

QuickNet™ Signature Core™ Harness Cable Assemblies

general information

QuickNet™ Signature Core™ Harness Cable Assemblies allow for rapid deployment of high-density equipment connections in a single assembly for data center applications requiring quick infrastructure deployment. These harness cable assemblies optimize cable routing requirements to ensure efficient use of pathway space and significantly reduce installation time and cost. They are built with modular MPO connectivity and provide compatibility, flexibility, and system performance in all permanent link applications.

technical information

Signature Core™ Fiber is a modal and chromatic dispersion compensating multimode fiber designed for optimum performance with high-speed Vertical Cavity Surfacing Emitting Lasers (VCSEL) transceivers. The refractive index profile is engineered to correct for the interaction between modal and chromatic dispersion increasing the total channel bandwidth. Current industry standards for OM3 and OM4 fibers neglect this interaction and as a result, channel reach can be significantly limited for a large population of VCSEL transceivers.

Like OM3 and OM4 fiber types, the actual supported reach for Signature Core™ Fiber depends on the electrical and optical characteristics of the VCSEL transceiver¹. Under worst-case conditions, Signature Core™ Fiber will provide at least a 20% increase in reach over uncompensated OM4 fibers. Under nominal conditions, Signature Core™ Fiber will support a 600m reach with 10GBASE-SR transceivers compared to a 400m maximum reach over OM4 as specified in IEEE 802.3². Applying the 20% minimum increase in reach for OM4 reach published in FC-PI-5 for Fibre Channel communication yields a reach of 225 meters with an 8G Fiber Channel transceiver (800-M5F-SN-I), and 150 meters with a 16G Fiber Channel transceiver (1 600-M5F-SN-I)³.

Signature Core™ Fiber is 100% standards compliant meeting all OM4 specifications, with an additional requirement for Differential Mode Delay (DMD) that compensates for modal and chromatic dispersion effects⁴.



application

Storage Area Network (SAN), Local Area Network (LAN) switch, Equipment Distribution Area (EDA) patch field applications.

construction

Cable type:	Indoor flat ribbon
Cable jacket ratings:	Optical Fiber Non-conductive Plenum (OFNP) Low Smoke Zero Halogen (LSZH)
Fiber type:	OM4+ Signature Core™ Fiber
Connector end 'A':	MPO male and MPO female Color: Black and Aqua
Connector end 'B':	LC duplex
Fiber count:	8, 12
Jacket color:	Aqua

optical properties

Maximum cable attenuation:	2.3dB/km @ 850nm 0.6dB/km @ 1300nm
Maximum connector insertion loss:	MPO: .25dB LC: .10 dB
Minimum connector return loss:	26dB

physical properties

Cable outside diameter (OD):	2.5mm x 5mm
Minimum bend radius:	20 x Cable OD
Cable tensile strength:	660N
Cable compressive load:	35N/cm
Cable flex:	25 cycles
Cable twist:	10 cycles
Cable impact load:	0.74Nm
Connector cable retention:	50N
Breakout outside diameter:	13.0mm

environmental properties

Storage and shipping temperature:	-40°C to +65°C (-40°F to 149°F)
Installation temperature:	0°C to +50°C (32°F to 122°F)
Operating Temperature:	0°C to +50°C (32°F to 122°F)

standards

Meets or exceeds ISO/IEC 11801, TIA/EIA-568-C.3, TIA-604-5 (FOCIS-5), TIA/EIA-568-C.1, RoHS Compliant

¹ The actual channel reach of a laser optimized, multimode fiber (OM3, OM4, or Signature Core™) depends on the optical and electrical parameters of the VCSEL transceiver. For worst-case optical and electrical parameters, Signature Core™ Fiber will provide at least 20% greater reach over standards un-compensated OM4 fiber.

² OM4 fiber was ratified in the IEEE802.3/D3.0 proceedings from 15-Dec-2011, Table 52-6 with an Operating Range of 2 to 400 meters.

³ Reach values are a minimum.

