

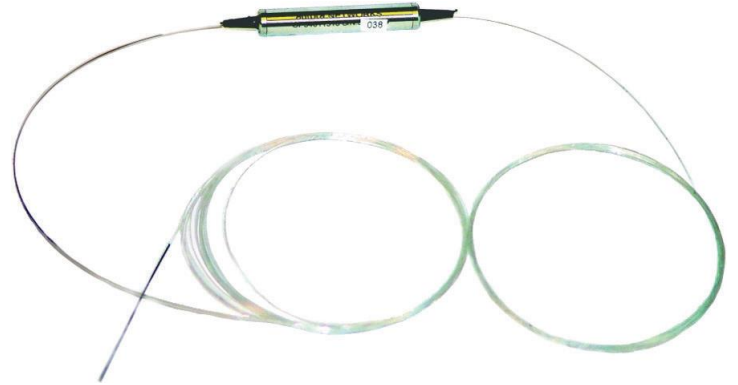
Optical Passives (OSP)

OP95F1S-CF

Red/Blue, CWDM/DWDM, and DWDM
Channel Group Combiner/Separator Filters

FEATURES

- 3-port filters to combine or separate red and blue (or CWDM and DWDM) bands
- Low insertion loss
- Operating temperature range -40°C to $+85^{\circ}\text{C}$
- Options for standard or high isolation
- Telcordia GR-1209 and GR-1221 qualified, providing excellent environmental and mechanical stability
- Variety of options for module package size, fiber jacket and connector types
- Epoxy-free on optical path

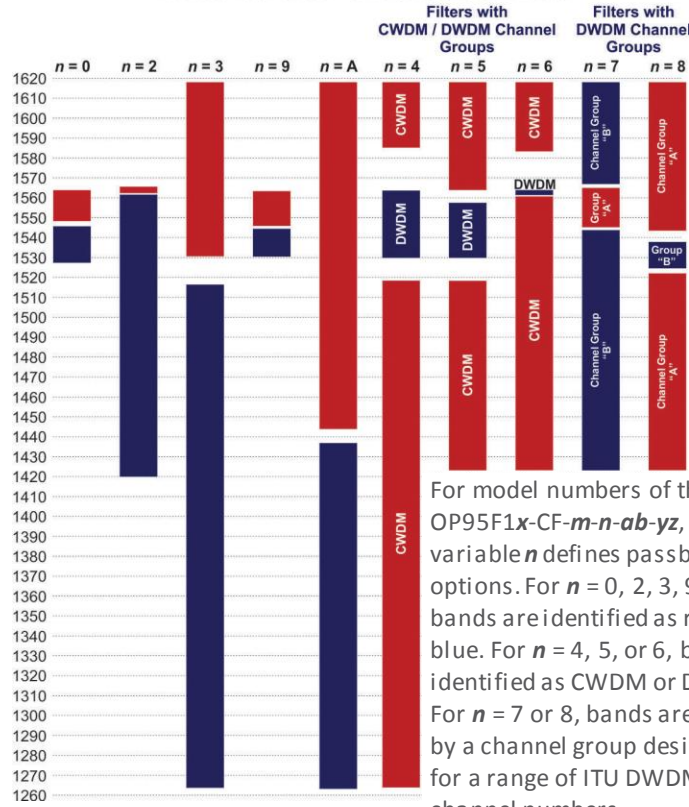


PRODUCT OVERVIEW

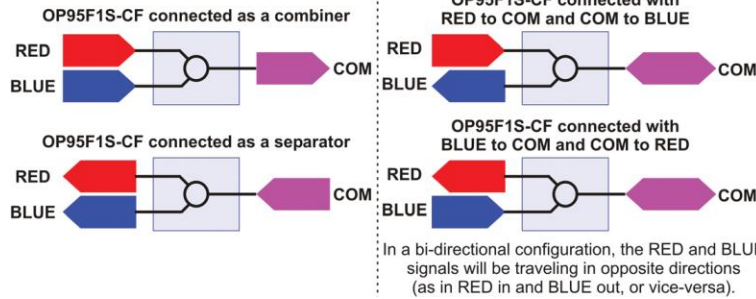
ARRIS's OP95F1S-CF series of combiner/separator filters are 3-port filters that combine (or separate) red and blue (or CWDM and DWDM) bands. The ten different available band combinations are shown graphically in the figure at right.

