HUBER+SUHNER

OPTIPACK HARNESS MTP-LC

PRE-CONNECTORISED BACKBONE LINKS

edp Distribution

PRODUCT OVERVIEW

Optipack harnesses provide a transition from MTP® connectivity in the backbone to LC duplex connectivity on switches and servers.

Instead of using LC patch panels and cords, the harness provides a fast and compact alternative that plugs directly into equipment transceivers.

Many of the data centres today are designed with multimode MTP® backbones because this is the most flexible and future-proofed way of adapting from one type of connector to another.

Although LC connectivity is still used for 1G and 10G Ethernet applications and 4G, 8G, 16G and 32G fibre channel applications, in the future this will change to MPO connectors that deliver higher data rates over parallel fibre lanes.

The most common application for equipment harnesses is connecting high-density SAN switches with hundreds of transceiver ports placed in close proximity. An MTP® patching field can be placed close to the switch and MTP®-LC harnesses make the final connection to the transceivers. This approach not only reduces the amount of cable clutter created by patch cords, but it also provides an MTP® interface that can be re-deployed later for higher data rates. Upgrading from 10G to 40G would require the user to disconnect the MTP®-LC harness and then replace it with an MTP®-MTP® patch cord. If the backbone is built correctly from day 1, there will be no need to install new cables to support the emerging data rates.

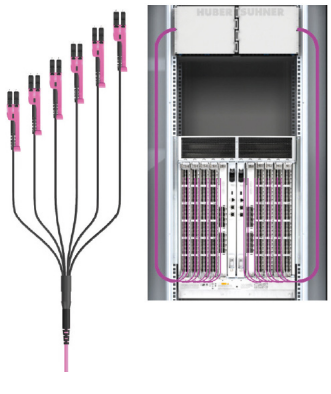
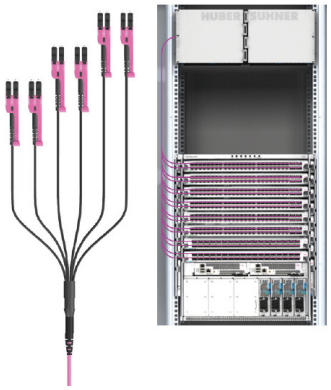
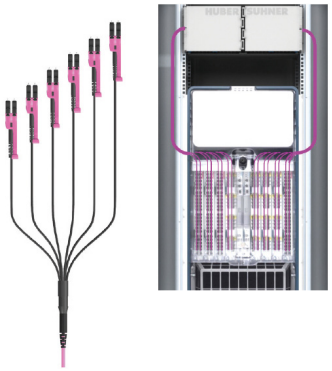
Equipment harnesses are short cables that are generally only used inside of the rack. However, in some applications it is preferred to eliminate the MTP® patching field altogether and run the cable directly back to the MDA. This approach is less flexible than the equipment harness option but because a connection has been removed from the link, the overall optical performance is better.

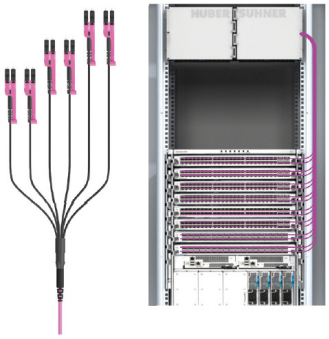
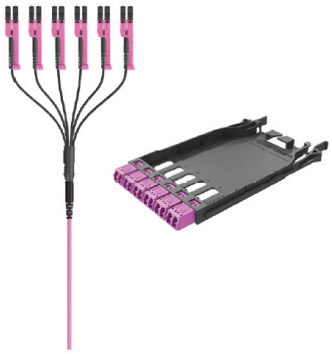
Characteristics

- Ready-to-use plug-and-play cable system.
- Round Optipack cable construction.
- Low smoke zero halogen (LSFH™).
- Retrofit-able push-pull clip on MTP® for high packing density.
- Low space consumption in ducts and racks.
- Easy handling and routing.
- Fast and safe installation straight from the reel.
- Scalable for regular MACs.
- Protective pulling sock supplied.
- Highest performance singlemode and multimode MTP® LC-XD elite connectivity.
- CPR compliant, grade Dca.

