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Cable Matters 120015-3m

Cable Matters Plenum Rated Duplex OS2 Single Mode Fiber Optic Patch Cable

Model: 120015-3m

Instruction Manual

1. Introduction

This manual provides essential information for the proper use and care of your Cable Matters Plenum Rated Duplex OS2 Single Mode Fiber Optic Patch Cable. This cable is designed for high-speed data transmission in various networking environments, supporting 1GBASE and 10GBASE networks. Adhering to the guidelines in this manual will help ensure reliable performance and extend the lifespan of your cable.



Image: The Cable Matters Duplex OS2 Single Mode Fiber Optic Patch Cable, featuring two yellow fiber strands and blue LC connectors with white protective caps.

2. Key Features

- **Single Mode Fiber Duplex OS2:** Designed for gigabit networking over fiber optic cabling, supporting 1GBASE and 10GBASE networks.
- **Higher Bandwidth and Longer Reach:** OS2 zipcord fiber enhances network performance by allowing extended length channels and greater configuration flexibility.
- **Flexible Installation:** Lightweight duplex small form factor LC to LC cable suitable for high-density network applications.
- **Standards Compliant:** Complies with ITU-T G.652/C/D standards, featuring a color-coded orange and white jacket with straight-thru A to B wiring.
- **10GbE Compliant:** Supports distances of up to 10km and is backward compatible with OS1 cable.

3. Setup and Installation

Follow these steps to properly install your fiber optic patch cable:

1. **Inspect the Cable:** Before installation, carefully inspect the LC connectors for any dust or damage. Ensure the protective caps are in place until ready to connect.
2. **Identify Ports:** Locate the appropriate LC fiber optic ports on your networking equipment (e.g., fiber switches, media converters, SFP transceivers). Ensure they are compatible with OS2 single mode fiber.
3. **Connect LC Connectors:** Gently remove the protective caps from both ends of the fiber optic cable. Align the LC connectors with the corresponding ports on your equipment. Insert the connectors firmly until you hear a click, indicating a secure connection. Note that the LC connectors are duplex, meaning they consist of two individual connectors (one for transmit, one for receive) that are typically clipped together.
4. **Verify Connection:** Once connected, ensure the cable is not kinked or excessively bent, as this can damage the delicate fiber strands.



Image: A close-up view of the blue LC connectors with their white protective caps, showing the precise design of the fiber optic interface.



Image: The LC/LC OS2 fiber optic cable being connected to an SFP (Small Form-Factor Pluggable) transceiver module, illustrating a typical network connection point.

4. Operating Principles

The Cable Matters OS2 Single Mode Fiber Optic Patch Cable operates by transmitting light signals through its optical fibers. Single mode fiber is designed for long-distance data transmission at high speeds, utilizing a very small core (9 micrometers) that allows only one mode of light to propagate. This minimizes modal dispersion, enabling higher bandwidth and longer transmission distances compared to multimode fiber.

When connected to compatible networking equipment, the cable facilitates full-duplex communication, meaning data can be sent and received simultaneously. The OS2 classification ensures compatibility with modern 10 Gigabit Ethernet (10GbE) and higher-speed fiber optic networks, making it suitable for data centers, enterprise networks, and telecommunications applications.

