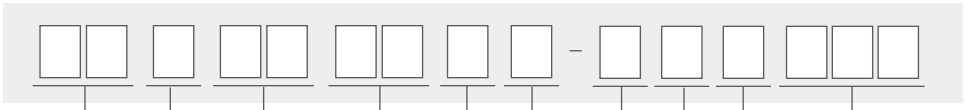
Select appropriate cable code from ordering information tables based on cable preference and specify customized cables code including length per cable configurator.

InstaPATCH® 360 Trunk Cables and Extensions

The InstaPATCH® 360 trunk cables feature a round cable construction which eliminates bend sensitivity allowing for easy routing and are offered in 12, 24, 36, 48, 72, 96 and 144 fibers. The cables are constructed with multiple subunits, each with 12 fibers and terminated on both ends with MPO connectors.

All trunk cables can be ordered with or without a pulling grip and with or without a cable mounting gland.

Trunk extensions use a pinned MPO on one end and a non-pinned MPO on the opposite end. These are used to extend a system to a new area.



Prefix	
FG	Trunk-Plenum
FH	Trunk-Plenum Armored
FJ	Trunk-LSZH
FK	Trunk-LSZH Armored

Fiber type	
X	LazrSPEED 550 Multimode
Z	LazrSPEED 300 Multimode
H	LazrSPEED 150 Multimode
M	OptiSPEED Multimode
W	TeraSPEED Singlemode

Connector 1	
MP	MPO (Female No Pins)

Cordage size	
A	12 Fiber PmP Cable
D	12 Fiber PmP I/O Cable (LSZH Only)

Connector 2	
MP	MPO (Female No Pins)
MX	MPO (Male Pins)

Jacket color*	
A	Blue
B	Orange
C	Green
D	Brown
E	Slate
G	Red
H	Black
J	Yellow
K	Violet
L	Rose
M	Aqua

Fiber count	
D	12 Fiber
F	24 Fiber
G	36 Fiber
H	48 Fiber
K	72 Fiber
L	96 Fiber
M	144 Fiber

Length	
10-999	Feet
3-999	Meters

UOM	
F	Feet
M	Meter

Breakout Length	
A	No Gland
B	With Gland
C	Pulling Grip

***Note:**
- OptiSPEED standard is Slate
- TeraSPEED standard is Yellow
- LazrSPEED standard is Aqua

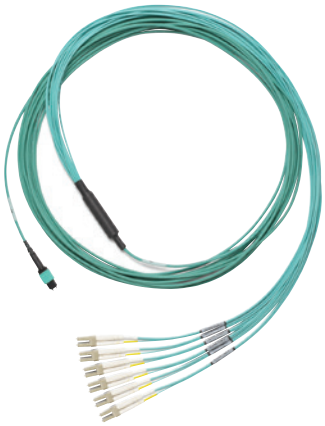
Cable Assemblies (cont.)

Select fanout cables and/or cords to connect to equipment or for cross-connect.

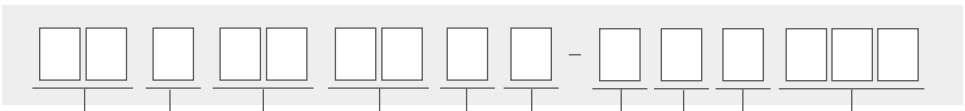
InstaPATCH® 360 Ruggedized and Array Fanout Cables

The InstaPATCH® 360 ruggedized fanout cables support the direct connection to the equipment from the patch panel. Terminated with MPO connectors on one end and clipped duplex connectors (LC, SC or ST) on the other end, the ruggedized fanout cables are available in 12-, 24-, 36-, 48- and 72- fiber counts. Female MPO (MP - no pins) fanouts are utilized for connections to equipment from a InstaPATCH 360 module. Male MPO (MX - pinned) fanouts are utilized for connections to equipment directly from a trunk cable.

Array fanouts can be terminated with MPO connectors on one end and clipped duplex connectors (LC, SC, ST) on the other end. Different from ruggedized fanouts which include an outer sheath to protect the fiber on longer runs between racks, array cords utilize 3.0 mm 12 fiber cordage that is protected with aramid yarn for durability and allowing maximum flexibility within a rack/cabinet. Array fanouts with MPO to duplex connectors (LC, SC, ST) are used for directly connecting equipment to a trunk or InstaPATCH 360 Module.



