# Optical Passives (ISP)

## OP35M8-CFx-1-99-AS, OP35D8-CFx-1-99-AS
DWDM Mux and Demux Modules
8 Channels on 100 GHz-spaced ITU Grid
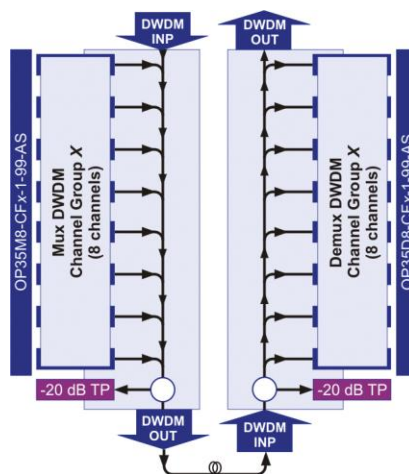(with –20 dB Line Monitoring Taps and Cascade Ports)

## FEATURES



- 8-channel optical mux and demux modules with line monitoring taps (–20 dB from mux output or demux input) and cascade ports
- Groups of channels specifically selected for use with AT3545G series Full Spectrum DWDM Transmitters
- Flat-top passband
- High optical isolation
- Mux and demux pairs optimized for minimum combined insertion loss across all channels
- SC/APC connectors ensure performance repeatability, compatibility, and easy installation and maintenance
- Occupies two half-depth slots
- Industry's highest packaging density (up to 16 modules per chassis)
- LGX chassis-compatible

## PRODUCT OVERVIEW

The ARRIS OP35M8-CFx-1-99-AS and OP35D8-CFx-1-99-AS series 8-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) for 40 channels from Channel 20 to Channel 59. This particular group of 8-channel mux and demux products are intended for use with ARRIS's AT3545G Full Spectrum DWDM Transmitters and are available with two different combinations of eight DWDM channels, as well as included cascade ports and line monitoring taps.

## SPECIFICATIONS

| Characteristics | Specification | |
|---|---|---|
| **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 | 1.2 lbs (0.54 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 (dB) | 45 | |
| Polarization dependent loss, max (typ) (dB) | 0.2 (0.1) | |
| Ripple within passband, max | 0.5 dB | |
| Channel spacing | 100 GHz (ITU grid) | |
| Wavelength passthrough | 1420–1610 nm | |
| Insertion losses, max[1] (dB) | **Mux Module** | **Demux Module** |
| | OP35M8-CFx-1-99-AS _(with –20 dB T.P.)_ | OP35D8-CFx-1-99-AS _(with –20dB T.P.)_ |
| Ch. _yy_ INP to DWDM OUT | 2.3 | N/A |
| DWDM INP to Ch. _yy_ OUT | N/A | 2.3 |
| Paired insertion loss[2] | 3.1 | 3.1 |
| DWDM OUT to -20 dB Tap Ratio, max[1] (dB) | 20.4 | 20.4 |
| Uniformity, max[1] (dB) | | |
| Module | 1.6 | 1.8 |
| Paired | 1.0 | 1.0 |
| Passband @ 0.5 dB (nm) | ± 0.12 | ± 0.12 |
| Directivity, input ports, min (dB) | 55 | N/A |
| Directivity, pass-through port, min (dB) | 45 | N/A |
| Isolation, adjacent channel, min (dB) | N/A | 30 |
| Isolation, non-adjacent channel, min (dB) | N/A | 45 |
| Power handling, any input port, max (dBm) | 21.8 | 24.8 |
| **Optical Interface** | | |
| Optical connectors | SC/APC | |
| Model OP35M8-CFx-1-99-AS (for x = 2 or 4) | • DWDM INP (input from previous mux) <br> • Ch. _yy_ (8 channel add inputs for Custom Channel Group x) <br> • DWDM OUT (output to fiber network or next mux) <br> • TP –20 dB (1% tap, test point from DWDM OUT) | |
| Model OP35D8-CFx-1-99-AS (for x = 2 or 4) | • DWDM INP (input from fiber network or previous demux) <br> • Ch. _yy_ (8 channel drop outputs for Custom Channel Group x) <br> • DWDM OUT (to next demux) <br> • TP –20 dB (1% tap, test point from DWDM INP) | |

## SPECIFICATIONS CONTINUED
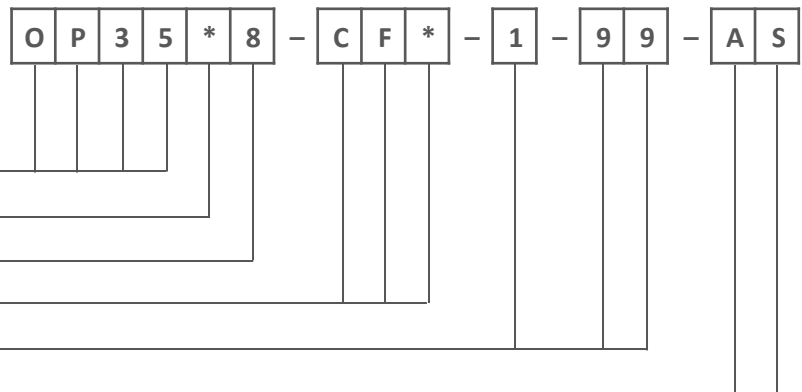
**ITU Channel Plans**

ARRIS supports DWDM network architectures with a variety of products having 100 GHz center frequency spacing on the standard DWDM ITU Grid (ITU-T G.694.1). OP35M8-CFx-1-99-AS and OP35D8-CFx-1-99-AS 8-channel Optical Mux and Demux Modules are identified with the following custom 8-channel group keys for the ITU channels shown for each:

- CF2 ITU Channels 20, 21, 24, 29, 35, 42, 52, and 54
- CF4 ITU Channels 23, 33, 44, 47, 51, 57, 58, and 59

**NOTES:**

1. Including connectors;
2. Paired insertion loss when combined with 8-ch demux module from Ch. *yy* INP to Ch. *yy* OUT, and vice-versa

## ORDERING INFORMATION

| O | P | 3 | 5 | * | 8 | – | C | F | * | – | 1 | – | 9 | 9 | – | A | S |

**Optical Passive DWDM Mux/Demux Module**

**\* = Module Type (M = Mux, D = Demux)**

**8-channel Module**

**CF\* = Custom DWDM ITU Channel Group Key (\* = 2, or 4)**

**1–99 = Cascade (Pass-through) Port or –20 dB Test Port included**

**AS = SC/APC Connector**

## RELATED PRODUCTS

| | |
|---|---|
| CH3000 Chassis | Optical Patch Cords |
| Optical Transmitters | Optical Passives |
| HPON™ | Installation Services |

Note: Specifications are subject to change without notice.

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656