

## OPT-X™ Unity Ultra Low Loss MTP® Trunk Cables

### APPLICATION

Factory-terminated and tested OPT-X Unity MTP Trunk Cables connect central patching locations to zones or pods. MTP connectors feature ultra low loss to support maximum distance and multiple connection points while staying within IEEE low-loss limits. All trunks are custom built in any length to meet specific application needs. An optional Pulling Eye, installed on the first end, protects fiber connectors on 12- through 144-fiber trunk cables. The Pulling Eye completely covers the breakout length, transferring any pulling force from the assembly to the pulling-eye sleeve. A high-tensile load option that attaches to Kevlar® is also available for applications of greater than 125 feet.



Pulling Eye

### SPECIFICATION

All pre-terminated components, including trunks, modules, harnesses, brackets, patch panels, and enclosures, shall be provided and warranted by a single manufacturer. Components with a modular (8-, 12-, or 24-fiber) connection shall use MTP rather than MPO connectors. Multimode trunks shall meet an optical connector insertion loss not to exceed 0.20 dB per mated pair for 8 and 12 fibers, and 0.35 dB for 24 fibers. Single-mode trunks shall meet an optical connector insertion loss not to exceed 0.35 dB per mated pair. Trunks shall be available in plenum, riser, and interlock armor versions. Each will be available in MTP-MTP configurations in 12, 24, 48, 72, 96, and 144 fiber counts in sub-units of 8, 12, or 24 fibers each. Each will also be available in custom lengths of one-foot increments. Total trunk length shall be specified from connector to connector. A pulling eye is optional on the pulling end of all trunks to safeguard fibers during installation. Trunks shall be pre-terminated and pre-tested with test documentation provided with each trunk.

### FEATURES

- Ultra-Low-Loss 8, 12, and 24-fiber MTP connectors for maximum network design flexibility
- 0.20 dB maximum for 8 and 12-fiber MTP
- Every fiber component is factory terminated and pre-tested using automated procedures to ensure product quality
- Allow easy migration from 10 GbE to 40 GbE, 100 GbE, or higher data rates
- Connector boots are color-coded for easy identification
- Factory tested, with test results included for each trunk
- Available in 12, 24, 48, 72, 96, and 144 fiber counts
- Available in OS2, OM3, OM4, and OM5 fiber
- Pulling eyes are provided as an option to protect the fiber ends during installation
- Armored option uses flexible jacketed ARMOR-TEK™ spiral aluminum armor, replacing the need for innerduct
- SJP and SJP ARMOR-TEK are plenum rated
- Field terminable grounding strap for armor trunks—when local electrical code requires grounding

### DESIGN CONSIDERATIONS

- For use with Leviton MTP cassettes, panels, and brackets
- Standard breakout length is 36 inches; other lengths available upon request
- Total trunk length is from connector to connector
- Trunks longer than 125 feet are shipped on plastic spools, shorter than 125 feet are coiled and shipped in poly bags
- Standard polarity is ANSI/TIA Method B. Method A and C polarities are also available
- Pulling eye is typically on first-end termination, if selected
- Leviton 24-fiber connectors have a 20 N spring to provide max 0.35 dB insertion loss. If mated to another 24-fiber MPO connector with a 10 N spring, performance may result in >0.35 dB insertion loss.
- Method B trunk required for Universal Polarity Cassettes

### STANDARDS & REGULATIONS

- ANSI/TIA-568.3-D
- Supports data rates identified in multiple IEEE 802.3xx standards as applicable by connector type and cable grade
- ANSI/TIA-942
- OM3, OM4, OM5 meet ITU-T G651.1
- OM5 meets TIA 492-AAAE for SWDM
- OS2 meets ITU-T 652.D and ITU-T 657.A1
- Detailed Fiber Specifications in PS 0309 data sheet
- SJP OFNP requirements

### COUNTRY OF ORIGIN

USA

# PRODUCT SPECIFICATIONS

## OPT-X™ Unity Ultra Low Loss MTP® Trunk Cables

### FIBER INSERTION LOSS PERFORMANCE (DB)

Connector Mated Pairs	Max. IL Multimode	Max. IL Single-Mode	Min. RL Single-Mode
8-fiber Unity	0.20	0.35	>60 dB
12-fiber Unity	0.20	0.35	>60 dB
24-fiber Unity	0.35	0.35	>60 dB