Ordering information



Prefix	
FL	Rugged F/O Plenum
FM	Rugged F/O Plenum Armored
FN	Rugged F/O LSZH
FP	Rugged F/O LSZH Armored

Fiber type	
X	LazrSPEED 550 Multimode
Z	LazrSPEED 300 Multimode
H	LazrSPEED 150 Multimode
M	OptiSPEED Multimode
W	TeraSPEED Singlemode

Connector 1	
MP	MPO (Female No Pins)
MX	MPO (Male Pins)

Cordage size	
A	12 Fiber PmP Cable
D	12 Fiber PmP I/O Cable (LSZH Only)

Connector 2	
LA	LC Angled
LC	LC Standard
LU	LC Uniboot*
SA	SC Angled
SC	SC Standard
ST	STII
MJ	MTRJ

*Only Available in EMEA

Fiber count	
D	12 Fiber
F	24 Fiber
G	36 Fiber
H	48 Fiber
K	72 Fiber

Jacket color †	
A	Blue
B	Orange
C	Green
D	Brown
E	Slate
G	Red
H	Black
J	Yellow
K	Violet
L	Rose
M	Aqua

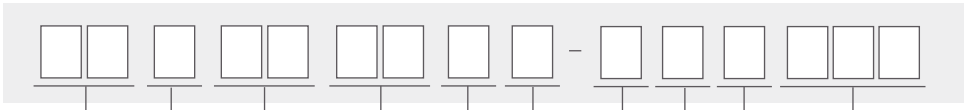
† Note:
- OptiSPEED standard is Slate
- TeraSPEED standard is Yellow
- LazrSPEED standard is Aqua

Breakout Length	
E	24 in Breakout No Gland
F	24 in Breakout With Gland
G	24 in Breakout Pulling Grip
H	48 in Breakout No Gland
J	48 in Breakout With Gland
K	48 in Breakout Pulling Grip
L	72 in Breakout No Gland
M	72 in Breakout With Gland
N	72 in Breakout Pulling Grip
P	96 in Breakout No Gland
Q	96 in Breakout With Gland
R	96 in Breakout Pulling Grip

Breakout Length	
24 in	7-999 ft
48 in	9-999 ft
72 in	11-999 ft
96 in	13-999 ft
24 in	2-999 m
48 in	3-999 m
72-96 in	4-999 m

UOM	
F	Feet
M	Meter

InstaPATCH® 360 Array Fanout Cables



Prefix	
FQ	Array Plenum
FR	Array LSZH

Fiber type	
X	LazrSPEED 550 Multimode
Z	LazrSPEED 300 Multimode
H	LazrSPEED 150 Multimode
M	OptiSPEED Multimode* *
W	TeraSPEED Singlemode

Connector 1	
MP	MPO (Female No Pins)
MX	MPO (Male Pins)

Cordage size	
G	12 Fiber PmP Array Cord

Connector 2	
LA	LC Angled
LC	LC Standard
LU	LC Uniboot*
LM	Mini LC
SA	SC Angled
SC	SC Standard
ST	STII
MJ	MTRJ

*Only Available in EMEA

Fiber count	
D	12 Fiber

Jacket color †	
E	Slate
J	Yellow
M	Aqua

† Note:
- OptiSPEED standard is Slate
- TeraSPEED standard is Yellow
- LazrSPEED standard is Aqua

Breakout Length	
D	12 in Breakout No Gland
E	24 in Breakout No Gland
H	48 in Breakout No Gland
L	72 in Breakout No Gland
P	96 in Breakout No Gland

Breakout Length	
12 in	2-100 ft
24 in	4-100 ft
48 in	6-100 ft
72 in	8-100 ft
96 in	10-100 ft
24 in	1-30 m
48 in	2-30 m
72 in	3-30 m
96 in	4-30 m

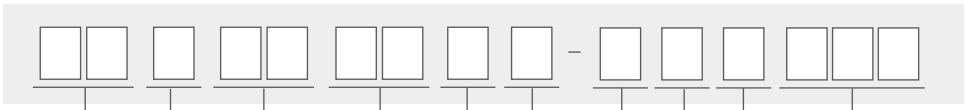
UOM	
F	Feet
M	Meter

Cable Assemblies (cont.)

Select fanout cables and/or cords to connect to equipment or for cross-connect.

InstaPATCH® 360 Array Cords

Array cords are terminated with MPO connectors on both ends. MPO to MPO array cords are used for trunk extension, cross-connect applications or patching into parallel transceivers or array equipment.



