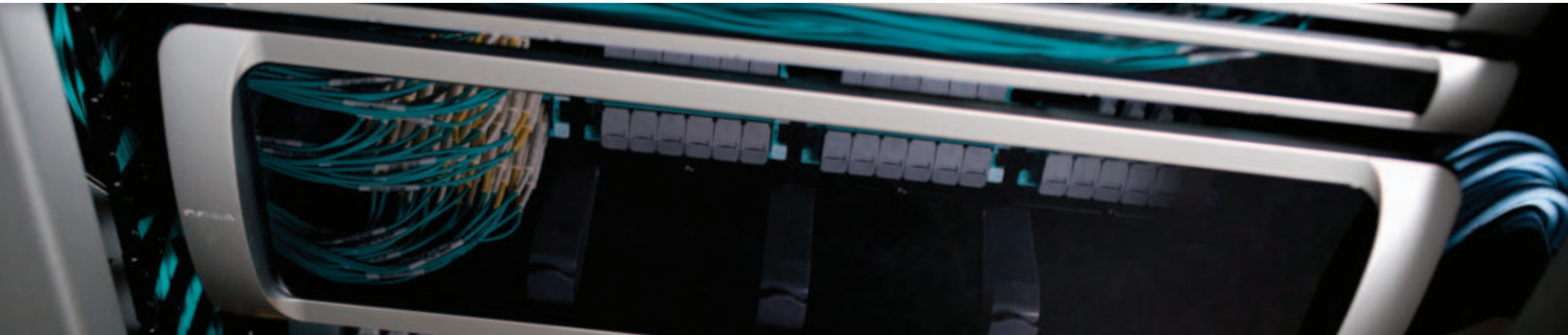




SYSTIMAX® Solutions

InstaPATCH® 360 Pre-Terminated Fiber Solution Guide

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® single-mode 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 100 Gbps 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.

