

# Base 8 MPO Breakout Harness Cable Assemblies

## specifications

4-to-1 Breakout Cable Harness Assemblies are pre-terminated 8-fiber cable assemblies that allow for standards-compliant migration that convert a single lane of parallel optic signals (i.e. 40GBASE-SR4, 100GBASE-SR4, 200GBASE-SR4) into (4) discrete duplex LC channels. For example, a single MPO connector running 100GBASE-SR4 is broken out to 4 lanes of 25GBASE-SR on duplex LCs. All cable assemblies are factory terminated and tested to deliver verified optical performance and reliability for improved network integrity.



## applications

Connect a single MPO-based port to four LC-based components, such as LAN or SAN switches, and servers. Supports 40G to 4x10G, 100G to 4x25G, 400G to 4x100G or 128G to 4x32G.

## construction

<b>Cable type:</b>	Indoor
<b>Cable jacket ratings:</b>	Optical Fiber Nonconductive Plenum (OFNP) Low Smoke Zero Halogen (LSZH) Euroclass B2ca
<b>Fiber types:</b>	Singlemode: OS2 9/125µm Multimode: OM4 50/125µm OM5 50/125µm Signature Core™: OM4+ 50/125µm
<b>Connector types; end 'A':</b>	MPO/PanMPO™ Female MPO/PanMPO Male Note: Singlemode MPO connectors are angled polish
<b>Connector types; end 'B':</b>	LC Duplex, LC Uniboot Push Pull
<b>Fiber count:</b>	8
<b>Jacket color:</b>	OS2: Yellow OM4: Aqua OM4+: Aqua OM5: Lime

## optical properties

<b>Maximum cable attenuation:</b>	Multimode: 3.0dB/km @ 850nm 1.0dB/km @ 1300nm Singlemode: 1.0dB/km @ 1310/1550nm
<b>Maximum connector insertion loss:</b>	Multimode: 0.35dB (Optimized MPO) 0.25dB (Ultra MPO) 0.15dB (Optimized LC) 0.10dB (Ultra LC) Singlemode: 0.75dB (Standard MPO) 0.35dB (Standard LC)
<b>Minimum connector return loss:</b>	Multimode: OM4: >26dB OM5: >26dB OM4+: >30dB Singlemode: OS2: >55dB

## physical properties

<b>Cable outside diameter (OD):</b>	3.0mm
<b>Minimum bend radius:</b>	Under load: 20 x cable OD Static: 10 x cable OD
<b>Cable tensile strength:</b>	220N
<b>Cable compressive load:</b>	35N/cm
<b>Cable flex:</b>	25 cycles
<b>Cable twist:</b>	10 cycles
<b>Connector durability:</b>	500 mating cycles

## environmental properties

<b>Storage and shipping temperature:</b>	-40°C to 70°C -40°F to 158°F
<b>Installation temperature:</b>	0°C to 40°C 32°F to 104°F
<b>Operating temperature:</b>	0°C to 70°C 32°F to 158°F

## standards

<b>Meets or exceeds:</b>	ISO/IEC 11801, TIA/EIA-568-C.3, TIA-604-5 (FOCIS-5), TIA/EIA-568-C.1 RoHS Compliant
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## part number configurator

Example: FHZ8PJPV016F015 = OM4 Harness, 8-Fiber, round, plenum, Pan-MPO-8 female to LC Uniboot Push Pull with 24in (60cm) equal breakout, 4 to 1 Polarity (U2), Optimized IL - 15 Feet

<b>Character</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
<b>Example</b>	<b>F</b>	<b>H</b>	<b>Z</b>	<b>8</b>	<b>P</b>	<b>J</b>	<b>P</b>	<b>V</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>F</b>	<b>0</b>	<b>1</b>	<b>5</b>

### 1 – Fiber

F = Fiber

### 2 – Cable Type

H = Indoor, Round Harness

### 3 – Fiber Type

9 = OS2 Singlemode 9/125µm  
 Z = OM4 50/125µm  
 W = OM5 50/125µm  
 S = OM4+ 50/125µm

