

# Optical Passives (ISP)

## NP35F04

DWDM Band Filter (BWDM 4-Skip-0)  
for OADM ISP Applications

## FEATURES

- Band wave division multiplexer (BWDM) filter for scalable 40-channel DWDM systems
- Add/drop (mux or demux) a band of 4 consecutive lambdas without skipping channels
- Ten 4-channel DWDM ITU Grid groups (Ch. 20 – 59): J, K, L, M, N, P, R, S, T, and U
- 100 GHz DWDM ITU channel spacing (ITU-T G694.1) from 1561.42 nm to 1530.34 nm
- Low insertion loss and high isolation for high channel count metro or long-haul deployments
- LGX chassis-compatible for ISP inside plant controlled indoor environments
- Optional TP (-20 dB) bi-directional 1% line monitoring tap
- SC/APC connectors
- Telcordia GR-1209 and GR-1221 qualified
- Replaces OP35F4S

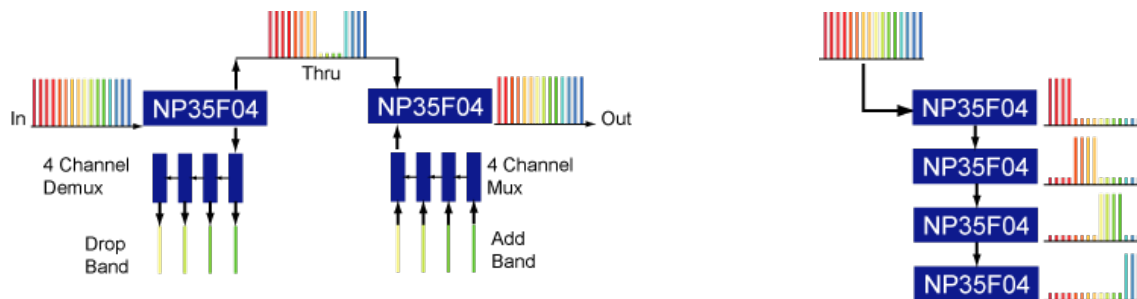


## PRODUCT OVERVIEW

ARRIS's NP35F04 BWDM (Band Wave Division Multiplexer) filter modules are designed to facilitate multiwavelength DWDM architectures in controlled indoor ISP environments. These three-port filters are used to add (or drop) one or more bands (or groups) of four consecutive DWDM ITU channels onto (or off of) a single optical fiber, without losing adjacent channels (aka "4-skip-0").

These NP35F04 filter modules feature low insertion loss and high band-to-band isolation for express channels in a variety of applications like bi-directional transmission of signals and broadcast/narrowcast combining. They are ideal building block devices to facilitate OADM (optical add/drop multiplexer) applications in scalable 40-channel metro and long-haul DWDM deployments.

These ISP headend modules are compatible with industry-standard LGX chassis. An optional TP (-20 dB) 1% bi-directional line monitoring tap is also available.