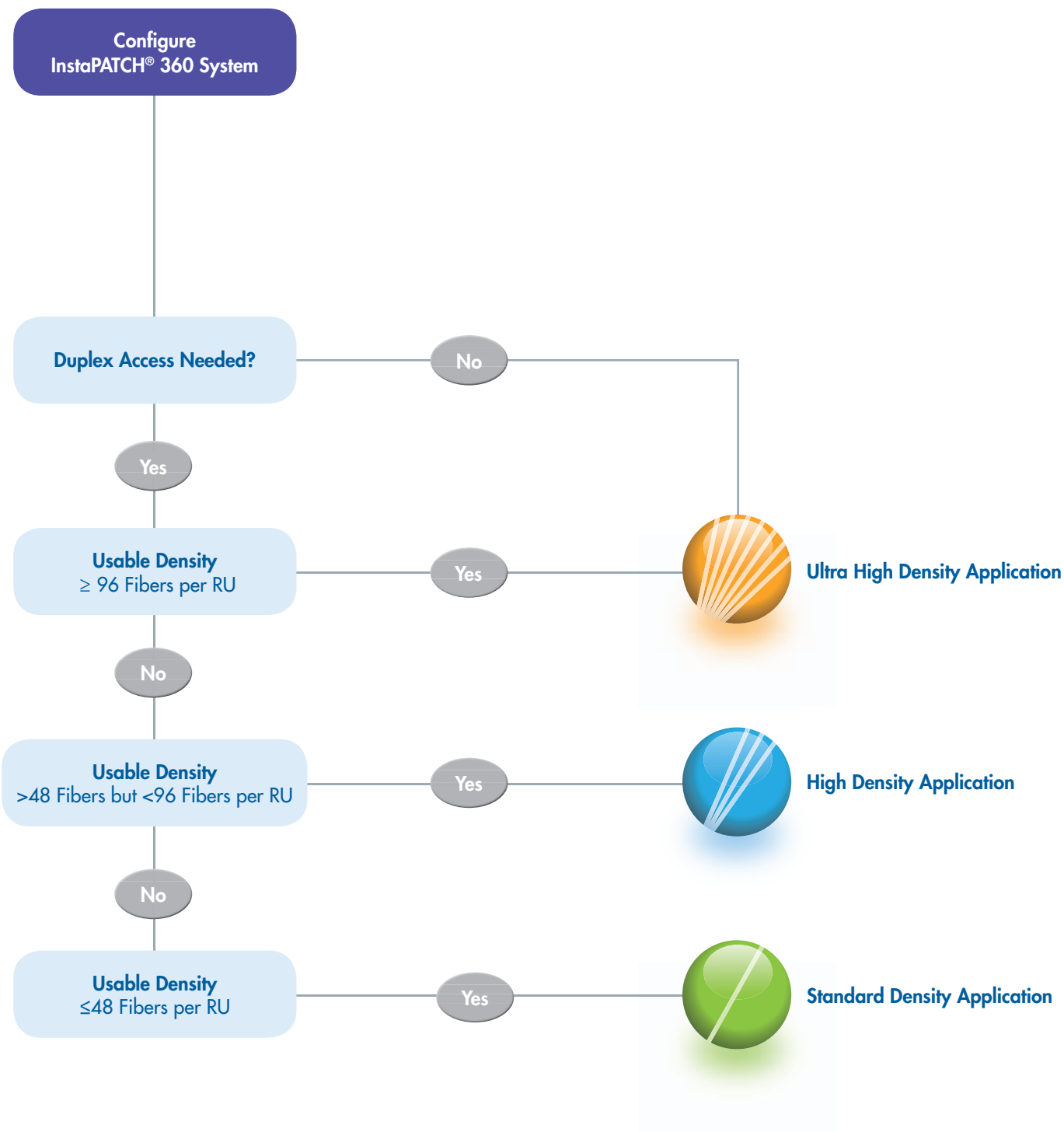
Key Features & Benefits

- 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

