# NEW! Keyed LC Opti-Core® Patch Cords and Pigtails – Riser (OFNR) and Plenum (OFNP) Rated

PANDUIT®

SPECIFICATION SHEET

## specifications

Keyed LC fiber optic patch cords shall include simplex or duplex keyed LC connectors on both ends, or on one end with non-keyed LC or SC connectors on the other end. Keyed LC fiber optic pigtails shall include simplex or duplex keyed LC connectors on one end and open (unterminated) on the other end. Keyed LC connectors shall be mechanically keyed with color-specific positive and negative keying features to prevent unintentional mating with unlike keyed or non-keyed adapters. Patch cords and pigtails shall include laser optimized OM3 fiber, OM2, OM1 and OS1/OS2 fiber inside 900µm tight-buffered fiber or 1.6mm simplex or duplex zip-cord jacketed cable. Jacketed cable shall be compliant with UL1666 (OFNR) or NFPA 262 (OFNP) flame ratings. Patch cords and pigtails shall be RoHS compliant and shall meet or exceed requirements of TIA/EIA-568-B.3. The fiber connectors shall exceed the requirements of TIA/EIA-455-21A for 500 mating cycles.

## technical information

### Standards requirements

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|---|---|
| ***Fiber optic connectors:*** | Exceed TIA/EIA-568-B.3 performance requirements<br>Exceed TIA/EIA-455-21A: 500 mating cycles |
| ***Patch cords and pigtails:*** | Compliant with TIA/EIA-568-B.3, IEC-61754-7 (International), and UL1666 (OFNR) or NFPA 262 (OFNP) flame ratings |
| ***Insertion loss:*** | Per connection: 0.10dB typical, 0.30dB max. (multimode);<br>0.25dB typical, 0.35dB max. (LC singlemode),<br>0.25dB typical, 0.75dB max. (SC singlemode) |
| ***Return loss:*** | 20dB min. (multimode); 26dB min. (10Gig™ multimode); 55dB min. (singlemode) |

## key features and benefits

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|---|---|
| ***Color-specific keys with positive and negative keying features*** | Mechanically and visually distinguish connections to prevent unintentional insertion into unlike keyed or non-keyed ports, allow network design flexibility and versatility, and accommodate more discrete networks |
| ***Factory terminated and 100% tested for insertion loss (all) and return loss (10Gig™ and SM)*** | Assures high performance for increased up-time and lower cost of ownership |
| ***Riser or plenum rated jacket*** | Meets UL1666 (OFNR) or NFPA 262 (OFNP) flame ratings for standard compliant safety |
| ***Singlemode endfaces UPC polished (55dB min. return loss)*** | Ensure a high quality endface for higher return loss to meet application requirements |
| ***Singlemode endface geometry 100% factory inspected*** | Every singlemode endface is inspected in compliance with Telcordia GR-326-CORE, Issue 3 requirements to assure high performance |
| ***Certified 10 GbE performance*** | Keyed LC 10Gig™ Patch Cords and Pigtails are tested per IEEE 802.3ae 10 GbE to support network transmission speeds up to 10 Gb/s for link lengths up to 300 meters at 850nm to assure high performance and reliability |
| ***Test data supplied with each patch cord and pigtail*** | Establishes a performance reference to streamline maintenance and troubleshooting |
| ***Universal reference cords*** | Facilitate network testing and troubleshooting for simplified link validation (eliminates the need for multiple key-specific reference cords) |

## applications

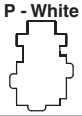
Keyed LC Opti-Core® Fiber Optic Patch Cords and Pigtails enable fiber to the desk (FTTD), interconnect and cross-connect of applications for the specialized infrastructure design that is required for secure networks. The primary application for Keyed LC Opti-Core® Fiber Optic Patch Cords and Pigtails is FTTD deployments that require a level of visual and mechanical differentiation, and physical layer security that conventional connector solutions cannot provide.