⁴ Differential Mode Delay (DMD) is a metric defined in telecommunications industry association standard EIA/TIA 455-220-A, January 2003, which describes a method for measuring the modal dispersion of laser optimized multimode mode fiber.

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part number

Example: FSTHP6NLSNNM005 = Fiber OM4+ Signature Core, 12-fiber, flat ribbon harness, indoor plenum rated, MPO male to duplex LC with 61cm equal breakout, ultra IL, no pulling eye, 5 meters

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	F	S	T	H	P	6	N	L	S	N	N	M	0	0	5

1 – Fiber Product

F = Fiber

2 – Fiber Type

S = OM4+ Signature Core™ Fiber

3 – Fiber Count

8 = 8-fiber

T = 12-fiber

4 – Cable Type

H = Flat ribbon harness

5 – Flame Rating

L = Low Smoke Zero Halogen (LSZH)

P = Optical Fiber Non-conductive Plenum (OFNP)

6 – Connector Type End “A”

5 = MPO female

6 = MPO male

7 – Connector Variant

N = No variant

8 – Connector Type End “B”

L = LC duplex

9 – Connector Variant

D = 1m equal breakout

S = 61cm equal breakout

N = No variant

F = Staggered pair 1 longest breakout

G = Staggered pair 1 shortest breakout

H = Staggered pairs 1 and 2 longest breakouts

J = Staggered pairs 1 and 2 shortest breakouts

10 – Construction/Performance

N = Ultra performance/std polarity

11 – Other

N = No attribute

12 – Unit of Length

M = Meters

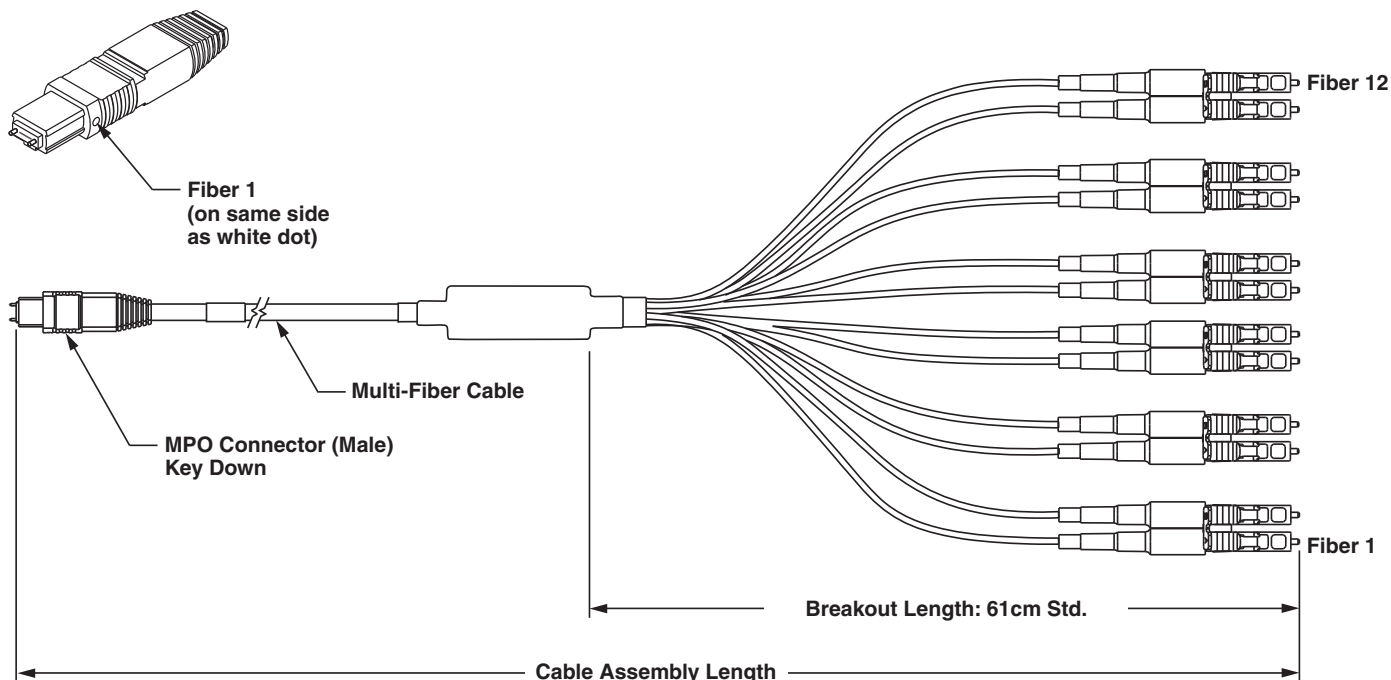
13, 14, 15 – Length

001 - 030m

Notes:

- Standard lengths for MPO to MPO Signature Core™ Harness Cables are available from 1 – 30 meters in increments of 1 meter. For additional availability, please contact Panduit Customer Service.
- Cable Assembly lengths are measured as the distance between the furthest connector tips.
- For hybrid solutions and special cable constructions/ratings/colors/availability, consult Panduit.