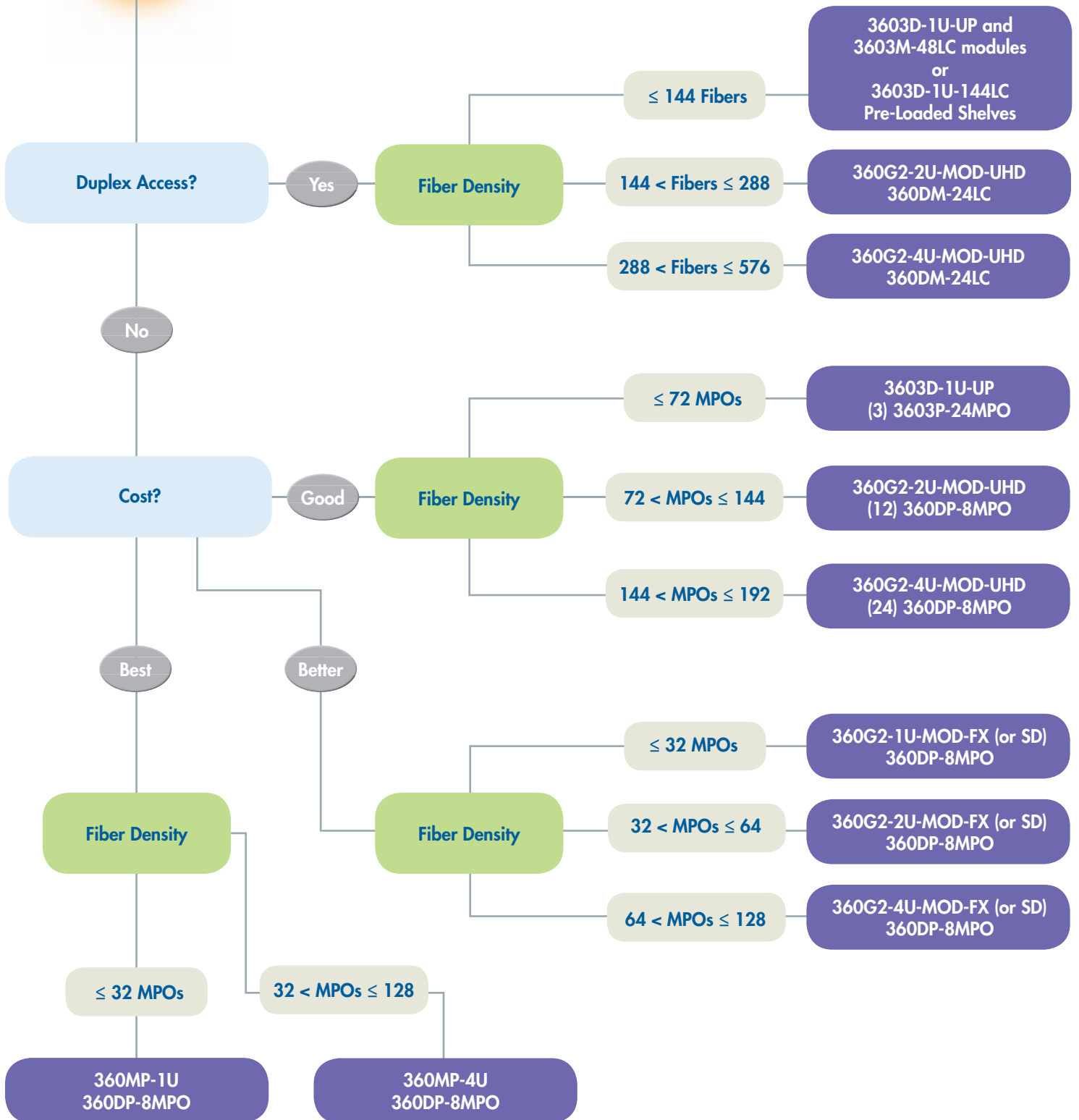
Specific Glossary Terms Include:

