ARRIS’s OP94F1S series Single-channel CWDM Optical Filters are three-port filters that are used to add/drop a CWDM wavelength to/from a set of CWDM optical wavelengths, where the wavelengths are 1270, 1290, . . . , 1350, 1430, 1450, . . . , 1610 nm on the CWDM ITU grid (i.e., with 20 nm spacing). The filters are available in three versions of packaging for outdoor use, two versions ruggedized for easy handling and the third version, though not ruggedized, being smaller and easier to fit in a splice enclosure. All versions are designed for use in an outdoor environment within a temperature range of –40° to +85°C.

FEATURES

- 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
- Variety of options for module body robustness, fiber buffer, and connector types
- Epoxy-free on optical path

PRODUCT OVERVIEW

ARRIS’s OP94F1S series Single-channel CWDM Optical Filters are three-port filters that are used to add/drop a CWDM wavelength to/from a set of CWDM optical wavelengths, where the wavelengths are 1270, 1290, . . . , 1350, 1430, 1450, . . . , 1610 nm on the CWDM ITU grid (i.e., with 20 nm spacing). The filters are available in three versions of packaging for outdoor use, two versions ruggedized for easy handling and the third version, though not ruggedized, being smaller and easier to fit in a splice enclosure. All versions are designed for use in an outdoor environment within a temperature range of –40° to +85°C.
SPECIFICATIONS

**Characteristics** | **Specification**
---|---
**Physical** |  
Dimensions | See Ordering Information
Weight | 0.2 lbs (0.09 kg)

**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 | Function as MUX output to fiber network
 | Function as DEMUX input from fiber network
 | CWDM pass-through input
 | xxxx add/input channel
 | xxxx drop/output channel

**Optical** |  
Channel spacing | 20 nm
Channel plan (CWDM wavelengths) | See Ordering Information
Passband @ 0.5 dB | ± 6.5 nm
Ripple within passband | 0.5 dB
Return loss, min | 45 dB
Polarization dependent loss, max | 0.07 dB (< 0.05 dB typ)
Power handling, max (any input port) | 21.8 dBm
Insertion losses, max |  
 | • Ch. xxxx I/O to COM With connector 0.8 dB
 | • CWDM I/O to COM 0.7 dB
 | Without connector 0.6 dB
 | 0.5 dB
Adjacent channel isolation, min | 35 dB
Non-adjacent channel isolation, min | 45 dB
Directivity, min | 50 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.

**OP94F1S-1470-R2-00** Single-channel CWDM Optical Filter in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

**OP94F1S-1590-N0-00** Single-channel CWDM Optical Filter in Non-ruggedized Tube (34 mm x 5.5 mm)

**OP94F1S-1430-R2-AS** CWDM Optical Filter in “S-case” Ruggedized Package (9.2 mm x 51 mm x 89 mm), (shown above approximately half-scale)
**ORDERING INFORMATION**

| OP | 9 | 4 | F | 1 | S | ** | ** | ** | ** |

Single-channel CWDM Filter

**** = CWDM Wavelength (1270, 1290, 1310, 1330, 1350, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590 or 1610 nm)

**.** = Packaging, Fiber and Connector Type
- N0-00 = 250 μm bare fiber in 34 x 5.5 mm Non-ruggedized Tube
- R2-00 = 2 mm fiber in 8.5 x 14 x 98 mm Ruggedized Package
- R2-A5 = 2 mm fiber with SC/APC Connectors in 9.2 x 51 x 89 mm Ruggedized Package

** RELATED PRODUCTS **

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**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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