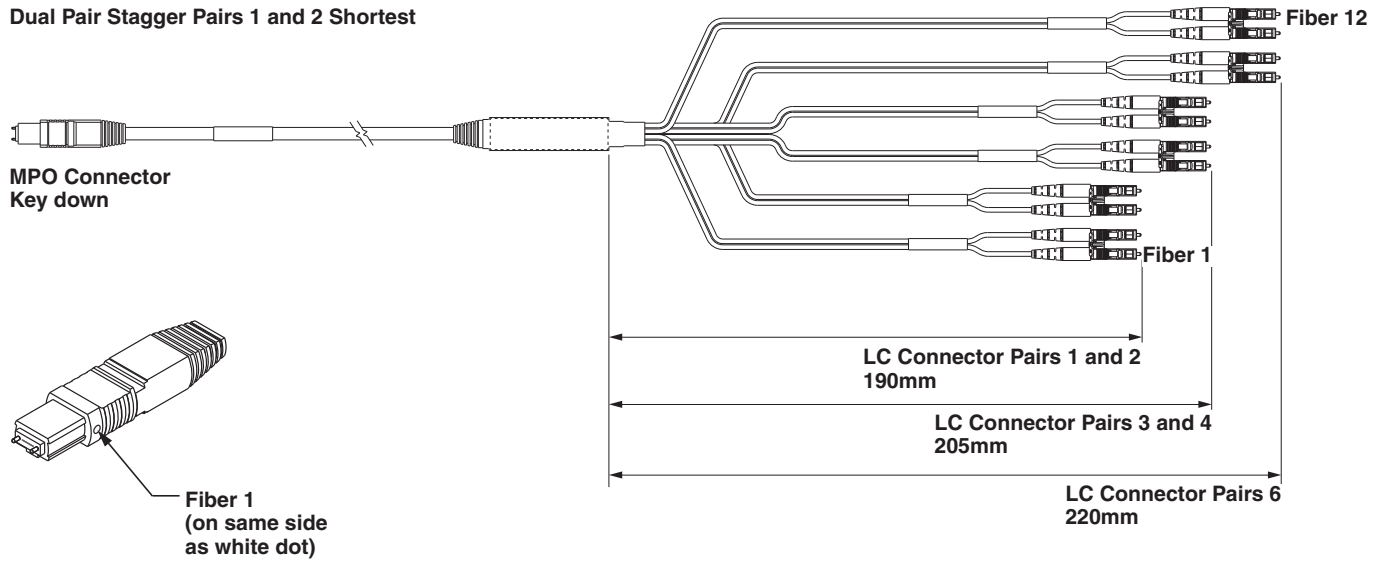
harness assembly detail



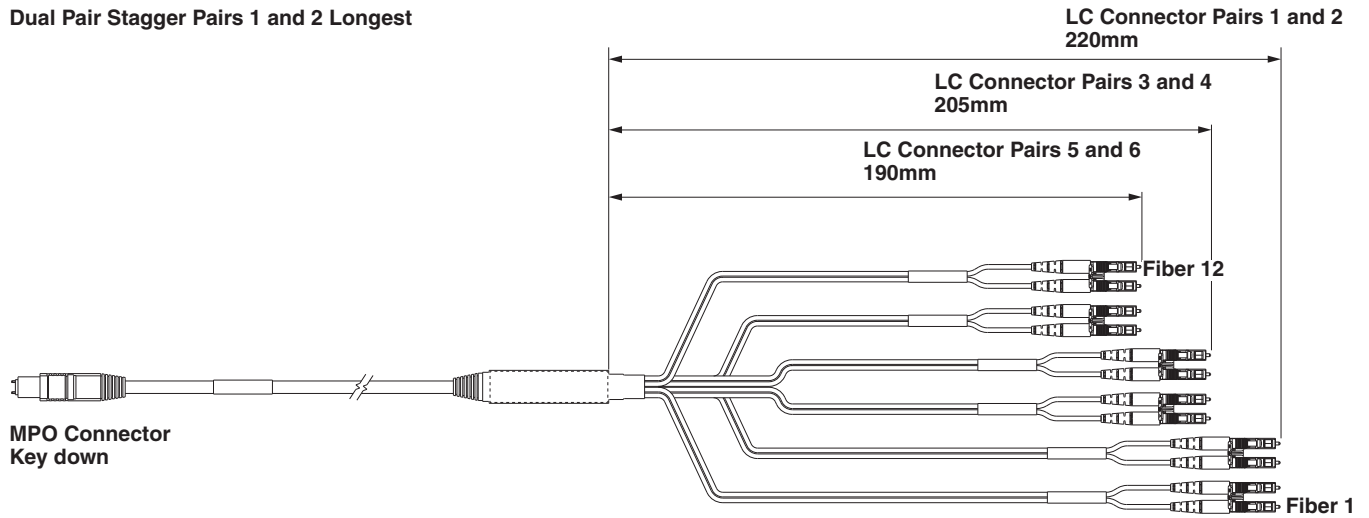
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staggered harness assembly detail