- **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.



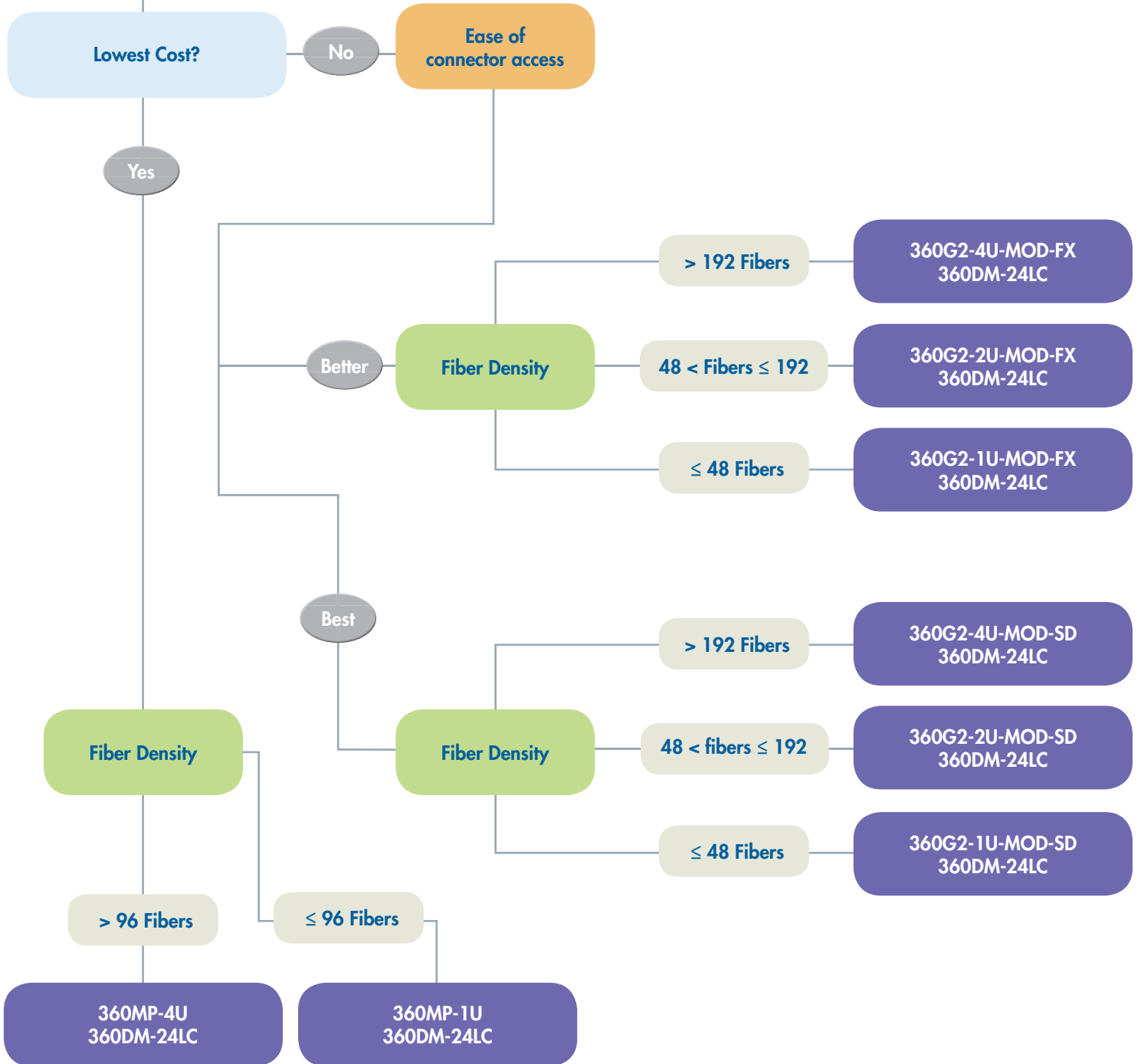


Ultra High Density Application



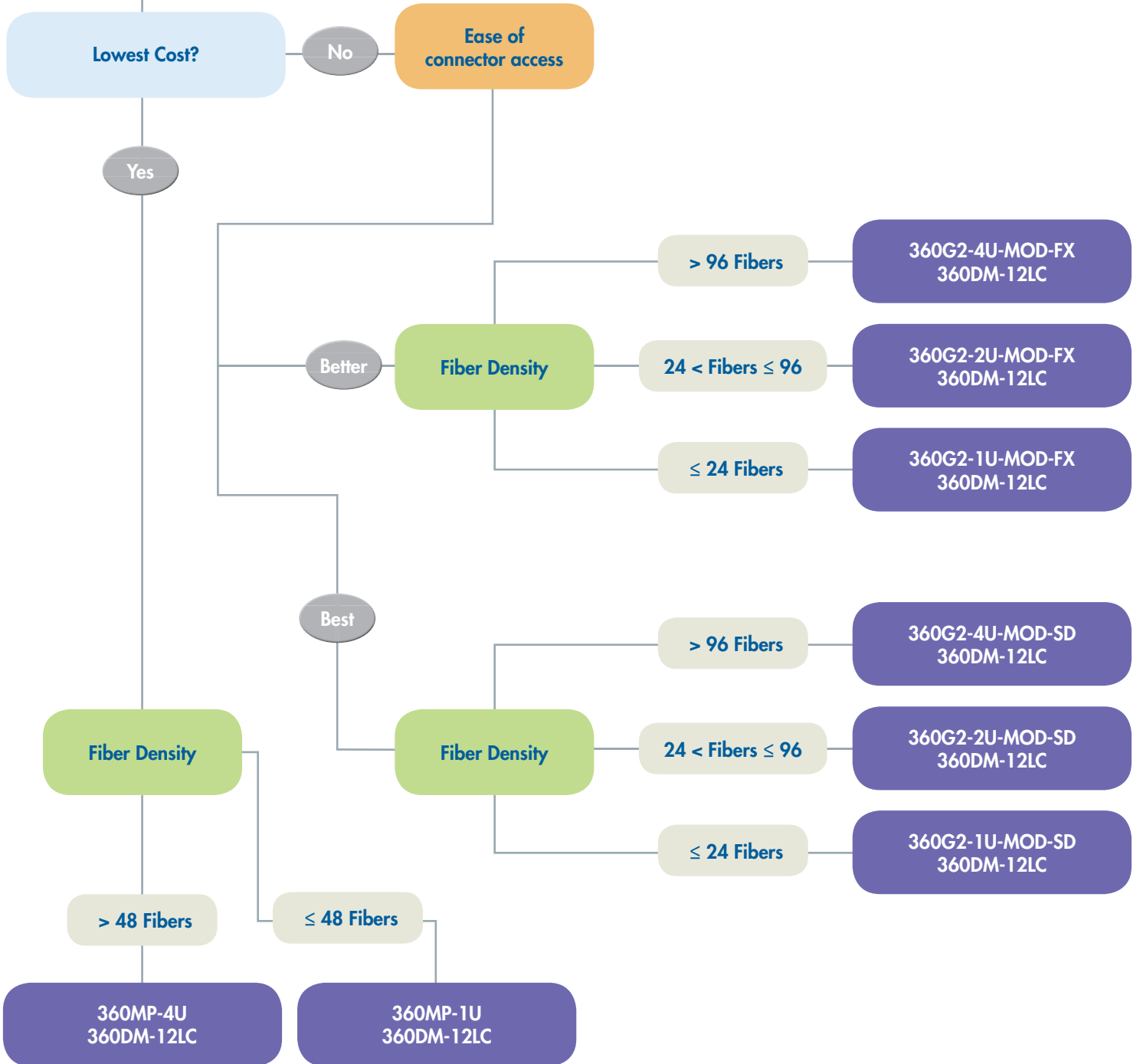


High Density Application





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.

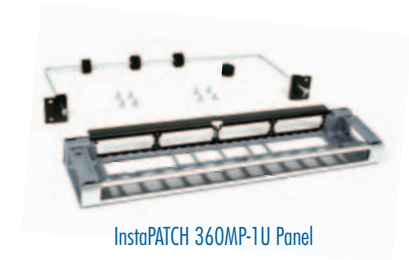
SYSTIMAX 360 G2 PANELS AND SHELVES

Ordering Information		
Material ID	Description	Product Number
360 Modular Panels		
760106617	360MP 1U Panel, accepts 4 modules	360MP-1U
760113001	360MP 1U Panel Angled, accepts 4 modules	360MP-1U-Angled
760120287	360MP 4U Panel, accepts 16 modules	360MP-4U
360G2 Modular Shelves		
760103150	360G2 1U Fixed modular cassette shelf, accepts 4 modules	360G2-1U-MOD-FX*
760103085	360G2 1U Sliding modular cassette shelf, accepts 4 modules	360G2-1U-MOD-SD*
760157750	360G2 2U Sliding Shelf, accepts 12 modules	360G2-2U-MOD-UHD
760103168	360G2 2U Fixed modular cassette shelf, accepts 8 modules	360G2-2U-MOD-FX
760103143	360G2 2U Sliding modular cassette shelf, accepts 8 modules	360G2-2U-MOD-SD
760154344	360G2 4U Sliding Shelf, accepts 24 modules	360G2-4U-MOD-UHD
760101055	360G2 4U Fixed modular cassette shelf, accepts 12 modules	360G2-4U-MOD-FX
760101071	360G2 4U Sliding modular cassette shelf, accepts 12 modules	360G2-4U-MOD-SD
