

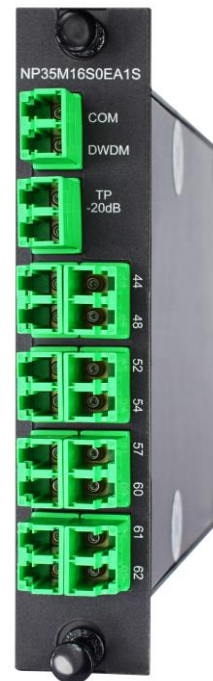
# Optical Passives (ISP)

## NP35M16, NP35D16

### DWDM Mux and Demux Modules (16 Channels on 100 GHz-spaced ITU Grid)

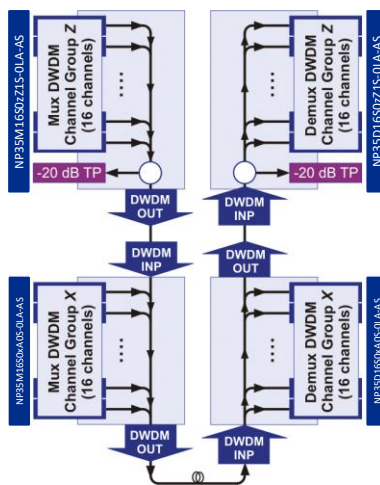
## FEATURES

- 16-channel optical mux and demux modules
- Channels spaced on standard 100 GHz DWDM ITU grid
- Suitable for externally modulated or base-band digital or broadcast/narrowcast overlay application
- High optical isolation
- Supports both forward and return path transmission
- Mux and demux pairs optimized for minimum combined insertion loss across all channels
- SC/APC connectors
- Some models available with cascade (passthrough) port or line monitoring tap (-20 dB from mux output or demux input)
- Up to 16 modules per CH3000 chassis
- Occupies two half-depth slots
- Telcordia GR-1209 and GR-1221 qualified
- LGX chassis-compatible
- Replaces OP35M16 and OP35D16



## PRODUCT OVERVIEW

The ARRIS NP35M16 and NP35D16 series 16-channel DWDM multiplexers and demultiplexers facilitate DWDM architectures. DWDM technology can dramatically increase network capacity without requiring additional fiber be deployed for super-trunking or narrowcasting applications. ARRIS supports DWDM architectures with a variety of products having 100 GHz center frequency spacing on the standard DWDM ITU Grid (ITU-T G.694.1). These devices are suitable for externally modulated or base-band digital or broadcast/narrowcast overlay application.



## SPECIFICATIONS

Characteristics	Specification
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**Physical**

Dimensions	6.5" D x 5.3" H x 2.0" W (3RU) (16.5 cm x 13.5 cm x 5.1 cm)
Weight	2.0 lbs (0.9 kg)

**Environmental**

Operating Temperature Range	-20°C to +65°C (-4°F to +149°F)
Storage Temperature Range	-40°C to +85°C (-40°F to +185°F)
Humidity	5% to 95% non-condensing

**Optical (all models)**

Return loss, min	45 dB
Polarization dependent loss, max (typ)	0.2 (0.1) dB
Ripple within passband, max (dB)	0.5
Channel spacing	100 GHz (ITU grid) (See the tables in the ORDERING INFORMATION section for supported wavelength channel plans.)
Wavelength passthrough	1420–1610 nm

Insertion losses, max <sup>1</sup> (dB)	Mux Modules			Demux Modules	
	<i>NP35M16S0xA05-0LA-AS (with cascade port)</i>	<i>NP35M16S0xZ15-0LA-AS (with T.P.)</i>	<i>NP35M16S0EA15-0LE-AL (CORWave 3; with cascade and test ports)</i>	<i>NP35D16S0xA05-0LA-AS (with cascade port)</i>	<i>NP35D16S0xZ15-0LA-AS (with -20 dB T.P.)</i>
Ch yy INP to DWDM OUT	4.2	4.4	3.0	N/A	N/A
DWDM INP to Ch yy OUT	N/A	N/A	N/A	4.2	4.4
Paired insertion loss <sup>2</sup>	5.0	5.4	4.4	5.0	5.4
DWDM INP to DWDM OUT	3.9	N/A	3.0	3.9	N/A
DWDM OUT to -20 dB Tap Ratio, max <sup>1</sup> (dB)	N/A	20.4	20.4	N/A	20.4
Uniformity, max <sup>1</sup> (dB)					
Module	3.0	3.0	1.7	3.0	3.0
Paired	1.6	1.6	1.0	1.6	1.6
Passband @ 0.5 dB (nm)	± 0.12	± 0.12	± 0.125	± 0.12	± 0.12
Directivity, min (dB)	55	55	55	N/A	N/A
Isolation, adjacent channel, min (dB)	N/A	N/A	N/A	30	30
Isolation, non-adjacent channel, min (dB)	N/A	N/A	N/A	45	45
Power handling, any input port, max (dBm)	21.8	21.8	21.8	24.8	24.8

- NOTES:**
1. Including connectors
  2. Paired insertion loss when combined with 16-ch demux module from Ch yy INP to Ch yy OUT, and vice-versa