Prefix

FQ	Array Plenum
FR	Array LSZH

Fiber type

X	LazrSPEED 550 Multimode
Z	LazrSPEED 300 Multimode
H	LazrSPEED 150 Multimode
M	OptiSPEED Multimode* *
W	TeraSPEED Singlemode

Connector 1

MP	MPO (Female No Pins)
MX	MPO (Male Pins)

Cordage size

G	12 Fiber PmP Array Cord

Connector 2

MP	MPO (Female No Pins)
MX	MPO (Male Pins)

Fiber count

D	12 Fiber

Jacket color †

E	Slate
J	Yellow
M	Aqua

† Note:
- OptiSPEED standard is Slate
- TeraSPEED standard is Yellow
- LazrSPEED standard is Aqua

Breakout Length

A	No Gland

Length

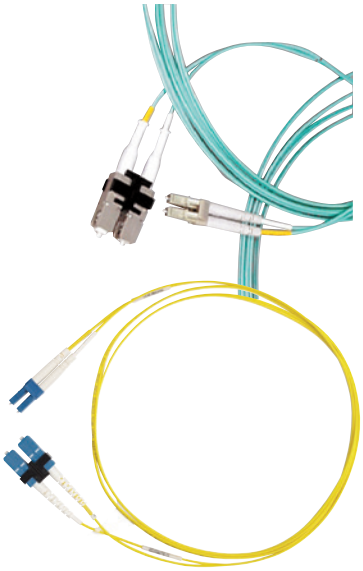
	2-100 ft
	1-30 m

UOM

F	Feet
M	Meter

Patch Cords

Select patch cords to connect to equipment or for cross-connect.



Fiber Optic Patch Cords

The final fiber optic component of your connectivity solution, Fiber Optic Patch Cords support the connection of the backbone fiber cabling plant to the transceiver/optical electronics. Patch cords (a.k.a. jumpers) are also used to cross-connect segments of cabling infrastructure to another.

Made of rugged round construction in customer-specified lengths of 1- or 2- fiber cable, our patch cords are available in LazrSPEED, TeraSPEED and OptiSPEED in any combination of SC, LC and ST connectors.

Prefix	
FD	Jumper-Plenum
FE	Jumper-Riser
FF	Jumper-LSZH

Fiber type	
X	LazrSPEED 550 Multimode
M	OptiSPEED Multimode
W	TeraSPEED Singlemode

Cordage size	
2	1.6mm Simplex
3	3.0mm Simplex
4	1.6mm Zipcord
5	3.0mm Zipcord
6	2.0mm MP IC (LU Only)

Fiber count	
1	1 Fiber
2	2 Fiber

Jacket color	
A	Blue
B	Orange
C	Green
D	Brown
E	Slate
G	Red
H	Black
J	Yellow
K	Violet
L	Rose
M	Aqua

Breakout Length	
	2-100 ft
	1-30 m

UOM	
F	Feet
M	Meter

Breakout Length	
X	No Breakout

Connector 1			
LC	LC Standard	L4	LC Keyed Green
SC	SC Standard	L5	LC Keyed Orange
ST	STII	L6	LC Keyed Slate
LA	LC Angled	L7	LC Keyed Brown
SA	SC Angled	L8	LC Keyed Aqua
L1	LC Keyed Red	L9	LC Keyed Rose
L2	LC Keyed Yellow	LV	LC Keyed Violet
L3	LC Keyed Blue	LU	LC Uniboot

Connector 2					
LC	LC Standard	L3	LC Keyed Blue	LV	LC Keyed Violet
SC	SC Standard	L4	LC Keyed Green	MJ	MTRJ
ST	STII	L5	LC Keyed Orange	FC	FC Standard
LA	LC Angled	L6	LC Keyed Slate	FA	FC Angled
SA	SC Angled	L7	LC Keyed Brown	LU	LC Uniboot
L1	LC Keyed Red	L8	LC Keyed Aqua	LM	Mini LC
L2	LC Keyed Yellow	L9	LC Keyed Rose		

Pulling Grips

Stand-alone pulling grip kits are also offered in four different sizes: one for 12 fibers, one for 24 fibers, one for 36, 48 and 72 fibers, one for 96 and 144 fibers. The grips are reusable, so the installer can order one pulling grip kit for every 5 or 10 cables instead of ordering all trunk cables with pulling grips installed.

Material ID	Description	Color
760060558	InstaPATCH® Pulling Grip Kit, 12/24 Fiber	gray label
760060566	InstaPATCH® Pulling Grip Kit, 36/48/72 Fiber	blue label
760060574	InstaPATCH® Pulling Grip Kit, 96/144 Fiber	green label

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We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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