These riser (OFNR) and plenum (OFNP) rated patch cords and pigtails support installations that require flame ratings in specific environments. Keyed LC Opti-Core® Fiber Optic Patch Cords and Pigtails are available in OM1, OM2, OM3 and OS1/OS2 fiber types to meet the demands of Gigabit Ethernet, 10 Gigabit Ethernet and high speed Fibre Channel systems while maintaining compatibility with Ethernet, Fast Ethernet, FDDI and ATM.

| | |
|---|---|
| ***Keyed LC Opti-Core® Duplex OFNR Patch Cords (Keyed LC to Keyed LC)*** | |
| ***Keyed A (black):*** | F^E10A-10AM‡ |
| ***Keyed B (red):*** | F^E10B-10BM‡ |
| ***Keyed C (green):*** | F^E10C-10CM‡ |
| ***Keyed D (yellow):*** | F^E10D-10DM‡ |
| ***Keyed E (orange):*** | F^E10E-10EM‡ |
| ***Keyed F (dark blue):*** | F^E10F-10FM‡ |
| ***Keyed LC Opti-Core® Simplex Pigtails – 900µm Buffered Fiber**** | |
| ***Keyed A (black):*** | F^B10A-NM‡ |
| ***Keyed B (red):*** | F^B10B-NM‡ |
| ***Keyed C (green):*** | F^B10C-NM‡ |
| ***Keyed D (yellow):*** | F^B10D-NM‡ |
| ***Keyed E (orange):*** | F^B10E-NM‡ |
| ***Keyed F (dark blue):*** | F^B10F-NM‡ |
| ***Keyed LC Opti-Core® Duplex OFNP Pigtails – 1.6mm Jacketed Cable**** | |
| ***Keyed A (black):*** | F^PE10A-NM‡ |
| ***Keyed B (red):*** | F^PE10B-NM‡ |
| ***Keyed C (green):*** | F^PE10C-NM‡ |
| ***Keyed D (yellow):*** | F^PE10D-NM‡ |
| ***Keyed E (orange):*** | F^PE10E-NM‡ |
| ***Keyed F (dark blue):*** | F^PE10F-NM‡ |
| ***Keyed LC Opti-Core® Hybrid Duplex OFNR Patch Cords (Keyed LC to LC)*** | |
| ***Keyed A (black):*** | F^E10A-10M‡ |
| ***Keyed B (red):*** | F^E10B-10M‡ |
| ***Keyed C (green):*** | F^E10C-10M‡ |
| ***Keyed D (yellow):*** | F^E10D-10M‡ |
| ***Keyed E (orange):*** | F^E10E-10M‡ |
| ***Keyed F (dark blue):*** | F^E10F-10M‡ |
| ***Keyed LC Opti-Core® Hybrid Duplex OFNR Patch Cords (SC to Keyed LC)*** | |
| ***Keyed A (black):*** | F^E3-10AM‡ |
| ***Keyed B (red):*** | F^E3-10BM‡ |
| ***Keyed C (green):*** | F^E3-10CM‡ |
| ***Keyed D (yellow):*** | F^E3-10DM‡ |
| ***Keyed E (orange):*** | F^E3-10EM‡ |
| ***Keyed F (dark blue):*** | F^E3-10FM‡ |
| ***Keyed LC Mini-Com® Duplex Adapter Modules (Ceramic Split Sleeves)*** | |
| ***Keyed A (black):*** | CMDABLLCZ** |
| ***Keyed B (red):*** | CMDBRDLCZ** |
| ***Keyed C (green):*** | CMDCGRLCZ** |
| ***Keyed D (yellow):*** | CMDDYLLCZ** |
| ***Keyed E (orange):*** | CMDEORLCZ** |
| ***Keyed F (dark blue):*** | CMDFDBLCZ** |
| ***Keyed LC Opticom® Fiber Adapter Panels (Ceramic Split Sleeves)*** | |
| ***Keyed A (black):*** | FAP6WABLDLCZ |
| ***Keyed B (red):*** | FAP6WBRDDLCZ |
| ***Keyed C (green):*** | FAP6WCGRDLCZ |
| ***Keyed D (yellow):*** | FAP6WDYLDLCZ |
| ***Keyed E (orange):*** | FAP6WEORDLCZ |
| ***Keyed F (dark blue):*** | FAP6WFDBDLCZ |
| ***LC Lock-in Duplex Clip and Duplex Adapter Blockout Device*** | |
| ***LC lock-in duplex clip:*** | FLCCLIW-X |
| ***LC duplex adapter blockout device*** | PSL-LCAB |

