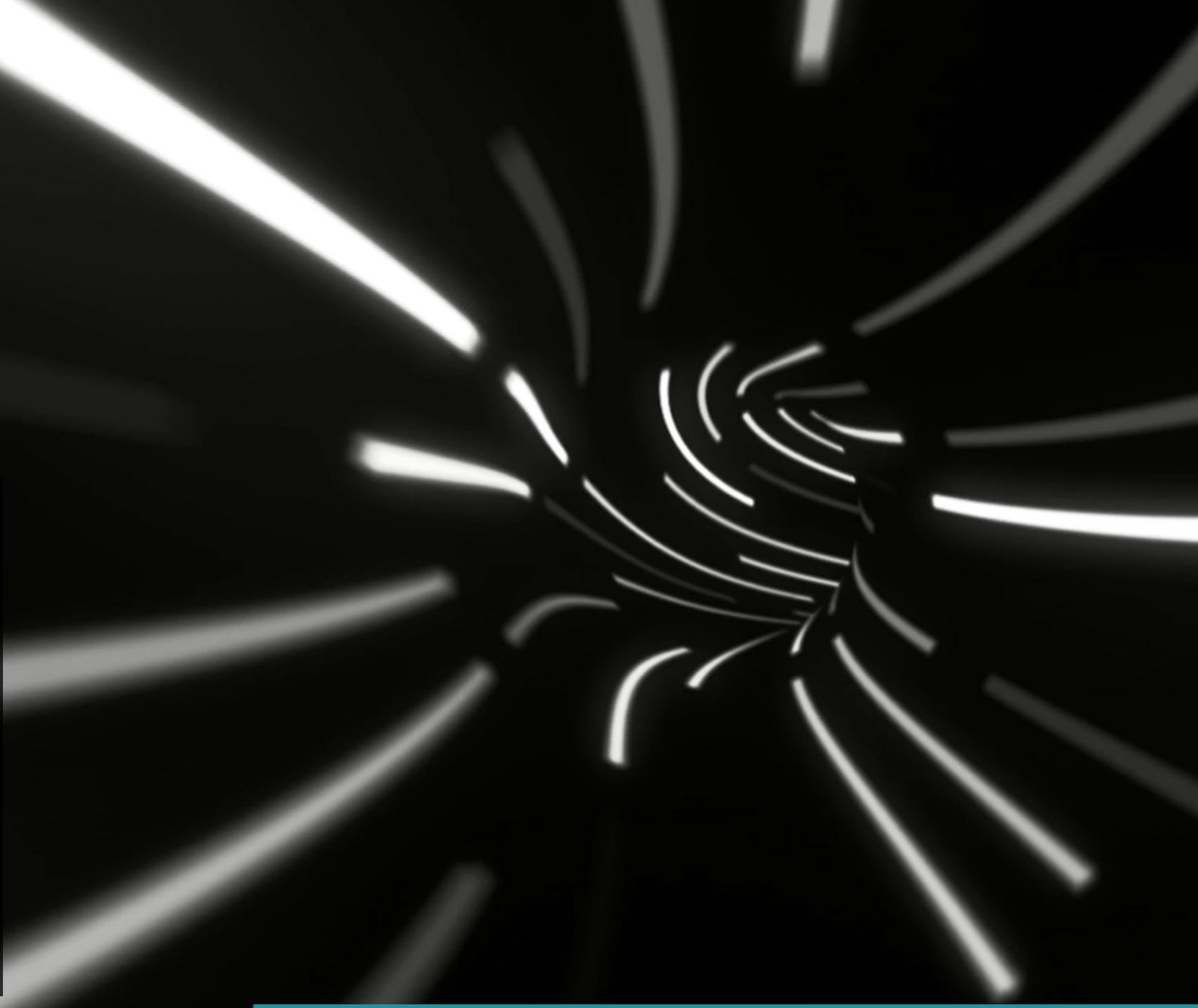


INFINIUM QUANTUM™ FIBER SYSTEM

designed to be better.™

legrand®

INFINIUM QUANTUM™

FIBER SYSTEM

PATENT PENDING

THE INDUSTRY'S LOWEST TOTAL CHANNEL CONNECTION LOSS

No longer bound by Ultra Low Loss - Infinium Quantum has redefined performance in the data center with a total channel connection loss that is an order of magnitude greater than any other fiber system on the market today. Infinium Quantum changes everything by opening up the opportunity to **challenge what's possible.**

Characterized by performance. Infinium Quantum was engineered to enable greater sustainability, future proofing, and lowest total channel connection loss, highly configurable and scalable, with innovative features that simplify the process of installing or working with the system.