### COLOR CODES

#### Cable Jackets

OM3 & OM4 50/125 µm	Aqua
OM5 50/125 µm	Lime Green
OS2 9/125 µm	Yellow

#### Connectors

OM3 and OM4 50/125 µm	Aqua	
OM5	Lime Green (MTP)	
OS2 9/125 µm	Yellow	
MTP Connector Boots	Multimode	Single-Mode
8-fiber	Gray	Gray
12-fiber	Aqua	Black
24-fiber	Red	Red

### OPT-X SJP PLENUM NON-ARMORED TRUNK CABLE (OM3, OM4 & OS2 PLENUM) PHYSICAL SPECIFICATIONS

Fiber Count	Nominal Outside Diameter	Weight lbs/1000 ft (kg/km)	Max Installation Tension lbs (N)	Minimum Bend Radius in (cm)		Temperature Range	
	in (mm)			Installation	Long Term	Operating	Storage
12	0.189 (4.8)	17 (26)	150 (667)	2.8 (7.2)	1.9 (4.8)	0 °C to +75 °C	-40 °C to +75 °C
24	0.295 (7.5)	35 (52)	150 (667)	4.4 (11.3)	3.0 (7.5)		
48	0.295 (7.5)	35 (52)	150 (667)	4.4 (11.3)	3.0 (7.5)		
72	0.319 (8.1)	43 (64)	150 (667)	4.8 (12.1)	3.2 (8.1)		
96	0.421 (10.7)	68 (101)	300 (1335)	6.3 (16.0)	4.2 (10.7)		
144	0.421 (10.7)	69 (102)	300 (1335)	6.3 (16.0)	4.2 (10.7)		

Check local IEC requirements for grounding armored cables.

### GROUNDING STRAP KIT

- Kit allows for field installation on preterminated armor trunk when local electrical codes require grounding
- Grounding strap is 5 ft in length, 6 AWG wire with ring terminals already installed
- For grounding strap assembly instructions, visit [Leviton.com/fibertrunks](http://Leviton.com/fibertrunks)



### GROUNDING STRAP KIT

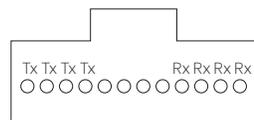
Description	Part Number
Grounding Strap Kit	11140671

**PRODUCT SPECIFICATIONS**  
**OPT-X™ Unity Ultra Low Loss MTP® Trunk Cables**

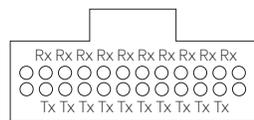
OPT-X SJP PLENUM ARMORED TRUNK CABLE PHYSICAL SPECIFICATIONS*							
Fiber Count	Nominal Outside Diameter	Weight	Max Installation Tension	Minimum Bend Radius in (cm)		Temperature Range	
	in (mm)			lbs/1000 ft (kg/km)	lbs (N)	Installation	Long Term
12	0.563 (14.3)	112 (167)	150 (667)	8.4 (21.3)	5.6 (14.2)	0 °C to +75 °C	-40 °C to +75 °C
24	0.614 (15.6)	137 (203)	300 (1335)	9.21 (23.3)	6.1 (15.5)		
48	0.614 (15.6)	137 (203)	300 (1335)	9.21 (23.3)	6.1 (15.5)		
72	0.68 (17.3)	157 (233)	300 (1335)	10.2 (25.9)	6.8 (17.3)		
96	0.774 (19.7)	202 (301)	600 (2670)	11.6 (29.5)	7.7 (19.5)		
144	0.774 (19.7)	203 (303)	600 (2670)	11.6 (29.5)	7.7 (19.5)		

Check local IEC requirements for grounding armored cables.