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 $+85^{\circ}\text{C}$.

Passbands for Combiner/Separator Filters



Functional Block Diagrams



SPECIFICATIONS

Characteristics	Specification		
Physical			
Dimensions	See <i>Ordering Information</i>		
Weight, ruggedized packages	0.8 lbs (0.4 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			
Passbands (nm) (specified for values of <i>n</i> in model numbers of the form OP95F1x-CF-m- <i>n</i> -ab-yz)	<i>n</i>	RED	BLUE
	0	1549.0-1563.8	1528.0-1545.6
	2	1562.6-1565.0	1420.0-1561.0
	3	1530.0-1618.0	1264.0-1517.0
	9	1546.7-1561.7 (Chs 20-38)	1530.1-1544.0 (Chs 42-59)
	A	1443.5-1617.5	1263.5-1437.5
	<i>n</i>	CWDM (or RED)	DWDM (or BLUE)
	4	1263.5-1519.0 and 1585.0-1617.5	1530.0-1563.3
	5	1423.5-1519.0 and 1563.5-1617.5	1530.0-1558.4
	6	1423.5-1561.0 and 1583.5-1617.5	1562.0-1564.0
	<i>n</i>	DWDM Channel Group "A"	DWDM Channel Group "B"
	7	1545.7-1565.1 (Chs 18-39)	1423.5-1542.4 and 1568.4-1617.5 (Chs 44-59)
	8	1423.5-1520.8 and 1542.8-1617.5 (Chs 18-43)	1524.3-1539.2 (Chs 48-59)
Ripple within passband, max	0.5 dB		
Insertion losses, including connectors	Max (and typical) values, in dB, with standard or high isolation (<i>m</i> = 1 and 2, respectively)		
	<i>n</i>	<i>m</i>	BLUE to COM
	0	1	0.9 (0.7)
		2	1.3 (1.1)
	2,3	1	0.8 (0.6)
		2	0.8 (0.6)
	9,A	1	0.8 (0.6)
	<i>n</i>	<i>m</i>	DWDM to COM
	4,5,6	1	0.9 (0.7)
	<i>n</i>	<i>m</i>	Ch Group "B" to COM
	7,8	1	0.9 (0.7)
			Ch Group "A" to COM
			0.8 (0.6)
Power handling, max (any input port)	24.8 dBm		
Directivity, min	55 dB		
Return loss, min	50 dB		
Polarization dependent loss, max	0.15 dB (< 0.1 dB typ)		
Isolation	Minimum values, in dB, with standard or high isolation (<i>m</i> = 1 and 2, respectively)		
	<i>n</i>	<i>m</i>	BLUE to COM
	0	1	> 25
		2	> 50
	2,3	1	> 15
		2	> 15
	9,A	1	> 15
	<i>n</i>	<i>m</i>	DWDM to COM
	4,5,6	1	> 25
	<i>n</i>	<i>m</i>	Ch Group "B" to COM
	7,8	1	> 25
			Ch Group "A" to COM
			> 15

PACKAGE OPTIONS

Shown approximately full scale.