Lowest Total Channel Connection Loss –
67% Improvement Over Standard Systems

- Single-mode total channel connection loss: 0.75dB
- Single-mode total channel connection return loss: -55dB
- Multimode total channel connection loss 0.75dB
- Multimode total channel connection return loss: -34dB

Innovative Features –
Simplify Install, Management & Configurability

- Options for 8, 12 and 24 fiber connectivity
- Better accessibility and visibility inside the enclosure
- Improved cable management: Front, Side, Rear, Slack

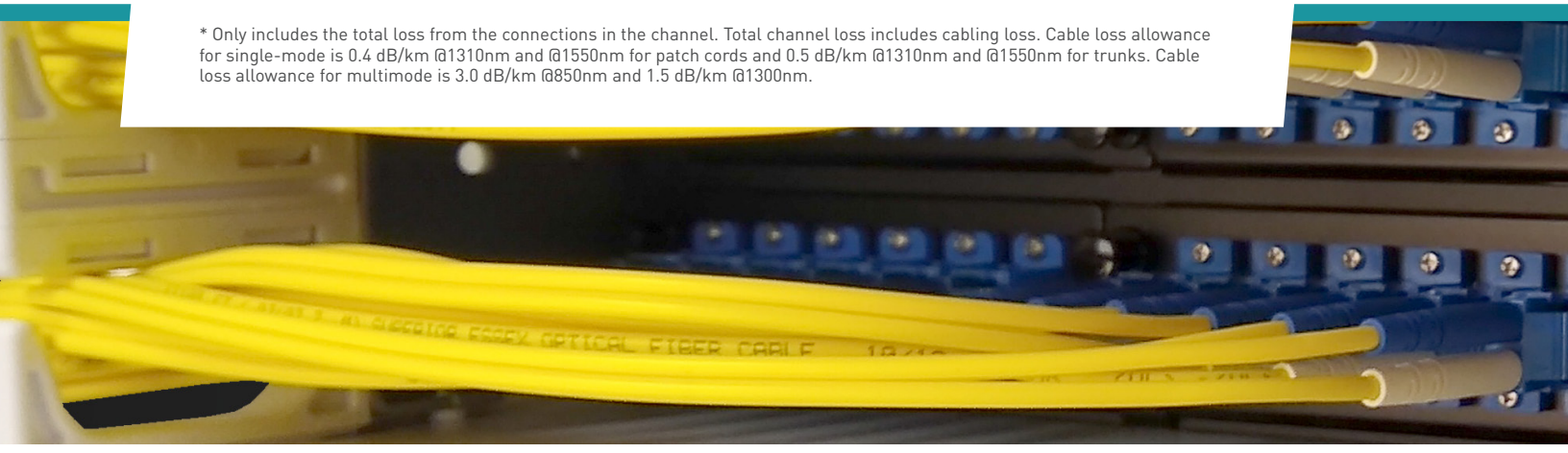
Future Proofing –
Open Path to 400G and Beyond

- Reducing or eliminating the need to replace link to meet demands of 400G and beyond
- Reduce need for fusion splicing to obtain low link loss
- Ability to add cross connections, signal drops, splitting, or switching components into the link for a particular transmission distance

Sustainability –
Corporate Social Responsibility

- Reduce overall energy consumption –up to 30% reduction in power consumption for transceivers
- High performance infrastructure
- Environmental stewardship
- Contribute to LEED points

* Only includes the total loss from the connections in the channel. Total channel loss includes cabling loss. Cable loss allowance for single-mode is 0.4 dB/km @1310nm and @1550nm for patch cords and 0.5 dB/km @1310nm and @1550nm for trunks. Cable loss allowance for multimode is 3.0 dB/km @850nm and 1.5 dB/km @1300nm.



