



OPT-X[™] Fiber Optic System

Leviton's enhanced performance Engage global fiber systems offer optical reach beyond industry standards and support the most common application designs. The high- and ultra-high density HDX connectivity platform allows for open and closed patching, and supports high-speed (e.g. 400G) connections. OPT-X fiber optic systems are global solutions available everywhere.

RECOMMENDED FOR:

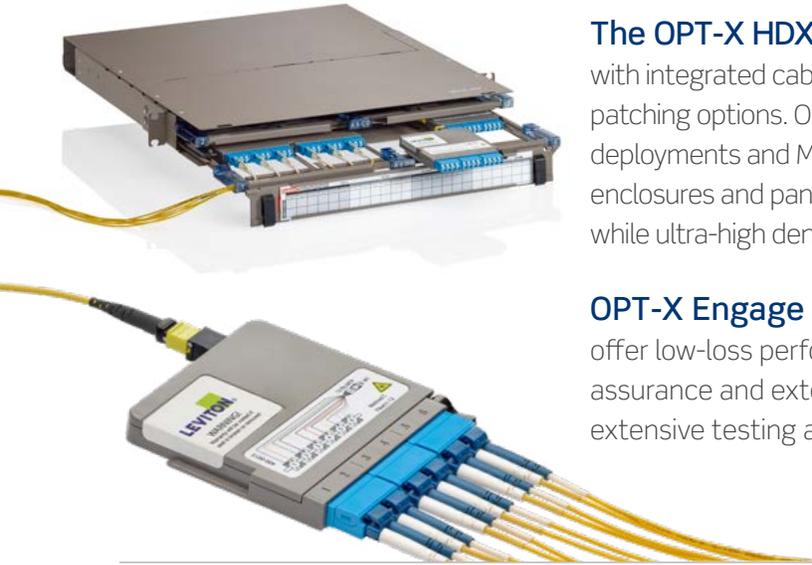
Cloud and Enterprise Data Centers

Space Constrained, High-Density Environments

Mission Critical Networks

Pre-Terminated 10G-400G Networks

Main Distribution Area (MDA)



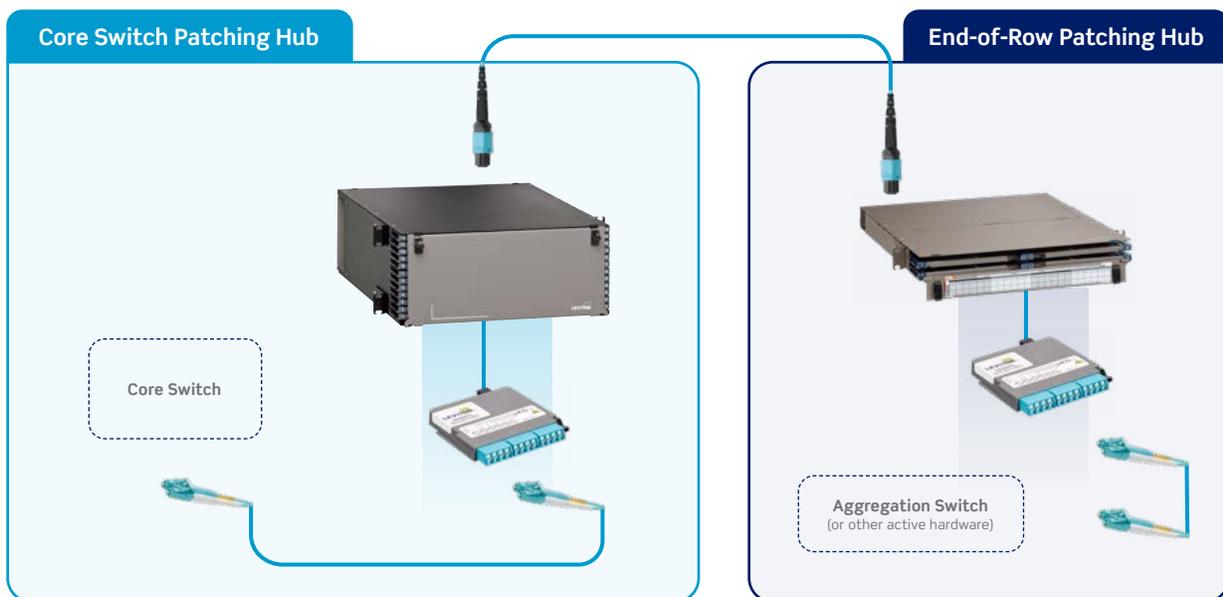
The **OPT-X HDX patching platform** improves network manageability with integrated cable management and port labeling in both closed- and open-patching options. OPT-X HDX Adapter Plates and Cassettes can accelerate deployments and MACs through easy one-hand installation and removal. HDX enclosures and panels offer manageable density at 96 fibers per RU (using LC), while ultra-high density UHDX enclosures support up to 144 fibers per RU.