Models OP95F1S-CF-m-n-N0-00 (n = 0)



OP95F1S-CF-1-0-N0-00 in Non-ruggedized Tube (34 mm x 5.5 mm)

<i>n</i>	RED Port	BLUE Port
0	1549.0-1563.8	1528.0-1545.6

Models OP95F1S-CF-m-n-N0-00 (n = 2, 3, or A)



OP95F1S-CF-1-A-N0-00 in Non-ruggedized Tube (34 mm x 5.5 mm)

<i>n</i>	RED Port	BLUE Port
2	1562.6-1565.0	1420.0-1561.0
3	1530.0-1618.0	1264.0-1517.0
A	1443.5-1617.5	1263.5-1437.5

Models OP95F1S-CF-m-n-N0-00 (n = 4, 5, 6, 7, 8 or 9)



OP95F1S-CF-1-6-N0-00 in Non-ruggedized Tube (34 mm x 5.5 mm)

<i>n</i>	CWDM (or RED)	DWDM (or BLUE)
4	1263.5-1519.0 and 1585.0-1617.5	1530.0-1563.3
5	1423.5-1519.0 and 1563.5-1617.5	1530.0-1558.4
6	1423.5-1561.0 and 1583.5-1617.5	1562.0-1564.0
<i>n</i>	DWDM Channel Group "A"	DWDM Channel Group "B"
7	1545.7-1565.1 (Chs 18-39)	1423.5-1542.4 and 1568.4-1617.5 (Chs 44-59)
8	1423.5-1520.8 and 1542.8-1617.5 (Chs 18-43)	1524.3-1539.2 (Chs 48-59)
<i>n</i>	RED Port	BLUE Port
9	1546.7-1561.7 (Chs 20-38)	1530.1-1544.0 (Chs 42-59)

PACKAGE OPTIONS

Shown approximately full scale.

Models OP95F1S-CF-m-n-R2-00 (n = 0)



OP95F1S-CF-1-0-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

<i>n</i>	RED Port	BLUE Port
0	1549.0-1563.8	1528.0-1545.6

Models OP95F1S-CF-m-n-R2-00 (n = 2, 3, or A)



OP95F1S-CF-1-A-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

<i>n</i>	RED Port	BLUE Port
2	1562.6-1565.0	1420.0-1561.0
3	1530.0-1618.0	1264.0-1517.0
A	1443.5-1617.5	1263.5-1437.5

Models OP95F1S-CF-m-n-R2-00 (n = 4, 5, or 6)



OP95F1S-CF-1-6-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

<i>n</i>	CWDM (or RED)	DWDM (or BLUE)
4	1263.5-1519.0 and 1585.0-1617.5	1530.0-1563.3
5	1423.5-1519.0 and 1563.5-1617.5	1530.0-1558.4
6	1423.5-1561.0 and 1583.5-1617.5	1562.0-1564.0

PACKAGE OPTIONS

Shown approximately full scale.

Models OP95F1S-CF-m-n-R2-00 (n = 7)



OP95F1S-CF-1-7-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

n	DWDM Channel Group "A"	DWDM Channel Group "B"
7	1545.7-1565.1 (Chs 18-39)	1423.5-1542.4 and 1568.4-1617.5 (Chs 44-59)

Models OP95F1S-CF-m-n-R2-00 (n = 8)



OP95F1S-CF-1-8-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

n	DWDM Channel Group "A"	DWDM Channel Group "B"
8	1423.5-1520.8 and 1542.8-1617.5 (Chs 18-43)	1524.3-1539.2 (Chs 48-59)

Models OP95F1S-CF-m-n-R2-00 (n = 9)



OP95F1S-CF-1-9-R2-00 in Ruggedized Package (8.5 mm x 14 mm x 98 mm)

n	RED Port	BLUE Port
9	1546.7-1561.7 (Chs 20-38)	1530.1-1544.0 (Chs 42-59)

PACKAGE OPTIONS

Shown approximately 60% scale.

