The ARRIS OP9401 CWDM/1310 Optical Filter is a three-port filter that is used to combine (or separate) a 1310 nm wavelength with (or from) ten (10) CWDM optical wavelengths, where the ten wavelengths range from 1430 nm to 1610 nm on the CWDM ITU grid. The filter is 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.

The filter may also be used to combine (or separate) five 1270–1350 nm CWDM wavelengths with (or from) the ten 1430–1610 nm CWDM wavelengths.

**FEATURES**

- Flat and wide operating passband
- Unique design achieves high channel isolation to minimize crosstalk
- Low polarization dependent loss (PDL)
- Combine or split 1310 nm and CWDM-band channels
- 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
SPECIFICATIONS

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>See Ordering Information</td>
</tr>
<tr>
<td>Weight</td>
<td>0.2 lbs (0.09 kg)</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40°C to +85°C (-40°F to +185°F)</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40°C to +85°C (-40°F to +185°F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>5% to 95% non-condensing</td>
</tr>
<tr>
<td>Optical Interface</td>
<td></td>
</tr>
<tr>
<td>Optical connectors</td>
<td>See Ordering Information</td>
</tr>
</tbody>
</table>
| Mux input/output ports | • COM (combined CWDM and 1310 nm input/output)  
                         • CWDM (input/output; CWDM channels from 1423.5 nm to 1617.5 nm)  
                         • 1310 (input/output from 1263.5 nm to 1357.5 nm) |
| Optical          |              |
| Passband @ 0.5 dB for 1310 | 1263.5 – 1357.5 nm |
| Passband @ 0.5 dB for CWDM | 1423.5 – 1617.5 nm |
| Ripple within passband, max | 0.5 dB |
| Return loss, min | 45 dB |
| Polarization dependent loss, max | 0.1 dB (< 0.05 dB typ) |
| Power handling, max (any input port) | 21.8 dBm |
| Insertion losses, max | with connector  
                        without connector |
| 1310 nm to COM | 1.4 dB  
                     1.2 dB |
| CWDM to COM | 1.1 dB  
                     0.9 dB |
| Adjacent channel isolation, min | 1310 nm  
                                    CWDM |
| 60 dB  
                                    18 dB |
| Directivity, min | 1310 nm  
                                    CWDM |
| 65 dB  
                                    55 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.

OP9401-0-R2-AS CWDM/1310 Optical Filter in “S-case” Ruggedized Package (9.2 mm x 51 mm x 89 mm), (shown above approximately half-scale)

OP9401-0-R2-00 CWDM/1310 Optical Filter in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

OP9401-0-N0-00 CWDM/1310 Optical Filter in Non-ruggedized Tube (34 mm x 5.5 mm)
ORDERING INFORMATION

CWDM/1310 Filter

**.** = 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-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 meters; 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
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

Copyright Statement: ©ARRIS Enterprises, LLC, 2016. All rights reserved. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS Enterprises, LLC (“ARRIS”). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change. ARRIS and the ARRIS logo are registered trademarks of ARRIS Enterprises, LLC. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks or the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.