OPT-X Engage pre-terminated trunks, array patch cords, and cassettes offer low-loss performance that surpasses industry standards. Performance assurance and extended distance calculations are available through extensive testing and analysis with the Leviton Optical Link Verification Tool.

Use Cases

High Performing Optical Channels	Cost-Effective Solution for Typical Networks	Flexible Deployment Options	Manageable Density
Enhanced, low-loss optical performance extends channels beyond industry standard specifications.	Offers the best value for the most common network architectures with 2 to 6 connection points in the channel.	The OPT-X HDX patching platform includes panels, enclosures, distribution frames, and zero-RU configurations to allow for consistent patching form factor from the entrance facility or MDA to the TR or network edge.	The OPT-X HDX platform includes integrated patch cord and cable management, as well as customizable port ID options.

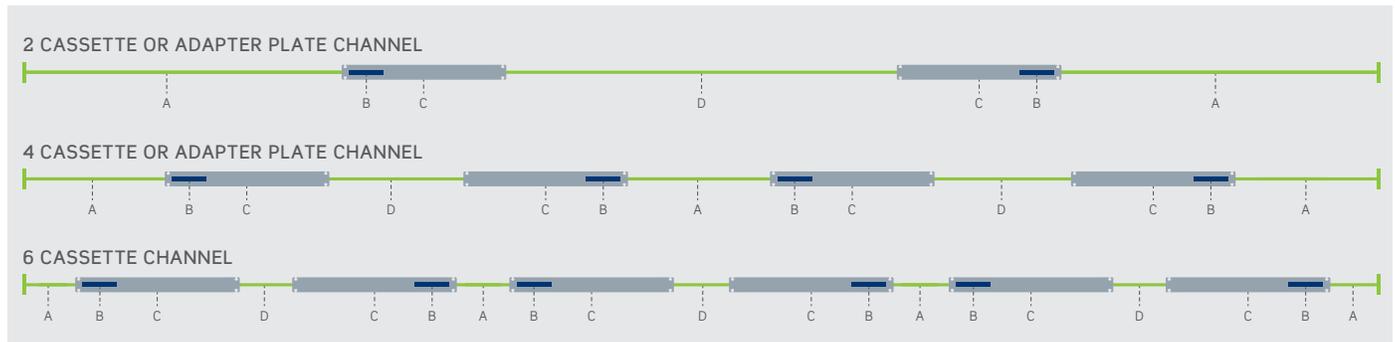
Example Network



Total Channel Performance

For many organizations, the need to maximize existing cabling infrastructure can lead to performance over distances that exceed industry standards, signals mating through multiple connection points, or a combination of both. These scenarios may raise concerns about the passive channel's bandwidth capabilities and attenuation loss in relation to the transceiver transmit power and receiver sensitivity. HDX Engage systems offer enhanced reach beyond industry standards while offering the highest density fiber connections, and Leviton design tools can verify the expected performance of those end-to-end channels.