Includes 6 duplex adapters; replace 6 in part numbers with 8 or 12 for 8 or 12 adapters.
^Substitute for fiber type: 6 = 62.5/125µm OM1, 5 = 50/125µm OM2, X = 10Gig™ 50/125µm OM3 or 9 = 9/125µm OS1/OS2.
‡Substitute for length in meters: 1 – 10, 15, 20 or 30. Contact Customer Service for other available lengths or universal reference patch cords.
*900µm buffered fiber pigtails are not flame rated; jacketed pigtails listed are plenum (OFNP) rated.
**Substitute for module color: AW for Arctic White, BL for Black, BU for Blue, EI for Electric Ivory, or IW for Off White.
12 new additional colors available on back of spec sheet

## ordering information

| Key Type and Color (Adapter Key Shown) | Fiber Type | Keyed LC to Keyed LC Duplex OFNR Patch Cords | Keyed LC Simplex Pigtails | Keyed LC Duplex OFNP Pigtails | Keyed LC to LC Duplex OFNR Patch Cords | Keyed LC to SC Duplex OFNR Patch Cords |
|---|---|---|---|---|---|---|
| A - Black | 10Gig™ 50/125µm OM3 | FXE10A-10AM* | FXB10A-NM* | FXPE10A-NM* | FXE10A-10M* | FXE3-10AM* |
| | 50/125µm OM2 | F5E10A-10AM* | F5B10A-NM* | F5PE10A-NM* | F5E10A-10M* | F5E3-10AM* |
| | 62.5/125µm OM1 | F6E10A-10AM* | F6B10A-NM* | F6PE10A-NM* | F6E10A-10M* | F6E3-10AM* |
| | 9/125µm OS1/OS2 | F9E10A-10AM* | F9B10A-NM* | F9PE10A-NM* | F9E10A-10M* | F9E3-10AM* |
| B - Red | 10Gig™ 50/125µm OM3 | FXE10B-10BM* | FXB10B-NM* | FXPE10B-NM* | FXE10B-10M* | FXE3-10BM* |
| | 50/125µm OM2 | F5E10B-10BM* | F5B10B-NM* | F5PE10B-NM* | F5E10B-10M* | F5E3-10BM* |
| | 62.5/125µm OM1 | F6E10B-10BM* | F6B10B-NM* | F6PE10B-NM* | F6E10B-10M* | F6E3-10BM* |
| | 9/125µm OS1/OS2 | F9E10B-10BM* | F9B10B-NM* | F9PE10B-NM* | F9E10B-10M* | F9E3-10BM* |
| C - Green | 10Gig™ 50/125µm OM3 | FXE10C-10CM* | FXB10C-NM* | FXPE10C-NM* | FXE10C-10M* | FXE3-10CM* |
| | 50/125µm OM2 | F5E10C-10CM* | F5B10C-NM* | F5PE10C-NM* | F5E10C-10M* | F5E3-10CM* |
| | 62.5/125µm OM1 | F6E10C-10CM* | F6B10C-NM* | F6PE10C-NM* | F6E10C-10M* | F6E3-10CM* |
| | 9/125µm OS1/OS2 | F9E10C-10CM* | F9B10C-NM* | F9PE10C-NM* | F9E10C-10M* | F9E3-10CM* |