760110064	360G2 4U Fixed Shelf, accepts 16 modules	360G2-4U-MOD-FX-16

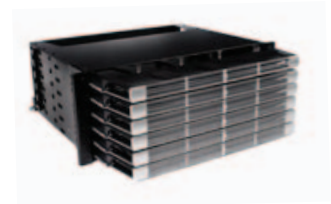
* iPatch Ready



InstaPATCH 360MP-4U Panel



InstaPATCH 360MP-1U Panel



InstaPATCH 360G2-4U UHD Shelf

InstaPATCH® 360 G2 MODULES

Factory terminated iPatch Ready Module Ordering Information				
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	Single-Mode
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	Single-Mode
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	Single-Mode
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

Adapter Panel Ordering Information			
Material ID	Description	Product Code	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.

SYSTEMAX 360 ULTRA HIGH DENSITY PRODUCTS

Ordering Information		
Material ID	Description	Product Number
SYSTEMAX 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-72MPO
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
SYSTEMAX 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 SYSTEMAX 360 Ultra High Density Fiber Shelves		
760112003	Fiber Cord Management Sleeve	CMS-2-02
760148734	Kit, UHD Shelf Stabilizer	3603D-STBLZR



SYSTEMAX 360-1U UHD Shelf

ADDITIONAL HOUSING OPTIONS

Ordering Information	
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.



