ARRIS FA3500 Optical Amplifier

FEATURES

- High output power level, from 14 to 21 dBm
- Low noise figure
- Single and dual amplifier configurations
- Gain flattened versions available
- Optical path isolation (input and output)
- Output power alignment
- Constant current and constant gain modes of operation
- Front panel laser On/Off interlock switch
- Hot plug-in/out
- Local and remote status monitoring and control
- Occupies one full-depth slot

PRODUCT OVERVIEW

The ARRIS FA3500 series is a family of high-output, extremely compact 1550 nm optical amplifiers. Output powers ranging from 14 to 21 dBm are available in a single-width module designed for use in the CH3000 3RU chassis. Dual amplifier versions, which provide two optically independent amplifiers in a single-width module, are also available. These high performance amplifiers allow operators to use 1550 nm analog and DWDM transmitters to deliver high-quality broadcast and digital narrowcast content over significant transmission distances.
The compact design makes these amplifiers the highest density EDFAs in the market, dramatically reducing rack space requirements in the headend and hubs. This design enhances the deployment of traditional HFC, passive HFC, and fiber to the home (FTTH) networks.

### Specifications

#### Characteristics

- **Physical**
  - Dimensions (without connectors): 13.0” D x 5.25” H x 1.0” W (3RU) (33 cm x 13.3 cm x 2.5 cm)
  - Weight: 2.0 lbs (0.9 kg)

- **Environmental**
  - Operating temperature range:
    - All models except FA3521F, FA3521H, FA3521J, and FA35245: –20°C to +65°C (–4°F to 149°F)
    - Models FA3521F, FA3521H, FA3521J, and FA35245: 0°C to +50°C (32°F to 122°F)
  - Storage temperature range: –40°C to +85°C (–40°C to 185°F)
  - Humidity: 5% to 95% non-condensing

- **NOTES:**
  - For • Deep HPON ™ /RFoG FTTx
  - Hot plug-in/out
  - • Manual in constant current mode
  - • Automatic in constant gain mode

- **Optical Interface**
  - Optical connector: SC/APC (at Back Plate BP-F2, BP-F3, or BP-F4)

- **Optical**
  - Input signal wavelength: 1527.9 nm to 1565.0 nm corresponding to ITU Ch. 62 to Ch. 16
  - Output power isolation: > 30 dB
  - Output power stability: ± 0.1 dB
  - Output power margin: 0.3 dB (at 0 dBm input)
  - Output power adjustment range: –3.0 dB (from nominal output power, min)

#### Performance Parameters

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Module Type</th>
<th>Input Sensor Range (dBm)</th>
<th>Power Input Range (dBm)</th>
<th>Output Power nominal (dBm)</th>
<th>Consumption, max (Watts)</th>
<th>Figure, typ (dB)</th>
<th>Figure, max (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA35145-00</td>
<td>Single-amplifier</td>
<td>-10 to +10</td>
<td>14</td>
<td>6</td>
<td>4.5</td>
<td>5.0</td>
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<tr>
<td>FA35140-00</td>
<td>Dual-amplifier</td>
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<td>FA35175-00</td>
<td>Single-amplifier</td>
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<tr>
<td>FA35170-00</td>
<td>Dual-amplifier</td>
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<td>12</td>
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<td></td>
</tr>
<tr>
<td>FA3517F-00</td>
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<td>+5 to +8</td>
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<td>+5 to +8</td>
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<td>14</td>
<td>5.0</td>
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<td>FA3521S-01</td>
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<td>0 to +20</td>
<td>+5 to +9</td>
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<td>+9 to +13</td>
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<td>FA3522I-00</td>
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<tr>
<td>FA35245-01</td>
<td>See Note 2</td>
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<td>20</td>
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</tbody>
</table>

**NOTES:**

1. Output power levels and noise figures for gain-flattened models shown for operation within optimum power input range.
2. Limited operational capability is possible outside of this range.
3. Nominal at 0 dBm and 1550 nm. For gain-flattened models, nominal on optimum composite input power over C-band.
4. Measured optically at 0 dBm input, l = 1550 nm in vacuum, TA = 25°C.
5. Model FA35245 is a 24 dBm amplifier with two optical output ports, each with 21 dBm (nominal) optical output power.
6. Units do not operate outside input sensor range.
FA3500

ORDERING INFORMATION

<table>
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<th>Fiber Amplifier (EDFA)</th>
<th>Optical output power and module configuration (See Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AS = SC/APC Connectors

Note 1: Reference the Performance Parameters table, above, for available model numbers and their associated configurations (nominal output power, single or dual amplifiers, with or without gain flattening).

Note 2: Model FA3524S, with dual 21 dBm outputs, requires a special back plate, BP-F3, that is also provided with this module. The FA3524S is a single-width chassis module but, because of operating temperature factors, is supplied with the double-wide BP-F3 back plate that forces an extra unoccupied adjacent slot in the CH3000 chassis when installed to provide additional cooling. Because of this, a BP3000 blank face plate is also included with this module to use on the front of the chassis.

Special installation instructions for the FA3524S and these plates are included with the shipped unit.

RELATED PRODUCTS

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<tr>
<th>CH3000 Chassis</th>
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<tr>
<td>BP Back plates</td>
<td>Installation Services</td>
</tr>
</tbody>
</table>

Required Module Back Plates

- Single Output EDFA
  - B P – F 2
- Dual Output EDFA
  - B P – F 4

Back Plate is included with ordered module

Customer Care

Contact Customer Care for product information and sales:
- United States: 866-36-ARRIS
- International: +1-678-473-5656

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