### 4 – Fiber Count

8 = 8 fibers

### 5 – Jacket Type

P = Plenum (OFNP)  
 L = LSZH  
 B = LSZH Euroclass B2ca

### 6 – Connector Type (End A)

G = MPO-8 Female (MM)  
 H = MPO-8 Male (MM)  
 J = PanMPO-8 Female (MM)  
 K = PanMPO-8 Male (MM)  
 X = MPO-8 Female APC (SM)  
 Y = MPO-8 Male APC (SM)  
 V = PanMPO-8 Female APC (SM)  
 W = PanMPO-8 Male APC (SM)

### 7 – Connector Type (End B)

L = LC Duplex  
 P = LC Uniboot Push Pull  
 B = LC/APC Duplex (SM)  
 9 = LC/APC Uniboot Push Pull (SM)

### 8 – Construction/Performance

Q = 4 to 1 / U2 - Std. IL (SM)  
 V = 4 to 1 / U2 - Opt. IL  
 U = 4 to 1 / U2 - Ultra IL (MM)  
 1 = 4 to 1 / U - Std. IL (SM)  
 2 = 4 to 1 / U - Opt. IL  
 3 = 4 to 1 / U - Ultra IL (MM)

### 9 – 11 – Serial

See Table Below

### 12 – Unit of Measure

F = Feet  
 M = Meters

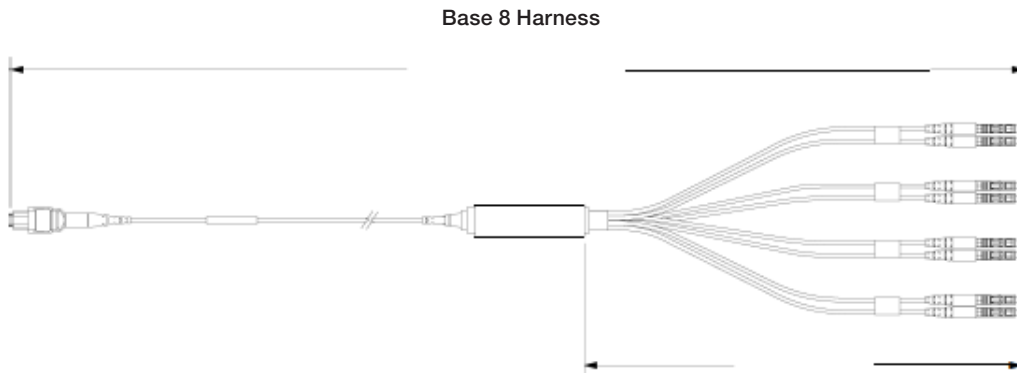
### 13, 14, 15 – Cable Assembly Length

1 – 300 Feet  
 0.5 – 100 Meters

Serial	Breakout Length	Stagger	Serial	Breakout Length	Stagger
011	18" (45cm)	Equal Breakout	01B	30" (76cm)	Equal Breakout
012	18" (45cm)	LC Pair 1 Longest	01C	30" (76cm)	LC Pair 1 Longest
013	18" (45cm)	LC Pair 1 Shortest	01D	30" (76cm)	LC Pair 1 Shortest
014	18" (45cm)	LC Pair 1 and 2 Longest	01E	30" (76cm)	LC Pair 1 and 2 Longest
015	18" (45cm)	Pair 1 and 2 Shortest	01F	30" (76cm)	Pair 1 and 2 Shortest
016	24" (60cm)	Equal Breakout	01M	39" (1m)	Equal Breakout
017	24" (60cm)	LC Pair 1 Longest	01N	39" (1m)	LC Pair 1 Longest
018	24" (60cm)	LC Pair 1 Shortest	01P	39" (1m)	LC Pair 1 Shortest
019	24" (60cm)	LC Pair 1 and 2 Longest	01Q	39" (1m)	LC Pair 1 and 2 Longest
01A	24" (60cm)	Pair 1 and 2 Shortest	01R	39" (1m)	Pair 1 and 2 Shortest

# Base 8 MPO Breakout Harness Cable Assemblies

## engineering drawing



4 to 1 Breakout Harness Fiber													
Method U													
MPO* Fiber Position	1	2	3	4	5	6	7	8	9	10	11	12	
LC Pair	1-A	2-A	3-A	4-A	X	X	X	X	4-B	3-B	2-B	1-B	
Method U2 (Pair Flipped)													
MPO* Fiber Position	1	2	3	4	5	6	7	8	9	10	11	12	
LC Pair	1-B	2-B	3-B	4-B	X	X	X	X	4-A	3-A	2-A	1-A	

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