



Coarse wave division multiplexers (CWDM) allow 4 or 8 fiber optic links to operate at different wavelengths over a single fiber. It's ideal for virtually every fiber optic application to reduce fiber usage, consolidate signals and maximize the bandwidth of single mode fiber.

Fiberlink® 6400 CWDM Series

4 or 8 Channel Coarse Wave Division Multiplexers
for Single Mode Fiber.



CSI Communications
Specialties, Inc.

World Headquarters

55 Cabot Court
Hauppauge, New York 11788 USA
Tel: (631) 273-0404
Fax: (631) 273-1638
info@commspecial.com

commspecial.com

Contents

Welcome	3
Features	3
Package Contents	3
Technical Specifications	4
Installation Instructions	5
Operating Pointers	6
Troubleshooting	6
Maintenance and Repairs	7
Warranty	8
Accessories and Related Products	9

Welcome

Thank you for purchasing Communications Specialties, Inc.'s Fiberlink® 6400 CWDM Series. This product is used to multiplex or demultiplex up to 8 optical signals onto or from one single mode fiber. Unique to the 6400 CWDM Series is the ability to allow each port to act as a multiplexing (input) or demultiplexing (output) port. This gives the system designer great flexibility to determine both the number of signals to occupy one fiber and the individual direction of those signals.

Features

- Available in 4 or 8 channel models
- Same device can operate as a multiplexor or demultiplexer on a port by port basis
- Available with ST or LC versions
- Card or box versions
- Low insertion loss
- No power required
- Wide operating temperature range
- Industry standard channel wavelengths
- Compatible with a wide range of CSI Fiberlink® products
- Card version compatible with the Fiberlink® 6000A Rack Card Cage

Package Contents

- One Fiberlink® 6404 or 6408
- This User's Manual

Technical Specifications

General Specifications

Channels:	4 or 8
Directionality:	Each port can communicate in either direction (In or Out) independent of other ports
Connectors:	ST or LC
Fiber Type:	Single Mode
Maximum Insertion Loss:	4 Channel: 2 dB 8 Channel: 3 dB
Box Dimensions	1.2 H x 5 W x 7 D (inches) 30 H x 127 W x 178 D (mm)
Slots filled in 6000A Card Cage:	4 & 8 Channel version fills 2 slots
Power Requirements:	No power required
Operating Temperature:	-5° C to +60° C
Compatibility:	Compatible with most Fiberlink one-way and two-fiber two-way systems. Contact CSI Sales for compatibility.

Wavelengths

4 Channel Version	1570, 1550, 1530, 1510
8 Channel Version	1610, 1590, 1570, 1550, 1530, 1510, 1490, 1470

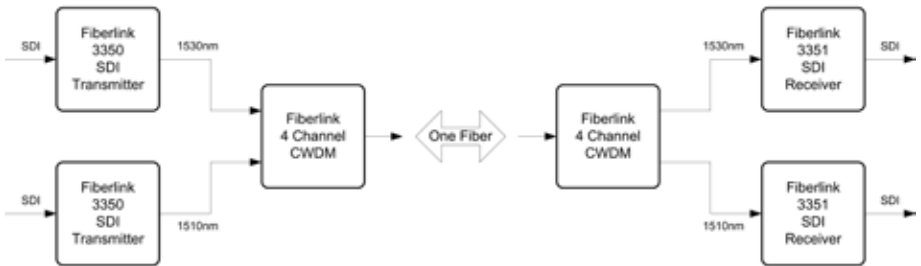
Installation Instructions

The Fiberlink® 6400 CWDM Series of fiber optic transmission systems are ready for immediate use and do not require any special tools or equipment. However, an Optical Power Meter, such as the Fiberlink® 6615, can be useful in determining optical loss budgets during your systems design and maintenance.

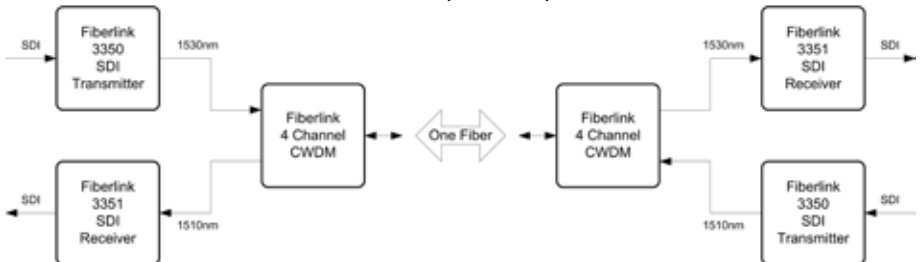
The following instructions describe the typical installation procedure:

- 1) Using a single mode fiber cable, connect the optical transmitter or receiver to the desired wavelength port on the 6400 Series CWDM.
- 2) If connecting an optical transmitter to the CWDM, make sure the transmitter wavelength matches the wavelength indicated on the CWDM port connector
- 3) Connect a single mode fiber to the COMMON port. This port contains the collection of wavelengths being transmitted or to be received by the CWDM
- 4) Sample connection diagrams are shown below

Basic One-Way CWDM System



Basic Two-Way CWDM System



Operating Pointers

Remember to check attenuation of the fiber optic cable. The system will only operate properly if these specifications fall within the range of the system's loss budget.