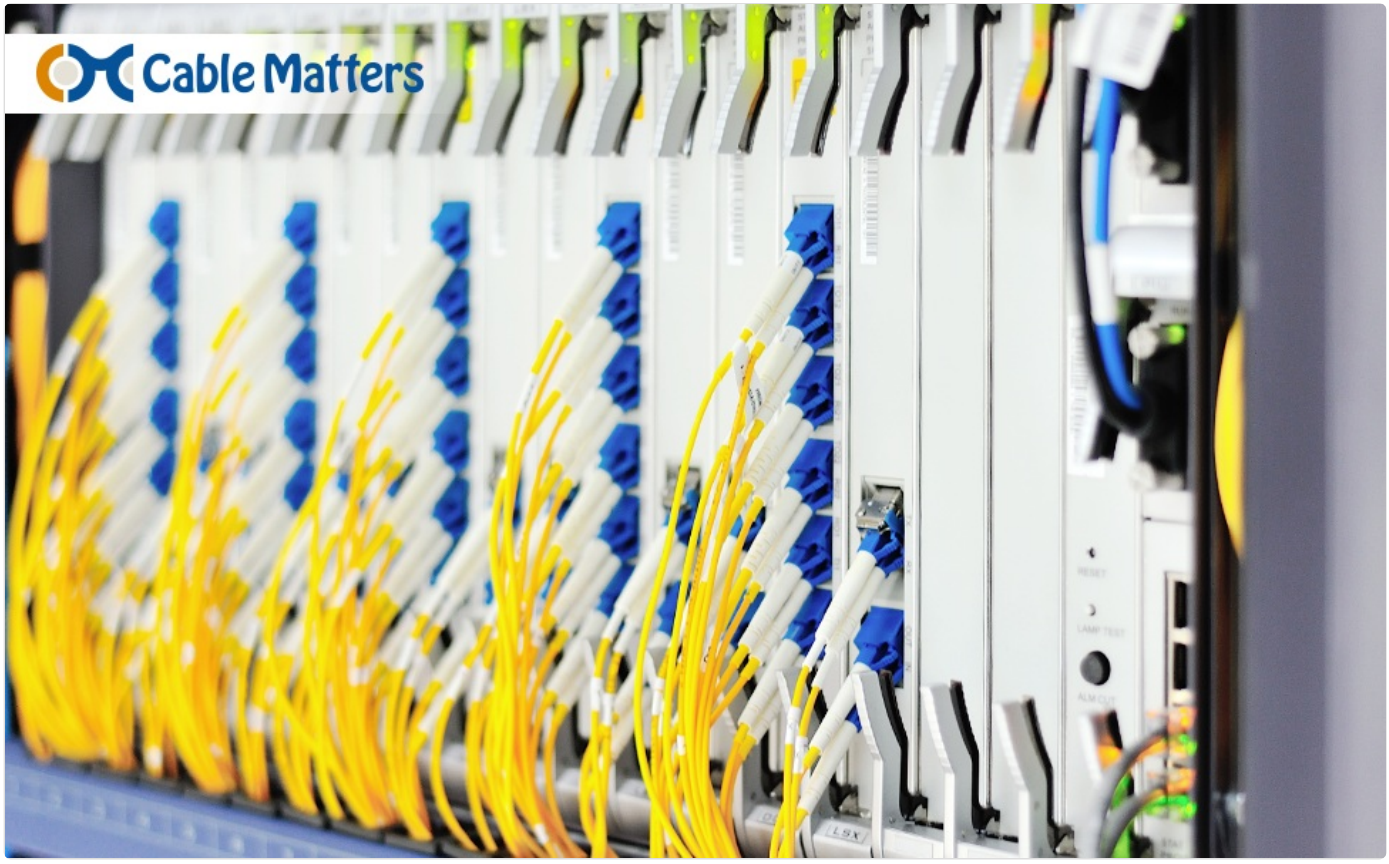


Image: A server rack filled with networking equipment, showcasing numerous yellow fiber optic patch cables connected to various ports, illustrating a high-density fiber optic deployment.

5. Maintenance

Proper maintenance is crucial for the longevity and performance of your fiber optic cable:

- **Keep Connectors Clean:** Dust and contaminants on the fiber optic connector end-faces are the leading cause of signal loss and network issues. Always keep protective caps on connectors when not in use. Use only approved fiber optic cleaning tools and solutions if cleaning is necessary.
- **Avoid Bending:** Do not bend the fiber optic cable beyond its minimum bend radius. Excessive bending can damage the optical fiber, leading to signal degradation or breakage.
- **Handle with Care:** Fiber optic cables are more delicate than copper cables. Avoid pulling, twisting, or crushing the cable.
- **Environmental Conditions:** Store and operate the cable within recommended temperature and humidity ranges. While plenum rated, extreme conditions can still affect performance.