INFINIUM QUANTUM™

APPLICATIONS

DEVELOPED FOR AI, SUPER COMPUTE, AND OTHER HIGH BANDWIDTH APPLICATIONS

Legrand's Infinium Quantum offers a fiber optic solution that is designed to deliver the most advanced network performance, with a variety of density, enclosure and application options for maximum compatibility. Our modular system is engineered with installation efficiency and performance in mind – providing the flexibility to design and efficiently install in any application.

0.75 dB Infinium Quantum

55% Improvement

67% Improvement

1.70 dB Ultra Low Total Channel Connection Loss

2.30 dB Standard Low Total Channel Connection Loss

THE ONLY CABLING SOLUTION OPTIMIZED FOR 400G AND BEYOND

INFINIUM QUANTUM™

FIBER SYSTEM

Achieve unparalleled performance.

The Infinium Quantum fiber system solution must include:

Enclosure or Panel

- **Infinium HD Enclosure**
  - M4 - 4 cassettes or adapter panels per RU
  - 96 LC connectors per RU
  - 384 fibers (12F MPO) per RU
  - 768 fibers (24F MPO) per RU
- **Infinium Modular Panel**
  - **Configurations:** Angled and Flat
  - **Application:** Mixed Media
  - HDCA - 8 cassettes or adapter panels per RU
  - 96 LC connectors
  - 576 fibers (12F MPO)
  - 1024 fibers (24F MPO)

Cassettes

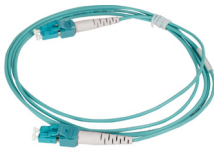
- **Form Factor:** M4 and HDCA
- **Mode:** Single-Mode and Multimode
- **Fiber Count:** 12, 16 and 24

Trunk

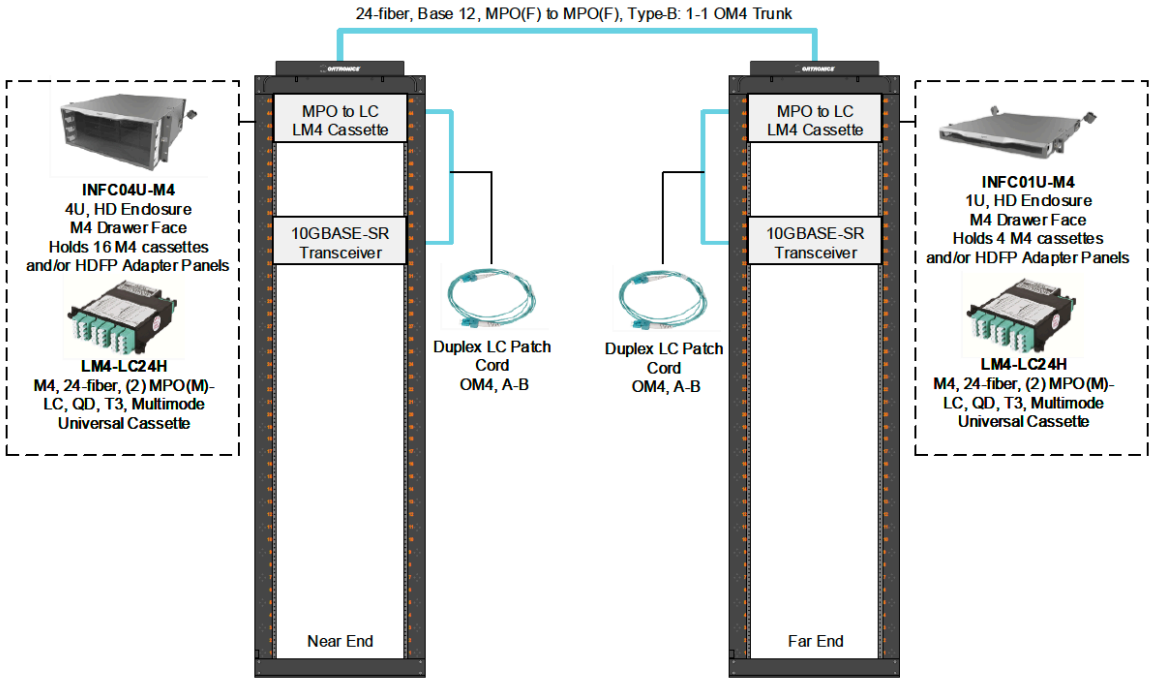
- **Mode:** Single-Mode and Multimode
- **Length:** Made to order - 1 foot or greater
- Breakout Configuration & Labeling
- **Jacket Type:** Plenum or Non-Plenum, Indoor or Outdoor Rated

