

# **Optical Passives (ISP)**

OP34M5x 5-channel CWDM Multiplexer

## **FEATURES**

- 15 CWDM wavelengths in 3 groups of 5
- Designed for use with uncooled lasers based on 20 nm channel spacing
- Flat and wide operating passband on CWDM ITU grid (20 nm spacing)
- High channel isolation to minimize crosstalk
- Low polarization dependent loss (PDL)
- Telcordia GR-1209 and GR-1221 qualified, providing excellent environmental and mechanical stability
- · Ability to cascade and combine all 3 groups
- · Optional integrated 1310 nm combiner/splitter
- Optional line monitoring tap
- Occupies two half-depth slots



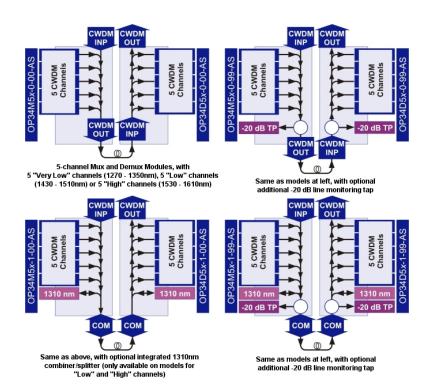
# **PRODUCT OVERVIEW**

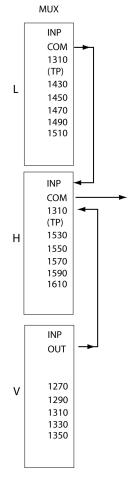
ARRIS OP34M5x series 5-channel CWDM multiplexers are designed to multiplex five CWDM ITU-grid optical wavelengths onto one fiber output from individual wavelengths of 1270, 1290, ..., 1350, ("very low channels" group), 1430, 1450, ..., 1510 nm ("low channels" group), and 1530, 1550, ..., 1610 nm ("high channels" group). Functional block diagrams of several available model options are shown on the following page.

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SPECIFICATIONS			
Characteristics	Specification		
Physical			
Dimensions	6.5" D x 4.3" H x 1.0" W (3RU) (16.5 cm x 11 cm x 2.5 cm)		
Weight	1.5 lbs (0.7 kg)		
Environmental			
Operating temperature range	-20° to +65°C (-4° to +149°F)		
Storage temperature range	-40° to +85°C (-40° to +185°F)		
Humidity	5% to 95% non-condensing		
Optical (all models)			
Return loss, min	45 dB		
Passband for CWDM channels @ 0.15 dBc	13 nm		
Passband for 1310 nm input @ 0.15 dBc (available only in OP34M5L-1 and OP34M5H-1)	1263.5–1357.5 nm		
CWDM directivity, min	55 dB		
1310 directivity, min	65 dB		
1310-COM isolation, min	60 dB		
Polarization dependent loss, max	0.15 dB (< 0.1 dB typ)		
Ripple within passband	0.5 dB		
Channel spacing	20 nm		
Power handling, max (any input port)	21.8 dBm		
Wavelength Passbands Between INP and COM Ports			
OP34M5V	1263–1357 nm (with five 13-nm-wide notches at 1270, 1290, 1310, 1330, and 1350 nm)		
OP34M5L	1423–1617 nm (with five 13-nm-wide notches at 1430, 1450, 1470, 1490, and 1510 nm)		
OP34M5H	1423–1617 nm (with five 13-nm-wide notches at 1530, 1550, 1570, 1590, and 1610 nm)		
Optical Interface			
Optical connectors	SC/APC		
Models OP34M5x-0-00-AS (x = V, L or H – Very Low, Low or High channel group)	<ul><li>COM (output to fiber network)</li><li>Wavelength xxxx (5 channels added)</li></ul>		
Models OP34M5x-1-00-AS (x = L or H – Low or High channel group)	COM (output to fiber network I/O to/from fiber network for 1310) 1310 (input/output to/from fiber network for 1310 nm) <sup>1</sup> Wavelength xxxx (5 channels added)		
Models OP34M5x-0-99-AS (x = L or H – Low or High channel group)	<ul> <li>COM (output to fiber network)</li> <li>Wavelength xxxx (5 channels added)</li> <li>TP –20 dB (1% tap, test point from COM)</li> </ul>		
Models OP34M5x-1-99-AS (x = L or H – Low or High channel group)	<ul> <li>COM (output to fiber network; I/O to/from fiber network for 1310)</li> <li>1310 (input/output to/from fiber network for 1310 nm)<sup>1</sup></li> <li>Wavelength xxxx (5 channels added);</li> <li>TP –20 dB (1% tap, test point from COM)</li> </ul>		

### NOTE:

1. A 1310 nm I/O Port is provided on "L" and "H" models only. For cases in which a cascade of CWDM wavelengths that includes the 5 Very Low ("V") wavelengths is required, this port may be used to add those 5 wavelengths from the OUT port of a "V" model mux; see diagram on previous page.

TABLE 1: INSERTION LOSS						
	OP34M5x-0-00-AS	OP34M5x-1-00-AS	OP34M5x-0-99-AS	OP34M5x-1-99-AS		
Insertion losses, max <sup>1</sup> (dB)						
Channel xxxx INP to COM	2.0	2.5	2.3	2.7		
1310 to COM	N/A	1.1	N/A	1.3		
INP to COM	1.7	2.2	2.0	2.4		
Paired insertion loss <sup>2</sup>	2.8	3.7	3.3	4.3		
COM to -20 dB Tap Ratio, max <sup>1</sup> (dB)	N/A	N/A	20.4	20.4		

### NOTES:

- 1. Including connectors
- 2. Paired insertion loss when combined with 5-wavelength mux module from Ch. xxxx INP to Ch. xxxx OUT

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ISP-OP34M5x



# \* = Channel Group (V = "Very Low," 5 channels 1270–1350 nm; L = "Low," 5 channels 1430–1510 nm; H = "High," 5 channels 1530–1610 nm) \* = 1310 nm I/O Port [0 = not present, 1 = present (available only in OP34M5L and OP34M5H)] \*\* = -20 dB Test Port (00 = not present, 99 = present)

RELATED PRODUCTS	
CH3000	OP94D5
OP34M5x	Installation Services

# **Customer Care**

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

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 $87\text{-}10110\text{-}RevH\_OP34M5x\_CWDM\_Mux\_5\text{-}channel$ 

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ISP-OP34M5x

**Node Segmentation**