Dual Pair Stagger Pairs 1 and 2 Shortest



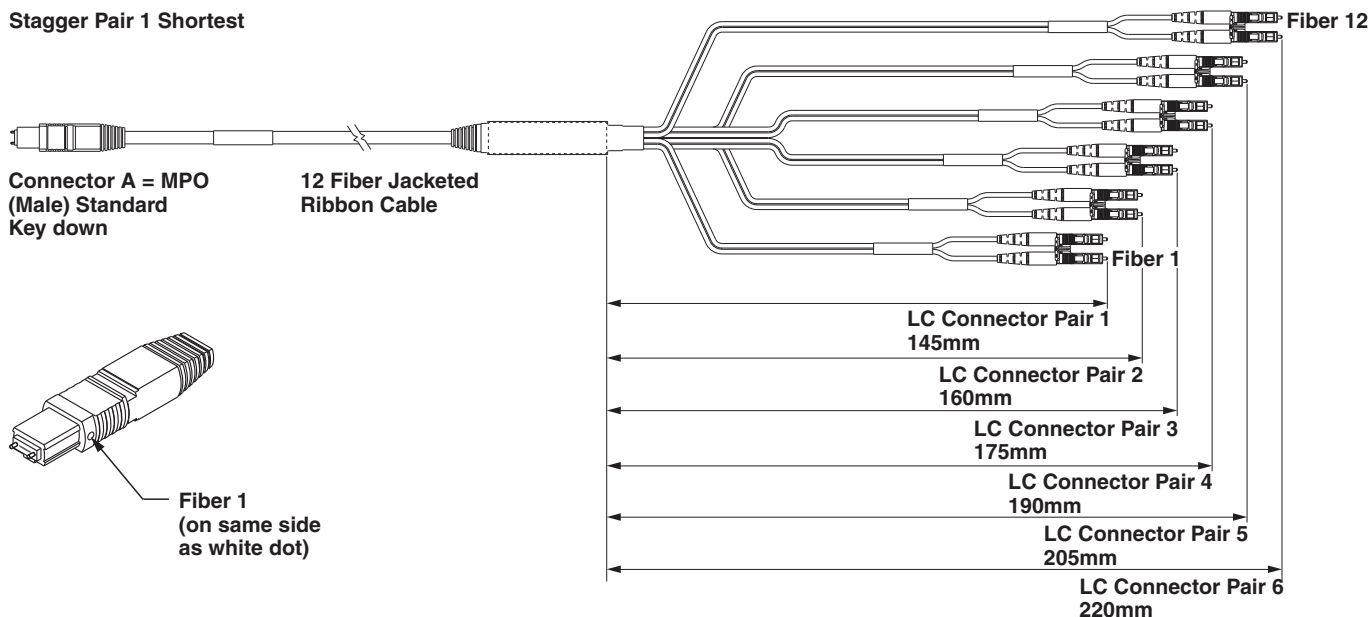
Dual Pair Stagger Pairs 1 and 2 Longest



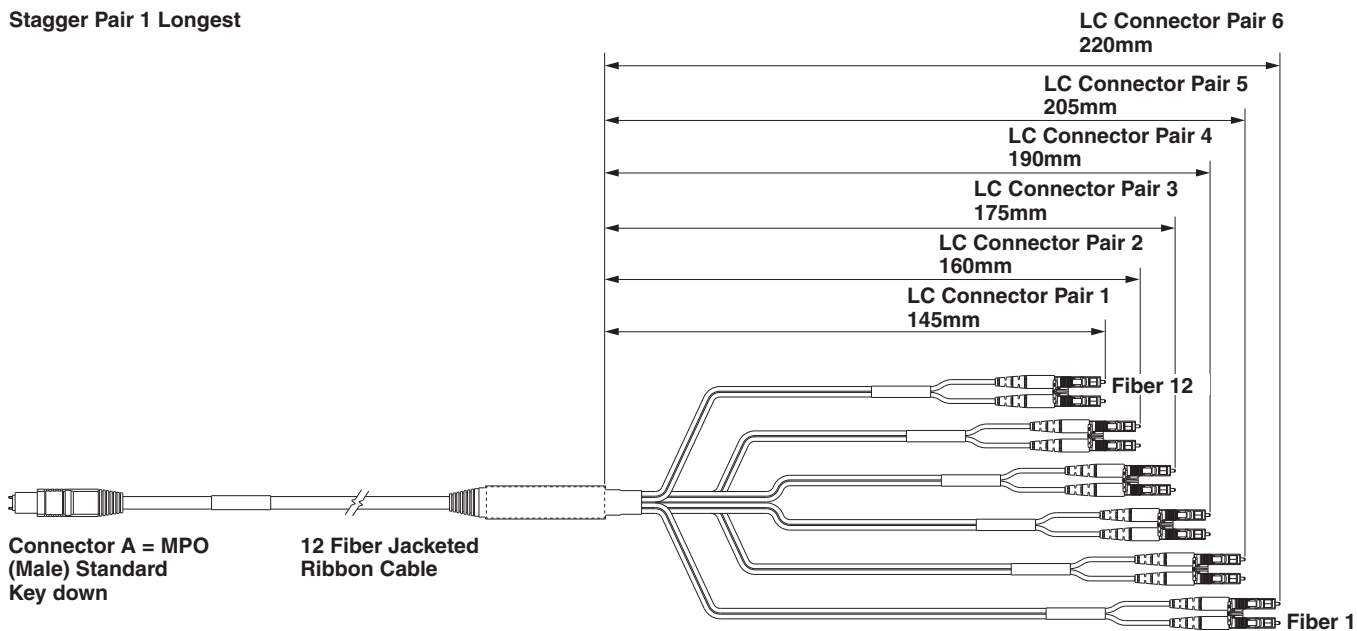
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staggered harness assembly detail

Stagger Pair 1 Shortest



Stagger Pair 1 Longest



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