Channel Reach Performance Examples

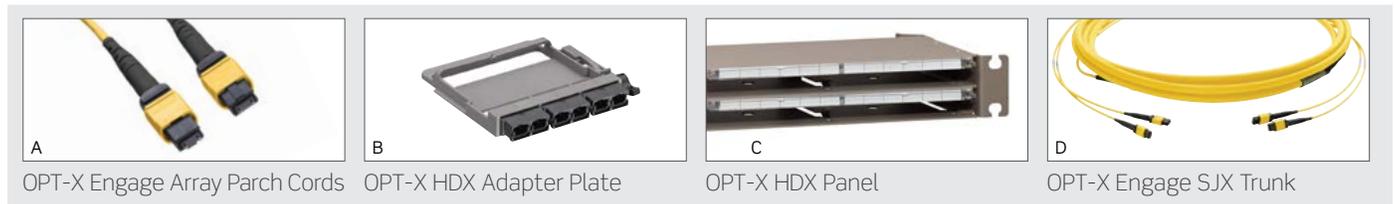


Duplex Transceivers and Base12 MTP-LC Cassettes



OM4	10G SR			25G SR			40G BiDi		
# of Connection Points	2	4	6	2	4	6	2	4	6
Reach (m)	For expected optical reach data, contact your local sales person. Leviton.com/ns/global-locations								
OS2	10G LR			40G LR			100G CWDM4		
# of Connection Points	2	4	6	2	4	6	2	4	6
Reach (m)	For expected optical reach data, contact your local sales person. Leviton.com/ns/global-locations								

Parallel Transceivers and MTP Adapter Plates



	OM4 — 40G SR4		OM4 — 100G SR4		OS2 — 100G PSM4	
# of Connection Points	2	4	2	4	2	4
Reach (m)	For expected optical reach data, contact your local sales person. Leviton.com/ns/global-locations					

Leviton can calculate reach for virtually any transceiver type. Contact 800-722-2082 for additional support or visit [Leviton.com/ns/global-locations](https://leviton.com/ns/global-locations).

The engineered link values listed in the tables are outputs from Leviton's Optical Link Verification Tool. To obtain these expected reach distances, the products must be properly installed by a Leviton Certified Installer. Additionally, the active equipment at both ends of the link must be properly installed and in good working condition, and meet appropriate IEEE 802.3 standards for the specific application. Leviton stands behind its system warranties, located at <https://leviton.com/ns/warranties>. As a variety of applications and connection points are possible, contact 800-722-2082 or appeng@leviton.com for specific design consultation and Link Performance verification.

DUPLEX OPTICS CHANNELS



Duplex Patch Cords

Fiber Patch Cords

Fiber Optic Patch Cords are designed to interconnect or cross connect fiber networks within structured cabling systems for data centers, Broadband CATV, Passive Optical Networks (PON), WDM or DWDM multiplexing, FTTH, and voice services in metropolitan and access networks.

- Cable jacket and boots color-coded for easy ID of fiber
- 100% tested for insertion loss and single-mode for return loss

Fiber Patch Cords	Plenum Part No.	LSZH Part No.
OM4, LC Duplex Patch Cord, 1 m	PCF-M4PD1RR-0010MAB	VPC-M4D1LCLC0010
OM4, LC Duplex Patch Cord, 3 m	PCF-M4PD1RR-0030MAB	VPC-M4D1LCLC0030
OM4, LC Duplex Patch Cord, 5 m	PCF-M4PD1RR-0050MAB	VPC-M4D1LCLC0050
OS2, LC Duplex Patch Cord, 1 m	PCF-S2PD1RR-0010MAB	VPC-S2D1LCLC0010
OS2, LC Duplex Patch Cord, 3 m	PCF-S2PD1RR-0030MAB	VPC-S2D1LCLC0030
OS2, LC Duplex Patch Cord, 5 m	PCF-S2PD1RR-0050MAB	VPC-S2D1LCLC0050
LC Duplex Patch Cord	PCF-**PD1RR-xxxxMAB	VPC-**D1LCLCxxxx

** Fiber Type: M4 (OM4), S2 (OS2)
 xxxx Length: (e.g. 10.2 m = 0102, 3.5 m = 0035)



Cassettes

OPT-X HDX Engage Fiber Cassettes

HDX Engage MTP® Cassettes come with 12-fiber MTP connectors on the back that break out to single or array connectors on the front. They are pre-terminated, pre-tested, and are custom-built to your specifications.