Patch Cords

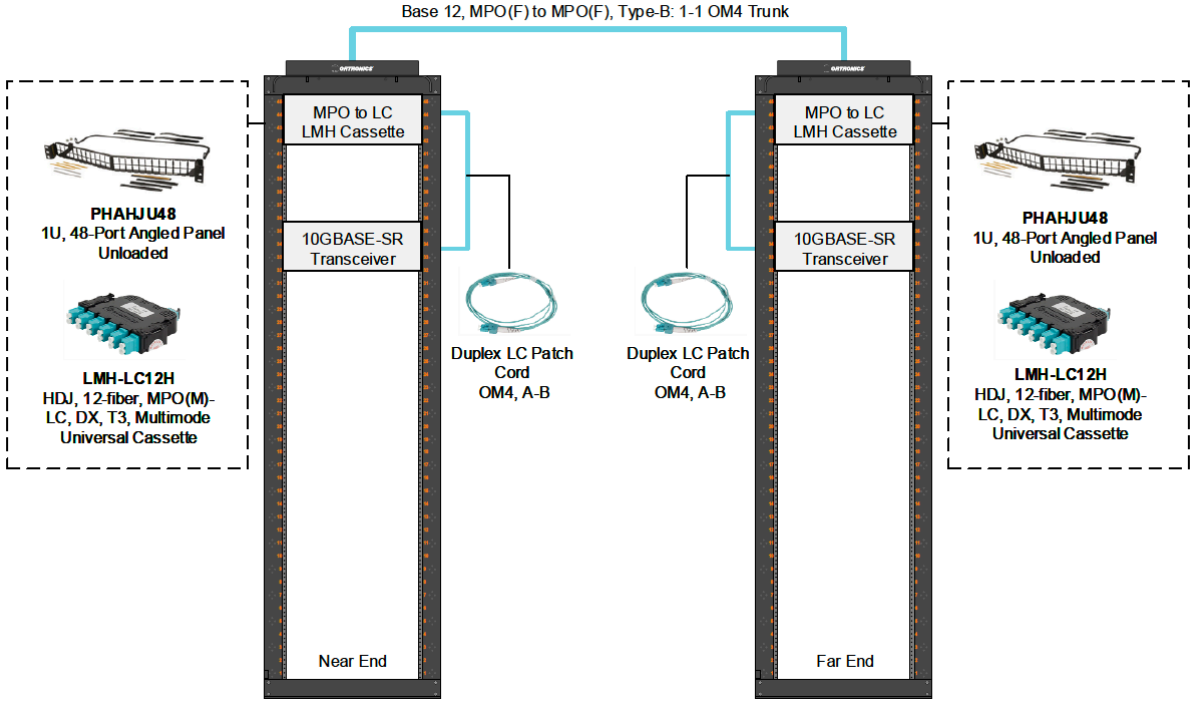
- **Mode:** Single-Mode and Multimode
- **Length:** Made to order - 1 foot or greater
- **Jacket Type:** Plenum or Non-Plenum



LM4 QUANTUM



LMH QUANTUM



INFINIUM™ ***HD ENCLOSURE***

The Infinium HD Enclosure is designed to simplify installation and improve experience

