

# COADM | Coarse Optical Add Drop Multiplexer

## Product Description

COADM modules, or Coarse Optical Add Drop Multiplexers, are essential components in optical networking systems. They serve the purpose of both adding and dropping specific wavelength channels within a multi-wavelength Wavelength Division Multiplexing (WDM) system. Here's a breakdown of their functionalities and applications:

### Add Functionality:

The add functionality allows for the integration of one or more new wavelength channels into an existing multi-wavelength WDM system. This effectively expands the capacity of the system by incorporating additional data channels. This feature is particularly useful in scenarios where the demand for bandwidth increases, such as in metro-core networks, metro-access networks, or enterprise environments.

### Drop Functionality:

The drop functionality enables the selective removal of one or more channels from the WDM system. This is often necessary for routing specific data channels to their intended destinations or for network maintenance purposes. By dropping unwanted channels, the overall efficiency and performance of the network can be optimized.

### Express Port:

COADM modules typically include an Express port, which allows additional channels to bypass the add/drop functionality and pass through the system without alteration. This ensures seamless transmission of data when necessary.

## Features

- Optical drop | pass and drop | insert of single CWDM channel for point-to-point, ring | bus configuration
- Entirely passive device, no power supply needed
- Low-cost transceivers applicable, existing equipment can still be used
- Fully transparent to all data rates and protocols
- Up to 10 Gbit/s per channel
- Compliant to ITU-T CWDM standard



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## Specifications

Parameters				
Channel Wavelength	ITU-T CWDM Grid			
Channel Spacing	20nm			
Number of Channels	1	2	4	8
Bandwidth @ 0.5dB (nm)	>14	>14	>14	>14
Passband (nm)	$\lambda \pm 7.5 / \pm 6.5$			
Passband flatness (dB)	$\leq 0.4$	$\leq 0.4$	$\leq 0.4$	$\leq 0.4$
IL(In @ Drop @ $\lambda$ drop) (dB)	$\leq 0.6$	$\leq 0.9$	$\leq 2.0$	$\leq 3.2$
IL(Add @ Out @ $\lambda$ add) (dB)	$\leq 0.6$	N/A	$\leq 2.0$	$\leq 3.2$
IL(In @ Out @ other $\lambda$ ) (dB)	NA	$\leq 1.2$	$\leq 2.5$	$\leq 4.8$
Adjacent isolation (dB)	>30			
Non-adjacent isolation (dB)	>40			
Isolation(In @ Out @ $\lambda$ drop) (dB)	>25			
Wavelength thermal stability (nm/ °C)	< 0.002	< 0.002	< 0.002	< 0.002
Insertion Loss Thermal Stability (dB/ °C)	< 0.006	< 0.006	< 0.006	< 0.007
PDL (dB)	< 0.15	< 0.15	< 0.15	< 0.2
PMD (ps)	< 0.1	< 0.1	< 0.1	< 0.15
Return Loss (dB)	>45			
Operating Temperature ( ° C)	-40 to +85			
Storage Temperature ( ° C)	-40 to +85			
*Note: Insertion Loss values do not include connector losses.				

CWDM reference table – ITU G.694.2

### Nominal Central Wavelengths for 20nm Spacing

1270	1450	1271	1451
1290	1470	1291	1471
1310	1490	1311	1491
1330	1510	1331	1511
1350	1530	1351	1531
1370	1550	1371	1551
1390	1570	1391	1571
1410	1590	1411	1591
1430	1610	1431	1611

### Housing type

CWDM OADMs available in the following standard housing types and in high-density options

LGX<sup>®</sup> module

Cassette

Rack-mount 19/23"