- Low-loss Base12 MTP connectors
- Leviton-patented IP5x-rated internal shutters on LC adapters eliminate need for dust plugs to reduce waste, accelerate deployments, and ensure safer installation
- Universal Polarity Base12 Breakout Cassettes MTP-LC require method B trunks with one cassette on each end
- Pre-terminated fiber eliminates the need for complicated field terminations and splices
- Easy one-hand installation and removal
- Option of pinned (male) or unpinned (female) MTP connector

Base12 Cassettes – Popular Configurations	Part No.
OM4, 12-fiber MTP (male) to LC shuttered (aqua), Universal Polarity	41LSM1-UNN
OM4, 12-fiber MTP (male) to LC shuttered (heather violet), Universal Polarity	41GSM1-UNN
OS2, 12-fiber MTP (male) to LC shuttered (blue), Universal Polarity	U1LSM1-UNN
OM4, 2x12F MTP (male) to LC shuttered (aqua), Universal Polarity	42LSM1-UNN
OM4, 2x12F MTP (male) to LC shuttered (heather violet), Universal Polarity	42GSM1-UNN
OS2, 2x12F MTP (male) to LC shuttered (blue), Universal Polarity	U2LSM1-UNN

PARALLEL OPTICS CHANNELS



Array Patch Cords

OPT-X Engage Fiber Array Patch Cords

OPT-X Engage MTP® Array Cords are designed to cross connect from structured cabling directly into active equipment with an MPO/MTP transceiver interface. They are also used as direct interconnect cables for point-to-point connections. MTP connectors offer low-loss performance to support longer distances while staying within IEEE low-loss limits.

- Low-loss MTP connectors in 8 or 12 fibers for maximum network design flexibility

MTP-to-MTP Array Patch Cords, Method B	Plenum Part No.	CPR-Rated Part No. (B2ca)
8-Fiber, OS2, unpinned, 3 m	UP8MM-B003M	UP8CMM-B0030-S
12-Fiber, OS2, unpinned, 3 m	UP2LL-B003M	UP2CCL-B0030-S
8-Fiber, OS2, pinned, 3 m	UP8NN-B003M	UP8CNN-B0030-S
12-Fiber, OS2, pinned, 3 m	UP2KK-B003M	UP2CKK-B0030-S
8-Fiber, OM4, unpinned, 3 m	548MM-B003M	548CMM-B0030-S
12-Fiber, OM4, unpinned, 3 m	542LL-B003M	542CCL-B0030-S
8-Fiber, OM4, pinned, 3 m	548NN-B003M	548CNN-B0030-S
12-Fiber, OM4, pinned, 3 m	542KK-B003M	542CKK-B0030-S
8-Fiber, unpinned	**8MM-BxxxM	**8CMM-Byyyy-S
12-Fiber, unpinned	**2LL-BxxxM	**2CCL-Byyyy-S
8-Fiber, pinned	**8NN-BxxxM	**8CNN-Byyyy-S
12-Fiber, pinned	**2KK-BxxxM	**2CKK-Byyyy-S

** Fiber Type: 54 (OM4), UP (OS2)

xxx Length: (e.g. 10 m = 010, 3 m = 003)

yyyy Length: (e.g. 10.2 m = 0102, 3.5 m = 0035)



Adapter Plates

OPT-X HDX Fiber Adapter Plates

HDX adapter plates connect to field-terminated backbone cabling or pre-terminated trunks.

- Compatible with OPT-X UHDX and OPT-X HDX Enclosures, Panels, and HDX Fiber Distribution Frame Patch Decks
- Easy one-hand installation and removal
- Visible sequential numbering to identify ports (for Tx and Rx)

Fiber Adapter Plates	Part No.
3 Duplex MTP Adapters (black), keyed up to keyed up	5FUHD-6MB*
3 Duplex MTP Adapters (black), keyed up to keyed down	5FUHD-6MP
Blank	5FUHD-BLK

* Not designed for use with single-mode applications

DUPLEX OR PARALLEL OPTICS CHANNELS



Enclosures and Panels	UHDX Part No.	HDX Part No.
OPT-X Flat Panel, 1RU	HDX1F-144	HDX1U-F96
OPT-X Angled Panel, 1RU	HDX1A-144	HDX1U-A96
OPT-X Fiber Enclosure, 1RU, sliding trays	5R1UD-S12	5R1UD-S08
OPT-X Fiber Enclosure, 2RU, sliding trays	5R2UD-S24	5R2UD-S16
OPT-X Fiber Enclosure, 3RU, sliding trays	—	5R3UD-S24
OPT-X Fiber Enclosure, 4RU, sliding trays	5R4UD-S48	5R4UD-S32
HDX Fiber Distribution Frame	—	F3168-22F
HDX Patch Deck (use with Frame)	—	F3168-DCK