## SPECIFICATIONS

Characteristics	Specification		
<b>Physical</b>			
Dimensions	5.8" D x 5.2" H x 1.0" H (14.7 cm x 13.2 cm x 2.6 cm)		
Weight	1.5 lbs (0.68 kg)		
<b>Environmental</b>			
Operating temperature range (indoor)	-20° to +65°C (-4° to +149°F)		
Storage temperature range	-40° to +85°C (-40° to +185°F)		
Humidity	5% to 95% non-condensing		
<b>Optical Interface</b>			
Optical ports	(MUX/DEMUX Input/Output)		
	<b>Ports</b>	<b>Function as MUX</b>	<b>Function as DEMUX</b>
	DWDM	DWDM pass-through input	DWDM pass-through output
	i	i add/input channel group	i drop/output channel group
	COM	output to fiber network	input from fiber network
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>As MUX: Output to fiber network As DEMUX: Input from fiber network</p> <p>COM ↔ [ ] ↔ DWDM</p> </div> <div style="text-align: center;"> <p>Channel Group i</p> <p>← [ i ] →</p> <p>As MUX: i add / input group As DEMUX: i drop / output group</p> </div> </div> <p>As MUX: DWDM pass-through input As DEMUX: DWDM pass-through output</p>		
TP, -20 dB	Optional bi-directional 1% tap, test point from COM		
Optical Connectors	SC/APC		
<b>Optical</b>			
Insertion Loss, max (including connectors)	i to COM DWDM to COM	with 1% tap 1.0 dB (0.75 dB typ) 0.7 dB (0.55 dB typ)	without 1% tap 0.75 dB (0.55 dB typ) 0.45 dB (0.35 dB typ)
Directivity, min	50 dB		
Passband at 0.15 dB	i to COM: 2.6 nm, Passes channel group J, K, L, M, N, P, R, S, T, or U DWDM to COM: Passes 1423.5 nm through 1617.5 nm with a notch at the channel group add/drop band		
Ripple slope within passband, max	0.35 dB/nm		
Channel Spacing	100 GHz		
Channel Groups	J, K, L, M, N, P, R, S, T, or U (see Table 1)		
Return loss, min	45 dB		
Polarization dependent loss, max (typ)	0.7 (0.05) dB		
Adjacent channel isolation, min	25 dB		
Non-adjacent channel isolation, min	45 dB		
Reflect port isolation, min	12 dB		
Thermal wavelength shift, max	0.002 nm/°C		
Thermal stability, min	0.004 dB/°C		
Power handling, max (any port)	21.8 dBm		

**TABLE 1: ITU G.694 WAVELENGTH TABLE AND CORRESPONDING NP35F04 MODELS**

ITU Channel Plan			
ARRIS Group #	ARRIS Channel #	Channel frequency and wavelength per ITU G.694.1, 02/2012	
J	20	192.0 THz	1561.419 nm
	21	192.1 THz	1560.606 nm
	22	192.2 THz	1559.794 nm
	23	192.3 THz	1558.983 nm
K	24	192.4 THz	1558.173 nm
	25	192.5 THz	1557.363 nm
	26	192.6 THz	1556.555 nm
	27	192.7 THz	1555.747 nm
L	28	192.8 THz	1554.940 nm
	29	192.9 THz	1554.134 nm
	30	193.0 THz	1553.329 nm
	31	193.1 THz	1552.524 nm
M	32	193.2 THz	1551.721 nm
	33	193.3 THz	1550.918 nm
	34	193.4 THz	1550.116 nm
	35	193.5 THz	1549.315 nm
N	36	193.6 THz	1548.515 nm
	37	193.7 THz	1547.715 nm
	38	193.8 THz	1546.917 nm
	39	193.9 THz	1546.119 nm
P	40	194.0 THz	1545.322 nm
	41	194.1 THz	1544.526 nm
	42	194.2 THz	1543.730 nm
	43	194.3 THz	1542.936 nm
R	44	194.4 THz	1542.142 nm
	45	194.5 THz	1541.349 nm
	46	194.6 THz	1540.557 nm
	47	194.7 THz	1539.766 nm
S	48	194.8 THz	1538.976 nm
	49	194.9 THz	1538.186 nm
	50	195.0 THz	1537.397 nm
	51	195.1 THz	1536.609 nm
T	52	195.2 THz	1535.822 nm
	53	195.3 THz	1535.036 nm
	54	195.4 THz	1534.250 nm
	55	195.5 THz	1533.465 nm
U	56	195.6 THz	1532.681 nm
	57	195.7 THz	1531.898 nm
	58	195.8 THz	1531.116 nm
	59	195.9 THz	1530.334 nm

## ORDERING INFORMATION

Part Number	Description
NP35F04S0iAts-OLA-AS	i = DWDM ITU Grid Channel Group added or dropped (J, K, L, M, N, P, R, S, T, or U) See Table 1 t = No (0) or (1) bi-directional -20 dB TP test port

## RELATED PRODUCTS

CH3000 Chassis	Optical Patch Cords
Optical Transmitters	Optical Passives
PF3000 Frame	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.

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