6. Troubleshooting

If you experience issues with your fiber optic connection, consider the following troubleshooting steps:

- **No Link Light/Signal:**
  - Ensure both ends of the cable are securely connected to the correct ports.
  - Check if the fiber optic transceivers (e.g., SFP modules) are properly seated and functioning.
  - Inspect the fiber optic connectors for dirt or damage. Clean them if necessary using appropriate fiber cleaning tools.
  - Verify that the connected equipment is powered on and configured correctly for fiber optic communication.
- **Intermittent Connection/Slow Speed:**

- This often indicates a dirty or damaged connector. Clean or replace the cable if damage is visible.
- Ensure the cable is not excessively bent or kinked along its length.
- Confirm that the cable length does not exceed the maximum supported distance for your equipment and fiber type (10km for OS2 10GbE).

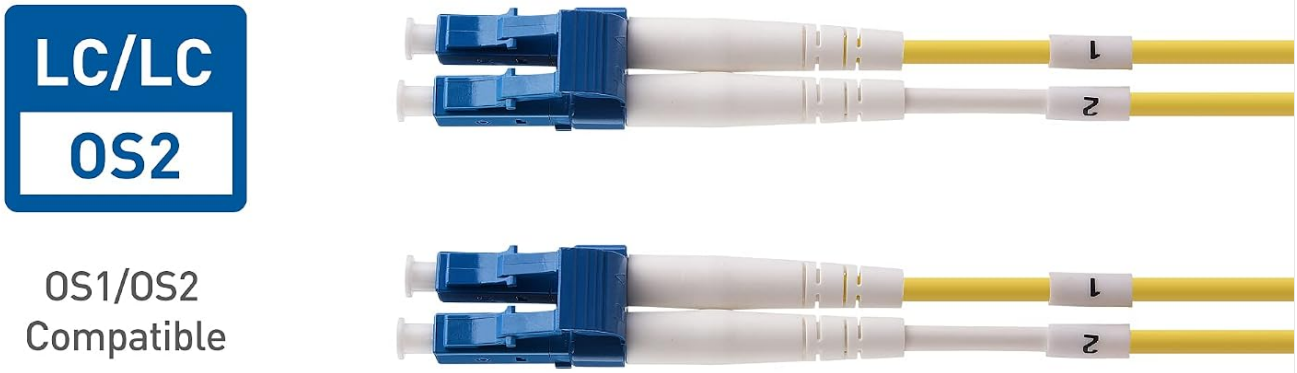
- **Incorrect Cable Type:**
  - Ensure you are using a single mode OS2 cable with single mode transceivers. Multimode cables/transceivers are not compatible with single mode.

If problems persist after following these steps, consult your networking equipment's manual or contact Cable Matters customer support.

7. Specifications



Image: A diagram illustrating the 9/125 µm core and cladding dimensions of a single mode fiber, highlighting its structure.



Features / Spec	OS1	OS2
Standards	ITU-T G.652A/B/C/D	ITU-T G.652/C/D
Cable Construction	Tight-buffered	Loose tube
Maximum Attenuation	1.0 db/km	0.4 db/km
Maximum Transmission Distance (in 10GbE)	2 km	10 km
Application	Indoor	Outdoor

Image: A comparison table detailing the differences between OS1 and OS2 fiber optic cables, including standards, cable construction, maximum attenuation, maximum transmission distance, and application.

Specification	Value
Brand	Cable Matters
Model Number	120015-3m
ASIN	B095L1CS9B
Cable Type	Fiber Optic (Duplex OS2 Single Mode)
Connector Type	LC to LC UPC
Fiber Core/Cladding	9/125 µm

Specification	Value
Data Transfer Rate	Up to 10 Gigabits Per Second (10GbE)
Maximum Transmission Distance	10 km (for 10GbE)
Jacket Rating	OFNP (Optical Fiber Nonconductive Plenum)
Color	Orange (Jacket)
Item Weight	1.13 ounces
Package Dimensions	6.65 x 6.5 x 0.43 inches
UPC	682017354422
Date First Available	May 21, 2021

8. Warranty and Support

Cable Matters products are designed for reliability and performance. For specific warranty information, please refer to the product packaging or the official Cable Matters website. If you encounter any issues or require technical assistance, please contact Cable Matters customer support through their official channels. Provide your product model number (120015-3m) and a detailed description of the issue for efficient support.

Cable Matters Official Website: www.cablematters.com

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