

## Features

- 1310/1550nm multiplexers with a variety of options for module package size, fiber jacket and connectors
- Supports both forward and return path transmission of analog and digital signals
- Low insertion loss and PDL
- Operating temperature range  $-40^{\circ}$  to  $+85^{\circ}\text{C}$
- Telcordia GR-1209 and GR-1221 qualified, providing excellent environmental and mechanical stability
- Epoxy-free on optical path

# 1310nm/1550nm Optical Multiplexer Field Passives



*Shown above: Model OP91M2S-0-R2-AS Ruggedized Shell with SC/APC Connectors  
(Other ruggedized and non-ruggedized models, with and without connectors, are available.)*

Aurora's OP91M2S family of 1310/1550nm mux units, in typical applications, accept input signals at 1310nm and 1550nm, multiplexing them to produce a common output signal to the fiber network.

These modules may also be used in bi-directional applications for counter-propagating 1310nm and 1550nm signals. In such cases, for example, a downstream 1550nm signal might enter the unit at the COM port and exit from the 1550 port to continue downstream. Conversely, 1310nm return signals enter the 1310 port and continue upstream through the COM port, utilizing the same single fiber for bi-directional transmission.

These modules may be easily be mounted in the fiber tray of an optical node such as Aurora's Virtual Hub.

# OP91M2S

## Product Specifications

### Physical:

- Dimensions: (See in descriptions of package options, below.)
- Weight: 0.8 lbs (0.36 kg), max  
(models with ruggedized shell, other models weigh less)

### Environmental:

- Operating temperature range: -40° to +85°C (-40° to +185°F)
- Storage temperature range: -40° to +85°C (-40° to +185°F)
- Humidity: 5% to 95% non-condensing

### Optical Interface:

- Optical connectors: (See Ordering Information.)
- Mux input / output ports:
  - 1550nm (input, C-band)
  - 1310nm (input, 1310 nm)
  - COM (output to fiber network)

### Optical:

- Passband, min: 40 nm (1550 ± 20 nm, 1310 ± 20 nm)
- Ripple within passband: 0.3 dB
- Return loss, min: 45 dB
- Polarization dependent loss, max: 0.05
- Power handling, max (any input port): 27 dBm
- Insertion losses, max:
 

|                | with connector | without connector |
|----------------|----------------|-------------------|
| 1310nm to COM: | 0.4 dB         | 0.2 dB            |
| 1550nm to COM: | 0.4 dB         | 0.2 dB            |
- Directivity: 60 dB
- Isolation, min: 21 dB

### Package Options:

Two examples are shown below approximately full scale, while the "S-case" option (with SC/APC connectors) is shown below at right approximately half scale.

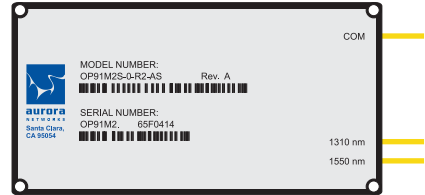
For non-ruggedized tubes, the fiber optic leads are color-coded as shown.



OP91M2S-0-R2-00 1310/1550 Multiplexer in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

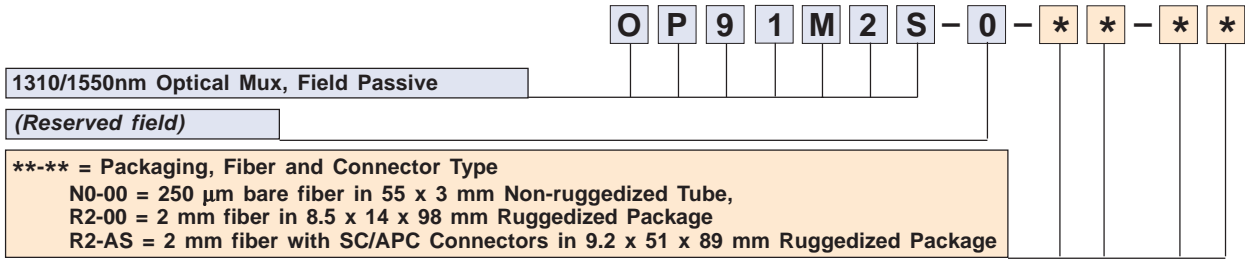


OP91M2S-0-N0-00 1310/1550 Multiplexer in Non-ruggedized Tube (55 mm x 3 mm)



OP91M2S-0-R2-AS 1310/1550 Multiplexer in "S-case" Ruggedized Package (9.2 mm x 51 mm x 89 mm), (shown above approximately half-scale)

## Ordering Information



NOTE: Fiber lengths for all models is 1 (±0.15) meter. Other lengths are available upon request.



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