Fan-outs To Match Your Equipment

HUBER+SUHNER offers harnesses with different stagger lengths so that users can match their harness to the blade orientation and port allocations of the switch. Some blades are vertically orientated and others are horizontal. This change in orientation has an impact on the numbering scheme of the ports and can result in a mismatch between the harness tail length and the port position. Furthermore, a switch is often fed from two different sides of the rack. In this case fan-out leg type 1 may need to be the shortest leg on the left side of the switch but the longest leg on the right hand side.

Type 1 Fan-out	Type 2 Fan-out	Type 3 Fan-out
1-2-3-4-5-6	1-2-3-4-5-6	6-5-4-3-2-1
		
• 15mm staggering • Individual leg lengths • No. 1 on shortest leg	• 15mm staggering • Pairwise leg lengths • No. 1 on shortest leg	• 15mm staggering • Individual leg lengths • No. 1 on longest leg

Type 4 Fan-out	Type 5 Fan-out
6-5-4-3-2-1	1-2-3-4-5-6
	
• 15mm staggering • Pairwise leg lengths • No. 1 on longest leg	• Equal leg lengths (max. 100cm) • Used as generic harness for all patching modules (rear patching)

General Specification

Application		Data centre equipment connections
Fibre Type	OS2	E9/125 low bend (G.657 A2)
	OM4	G50/125 – OM4 low bend (IEC 60793-2-10 A1a.3)
Cable Type		Metal free indoor cable – Strain relieved aramid yarn
Cable Jacket Colour	OS2	Yellow
	OM4	Heather Violet

Construction

Connectors	Side A	MTP® (female / male) or MTP® Pro
	Side B	LC-XD (uniboot)
Furcation / fan-out shortest /longest length	Side A	No furcation
	Side B	Furcation fan-out LC-XD
Fibre allocation	H+S Specific	NS/NP or AS/AP

Optical Performance

		Tested acc. to	Option	Values
Insertion Loss	**MTP®**	IEC 61300-3-4 B *		<0.35dB
	LC	IEC 61300-3-4 B	SM	<0.30dB
			OM4	<0.15dB
Return Loss	**MTP®**	IEC 61300-3-6	SM	>60dB
			OM4	>30dB
	LC	IEC 61300-3-6	SM APC	>65dB
			SM PC	>50dB
			OM4 PC	>35 dB

Mechanical Characteristics

	Tested acc. to	Option	Values
Max. Tensile Strength	IEC 60794-1-2- E1	During installation	150N
Minimal Bending Radius	IEC 60794-1-2- E11	During installation	20mm
		In service	10mm

* Multimode MT elite ferrule as tested with proposed encircled flux launch condition on 50µm fibre and 850nm per IEC 61280-4-1
Singlemode MT elite ferrule compliant with IEC 61755-3-31/grade B

Environmental Characteristics

	Tested acc. to	Condition	Base 8, 12, 24
Fire Propagation	IEC 60332-1-2	On vertical single cable	Passed
	IEC 60332-3-24	On vertical cable bundle	Passed
Fire Performance			Dca-s1,d0,a1
2011/65/EC (RoHS)			Compliant

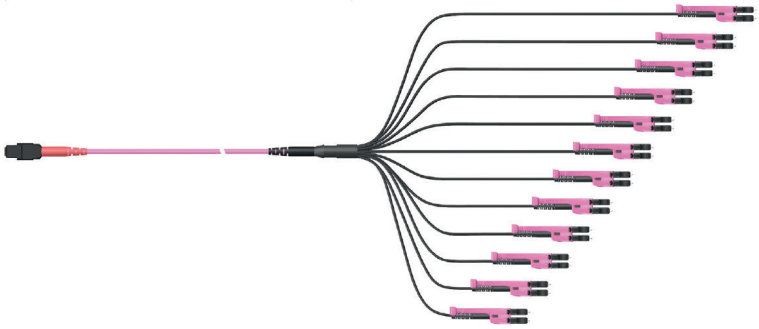
Optipack Base-8 MTP®-LC Harness

MTP® Base-8 to 4 x LC Duplex

Optipack Base-12 MTP®-LC Harness

MTP® Base-12 to 6 x LC Duplex

Optipack Base-24 MTP®-LC Harness



MTP® Base-24 to 12 x LC Duplex

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