- High density, up to 96 LC connectors in 1U of rack space
- Available in 1U, 2U and 4U
- Integrated LED lighting and white tray
- Forward-sliding label card
- 60/40 split tool-less top cover
- Tool-less cable attachment arms
- Pivot arms for fiber slack management
- Magnesium color scheme
- Available with M4 (Base 12) drawer faces

Part Numbers	Description
INFC01U-M4	1U Infinium High Density (HD) Fiber Enclosure – M4 Drawer Face
INFC02U-M4	2U Infinium High Density (HD) Fiber Enclosure – M4 Drawer Face
INFC04U-M4	4U Infinium High Density (HD) Fiber Enclosure – M4 Drawer Face

INFINIUM ***MODULAR PANEL***

The Infinium modular panel is designed to support mixed media applications

- HDCA Cassettes provide quick reliable install
- Rear cable management bar
- Mixed media maximizes flexibility
- Black or White color scheme
- Angled or flat configurations

Infinium Modular Panel (Mixed Media)

Flat		*Angled*		
Black	**White**	**Black**	**White**	
Part Numbers	**Description**			
PHDHJU24	PHDHJU24-W	PHAHJU24	PHAHJU24-W	1U 24-Port HDJ Series Modular Panel
PHDHJU48	PHDHJU48-W	PHAHJU48	PHAHJU48-W	1U 48-Port HDJ Series Modular Panel
PHDHJU72	PHDHJU72-W	PHAHJU72	PHAHJU72-W	2U 72-Port HDJ Series Modular Panel

Infinium Modular HD Panel (Fiber Only)

Flat	*Angled*	
Part Numbers	**Description**	
PHDFMU48	PHAFMU48	1U 48-Port HDJ Series Modular Panel, with Label Kit

INFINIUM QUANTUM™ ***CASSETTES***

Infinium Quantum pre-terminated cassettes are available in Single-Mode and Multimode. Both are universal polarity* for simple ordering and installation. Each cassette is designed to support MPO to LC connectivity offering versatile installation and swift deployment.

- Industry leading performance is available only when mated with matched Infinium Quantum Trunk and Infinium Quantum Fiber Patch Cords (see pages 9 & 10 for proper mating equipment.)
- Pre-terminated for fastest installation, highest performance and consistent factory quality
- Fiber port labeling provides easier administration
- Compact high density design
- Tool-less installation
- Available in Single-Mode or Multimode
- Form Factors
  - M4: High Density Cassette - 12F or 24F
  - HDJ: Modular Cassette - 12F

Infinium Quantum Single-Mode

Part Numbers	Description	Fiber #	Polarity	Form Factor
LM4-LC12J-1A3UN	Infinium Quantum M4 Cassette, LC Duplex, OS2, 12F 1 MPO(M)	12	Universal	M4
LM4-LC24J-2A3UN	Infinium Quantum M4 Cassette, LC Quad, OS2, 24F 2 MPO(M)	24	Universal	M4
LM4-LC24J-1A3H1	Infinium Quantum M4 Cassette, LC Quad, OS2, 24F 1 MPO(M)	24	Universal	M4
LMH-LC12J-1A3UN	Infinium Quantum HDJ Cassette, LC Duplex, OS2, 12F 2 MPO(M)	12	Universal	HDJ

Infinium Quantum Multimode

Part Numbers	Description	Fiber #	Polarity	Form Factor
LM4-LC12H-1A4UN	Infinium Quantum M4 Cassette, LC Duplex, OM4, 12F 1 MPO(M)	12	Universal	M4
LM4-LC24H-2A4UN	Infinium Quantum M4 Cassette, LC Quad, OM4, 24F 1 MPO(M)	24	Universal	M4
LMH-LC12H-1A4UN	Infinium Quantum HDJ Cassette, LC Duplex, OM4, 12F 1 MPO(M)	12	Universal	HDJ

INFINIUM QUANTUM™ ***TRUNKS***

Infinium Quantum fiber trunks and harnesses are available in Single-Mode and Multimode. Both are fully configurable with a variety of cable and connector combinations including connector type, breakout configurations and jacket material. Each trunk can have multiple connectors of different types and a choice of cable construction in between. Legrand Infinium Quantum trunk cables are manufactured using an innovative furcation method.