Panels, Enclosures, and Distribution Frame HDX, UHDX, Distribution Frame Densities

- Accept Leviton HDX Adapter Plates, Cassettes, and Splice Modules
- OPT-X UHDX panels and enclosures accommodate up to 144 fibers (using LC) in a 1RU, 288 fibers in a 2RU, and 576 fibers in a 4RU size
- OPT-X HDX panels and enclosures accommodate up to 96 fibers (using LC) in a 1RU, 192 fibers in a 2RU, 288 fibers in a 3RU, and 384 fibers in a 4RU size
- Individual sliding trays in enclosures allow easy access to fiber connectors in dense applications
- Hinged front enclosure door provides easy means to install, remove, and update port ID labels
- Highly visible port locators in the front and rear of enclosure help easily identify specific ports
- 1RU flat and angled panels allow open access to patch cords and trunks; no moving parts
- Angled panel eliminates the need for horizontal patch cord cable managers
- The HDX Fiber Distribution Frame patches up to 3,168 LC Fibers for cross-connect and interconnect applications between backbone cables and active equipment

Trunks

OPT-X Engage SJX Low-Loss Fiber Trunks

Factory-terminated and tested MTP® trunk cable assemblies feature low-loss connectors to support longer distances while staying within IEEE low-loss limits.



- Terminations available in Base8 and Base12 configurations
- Up to 70% faster install than field-terminated trunks
- 100% factory tested, with test results included in packaging
- See leviton.com/mto to configure your application
- Available in plenum and riser/LSZH CPR cable ratings

Unpinned MTP-to-MTP, Method B Trunks		Plenum Part No.	CPR-Rated (B2ca) Part No.
OM4	12-Fiber	FT-FW2012LLxxxF36C36CN-NNBS	FT-FZ012LLyyyy09B09BN-NNBS
	24-Fiber	FT-FW2024LLxxxF36B36BN-NNBS	FT-FZ024LLyyyy09B09BN-NNBS
	48-Fiber	FT-FW2048LLxxxF36B36BN-NNBS	FT-FZ048LLyyyy09B09BN-NNBS
	96-Fiber	FT-FW2096LLxxxF36B36BN-NNBS	FT-FZ096LLyyyy09B09BN-NNBS
	144-Fiber	FT-FW2144LLxxxF36B36BN-NNBS	FT-FZ144LLyyyy09B09BN-NNBS
OS2	12-Fiber	FT-AW2012LLxxxF36C36CN-NNBS	FT-AZ012LLyyyy09B09BN-NNBS
	24-Fiber	FT-AW2024LLxxxF36B36BN-NNBS	FT-AZ024LLyyyy09B09BN-NNBS
	48-Fiber	FT-AW2048LLxxxF36B36BN-NNBS	FT-AZ048LLyyyy09B09BN-NNBS
	96-Fiber	FT-AW2096LLxxxF36B36BN-NNBS	FT-AZ096LLyyyy09B09BN-NNBS
	144-Fiber	FT-AW2144LLxxxF36B36BN-NNBS	FT-AZ144LLyyyy09B09BN-NNBS

xxx Length: (e.g. 10 ft = 010, 3 ft = 003) yyyy Length: (e.g. 10.2 m = 0102, 3.5 m = 0035)

MTP® is a registered trademark of US Conec, Ltd.

Released July 2023 G23 8866-GL ENv2

USA
 Network Solutions Headquarters
 +1 (800) 722 2082
infoUSA@leviton.com
 Leviton Berk-Tek Cable: +1 (800) 237 5835
berktek.info@leviton.com

Asia Pacific
 +852 3620 2602
infoAPAC@leviton.com

Canada
 +1 (800) 461 2002
infoCanada@leviton.com

Europe
 +44 (0) 1592 772124
infoEurope@leviton.com

Latin America
 MX: +52 (55) 2128 6286
 LATAM: +52 (55) 2333 5963
infoLATAM@leviton.com

Middle East & Africa
 +971 (4) 247 9800
infoMEA@leviton.com

NETWORK SOLUTIONS PRODUCTS ARE AVAILABLE WORLDWIDE IN OVER 100 COUNTRIES. VISIT US ONLINE AT LEVITON.COM/NS TO LEARN MORE.