**SPECIFICATIONS (CONTINUED)**

Characteristics	Specification
<b>Optical Interface</b>	
Optical connectors	SC/APC or LC/APC (See ORDERING INFORMATION for details.)
Model NP35M16S0xA0S-0LA-AS	<ul style="list-style-type: none"> <li>DWDM INP (input from previous mux)</li> <li>Ch yy INP (16-channel inputs)</li> <li>DWDM OUT (output to fiber network or next mux)</li> </ul>
Model NP35M16S0xZ1S-0LA-AS	<ul style="list-style-type: none"> <li>Ch yy INP (16-channel inputs)</li> <li>DWDM OUT (output to fiber network or next mux)</li> <li>TP -20 dB (1% tap, test point from DWDM OUT)</li> </ul>
Model NP35M16S0EA1S-0LE-AL	<ul style="list-style-type: none"> <li>DWDM INP (input from previous mux)</li> <li>Ch yy INP (16-channel inputs)</li> <li>TP -20 dB (1% tap, test point from DWDM INP)</li> <li>DWDM OUT (output to fiber network or next mux)</li> </ul>
Model NP35D16S0xA0S-0LA-AS	<ul style="list-style-type: none"> <li>DWDM INP (input from fiber network or previous demux)</li> <li>Ch yy OUT (16-channel outputs)</li> <li>DWDM OUT (to next demux)</li> </ul>
Model NP35D16S0xZ1S-0LA-AS	<ul style="list-style-type: none"> <li>DWDM INP (input from fiber network or previous demux)</li> <li>Ch yy OUT (16-channel outputs)</li> <li>TP -20 dB (1% tap, test point from DWDM INP)</li> </ul>

**ORDERING INFORMATION**



- \* = M (Mux); = D (Demux)
- \* = E, M, P, S, or U (DWDM ITU Channel Group) (See following tables.)
- \*\* = A0 (With cascade port and no test point port – available only with ITU Channel Groups M, P, S, or U);  
 = Z1 (no cascade port and with test point);  
 = A1 (With cascade port and a bi-directional test point – available only with ITU Channel Group E)
- \* = A (for ITU Channel Group M, P, S, or U);  
 = E (for ITU Channel Group E)
- \* = S (for SC/APC connectors;  
 = L for LC/APC connectors (available only for NP35M16S0EA1S)

Channel Group	ITU Channel #	Wavelength (nm)	Optical frequency (THz)
<b>E</b> (CORWave 3)	Channel # 21	1560.606	192.1
	Channel # 22	1559.794	192.2
	Channel # 24	1558.173	192.4
	Channel # 26	1556.555	192.6
	Channel # 28	1554.940	192.8
	Channel # 33	1550.918	193.3
	Channel # 36	1548.515	193.6
	Channel # 39	1546.119	193.9
	Channel # 44	1542.142	194.4
	Channel # 48	1538.976	194.8
	Channel # 52	1535.822	195.2
	Channel # 54	1534.250	195.4
	Channel # 57	1531.898	195.7
	Channel # 60	1529.550	196.0
Channel # 61	1528.770	196.1	
Channel # 62	1527.990	196.2	

Channel Group	ITU Channel #	Wavelength (nm)	Optical frequency (THz)
<b>S</b>	Channel # 36	1548.515	193.6
	Channel # 37	1547.715	193.7
	Channel # 38	1546.917	193.8
	Channel # 39	1546.119	193.9
	Channel # 40	1545.322	194.0
	Channel # 41	1544.526	194.1
	Channel # 42	1543.730	194.2
	Channel # 43	1542.936	194.3
	Channel # 44	1542.142	194.4
	Channel # 45	1541.349	194.5
	Channel # 46	1540.557	194.6
	Channel # 47	1539.766	194.7
	Channel # 48	1538.976	194.8
	Channel # 49	1538.186	194.9
Channel # 50	1537.397	195.0	
Channel # 51	1536.609	195.1	

Channel Group	ITU Channel #	Wavelength (nm)	Optical frequency (THz)
M	Channel # 20	1561.419	192.0
	Channel # 21	1560.606	192.1
	Channel # 22	1559.794	192.2
	Channel # 23	1558.983	192.3
	Channel # 24	1558.173	192.4
	Channel # 25	1557.363	192.5
	Channel # 26	1556.555	192.6
	Channel # 27	1555.747	192.7
	Channel # 28	1554.940	192.8
	Channel # 29	1554.134	192.9
	Channel # 30	1553.329	193.0
	Channel # 31	1552.524	193.1
	Channel # 32	1551.721	193.2
	Channel # 33	1550.918	193.3
	Channel # 34	1550.116	193.4
	Channel # 35	1549.315	193.5

Channel Group	ITU Channel #	Wavelength (nm)	Optical frequency (THz)
U	Channel # 44	1542.142	194.4
	Channel # 45	1541.349	194.5
	Channel # 46	1540.557	194.6
	Channel # 47	1539.766	194.7
	Channel # 48	1538.976	194.8
	Channel # 49	1538.186	194.9
	Channel # 50	1537.397	195.0
	Channel # 51	1536.609	195.1
	Channel # 52	1535.822	195.2
	Channel # 53	1535.036	195.3
	Channel # 54	1534.250	195.4
	Channel # 55	1533.465	195.5
	Channel # 56	1532.681	195.6
	Channel # 57	1531.898	195.7
	Channel # 58	1531.116	195.8
Channel # 59	1530.334	195.9	

Channel Group	ITU Channel #	Wavelength (nm)	Optical frequency (THz)
P	Channel # 28	1554.940	192.8
	Channel # 29	1554.134	192.9
	Channel # 30	1553.329	193.0
	Channel # 31	1552.524	193.1
	Channel # 32	1551.721	193.2
	Channel # 33	1550.918	193.3
	Channel # 34	1550.116	193.4
	Channel # 35	1549.315	193.5
	Channel # 36	1548.515	193.6
	Channel # 37	1547.715	193.7
	Channel # 38	1546.917	193.8
	Channel # 39	1546.119	193.9
	Channel # 40	1545.322	194.0
	Channel # 41	1544.526	194.1
	Channel # 42	1543.730	194.2
	Channel # 43	1542.936	194.3

## RELATED PRODUCTS

CH3000 Chassis      Optical Patch Cords

Optical Transmitters      Optical Passives

PF3000

## 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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