

# OM4 and OM5 Signature Core™ Push-Pull LC Duplex Fiber Optic Patch Cords

## general information

OM4 and OM5 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) for OM4 Signature Core™ and for plenum (OFNP), and low smoke zero halogen (LSZH) rated jacket materials for both OM4 and OM5 Signature Core™ to comply with local cabling ordinances.



## technical information

OM4 and OM5 Signature Core™ Fibers are modal and chromatic dispersion compensating multi-mode fibers 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.

Like OM3 and OM4 fiber types, the actual supported reach for Signature Core™ Fiber family depends on the electrical and optical characteristics of the VCSEL transceiver<sup>1</sup>.

OM4 Signature Core™ provides you on average 20% longer reach than OM4 defined standard for all applications using Ethernet, Fibre Channel and Cisco BiDi technologies. For example, the OM4 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.

OM5 Signature Core™ provides you on average 15% longer reach than OM5 defined standard for all applications that use Short Wavelength Division Multiplexing (SWDM). SWDM is a technology that boosts transmission capacity by sending multiple signals in four wavelengths across the 850nm to 940nm on a single fiber.

OM4 and OM5 Signature Core™ Fibers are 100% standards compliant meeting all OM3 and OM4 specifications, with an additional requirement for Differential Mode Delay (DMD) that compensates for modal and chromatic dispersion effects<sup>4</sup>. OM5 Signature Core™ includes additional bandwidth characterization at 953 nm to support extended distances when using SWDM.

## 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

<b>Fiber count:</b>	Duplex (2-fiber) jacketed zipcord
<b>Cable jacket ratings:</b>	Plenum (OFNP) Riser (OFNR) Low Smoke Zero Halogen (LSZH)
<b>Fiber types:</b>	OM4 Signature Core™ OM5 Signature Core™
<b>Connector types, End 'A':</b>	Duplex LC
<b>Connector types, End 'B':</b>	Duplex LC
<b>Jacket color:</b>	Aqua: OM4 Signature Core™ Lime green: OM5 Signature Core™

## optical properties

<b>Connector insertion loss:</b>	0.10dB max
<b>Connector return loss:</b>	26dB min

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> Reach values are a minimum.

<sup>4</sup> 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.

<sup>5</sup> OM5 fiber has been approved as the new wideband multimode standard on June 2016, by ANSI/TIA-492AAAE

## physical properties

<b>Cable outside diameter (OD):</b>	1.6mm duplex
<b>Bend radius, minimum:</b>	32mm
<b>Bend radius, minimum (long term):</b>	16mm
<b>Connector cable retention:</b>	50N (4.24 lb) @ 0°C (32°F) 19.4N (4.4 lb) @ 90°C (194°F)
<b>Connector durability:</b>	500 cycles

## environmental properties

<b>Storage and shipping temperature:</b>	-40°C to 70°C (-40°F to 158°F)
<b>Operating and installation temperature:</b>	-10°C to 60°C (14°F to 140°F)

## standards

Meets or exceeds ISO/IEC 11801, TIA/EIA-568-C.3, TIA-604-5 (FOCIS-10), TIA/EIA-568-C.1, RoHS compliant for OM4 ANSI/TIA-492AAAE, IEC 60793-2-10 Ed 6, TIA 568.3-D, ISO 11801 Ed 3, RoHS compliant for OM5

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

# OM4 and OM5 Signature Core™ Push-Pull LC Duplex Fiber Optic Patch Cords

## part number configurator

Example: FS2ERQ1Q1NNM005 = 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	1	Q	1	N	N	M	0	0	5

### 1 – Fiber Product

F = Fiber

### 2 – Fiber Type

S = OM4+ Signature Core™ Fiber

W = OM5+ Signature Core™ Fiber

### 3 – Fiber Count

2 = 2-fiber

### 4 – Cable Type

E = 1.6mm

### 5 – Jacket Type

L = Low Smoke Zero

Halogen (LSZH)

R = Optical Fiber Non-Conductive Riser (OFNR)

### 6 – Connector Type

Q = LC push-pull connector

### 7 – Connector Variant

1 = Push-Pull Patch Cord

### 8 – Connector Type

Q = LC push-pull connector

### 9 – Connector Variant

1 = Push-Pull Patch Cord

### 10 – Performance/Construction

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

### 11 – Connector Variant

N = No variant

### 12 – Unit of Length

M = Meters

F = Feet

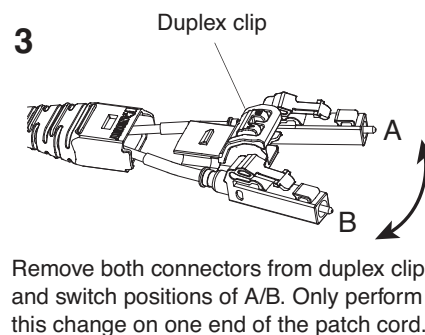
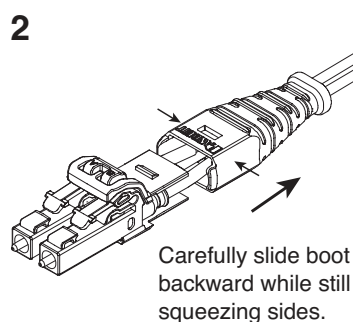
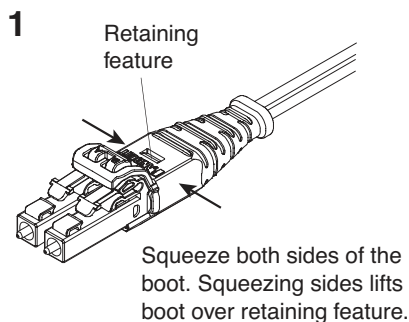
### 13, 14, 15 – Length

001 – 020m, 025m, 030m and 035m

001 = 050 Feet for OM5+ Signature Core™

001 = 050 Meters for OM5+ Signature Core™

## polarity changeover



### WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT US/CANADA  
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

For a copy of Panduit product warranties, log on to [www.panduit.com/warranty](http://www.panduit.com/warranty)

For more information

Visit us at [www.panduit.com](http://www.panduit.com)

Contact Customer Service by email: [cs@panduit.com](mailto:cs@panduit.com)  
or by phone: 800.777.3300

**PANDUIT**®

©2017 Panduit Corp.  
ALL RIGHTS RESERVED.  
FBSP136--SA-ENG  
11/2017