InstaPATCH® 360 TRUNK CABLES AND TRUNK EXTENSIONS

1 F	2 G	3 X	4 M	5 P	6 M	7 P	8 A	9 D	10 -	11 A	12 A	13 F	14 - 16 010
Prefix	Fiber Type	Connector 1	Connector 2	Cordage Size	Fiber Count	Jacket Color	Breakout Length	UOM	Length				
FG Trunk-Plenum FH Trunk-Plenum Armored FJ Trunk-LSZH FK Trunk-LSZH Armored	X LazrSPEED 550 Multimode Z LazrSPEED 300 Multimode H LazrSPEED 150 Multimode M OptiSPEED Multimode** W TeraSPEED Single-mode	MP MPO (Female No Pins)	MP MPO (Female No Pins) MX MPO (Male Pins)	A 12 Fiber PmP Cable D 12 Fiber PmP I/O Cable	D 12 Fiber** F 24 Fiber G 36 Fiber H 48 Fiber K 72 Fiber L 96 Fiber M 144 Fiber	A Blue B Orange C Green D Brown E Slate G Red H Black J Yellow K Violet L Rose M Aqua	A No Gland B With Gland C Pulling Grip	F Feet M Meter	10-999 Feet 3-999 Meters				

- 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.



InstaPATCH® 360 RUGGEDIZED FANOUT CABLES

1 F	2 L	3 X	4 M	5 P	6 L	7 A	8 A	9 D	10 -	11 M	12 E	13 F	14-16 010
Prefix	Fiber Type	Connector 1	Connector 2		Cordage Size	Fiber Count	Jacket Color	Breakout Length	UOM	Breakout Length			
FL Rugged F/O Plenum FM Rugged F/O Plenum Armored FN Rugged F/O LSZH* FP Rugged F/O LSZH Armored*	X LazrSPEED 550 Multimode Z LazrSPEED 300 Multimode H LazrSPEED 150 Multimode M OptiSPEED Multimode W TeraSPEED Single-mode	MP MPO (Female No Pins) MX MPO (Male Pins)	LA LC Angled LC LC Standard LU LC Uniboot* SA SC Angled SC SC Standard ST STII MJ MTRJ FA FC Angled FC FC Standard		A 12 Fiber PmP Cable D 12 Fiber PmP I/O Cable	D 12 Fiber F 24 Fiber G 36 Fiber H 48 Fiber K 72 Fiber	A Blue B Orange C Green D Brown E Slate G Red H Black J Yellow K Violet L Rose M Aqua	A No Gland 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	F Feet M Meter	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			
*Only Available in EMEA													
<ul style="list-style-type: none"> • OptiSPEED standard is Slate • TeraSPEED standard is Yellow • LazrSPEED standard is Aqua 													

InstaPATCH® 360 ARRAY FANOUT CABLES

1 F	2 Q	3 X	4 M	5 P	6 L	7 A	8 G	9 D	10 -	11 A	12 E	13 F	14-16 010
Prefix	Fiber Type	Connector 1	Connector 2		Cordage Size	Fiber Count	Jacket Color	Breakout Length	UOM	Breakout Length			
FQ Array Plenum FR Array LSZH	X LazrSPEED 550 Multimode Z LazrSPEED 300 Multimode H LazrSPEED 150 Multimode M OptiSPEED Multimode** W TeraSPEED Single-mode	MP MPO (Female No Pins) MX MPO (Male Pins)	LA LC Angled LC LC Standard LU LC Uniboot* LM Mini LC SA SC Angled SC SC Standard*	ST STII MJ MTRJ FA FC Angled FC FC Standard	G 12 Fiber PmP Array Cord	D 12 Fiber	E Slate J Yellow M Aqua	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	F Feet M Meter	12 in 2-999 ft 24 in 4-999 ft 48 in 6-999 ft 72 in 8-999 ft 96 in 10-999 ft 24 in 1-999 m 48 in 2-999 m 72 in 3-999 m 96 in 4-999 m			
*Only Available in EMEA													
<ul style="list-style-type: none"> • OptiSPEED only available in Slate • TeraSPEED only available in Yellow • LazrSPEED only available in Aqua 													

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.

