



Fiberlink® FlexPOD™ is a configurable passive optical signal distribution system to create up to 4 different and independent optical coarse wave division multiplexers (CWDM), wave division multipliers (WDM) and/or Splitters in 1RU!

# Fiberlink® FlexPOD™

Flexible Passive Optical Distributor



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## Welcome

Thank you for purchasing Communications Specialties, Inc.'s Fiberlink® FlexPOD™. This product is actually a collection of up to four separate passive fiber optic products whose specific configuration depends on how it was ordered. By combining these passive optical functions into one slim 1 RU package, space can be saved in the rack and a collection of individual product boxes is eliminated.

## Features

- 9 different functional options available
- Up to 4 functional options can be placed in one FlexPOD™
- Available with ST or LC connectors
- One (1) RU size
- No power required
- Wide operating temperature range
- Industry standard channel wavelengths
- Compatible with a wide range of CSI Fiberlink® products
- CWDM, Splitter and WDM options available

## Package Contents

- One Fiberlink® FlexPOD™
- One pair of rack mounting brackets
- One set of four rubber feet
- This user's manual

## Technical Specifications

### General Specifications

Power	No power required for operation
Operating Temperature	-20° C to +70° C
Relative Humidity	0 - 95%, non condensing
Dimensions	16.75 W x 1.75 H x 10 D (inches) 425 W x 44 H x 254 D (mm) (without rackmount ears)
Optical Connector	ST or LC; connector type must be the same for all options within FlexPOD unit
Cable Type Supported	See Option Specifications; different cable types may be specified for different options within the same FlexPOD unit
Maximum Number of Options	Up to 4 bays may be occupied; see Option Specifications to determine number of bays required for that option
MTBF	100,000 Hours

### WDM Option Specifications

Operating Wavelength	Multimode: 850 / 1310 nm Single Mode: 1310 / 1550 nm
Insertion Loss (each output)	Multimode: 1.0 to 2.0 dB Single Mode: 0.5 to 1.5 dB
Cable Type Supported	Single Mode or Multimode
Number of Bays	1

### Splitter Option Specifications

Operating Wavelength	Multimode: 850 / 1310 nm Single Mode: 1310 / 1550 nm
Insertion Loss (each output)	2 Channel: 3.5 to 4.5 dB 4 Channel: 6.5 to 8.0 dB
Cable Type Supported	Single Mode or Multimode
Number of Bays	1

## Technical Specifications

### CWDM Option General Specifications

Channels	4, 8 or 16
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 16 Channel: 5.5 dB
Cable Type Supported	Single Mode only
Number of Bays	4 Channel: 1 Bay 8 Channel: 2 Bays 16 Channel: 4 Bays

### CWDM Option Wavelength Specifications

4 Channel Version	1570, 1550, 1530, 1510
8 Channel Version	1610, 1590, 1570, 1550, 1530, 1510, 1490, 1470
16 Channel Version	1610, 1590, 1570, 1550, 1530, 1510, 1490, 1470, 1450, 1430, 1410, 1390, 1370, 1350, 1330, 1310

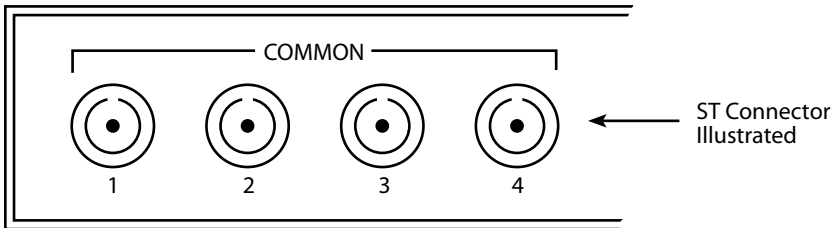
## Installation Instructions

The Fiberlink® FlexPOD™ is ready for immediate use and does 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 system design and maintenance.

FlexPOD™ is actually a collection of up to four (4) different products, or options, depending on how your particular unit has been configured. There are nine (9) different options occupying from one to four “bays” inside the unit. The unit has four bays.

The functional options that are available are listed in the “Options & Part Numbers” section of this manual.

Looking at FlexPOD from the rear of the unit, you will notice on the left side of the rear panel there is a group of up to four optical connectors grouped under the label: COMMON.