| D - Yellow | 10Gig™ 50/125µm OM3 | FXE10D-10DM* | FXB10D-NM* | FXPE10D-NM* | FXE10D-10M* | FXE3-10DM* |
| | 50/125µm OM2 | F5E10D-10DM* | F5B10D-NM* | F5PE10D-NM* | F5E10D-10M* | F5E3-10DM* |
| | 62.5/125µm OM1 | F6E10D-10DM* | F6B10D-NM* | F6PE10D-NM* | F6E10D-10M* | F6E3-10DM* |
| | 9/125µm OS1/OS2 | F9E10D-10DM* | F9B10D-NM* | F9PE10D-NM* | F9E10D-10M* | F9E3-10DM* |
| E - Orange | 10Gig™ 50/125µm OM3 | FXE10E-10EM* | FXB10E-NM* | FXPE10E-NM* | FXE10E-10M* | FXE3-10EM* |
| | 50/125µm OM2 | F5E10E-10EM* | F5B10E-NM* | F5PE10E-NM* | F5E10E-10M* | F5E3-10EM* |
| | 62.5/125µm OM1 | F6E10E-10EM* | F6B10E-NM* | F6PE10E-NM* | F6E10E-10M* | F6E3-10EM* |
| | 9/125µm OS1/OS2 | F9E10E-10EM* | F9B10E-NM* | F9PE10E-NM* | F9E10E-10M* | F9E3-10EM* |
| F - Dark Blue | 10Gig™ 50/125µm OM3 | FXE10F-10FM* | FXB10F-NM* | FXPE10F-NM* | FXE10F-10M* | FXE3-10FM* |
| | 50/125µm OM2 | F5E10F-10FM* | F5B10F-NM* | F5PE10F-NM* | F5E10F-10M* | F5E3-10FM* |
| | 62.5/125µm OM1 | F6E10F-10FM* | F6B10F-NM* | F6PE10F-NM* | F6E10F-10M* | F6E3-10FM* |
| | 9/125µm OS1/OS2 | F9E10F-10FM* | F9B10F-NM* | F9PE10F-NM* | F9E10F-10M* | F9E3-10FM* |
| G - Violet | 10Gig™ 50/125µm OM3 | FXE10G-10GM* | FXB10G-NM* | FXE10G-NM* | FXE10G-10M* | FXE3-10GM* |
| | 50/125µm OM2 | F5E10G-10GM* | F5B10G-NM* | F5E10G-NM* | F5E10G-10M* | F5E3-10GM* |
| | 62.5/125µm OM1 | F6E10G-10GM* | F6B10G-NM* | F6E10G-NM* | F6E10G-10M* | F6E3-10GM* |
| | 9/125µm OS1/OS2 | F9E10G-10GM* | F9B10G-NM* | F9E10G-NM* | F9E10G-10M* | F9E3-10GM* |
| H - Aqua | 10Gig™ 50/125µm OM3 | FXE10H-10HM* | FXB10H-NM* | FXE10H-NM* | FXE10H-10M* | FXE3-10HM* |
| | 50/125µm OM2 | F5E10H-10HM* | F5B10H-NM* | F5E10H-NM* | F5E10H-10M* | F5E3-10HM* |
| | 62.5/125µm OM1 | F6E10H-10HM* | F6B10H-NM* | F6E10H-NM* | F6E10H-10M* | F6E3-10HM* |
| | 9/125µm OS1/OS2 | F9E10H-10HM* | F9B10H-NM* | F9E10H-NM* | F9E10H-10M* | F9E3-10HM* |
| J - Rose | 10Gig™ 50/125µm OM3 | FXE10J-10JM* | FXB10J-NM* | FXE10J-NM* | FXE10J-10M* | FXE3-10JM* |
| | 50/125µm OM2 | F5E10J-10JM* | F5B10J-NM* | F5E10J-NM* | F5E10J-10M* | F5E3-10JM* |