INSTAPATCH® 360 ARRAY CORDS

1 F	2 Q	3 X	4 M	5 P	6 L	7 A	8 G	9 D	10 -	11 A	12 E	13 F	14 - 16 010	
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 Single-mode		Connector 1 MP MPO (Female No Pins) MX MPO (Male Pins)		Connector 2 MP MPO (Female No Pins) MX MPO (Male Pins)		Cordage Size G 12 Fiber PmP Array Cord	Fiber Count D 12 Fiber	Jacket Color E Slate J Yellow M 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		UOM F Feet M Meter	Breakout Length 12 in 2-999 ft 24 in 4-999 ft 48 in 6-999 ft 72 in 8-999 ft 96 in 10-999 ft 24 in 1-999 m 48 in 2-999 m 72 in 3-999 m 96 in 4-999 m
								<ul style="list-style-type: none"> • OptiSPEED only available in Slate • TeraSPEED only available in Yellow • LazrSPEED only avail able in Aqua 						

*Only Available in EMEA

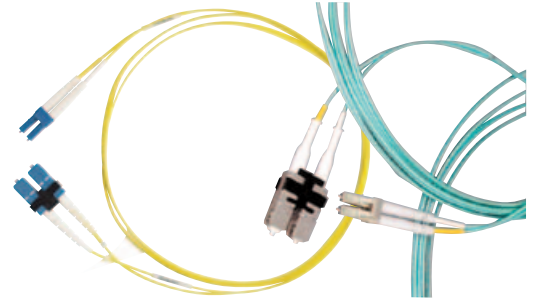
Patch Cords

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.



FIBER OPTIC PATCH CORDS CONFIGURATOR

1 F	2 D	3 X	4 L	5 T	6 L	7 T	8 2	9 1	10 -	11 A	12 X	13 F	14 - 16 010
Prefix	Fiber Type	Connector 1	Connector 2	Cordage Size	Fiber Count	Jacket Color	Breakout Length	UOM	Breakout Length				
FD Jumper-Plenum FE Jumper-Riser FF Jumper-LSZH	X LazrSPEED 550 Multimode M OptiSPEED Multimode W TeraSPEED Single-mode	LC LC Standard SC SC Standard ST STII LA LC Angled SA SC Angled L1 LC Keyed Red L2 LC Keyed Yellow L3 LC Keyed Blue L4 LC Keyed Green L5 LC Keyed Orange L6 LC Keyed Slate L7 LC Keyed Brown L8 LC Keyed Aqua L9 LC Keyed Rose LV LC Keyed Violet LU LC Uniboot*	LC LC Standard SC SC Standard ST STII LA LC Angled SA SC Angled L1 LC Keyed Red L2 LC Keyed Yellow L3 LC Keyed Blue L4 LC Keyed Green L5 LC Keyed Orange L6 LC Keyed Slate L7 LC Keyed Brown L8 LC Keyed Aqua L9 LC Keyed Rose LV LC Keyed Violet MJ MTRJ FC FC Standard FA FC Angled LU LC Uniboot* LM Mini LC	2 1.6mm Simplex 3 3.0mm Simplex 4 1.6mm Zipcord 5 3.0mm Zipcord	1 1 Fiber 2 2 Fiber	A Blue B Orange C Green D Brown E Slate G Red H Black J Yellow K Violet L Rose M Aqua	X No Breakout	F Feet M Meter	2-999 Feet 1-999 Meters				

*Only Available in EMEA

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.

PULLING GRIPS

Ordering Information		
Material ID	Description	Color
760060541	InstaPATCH® Pulling Grip Kit, 12 Fiber	black label
760060558	InstaPATCH® Pulling Grip Kit, 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





It's an intelligent world

High-speed networking, cloud computing, data center consolidation and in-building wireless coverage are transforming the way businesses and public entities operate. CommScope solutions empower communication applications in the boardroom, operating room and classroom...on trains, in airports and in stadiums...and anywhere people gather for work and play.

Your success is our story

We're a trusted resource and partner around the world because we're invested in you: your people, your networks, your success. We'll never stop connecting and evolving networks for the business of life at home, at work and on the go. This is our promise to you. This is CommScope.

Offering a comprehensive range of more than 2000 learning resources, the CommScope Infrastructure Academy is designed to help organizations achieve top-quality infrastructure design and installation. Backed by CommScope's proven expertise and insight, the Academy's online format offers flexibility for learners at any level. Courses on infrastructure solutions include twisted pair, fiber optic, coax and wireless technology, while a variety of specialist courses address the latest in wired and wireless network and infrastructure solutions. Learn at your own pace and convenience — CommScope Infrastructure Academy offers training on demand — www.commscopetraining.com.



www.commscope.com

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