

Signature Core™ Push-Pull LC Duplex Fiber Optic Patch Cords

general information

Signature Core™ Push-Pull LC Duplex Fiber Optic Patch Cords allow for rapid deployment of high-density permanent links in a single assembly for data center applications requiring high bandwidth, extended reach, and extremely low insertion loss. Push-Pull LC Duplex Fiber Optic Patch Cords containing the custom push-pull strain relief boot and duplex clip, allow users easy accessibility in tight areas when deploying very high density LC patch fields in data center applications. They are available in riser (OFNR), plenum (OFNP), and low smoke zero halogen (LSZH) rated jacket materials to comply with local cabling ordinances.



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 150m 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:

Provide interconnect and cross-connect of applications in entrance facilities, telecommunication rooms, data centers, and network applications to interconnect pre-terminated cassettes in main distribution, horizontal distribution, and equipment distribution areas.

construction

Fiber count:	Duplex (2-fiber) jacketed zipcord
Cable jacket ratings:	Plenum (OFNP) Riser (OFNR) Low Smoke Zero Halogen (LSZH)
Fiber types:	Multimode: Signature Core™ OM4+

Connector types, End 'A': Duplex LC

Connector types, End 'B': Duplex LC

Jacket color: Aqua

optical properties

Connector insertion loss: 0.10dB max

Connector return loss: 26dB min

physical properties

Cable outside diameter (OD): 1.6mm duplex

Bend radius, minimum: 32mm

Bend radius, minimum (long term): 16mm

Connector cable retention: 50N (4.24 lb)
@ 0°C (32°F)
19.4N (4.4 lb)
@ 90°C (194°F)

Connector durability: 500 cycles

environmental properties

Storage and shipping temperature: -40°C to 70°C
(-40°F to 158°F)

Operating and installation temperature: -10°C to 60°C
(14°F to 140°F)

standards

Meets or exceeds ISO/IEC 11801, TIA/EIA-568-C.3, TIA-604-10 (FOCIS-10)

Restriction of Hazardous Substances (RoHS) Compliance: All patch cord components meet the requirement of Directive 2002/95/EC

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 standard un-compensated OM4 fiber.

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

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 fiber.

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part number configurator

Example: FS2ERQNQNNM005 = Fiber, OM4+, 2-fiber, 1.6mm cable, riser rated, LC push-pull connector to LC push-pull connector, ultra IL, 5 meters

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	F	S	2	E	R	Q	N	Q	N	N	N	M	0	0	5

1 – Fiber Product

F = Fiber

2 – Fiber Type

S = OM4+ Signature Core™ Fiber

3 – Fiber Count

2 = 2-fiber

4 – Cable Type

E = 1.6mm

5 – Jacket Type

L = Low Smoke Zero Halogen (LSZH)

P = Optical Fiber Non-Conductive Plenum (OFNP)

R = Optical Fiber Non-Conductive Riser (OFNR)

6 – Connector Type

Q = LC push-pull connector

7 – Connector Variant

N = No variant

8 – Connector Type

Q = LC push-pull connector

9 – Connector Variant

N = No variant

10 – Performance/Construction

N = 0.10dB -IL / A-B (Straight Through)

11 – Connector Variant

N = No variant

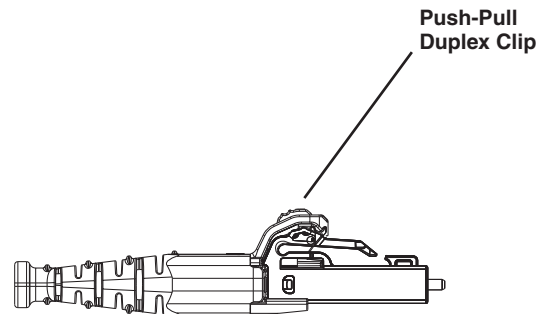
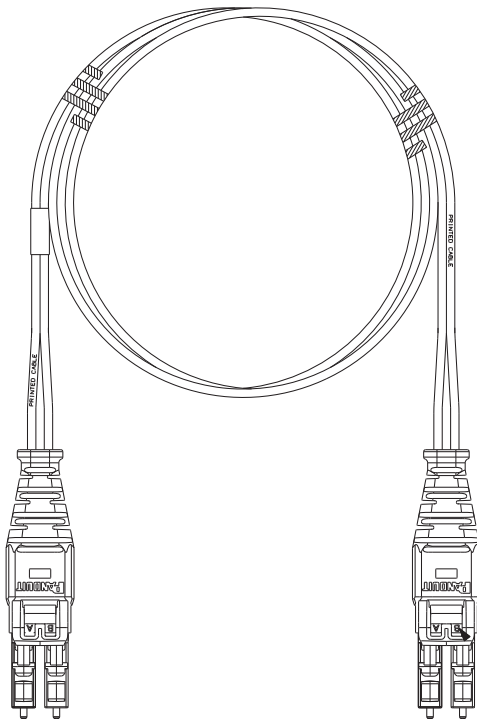
12 – Unit of Length

M = Meters

13, 14, 15 – Length

001 – 020m, 025m, 030m and 035m

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Other options are available as follows; contact Panduit for part number.

Fiber type: OM4+ Signature Core™

Performance/Construction: Ultra IL – Straight Through (A-B).

WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT CANADA
Markham, Ontario
cs-cdn@panduit.com
Phone: 800.777.3300

PANDUIT EUROPE LTD.
London, UK
cs-emea@panduit.com
Phone: 44.20.8601.7200

PANDUIT SINGAPORE PTE. LTD.
Republic of Singapore
cs-ap@panduit.com
Phone: 65.6305.7575

PANDUIT JAPAN
Tokyo, Japan
cs-japan@panduit.com
Phone: 81.3.6863.6000

PANDUIT LATIN AMERICA
Guadalajara, Mexico
cs-la@panduit.com
Phone: 52.33.3777.6000

PANDUIT AUSTRALIA PTY. LTD.
Victoria, Australia
cs-aus@panduit.com
Phone: 61.3.9794.9020

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For more information

Visit us at www.panduit.com

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