| | 62.5/125µm OM1 | F6E10J-10JM* | F6B10J-NM* | F6E10J-NM* | F6E10J-10M* | F6E3-10JM* |
| | 9/125µm OS1/OS2 | F9E10J-10JM* | F9B10J-NM* | F9E10J-NM* | F9E10J-10M* | F9E3-10JM* |
| K - Slate | 10Gig™ 50/125µm OM3 | FXE10K-10KM* | FXB10K-NM* | FXE10K-NM* | FXE10K-10M* | FXE3-10KM* |
| | 50/125µm OM2 | F5E10K-10KM* | F5B10K-NM* | F5E10K-NM* | F5E10K-10M* | F5E3-10KM* |
| | 62.5/125µm OM1 | F6E10K-10KM* | F6B10K-NM* | F6E10K-NM* | F6E10K-10M* | F6E3-10KM* |
| | 9/125µm OS1/OS2 | F9E10K-10KM* | F9B10K-NM* | F9E10K-NM* | F9E10K-10M* | F9E3-10KM* |
| L - Brown | 10Gig™ 50/125µm OM3 | FXE10L-10LM* | FXB10L-NM* | FXE10L-NM* | FXE10L-10M* | FXE3-10LM* |
| | 50/125µm OM2 | F5E10L-10LM* | F5B10L-NM* | F5E10L-NM* | F5E10L-10M* | F5E3-10LM* |
| | 62.5/125µm OM1 | F6E10L-10LM* | F6B10L-NM* | F6E10L-NM* | F6E10L-10M* | F6E3-10LM* |
| | 9/125µm OS1/OS2 | F9E10L-10LM* | F9B10L-NM* | F9E10L-NM* | F9E10L-10M* | F9E3-10LM* |
| P - White  | 10Gig™ 50/125µm OM3 | FXE10P-10PM* | FXB10P-NM* | FXE10P-NM* | FXE10P-10M* | FXE3-10PM* |
| | 50/125µm OM2 | F5E10P-10PM* | F5B10P-NM* | F5E10P-NM* | F5E10P-10M* | F5E3-10PM* |
| | 62.5/125µm OM1 | F6E10P-10PM* | F6B10P-NM* | F6E10P-NM* | F6E10P-10M* | F6E3-10PM* |
| | 9/125µm OS1/OS2 | F9E10P-10PM* | F9B10P-NM* | F9E10P-NM* | F9E10P-10M* | F9E3-10PM* |
| Q - Charcoal | 10Gig™ 50/125µm OM3 | FXE10Q-10QM* | FXB10Q-NM* | FXE10Q-NM* | FXE10Q-10M* | FXE3-10QM* |
| | 50/125µm OM2 | F5E10Q-10QM* | F5B10Q-NM* | F5E10Q-NM* | F5E10Q-10M* | F5E3-10QM* |
| | 62.5/125µm OM1 | F6E10Q-10QM* | F6B10Q-NM* | F6E10Q-NM* | F6E10Q-10M* | F6E3-10QM* |
| | 9/125µm OS1/OS2 | F9E10Q-10QM* | F9B10Q-NM* | F9E10Q-NM* | F9E10Q-10M* | F9E3-10QM* |
| R - Lavender | 10Gig™ 50/125µm OM3 | FXE10R-10RM* | FXB10R-NM* | FXE10R-NM* | FXE10R-10M* | FXE3-10RM* |
| | 50/125µm OM2 | F5E10R-10RM* | F5B10R-NM* | F5E10R-NM* | F5E10R-10M* | F5E3-10RM* |
| | 62.5/125µm OM1 | F6E10R-10RM* | F6B10R-NM* | F6E10R-NM* | F6E10R-10M* | F6E3-10RM* |
| | 9/125µm OS1/OS2 | F9E10R-10RM* | F9B10R-NM* | F9E10R-NM* | F9E10R-10M* | F9E3-10RM* |