Models OP95F1S-CF-m-n-R2-AS (n = 0)



OP95F1S-CF-1-0-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	RED Port	BLUE Port
0	1549.0-1563.8	1528.0-1545.6

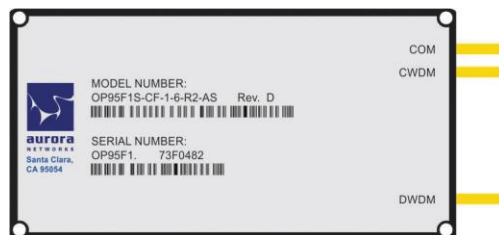
Models OP95F1S-CF-m-n-R2-AS (n = 2, 3, or A)



OP95F1S-CF-1-A-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	DWDM Channel Group "A"	DWDM Channel Group "B"
8	1423.5-1520.8 and 1542.8-1617.5 (Chs 18-43)	1524.3-1539.2 (Chs 48-59)

Models OP95F1S-CF-m-n-R2-AS (n = 4, 5, or 6)



OP95F1S-CF-1-9-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	RED Port	BLUE Port
9	1546.7-1561.7 (Chs 20-38)	1530.1-1544.0 (Chs 42-59)

PACKAGE OPTIONS

Shown approximately 60% scale.

Models OP95F1S-CF-m-n-R2-AS (n = 7)



OP95F1S-CF-1-7-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	DWDM Channel Group "A"	DWDM Channel Group "B"
7	1545.7-1565.1 (Chs 18-39)	1423.5-1542.4 and 1568.4-1617.5 (Chs 44-59)

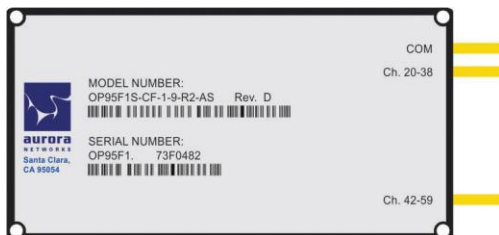
Models OP95F1S-CF-m-n-R2-AS (n = 8)



OP95F1S-CF-1-8-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	RED Port	BLUE Port
2	1562.6-1565.0	1420.0-1561.0
3	1530.0-1618.0	1264.0-1517.0
A	1443.5-1617.5	1263.5-1437.5

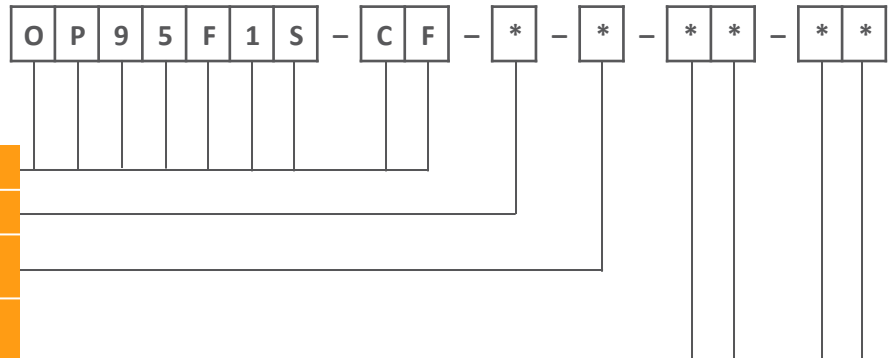
Models OP95F1S-CF-m-n-R2-AS (n = 9)



OP95F1S-CF-1-6-R2-AS in "S" Case (9.2 mm x 51 mm x 89 mm)

<i>n</i>	CWDM (or RED)	DWDM (or BLUE)
4	1263.5-1519.0 and 1585.0-1617.5	1530.0-1563.3
5	1423.5-1519.0 and 1563.5-1617.5	1530.0-1558.4
6	1423.5-1561.0 and 1583.5-1617.5	1562.0-1564.0

ORDERING INFORMATION



- Red/Blue CWDM/DWDM Filter
- * = Blue Band Isolation Option (1 = Standard, 2 = High); see Note 1.
- * = Passband Option (n = 0, 2, 3, 4, 5, 6, 7, 8, 9, or A); reference preceding tables for descriptions
- **_** = Packaging, Fiber and Connector Type (see Note 2):
 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

Notes:

- ¹ The high isolation option is available only for Passband Options 0 or 2.
- ² Not all permutations of package type, pigtail and connector types are available. Consult your ARRIS Representative for a available models.

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