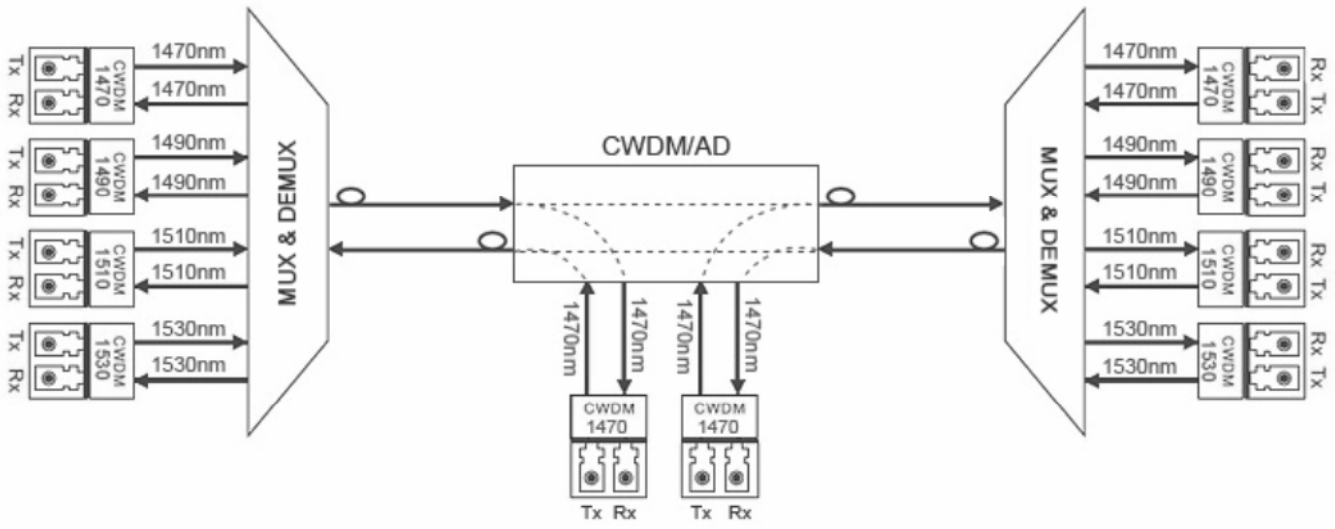
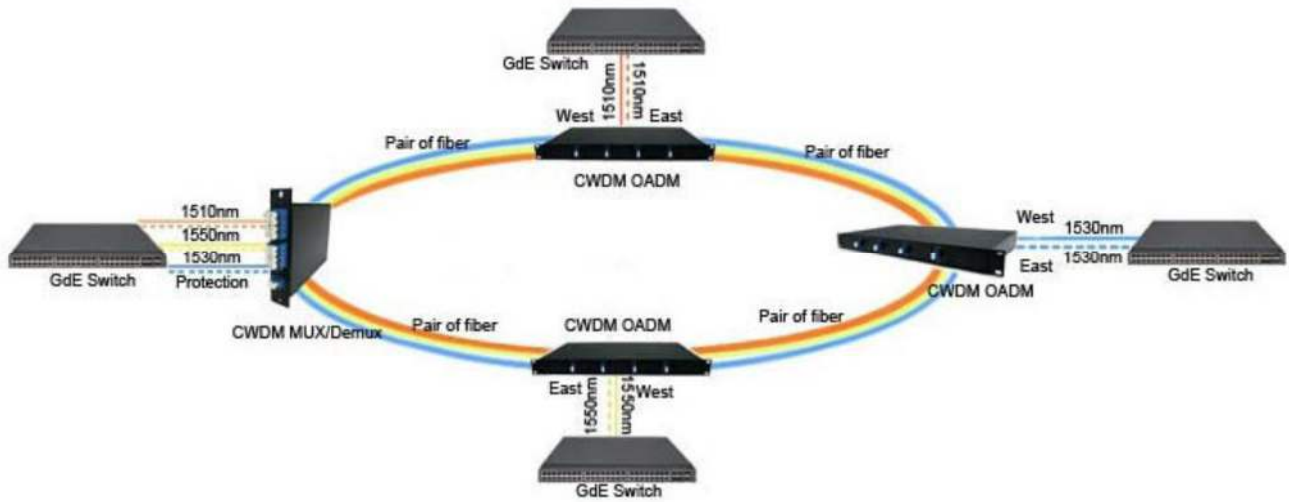
Steel Tube

Note: CWDM OADM housing dimensions dependant on number of channels and packaging in either single mux, single demux, or combination mux/demux. CWDM OADM housing type and size determined at time of inquiry.

### Applications

# COADM | Coarse Optical Add Drop Multiplexer

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1-Channel Duplex Add/Drop MUX/DEMUX

Ordering information

[www.montclairfiber.com](http://www.montclairfiber.com)

608.831.4440

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# COADM | Coarse Optical Add Drop Multiplexer

M W - A D - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8

## 1. Number of Add | Drop channels:

<b>1</b>	1 Add; 1 Drop
<b>2</b>	2 Add; 2 Drop
<b>4</b>	4 Add; 4 Drop
<b>8</b>	8 Add; 8 Drop
<b>12</b>	12 Add; 12 Drop
<b>16</b>	16 Add; 16 Drop
<b>18</b>	18 Add; 18 Drop

Note: Available in other channels

## 2. Starting wavelength (nm):

<b>27</b>	1270 / 1271	<b>45</b>	1450 / 1451
<b>29</b>	1290 / 1291	<b>47</b>	1470 / 1471
<b>31</b>	1310 / 1311	<b>49</b>	1490 / 1491
<b>33</b>	1330 / 1331	<b>51</b>	1510 / 1511
<b>35</b>	1350 / 1351	<b>53</b>	1530 / 1531
<b>37</b>	1370 / 1371	<b>55</b>	1550 / 1551
<b>39</b>	1390 / 1391	<b>57</b>	1570 / 1571
<b>41</b>	1410 / 1411	<b>59</b>	1590 / 1591
<b>43</b>	1430 / 1431	<b>61</b>	1610 / 1611

## 3. Housing type:

<b>C</b>	Cassette
<b>M</b>	LGX® module
<b>R</b>	Rack-mount
<b>T</b>	Steel Tube

## 4. Adapter | connector type:

<b>AFC</b>	FC/APC
<b>FCU</b>	FC/UPC
<b>ALC</b>	LC/APC
<b>LCU</b>	LC/UPC
<b>ASC</b>	SC/APC
<b>SCU</b>	SC/UPC
<b>PL</b>	Pigtail

## 5. Fiber length Input / Output for each fiber leg (m):

<b>0.5</b>	0.5 meter
<b>1</b>	1 meter
<b>1.5</b>	1.5 meter
<b>2</b>	2 meter
<b>3</b>	3 meter
<b>5</b>	5 meter

**Note:** For specifying fiber cable on housings with connectors or pigtails;  
**Leave Blank** if not specifying Fiber Cable

## 6. Fiber cable type options:

<b>9</b>	900um loose-tube cable
<b>2</b>	2.0mm diameter
<b>3</b>	3.0mm diameter

**Note:** For specifying fiber cable on housings with connectors or pigtails;  
**Leave Blank** if not specifying Fiber Cable

## 7. Additional wideband port:

<b>31</b>	1310±40nm wideband
<b>55</b>	1550±40nm wideband

**Note:** **Leave Blank** if not specifying Wideband Port

## 8. Monitor port:

<b>M1</b>	1% Monitor Port
<b>M2</b>	2% Monitor Port
<b>M3</b>	3% Monitor Port
<b>M4</b>	4% Monitor Port
<b>M5</b>	5% Monitor Port

**Note:** **Leave Blank** if not specifying Monitor Port