## ordering information

| Key Type and Color (Adapter Key Shown) | Fiber Type | Keyed LC to Keyed LC Duplex OFNR Patch Cords | Keyed LC Simplex Pigtails | Keyed LC Duplex OFNP Pigtails | Keyed LC to LC Duplex OFNR Patch Cords | Keyed LC to SC Duplex OFNR Patch Cords |
|---|---|---|---|---|---|---|
| S - Peach | 10Gig™ 50/125µm OM3 | FXE10S-10SM* | FXB10S-NM* | FXE10S-NM* | FXE10S-10M* | FXE3-10SM* |
| | 50/125µm OM2 | F5E10S-10SM* | F5B10S-NM* | F5E10S-NM* | F5E10S-10M* | F5E3-10SM* |
| | 62.5/125µm OM1 | F6E10S-10SM* | F6B10S-NM* | F6E10S-NM* | F6E10S-10M* | F6E3-10SM* |
| | 9/125µm OS1/OS2 | F9E10S-10SM* | F9B10S-NM* | F9E10S-NM* | F9E10S-10M* | F9E3-10SM* |
| T - Steel Blue | 10Gig™ 50/125µm OM3 | FXE10T-10TM* | FXB10T-NM* | FXE10T-NM* | FXE10T-10M* | FXE3-10TM* |
| | 50/125µm OM2 | F5E10T-10TM* | F5B10T-NM* | F5E10T-NM* | F5E10T-10M* | F5E3-10TM* |
| | 62.5/125µm OM1 | F6E10T-10TM* | F6B10T-NM* | F6E10T-NM* | F6E10T-10M* | F6E3-10TM* |
| | 9/125µm OS1/OS2 | F9E10T-10TM* | F9B10T-NM* | F9E10T-NM* | F9E10T-10M* | F9E3-10TM* |
| V - Maroon | 10Gig™ 50/125µm OM3 | FXE10V-10VM* | FXB10V-NM* | FXE10V-NM* | FXE10V-10M* | FXE3-10VM* |
| | 50/125µm OM2 | F5E10V-10VM* | F5B10V-NM* | F5E10V-NM* | F5E10V-10M* | F5E3-10VM* |
| | 62.5/125µm OM1 | F6E10V-10VM* | F6B10V-NM* | F6E10V-NM* | F6E10V-10M* | F6E3-10VM* |
| | 9/125µm OS1/OS2 | F9E10V-10VM* | F9B10V-NM* | F9E10V-NM* | F9E10V-10M* | F9E3-10VM* |
| W - Mint | 10Gig™ 50/125µm OM3 | FXE10W-10WM* | FXB10W-NM* | FXE10W-NM* | FXE10W-10M* | FXE3-10WM* |
| | 50/125µm OM2 | F5E10W-10WM* | F5B10W-NM* | F5E10W-NM* | F5E10W-10M* | F5E3-10WM* |
| | 62.5/125µm OM1 | F6E10W-10WM* | F6B10W-NM* | F6E10W-NM* | F6E10W-10M* | F6E3-10WM* |
| | 9/125µm OS1/OS2 | F9E10W-10WM* | F9B10W-NM* | F9E10W-NM* | F9E10W-10M* | F9E3-10WM* |

*Substitute for length in meters: 1 – 10, 15, 20 or 30.
Standard cable jacket colors are: Aqua – OM3, Orange – OM2/OM1, Yellow – OS2/OS1. Custom colors available upon request. Contact factory.
For OFNP (Plenum) rated patch cords, add "P" to the part number. Ex: FX**P**E10GNM*. Plenum available in pigtails only.
Fiber type: 6 = 62.5/125µm OM1, 5 = 50/125µm OM2, X = 10Gig™ 50/125µm OM3 or 9 = 9/125µm OS1/OS2.

**Keyed LC Mini-Com® Fiber Optic Adapter Modules**

**CMD***LCZIW

**Keyed LC Opticom® Fiber Adapter Panels (FAPs)**

**FAP6W***DLCZ

**Keyed LC OptiCam® Pre-Polished Fiber Connectors**

**FLCSMC^***

**LC Lock-In Duplex Clip**

**FLCCLIW-X**

**LC Blockout Adapter Blockout Device**

**PSL-LCAB***

*For other colors, add AQ (Aqua), BL (Black), BU (Blue), or EI (Electric Ivory).
***Substitute for key type and color: ABL for A – Black, BRD for B – Red, CGR for C – Green, DYL for D – Yellow, EOR for E – Orange, or FDB for F – Dark Blue, GVL for G – Violet, HAQ for H – Aqua, JRO for J – Rose, KIG for K – Slate, LLB for L – Brown, PWT for P – White, QCG for Q – Charcoal, RLV for R – Lavender, SPE for S – Peach, TSB for T – Steel Blue, VMA for V – Maroon, WMI for W – Mint.

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**Contact Customer Service by email: cs@panduit.com or by phone: 800-777-3300 and reference FBSP31**

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