# Optical Passives (OSP)

## OP91M2S

### 1310 nm/1550 nm Optical Multiplexer
### Field Passives

## FEATURES

- 1310/1550 nm 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° to +85°C
- Telcordia GR-1209 and GR-1221 qualified, providing excellent environmental and mechanical stability
- Epoxy-free on optical path


## PRODUCT OVERVIEW

ARRIS's OP91M2S family of 1310/1550 nm mux units, in typical applications, accept input signals at 1310 nm and 1550 nm, 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 1310 nm and 1550 nm signals. In such cases, for example, a downstream 1550 nm signal might enter the unit at the COM port and exit from the 1550 port to continue downstream. Conversely, 1310 nm 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 mounted in the fiber tray of an optical node such as ARRIS's Virtual Hub.

## SPECIFICATIONS

| Characteristics | Specification | | |
|---|---|---|---|
| **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°C to +85°C (–40°F to +185°F) | | |
| Storage Temperature Range | –40°C to +85°C (–40°F to +185°F) | | |
| Humidity | 5% to 95% non-condensing | | |
| **Optical Interface** | | | |
| Optical connectors | *See Ordering Information* | | |
| Mux input/output ports | • 1550 nm (input, C-band)<br>• 1310 nm (input, 1310 nm)<br>• 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 |
| | • 1310 nm to COM | 0.4 dB | 0.2 dB |
| | • 1550 nm 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 approximately half scale. For non-ruggedized tubes, the fiber optic leads are color-coded as shown.

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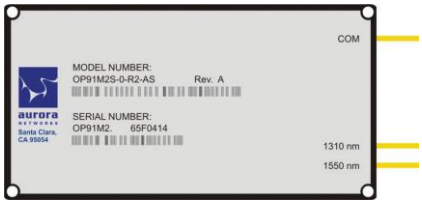
**OP91M2S-0-R2-00 1310/1550 Multiplexer in Ruggedized Package**
**(8.5 mm x 14 mm x 98 mm)**


**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


| |
|---|
| 1310/1550 nm Optical Mux, Field Passive |
| *(Reserved Field)* |
| **-** = Packaging, Fiber and Connector Type<br>N0-00 = 250 µm bare fiber in 55 x 3 mm Non-ruggedized Tube<br>R2-00 = 2 mm fiber in 8.5 x 14 x 98 mm Ruggedized Package<br>R2-AS = 2 mm fiber with SC/APC Connectors in 9.2 x 51 x 89 mm Ruggedized Package |

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

## RELATED PRODUCTS

| | |
|---|---|
| Optical Transmitters | Optical Passives |
| Digital Return | Optical Patch Cords |
| Optical Nodes | Installation Services |

# Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
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