Troubleshooting

Multimode fiber optic cable contains an optical fiber with a light carrying "core" that is only .0025 inches (62.5 microns) in diameter. Single mode fiber optic cable has an even smaller "core," only .00032 to .0004 inches (8-10 microns). This is smaller than a human hair! Therefore, any minute particles of dirt or dust can easily block the fiber from accepting or radiating light. To prevent this from happening, always use the provided dust caps when ever optical connectors are exposed to air. It is also a good idea to gently clean the tip of an optical connector with a lint-free cloth moistened with alcohol whenever dust is suspected.

An optical power meter, such as the Fiberlink® 6615, a visible light source, such as the Fiberlink® 6610, and a Three Wavelength Light Source, such as the Fiberlink® 6620, can greatly assist and expedite troubleshooting of fiber optic transmission systems and are recommended tools all installers should have available.

Finally, although multimode and single mode devices may look the same, they will not operate properly together. Using the wrong device or fiber can easily add more attenuation than specified, resulting in poor overall performance. It should be noted that some of our fiber optic products support both single mode and multimode fiber in the same unit.

If, after reviewing the above possibilities, the system is still not operating, please contact the Customer Service Department for further assistance. If you suspect your problem is caused by the optics or the fiber optic cable, and you have an optical power meter, please take the appropriate measurements prior to contacting support.

Maintenance and Repairs

Should difficulty be encountered, Communications Specialties maintains a complete service facility to render accurate, timely and reliable service of all products.

The only maintenance that can be provided by the user is to ascertain that optical connectors are free of dust or dirt that could interfere with light transmission and that electrical connections are secure and accurate. Please see the Troubleshooting section of this manual for additional information.

An optical power meter, such as the Fiberlink® 6615, a visible light source, such as the Fiberlink® 6610, and a Three Wavelength Light Source, such as the Fiberlink® 6620, can greatly assist and expedite troubleshooting of fiber optic transmission systems and are recommended tools all installers should have available.

All other questions or comments should be directed to our Customer Service Department. It should be noted that many “problems” can easily be solved by a simple telephone call.

If you suspect your problem is caused by the optics or the fiber optic cable, and you have an optical power meter, please take the appropriate measurements prior to contacting support.



Communications Specialties, Inc. (CSI) warrants that, for a period of three years after purchase by the Buyer, this product will be free from defects in material and workmanship under normal use and service. A Return Material Authorization (RMA) number must be obtained from CSI before any equipment is returned by the Buyer. All materials must be shipped to CSI at the expense and risk of the Buyer.

CSI's obligation under this warranty will be limited, at its option, to either the repair or replacement of defective units, including free materials and labor. In no event shall CSI be responsible for any incidental or consequential damages or loss of profits or goodwill.

CSI shall not be obligated to replace or repair equipment that has been damaged by fire, war, acts of God, or similar causes, or equipment that has been serviced by unauthorized personnel, altered, improperly installed, or abused.

RMA numbers and repairs can be obtained from:

Communications Specialties, Inc.

55 Cabot Court

Hauppauge, NY 11788 USA

Tel: (631) 273-0404

Fax: (631) 273-1638

RMA numbers can also be obtained from our web site: commspecial.com

Please have your serial number available.



Fiberlink® 6610 Visible Light Source

The Fiberlink® Visible Light Source provides a visible 650 nm laser output that can be used for identifying fiber breaks and individual fibers within fiber bundles, allowing for convenient, on-site testing of fiber networks during construction and maintenance procedures.



Fiberlink® 6615 Optical Power Meter

The Fiberlink® Optical Power Meter measures the power of optical signals at 850, 980, 1310 and 1550 nm wavelengths, allowing for convenient, on-site testing of fiber networks during construction and maintenance procedures. It can be used to measure the power of an optical signal reaching the receiving end of a fiber optic cable, as generated either by a transmitter unit or by a light source such as the 6620.



Fiberlink® 6620 Three Wavelength Light Source

The Fiberlink® Three Wavelength Light Source offers a laser output at wavelengths of 1310 and 1550 nm and VCSEL output at 850 nm, allowing for convenient, on-site testing of fiber networks during construction and maintenance procedures.



Fiberlink® 6400 CWDM Series

4 or 8 Channel Coarse Wave Division Multiplexers
for Single Mode Fiber.



CSI Communications
Specialties, Inc.

World Headquarters

55 Cabot Court
Hauppauge, New York 11788 USA
Tel: (631) 273-0404
Fax: (631) 273-1638
info@commspecial.com

commspecial.com

©2011 Communications Specialties, Inc.
All Rights Reserved.

Fiberlink and the starburst logo are
registered trademarks of
Communications Specialties, Inc.

CSI and the triangle designs are trademarks
of Communications Specialties, Inc.

P/N 129224 Rev. B