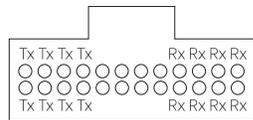
**MTP® LANE ASSIGNMENTS FOR 40/100G**



QSFP 40GBASE-SR4, QSFP28  
 100GBASE-SR4, 100G-PSM4,  
 200G-SR4, 400G-DR4, 400G-SR4.2



100GBASE-SR10, 24-fiber MTP



2x100G-PSM4, 2x100G-SR4

NOTE: Per IEEE802.3ba

**COLOR-CODED BOOTS ON MULTIMODE MTP®**



24-Fiber



12-Fiber



8-Fiber



12-Fiber



8-Fiber

**COLOR-CODED BOOTS ON SINGLE-MODE MTP®**



24-Fiber



12-Fiber



8-Fiber

**PRODUCT SPECIFICATIONS**

**OPT-X™ Unity Ultra Low Loss MTP® Trunk Cables**



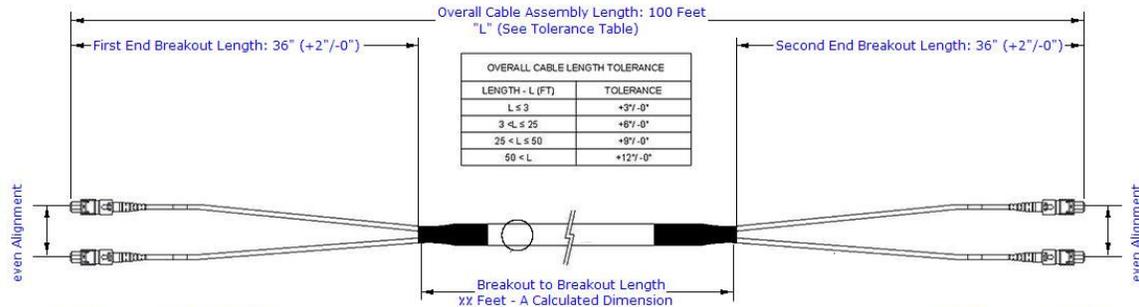
**OPT-X Unity Ultra Low Loss MTP Trunk Cables**

<b>MTP-TO-MTP TRUNKS (24-FIBER MTP), METHOD B</b>	
<b>Description</b>	<b>Part Number</b>
24-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW4024JJ05036C36CN-NNBS
48-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW4048JJ050F36C36CN-NNBS
96-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW4096JJ050F36C36CN-NNBS
144-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW4144JJ050F36C36CN-NNBS
24-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW4024JJ05036C36CN-NNBS
48-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW4048JJ050F36C36CN-NNBS
96-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW4096JJ050F36C36CN-NNBS
144-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW4144JJ050F36C36CN-NNBS

<b>MTP-TO-MTP TRUNKS (12-FIBER MTP), METHOD B</b>	
<b>Description</b>	<b>Part Number</b>
12-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW2012LL050F36C36CN-NNBS
24-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW2024LL05036B36BN-NNBS
48-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW2048LL050F36B36BN-NNBS
96-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW2096LL050F36B36BN-NNBS
144-Fiber, OM4, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-FW2144LL050F36B36BN-NNBS
12-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW2012LL050F36C36CN-NNBS
24-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW2024LL05036B36BN-NNBS
48-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW2048LL050F36B36BN-NNBS
96-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW2096LL050F36B36BN-NNBS
144-Fiber, OS2, Unpinned MTP-to-MTP, Plenum, 50 Feet Long	FTU-AW2144LL050F36B36BN-NNBS

**PRODUCT SPECIFICATIONS**  
**OPT-X™ Unity Ultra Low Loss MTP® Trunk Cables**

MTO Pre-terminated Trunk Cable Options:



OPT-X Unity Ultra Low Loss MTP Trunk Cables

**Make-to-order!** OPT-X UNITY ULTRA LOW LOSS MTP TRUNK CABLE OPTIONS

Fiber Type	Cable Type	Fiber Count	Termination	Cable Length (ft)	Breakout Length (in)	Breakout-Leg Type First- & Second-end termination	Polarity	Labelling
• OM3 (E)	• OPT-X SJP	• 12	<b>FIRST END</b>	• 1-999	• 12-99	• 3.8-mm Jacketed 24-Fiber (C)	• MTP Method A (A)	• Standard (S)
• OM4 (Aqua) (F)	• OPT-X SJP Indoor Armor	• 24	• 8F MTP male (N)		• (36" is typical)	• 2-mm Jacketed Fiber (B)	• MTP Method B - standard (B)	• Custom (C)
• OS2 (A)	• Plenum I/O Dry Loose Tube - standard (B)	• 48	• 8F MTP female (M)				• MTP Method C (C)	
• OM5 (5)		• 72	• 12 F MTP male (K)					
		• 96	• 12 F MTP female (L)					
		• 144	• 24 F MTP male (H)					
			• 24 F MTP female (J)					



For assistance customizing your trunk cables, please visit [leviton.com/configurator](http://leviton.com/configurator) or call Tech Support at 800.824.3005.

\*Minimum order quantities and lead times may apply

For further support information, visit [leviton.com/ns/support](http://leviton.com/ns/support)

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Page 5 of 5

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