- Industry leading performance is available only when mated with matched Infinium Quantum Cassettes (see pages 9 & 10 for proper mating equipment.)
- Available with Plenum, riser, low-smoke zero halogen (LSZH) rated jackets (or CPR – rated for EU use)
- Bend-insensitive fiber for optimal cable management
- Single-mode and Multimode options include 8-fiber, 12-fiber, and 24-fiber MPO connectors
- Furcation utilizes higher quality tubing for more consistent jacket foot print
- Furcation leverages high impact AMS at the furcation point
- Furcation provides a sleeker, more innovative design

To Configure Infinium Quantum Trunk Cable

Root Part Number Infinium Quantum Single-Mode 24 Fiber Trunk - **X7373LXXXX0XXXXXXX**

Root Part Number Infinium Quantum Single-Mode 12 Fiber Pinned Trunk - **X7171BXXXX0XXXXXXX**

Root Part Number Infinium Quantum Multimode Unpinned Trunk - **X1E1EBXXXXEXXXXXXX**

Legrand provides full engineering resources and support for collaborative development of Infinium Quantum fiber optic trunk solution designed to meet the needs of any data center or network application. Contact one of our specialists today to develop your trunk configuration. **800.361.0471**

Sample Single-Mode Infinium Quantum Trunk

Part Numbers	Description
X7171B020AIMM2900F	Infinium Quantum, 2900ft, 24F MTP to MTP (Non-Pinned, No Stagger), OFNP, OS2, Universal Polarity
X7171B020AIMM2500F	Infinium Quantum, 2500ft, 24F MTP to MTP (Non-Pinned, No Stagger), OFNP, OS2, Universal Polarity

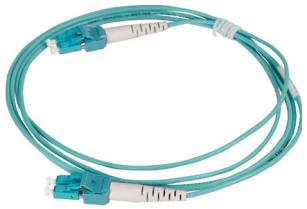
Sample Multimode Infinium Quantum Trunk

Part Numbers	Description
X5555B020AFFF2900F	Infinium Quantum, 900ft, 24F MTP to MTP (Non-Pinned, No Stagger), OFNP, OM4, Universal Polarity
X5555B020AHFF2500F	Infinium Quantum, 500ft, 24F MTP to MTP (Non-Pinned, No Stagger), OFNP, OM5, Universal Polarity

INFINIUM QUANTUM™ ***FIBER PATCH CORDS***

Infinium Quantum fiber patch cords are built to exceed industry standards for insertion and return loss. Infinium Quantum patch cords are available in A-B polarity, per TIA 568 standard.

- Industry leading performance is available only when mated with matched Infinium Quantum Cassettes (see pages 9 & 10 for proper mating equipment.)
- Available with Plenum, riser, low-smoke zero halogen (LSZH) rated jackets (or CPR – rated for EU use)
- Bend-insensitive fiber for optimal cable management
- TAA/BAA Compliant
- TIA Channel Compliant



To Configure Infinium Quantum Fiber Patch Cords

Root Part Number Infinium Quantum Single-Mode Fiber Patch Cord - **L4-35352XOYXXXXXXX**

Root Part Number Infinium Quantum Multimode Fiber Patch Cord - **L4-01012XEAXXXXXXX**

Legrand provides full engineering resources and support for collaborative development of Infinium Quantum fiber optic patch cords designed to meet the needs of any data center or network application. Contact one of our specialists today to develop your fiber patch cord configuration. **800.361.0471**

Example Infinium Quantum Single-Mode

Part Numbers	Description	Polarity
L40101B2IY2O005M	Infinium Quantum Single-Mode, OS2, 9/125, Duplex LC to LC (Riser), 5 meter, Yellow	A-B