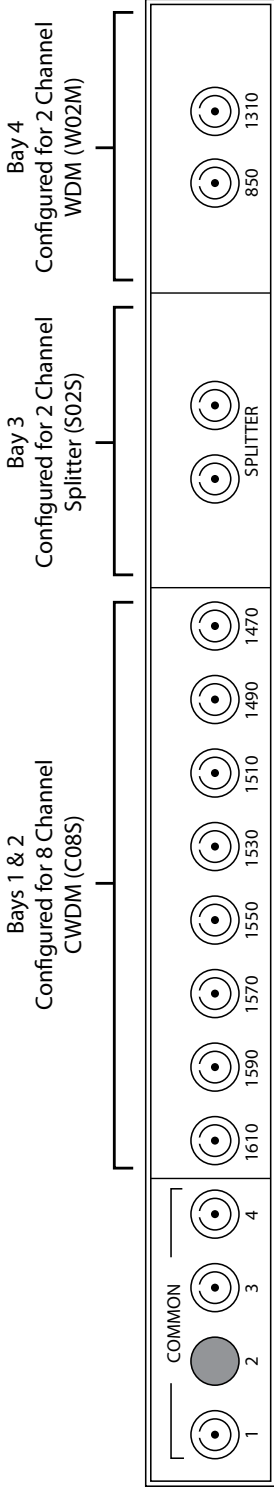
These represent each of the four bays: COMMON 1 functions with Bay 1, COMMON 2 function with Bay 2 and so on. Some options occupy more than one bay. For example, the 8 Channel CWDM option occupies two bays. In this case, only one COMMON is utilized.

To the right of the COMMON group, occupying the remainder of the rear panel, are up to 4 positions for the functional options you purchased.

See the diagram on page 8 for a sample configuration.

**The following are guidelines for the installation of FlexPOD™:**

- Make sure that you use the correct multimode or single mode fiber cable when connecting to the functional option of FlexPOD™.
- It is possible, although not likely, that you may have a mix of options installed some of which requiring single mode fiber and some requiring multimode. Consult the product data sheet for FlexPOD™ to match the product part number with the installed functional options.
- Each functional option is independent of the other. It is possible, however, to use the different options in connection with each other to achieve a desired system design.
- FlexPOD™ requires no power.
- There are no controls, indicators or internal adjustments.
- For mounting in an equipment rack, attached the rack mounting brackets included with the product and remove the rubber feet from the bottom of the unit.



Carries the signals being multiplexed or demultiplexed by the WDM in Bay 4.  
Note that the 2 individual signals can be in any direction.

Common 3 is receiving a signal that will be split onto two single mode fibers using the splitter in Bay 3.

Common 2 is not available in this case because the 8 Channel CWDM occupies bays 1 & 2 and is multiplexing/demultiplexing onto/from one fiber.

Carries the signals being multiplexed or demultiplexed by the CWDM in Bays 1 & 2. Note that the 8 individual signals can be in any direction.

## Options & Part Numbers

Fiberlink® FlexPOD is a highly configurable product and not all of FlexPODs option bays need to be filled. You can determine the configuration of your FlexPOD by using the diagram below to create your part number.



CWDM Options	Description	# of Bays
C04S	4 Channel CWDM, Single Mode	1
C08S	8 Channel CWDM, Single Mode	2
C16S	16 Channel CWDM, Single Mode	4

WDM Options	Description	# of Bays
W02M	850/1310 WDM, Multimode	1
W02S	1310/1550 WDM, Single Mode	1

Splitter Options	Description	# of Bays
S02M	2 Channel Splitter, Multimode	1
S02S	2 Channel Splitter, Single Mode	1
S04M	4 Channel Splitter, Multimode	1
S04S	4 Channel Splitter, Single Mode	1

Connector	Description
S	ST Connector
L	LC Connector

### Sample Part Numbers

POD-C16S-S	16 Channel CWDM, ST Connectors
POD-C08S-W02S-L	8 Channel CWDM, WDM, LC Connectors, Bay 4 Empty
POD-C04S-W02M-W02S-S04S-L	4 Channel CWDM, Multimode WDM, Single Mode WDM, 4 Channel Splitter, LC Connectors

## 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

or, in the Asia Pacific Region:

**Communications Specialties Pte Ltd**

100 Beach Road  
#22-09 Shaw Tower  
Singapore 189702  
Tel: +65 6391 8790  
Fax: +65 6396 0138

RMA numbers can also be obtained from our web site: [commspecial.com](http://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.







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