Example Infinium Quantum Multimode

Part Numbers	Description	Polarity
L40101B2EA2O005M	Infinium Quantum Multimode OM4 50/125, Duplex LC to LC (Riser), 5 meter, Aqua	A-B
L40101B2HL2O001M	Infinium Quantum Multimode OM5, 50/125, Duplex LC to LC (Riser), 1 meter, Lime	A-B

INFINIUM QUANTUM™ ***M4 SYSTEMS***

Infinium Quantum M4 Single-Mode 12 Fiber MPO to Duplex LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-35352XOYXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OS2 Yellow Patch	2	A-B	Duplex
LM4-LC12J-1A3UN	Infinium Quantum M4 Cassette, LC Duplex, OS2, 12F 1 MPO(M)	12	Universal	M4
X7171BXXXXOXXXXXXX	Infinium Quantum OS2 Non-Pinned MTP Trunk		B:1-1	Trunk

Infinium Quantum M4 Cassette Single-Mode (2) 12 Fiber MPO to Duplex LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-35352XOYXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OS2 Yellow Patch	2	A-B	Duplex
LM4-LC24J-2A3UN	Infinium Quantum M4 Cassette, LC Quad, OS2, 24F 2 MPO(M)	24	Universal	M4
X7171BXXXXOXXXXXXX	Infinium Quantum OS2 Non-Pinned MTP Trunk		B:1-1	Trunk

Infinium Quantum M4 Cassette Single-Mode 24 Fiber MPO to Quad LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-35352XOYXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OS2 Yellow Patch	2	A-B	Duplex
LM4-LC24J-1A3H1	Infinium Quantum M4 Cassette, LC Quad, OS2, 24F 1 MPO(M)	24	Universal	M4
X7373LXXXXOXXXXXXX	Infinium Quantum OS2 Non-Pinned 24 F MTP Trunk		A:2-2	Trunk

Infinium Quantum M4 Cassette Multimode 12 Fiber MPO to Duplex LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-35352XOYXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OS2 Yellow Patch	2	A-B	Duplex
LM4-LC12H-1A4UN	Infinium Quantum M4 Cassette, LC Duplex, OM4, 12F 1 MPO(M)	12	Universal	M4
X7171BXXXXOXXXXXXX	Infinium Quantum OS2 Non-Pinned MTP Trunk		B:1-1	Trunk

Infinium Quantum M4 Cassette Multimode (2) 12 Fiber MPO to Quad LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-01012XEAXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OM4 Aqua Patch	2	A-B	Duplex
LM4-LC24H-2A4UN	Infinium Quantum M4 Cassette, LC Quad, OM4, 24F 2 MPO(M)	24	Universal	M4
X1E1EBXXXXEXXXXXX	Infinium Quantum OM4 Non-Pinned MTP Trunk		B:1-1	Trunk

INFINIUM QUANTUM™ ***HDJ MODULAR PANEL SYSTEMS***

Infinium Modular Panel HDJ Cassette Single-Mode 12 Fiber MPO to Duplex LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-35352XOYXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OS2 Yellow Patch	2	A-B	Duplex
LMH-LC12J-1A3UN	Infinium Quantum HDJ Cassette, LC Duplex, OS2, 12F 1 MPO(M)	12	Universal	HDJ
X7171BXXXXOXXXXXXX	Infinium Quantum OS2 Non-Pinned MTP Trunk		B:1-1	Trunk

Infinium Modular HDJ Cassette Multimode 12 Fiber MPO to Duplex LC

Part Numbers	Description	Fiber #	Polarity	Form Factor
L4-01012XEAXXXXXXX	Infinium Quantum LC to LC Duplex DFX Fiber OM4 Aqua Patch	2	A-B	Duplex
LMH-LC12H-1A4UN	Infinium Quantum HDJ Cassette, LC Duplex, OM4, 12F 1 MPO(M)	12	Universal	HDJ
X1E1EBXXXXEXXXXXXX	Infinium Quantum OM4 Non-Pinned MTP Trunk		B:1-1	Trunk

Up to 67%
Performance Improvement

Single-Mode .75dB Total Channel Connection Loss
Multimode .75dB Total Channel Connection Loss

designed to be better.™

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